

ESTADOS UNIDOS MEXICANOS

SECRETARIA DE MARINA

DIRECCION GENERAL DE OCEANOGRAFIA NAVAL



Ej 1/2017

ALMANAQUE NAUTICO

1994

México, D. F.

©Copyright Science and Engineering Research Council 1993
First published 1993

ISBN 0 11 772737 7

ISSN 0077-619X

N O T A

Se han tomado todas las precauciones necesarias en la producción y edición de ésta publicación. Sin embargo se recomienda hojearla detenidamente para examinar la secuencia de las páginas. Si se encuentra algún error o defecto, devuélvase para su reemplazo.

EDICION MEXICANA

Disponible para la venta en la

SECRETARIA DE MARINA

Dirección General de Oceanografía Naval
Calle Capitán de Fragata Pedro Sainz de Baranda Borreyro
Edif. "B", Planta Baja, Col. Los Cipreses
Deleg. Coyoacán, C.P. 04830

EL ALMANAQUE NAUTICO, 1994

LISTA DE CONTENIDOS

Página	
A ₂ - A ₃	Tablas de corrección de altura para el Sol, Estrellas y Planetas.
A ₄	Correcciones adicionales por refracción para condiciones no standard.
1-3	Título, Prefacio, etc.
4	Fases de la Luna.
4-5	Calendario.
5-7	Eclipses.
8-9	Notas de los planetas y diagrama.
10-253	Páginas Diarias: Efemérides del Sol, Luna, Aries y Planetas; ortos, ocasos y crepúsculos del Sol; ortos y ocasos de la Luna, etc.
257-265	Explicaciones.
266-269	Horas Legales
270-271	Cartas Celestes
272-277	Lista de Estrellas: A.H.S. y Dec. de 173 estrellas, en orden de su A.H.S. (exactitud de 0'1).
278-280	Tablas para la estrella polar . "Polaris".
283 a 327	Procedimientos de reducción de las visuales; cálculo directo.
295 a 326	Tablas abreviadas para reducción de visuales.
i	Conversión de Arco a Tiempo.
ii-xxxi	Tablas de incrementos y correcciones para el Sol, Planetas, Aries y la Luna.
xxxii	Tablas para interpolar ortos, ocasos, y crepúsculos del Sol; ortos, ocasos y paso de la Luna, por el meridiano.
xxxiii	Indice de estrellas seleccionadas.
xxxiv-xxxv	Tablas de corrección de altura para la Luna.
Hojas sueltas	Lo mismo de la contraportada anterior A ₂ y la página xxxiii, y listas de contenidos.

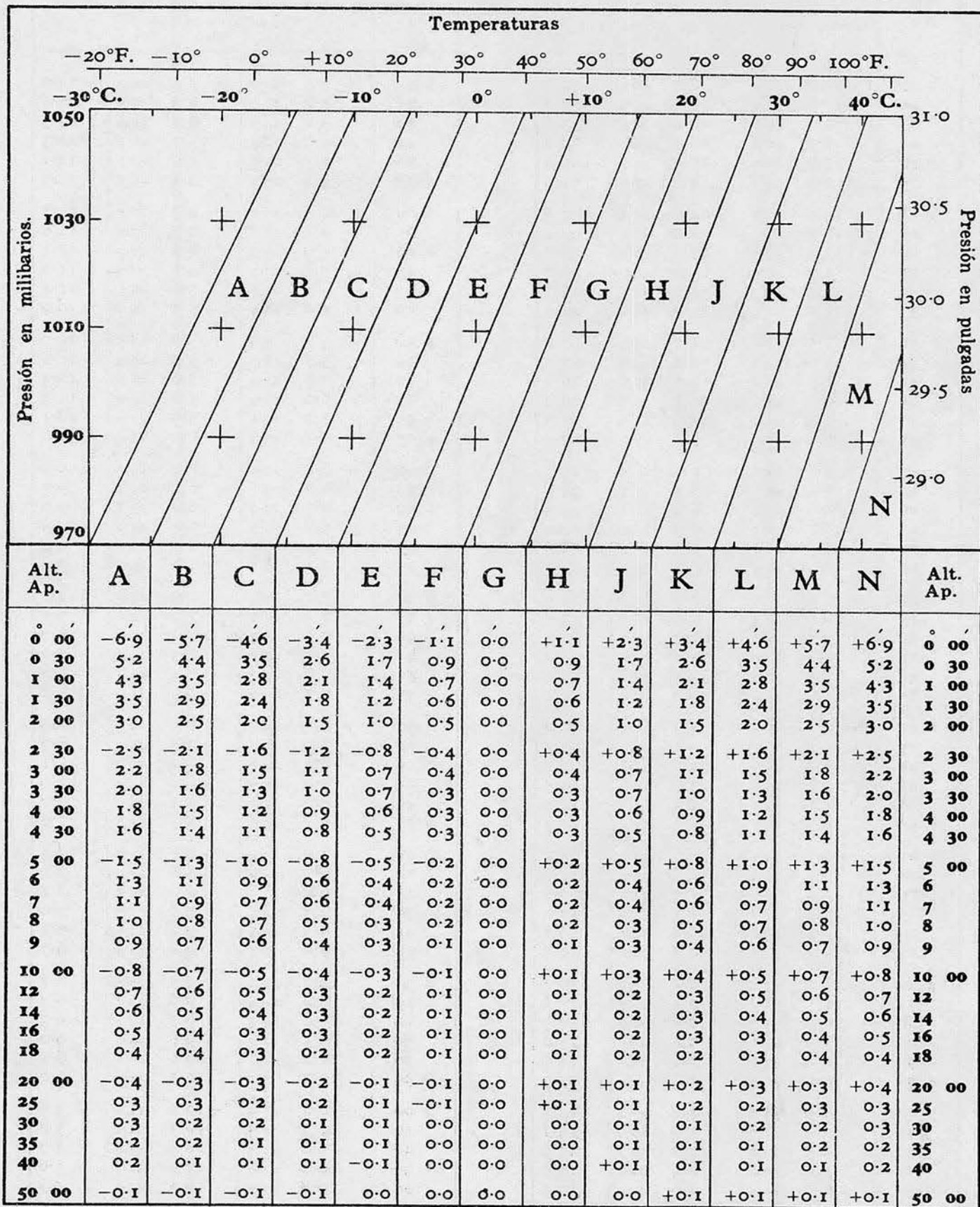
TABLAS DE CORRECCION DE ALTURAS DE 0° - 10°, DEL SOL, ESTRELLAS Y PLANETAS A₃

Alt. Ap.	OCT.—MAR. SOL ABR.—SEP.				ESTRELLAS PLANETAS.
	Limbo Inf.	Limbo Sup.	Limbo Inf.	Limbo Sup.	
0 00	-18.2	-50.5	-18.4	-50.2	-34.5
03	17.5	49.8	17.8	49.6	33.8
06	16.9	49.2	17.1	48.9	33.2
09	16.3	48.6	16.5	48.3	32.6
12	15.7	48.0	15.9	47.7	32.0
15	15.1	47.4	15.3	47.1	31.4
0 18	-14.5	-46.8	-14.8	-46.6	-30.8
21	14.0	46.3	14.2	46.0	30.3
24	13.5	45.8	13.7	45.5	29.8
27	12.9	45.2	13.2	45.0	29.2
30	12.4	44.7	12.7	44.5	28.7
33	11.9	44.2	12.2	44.0	28.2
0 36	-11.5	-43.8	-11.7	-43.5	-27.8
39	11.0	43.3	11.2	43.0	27.3
42	10.5	42.8	10.8	42.6	26.8
45	10.1	42.4	10.3	42.1	26.4
48	9.6	41.9	9.9	41.7	25.9
51	9.2	41.5	9.5	41.3	25.5
0 54	- 8.8	-41.1	- 9.1	-40.9	-25.1
0 57	8.4	40.7	8.7	40.5	24.7
I 00	8.0	40.3	8.3	40.1	24.3
03	7.7	40.0	7.9	39.7	24.0
06	7.3	39.6	7.5	39.3	23.6
09	6.9	39.2	7.2	39.0	23.2
I 12	- 6.6	-38.9	- 6.8	-38.6	-22.9
15	6.2	38.5	6.5	38.3	22.5
18	5.9	38.2	6.2	38.0	22.2
21	5.6	37.9	5.8	37.6	21.9
24	5.3	37.6	5.5	37.3	21.6
27	4.9	37.2	5.2	37.0	21.2
I 30	- 4.6	-36.9	- 4.9	-36.7	-20.9
35	4.2	36.5	4.4	36.2	20.5
40	3.7	36.0	4.0	35.8	20.0
45	3.2	35.5	3.5	35.3	19.5
50	2.8	35.1	3.1	34.9	19.1
I 55	2.4	34.7	2.6	34.4	18.7
2 00	- 2.0	-34.3	- 2.2	-34.0	-18.3
05	1.6	33.9	1.8	33.6	17.9
10	1.2	33.5	1.5	33.3	17.5
15	0.9	33.2	1.1	32.9	17.2
20	0.5	32.8	0.8	32.6	16.8
25	- 0.2	32.5	0.4	32.2	16.5
2 30	+ 0.2	-32.1	- 0.1	-31.9	-16.1
35	0.5	31.8	+ 0.2	31.6	15.8
40	0.8	31.5	0.5	31.3	15.5
45	1.1	31.2	0.8	31.0	15.2
50	1.4	30.9	1.1	30.7	14.9
2 55	1.6	30.7	1.4	30.4	14.7
3 00	+ 1.9	-30.4	+ 1.7	-30.1	-14.4
05	2.2	30.1	1.9	29.9	14.1
10	2.4	29.9	2.1	29.7	13.9
15	2.6	29.7	2.4	29.4	13.7
20	2.9	29.4	2.6	29.2	13.4
25	3.1	29.2	2.9	28.9	13.2
3 30	+ 3.3	-29.0	+ 3.1	-28.7	-13.0

Alt. Ap.	OCT.—MAR. SOL ABR.—SEP.				ESTRELLAS PLANETAS.
	Limbo Inf.	Limbo Sup.	Limbo Inf.	Limbo Sup.	
3 30	+ 3.3	-29.0	+ 3.1	-28.7	-13.0
35	3.6	28.7	3.3	28.5	12.7
40	3.8	28.5	3.5	28.3	12.5
45	4.0	28.3	3.7	28.1	12.3
50	4.2	28.1	3.9	27.9	12.1
3 55	4.4	27.9	4.1	27.7	11.9
4 00	+ 4.5	-27.8	+ 4.3	-27.5	-11.8
05	4.7	27.6	4.5	27.3	11.6
10	4.9	27.4	4.6	27.2	11.4
15	5.1	27.2	4.8	27.0	11.2
20	5.2	27.1	5.0	26.8	11.1
25	5.4	26.9	5.1	26.7	10.9
4 30	+ 5.6	-26.7	+ 5.3	-26.5	-10.7
35	5.7	26.6	5.5	26.3	10.6
40	5.9	26.4	5.6	26.2	10.4
45	6.0	26.3	5.8	26.0	10.3
50	6.2	26.1	5.9	25.9	10.1
4 55	6.3	26.0	6.0	25.8	10.0
5 00	+ 6.4	-25.9	+ 6.2	-25.6	- 9.9
05	6.6	25.7	6.3	25.5	9.7
10	6.7	25.6	6.4	25.4	9.6
15	6.8	25.5	6.6	25.2	9.5
20	6.9	25.4	6.7	25.1	9.4
25	7.1	25.2	6.8	25.0	9.2
5 30	+ 7.2	-25.1	+ 6.9	-24.9	- 9.1
35	7.3	25.0	7.0	24.8	9.0
40	7.4	24.9	7.2	24.6	8.9
45	7.5	24.8	7.3	24.5	8.8
50	7.6	24.7	7.4	24.4	8.7
5 55	7.7	24.6	7.5	24.3	8.6
6 00	+ 7.8	-24.5	+ 7.6	-24.2	- 8.5
10	8.0	24.3	7.8	24.0	8.3
20	8.2	24.1	8.0	23.8	8.1
30	8.4	23.9	8.1	23.7	7.9
40	8.6	23.7	8.3	23.5	7.7
6 50	8.7	23.6	8.5	23.3	7.6
7 00	+ 8.9	-23.4	+ 8.6	-23.2	- 7.4
10	9.1	23.2	8.8	23.0	7.2
20	9.2	23.1	9.0	22.8	7.1
30	9.3	23.0	9.1	22.7	7.0
40	9.5	22.8	9.2	22.6	6.8
7 50	9.6	22.7	9.4	22.4	6.7
8 00	+ 9.7	-22.6	+ 9.5	-22.3	- 6.6
10	9.9	22.4	9.6	22.2	6.4
20	10.0	22.3	9.7	22.1	6.3
30	10.1	22.2	9.8	22.0	6.2
40	10.2	22.1	10.0	21.8	6.1
8 50	10.3	22.0	10.1	21.7	6.0
9 00	+ 10.4	-21.9	+ 10.2	-21.6	- 5.9
10	10.5	21.8	10.3	21.5	5.8
20	10.6	21.7	10.4	21.4	5.7
30	10.7	21.6	10.5	21.3	5.6
40	10.8	21.5	10.6	21.2	5.5
9 50	10.9	21.4	10.6	21.2	5.4
10 00	+ 11.0	-21.3	+ 10.7	-21.1	- 5.3

En la página siguiente se dan correcciones adicionales por temperatura y presión. Para el caso de observaciones con sextante de burbuja, ignórese la depresión y úsen las correcciones de estrellas para Sol, planetas y estrellas.

A₄ TABLAS DE CORRECCION DE ALTURAS — CORRECCIONES ADICIONALES
CORRECCIONES ADICIONALES A LA REFRACCION PARA CONDICIONES ANORMALES



Se entra a la gráfica con los argumentos temperatura y presión para encontrar la letra correspondiente a la zona; usando como argumentos esta letra de zona y la altura aparente (altura del sextante corregida por depresión), se toma la corrección de la tabla. Esta corrección se aplica a la lectura del sextante en adición a las correcciones para condiciones normales (para el Sol, estrellas y planetas de la página A₂ y de la Luna) de las páginas XXXIV y XXXV.

P R E F A C I O

LA PRESENTE PUBLICACION, CONSTITUYE LA VERSION MEXICANA DEL
" THE NAUTICAL ALMANAC " BRITANICO Y AMERICANO QUE ES PRO -
DUCIDO RESPECTIVAMENTE POR EL OBSERVATORIO DE GREENWICH EN
LA GRAN BRETAÑA, Y POR EL OBSERVATORIO NAVAL DE LOS ESTADOS
UNIDOS DE AMERICA. ES IDENTICA EN SU CONTENIDO NUMERICO,
PRESENTANDO ALGUNAS VARIANTES EN EL ALFABETICO.

SECRETARIA DE MARINA
ARMADA DE MEXICO
DIRECCION GENERAL DE OCEANOGRAFIA NAVAL
DIRECCION DE HIDROGRAFIA

ANIVERSARIOS 1994

Año Nuevo	Sábado	1	de	Enero
Constitución Política de los Estados Unidos Mexicanos	Sábado	5	de	Febrero
Día de la Bandera Nacional	Jueves	24	de	Febrero
Natalicio del Lic. Dn. Benito Juárez García	Lunes	21	de	Marzo
Defensa del Puerto de Veracruz	Jueves	21	de	Abril
Día del Trabajo	Domingo	1	de	Mayo
Batalla de Puebla	Jueves	5	de	Mayo
Día de la Marina Nacional	Miércoles	1	de	Junio
Muerte del Lic. Dn. Benito Juárez García	Lunes	18	de	Julio
Muerte de Dn. Miguel Hidalgo y Costilla	Sábado	30	de	Julio
Independencia Nacional	Viernes	16	de	Septiembre
Día de la Raza	Miércoles	12	de	Octubre
Revolución Mexicana	Domingo	20	de	Noviembre
Día de la Armada de México	Miércoles	23	de	Noviembre
Muerte de Dn. José Ma. Morelos y Pavón	Jueves	22	de	Diciembre
Navidad	Domingo	25	de	Diciembre

FASES DE LA LUNA

LUNA NUEVA

	d	h	m
Ene.	11	23	10
Feb.	10	14	30
Mar.	12	07	05
Abr.	11	00	17
May.	10	17	07
Jun.	9	08	26
Jul.	8	21	37
Ago.	7	08	45
Sept.	5	18	33
Oct.	5	03	55
Nov.	3	13	35
Dic.	2	23	54

LUNA LLENA

	d	h	m
Ene.	27	13	23
Feb.	26	01	15
Mar.	27	11	09
Abr.	25	19	45
May.	25	03	39
Jun.	23	11	33
Jul.	22	20	16
Ago.	21	06	47
Sept.	19	20	00
Oct.	19	12	18
Nov.	18	06	57
Dic.	18	02	17

CUARTO CRECIENTE

	d	h	m
Ene.	19	20	27
Feb.	18	17	47
Mar.	20	12	14
Abr.	19	02	34
May.	18	12	50
Jun.	16	19	56
Jul.	16	01	12
Ago.	14	05	57
Sept.	12	11	34
Oct.	11	19	17
Nov.	10	06	14
Dic.	9	21	06

CUARTO MENGUANTE

	d	h	m
Ene.	5	00	00
Feb.	3	08	06
Mar.	4	16	53
Abr.	3	02	55
May.	2	14	32
Jun.	1	04	02
Jun.	30	19	31
Jul.	30	12	40
Ago.	29	06	41
Sept.	28	00	23
Oct.	27	16	44
Nov.	26	07	04
Dic.	25	19	06

Tiempo del Meridiano de Greenwich: T.M.G. = (T.U.)

DIAS DE LA SEMANA Y DIAS DEL AÑO

Día del Mes	ENE.		FEB.		MAR.		ABR.		MAY.		JUN.		JUL.		AGO.		SEP.		OCT.		NOV.		DIC.	
	Sem.	Año	Sem.	Año	Sem.	Año	Sem.	Año	Sem.	Año	Sem.	Año	Sem.	Año	Sem.	Año	Sem.	Año	Sem.	Año	Sem.	Año	Sem.	Año
1	S.	I	M.	32	M.	60	V.	91	D.	121	Mi.	152	V.	182	L.	213	J.	244	S.	274	M.	305	J.	335
2	L.	2	Mi.	33	Mi.	61	S.	92	L.	122	J.	153	S.	183	M.	214	V.	245	D.	275	Mi.	306	V.	336
3	L.	3	J.	34	J.	62	D.	93	M.	123	V.	154	D.	184	Mi.	215	S.	246	L.	276	J.	307	S.	337
4	M.	4	V.	35	V.	63	L.	94	Mi.	124	S.	155	L.	185	J.	216	D.	247	M.	277	V.	308	D.	338
5	Mi.	5	S.	36	S.	64	M.	95	J.	125	D.	156	M.	186	V.	217	L.	248	Mi.	278	S.	309	L.	339
6	J.	6	D.	37	D.	65	Mi.	96	V.	126	L.	157	Mi.	187	S.	218	M.	249	J.	279	D.	310	M.	340
7	V.	7	L.	38	L.	66	J.	97	S.	127	M.	158	J.	188	D.	219	Mi.	250	V.	280	L.	311	Mi.	341
8	S.	8	M.	39	M.	67	V.	98	D.	128	Mi.	159	V.	189	L.	220	J.	251	S.	281	M.	312	J.	342
9	D.	9	Mi.	40	Mi.	68	S.	99	L.	129	J.	160	S.	190	M.	221	V.	252	D.	282	Mi.	313	V.	343
10	L.	10	J.	41	J.	69	D.	100	M.	130	V.	161	D.	191	Mi.	222	S.	253	L.	283	J.	314	S.	344
11	M.	11	V.	42	V.	70	L.	101	Mi.	131	S.	162	L.	192	J.	223	D.	254	M.	284	V.	315	D.	345
12	Mi.	12	S.	43	S.	71	M.	102	J.	132	D.	163	M.	193	V.	224	L.	255	Mi.	285	S.	316	L.	346
13	J.	13	D.	44	D.	72	Mi.	103	V.	133	L.	164	Mi.	194	S.	225	M.	256	J.	286	D.	317	M.	347
14	V.	14	L.	45	L.	73	J.	104	S.	134	M.	165	J.	195	D.	226	Mi.	257	V.	287	L.	318	Mi.	348
15	S.	15	M.	46	M.	74	V.	105	D.	135	Mi.	166	V.	196	L.	227	J.	258	S.	288	M.	319	J.	349
16	D.	16	Mi.	47	Mi.	75	S.	106	L.	136	J.	167	S.	197	M.	228	V.	259	D.	289	Mi.	320	V.	350
17	L.	17	J.	48	J.	76	D.	107	M.	137	V.	168	D.	198	Mi.	229	S.	260	L.	290	J.	321	S.	351
18	M.	18	V.	49	V.	77	L.	108	Mi.	138	S.	169	L.	199	J.	230	D.	261	M.	291	V.	322	D.	352
19	Mi.	19	S.	50	S.	78	M.	109	J.	139	D.	170	M.	200	V.	231	L.	262	Mi.	292	S.	323	L.	353
20	J.	20	D.	51	D.	79	Mi.	110	V.	140	L.	171	Mi.	201	S.	232	M.	263	J.	293	D.	324	M.	354
21	V.	21	L.	52	L.	80	J.	111	S.	141	M.	172	J.	202	D.	233	Mi.	264	V.	294	L.	325	Mi.	355
22	S.	22	M.	53	M.	81	V.	112	D.	142	Mi.	173	V.	203	L.	234	J.	265	S.	295	M.	326	J.	356
23	D.	23	Mi.	54	Mi.	82	S.	113	L.	143	J.	174	S.	204	M.	235	V.	266	D.	296	Mi.	327	V.	357
24	L.	24	J.	55	J.	83	D.	114	M.	144	V.	175	D.	205	Mi.	236	S.	267	L.	297	J.	328	S.	358
25	M.	25	V.	56	V.	84	L.	115	Mi.	145	S.	176	L.	206	J.	237	D.	268	M.	298	V.	329	D.	359
26	Mi.	26	S.	57	S.	85	M.	116	J.	146	D.	177	M.	207	V.	238	L.	269	Mi.	299	S.	330	L.	360
27	J.	27	D.	58	D.	86	Mi.	117	V.	147	L.	178	Mi.	208	S.	239	M.	270	J.	300	D.	331	M.	361
28	V.	28	L.	59	L.	87	J.	118	S.	148	M.	179	J.	209	D.	240	Mi.	271	V.	301	L.	332	Mi.	362
29	S.	29			M.	88	V.	119	D.	149	Mi.	180	V.	210	L.	241	J.	272	S.	302	M.	333	J.	363
30	D.	30			Mi.	89	S.	120	L.	150	J.	181	S.	211	M.	242	V.	273	D.	303	Mi.	334	V.	364
31	L.	31			J.	90			M.	151			D.	212	Mi.	243			L.	304			S.	365

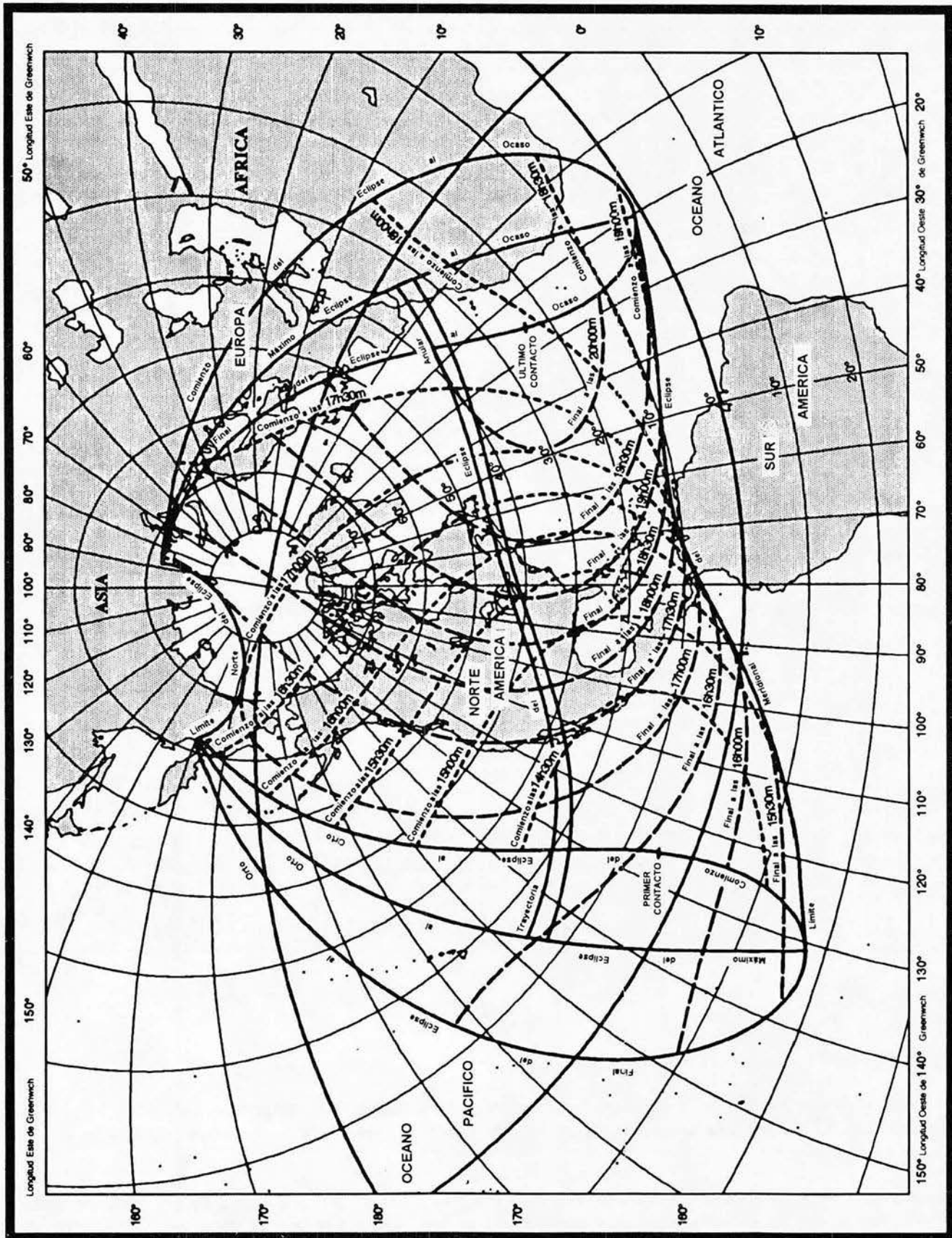
ECLIPSES

Hay tres eclipses, dos de Sol y uno de Luna.

1.- Eclipse Anular de Sol, el 10 de Mayo. Ver diagramas de la página 6. El eclipse principia a las 14^h 12^m y finaliza a las 20^h 11^m; la fase anular inicia a las 15^h 23^m y termina a las 19^h 00^m. La duración máxima de la fase anular es de 06^m 09^s.

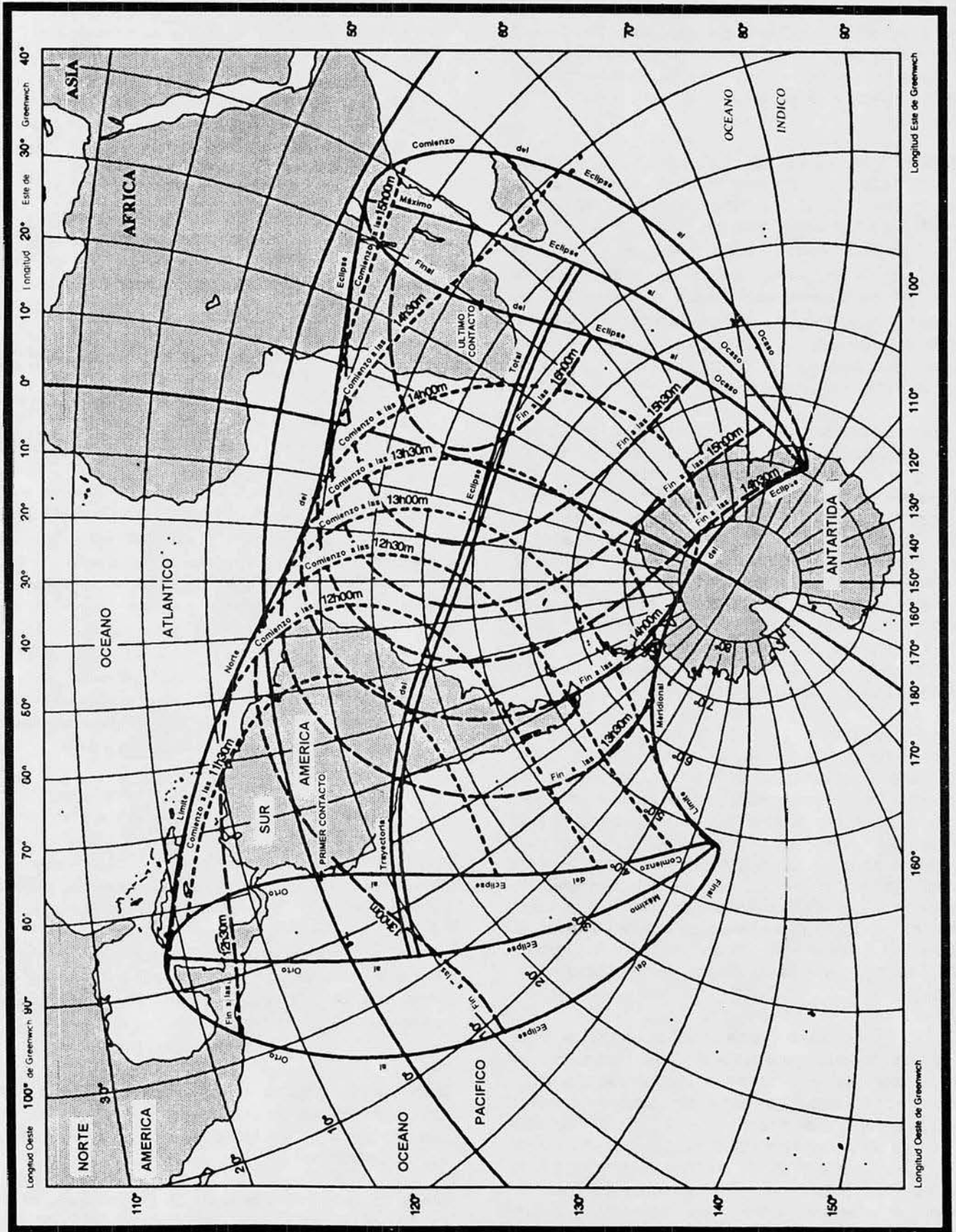
2.- Eclipse Parcial de Luna, el 25 de Mayo. El eclipse principia a las 02^h 39^m y finaliza a las 04^h 23^m. Es visible desde Africa, Europa excepto el nor-este pero incluyendo las Islas Británicas, los extremos meridionales de Islandia y Groenlandia, el Antártico y las Américas excepto el nor-oeste y el extremo norte.

3.- Eclipse Total de Sol, el 3 de Noviembre. Ver diagramas de la página 7. El eclipse principia a las 11^h 05^m y finaliza a las 16^h 13^m; la fase total inicia a las 12^h 03^m y termina a las 15^h 15^m. La duración máxima de la totalidad es de 04^m 28^s.



DIAGRAMAS DEL ECLIPSE SOLAR

Las características principales mostradas en los diagramas son: sobre las trayectorias de eclipse total y anular, los límites hacia el norte y hacia el sur de eclipse parcial, las curvas de orto y ocaso, líneas límite las cuales muestran las horas de principio y término de eclipse parcial a intervalos de cada media hora.



DIAGRAMAS DEL ECLIPSE SOLAR

Detalles más amplios sobre las trayectorias y tiempos del eclipse central, son mostrados en el *Astronomical Almanac*.

VISIBILIDAD DE LOS PLANETAS

VENUS, está muy cerca del Sol para su observación, hasta los finales de Febrero cuando aparece como un brillante astro en el atardecer. En los finales de Octubre otra vez está muy cerca del Sol para su observación hasta mediados de Noviembre, cuando reaparece en el amanecer. Venus está en conjunción con Mercurio el 12 de Noviembre.

MARTE, está muy cerca del Sol para su observación hasta los finales de Febrero cuando aparece en el amanecer en Capricornus. Su elongación al Oeste incrementa gradualmente mientras pasa a través de: Aquarius, Pisces, Aries, Taurus (pasando 5° N de Aldebaran el 18 de Julio), Gemini (pasando 6° S de Pollux el 24 de Septiembre), Cáncer y dentro de Leo (pasando 2° N de Regulus el 8 de Diciembre), en donde se puede ver por más de la media noche. Marte está en conjunción con Mercurio el 27 de Febrero y el 4 de Abril, y con Saturno el 14 de Marzo.

JUPITER, se puede ver en el amanecer dentro de Libra al principio del año y cerca de los inicios de Febrero puede observarse durante más de la media noche. Su elongación hacia el Oeste incrementa y hasta el 30 de Abril está en oposición, cuando es visible a través de toda la noche. Su elongación hacia el Este decrece gradualmente, a medida que pasa dentro de Virgo a finales de Mayo; en los mediados de Agosto, pasa regresando dentro de Libra donde puede verse al anochecer hasta los principios de Noviembre cuando está muy cerca del Sol para su observación. Reaparece en los principios de Diciembre al amanecer, pasando dentro de Scorpius a mediados de Diciembre.

SATURNUS, se puede ver en el atardecer desde los inicios del año dentro de Aquarius, constelación en la cual permanece a través de todo el año. Al principio de Febrero está muy cerca del Sol para su observación, hasta los inicios de Marzo cuando reaparece en el amanecer. Su elongación hacia el Oeste incrementa gradualmente hasta el 10 de Septiembre cuando está en oposición y es visible a través de toda la noche. Su elongación hacia el Este decrece gradualmente y cerca del inicio de Diciembre solamente se puede observar en el anochecer. Saturno está en conjunción con Mercurio el 2 de Febrero y el 24 de Marzo, y con Marte el 14 de Marzo.

MERCURIO, solo puede verse a poca altura al Este antes del amanecer e igualmente al Oeste, después del ocaso (al principio y al término del crepúsculo civil). Es visible en el amanecer entre las siguientes fechas aproximadas: del 27 de Febrero (+2.3) al 22 de Abril (-1.2); del 4 de Julio (+2.9) al 5 de Agosto (-1.5) y del 28 de Octubre (+1.4) al 27 de Noviembre (-0.8). El planeta es más brillante al final de cada período. Es visible en el atardecer entre las siguientes fechas aproximadas: del 18 de Enero (-1.0) al 14 de Febrero (+1.8); del 8 de Mayo (-1.5) al 16 de Junio (+3.0); del 23 de Agosto (-0.9) al 15 de Octubre (+2.1) y del 30 (-0.9) al 31 (-0.9) de Diciembre. El planeta es más brillante al principio de cada período. Los números entre paréntesis son las magnitudes.

DIAGRAMAS DE LOS PLANETAS

DESCRIPCION GENERAL. Para cualquier fecha durante el año, el diagrama de la página opuesta muestra en forma gráfica, la hora media local del paso del: Sol y los cinco planetas; Mercurio, Venus, Marte, Júpiter y Saturno, por el meridiano y para cada 30° del A.H.S.; si el usuario lo requiere, puede trazar líneas intermedias a las trazadas en el diagrama, para algunas estrellas en particular. Esto es, con el propósito de suministrar una información general utilizable para los planetas y las estrellas, en su observación.

A cada lado de la línea que marca el tiempo del paso del Sol por el meridiano se muestra una banda sombreada de 45^m de ancho, indicando que los planetas y estrellas que crucen el meridiano a menos de 45^m del cruce del Sol estarán demasiado cercanos al mismo, para poder observarse.

Método de uso e interpretación. Para cualquier fecha el diagrama suministra inmediatamente las horas medias locales, del paso por el meridiano del Sol, los planetas, las estrellas y la información siguiente:

- Si un planeta está demasiado cerca del Sol para observarse;
- Algunas indicaciones de estas posiciones en el cielo, especialmente durante los crepúsculos;
- La proximidad de distintos planetas.

Cuando el paso por el meridiano de un planeta exterior ocurre a medianoche; el astro estará en oposición al Sol y será visible toda la noche; un planeta puede ser observado durante los crepúsculos, tanto matutino como vespertino. A medida que la hora del paso por el meridiano decrece; no es recomendable hacer observaciones del astro por la mañana, porque éste tiende a desaparecer ocasionalmente, pero cuando su altura está sobre el horizonte al Este, la hora del crepúsculo incrementa gradualmente; esto continúa hasta que el astro se encuentra sobre el meridiano, durante el crepúsculo vespertino.

A partir de ahí el cuerpo celeste es observable sobre el horizonte al Oeste, y su altura en el crepúsculo vespertino decrece gradualmente hasta que llegue a situarse tan cerca del Sol, que imposibilita su observación. Cuando este astro vuelva a ser visible aparecerá abajo del Este durante el crepúsculo matutino; ésta altura al amanecer incrementa, hasta que ocurre el paso sobre el meridiano; durante el crepúsculo matutino.

Por consiguiente, cuando la hora del meridiano decrece a las 00^h, con un decrecimiento gradual de la altura, el astro se observa al Oeste durante el crepúsculo matutino, hasta volver a alcanzar su oposición.

NO CONFUNDIR

Mercurio con Saturno en los inicios de Febrero y en los finales de Marzo, y con Marte al final de Marzo y al principio de Abril; en todas las ocasiones Mercurio es el astro más brillante.

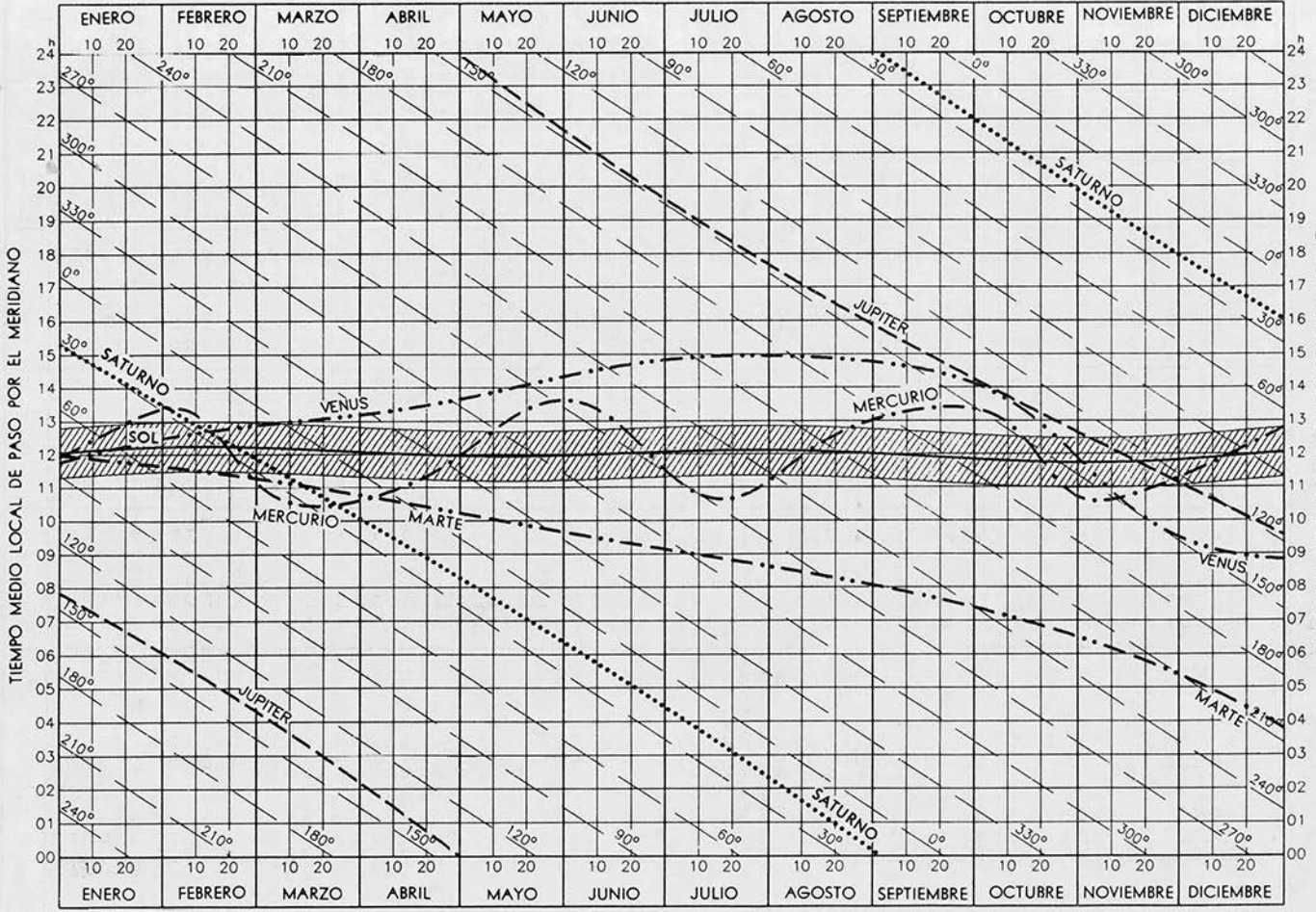
Marte con Mercurio alrededor de los principios de Marzo, cuando Marte es el astro más brillante. El color rojizo de Marte debe ayudar en su identificación.

Saturno con Marte alrededor de los mediados de Marzo cuando Saturno es el astro más brillante.

Venus con Mercurio en los mediados de Noviembre cuando Venus es el astro más brillante.

PLANETAS, 1994

TIEMPO MEDIO LOCAL DE PASO POR EL MERIDIANO



T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -1.8			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.
d h	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /	o /			
1 00	100 25.1	183 19.6	S23 38.8	180 29.2	S23 57.1	242 41.6	S13 39.5	130 42.3	S13 50.9	Acamar	315 29.1	S40 19.9						
01	115 27.6	198 18.7	38.7	195 29.6	57.0	257 43.7	39.6	145 44.5	50.8	Achernar	335 37.4	S57 16.3						
02	130 30.0	213 17.7	38.6	210 30.0	56.9	272 45.8	39.8	160 46.7	50.8	Acrux	173 25.5	S63 03.8						
03	145 32.5	228 16.7	38.6	225 30.3	56.8	287 47.9	39.9	175 49.0	50.7	Adhara	255 23.6	S28 57.9						
04	160 35.0	243 15.8	38.5	240 30.7	56.7	302 50.0	40.0	190 51.2	50.6	Aldebaran	291 05.8	N16 29.8						
05	175 37.4	258 14.8	38.5	255 31.1	56.6	317 52.0	40.1	205 53.4	50.5									
06	190 39.9	273 13.8	S23 38.4	270 31.5	S23 56.5	332 54.1	S13 40.2	220 55.7	S13 50.4	Alioth	166 33.4	N55 59.2						
07	205 42.4	288 12.8	38.3	285 31.9	56.3	347 56.2	40.3	235 57.9	50.3	Alkaid	153 10.5	N49 20.3						
08	220 44.8	303 11.9	38.3	300 32.3	56.2	2 58.3	40.5	251 00.1	50.3	Al Na'ir	28 02.2	S46 59.5						
S 09	235 47.3	318 10.9	38.2	315 32.6	56.1	18 00.4	40.6	266 02.4	50.2	Alnilam	276 00.8	S 1 12.4						
A 10	250 49.7	333 09.9	38.1	330 33.0	56.0	33 02.5	40.7	281 04.6	50.1	Alphard	218 10.1	S 8 38.1						
B 11	265 52.2	348 09.0	38.0	345 33.4	55.9	48 04.6	40.8	296 06.8	50.0									
A 12	280 54.7	3 08.0	S23 38.0	0 33.8	S23 55.8	63 06.7	S13 40.9	311 09.0	S13 49.9	Alphecca	126 23.6	N26 43.9						
D 13	295 57.1	18 07.0	37.9	15 34.2	55.6	78 08.7	41.0	326 11.3	49.8	Alpheratz	357 58.6	N29 03.7						
O 14	310 59.6	33 06.1	37.8	30 34.6	55.5	93 10.8	41.1	341 13.5	49.8	Altair	62 22.7	N 8 51.2						
15	326 02.1	48 05.1	37.7	45 34.9	55.4	108 12.9	41.3	356 15.7	49.7	Ankaa	353 30.0	S42 20.5						
16	341 04.5	63 04.1	37.7	60 35.3	55.3	123 15.0	41.4	11 18.0	49.6	Antares	112 44.4	S26 25.1						
17	356 07.0	78 03.1	37.6	75 35.7	55.2	138 17.1	41.5	26 20.2	49.5									
18	11 09.5	93 02.2	S23 37.5	90 36.1	S23 55.0	153 19.2	S13 41.6	41 22.4	S13 49.4	Arcturus	146 09.1	N19 12.6						
19	26 11.9	108 01.2	37.4	105 36.5	54.9	168 21.3	41.7	56 24.7	49.3	Atria	107 59.9	S69 00.9						
20	41 14.4	123 00.2	37.3	120 36.9	54.8	183 23.4	41.8	71 26.9	49.2	Avior	234 23.3	S59 29.4						
21	56 16.9	137 59.3	37.3	135 37.2	54.7	198 25.5	41.9	86 29.1	49.2	Bellatrix	278 47.3	N 6 20.6						
22	71 19.3	152 58.3	37.2	150 37.6	54.5	213 27.6	42.1	101 31.4	49.1	Betelgeuse	271 16.7	N 7 24.3						
23	86 21.8	167 57.3	37.1	165 38.0	54.4	228 29.7	42.2	116 33.6	49.0									
2 00	101 24.2	182 56.4	S23 37.0	180 38.4	S23 54.3	243 31.7	S13 42.3	131 35.8	S13 48.9	Canopus	264 02.0	S52 41.7						
01	116 26.7	197 55.4	36.9	195 38.8	54.2	258 33.8	42.4	146 38.1	48.8	Capella	280 55.5	N45 59.6						
02	131 29.2	212 54.4	36.8	210 39.2	54.1	273 35.9	42.5	161 40.3	48.7	Deneb	49 41.8	N45 15.8						
03	146 31.6	227 53.4	36.7	225 39.5	53.9	288 38.0	42.6	176 42.5	48.7	Denebola	182 48.4	N14 36.1						
04	161 34.1	242 52.5	36.6	240 39.9	53.8	303 40.1	42.7	191 44.8	48.6	Diphda	349 10.5	S18 01.2						
05	176 36.6	257 51.5	36.5	255 40.3	53.7	318 42.2	42.9	206 47.0	48.5									
06	191 39.0	272 50.5	S23 36.4	270 40.7	S23 53.5	333 44.3	S13 43.0	221 49.2	S13 48.4	Dubhe	194 09.1	N61 46.6						
07	206 41.5	287 49.6	36.3	285 41.1	53.4	348 46.4	43.1	236 51.4	48.3	Elnath	278 30.6	N28 36.1						
08	221 44.0	302 48.6	36.2	300 41.5	53.3	3 48.5	43.2	251 53.7	48.2	Eltanin	90 53.4	N51 29.4						
09	236 46.4	317 47.6	36.1	315 41.8	53.2	18 50.6	43.3	266 55.9	48.1	Enif	34 01.6	N 9 51.0						
D O 10	251 48.9	332 46.7	36.0	330 42.2	53.0	33 52.7	43.4	281 58.1	48.1	Fomalhaut	15 40.1	S29 39.3						
M I 11	266 51.3	347 45.7	35.9	345 42.6	52.9	48 54.8	43.5	297 00.4	48.0									
N G 12	281 53.8	2 44.7	S23 35.8	0 43.0	S23 52.8	63 56.9	S13 43.6	312 02.6	S13 47.9	Gacrux	172 17.1	S57 04.6						
O 13	296 56.3	17 43.8	35.7	15 43.4	52.7	78 58.9	43.8	327 04.8	47.8	Gienah	176 07.2	S17 30.5						
14	311 58.7	32 42.8	35.6	30 43.8	52.5	94 01.0	43.9	342 07.1	47.7	Hadar	149 08.8	S60 20.4						
15	327 01.2	47 41.8	35.5	45 44.1	52.4	109 03.1	44.0	357 09.3	47.6	Hamal	328 17.1	N23 26.2						
16	342 03.7	62 40.9	35.4	60 44.5	52.3	124 05.2	44.1	12 11.5	47.6	Kaus Aust.	84 03.5	S34 23.2						
17	357 06.1	77 39.9	35.3	75 44.9	52.1	139 07.3	44.2	27 13.7	47.5									
18	12 08.6	92 38.9	S23 35.2	90 45.3	S23 52.0	154 09.4	S13 44.3	42 16.0	S13 47.4	Kochab	137 20.1	N74 10.5						
19	27 11.1	107 38.0	35.1	105 45.7	51.9	169 11.5	44.4	57 18.2	47.3	Markab	13 53.0	N15 10.6						
20	42 13.5	122 37.0	35.0	120 46.1	51.7	184 13.6	44.5	72 20.4	47.2	Menkar	314 30.1	N 4 04.0						
21	57 16.0	137 36.0	34.9	135 46.4	51.6	199 15.7	44.7	87 22.7	47.1	Menkent	148 24.9	S36 20.3						
22	72 18.5	152 35.0	34.7	150 46.8	51.5	214 17.8	44.8	102 24.9	47.0	Miaplacidus	221 41.9	S69 41.5						
23	87 20.9	167 34.1	34.6	165 47.2	51.3	229 19.9	44.9	117 27.1	47.0									
3 00	102 23.4	182 33.1	S23 34.5	180 47.6	S23 51.2	244 22.0	S13 45.0	132 29.3	S13 46.9	Mirfak	309 00.9	N49 50.6						
01	117 25.8	197 32.1	34.4	195 48.0	51.1	259 24.1	45.1	147 31.6	46.8	Nunki	76 16.7	S26 18.2						
02	132 28.3	212 31.2	34.3	210 48.4	50.9	274 26.2	45.2	162 33.8	46.7	Peacock	53 42.6	S56 45.3						
03	147 30.8	227 30.2	34.1	225 48.7	50.8	289 28.3	45.3	177 36.0	46.6	Pollux	243 45.1	N28 02.3						
04	162 33.2	242 29.2	34.0	240 49.1	50.7	304 30.4	45.4	192 38.3	46.5	Procyon	245 14.6	N 5 14.3						
05	177 35.7	257 28.3	33.9	255 49.5	50.5	319 32.5	45.6	207 40.5	46.4									
06	192 38.2	272 27.3	S23 33.8	270 49.9	S23 50.4	334 34.6	S13 45.7	222 42.7	S13 46.4	Rasalhague	96 20.3	N12 33.9						
07	207 40.6	287 26.3	33.6	285 50.3	50.2	349 36.7	45.8	237 44.9	46.3	Regulus	207 58.7	N11 59.6						
08	222 43.1	302 25.4	33.5	300 50.7	50.1	4 38.8	45.9	252 47.2	46.2	Rigel	281 25.7	S 8 12.6						
L 09	237 45.6	317 24.4	33.4	315 51.0	50.0	19 40.9	46.0	267 49.4	46.1	Rigil Kent.	140 11.9	S60 48.4						
U 10	252 48.0	332 23.4	33.2	330 51.4	49.8	34 43.0	46.1	282 51.6	46.0	Sabik	102 29.5	S15 43.0						
N 11	267 50.5	347 22.5	33.1	345 51.8	49.7	49 45.1	46.2	297 53.9	45.9									
E 12	282 53.0	2 21.5	S23 33.0	0 52.2	S23 49.5	64 47.2	S13 46.3	312 56.1	S13 45.8	Schedar	349 57.2	N56 30.6						
S 13	297 55.4	17 20.6	32.8	15 52.6	49.4	79 49.2	46.4	327 58.3	45.8	Shaula	96 42.1	S37 05.9						
14	312 57.9	32 19.6	32.7	30 53.0	49.3	94 51.3	46.6	343 00.5	45.7	Sirius	258 46.1	S16 42.6						
15	328 00.3	47 18.6	32.6	45 53.3	49.1	109 53.4	46.7	358 02.8	45.6	Spica	158 46.6	S11 07.8						
16	343 02.8	62 17.7	32.4	60 53.7	49.0	124 55.5	46.8	13 05.0	45.5	Suhail								

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna									
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.	Civil		h m	1		2		3		4		
	o	'	o	'	o	'	o	'						h	m	h	m	h	m	h	m	h
S A B A D O	d	h																				
	1	00	179	10.3	S23	02.2	321	16.2	10.3	N10	34.4	11.2	58.3	N 72	08 23	10 40	■	19 52	21 54	23 55	26 02	
		01	194	10.0		02.0	335	45.5	10.3	10	23.2	11.2	58.3	N 70	08 04	09 48	■	20 02	21 56	23 49	25 46	
		02	209	09.7		01.8	350	14.8	10.4	10	12.0	11.3	58.3	68	07 49	09 16	■	20 10	21 57	23 44	25 33	
		03	224	09.4	..	01.6	4	44.2	10.4	10	00.7	11.3	58.4	66	07 37	08 52	10 26	20 17	21 58	23 39	25 22	
		04	239	09.1		01.4	19	13.6	10.4	9	49.4	11.4	58.4	64	07 26	08 34	09 49	20 23	21 59	23 36	25 14	
		05	254	08.8		01.2	33	43.0	10.4	9	38.0	11.5	58.4	62	07 17	08 18	09 22	20 28	22 00	23 32	25 06	
		06	269	08.5	S23	01.0	48	12.4	10.5	N 9	26.5	11.5	58.4	60	07 09	08 05	09 02	20 32	22 00	23 30	25 00	
		07	284	08.2		00.8	62	41.9	10.5	9	15.0	11.6	58.4	N 58	07 02	07 54	08 45	20 35	22 01	23 27	24 54	
		08	299	07.9		00.6	77	11.4	10.4	9	03.4	11.6	58.4	56	06 56	07 44	08 31	20 39	22 02	23 25	24 49	
		09	314	07.6	..	00.4	91	40.8	10.6	8	51.8	11.6	58.5	54	06 50	07 36	08 19	20 42	22 02	23 23	24 45	
		10	329	07.4		00.2	106	10.4	10.5	8	40.2	11.8	58.5	52	06 44	07 28	08 08	20 44	22 03	23 21	24 41	
		11	344	07.1	23	00.0	120	39.9	10.6	8	28.4	11.7	58.5	50	06 39	07 20	07 59	20 47	22 03	23 20	24 37	
		12	359	06.8	S22	59.7	135	09.5	10.5	N 8	16.7	11.9	58.5	45	06 28	07 05	07 38	20 52	22 04	23 16	24 29	
		13	14	06.5		59.5	149	39.0	10.6	8	04.8	11.8	58.5	N 40	06 18	06 52	07 22	20 56	22 05	23 13	24 23	
		14	29	06.2		59.3	164	08.6	10.7	7	53.0	12.0	58.5	35	06 09	06 40	07 08	21 00	22 05	23 11	24 17	
		15	44	05.9	..	59.1	178	38.3	10.6	7	41.0	11.9	58.5	30	06 00	06 30	06 56	21 03	22 06	23 09	24 12	
		16	59	05.6		58.9	193	07.9	10.6	7	29.1	12.0	58.5	20	05 44	06 12	06 35	21 09	22 07	23 05	24 04	
		17	74	05.3		58.7	207	37.5	10.7	7	17.1	12.1	58.6	N 10	05 28	05 55	06 17	21 14	22 08	23 02	23 57	
		18	89	05.0	S22	58.5	222	07.2	10.7	N 7	05.0	12.1	58.6	0	05 12	05 38	06 00	21 19	22 09	22 59	23 50	
		19	104	04.7		58.3	236	36.9	10.7	6	52.9	12.1	58.6	S 10	04 53	05 20	05 43	21 23	22 10	22 56	23 43	
		20	119	04.4		58.1	251	06.6	10.7	6	40.8	12.2	58.6	20	04 31	05 00	05 25	21 28	22 11	22 53	23 36	
		21	134	04.1	..	57.9	265	36.3	10.8	6	28.6	12.2	58.6	30	04 03	04 36	05 03	21 34	22 12	22 49	23 28	
	22	149	03.8		57.6	280	06.1	10.7	6	16.4	12.2	58.6	35	03 44	04 21	04 50	21 37	22 12	22 47	23 23		
	23	164	03.5		57.4	294	35.8	10.8	6	04.2	12.3	58.6	40	03 22	04 03	04 36	21 41	22 13	22 45	23 18		
	200	179	03.2	S22	57.2	309	05.6	10.7	N 5	51.9	12.4	58.6	45	02 52	03 41	04 18	21 45	22 14	22 42	23 12		
	01	194	03.0		57.0	323	35.3	10.8	5	39.5	12.3	58.7	S 50	02 08	03 12	03 56	21 50	22 15	22 39	23 05		
	02	209	02.7		56.8	338	05.1	10.8	5	27.2	12.4	58.7	52	01 43	02 58	03 46	21 53	22 15	22 38	23 02		
	03	224	02.4	..	56.5	352	34.9	10.8	5	14.8	12.4	58.7	54	01 03	02 40	03 34	21 55	22 16	22 36	22 58		
	04	239	02.1		56.3	7	04.7	10.8	5	02.4	12.5	58.7	56	///	02 19	03 20	21 58	22 16	22 35	22 54		
	05	254	01.8		56.1	21	34.5	10.9	4	49.9	12.5	58.7	58	///	01 51	03 04	22 01	22 17	22 33	22 50		
	06	269	01.5	S22	55.9	36	04.4	10.8	N 4	37.4	12.5	58.7	S 60	///	01 08	02 44	22 05	22 18	22 31	22 45		
	07	284	01.2		55.7	50	34.2	10.9	4	24.9	12.5	58.7										
	08	299	00.9		55.4	65	04.1	10.8	4	12.4	12.6	58.7	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna					
	09	314	00.6	..	55.2	79	33.9	10.9	3	59.8	12.6	58.8					1	2	3	4		
	10	329	00.3		55.0	94	03.8	10.8	3	47.2	12.6	58.8										
	11	344	00.0		54.8	108	33.6	10.9	3	34.6	12.6	58.8										
	12	358	59.7	S22	54.5	123	03.5	10.9	N 3	22.0	12.7	58.8	N 72	■	13 28	15 45	10 45	10 29	10 14	09 58		
	13	13	59.5		54.3	137	33.4	10.9	3	09.3	12.7	58.8	N 70	■	14 20	16 04	10 32	10 24	10 16	10 07		
	14	28	59.2		54.1	152	03.3	10.9	2	56.6	12.7	58.8	68	■	14 52	16 19	10 22	10 20	10 17	10 15		
	15	43	58.9	..	53.9	166	33.2	10.8	2	43.9	12.7	58.8	66	13 42	15 16	16 31	10 14	10 17	10 19	10 21		
	16	58	58.6		53.6	181	03.0	10.9	2	31.2	12.7	58.8	64	14 20	15 35	16 42	10 07	10 14	10 20	10 26		
	17	73	58.3		53.4	195	32.9	10.9	2	18.5	12.8	58.8	62	14 46	15 50	16 51	10 01	10 11	10 21	10 31		
	18	88	58.0	S22	53.2	210	02.8	10.9	N 2	05.7	12.8	58.8	60	15 06	16 03	16 59	09 55	10 09	10 22	10 35		
	19	103	57.7		52.9	224	32.7	10.9	1	52.9	12.7	58.9	N 58	15 23	16 14	17 06	09 51	10 07	10 23	10 39		
	20	118	57.4		52.7	239	02.6	10.9	1	40.2	12.8	58.9	56	15 37	16 24	17 13	09 46	10 05	10 23	10 42		
	21	133	57.1	..	52.5	253	32.5	10.9	1	27.4	12.8	58.9	54	15 49	16 33	17 19	09 42	10 04	10 24	10 45		
	22	148	56.8		52.2	268	02.4	10.8	1	14.6	12.8	58.9	52	16 00	16 41	17 24	09 39	10 02	10 25	10 47		
	23	163	56.6		52.0	282	32.2	10.9	1	01.8	12.9	58.9	50	16 10	16 48	17 29	09 36	10 01	10 25	10 50		
	300	178	56.3	S22	51.8	297	02.1	10.9	N 0	48.9	12.8	58.9	45	16 30	17 03	17 40	09 29	09 58	10 26	10 55		
	01	193	56.0		51.5	311	32.0	10.9	0	36.1	12.8	58.9	N 40	16 46	17 17	17 50	09 23	09 56	10 27	11 00		
	02	208	55.7		51.3	326	01.9	10.8	0	23.3	12.9	58.9	35	17 00	17 28	18 00	09 18	09 54	10 28	11 03		
	03	223	55.4	..	51.1	340	31.7	10.9	N 0	10.4	12.8	58.9	30	17 12	17 38	18 08	09 14	09 52	10 29	11 07		
	04	238	55.1		50.8	355	01.6	10.8	S 0	02.4	12.8	58.9	20	17 33	17 57	18 24	09 06	09 48	10 30	11 13		
	05	253	54.8		50.6	9	31.4	10.9	0	15.2	12.9	58.9	N 10	17 51	18 13	18 40	08 59	09 45	10 31	11 18		
	06	268	54.5	S22	50.3	24	01.3	10.8	S 0	28.1	12.8	59.0	0	18 08	18 30	18 56	08 52	09 43	10 32	11 23		
	07	283	54.3		50.1	38	31.1	10.8	0	40.9	12.9	59.0	S 10	18 25	18 48	19 15	08 46	09 40	10 34	11 28		
	08	298	54.0		49.9	53	00.9	10.8	0	53.8	12.8	59.0	20	18 43	19 08	19 37	08 39	09 37	10 35	11 33		
	09	313	53.7	..	49.6	67	30.7	10.8	1	06.6	12.9	59.0	30	19 05	19 32	20 05	08 31	09 33	10 36	11 39		
	10	328	53.4																			

T.M.G. (TU)	ARIES		VENUS -3.9		MARTE +1.2		JUPITER -1.9		SATURNO +0.9		ESTRELLAS			
d h	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.
4 00	103 22.5	182 09.9	S23 31.3	180 56.8	S23 47.8	245 12.3	S13 47.7	133 22.8	S13 44.8	Acamar	315 29.1	S40 19.9		
01	118 25.0	197 09.0	31.1	195 57.2	47.7	260 14.4	47.8	148 25.0	44.7	Achernar	335 37.4	S57 16.3		
02	133 27.4	212 08.0	31.0	210 57.6	47.5	275 16.5	47.9	163 27.3	44.6	Acrux	173 25.5	S63 03.8		
03	148 29.9	227 07.0	30.8	225 57.9	47.4	290 18.6	48.0	178 29.5	44.6	Adhara	255 23.6	S28 58.0		
04	163 32.4	242 06.1	30.7	240 58.3	47.2	305 20.7	48.1	193 31.7	44.5	Aldebaran	291 05.8	N16 29.8		
05	178 34.8	257 05.1	30.5	255 58.7	47.1	320 22.8	48.2	208 33.9	44.4					
06	193 37.3	272 04.2	S23 30.4	270 59.1	S23 46.9	335 24.9	S13 48.3	223 36.2	S13 44.3	Alioth	166 33.4	N55 59.1		
07	208 39.8	287 03.2	30.2	285 59.5	46.8	350 27.0	48.4	238 38.4	44.2	Alkaid	153 10.4	N49 20.3		
08	223 42.2	302 02.2	30.0	300 59.9	46.6	5 29.1	48.5	253 40.6	44.1	Al Na'ir	28 02.2	S46 59.5		
M 09	238 44.7	317 01.3	29.9	316 00.2	46.5	20 31.3	48.7	268 42.8	44.0	Alnilam	276 00.8	S 1 12.4		
A 10	253 47.2	332 00.3	29.7	331 00.6	46.3	35 33.4	48.8	283 45.1	43.9	Alphard	218 10.1	S 8 38.1		
R 11	268 49.6	346 59.3	29.6	346 01.0	46.2	50 35.5	48.9	298 47.3	43.9					
T 12	283 52.1	1 58.4	S23 29.4	1 01.4	S23 46.0	65 37.6	S13 49.0	313 49.5	S13 43.8	Alphecca	126 23.6	N26 43.9		
E 13	298 54.6	16 57.4	29.2	16 01.8	45.9	80 39.7	49.1	328 51.8	43.7	Alpheratz	357 58.6	N29 03.7		
S 14	313 57.0	31 56.4	29.1	31 02.2	45.7	95 41.8	49.2	343 54.0	43.6	Altair	62 22.7	N 8 51.2		
15	328 59.5	46 55.5	28.9	46 02.5	45.6	110 43.9	49.3	358 56.2	43.5	Ankaa	353 30.1	S42 20.5		
16	344 01.9	61 54.5	28.7	61 02.9	45.4	125 46.0	49.4	13 58.4	43.4	Antares	112 44.4	S26 25.1		
17	359 04.4	76 53.6	28.5	76 03.3	45.3	140 48.1	49.5	29 00.7	43.3					
18	14 06.9	91 52.6	S23 28.4	91 03.7	S23 45.1	155 50.2	S13 49.6	44 02.9	S13 43.3	Arcturus	146 09.1	N19 12.6		
19	29 09.3	106 51.6	28.2	106 04.1	45.0	170 52.3	49.7	59 05.1	43.2	Atria	107 59.8	S69 00.8		
20	44 11.8	121 50.7	28.0	121 04.5	44.8	185 54.4	49.9	74 07.3	43.1	Avior	234 23.3	S59 29.4		
21	59 14.3	136 49.7	27.9	136 04.8	44.7	200 56.5	50.0	89 09.6	43.0	Bellatrix	278 47.3	N 6 20.6		
22	74 16.7	151 48.8	27.7	151 05.2	44.5	215 58.6	50.1	104 11.8	42.9	Betelgeuse	271 16.7	N 7 24.3		
23	89 19.2	166 47.8	27.5	166 05.6	44.3	231 00.7	50.2	119 14.0	42.8					
5 00	104 21.7	181 46.8	S23 27.3	181 06.0	S23 44.2	246 02.8	S13 50.3	134 16.2	S13 42.7	Canopus	264 02.0	S52 41.7		
01	119 24.1	196 45.9	27.1	196 06.4	44.0	261 04.9	50.4	149 18.4	42.6	Capella	280 55.5	N45 59.6		
02	134 26.6	211 44.9	27.0	211 06.8	43.9	276 07.0	50.5	164 20.7	42.6	Deneb	49 41.8	N45 15.7		
03	149 29.1	226 44.0	26.8	226 07.1	43.7	291 09.1	50.6	179 22.9	42.5	Denebola	182 48.4	N14 36.1		
04	164 31.5	241 43.0	26.6	241 07.5	43.6	306 11.2	50.7	194 25.1	42.4	Diphda	349 10.5	S18 01.2		
05	179 34.0	256 42.0	26.4	256 07.9	43.4	321 13.3	50.8	209 27.3	42.3					
06	194 36.4	271 41.1	S23 26.2	271 08.3	S23 43.2	336 15.4	S13 50.9	224 29.6	S13 42.2	Dubhe	194 09.1	N61 46.6		
07	209 38.9	286 40.1	26.0	286 08.7	43.1	351 17.5	51.0	239 31.8	42.1	Elnath	278 30.6	N28 36.1		
M 08	224 41.4	301 39.2	25.8	301 09.1	42.9	6 19.6	51.2	254 34.0	42.0	Eltanin	90 53.4	N51 29.4		
09	239 43.8	316 38.2	25.6	316 09.4	42.8	21 21.8	51.3	269 36.2	41.9	Enif	34 01.6	N 9 51.0		
10	254 46.3	331 37.2	25.5	331 09.8	42.6	36 23.9	51.4	284 38.5	41.9	Fomalhaut	15 40.2	S29 39.3		
11	269 48.8	346 36.3	25.3	346 10.2	42.4	51 26.0	51.5	299 40.7	41.8					
12	284 51.2	1 35.3	S23 25.1	1 10.6	S23 42.3	66 28.1	S13 51.6	314 42.9	S13 41.7	Gacrux	172 17.1	S57 04.6		
13	299 53.7	16 34.4	24.9	16 11.0	42.1	81 30.2	51.7	329 45.1	41.6	Gienah	176 07.2	S17 30.6		
14	314 56.2	31 33.4	24.7	31 11.4	41.9	96 32.3	51.8	344 47.4	41.5	Hadar	149 08.8	S60 20.4		
15	329 58.6	46 32.4	24.5	46 11.7	41.8	111 34.4	51.9	359 49.6	41.4	Hamal	328 17.1	N23 26.2		
16	345 01.1	61 31.5	24.3	61 12.1	41.6	126 36.5	52.0	14 51.8	41.3	Kaus Aust.	84 03.5	S34 23.2		
17	0 03.5	76 30.5	24.1	76 12.5	41.4	141 38.6	52.1	29 54.0	41.2					
18	15 06.0	91 29.6	S23 23.9	91 12.9	S23 41.3	156 40.7	S13 52.2	44 56.2	S13 41.2	Kochab	137 20.1	N74 10.5		
19	30 08.5	106 28.6	23.7	106 13.3	41.1	171 42.8	52.3	59 58.5	41.1	Markab	13 53.0	N15 10.5		
20	45 10.9	121 27.7	23.5	121 13.7	41.0	186 44.9	52.4	75 00.7	41.0	Menkar	314 30.1	N 4 04.0		
21	60 13.4	136 26.7	23.3	136 14.0	40.8	201 47.0	52.6	90 02.9	40.9	Menkent	148 24.9	S36 20.3		
22	75 15.9	151 25.7	23.1	151 14.4	40.6	216 49.2	52.7	105 05.1	40.8	Miaplacidus	221 41.9	S69 41.5		
23	90 18.3	166 24.8	22.8	166 14.8	40.4	231 51.3	52.8	120 07.4	40.7					
6 00	105 20.8	181 23.8	S23 22.6	181 15.2	S23 40.3	246 53.4	S13 52.9	135 09.6	S13 40.6	Mirfak	309 00.9	N49 50.6		
01	120 23.3	196 22.9	22.4	196 15.6	40.1	261 55.5	53.0	150 11.8	40.5	Nunki	76 16.7	S26 18.2		
02	135 25.7	211 21.9	22.2	211 16.0	39.9	276 57.6	53.1	165 14.0	40.5	Peacock	53 42.6	S56 45.3		
03	150 28.2	226 21.0	22.0	226 16.3	39.8	291 59.7	53.2	180 16.2	40.4	Pollux	243 45.1	N28 02.3		
04	165 30.7	241 20.0	21.8	241 16.7	39.6	307 01.8	53.3	195 18.5	40.3	Procyon	245 14.6	N 5 14.3		
05	180 33.1	256 19.0	21.6	256 17.1	39.4	322 03.9	53.4	210 20.7	40.2					
06	195 35.6	271 18.1	S23 21.4	271 17.5	S23 39.3	337 06.0	S13 53.5	225 22.9	S13 40.1	Rasalhague	96 20.3	N12 33.9		
07	210 38.0	286 17.1	21.1	286 17.9	39.1	352 08.1	53.6	240 25.1	40.0	Regulus	207 58.7	N11 59.6		
08	225 40.5	301 16.2	20.9	301 18.3	38.9	7 10.3	53.7	255 27.4	39.9	Rigel	281 25.7	S 8 12.6		
J 09	240 43.0	316 15.2	20.7	316 18.6	38.7	22 12.4	53.8	270 29.6	39.8	Rigil Kent.	140 11.8	S60 48.4		
U 10	255 45.4	331 14.3	20.5	331 19.0	38.6	37 14.5	53.9	285 31.8	39.8	Sabik	102 29.5	S15 43.0		
E 11	270 47.9	346 13.3	20.2	346 19.4	38.4	52 16.6	54.0	300 34.0	39.7					
V 12	285 50.4	1 12.4	S23 20.0	1 19.8	S23 38.2	67 18.7	S13 54.1	315 36.2	S13 39.6	Schedar	349 57.2	N56 30.6		
E 13	300 52.8	16 11.4	19.8	16 20.2	38.1	82 20.8	54.3	330 38.5	39.5	Shaula	96 42.0	S37 05.9		
S 14	315 55.3	31 10.4	19.6	31 20.6	37.9	97 22.9	54.4	345 40.7	39.4	Sirius	258 46.1	S16 42.6		
15	330 57.8	46 09.5	19.3	46 20.9	37.7	112 25.0	54.5	0 42.9	39.3	Spica	158 46.6	S11 07.8		
16	346 00.2	61 08.5	19.1	61 21.3	37.5	127 27.2	54.6	15 45.1	39.2	Suhail	223 02.7	S43 24.5		
17	1 02.7	76 07.6	18.9	76 21.7	37.4	142 29.3	54.7	30 47.3	39.1					
18	16 05.2	91 06.6	S23 18.6	91 22.1	S23 37.2	157 31.4	S13 54.8	45 49.6	S13 39.0	Vega	80 49.2	N38 46.7		
19	31 07.6	106 05.7	18.4	106 22.5	37.0	172 33.5	54.9	60 51.8	39.0	Zuben'ubi	137 21.7	S16 01.0		
20	46 10.1	121 04.7	18.2	121 22.9	36.8	187 35.6	55.0	75 54.0	38.9					
21	61 12.5	136 03.8	17.9	136 23.2	36.6	202 37.7	55.1	90 56.2	38.8					
22	76 15.0	151 02.8	17.7	151 23.6	36.5	217 39.8	55.2	105 58.4	38.7					
23	91 17.5	166 01.9	17.5	166 24.0	36.3	232 41.9	55.3	121 00.7	38.6					
Pas. Mer. 16 59.8	v -1.0 d 0.2			v 0.4 d 0.2			v 2.1 d 0.1			v 2.2 d 0.1				
													A. H. S.	Pas. Mer.
													o / h m	
													Venus	77 25.2 11 54
													Marte	76 44.3 11 55
													Júpiter	141 41.1 7 35
													Saturno	29 54.6 15 01

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Náut.		Civil	4	5	6	7	
	° / ' / ''	° / ' / ''	° / ' / ''	° / ' / ''	° / ' / ''	° / ' / ''	° / ' / ''	h m	h m	h m	h m	h m	h m	h m		
4 00	178 49.4	S22 45.9	284 56.0	10.5	S 4	18.2	12.7	59.1	N 72	08 20	10 30	■	26 02	02 02	04 21	■
01	193 49.1	45.6	299 25.5	10.5	4	30.9	12.6	59.1	N 70	08 02	09 43	■	25 46	01 46	03 49	06 06
02	208 48.8	45.4	313 55.0	10.4	4	43.5	12.6	59.1	68	07 47	09 12	11 31	25 33	01 33	03 25	05 22
03	223 48.5	45.1	328 24.4	10.5	4	56.1	12.6	59.1	66	07 35	08 50	10 20	25 22	01 22	03 07	04 53
04	238 48.2	44.9	342 53.9	10.4	5	08.7	12.5	59.1	64	07 25	08 32	09 45	25 14	01 14	02 53	04 31
05	253 48.0	44.6	357 23.3	10.4	5	21.2	12.5	59.1	62	07 16	08 17	09 20	25 06	01 06	02 40	04 13
06	268 47.7	S22 44.3	11 52.7	10.4	S 5	33.7	12.5	59.1	60	07 08	08 04	09 00	25 00	01 00	02 30	03 59
07	283 47.4	44.1	26 22.1	10.3	5	46.2	12.5	59.1	N 58	07 01	07 53	08 44	24 54	00 54	02 21	03 47
08	298 47.1	43.8	40 51.4	10.3	5	58.7	12.4	59.1	56	06 55	07 43	08 30	24 49	00 49	02 13	03 36
M 09	313 46.8	43.6	55 20.7	10.3	6	11.1	12.4	59.1	54	06 49	07 35	08 18	24 45	00 45	02 06	03 27
A 10	328 46.5	43.3	69 50.0	10.2	6	23.5	12.4	59.1	52	06 44	07 27	08 07	24 41	00 41	02 00	03 18
R 11	343 46.3	43.0	84 19.2	10.2	6	35.9	12.3	59.1	50	06 39	07 20	07 58	24 37	00 37	01 55	03 11
T 12	358 46.0	S22 42.8	98 48.4	10.2	S 6	48.2	12.3	59.2	45	06 28	07 05	07 38	24 29	00 29	01 43	02 55
E 13	13 45.7	42.5	113 17.6	10.1	7	00.5	12.2	59.2	N 40	06 18	06 52	07 22	24 23	00 23	01 33	02 42
S 14	28 45.4	42.2	127 46.7	10.1	7	12.7	12.3	59.2	35	06 09	06 41	07 09	24 17	00 17	01 24	02 31
15	43 45.1	42.0	142 15.8	10.1	7	25.0	12.1	59.2	30	06 01	06 31	06 57	24 12	00 12	01 17	02 22
16	58 44.8	41.7	156 44.9	10.0	7	37.1	12.2	59.2	20	05 45	06 12	06 36	24 04	00 04	01 04	02 05
17	73 44.6	41.4	171 13.9	10.0	7	49.3	12.1	59.2	N 10	05 30	05 56	06 18	23 57	24 53	00 53	01 51
18	88 44.3	S22 41.2	185 42.9	10.0	S 8	01.4	12.0	59.2	0	05 13	05 39	06 02	23 50	24 43	00 43	01 38
19	103 44.0	40.9	200 11.9	9.9	8	13.4	12.0	59.2	S 10	04 55	05 22	05 45	23 43	24 32	00 32	01 24
20	118 43.7	40.6	214 40.8	9.9	8	25.4	12.0	59.2	20	04 33	05 02	05 26	23 36	24 22	00 22	01 10
21	133 43.4	40.4	229 09.7	9.8	8	37.4	11.9	59.2	30	04 05	04 38	05 05	23 28	24 09	00 09	00 54
22	148 43.1	40.1	243 38.5	9.8	8	49.3	11.8	59.2	35	03 47	04 23	04 53	23 23	24 02	00 02	00 45
23	163 42.9	39.8	258 07.3	9.8	9	01.1	11.9	59.2	40	03 25	04 06	04 38	23 18	23 54	24 35	00 35
5 00	178 42.6	S22 39.5	272 36.1	9.7	S 9	13.0	11.7	59.2	45	02 56	03 44	04 21	23 12	23 45	24 22	00 22
01	193 42.3	39.3	287 04.8	9.7	9	24.7	11.7	59.2	S 50	02 13	03 16	03 59	23 05	23 34	24 07	00 07
02	208 42.0	39.0	301 33.5	9.6	9	36.4	11.7	59.2	52	01 49	03 02	03 49	23 02	23 29	24 01	00 01
03	223 41.7	38.7	316 02.1	9.6	9	48.1	11.6	59.2	54	01 12	02 45	03 37	22 58	23 23	23 53	24 31
04	238 41.5	38.4	330 30.7	9.6	9	59.7	11.5	59.2	56	///	02 24	03 24	22 54	23 17	23 44	24 20
05	253 41.2	38.2	344 59.3	9.5	10	11.2	11.5	59.2	58	///	01 58	03 08	22 50	23 10	23 35	24 08
06	268 40.9	S22 37.9	359 27.8	9.4	S10	22.7	11.5	59.2	S 60	///	01 18	02 49	22 45	23 02	23 24	23 54
07	283 40.6	37.6	13 56.2	9.4	10	34.2	11.3	59.2								
08	298 40.3	37.3	28 24.6	9.4	10	45.5	11.3	59.2	Lat.	Ocaso Sol	Crepúsculo Civil	Náut.	4	5	6	7
09	313 40.1	37.0	42 53.0	9.3	10	56.8	11.3	59.2	h m	h m	h m	h m	h m	h m	h m	h m
10	328 39.8	36.8	57 21.3	9.3	11	08.1	11.2	59.2	N 72	■	13 41	15 52	09 58	09 39	09 11	■
11	343 39.5	36.5	71 49.6	9.2	11	19.3	11.1	59.2	N 70	■	14 28	16 10	10 07	09 57	09 45	09 24
12	358 39.2	S22 36.2	86 17.8	9.2	S11	30.4	11.0	59.2	68	12 41	14 59	16 24	10 15	10 12	10 10	10 09
13	13 38.9	35.9	100 46.0	9.2	11	41.4	11.0	59.2	66	13 51	15 21	16 36	10 21	10 24	10 29	10 39
14	28 38.7	35.6	115 14.2	9.0	11	52.4	10.9	59.2	64	14 26	15 40	16 46	10 26	10 34	10 45	11 01
15	43 38.4	35.3	129 42.2	9.1	12	03.3	10.9	59.2	62	14 51	15 54	16 55	10 31	10 43	10 58	11 19
16	58 38.1	35.1	144 10.3	9.0	12	14.2	10.8	59.2	60	15 11	16 07	17 03	10 35	10 50	11 09	11 34
17	73 37.8	34.8	158 38.3	8.9	12	25.0	10.7	59.2	N 58	15 27	16 18	17 10	10 39	10 57	11 19	11 47
18	88 37.5	S22 34.5	173 06.2	8.9	S12	35.7	10.6	59.2	56	15 41	16 28	17 16	10 42	11 03	11 27	11 58
19	103 37.3	34.2	187 34.1	8.8	12	46.3	10.6	59.2	54	15 53	16 36	17 22	10 45	11 08	11 35	12 08
20	118 37.0	33.9	202 01.9	8.8	12	56.9	10.5	59.2	52	16 04	16 44	17 27	10 47	11 12	11 42	12 17
21	133 36.7	33.6	216 29.7	8.8	13	07.4	10.4	59.2	50	16 13	16 51	17 32	10 50	11 17	11 48	12 25
22	148 36.4	33.3	230 57.5	8.6	13	17.8	10.3	59.2	45	16 33	17 06	17 43	10 55	11 26	12 01	12 41
23	163 36.2	33.0	245 25.1	8.7	13	28.1	10.2	59.2	N 40	16 49	17 19	17 53	11 00	11 34	12 12	12 55
6 00	178 35.9	S 32.7	259 52.8	8.6	S13	38.3	10.2	59.2	35	17 02	17 30	18 02	11 03	11 41	12 21	13 07
01	193 35.6	32.5	274 20.4	8.5	13	48.5	10.1	59.2	30	17 14	17 40	18 10	11 07	11 47	12 30	13 17
02	208 35.3	32.2	288 47.9	8.5	13	58.6	10.0	59.2	20	17 35	17 58	18 26	11 13	11 57	12 44	13 35
03	223 35.1	31.9	303 15.4	8.4	14	08.6	9.9	59.2	N 10	17 52	18 15	18 41	11 18	12 06	12 57	13 50
04	238 34.8	31.6	317 42.8	8.4	14	18.5	9.8	59.2	0	18 09	18 31	18 58	11 23	12 15	13 09	14 05
05	253 34.5	31.3	332 10.2	8.3	14	28.3	9.8	59.2	S 10	18 26	18 49	19 16	11 28	12 23	13 20	14 19
06	268 34.2	S22 31.0	346 37.5	8.3	S14	38.1	9.7	59.2	20	18 44	19 09	19 38	11 33	12 32	13 33	14 34
07	283 34.0	30.7	1 04.8	8.2	14	47.8	9.5	59.2	30	19 05	19 33	20 05	11 39	12 43	13 48	14 52
08	298 33.7	30.4	15 32.0	8.1	14	57.3	9.5	59.2	35	19 18	19 47	20 23	11 42	12 49	13 56	15 03
J 09	313 33.4	30.1	29 59.1	8.1	15	06.8	9.4	59.2	40	19 32	20 05	20 45	11 46	12 56	14 06	15 15
10	328 33.1	29.8	44 26.2	8.1	15	16.2	9.3	59.2	45	19 49	20 26	21 14	11 51	13 04	14 17	15 29
11	343 32.8	29.5	58 53.3	8.0	15	25.5	9.2	59.2	S 50	20 11	20 54	21 56	11 56	13 14	14 31	15 46
12	358 32.6	S22 29.2	73 20.3	8.0	S15	34.7	9.1	59.2	52	20 21	21 08	22 21	11 59	13 18	14 37	15 54
13	13 32.3	28.9	87 47.3	7.9	15	43.8	9.0	59.2	54	20 33	21 25	22 56	12 02	13 23	14 44	16 03
14	28 32.0	28.6	102 14.2	7.8	15	52.8	8.9	59.2	56	20 46	21 45	///	12 05	13 29	14 52	16 13
15	43 31.8	28.3	116 41.0	7.8	16	01.7	8.9	59.2	58	21 02	22 11	///	12 08	13 35	15 01	16 25
16	58 31.5	28.0	131 07.8	7.7	16	10.6	8.7	59.2	S 60	21 20	22 50	///	12 12	13 42	15 12	16 38
17</																

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -1.9			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.		
7 00	106 19.9	181 00.9	S23 17.2	181 24.4	S23 36.1	247 44.1	S13 55.4	136 02.9	S13 38.5	Acomar	315 29.1	S40 19.9						
01	121 22.4	196 00.0	17.0	196 24.8	35.9	262 46.2	55.5	151 05.1	38.4	Achernar	335 37.4	S57 16.3						
02	136 24.9	210 59.0	16.7	211 25.2	35.8	277 48.3	55.6	166 07.3	38.3	Acrux	173 25.4	S63 03.8						
03	151 27.3	225 58.1	16.5	226 25.5	35.6	292 50.4	55.7	181 09.5	38.2	Adhara	255 23.5	S28 58.0						
04	166 29.8	240 57.1	16.3	241 25.9	35.4	307 52.5	55.8	196 11.8	38.2	Aldebaran	291 05.8	N16 29.8						
05	181 32.3	255 56.2	16.0	256 26.3	35.2	322 54.6	55.9	211 14.0	38.1									
06	196 34.7	270 55.2	S23 15.8	271 26.7	S23 35.0	337 56.8	S13 56.0	226 16.2	S13 38.0	Alioth	166 33.4	N55 59.1						
07	211 37.2	285 54.3	15.5	286 27.1	34.8	352 58.9	56.1	241 18.4	37.9	Alkaid	153 10.4	N49 20.2						
08	226 39.7	300 53.3	15.3	301 27.5	34.7	8 01.0	56.2	256 20.6	37.8	Al Na'ir	28 02.3	S46 59.5						
09	241 42.1	315 52.4	15.0	316 27.8	34.5	23 03.1	56.4	271 22.9	37.7	Alnilam	276 00.8	S 1 12.4						
10	256 44.6	330 51.4	14.8	331 28.2	34.3	38 05.2	56.5	286 25.1	37.6	Alphard	218 10.1	S 8 38.1						
11	271 47.0	345 50.5	14.5	346 28.6	34.1	53 07.3	56.6	301 27.3	37.5									
12	286 49.5	0 49.5	S23 14.3	1 29.0	S23 33.9	68 09.4	S13 56.7	316 29.5	S13 37.4	Alphecca	126 23.5	N26 43.9						
13	301 52.0	15 48.6	14.0	16 29.4	33.7	83 11.6	56.8	331 31.7	37.4	Alpheratz	357 58.6	N29 03.7						
14	316 54.4	30 47.6	13.7	31 29.8	33.6	98 13.7	56.9	346 34.0	37.3	Altair	62 22.7	N 8 51.2						
15	331 56.9	45 46.7	13.5	46 30.2	33.4	113 15.8	57.0	1 36.2	37.2	Ankaa	353 30.1	S42 20.5						
16	346 59.4	60 45.7	13.2	61 30.5	33.2	128 17.9	57.1	16 38.4	37.1	Antares	112 44.4	S26 25.1						
17	2 01.8	75 44.8	13.0	76 30.9	33.0	143 20.0	57.2	31 40.6	37.0									
18	17 04.3	90 43.8	S23 12.7	91 31.3	S23 32.8	158 22.2	S13 57.3	46 42.8	S13 36.9	Arcturus	146 09.1	N19 12.6						
19	32 06.8	105 42.9	12.4	106 31.7	32.6	173 24.3	57.4	61 45.1	36.8	Atria	107 59.8	S69 00.8						
20	47 09.2	120 41.9	12.2	121 32.1	32.4	188 26.4	57.5	76 47.3	36.7	Avior	234 23.3	S59 29.5						
21	62 11.7	135 41.0	11.9	136 32.5	32.2	203 28.5	57.6	91 49.5	36.6	Bellatrix	278 47.3	N 6 20.6						
22	77 14.1	150 40.0	11.6	151 32.8	32.1	218 30.6	57.7	106 51.7	36.6	Betelgeuse	271 16.7	N 7 24.3						
23	92 16.6	165 39.1	11.4	166 33.2	31.9	233 32.7	57.8	121 53.9	36.5									
8 00	107 19.1	180 38.1	S23 11.1	181 33.6	S23 31.7	248 34.9	S13 57.9	136 56.1	S13 36.4	Canopus	264 02.0	S52 41.7						
01	122 21.5	195 37.2	10.8	196 34.0	31.5	263 37.0	58.0	151 58.4	36.3	Capella	280 55.5	N45 59.6						
02	137 24.0	210 36.2	10.6	211 34.4	31.3	278 39.1	58.1	167 00.6	36.2	Deneb	49 41.8	N45 15.7						
03	152 26.5	225 35.3	10.3	226 34.8	31.1	293 41.2	58.2	182 02.8	36.1	Denebola	182 48.3	N14 36.1						
04	167 28.9	240 34.4	10.0	241 35.1	30.9	308 43.3	58.3	197 05.0	36.0	Diphda	349 10.5	S18 01.2						
05	182 31.4	255 33.4	09.7	256 35.5	30.7	323 45.5	58.4	212 07.2	35.9									
06	197 33.9	270 32.5	S23 09.5	271 35.9	S23 30.5	338 47.6	S13 58.5	227 09.5	S13 35.8	Dubhe	194 09.0	N61 46.6						
07	212 36.3	285 31.5	09.2	286 36.3	30.3	353 49.7	58.6	242 11.7	35.7	Elnath	278 30.6	N28 36.1						
08	227 38.8	300 30.6	08.9	301 36.7	30.1	8 51.8	58.7	257 13.9	35.7	Eltanin	90 53.4	N51 29.3						
09	242 41.3	315 29.6	08.6	316 37.1	29.9	23 53.9	58.8	272 16.1	35.6	Enif	34 01.6	N 9 51.0						
10	257 43.7	330 28.7	08.3	331 37.5	29.7	38 56.1	58.9	287 18.3	35.5	Fomalhaut	15 40.2	S29 39.3						
11	272 46.2	345 27.7	08.1	346 37.8	29.6	53 58.2	59.0	302 20.5	35.4									
12	287 48.6	0 26.8	S23 07.8	1 38.2	S23 29.4	69 00.3	S13 59.1	317 22.8	S13 35.3	Gacrux	172 17.0	S57 04.6						
13	302 51.1	15 25.9	07.5	16 38.6	29.2	84 02.4	59.2	332 25.0	35.2	Gienah	176 07.2	S17 30.6						
14	317 53.6	30 24.9	07.2	31 39.0	29.0	99 04.6	59.3	347 27.2	35.1	Hadar	149 08.7	S60 20.4						
15	332 56.0	45 24.0	06.9	46 39.4	28.8	114 06.7	59.4	2 29.4	35.0	Hamal	328 17.1	N23 26.2						
16	347 58.5	60 23.0	06.6	61 39.8	28.6	129 08.8	59.5	17 31.6	34.9	Kaus Aust.	84 03.5	S34 23.2						
17	3 01.0	75 22.1	06.3	76 40.1	28.4	144 10.9	59.6	32 33.8	34.9									
18	18 03.4	90 21.1	S23 06.0	91 40.5	S23 28.2	159 13.0	S13 59.7	47 36.1	S13 34.8	Kochab	137 20.0	N74 10.5						
19	33 05.9	105 20.2	05.7	106 40.9	28.0	174 15.2	59.8	62 38.3	34.7	Markab	13 53.0	N15 10.5						
20	48 08.4	120 19.3	05.4	121 41.3	27.8	189 17.3	59.9	77 40.5	34.6	Menkar	314 30.1	N 4 04.0						
21	63 10.8	135 18.3	05.2	136 41.7	27.6	204 19.4	00.0	92 42.7	34.5	Menkent	148 24.8	S36 20.3						
22	78 13.3	150 17.4	04.9	151 42.1	27.4	219 21.5	00.2	107 44.9	34.4	Miaplacidus	221 41.8	S69 41.5						
23	93 15.8	165 16.4	04.6	166 42.5	27.2	234 23.7	00.3	122 47.1	34.3									
9 00	108 18.2	180 15.5	S23 04.3	181 42.8	S23 27.0	249 25.8	S14 00.4	137 49.4	S13 34.2	Mirfak	309 00.9	N49 50.6						
01	123 20.7	195 14.6	04.0	196 43.2	26.8	264 27.9	00.5	152 51.6	34.1	Nunki	76 16.7	S26 18.2						
02	138 23.1	210 13.6	03.7	211 43.6	26.6	279 30.0	00.6	167 53.8	34.0	Peacock	53 42.6	S56 45.3						
03	153 25.6	225 12.7	03.4	226 44.0	26.4	294 32.2	00.7	182 56.0	33.9	Pollux	243 45.1	N28 02.3						
04	168 28.1	240 11.7	03.1	241 44.4	26.2	309 34.3	00.8	197 58.2	33.9	Procyon	245 14.6	N 5 14.3						
05	183 30.5	255 10.8	02.7	256 44.8	26.0	324 36.4	00.9	213 00.4	33.8									
06	198 33.0	270 09.9	S23 02.4	271 45.1	S23 25.8	339 38.5	S14 01.0	228 02.6	S13 33.7	Rasalhague	96 20.3	N12 33.8						
07	213 35.5	285 08.9	02.1	286 45.5	25.6	354 40.7	01.1	243 04.9	33.6	Regulus	207 58.7	N11 59.6						
08	228 37.9	300 08.0	01.8	301 45.9	25.3	9 42.8	01.2	258 07.1	33.5	Rigel	281 25.7	S 8 12.6						
09	243 40.4	315 07.0	01.5	316 46.3	25.1	24 44.9	01.3	273 09.3	33.4	Rigil Kent.	140 11.8	S60 48.4						
10	258 42.9	330 06.1	01.2	331 46.7	24.9	39 47.0	01.4	288 11.5	33.3	Sabik	102 29.5	S15 43.0						
11	273 45.3	345 05.2	00.9	346 47.1	24.7	54 49.2	01.5	303 13.7	33.2									
12	288 47.8	0 04.2	S23 00.6	1 47.5	S23 24.5	69 51.3	S14 01.6	318 15.9	S13 33.1	Schedar	349 57.2	N56 30.6						
13	303 50.2	15 03.3	23 00.3	16 47.8	24.3	84 53.4	01.7	333 18.2	33.0	Shaula	96 42.0	S37 05.9						
14	318 52.7	30 02.4	22 59.9	31 48.2	24.1	99 55.5	01.8	348 20.4	33.0	Sirius	258 46.1	S16 42.6						
15	333 55.2	45 01.4	59.6	46 48.6	23.9	114 57.7	01.9	3 22.6	32.9	Spica	158 46.6	S11 07.9						
16	348 57.6	60 00.5	59.3	61 49.0	23.7	129 59.8	02.0	18 24.8	32.8	Suhail	223 02.7	S43 24.5						
17	4 00.1	74 59.5	59.0	76 49.4	23.5	145 01.9	02.1	33 27.0	32.7									
18	19 02.6	89 58.6	S22 58.7	91 49.8	S23 23.3	160 04.1	S14 02.2	48 29.2	S13 32.6	Vega	80 49.2	N38 46.7						
19	34 05.0	104 57.7	58.3	106 50.2	23.1	175 06.2	02.3	63 31.4	32.5	Zuben'ubi	137 21.7	S16 01.0						
20	49 07.5	119 56.7	58.0	121 50.5	22.9	190 08.3	02.4	78 33.7	32.4									
21	64 10.0	134 55.8	57.7	136 50.9	22.6	205 10.4	02.5	93 35.9	32.3									
22	79 12.4	149 54.9	57.4	151 51.3	22.4	220 12.6	02.6	108 38.1	32.2									
23	94 14.9	164 53.9	57.0	166 51.7	22.2	235 14.7	02.7	123 40.3	32.1									
Pas. Mer. 16 48.0																		
h m																		
v -0.9 d 0.3																		
v 0.4 d 0.2																		
v 2.1 d 0.1																		
v 2.2 d 0.1																		
A. H. S. Pas. Mer.																		
o / h m																		
Venus 73 19.1 11 58																		
Marte 74 14.5 11 53																		
Júpiter 141 15.8 7 25																		
Saturno 29 37.1 14 50																		

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.		A.H.G.		P.H.			Náut.	Civil		7	8	9	10		
	o	'	o	'	o	'		h	m	h	m	h	m	h	m	
V I E R N E S	7 00	178 29.3	S22 25.5	246 40.3	7.3	S17 17.4	7.9	59.2	N 72	08 15	10 20	■	■	■	■	
	01	193 29.0	25.2	261 06.6	7.3	17 25.3	7.8	59.2	N 70	07 58	09 37	■	■	■	■	
	02	208 28.7	24.9	275 32.9	7.3	17 33.1	7.7	59.2	68	07 44	09 08	11 10	05 22	07 20	09 01	09 36
	03	223 28.5	24.6	289 59.2	7.2	17 40.8	7.5	59.2	66	07 33	08 46	10 13	04 53	06 33	07 54	08 43
	04	238 28.2	24.3	304 25.4	7.1	17 48.3	7.5	59.2	64	07 23	08 29	09 40	04 31	06 03	07 18	08 10
	05	253 27.9	23.9	318 51.5	7.1	17 55.8	7.3	59.2	62	07 14	08 14	09 16	04 13	05 40	06 53	07 46
	06	268 27.7	S22 23.6	333 17.6	7.0	S18 03.1	7.2	59.2	60	07 07	08 02	08 57	03 59	05 22	06 33	07 27
	07	283 27.4	23.3	347 43.6	7.0	18 10.3	7.1	59.2	N 58	07 00	07 51	08 41	03 47	05 07	06 16	07 11
	08	298 27.1	23.0	2 09.6	7.0	18 17.4	7.0	59.2	56	06 54	07 42	08 28	03 36	04 54	06 02	06 57
	09	313 26.9	22.7	16 35.6	6.9	18 24.4	6.9	59.2	54	06 48	07 34	08 16	03 27	04 43	05 50	06 45
	10	328 26.6	22.4	31 01.5	6.9	18 31.3	6.7	59.2	52	06 43	07 26	08 06	03 18	04 33	05 39	06 35
	11	343 26.3	22.0	45 27.4	6.8	18 38.0	6.7	59.2	50	06 38	07 19	07 57	03 11	04 24	05 29	06 26
	12	358 26.0	S22 21.7	59 53.2	6.7	S18 44.7	6.5	59.2	45	06 28	07 04	07 38	02 55	04 05	05 09	06 06
	13	13 25.8	21.4	74 18.9	6.8	18 51.2	6.4	59.1	N 40	06 18	06 52	07 22	02 42	03 50	04 53	05 50
	14	28 25.5	21.1	88 44.7	6.7	18 57.6	6.2	59.1	35	06 09	06 41	07 09	02 31	03 37	04 39	05 37
	15	43 25.2	20.8	103 10.4	6.6	19 03.8	6.2	59.1	30	06 01	06 31	06 57	02 22	03 26	04 27	05 25
	16	58 25.0	20.4	117 36.0	6.6	19 10.0	6.0	59.1	20	05 46	06 13	06 37	02 05	03 07	04 07	05 05
	17	73 24.7	20.1	132 01.6	6.6	19 16.0	5.9	59.1	N 10	05 31	05 57	06 19	01 51	02 50	03 49	04 47
	18	88 24.4	S22 19.8	146 27.2	6.5	S19 21.9	5.8	59.1	0	05 15	05 41	06 03	01 38	02 35	03 33	04 31
	19	103 24.2	19.5	160 52.7	6.5	19 27.7	5.7	59.1	S 10	04 57	05 23	05 46	01 24	02 19	03 16	04 15
	20	118 23.9	19.1	175 18.2	6.5	19 33.4	5.5	59.1	20	04 35	05 04	05 28	01 10	02 03	02 59	03 57
	21	133 23.6	18.8	189 43.7	6.4	19 38.9	5.4	59.1	30	04 08	04 40	05 08	00 54	01 44	02 39	03 37
	22	148 23.4	18.5	204 09.1	6.4	19 44.3	5.3	59.1	35	03 50	04 26	04 55	00 45	01 33	02 27	03 25
23	163 23.1	18.2	218 34.5	6.3	19 49.6	5.1	59.1	40	03 28	04 09	04 41	00 35	01 21	02 13	03 12	
8 00	178 22.8	S22 17.8	232 59.8	6.3	S19 54.7	5.0	59.1	45	03 00	03 48	04 24	00 22	01 06	01 57	02 56	
01	193 22.5	17.5	247 25.1	6.3	19 59.7	4.9	59.1	S 50	02 19	03 20	04 03	00 07	00 48	01 38	02 36	
02	208 22.3	17.2	261 50.4	6.3	20 04.6	4.8	59.1	52	01 55	03 06	03 53	00 01	00 40	01 29	02 27	
03	223 22.0	16.8	276 15.7	6.2	20 09.4	4.6	59.0	54	01 22	02 50	03 42	24 31	00 31	01 18	02 17	
04	238 21.7	16.5	290 40.9	6.2	20 14.0	4.5	59.0	56	///	02 30	03 29	24 20	00 20	01 06	02 05	
05	253 21.5	16.2	305 06.1	6.2	20 18.5	4.3	59.0	58	///	02 05	03 13	24 08	00 08	00 53	01 51	
06	268 21.2	S22 15.8	319 31.3	6.1	S20 22.8	4.3	59.0	S 60	///	01 29	02 55	23 54	24 37	00 37	01 35	
07	283 21.0	15.5	333 56.4	6.1	20 27.1	4.0	59.0	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
08	298 20.7	15.2	348 21.5	6.1	20 31.1	4.0	59.0			Civil	Náut.	7	8	9	10	
09	313 20.4	14.8	2 46.6	6.1	20 35.1	3.8	59.0	N 72	h m	h m	h m	h m	h m	h m	h m	
10	328 20.2	14.5	17 11.7	6.0	20 38.9	3.7	59.0	N 70	■	13 54	15 59	■	■	■	■	
11	343 19.9	14.2	31 36.7	6.0	20 42.6	3.6	59.0	68	13 04	15 06	16 30	09 24	10 11	10 32	11 58	
12	358 19.6	S22 13.8	46 01.7	6.1	S20 46.2	3.4	59.0	66	14 01	15 28	16 41	10 39	10 58	11 39	12 51	
13	13 19.4	13.5	60 26.8	5.9	20 49.6	3.3	59.0	64	14 34	15 45	16 51	11 01	11 29	12 15	13 23	
14	28 19.1	13.2	74 51.7	6.0	20 52.9	3.1	58.9	62	14 58	15 59	17 00	11 19	11 52	12 40	13 47	
15	43 18.8	12.8	89 16.7	6.0	20 56.0	3.0	58.9	60	15 17	16 12	17 07	11 34	12 10	13 01	14 06	
16	58 18.6	12.5	103 41.7	5.9	20 59.0	2.9	58.9	N 58	15 32	16 22	17 14	11 47	12 26	13 17	14 22	
17	73 18.3	12.1	118 06.6	5.9	21 01.9	2.7	58.9	56	15 46	16 32	17 20	11 58	12 39	13 31	14 35	
18	88 18.0	S22 11.8	132 31.5	6.0	S21 04.6	2.6	58.9	54	15 57	16 40	17 25	12 08	12 50	13 43	14 47	
19	103 17.8	11.4	146 56.5	5.9	21 07.2	2.5	58.9	52	16 08	16 47	17 31	12 17	13 01	13 54	14 57	
20	118 17.5	11.1	161 21.4	5.9	21 09.7	2.3	58.9	50	16 17	16 54	17 35	12 25	13 10	14 04	15 06	
21	133 17.3	10.8	175 46.3	5.9	21 12.0	2.2	58.9	45	16 36	17 09	17 46	12 41	13 29	14 24	15 26	
22	148 17.0	10.4	190 11.2	5.9	21 14.2	2.0	58.9	N 40	16 52	17 22	17 55	12 55	13 44	14 40	15 41	
23	163 16.7	10.1	204 36.1	5.8	21 16.2	1.9	58.8	35	17 05	17 33	18 04	13 07	13 58	14 54	15 54	
9 00	178 16.5	S22 09.7	219 00.9	5.9	S21 18.1	1.8	58.8	30	17 17	17 43	18 12	13 17	14 09	15 06	16 06	
01	193 16.2	09.4	233 25.8	5.9	21 19.9	1.6	58.8	20	17 36	18 00	18 28	13 35	14 29	15 26	16 25	
02	208 15.9	09.0	247 50.7	5.9	21 21.5	1.5	58.8	N 10	17 54	18 17	18 43	13 50	14 46	15 44	16 42	
03	223 15.7	08.7	262 15.6	5.9	21 23.0	1.3	58.8	0	18 10	18 33	18 59	14 05	15 02	16 01	16 58	
04	238 15.4	08.3	276 40.5	5.9	21 24.3	1.2	58.8	S 10	18 27	18 50	19 17	14 19	15 18	16 17	17 14	
05	253 15.2	08.0	291 05.4	5.8	21 25.5	1.1	58.8	20	18 45	19 09	19 38	14 34	15 36	16 35	17 31	
06	268 14.9	S22 07.6	305 30.2	5.9	S21 26.6	0.9	58.8	30	19 06	19 33	20 05	14 52	15 55	16 55	17 50	
07	283 14.6	07.3	319 55.1	5.9	21 27.5	0.8	58.7	35	19 18	19 47	20 23	15 03	16 07	17 07	18 01	
08	298 14.4	06.9	334 20.0	5.9	21 28.3	0.6	58.7	40	19 32	20 04	20 45	15 15	16 20	17 21	18 14	
09	313 14.1	06.6	348 44.9	6.0	21 28.9	0.6	58.7	45	19 49	20 25	21 13	15 29	16 36	17 37	18 29	
10	328 13.9	06.2	3 09.9	5.9	21 29.5	0.3	58.7	S 50	20 10	20 52	21 53	15 46	16 55	17 57	18 48	
11	343 13.6	05.9	17 34.8	5.9	21 29.8	0.2	58.7	52	20 20	21 06	22 16	15 54	17 04	18 06	18 57	
12	358 13.3	S22 05.5	31 59.7	6.0	S21 30.0	0.1	58.7	54	20 31	21 22	22 49	16 03	17 15	18 17	19 06	
13	13 13.1	05.1	46 24.7	6.0	21 30.1	0.0	58.7	56	20 44	21 42	///	16 13	17 26	18 28	19 17	
14	28 12.8	04.8	60 49.7	6.0	21 30.1	0.2	58.6	58	20 59	22 06	///	16 25	17 40	18 42	19 30	
15	43 12.6	04.4	75 14.7	6.0	21 29.9	0.4	58.6	S 60	21 17	22 42	///	16 38	17 56	18 58	19 44	
16	58 12.3	04.1	89 39.7	6.0	21 29.5	0.4	58.6	Día	SOL			LUNA				
17	73 12.0	03.7	104 04.7	6.1	21 29.1	0.6	58.6		E.T. (-)	Pas. Mer.	Pas. Mer. Sup.	Mer. Inf.	Edad	Fase		
18	88 11.8	S22 03.3	118 29.8	6.1	S21 28.5	0.8	58.6	7	00 h	12 h	h m	h m	h m	d		
19	103 11.5	03.0	132 54.9	6.1	21 27.7	0.9	58.6	8	06 02	06 15	12 06	07 51	20 20	25		
20	118 11.3	02.6	147 20.0	6.1	21 26.8	1										

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -1.9			SATURNO +0.9			ESTRELLAS		
d h	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	Nombre	A. H. S.	Dec.
10 00	109	17.4		179	53.0	S22 56.7	181	52.1	S23 22.0	250	16.8	S14 02.8	138	42.5	S13 32.0	Acamar	315 29.2	S40 19.9
01	124	19.8		194	52.1	56.4	196	52.5	21.8	265	19.0	02.9	153	44.7	32.0	Achernar	335 37.5	S57 16.3
02	139	22.3		209	51.1	56.0	211	52.9	21.6	280	21.1	03.0	168	46.9	31.9	Acrux	173 25.4	S63 03.8
03	154	24.7		224	50.2	55.7	226	53.2	21.4	295	23.2	03.1	183	49.2	31.8	Adhara	255 23.5	S28 58.0
04	169	27.2		239	49.3	55.4	241	53.6	21.2	310	25.3	03.2	198	51.4	31.7	Aldebaran	291 05.8	N16 29.8
05	184	29.7		254	48.3	55.0	256	54.0	20.9	325	27.5	03.3	213	53.6	31.6			
06	199	32.1		269	47.4	S22 54.7	271	54.4	S23 20.7	340	29.6	S14 03.3	228	55.8	S13 31.5	Alioth	166 33.3	N55 59.1
07	214	34.6		284	46.5	54.4	286	54.8	20.5	355	31.7	03.4	243	58.0	31.4	Alkaid	153 10.4	N49 20.2
08	229	37.1		299	45.5	54.0	301	55.2	20.3	10	33.9	03.5	259	00.2	31.3	Al Na'ir	28 02.3	S46 59.5
09	244	39.5		314	44.6	53.7	316	55.6	20.1	25	36.0	03.6	274	02.4	31.2	Alnilam	276 00.8	S 1 12.4
L 10	259	42.0		329	43.7	53.4	331	55.9	19.9	40	38.1	03.7	289	04.6	31.1	Alphard	218 10.0	S 8 38.1
UN 11	274	44.5		344	42.7	53.0	346	56.3	19.6	55	40.3	03.8	304	06.9	31.0			
E 12	289	46.9		359	41.8	S22 52.7	1	56.7	S23 19.4	70	42.4	S14 03.9	319	09.1	S13 31.0	Alphecca	126 23.5	N26 43.9
S 13	304	49.4		14	40.9	52.3	16	57.1	19.2	85	44.5	04.0	334	11.3	30.9	Alpheratz	357 58.6	N29 03.7
14	319	51.9		29	40.0	52.0	31	57.5	19.0	100	46.6	04.1	349	13.5	30.8	Altair	62 22.7	N 8 51.2
15	334	54.3		44	39.0	51.6	46	57.9	18.8	115	48.8	04.2	4	15.7	30.7	Ankaa	353 30.1	S42 20.5
16	349	56.8		59	38.1	51.3	61	58.3	18.6	130	50.9	04.3	19	17.9	30.6	Antares	112 44.4	S26 25.1
17	4	59.2		74	37.2	50.9	76	58.7	18.3	145	53.0	04.4	34	20.1	30.5			
18	20	01.7		89	36.2	S22 50.6	91	59.0	S23 18.1	160	55.2	S14 04.5	49	22.4	S13 30.4	Arcturus	146 09.1	N19 12.6
19	35	04.2		104	35.3	50.2	106	59.4	17.9	175	57.3	04.6	64	24.6	30.3	Atria	107 59.7	S69 00.8
20	50	06.6		119	34.4	49.9	121	59.8	17.7	190	59.4	04.7	79	26.8	30.2	Avior	234 23.3	S59 29.5
21	65	09.1		134	33.5	49.5	137	00.2	17.4	206	01.6	04.8	94	29.0	30.1	Bellatrix	278 47.3	N 6 20.6
22	80	11.6		149	32.5	49.2	152	00.6	17.2	221	03.7	04.9	109	31.2	30.0	Betelgeuse	271 16.7	N 7 24.3
23	95	14.0		164	31.6	48.8	167	01.0	17.0	236	05.8	05.0	124	33.4	29.9			
11 00	110	16.5		179	30.7	S22 48.4	182	01.4	S23 16.8	251	08.0	S14 05.1	139	35.6	S13 29.9	Canopus	264 02.0	S52 41.7
01	125	19.0		194	29.7	48.1	197	01.7	16.6	266	10.1	05.2	154	37.8	29.8	Capella	280 55.5	N45 59.6
02	140	21.4		209	28.8	47.7	212	02.1	16.3	281	12.2	05.3	169	40.0	29.7	Deneb	49 41.8	N45 15.7
03	155	23.9		224	27.9	47.4	227	02.5	16.1	296	14.4	05.4	184	42.3	29.6	Denebola	182 48.3	N14 36.1
04	170	26.3		239	27.0	47.0	242	02.9	15.9	311	16.5	05.5	199	44.5	29.5	Diphda	349 10.5	S18 01.2
05	185	28.8		254	26.0	46.6	257	03.3	15.7	326	18.7	05.6	214	46.7	29.4			
06	200	31.3		269	25.1	S22 46.3	272	03.7	S23 15.4	341	20.8	S14 05.7	229	48.9	S13 29.3	Dubhe	194 09.0	N61 46.6
07	215	33.7		284	24.2	45.9	287	04.1	15.2	356	22.9	05.8	244	51.1	29.2	Elnath	278 30.6	N28 36.1
08	230	36.2		299	23.3	45.5	302	04.5	15.0	11	25.1	05.9	259	53.3	29.1	Eltanin	90 53.4	N51 29.3
M 09	245	38.7		314	22.3	45.2	317	04.8	14.8	26	27.2	06.0	274	55.5	29.0	Enif	34 01.6	N 9 51.0
A 10	260	41.1		329	21.4	44.8	332	05.2	14.5	41	29.3	06.1	289	57.7	28.9	Fomalhaut	15 40.2	S29 39.3
R 11	275	43.6		344	20.5	44.4	347	05.6	14.3	56	31.5	06.2	305	00.0	28.8			
T 12	290	46.1		359	19.6	S22 44.1	2	06.0	S23 14.1	71	33.6	S14 06.3	320	02.2	S13 28.7	Gacrux	172 17.0	S57 04.6
E 13	305	48.5		14	18.7	43.7	17	06.4	13.8	86	35.7	06.4	335	04.4	28.7	Gienah	176 07.2	S17 30.6
S 14	320	51.0		29	17.7	43.3	32	06.8	13.6	101	37.9	06.5	350	06.6	28.6	Hadar	149 08.7	S60 20.4
15	335	53.5		44	16.8	42.9	47	07.2	13.4	116	40.0	06.6	5	08.8	28.5	Hamal	328 17.1	N23 26.2
16	350	55.9		59	15.9	42.6	62	07.6	13.2	131	42.2	06.7	20	11.0	28.4	Kaus Aust.	84 03.4	S34 23.2
17	5	58.4		74	15.0	42.2	77	07.9	12.9	146	44.3	06.8	35	13.2	28.3			
18	21	00.8		89	14.0	S22 41.8	92	08.3	S23 12.7	161	46.4	S14 06.9	50	15.4	S13 28.2	Kochab	137 20.0	N74 10.5
19	36	03.3		104	13.1	41.4	107	08.7	12.5	176	48.6	06.9	65	17.6	28.1	Markab	13 53.0	N15 10.5
20	51	05.8		119	12.2	41.0	122	09.1	12.2	191	50.7	07.0	80	19.8	28.0	Menkar	314 30.1	N 4 04.0
21	66	08.2		134	11.3	40.7	137	09.5	12.0	206	52.8	07.1	95	22.1	27.9	Menkent	148 24.8	S36 20.3
22	81	10.7		149	10.4	40.3	152	09.9	11.8	221	55.0	07.2	110	24.3	27.8	Miaplacidus	221 41.8	S69 41.6
23	96	13.2		164	09.4	39.9	167	10.3	11.5	236	57.1	07.3	125	26.5	27.7			
12 00	111	15.6		179	08.5	S22 39.5	182	10.7	S23 11.3	251	59.3	S14 07.4	140	28.7	S13 27.6	Mirfak	309 00.9	N49 50.6
01	126	18.1		194	07.6	39.1	197	11.0	11.1	267	01.4	07.5	155	30.9	27.6	Nunki	76 16.7	S26 18.2
02	141	20.6		209	06.7	38.7	212	11.4	10.8	282	03.5	07.6	170	33.1	27.5	Peacock	53 42.6	S56 45.3
03	156	23.0		224	05.8	38.3	227	11.8	10.6	297	05.7	07.7	185	35.3	27.4	Pollux	243 45.1	N28 02.3
04	171	25.5		239	04.9	37.9	242	12.2	10.4	312	07.8	07.8	200	37.5	27.3	Procyon	245 14.6	N 5 14.3
05	186	28.0		254	03.9	37.5	257	12.6	10.1	327	10.0	07.9	215	39.7	27.2			
06	201	30.4		269	03.0	S22 37.1	272	13.0	S23 09.9	342	12.1	S14 08.0	230	42.0	S13 27.1	Rasalhague	96 20.2	N12 33.8
07	216	32.9		284	02.1	36.7	287	13.4	09.6	357	14.2	08.1	245	44.2	27.0	Regulus	207 58.7	N11 59.6
08	231	35.3		299	01.2	36.4	302	13.8	09.4	12	16.4	08.2	260	46.4	26.9	Rigel	281 25.7	S 8 12.6
09	246	37.8		314	00.3	36.0	317	14.1	09.2	27	18.5	08.3	275	48.6	26.8	Rigil Kent.	140 11.7	S60 48.4
10	261	40.3		329	00.4	35.6	332	14.5	08.9	42	20.7	08.4	290	50.8	26.7	Sabik	102 29.5	S15 43.0
11	276	42.7		343	00.4	35.2	347	14.9	08.7	57	22.8	08.5	305	53.0	26.6			
12	291	45.2		358	00.5	S22 34.8	2	15.3	S23 08.4	72	24.9	S14 08.6	320	55.2	S13 26.5	Schedar	349 57.2	N56 30.6
13	306	47.7		13	56.6	34.4	17	15.7	08.2	87	27.1	08.7	335	57.4	26.4	Shaula	96 42.0	S37 05.9
14	321	50.1		28	55.7	33.9	32	16.1	08.0	102	29.2	08.8	350	59.6	26.3	Sirius	258 46.1	S16 42.6
15	336	52.6		43	54.8	33.5	47	16.5	07.7	117	31.4	08.8	6	01.8	26.3	Spica	158	

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna									
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	10	11	12	13					
												h m	h m	h m	h m	h m	h m	h m	h m	
10 00 01 02 03 04 05 06 07 08 L 09 U 10 N 11 E 12 S 13 14 15 16 17 18 19 20 21 22 23	178	10.2	S22	01.2	205	00.7	6.2	S21	21.9	1.5	58.5	N 72	08 10	10 08	■	■	■	10 54	10 19	
	193	10.0		00.8	219	25.9	6.3	21	20.4	1.7	58.5	N 70	07 54	09 29	■	■	■	10 38	10 09	
	208	09.7		00.4	233	51.2	6.3	21	18.7	1.9	58.4	68	07 40	09 02	10 54	09 36	09 40	09 39	09 37	
	223	09.5	22	00.1	248	16.5	6.4	21	16.8	1.9	58.4	66	07 29	08 42	10 05	08 43	09 06	09 17	09 23	
	238	09.2	21	59.7	262	41.9	6.4	21	14.9	2.1	58.4	64	07 20	08 25	09 35	08 10	08 41	08 59	09 10	
	253	09.0		59.3	277	07.3	6.4	21	12.8	2.3	58.4	62	07 12	08 11	09 12	07 46	08 21	08 44	09 00	
	268	08.7	S21	59.0	291	32.7	6.5	S21	10.5	2.3	58.4	60	07 05	08 00	08 54	07 27	08 05	08 32	08 51	
	283	08.5		58.6	305	58.2	6.5	21	08.2	2.5	58.4	N 58	06 58	07 49	08 39	07 11	07 51	08 21	08 43	
	298	08.2		58.2	320	23.7	6.6	21	05.7	2.7	58.3	56	06 52	07 40	08 26	06 57	07 40	08 12	08 36	
	313	07.9	..	57.9	334	49.3	6.6	21	03.0	2.7	58.3	54	06 47	07 32	08 14	06 45	07 29	08 03	08 30	
	328	07.7		57.5	349	14.9	6.6	21	00.3	2.9	58.3	52	06 42	07 25	08 04	06 35	07 20	07 56	08 24	
	343	07.4		57.1	3	40.5	6.7	20	57.4	3.1	58.3	50	06 37	07 18	07 56	06 26	07 12	07 49	08 19	
	358	07.2	S21	56.7	18	06.2	6.7	S20	54.3	3.1	58.3	45	06 27	07 04	07 37	06 06	06 54	07 35	08 08	
	13	13	06.9		56.4	32	31.9	6.8	20	51.2	3.3	58.2	N 40	06 18	06 51	07 21	05 50	06 40	07 23	07 59
	14	28	06.7		56.0	46	57.7	6.9	20	47.9	3.4	58.2	35	06 09	06 41	07 08	05 37	06 28	07 12	07 51
	15	43	06.4	..	55.6	61	23.6	6.8	20	44.5	3.5	58.2	30	06 02	06 31	06 57	05 25	06 17	07 03	07 44
	16	58	06.2		55.2	75	49.4	7.0	20	41.0	3.7	58.2	20	05 47	06 14	06 37	05 05	05 59	06 48	07 32
	17	73	05.9		54.9	90	15.4	7.0	20	37.3	3.8	58.2	N 10	05 32	05 58	06 20	04 47	05 43	06 34	07 22
	18	88	05.7	S21	54.5	104	41.4	7.0	S20	33.5	3.9	58.1	0	05 16	05 42	06 04	04 31	05 28	06 21	07 12
	19	103	05.4		54.1	119	07.4	7.1	20	29.6	4.0	58.1	S 10	04 58	05 25	05 48	04 15	05 12	06 08	07 02
	20	118	05.2		53.7	133	33.5	7.2	20	25.6	4.2	58.1	20	04 37	05 06	05 30	03 57	04 56	05 55	06 51
	21	133	04.9	..	53.3	147	59.7	7.2	20	21.4	4.2	58.1	30	04 10	04 43	05 10	03 37	04 38	05 39	06 39
	22	148	04.7		53.0	162	25.9	7.3	20	17.2	4.4	58.1	35	03 53	04 29	04 58	03 25	04 27	05 30	06 32
23	163	04.4		52.6	176	52.2	7.3	20	12.8	4.6	58.0	40	03 32	04 12	04 44	03 12	04 15	05 19	06 24	
11	00	178	04.2	S21	52.2	191	18.5	7.4	S20	08.2	4.6	58.0	S 50	02 25	03 25	04 07	02 36	03 42	04 52	06 03
01	193	03.9		51.8	205	44.9	7.5	20	03.6	4.7	58.0	52	02 02	03 11	03 57	02 27	03 34	04 45	05 58	
02	208	03.7		51.4	220	11.4	7.5	19	58.9	4.9	58.0	54	01 32	02 56	03 46	02 17	03 24	04 37	05 52	
03	223	03.4	..	51.0	234	37.9	7.6	19	54.0	5.0	58.0	56	00 29	02 37	03 34	02 05	03 14	04 28	05 45	
04	238	03.2		50.7	249	04.5	7.7	19	49.0	5.1	57.9	58	///	02 13	03 19	01 51	03 01	04 18	05 38	
05	253	02.9		50.3	263	31.2	7.7	19	43.9	5.2	57.9	S 60	///	01 40	03 02	01 35	02 47	04 07	05 29	
06	268	02.7	S21	49.9	277	57.9	7.8	S19	38.7	5.4	57.9									
07	283	02.4		49.5	292	24.7	7.8	19	33.3	5.4	57.9	Lat.	Ocaso Sol	Crepúsculo Civil	Ocaso Luna					
08	298	02.2		49.1	306	51.5	7.9	19	27.9	5.5	57.8	10	11	12	13					
09	313	01.9	..	48.7	321	18.4	8.0	19	22.4	5.7	57.8	N 72	14 08	16 07	■	■	■	14 29	16 47	
10	328	01.7		48.3	335	45.4	8.1	19	16.7	5.8	57.8	N 70	14 47	16 23	■	■	■	12 54	15 13	
11	343	01.4		47.9	350	12.5	8.1	19	10.9	5.9	57.8	68	13 23	15 14	16 36	11 58	13 51	15 41	17 26	
12	358	01.2	S21	47.5	4	39.6	8.2	S19	05.0	5.9	57.8	66	14 11	15 35	16 47	12 51	14 24	16 03	17 40	
13	13	00.9		47.1	19	06.8	8.2	18	59.1	6.1	57.7	64	14 42	15 51	16 56	13 23	14 49	16 20	17 51	
14	28	00.7		46.8	33	34.0	8.4	18	53.0	6.2	57.7	62	15 04	16 05	17 04	13 47	15 08	16 34	18 00	
15	43	00.4	..	46.4	48	01.4	8.4	18	46.8	6.3	57.7	60	15 23	16 17	17 12	14 06	15 23	16 46	18 08	
16	58	00.2		46.0	62	28.8	8.4	18	40.5	6.4	57.7	N 58	15 38	16 27	17 18	14 22	15 37	16 56	18 15	
17	72	59.9		45.6	76	56.2	8.6	18	34.1	6.5	57.6	56	15 51	16 36	17 24	14 35	15 48	17 05	18 21	
18	87	59.7	S21	45.2	91	23.8	8.6	S18	27.6	6.7	57.6	54	16 02	16 44	17 29	14 47	15 58	17 12	18 27	
19	102	59.4		44.8	105	51.4	8.7	18	20.9	6.7	57.6	52	16 12	16 51	17 34	14 57	16 07	17 19	18 32	
20	117	59.2		44.4	120	19.1	8.8	18	14.2	6.8	57.6	50	16 21	16 58	17 39	15 06	16 15	17 26	18 36	
21	132	59.0	..	44.0	134	46.9	8.8	18	07.4	6.9	57.5	45	16 39	17 12	17 49	15 26	16 32	17 39	18 46	
22	147	58.7		43.6	149	14.7	8.9	18	00.5	7.0	57.5	N 40	16 55	17 25	17 58	15 41	16 45	17 50	18 54	
23	162	58.5		43.2	163	42.6	9.0	17	53.5	7.1	57.5	35	17 08	17 35	18 07	15 54	16 57	18 00	19 01	
12	00	177	58.2	S21	42.8	178	10.6	9.1	S17	46.4	7.1	57.5	30	17 19	17 45	18 14	16 06	17 07	18 08	19 07
01	192	58.0		42.4	192	38.7	9.1	17	39.3	7.3	57.4	20	17 38	18 02	18 29	16 25	17 25	18 22	19 17	
02	207	57.7		42.0	207	06.8	9.2	17	32.0	7.4	57.4	N 10	17 56	18 18	18 44	16 42	17 40	18 34	19 26	
03	222	57.5	..	41.6	221	35.0	9.3	17	24.6	7.4	57.4	0	18 12	18 34	19 00	16 58	17 54	18 46	19 35	
04	237	57.2		41.2	236	03.3	9.4	17	17.2	7.6	57.4	S 10	18 28	18 51	19 17	17 14	18 08	18 57	19 43	
05	252	57.0		40.8	250	31.7	9.4	17	09.6	7.6	57.3	20	18 45	19 09	19 38	17 31	18 22	19 09	19 52	
06	267	56.8	S21	40.4	265	00.1	9.6	S17	02.0	7.8	57.3	30	19 06	19 32	20 05	17 50	18 39	19 23	20 02	
07	282	56.5		40.0	279	28.7	9.6	16	54.2	7.8	57.3	35	19 17	19 47	20 22	18 01	18 49	19 31	20 08	
08	297	56.3		39.6	293	57.3	9.7	16	46.4	7.9	57.3	40	19 31	20 03	20 43	18 14	19 00	19 40	20 14	
09	312	56.0	..	39.1	308	26.0	9.7	16	38.5	7.9	57.2	45	19 48	20 24	21 11	18 29	19 14	19 51	20 22	
10	327	55.8		38.7	322	54.7	9.8	16	30.6	8.1	57.2	S 50	20 08	20 50	21 50	18 48	19 30	20 03	20 31	
11	342	55.5		38.3	337	23.5	9.9	16	22.5	8.1	57.2	52	20 18	21 04	22 12	18 57	19 37	20 09	20 35	
12	357	55.3	S21	37.9	351	52.4	10.0	S16	14.4	8.3	57.2	54	20 29	21 19	22 41	19 06	19 45	20 15	20 40	
13	12	55.1		37.5	6	21.4	10.1	16	06.1	8.3	57.1	56	20 41	21 38	23 37	19 17	19 54	20 23	20 45	
14	27	54.8		37.1	20	50.5	10.1	15	57.8	8.3	57.1	S 58	20 56	22 01	///	19 30	20 05	20 31	20 50	
15	42	54.6	..	36.7	35	19.6	10.3	15	49.5	8.5	57.1	S 60	21 13	22 33	///	19 44	20 17	20 40	20 57	
16	57	54.3		36.3	49	48.9	10.2	15	41.0	8.5	57.1									
17	72	54.1		35.9	64	18.1	10.4	15	32.5	8.6	57.0									
18	87	53.9	S21	35.5	78	47.5	10.5	S15	23.9	8.7	57.0									
19	102	53.6		35.0	93	17.0	10.5	15	15.2	8.7	57.0									

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -1.9			SATURNO +0.9			ESTRELLAS										
	d	h	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.										
13	01	112	14.8	178	46.6	S22	29.8	182	20.0	S23	05.5	252	50.7	S14	09.7	141	21.7	S13	25.4	Acamar	315	29.2	S40	19.9		
	02	127	17.2	193	45.7		29.4	197	20.4		05.3	267	52.8		09.8	156	23.9		25.3	Achernar	335	37.5	S57	16.3		
	03	142	19.7	208	44.7		29.0	212	20.8		05.1	282	55.0		09.9	171	26.1		25.2	Acrux	173	25.3	S63	03.8		
	04	157	22.2	223	43.8	·	28.6	227	21.2	·	04.8	297	57.1	·	10.0	186	28.3	·	25.1	Adhara	255	23.5	S28	58.0		
	05	172	24.6	238	42.9		28.2	242	21.5		04.6	312	59.2		10.1	201	30.5		25.0	Aldebaran	291	05.8	N16	29.8		
	06	187	27.1	253	42.0		27.7	257	21.9		04.3	328	01.4		10.2	216	32.8		25.0							
	07	202	29.6	268	41.1	S22	27.3	272	22.3	S23	04.1	343	03.5	S14	10.3	231	35.0	S13	24.9	Alioth	166	33.3	N55	59.1		
	08	217	32.0	283	40.2		26.9	287	22.7		03.8	358	05.7		10.3	246	37.2		24.8	Alkaid	153	10.3	N49	20.2		
	09	232	34.5	298	39.3		26.5	302	23.1		03.6	13	07.8		10.4	261	39.4		24.7	Al Na'ir	28	02.3	S46	59.5		
J	10	247	36.9	313	38.4	·	26.0	317	23.5	·	03.3	28	10.0	·	10.5	276	41.6	·	24.6	Alnilam	276	00.8	S	1	12.5	
U	11	262	39.4	328	37.5		25.6	332	23.9		03.1	43	12.1		10.6	291	43.8		24.5	Alphard	218	10.0	S	8	38.1	
E	12	277	41.9	343	36.6		25.2	347	24.3		02.8	58	14.3		10.7	306	46.0		24.4							
V	13	292	44.3	358	35.7	S22	24.8	2	24.7	S23	02.6	73	16.4	S14	10.8	321	48.2	S13	24.3	Alphecca	126	23.5	N26	43.9		
E	14	307	46.8	13	34.8		24.3	17	25.0		02.3	88	18.6		10.9	336	50.4		24.2	Alpheratz	357	58.7	N29	03.7		
S	15	322	49.3	28	33.9		23.9	32	25.4		02.1	103	20.7		11.0	351	52.6		24.1	Altair	62	22.7	N	8	51.2	
	16	337	51.7	43	32.9	·	23.5	47	25.8	·	01.8	118	22.9	·	11.1	6	54.8	·	24.0	Ankaa	353	30.1	S42	20.5		
	17	352	54.2	58	32.0		23.0	62	26.2		01.6	133	25.0		11.2	21	57.0		23.9	Antares	112	44.3	S26	25.1		
	18	7	56.7	73	31.1		22.6	77	26.6		01.3	148	27.2		11.3	36	59.2		23.8							
	19	22	59.1	88	30.2	S22	22.2	92	27.0	S23	01.1	163	29.3	S14	11.4	52	01.5	S13	23.7	Arcturus	146	09.0	N19	12.6		
	20	38	01.6	103	29.3		21.7	107	27.4		00.8	178	31.5		11.5	67	03.7		23.6	Atria	107	59.7	S69	00.8		
	21	53	04.1	118	28.4		21.3	122	27.8		00.6	193	33.6		11.5	82	05.9		23.5	Avior	234	23.3	S59	29.5		
	22	68	06.5	133	27.5	·	20.8	137	28.2	·	00.3	208	35.8	·	11.6	97	08.1	·	23.5	Bellatrix	278	47.3	N	6	20.6	
	23	83	09.0	148	26.6		20.4	152	28.6		23	00.0	223	37.9		11.7	112	10.3		23.4	Betelgeuse	271	16.7	N	7	24.3
	23	98	11.4	163	25.7		19.9	167	29.0		22	59.8	238	40.1		11.8	127	12.5		23.3						
14	00	113	13.9	178	24.8	S22	19.5	182	29.3	S22	59.5	253	42.2	S14	11.9	142	14.7	S13	23.2	Canopus	264	02.0	S52	41.7		
	01	128	16.4	193	23.9		19.1	197	29.7		59.3	268	44.4		12.0	157	16.9		23.1	Capella	280	55.5	N45	59.6		
	02	143	18.8	208	23.0		18.6	212	30.1		59.0	283	46.5		12.1	172	19.1		23.0	Deneb	49	41.8	N45	15.7		
	03	158	21.3	223	22.1	·	18.2	227	30.5	·	58.8	298	48.7	·	12.2	187	21.3	·	22.9	Denebola	182	48.3	N14	36.1		
	04	173	23.8	238	21.2		17.7	242	30.9		58.5	313	50.8		12.3	202	23.5		22.8	Diphda	349	10.5	S18	01.2		
	05	188	26.2	253	20.3		17.3	257	31.3		58.2	328	53.0		12.4	217	25.7		22.7							
	06	203	28.7	268	19.4	S22	16.8	272	31.7	S22	58.0	343	55.1	S14	12.5	232	27.9	S13	22.6	Dubhe	194	09.0	N61	46.6		
	07	218	31.2	283	18.5		16.4	287	32.1		57.7	358	57.3		12.5	247	30.1		22.5	Elnath	278	30.6	N28	36.1		
	08	233	33.6	298	17.6		15.9	302	32.5		57.5	13	59.4		12.6	262	32.3		22.4	Eltanin	90	53.4	N51	29.3		
V	09	248	36.1	313	16.7	·	15.5	317	32.9	·	57.2	29	01.6	·	12.7	277	34.5	·	22.3	Enif	34	01.6	N	9	51.0	
I	10	263	38.6	328	15.8		15.0	332	33.3		57.0	44	03.7		12.8	292	36.8		22.2	Fomalhaut	15	40.2	S29	39.3		
E	11	278	41.0	343	14.9		14.5	347	33.6		56.7	59	05.9		12.9	307	39.0		22.1							
R	12	293	43.5	358	14.0	S22	14.1	2	34.0	S22	56.4	74	08.0	S14	13.0	322	41.2	S13	22.0	Gacrux	172	17.0	S57	04.6		
N	13	308	45.9	13	13.1		13.6	17	34.4		56.2	89	10.2		13.1	337	43.4		22.0	Gienah	176	07.1	S17	30.6		
E	14	323	48.4	28	12.2		13.2	32	34.8		55.9	104	12.3		13.2	352	45.6		21.9	Hadar	149	08.6	S60	20.5		
S	15	338	50.9	43	11.3	·	12.7	47	35.2	·	55.6	119	14.5	·	13.3	7	47.8	·	21.8	Hamal	328	17.1	N23	26.2		
	16	353	53.3	58	10.4		12.2	62	35.6		55.4	134	16.6		13.4	22	50.0		21.7	Kaus Aust.	84	03.4	S34	23.2		
	17	8	55.8	73	09.5		11.8	77	36.0		55.1	149	18.8		13.5	37	52.2		21.6							
	18	23	58.3	88	08.6	S22	11.3	92	36.4	S22	54.9	164	20.9	S14	13.5	52	54.4	S13	21.5	Kochab	137	19.9	N74	10.4		
	19	39	00.7	103	07.8		10.8	107	36.8		54.6	179	23.1		13.6	67	56.6		21.4	Markab	13	53.0	N15	10.5		
	20	54	03.2	118	06.9		10.4	122	37.2		54.3	194	25.2		13.7	82	58.8		21.3	Menkar	314	30.1	N	4	04.0	
	21	69	05.7	133	06.0	·	09.9	137	37.6	·	54.1	209	27.4	·	13.8	98	01.0	·	21.2	Menkent	148	24.8	S36	20.4		
	22	84	08.1	148	05.1		09.4	152	38.0		53.8	224	29.6		13.9	113	03.2		21.1	Miaplacidus	221	41.8	S69	41.6		
	23	99	10.6	163	04.2		09.0	167	38.4		53.5	239	31.7		14.0	128	05.4		21.0							
15	00	114	13.0	178	03.3	S22	08.5	182	38.7	S22	53.3	254	33.9	S14	14.1	143	07.6	S13	20.9	Mirfak	309	00.9	N49	50.6		
	01	129	15.5	193	02.4		08.0	197	39.1		53.0	269	36.0		14.2	158	09.8		20.8	Nunki	76	16.6	S26	18.2		
	02	144	18.0	208	01.5		07.5	212	39.5		52.7	284	38.2		14.3	173	12.0		20.7	Peacock	53	42.6	S56	45.2		
	03	159	20.4	223	00.6	·	07.1	227	39.9	·	52.5	299	40.3	·	14.4	188	14.2	·	20.6	Pollux	243	45.1	N28	02.3		
	04	174	22.9	237	59.7		06.6	242	40.3		52.2	314	42.5		14.4	203	16.4		20.5	Procyon	245	14.5	N	5	14.3	
	05	189	25.4	252	58.8		06.1	257	40.7		51.9	329	44.6		14.5	218	18.7		20.4							
	06	204	27.8	267	57.9	S22	05.6																			

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo			Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.	Civil		h m	13 14 15 16				
													h m	h m	h m	h m	
13 J U E V E S	00	177 52.4	S21 33.0	165 45.4	10.9	S14 30.8	9.1	56.9	N 72	08 03	09 56	■	10 19	09 59	09 44	09 30	
	01	192 52.2	32.5	180 15.3	10.9	14 21.7	9.2	56.8	N 70	07 48	09 21	■	09 55	09 46	09 37	09 30	
	02	207 52.0	32.1	194 45.2	11.1	14 12.5	9.2	56.8	68	07 36	08 56	10 39	09 37	09 35	09 32	09 29	
	03	222 51.7	31.7	209 15.3	11.1	14 03.3	9.3	56.8	66	07 26	08 37	09 57	09 23	09 26	09 28	09 29	
	04	237 51.5	31.3	223 45.4	11.2	13 54.0	9.3	56.7	64	07 17	08 21	09 28	09 10	09 18	09 24	09 29	
	05	252 51.2	30.9	238 15.6	11.3	13 44.7	9.4	56.7	62	07 09	08 08	09 07	09 00	09 11	09 21	09 29	
	06	267 51.0	S21 30.4	252 45.9	11.4	S13 35.3	9.5	56.7	60	07 02	07 56	08 50	08 51	09 06	09 18	09 29	
	07	282 50.8	30.0	267 16.3	11.4	13 25.8	9.5	56.7	N 58	06 56	07 47	08 35	08 43	09 01	09 15	09 29	
	08	297 50.5	29.6	281 46.7	11.5	13 16.3	9.6	56.6	56	06 50	07 38	08 23	08 36	08 56	09 13	09 28	
	09	312 50.3	29.2	296 17.2	11.6	13 06.7	9.6	56.6	54	06 45	07 30	08 12	08 30	08 52	09 11	09 28	
	10	327 50.1	28.7	310 47.8	11.6	12 57.1	9.7	56.6	52	06 41	07 23	08 02	08 24	08 48	09 09	09 28	
	11	342 49.8	28.3	325 18.4	11.7	12 47.4	9.7	56.6	50	06 36	07 17	07 54	08 19	08 45	09 07	09 28	
	12	357 49.6	S21 27.9	339 49.1	11.8	S12 37.7	9.8	56.5	45	06 26	07 03	07 35	08 08	08 38	09 04	09 28	
	13	12 49.4	27.5	354 19.9	11.9	12 27.9	9.8	56.5	N 40	06 17	06 51	07 21	07 59	08 31	09 01	09 28	
	14	27 49.1	27.0	8 50.8	11.9	12 18.1	9.9	56.5	35	06 09	06 40	07 08	07 51	08 26	08 58	09 28	
	15	42 48.9	26.6	23 21.7	12.0	12 08.2	10.0	56.5	30	06 02	06 31	06 57	07 44	08 21	08 55	09 28	
	16	57 48.7	26.2	37 52.7	12.1	11 58.2	10.0	56.4	20	05 47	06 14	06 38	07 32	08 13	08 51	09 28	
	17	72 48.4	25.7	52 23.8	12.1	11 48.2	10.0	56.4	N 10	05 33	05 59	06 21	07 22	08 06	08 48	09 27	
	18	87 48.2	S21 25.3	66 54.9	12.3	S11 38.2	10.1	56.4	0	05 17	05 43	06 05	07 12	07 59	08 44	09 27	
	19	102 48.0	24.9	81 26.2	12.2	11 28.1	10.1	56.4	S 10	05 00	05 27	05 50	07 02	07 52	08 41	09 27	
	20	117 47.7	24.5	95 57.4	12.4	11 18.0	10.2	56.3	20	04 40	05 08	05 32	06 51	07 45	08 37	09 27	
	21	132 47.5	24.0	110 28.8	12.4	11 07.8	10.2	56.3	30	04 13	04 46	05 13	06 39	07 37	08 33	09 27	
	22	147 47.3	23.6	125 00.2	12.5	10 57.6	10.3	56.3	35	03 57	04 32	05 01	06 32	07 32	08 30	09 27	
23	162 47.0	23.2	139 31.7	12.5	10 47.3	10.2	56.2	40	03 36	04 16	04 47	06 24	07 27	08 28	09 27		
14 V I E R N E S	00	177 46.8	S21 22.7	154 03.2	12.6	S10 37.1	10.4	56.2	45	03 09	03 56	04 31	06 14	07 20	08 25	09 27	
	01	192 46.6	22.3	168 34.8	12.7	10 26.7	10.4	56.2	S 50	02 31	03 30	04 12	06 03	07 13	08 21	09 27	
	02	207 46.3	21.8	183 06.5	12.7	10 16.3	10.4	56.2	52	02 10	03 17	04 02	05 58	07 09	08 19	09 27	
	03	222 46.1	21.4	197 38.2	12.9	10 05.9	10.4	56.1	54	01 42	03 02	03 51	05 52	07 05	08 17	09 27	
	04	237 45.9	21.0	212 10.1	12.8	9 55.5	10.5	56.1	56	00 55	02 44	03 39	05 45	07 01	08 15	09 27	
	05	252 45.7	20.5	226 41.9	13.0	9 45.0	10.5	56.1	58	///	02 21	03 25	05 38	06 56	08 13	09 27	
	06	267 45.4	S21 20.1	241 13.9	12.9	S 9 34.5	10.6	56.1	S 60	///	01 51	03 08	05 29	06 51	08 10	09 27	
	07	282 45.2	19.7	255 45.8	13.1	9 23.9	10.6	56.0	Lat.	Ocaso Sol	Crepúsculo			Ocaso Luna			
	08	297 45.0	19.2	270 17.9	13.1	9 13.3	10.6	56.0			Civil	Náut.	13	14	15	16	
	09	312 44.7	18.8	284 50.0	13.2	9 02.7	10.6	56.0									
	10	327 44.5	18.3	299 22.2	13.2	8 52.1	10.7	56.0									
	11	342 44.3	17.9	313 54.4	13.3	8 41.4	10.7	55.9									
	12	357 44.1	S21 17.4	328 26.7	13.4	S 8 30.7	10.7	55.9	N 72	14 23	16 16	16 16	16 47	18 44	20 32	22 15	
	13	12 43.8	17.0	342 59.1	13.4	8 20.0	10.8	55.9	N 70	14 58	16 31	16 31	17 09	18 56	20 36	22 12	
	14	27 43.6	16.6	357 31.5	13.4	8 09.2	10.8	55.9	68	13 40	15 23	16 43	17 26	19 05	20 39	22 09	
	15	42 43.4	16.1	12 03.9	13.5	7 58.4	10.8	55.8	66	14 22	15 42	16 53	17 40	19 12	20 41	22 07	
	16	57 43.1	15.7	26 36.4	13.6	7 47.6	10.8	55.8	64	14 50	15 58	17 02	17 51	19 19	20 43	22 06	
	17	72 42.9	15.2	41 09.0	13.6	7 36.8	10.9	55.8	62	15 12	16 11	17 10	18 00	19 24	20 45	22 04	
	18	87 42.7	S21 14.8	55 41.6	13.7	S 7 25.9	10.9	55.8	60	15 29	16 22	17 17	18 08	19 29	20 47	22 03	
	19	102 42.5	14.3	70 14.3	13.8	7 15.0	10.9	55.7	N 58	15 44	16 32	17 23	18 15	19 33	20 48	22 02	
	20	117 42.2	13.9	84 47.1	13.7	7 04.1	10.9	55.7	56	15 56	16 41	17 28	18 21	19 37	20 50	22 01	
	21	132 42.0	13.4	99 19.8	13.9	6 53.2	10.9	55.7	54	16 07	16 49	17 33	18 27	19 40	20 51	22 00	
	22	147 41.8	13.0	113 52.7	13.9	6 42.3	11.0	55.7	52	16 16	16 56	17 38	18 32	19 43	20 52	21 59	
23	162 41.6	12.5	128 25.6	13.9	6 31.3	11.0	55.6	50	16 25	17 02	17 42	18 36	19 46	20 53	21 58		
15 S A B A D O	00	177 41.3	S21 12.1	142 58.5	14.0	S 6 20.3	11.0	55.6	45	16 43	17 16	17 52	18 46	19 51	20 55	21 56	
	01	192 41.1	11.6	157 31.5	14.0	6 09.3	11.0	55.6	N 40	16 58	17 28	18 01	18 54	19 56	20 56	21 55	
	02	207 40.9	11.2	172 04.5	14.1	5 58.3	11.0	55.6	35	17 10	17 38	18 09	19 01	20 00	20 58	21 54	
	03	222 40.7	10.7	186 37.6	14.1	5 47.3	11.0	55.5	30	17 21	17 47	18 17	19 07	20 04	20 59	21 53	
	04	237 40.4	10.3	201 10.7	14.2	5 36.3	11.1	55.5	20	17 40	18 04	18 31	19 17	20 10	21 01	21 51	
	05	252 40.2	09.8	215 43.9	14.2	5 25.2	11.1	55.5	N 10	17 57	18 20	18 46	19 26	20 16	21 03	21 49	
	06	267 40.0	S21 09.3	230 17.1	14.3	S 5 14.1	11.0	55.5	0	18 13	18 35	19 01	19 35	20 21	21 05	21 48	
	07	282 39.8	08.9	244 50.4	14.3	5 03.1	11.1	55.4	S 10	18 29	18 51	19 18	19 43	20 26	21 07	21 46	
	08	297 39.6	08.4	259 23.7	14.3	4 52.0	11.1	55.4	20	18 46	19 10	19 38	19 52	20 32	21 09	21 44	
	09	312 39.3	08.0	273 57.0	14.4	4 40.9	11.1	55.4	30	19 05	19 32	20 04	20 02	20 38	21 11	21 43	
	10	327 39.1	07.5	288 30.4	14.5	4 29.8	11.2	55.4	35	19 17	19 46	20 21	20 08	20 41	21 12	21 41	
	11	342 38.9	07.1	303 03.9	14.4	4 18.6	11.1	55.4	40	19 30	20 02	20 42	20 14	20 45	21 13	21 40	
	12	357 38.7	S21 06.6	317 37.3	14.6	S 4 07.5	11.1	55.3	45	19 46	20 22	21 08	20 22	20 50	21 15	21 39	
	13	12 38.5	06.1	332 10.9	14.5	3 56.4	11.2	55.3	S 50	20 06	20 48	21 45	20 31	20 55	21 17	21 37	
	14	27 38.2	05.7	346 44.4	14.6	3 45.2	11.1	55.3	52	20 15	21 00	22 06	20 35	20 57	21 17	21 36	
	15	42 38.0	05.2	1 18.0	14.6	3 34.1	11.2	55.3	54	20 26	21 15	22 33	20 40	21 00	21 18	21 36	
	16	57 37.8	04.7	15 51.6	14.7	3 22.9	11.1	55.2	56	20 38	21 33	23 17	20 45	21 03	21 19	21 35	
	17	72 37.6	04.3	30 25.3	14.7	3 11.8	11.2	55.2	58	20 52	21 55	///	20 50	21 06	21 20	21 34	
	18	87 37.4	S21 03.8	44 59.0	14.7	S 3 00.6	11.1	55.2	S 60	21 08	22 24	///	20 57	21 10	21 22	21 32	

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -1.9			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.			
16 00	115 12.2	177 42.0	S21 56.8	182 48.2	S22 46.7		255 25.7	S14 16.2		144 00.5	S13 18.6		Acamar	315 29.2	S40 19.9			
01	130 14.7	192 41.1	56.3	197 48.6	46.5		270 27.8	16.3		159 02.7	18.5		Achernar	335 37.5	S57 16.3			
02	145 17.1	207 40.2	55.8	212 49.0	46.2		285 30.0	16.4		174 04.9	18.4		Acrux	173 25.3	S63 03.8			
03	160 19.6	222 39.3	55.3	227 49.4	45.9		300 32.1	16.5		189 07.1	18.4		Adhara	255 23.5	S28 58.0			
04	175 22.0	237 38.4	54.8	242 49.8	45.6		315 34.3	16.6		204 09.3	18.3		Aldebaran	291 05.8	N16 29.8			
05	190 24.5	252 37.6	54.3	257 50.2	45.3		330 36.5	16.6		219 11.5	18.2							
06	205 27.0	267 36.7	S21 53.8	272 50.6	S22 45.1		345 38.6	S14 16.7		234 13.7	S13 18.1		Alioth	166 33.3	N55 59.1			
07	220 29.4	282 35.8	53.3	287 50.9	44.8		0 40.8	16.8		249 15.9	18.0		Alkaid	153 10.3	N49 20.2			
08	235 31.9	297 34.9	52.8	302 51.3	44.5		15 42.9	16.9		264 18.1	17.9		Al Na'ir	28 02.3	S46 59.5			
09	250 34.4	312 34.0	52.2	317 51.7	44.2		30 45.1	17.0		279 20.3	17.8		Alnilam	276 00.8	S 1 12.5			
10	265 36.8	327 33.2	51.7	332 52.1	43.9		45 47.3	17.1		294 22.6	17.7		Alphard	218 10.0	S 8 38.1			
11	280 39.3	342 32.3	51.2	347 52.5	43.7		60 49.4	17.2		309 24.8	17.6							
12	295 41.8	357 31.4	S21 50.7	2 52.9	S22 43.4		75 51.6	S14 17.3		324 27.0	S13 17.5		Alphecca	126 23.5	N26 43.9			
13	310 44.2	12 30.5	50.2	17 53.3	43.1		90 53.8	17.3		339 29.2	17.4		Alpheratz	357 58.7	N29 03.7			
14	325 46.7	27 29.7	49.7	32 53.7	42.8		105 55.9	17.4		354 31.4	17.3		Altair	62 22.7	N 8 51.2			
15	340 49.1	42 28.8	49.2	47 54.1	42.5		120 58.1	17.5		9 33.6	17.2		Ankaa	353 30.1	S42 20.5			
16	355 51.6	57 27.9	48.6	62 54.5	42.2		136 00.3	17.6		24 35.8	17.1		Antares	112 44.3	S26 25.1			
17	10 54.1	72 27.0	48.1	77 54.9	42.0		151 02.4	17.7		39 38.0	17.0							
18	25 56.5	87 26.2	S21 47.6	92 55.3	S22 41.7		166 04.6	S14 17.8		54 40.2	S13 16.9		Arcturus	146 09.0	N19 12.6			
19	40 59.0	102 25.3	47.1	107 55.7	41.4		181 06.7	17.9		69 42.4	16.8		Atria	107 59.6	S69 00.8			
20	56 01.5	117 24.4	46.6	122 56.1	41.1		196 08.9	17.9		84 44.6	16.7		Avior	234 23.3	S59 29.5			
21	71 03.9	132 23.5	46.0	137 56.5	40.8		211 11.1	18.0		99 46.8	16.6		Bellatrix	278 47.3	N 6 20.6			
22	86 06.4	147 22.7	45.5	152 56.9	40.5		226 13.2	18.1		114 49.0	16.5		Betelgeuse	271 16.7	N 7 24.3			
23	101 08.9	162 21.8	45.0	167 57.3	40.2		241 15.4	18.2		129 51.2	16.4							
17 00	116 11.3	177 20.9	S21 44.5	182 57.7	S22 40.0		256 17.6	S14 18.3		144 53.4	S13 16.3		Canopus	264 02.0	S52 41.8			
01	131 13.8	192 20.0	43.9	197 58.1	39.7		271 19.7	18.4		159 55.6	16.3		Capella	280 55.5	N45 59.6			
02	146 16.3	207 19.2	43.4	212 58.5	39.4		286 21.9	18.5		174 57.8	16.2		Deneb	49 41.8	N45 15.7			
03	161 18.7	222 18.3	42.9	227 58.9	39.1		301 24.1	18.5		190 00.0	16.1		Denebola	182 48.3	N14 36.1			
04	176 21.2	237 17.4	42.3	242 59.3	38.8		316 26.2	18.6		205 02.2	16.0		Diphda	349 10.5	S18 01.2			
05	191 23.6	252 16.6	41.8	257 59.7	38.5		331 28.4	18.7		220 04.4	15.9							
06	206 26.1	267 15.7	S21 41.3	273 00.0	S22 38.2		346 30.6	S14 18.8		235 06.6	S13 15.8		Dubhe	194 08.9	N61 46.6			
07	221 28.6	282 14.8	40.7	288 00.4	37.9		1 32.7	18.9		250 08.8	15.7		Elnath	278 30.6	N28 36.1			
08	236 31.0	297 13.9	40.2	303 00.8	37.6		16 34.9	19.0		265 11.0	15.6		Eltanin	90 53.4	N51 29.3			
09	251 33.5	312 13.1	39.7	318 01.2	37.3		31 37.1	19.1		280 13.2	15.5		Enif	34 01.6	N 9 51.0			
10	266 36.0	327 12.2	39.1	333 01.6	37.1		46 39.2	19.1		295 15.4	15.4		Fomalhaut	15 40.2	S29 39.3			
11	281 38.4	342 11.3	38.6	348 02.0	36.8		61 41.4	19.2		310 17.6	15.3							
12	296 40.9	357 10.5	S21 38.0	3 02.4	S22 36.5		76 43.6	S14 19.3		325 19.8	S13 15.2		Gacrux	172 16.9	S57 04.7			
13	311 43.4	12 09.6	37.5	18 02.8	36.2		91 45.8	19.4		340 22.0	15.1		Gienah	176 07.1	S17 30.6			
14	326 45.8	27 08.7	36.9	33 03.2	35.9		106 47.9	19.5		355 24.2	15.0		Hadar	149 08.6	S60 20.5			
15	341 48.3	42 07.9	36.4	48 03.6	35.6		121 50.1	19.6		10 26.4	14.9		Hamal	328 17.1	N23 26.2			
16	356 50.8	57 07.0	35.9	63 04.0	35.3		136 52.3	19.6		25 28.6	14.8		Kaus Aust.	84 03.4	S34 23.2			
17	11 53.2	72 06.1	35.3	78 04.4	35.0		151 54.4	19.7		40 30.8	14.7							
18	26 55.7	87 05.3	S21 34.8	93 04.8	S22 34.7		166 56.6	S14 19.8		55 33.0	S13 14.6		Kochab	137 19.8	N74 10.4			
19	41 58.1	102 04.4	34.2	108 05.2	34.4		181 58.8	19.9		70 35.2	14.5		Markab	13 53.0	N15 10.5			
20	57 00.6	117 03.5	33.7	123 05.6	34.1		197 00.9	20.0		85 37.4	14.4		Menkar	314 30.1	N 4 04.0			
21	72 03.1	132 02.7	33.1	138 06.0	33.8		212 03.1	20.1		100 39.6	14.3		Menkent	148 24.8	S36 20.4			
22	87 05.5	147 01.8	32.6	153 06.4	33.5		227 05.3	20.2		115 41.8	14.2		Miaplacidus	221 41.8	S69 41.6			
23	102 08.0	162 01.0	32.0	168 06.8	33.2		242 07.5	20.2		130 44.0	14.1							
18 00	117 10.5	177 00.1	S21 31.4	183 07.2	S22 32.9		257 09.6	S14 20.3		145 46.2	S13 14.0		Mirfak	309 00.9	N49 50.6			
01	132 12.9	191 59.2	30.9	198 07.6	32.6		272 11.8	20.4		160 48.4	13.9		Nunki	76 16.6	S26 18.2			
02	147 15.4	206 58.4	30.3	213 08.0	32.3		287 14.0	20.5		175 50.6	13.8		Peacock	53 42.6	S56 45.2			
03	162 17.9	221 57.5	29.8	228 08.4	32.0		302 16.1	20.6		190 52.8	13.8		Pollux	243 45.1	N28 02.3			
04	177 20.3	236 56.6	29.2	243 08.8	31.7		317 18.3	20.7		205 55.0	13.7		Procyon	245 14.5	N 5 14.3			
05	192 22.8	251 55.8	28.7	258 09.2	31.4		332 20.5	20.7		220 57.2	13.6							
06	207 25.2	266 54.9	S21 28.1	273 09.6	S22 31.1		347 22.7	S14 20.8		235 59.4	S13 13.5		Rasalhague	96 20.2	N12 33.8			
07	222 27.7	281 54.1	27.5	288 10.0	30.8		2 24.8	20.9		251 01.6	13.4		Regulus	207 58.6	N11 59.6			
08	237 30.2	296 53.2	27.0	303 10.4	30.5		17 27.0	21.0		266 03.8	13.3		Rigel	281 25.7	S 8 12.6			
09	252 32.6	311 52.3	26.4	318 10.8	30.2		32 29.2	21.1		281 06.0	13.2		Rigel Kent.	140 11.7	S60 48.4			
10	267 35.1	326 51.5	25.8	333 11.2	29.9		47 31.4	21.2		296 08.2	13.1		Sabik	102 29.5	S15 43.0			
11	282 37.6	341 50.6	25.3	348 11.6	29.6		62 33.5	21.2		311 10.4	13.0							
12	297 40.0	356 49.8	S21 24.7	3 12.0	S22 29.3		77 35.7	S14 21.3		326 12.6	S13 12.9		Schedar	349 57.3	N56 30.6			
13	312 42.5	11 48.9	24.1	18 12.4	29.0		92 37.9	21.4		341 14.8	12.8		Shaula	96 42.0	S37 05.9			
14	327 45.0	26 48.1	23.6	33 12.8	28.7		107 40.1	21.5		356 17.0	12.7		Sirius	258 46.1	S16 42.6			
15	342 47.4	41 47.2	23.0	48 13.2	28.4		122 42.2	21.6		11 19.2	12.6		Spica	158 46.5	S11 07.9			
16	357 49.9	56 46.4	22.4	63 13.6	28.1		137 44.4	21.6		26 21.4	12.5		Suhail	223 02.7	S43 24.6			
17	12 52.4	71 45.5	21.8	78 14.0	27.8		152 46.6	21.7		41 23.6	12.4							
18	27 54.8	86 44.6	S21 21.3	93 14.4	S22 27.5		167 48.8	S14 21.8		56 25.8	S13 12.3		Vega	80 49.2	N38 46.7			
19	42 57.3	101 43.8	20.7	108 14.8	27.2		182 50.9	21.9		71 28.0	12.2		Zuben'ubi	137 21.6	S16 01.0			
20	57 59.7	116 42.9	20.1	123 15.2	26.9		197 53.1	22.0		86 30.2	12.1							
21	73 02.2	131 42.1	19.5	138 15.6	26.5		212 55.3	22.1		101 32.4								

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Naut.		Civil	16	17	18	19	
	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o	h m	h m	h m	h m	h m	h m	h m	
16 00	177 36.0	S21 01.0	132 21.9	14.9	S 1 53.6	11.1	55.1	N 72	07 56	09 44	■	09 30	09 17	09 02	08 45	
01	192 35.8	00.5	146 55.8	15.0	1 42.5	11.2	55.1	N 70	07 42	09 12	11 46	09 30	09 22	09 14	09 06	
02	207 35.6	21 00.1	161 29.8	14.9	1 31.3	11.1	55.0	68	07 31	08 49	10 25	09 29	09 27	09 24	09 22	
03	222 35.4	20 59.6	176 03.7	15.1	1 20.2	11.2	55.0	66	07 21	08 31	09 47	09 29	09 31	09 32	09 35	
04	237 35.2	59.1	190 37.8	15.0	1 09.0	11.1	55.0	64	07 13	08 16	09 21	09 29	09 34	09 39	09 46	
05	252 35.0	58.7	205 11.8	15.0	0 57.9	11.2	55.0	62	07 05	08 03	09 01	09 29	09 37	09 45	09 55	
06	267 34.8	S20 58.2	219 45.8	15.1	S 0 46.7	11.1	55.0	60	06 59	07 53	08 45	09 29	09 39	09 51	10 04	
07	282 34.5	57.7	234 19.9	15.1	0 35.6	11.2	54.9	N 58	06 53	07 43	08 31	09 29	09 42	09 55	10 11	
08	297 34.3	57.2	248 54.0	15.2	0 24.4	11.1	54.9	56	06 48	07 35	08 19	09 28	09 44	09 59	10 17	
09	312 34.1	56.8	263 28.2	15.1	0 13.3	11.1	54.9	54	06 43	07 28	08 09	09 28	09 45	10 03	10 23	
10	327 33.9	56.3	278 02.3	15.2	S 0 02.2	11.1	54.9	52	06 39	07 21	08 00	09 28	09 47	10 06	10 28	
11	342 33.7	55.8	292 36.5	15.2	N 0 08.9	11.1	54.9	50	06 34	07 15	07 51	09 28	09 49	10 10	10 32	
12	357 33.5	S20 55.3	307 10.7	15.2	N 0 20.0	11.1	54.8	45	06 25	07 01	07 34	09 28	09 52	10 16	10 42	
13	12 33.3	54.9	321 44.9	15.3	0 31.1	11.1	54.8	N 40	06 16	06 50	07 19	09 28	09 55	10 22	10 51	
14	27 33.0	54.4	336 19.2	15.2	0 42.2	11.0	54.8	35	06 09	06 40	07 07	09 28	09 57	10 27	10 58	
15	42 32.8	53.9	350 53.4	15.3	0 53.2	11.1	54.8	30	06 01	06 31	06 56	09 28	09 59	10 31	11 05	
16	57 32.6	53.4	5 27.7	15.3	1 04.3	11.0	54.8	20	05 47	06 14	06 38	09 28	10 03	10 39	11 16	
17	72 32.4	52.9	20 02.0	15.3	1 15.3	11.1	54.8	N 10	05 33	05 59	06 22	09 27	10 06	10 45	11 25	
18	87 32.2	S20 52.5	34 36.3	15.3	N 1 26.4	11.0	54.7	0	05 19	05 44	06 06	09 27	10 10	10 52	11 35	
19	102 32.0	52.0	49 10.6	15.3	1 37.4	11.0	54.7	S 10	05 02	05 28	05 51	09 27	10 13	10 58	11 44	
20	117 31.8	51.5	63 44.9	15.4	1 48.4	11.0	54.7	20	04 42	05 10	05 34	09 27	10 16	11 05	11 54	
21	132 31.6	51.0	78 19.3	15.3	1 59.4	10.9	54.7	30	04 16	04 48	05 15	09 27	10 20	11 13	12 05	
22	147 31.3	50.5	92 53.6	15.4	2 10.3	11.0	54.7	35	04 00	04 35	05 04	09 27	10 22	11 17	12 12	
23	162 31.1	50.0	107 28.0	15.4	2 21.3	10.9	54.7	40	03 40	04 19	04 51	09 27	10 25	11 22	12 20	
17 00	177 30.9	S20 49.6	122 02.4	15.4	N 2 32.2	11.0	54.6	45	03 14	04 00	04 35	09 27	10 28	11 28	12 28	
01	192 30.7	49.1	136 36.8	15.4	2 43.2	10.9	54.6	S 50	02 38	03 35	04 16	09 27	10 32	11 36	12 39	
02	207 30.5	48.6	151 11.2	15.4	2 54.1	10.8	54.6	52	02 18	03 22	04 07	09 27	10 33	11 39	12 44	
03	222 30.3	48.1	165 45.6	15.4	3 04.9	10.9	54.6	54	01 53	03 08	03 57	09 27	10 35	11 43	12 50	
04	237 30.1	47.6	180 20.0	15.4	3 15.8	10.9	54.6	56	01 14	02 51	03 45	09 27	10 37	11 47	12 56	
05	252 29.9	47.1	194 54.4	15.4	3 26.7	10.8	54.6	58	///	02 30	03 32	09 27	10 39	11 51	13 03	
06	267 29.7	S20 46.6	209 28.8	15.5	N 3 37.5	10.8	54.6	S 60	///	02 02	03 16	09 27	10 42	11 56	13 10	
07	282 29.5	46.1	224 03.3	15.4	3 48.3	10.8	54.5	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	16	17	18	19	
08	297 29.3	45.6	238 37.7	15.4	3 59.1	10.7	54.5	N 72	h m	h m	h m	h m	h m	h m	h m	
09	312 29.1	45.2	253 12.1	15.5	4 09.8	10.8	54.5	N 70	■	14 37	16 25	22 15	23 57	25 43	01 43	
10	327 28.8	44.7	267 46.6	15.4	4 20.6	10.7	54.5	68	12 35	15 09	16 39	22 12	23 47	25 24	01 24	
11	342 28.6	44.2	282 21.0	15.5	4 31.3	10.7	54.5	66	13 56	15 32	16 50	22 09	23 39	25 09	01 09	
12	357 28.4	S20 43.7	296 55.5	15.4	4 42.0	10.7	54.5	64	14 33	15 50	17 00	22 07	23 32	24 57	00 57	
13	12 28.2	43.2	311 29.9	15.4	4 52.7	10.6	54.5	64	14 59	16 05	17 08	22 06	23 27	24 48	00 48	
14	27 28.0	42.7	326 04.3	15.5	5 03.3	10.6	54.5	62	15 20	16 17	17 15	22 04	23 22	24 39	00 39	
15	42 27.8	42.2	340 38.8	15.4	5 13.9	10.6	54.4	60	15 36	16 28	17 22	22 03	23 18	24 32	00 32	
16	57 27.6	41.7	355 13.2	15.4	5 24.5	10.6	54.4	N 58	15 50	16 37	17 28	22 02	23 14	24 25	00 25	
17	72 27.4	41.2	9 47.6	15.5	5 35.1	10.5	54.4	56	16 02	16 46	17 33	22 01	23 11	24 20	00 20	
18	87 27.2	S20 40.7	24 22.1	15.4	N 5 45.6	10.5	54.4	54	16 12	16 53	17 38	22 00	23 08	24 15	00 15	
19	102 27.0	40.2	38 56.5	15.4	5 56.1	10.5	54.4	52	16 21	17 00	17 42	21 59	23 05	24 10	00 10	
20	117 26.8	39.7	53 30.9	15.4	6 06.6	10.5	54.4	50	16 29	17 06	17 46	21 58	23 02	24 06	00 06	
21	132 26.6	39.2	68 05.3	15.4	6 17.1	10.4	54.4	45	16 47	17 19	17 56	21 56	22 57	23 57	24 57	
22	147 26.4	38.7	82 39.7	15.4	6 27.5	10.4	54.4	N 40	17 01	17 31	18 04	21 55	22 53	23 50	24 47	
23	162 26.2	38.2	97 14.1	15.4	6 37.9	10.3	54.4	35	17 13	17 41	18 12	21 54	22 49	23 44	24 38	
18 00	177 26.0	S20 37.7	111 48.5	15.4	N 6 48.2	10.4	54.4	30	17 24	17 50	18 19	21 53	22 46	23 38	24 31	
01	192 25.8	37.2	126 22.9	15.4	6 58.6	10.3	54.3	20	17 42	18 06	18 33	21 51	22 40	23 29	24 18	
02	207 25.6	36.7	140 57.3	15.3	7 08.9	10.3	54.3	N 10	17 59	18 21	18 47	21 49	22 35	23 20	24 07	
03	222 25.4	36.2	155 31.6	15.4	7 19.2	10.2	54.3	0	18 14	18 36	19 02	21 48	22 30	23 12	23 56	
04	237 25.2	35.7	170 06.0	15.3	7 29.4	10.2	54.3	S 10	18 29	18 52	19 18	21 46	22 25	23 04	23 45	
05	252 25.0	35.2	184 40.3	15.3	7 39.6	10.2	54.3	20	18 46	19 10	19 38	21 44	22 20	22 56	23 34	
06	267 24.8	S20 34.7	199 14.6	15.4	N 7 49.8	10.1	54.3	30	19 05	19 31	20 03	21 43	22 14	22 47	23 21	
07	282 24.6	34.2	213 49.0	15.2	7 59.9	10.1	54.3	35	19 16	19 45	20 20	21 41	22 11	22 41	23 14	
08	297 24.4	33.7	228 23.2	15.3	8 10.0	10.1	54.3	40	19 29	20 00	20 40	21 40	22 07	22 35	23 05	
09	312 24.2	33.2	242 57.5	15.3	8 20.1	10.0	54.3	45	19 44	20 20	21 05	21 39	22 03	22 28	22 55	
10	327 24.0	32.6	257 31.8	15.2	8 30.1	10.0	54.3	S 50	20 03	20 44	21 41	21 37	21 58	22 19	22 44	
11	342 23.8	32.1	272 06.0	15.2	8 40.1	9.9	54.3	52	20 12	20 57	22 00	21 36	21 55	22 16	22 38	
12	357 23.6	S20 31.6	286 40.2	15.3	N 8 50.0	10.0	54.3	54	20 22	21 11	22 25	21 36	21 53	22 11	22 32	
13	12 23.4	31.1	301 14.5	15.1	9 00.0	9.8	54.3	56	20 34	21 28	23 02	21 35	21 50	22 06	22 25	
14	27 23.2	30.6	315 48.6	15.2	9 09.8	9.9	54.3	58	20 47	21 48	///	21 34	21 47	22 01	22 18	
15	42 23.0	30.1	330 22.8	15.2	9 19.7	9.8	54.3	S 60	21 03	22 15	///	21 32	21 43	22 01	22 09	
16	57 22.8	29.6	344 57.0	15.1	9 29.5	9.7	54.3	Día	SOL	LUNA						
17	72 22.6	29.1	359 31.1	15.1	9 39.2	9.8	54.2	E.T. (-)	Pas. Mer.	Pas. Mer. Sup. Inf.	Edad.	Fase				
18	87 22.4	S20 28.6	14 05.2	15.1	N 9 49.0	9.6	54.2	00 h	12 h	</						

T.M.G. (TU)	ARIES		VENUS -3.9		MARTE +1.2		JUPITER -1.9		SATURNO +0.9		ESTRELLAS																	
	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.															
19 00	118 09.6	176 39.5 S21 17.8	183 16.8 S22 25.6	258 01.8 S14 22.3	146 39.0 S13 11.7	Acamar	315 29.2 S40 19.9																					
01	133 12.1	191 38.7 17.2	198 17.2 25.3	273 04.0 22.4	161 41.2 11.6	Achernar	335 37.6 S57 16.3																					
02	148 14.5	206 37.8 16.6	213 17.6 25.0	288 06.2 22.5	176 43.4 11.5	Acrux	173 25.3 S63 03.8																					
03	163 17.0	221 37.0 ·· 16.0	228 18.0 ·· 24.7	303 08.4 ·· 22.5	191 45.6 ·· 11.4	Adhara	255 23.5 S28 58.0																					
04	178 19.5	236 36.1 15.5	243 18.4 24.4	318 10.5 22.6	206 47.8 11.3	Aldebaran	291 05.8 N16 29.8																					
05	193 21.9	251 35.3 14.9	258 18.8 24.1	333 12.7 22.7	221 50.0 11.2																							
06	208 24.4	266 34.4 S21 14.3	273 19.2 S22 23.8	348 14.9 S14 22.8	236 52.2 S13 11.1	Alioth	166 33.2 N55 59.1																					
07	223 26.9	281 33.6 13.7	288 19.6 23.4	3 17.1 22.9	251 54.4 11.0	Alkaid	153 10.3 N49 20.2																					
08	238 29.3	296 32.7 13.1	303 20.0 23.1	18 19.3 23.0	266 56.6 10.9	Al Na'ir	28 02.3 S46 59.5																					
09	253 31.8	311 31.9 ·· 12.5	318 20.4 ·· 22.8	33 21.4 ·· 23.0	281 58.8 ·· 10.8	Alnilam	276 00.8 S 1 12.5																					
10	268 34.2	326 31.0 11.9	333 20.8 22.5	48 23.6 23.1	297 01.0 10.7	Alphard	218 10.0 S 8 38.1																					
11	283 36.7	341 30.2 11.3	348 21.2 22.2	63 25.8 23.2	312 03.1 10.7																							
12	298 39.2	356 29.3 S21 10.7	3 21.6 S22 21.9	78 28.0 S14 23.3	327 05.3 S13 10.6	Alphecca	126 23.4 N26 43.9																					
13	313 41.6	11 28.5 10.1	18 22.0 21.6	93 30.2 23.4	342 07.5 10.5	Alpheratz	357 58.7 N29 03.7																					
14	328 44.1	26 27.7 09.5	33 22.4 21.3	108 32.3 23.4	357 09.7 10.4	Altair	62 22.7 N 8 51.2																					
15	343 46.6	41 26.8 ·· 08.9	48 22.8 ·· 20.9	123 34.5 ·· 23.5	12 11.9 ·· 10.3	Ankaa	353 30.1 S42 20.5																					
16	358 49.0	56 26.0 08.3	63 23.2 20.6	138 36.7 23.6	27 14.1 10.2	Antares	112 44.3 S26 25.1																					
17	13 51.5	71 25.1 07.7	78 23.6 20.3	153 38.9 23.7	42 16.3 10.1																							
18	28 54.0	86 24.3 S21 07.1	93 24.0 S22 20.0	168 41.1 S14 23.8	57 18.5 S13 10.0	Arcturus	146 09.0 N19 12.6																					
19	43 56.4	101 23.4 06.5	108 24.4 19.7	183 43.2 23.8	72 20.7 09.9	Atria	107 59.6 S69 00.8																					
20	58 58.9	116 22.6 05.9	123 24.8 19.4	198 45.4 23.9	87 22.9 09.8	Avior	234 23.3 S59 29.5																					
21	74 01.3	131 21.8 ·· 05.3	138 25.2 ·· 19.0	213 47.6 ·· 24.0	102 25.1 ·· 09.7	Bellatrix	278 47.3 N 6 20.6																					
22	89 03.8	146 20.9 04.7	153 25.6 18.7	228 49.8 24.1	117 27.3 09.6	Betelgeuse	271 16.7 N 7 24.3																					
23	104 06.3	161 20.1 04.1	168 26.0 18.4	243 52.0 24.2	132 29.5 09.5																							
20 00	119 08.7	176 19.2 S21 03.5	183 26.4 S22 18.1	258 54.2 S14 24.2	147 31.7 S13 09.4	Canopus	264 02.0 S52 41.8																					
01	134 11.2	191 18.4 02.9	198 26.8 17.8	273 56.3 24.3	162 33.9 09.3	Capella	280 55.5 N45 59.6																					
02	149 13.7	206 17.6 02.3	213 27.2 17.4	288 58.5 24.4	177 36.1 09.2	Deneb	49 41.8 N45 15.7																					
03	164 16.1	221 16.7 ·· 01.7	228 27.6 ·· 17.1	304 00.7 ·· 24.5	192 38.3 ·· 09.1	Denebola	182 48.2 N14 36.1																					
04	179 18.6	236 15.9 01.1	243 28.0 16.8	319 02.9 24.6	207 40.5 09.0	Diphda	349 10.5 S18 01.2																					
05	194 21.1	251 15.0 21 00.5	258 28.4 16.5	334 05.1 24.6	222 42.7 08.9																							
06	209 23.5	266 14.2 S20 59.8	273 28.8 S22 16.2	349 07.3 S14 24.7	237 44.9 S13 08.8	Dubhe	194 08.9 N61 46.6																					
07	224 26.0	281 13.4 59.2	288 29.2 15.8	4 09.4 24.8	252 47.1 08.7	El Nath	278 30.6 N28 36.1																					
08	239 28.5	296 12.5 58.6	303 29.6 15.5	19 11.6 24.9	267 49.3 08.6	Eltanin	90 53.4 N51 29.3																					
09	254 30.9	311 11.7 ·· 58.0	318 30.1 ·· 15.2	34 13.8 ·· 24.9	282 51.5 ·· 08.5	Enif	34 01.6 N 9 50.9																					
10	269 33.4	326 10.9 57.4	333 30.5 14.9	49 16.0 25.0	297 53.7 08.4	Fomalhaut	15 40.2 S29 39.3																					
11	284 35.8	341 10.0 56.8	348 30.9 14.5	64 18.2 25.1	312 55.9 08.3																							
12	299 38.3	356 09.2 S20 56.1	3 31.3 S22 14.2	79 20.4 S14 25.2	327 58.1 S13 08.2	Gacrux	172 16.9 S57 04.7																					
13	314 40.8	11 08.3 55.5	18 31.7 13.9	94 22.6 25.3	343 00.3 08.1	Gienah	176 07.1 S17 30.6																					
14	329 43.2	26 07.5 54.9	33 32.1 13.6	109 24.7 25.3	358 02.5 08.0	Hadar	149 08.6 S60 20.5																					
15	344 45.7	41 06.7 ·· 54.3	48 32.5 ·· 13.2	124 26.9 ·· 25.4	13 04.7 ·· 07.9	Hamal	328 17.1 N23 26.2																					
16	359 48.2	56 05.8 53.6	63 32.9 12.9	139 29.1 25.5	28 06.9 07.8	Kaus Aust.	84 03.4 S34 23.2																					
17	14 50.6	71 05.0 53.0	78 33.3 12.6	154 31.3 25.6	43 09.1 07.7																							
18	29 53.1	86 04.2 S20 52.4	93 33.7 S22 12.3	169 33.5 S14 25.7	58 11.2 S13 07.6	Kochab	137 19.8 N74 10.4																					
19	44 55.6	101 03.4 51.8	108 34.1 11.9	184 35.7 25.7	73 13.4 07.5	Markab	13 53.0 N15 10.5																					
20	59 58.0	116 02.5 51.1	123 34.5 11.6	199 37.9 25.8	88 15.6 07.4	Menkar	314 30.1 N 4 04.0																					
21	75 00.5	131 01.7 ·· 50.5	138 34.9 ·· 11.3	214 40.1 ·· 25.9	103 17.8 ·· 07.3	Menkent	148 24.7 S36 20.4																					
22	90 03.0	146 00.9 49.9	153 35.3 10.9	229 42.2 26.0	118 20.0 07.2	Miaplacidus	221 41.8 S69 41.6																					
23	105 05.4	161 00.0 49.2	168 35.7 10.6	244 44.4 26.0	133 22.2 07.1																							
21 00	120 07.9	175 59.2 S20 48.6	183 36.1 S22 10.3	259 46.6 S14 26.1	148 24.4 S13 07.0	Mirfak	309 01.0 N49 50.6																					
01	135 10.3	190 58.4 48.0	198 36.5 10.0	274 48.8 26.2	163 26.6 06.9	Nunki	76 16.6 S26 18.2																					
02	150 12.8	205 57.6 47.3	213 36.9 09.6	289 51.0 26.3	178 28.8 06.8	Peacock	53 42.6 S56 45.2																					
03	165 15.3	220 56.7 ·· 46.7	228 37.3 ·· 09.3	304 53.2 ·· 26.4	193 31.0 ·· 06.7	Pollux	243 45.0 N28 02.3																					
04	180 17.7	235 55.9 46.1	243 37.7 09.0	319 55.4 26.4	208 33.2 06.6	Procyon	245 14.5 N 5 14.2																					
05	195 20.2	250 55.1 45.4	258 38.1 08.6	334 57.6 26.5	223 35.4 06.5																							
06	210 22.7	265 54.2 S20 44.8	273 38.5 S22 08.3	349 59.8 S14 26.6	238 37.6 S13 06.4	Rasalhague	96 20.2 N12 33.8																					
07	225 25.1	280 53.4 44.1	288 39.0 08.0	5 02.0 26.7	253 39.8 06.3	Regulus	207 58.6 N11 59.5																					
08	240 27.6	295 52.6 43.5	303 39.4 07.6	20 04.1 26.7	268 42.0 06.2	Rigel	281 25.7 S 8 12.7																					
09	255 30.1	310 51.8 ·· 42.8	318 39.8 ·· 07.3	35 06.3 ·· 26.8	283 44.2 ·· 06.2	Rigel Kent.	140 11.6 S60 48.4																					
10	270 32.5	325 50.9 42.2	333 40.2 07.0	50 08.5 26.9	298 46.4 06.1	Sabik	102 29.4 S15 43.0																					
11	285 35.0	340 50.1 41.6	348 40.6 06.6	65 10.7 27.0	313 48.6 06.0																							
12	300 37.5	355 49.3 S20 40.9	3 41.0 S22 06.3	80 12.9 S14 27.0	328 50.8 S13 05.9	Schedar	349 57.3 N56 30.6																					
13	315 39.9	10 48.5 40.3	18 41.4 06.0	95 15.1 27.1	343 53.0 05.8	Shaula	96 41.9 S37 05.9																					
14	330 42.4	25 47.7 39.6	33 41.8 05.6	110 17.3 27.2	358 55.1 05.7	Sirius	258 46.1 S16 42.7																					
15	345 44.8	40 46.8 ·· 39.0	48 42.2 ·· 05.3	125 19.5 ·· 27.3	13 57.3 ·· 05.6	Spica	158 46.5 S11 07.9																					
16	0 47.3	55 46.0 38.3	63 42.6 05.0	140 21.7 27.4	28 59.5 05.5	Suhail	223 02.7 S43 24.6																					
17	15 49.8	70 45.2 37.7	78 43.0 04.6	155 23.9 27.4	44 01.7 05.4																							
18	30 52.2	85 44.4 S20 37.0	93 43.4 S22 04.3	170 26.1 S14 27.5	59 03.9 S13 05.3	Vega	80 49.2 N38 46.6																					
19	45 54.7	100 43.6 36.4	108 43.8 03.9	185 28.3 27.6	74 06.1 05.2	Zuben'ubi	137 21.6 S16 01.0																					
20	60 57.2	115 42.7 35.7	123 44.2 03.6	200 30.5 27.7	89 08.3 05.1																							
21	75 59.6	130 41.9 ·· 35.0	138 44.6 ·· 03.3	215 32.6 ·· 27.7	104 10.5 ·· 05.0																							
22	91 02.1	145 41.1 34.4	153 45.1 02.9	230 34.8 27.8	119 12.7 04.9																							
23	106 04.6	160 40.3 33.7	168 45.5 02.6	245 37.0 27.9	134 14.9 04.8																							
Pas. Mer. 16 00.8		v -0.8 d 0.6	v 0.4 d 0.3	v 2.2 d 0.1	v 2.2 d 0.1					<table border="0"> <tr> <td></td> <td>A. H. S.</td> <td>Pas. Mer.</td> </tr> <tr> <td></td> <td>o / h m</td> <td>h m</td> </tr> <tr> <td>Venus</td> <td>57 10.5</td> <td>12 15</td> </tr> <tr> <td>Marte</td> <td>64 17.7</td> <td>11 46</td> </tr> <tr> <td>Júpiter</td> <td>139 45.4</td> <td>6 43</td> </tr> <tr> <td>S</td></tr></table>				A. H. S.	Pas. Mer.		o / h m	h m	Venus	57 10.5	12 15	Marte	64 17.7	11 46	Júpiter	139 45.4	6 43	S
	A. H. S.	Pas. Mer.																										
	o / h m	h m																										
Venus	57 10.5	12 15																										
Marte	64 17.7	11 46																										
Júpiter	139 45.4	6 43																										
S																												

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G. Dec.		A.H.G. v Dec.		d P.H.			Naut.	Civil		19	20	21	22		
	o	'	o	'	o	'		h m	h m		h m	h m	h m	h m	h m	
M I E R C O L E S	19 00	177 21.2	S20 25.5	101 29.3	14.9	N10 46.4	9.4	54.2	N 72	07 48	09 32	■	08 45	08 21	07 09	□
	01	192 21.0	24.9	116 03.2	14.9	10 55.8	9.4	54.2	N 70	07 35	09 03	11 07	09 06	08 56	08 41	□
	02	207 20.8	24.4	130 37.1	14.9	11 05.2	9.3	54.2	68	07 25	08 41	10 11	09 22	09 21	09 20	09 24
	03	222 20.7	23.9	145 11.0	14.8	11 14.5	9.3	54.2	66	07 16	08 24	09 38	09 35	09 40	09 40	10 04
	04	237 20.5	23.4	159 44.8	14.8	11 23.8	9.3	54.2	64	07 08	08 10	09 14	09 46	09 55	10 09	10 31
	05	252 20.3	22.9	174 18.6	14.8	11 33.1	9.1	54.2	62	07 01	07 59	08 55	09 55	10 08	10 26	10 52
	06	267 20.1	S20 22.3	188 52.4	14.7	N11 42.2	9.2	54.2	60	06 55	07 48	08 40	10 04	10 20	10 41	11 10
	07	282 19.9	21.8	203 26.1	14.8	11 51.4	9.1	54.2	N 58	06 50	07 40	08 27	10 11	10 29	10 53	11 24
	08	297 19.7	21.3	217 59.9	14.6	12 00.5	9.0	54.2	56	06 45	07 32	08 15	10 17	10 38	11 04	11 36
	09	312 19.5	20.8	232 33.5	14.7	12 09.5	9.0	54.2	54	06 40	07 25	08 05	10 23	10 45	11 13	11 47
	10	327 19.3	20.2	247 07.2	14.6	12 18.5	9.0	54.2	52	06 36	07 18	07 56	10 28	10 52	11 21	11 57
	11	342 19.1	19.7	261 40.8	14.6	12 27.5	8.9	54.2	50	06 32	07 12	07 49	10 32	10 58	11 29	12 06
	12	357 18.9	S20 19.2	276 14.4	14.5	N12 36.4	8.8	54.2	45	06 23	06 59	07 32	10 42	11 12	11 45	12 24
	13	12 18.7	18.7	290 47.9	14.5	12 45.2	8.8	54.2	N 40	06 15	06 48	07 18	10 51	11 23	11 58	12 39
	14	27 18.5	18.1	305 21.4	14.5	12 54.0	8.8	54.2	35	06 08	06 39	07 06	10 58	11 32	12 09	12 52
	15	42 18.4	17.6	319 54.9	14.4	13 02.8	8.6	54.2	30	06 01	06 30	06 56	11 05	11 40	12 19	13 03
	16	57 18.2	17.1	334 28.3	14.4	13 11.4	8.7	54.2	20	05 48	06 14	06 38	11 16	11 55	12 36	13 22
	17	72 18.0	16.6	349 01.7	14.4	13 20.1	8.6	54.2	N 10	05 34	06 00	06 22	11 25	12 07	12 51	13 39
	18	87 17.8	S20 16.0	3 35.1	14.3	N13 28.7	8.5	54.3	0	05 20	05 45	06 07	11 35	12 19	13 05	13 54
	19	102 17.6	15.5	18 08.4	14.3	13 37.2	8.5	54.3	S 10	05 04	05 30	05 52	11 44	12 31	13 20	14 10
	20	117 17.4	15.0	32 41.7	14.2	13 45.7	8.4	54.3	20	04 44	05 13	05 36	11 54	12 44	13 35	14 27
	21	132 17.2	14.4	47 14.9	14.2	13 54.1	8.3	54.3	30	04 19	04 51	05 18	12 05	12 58	13 52	14 46
	22	147 17.0	13.9	61 48.1	14.2	14 02.4	8.3	54.3	35	04 04	04 38	05 07	12 12	13 07	14 02	14 57
23	162 16.8	13.4	76 21.3	14.1	14 10.7	8.3	54.3	40	03 44	04 23	04 54	12 20	13 17	14 14	15 10	
20 00	177 16.7	S20 12.8	90 54.4	14.1	N14 19.0	8.2	54.3	45	03 19	04 04	04 39	12 28	13 28	14 28	15 26	
01	192 16.5	12.3	105 27.5	14.0	14 27.2	8.1	54.3	S 50	02 45	03 40	04 21	12 39	13 42	14 45	15 45	
02	207 16.3	11.8	120 00.5	14.0	14 35.3	8.0	54.3	52	02 26	03 28	04 12	12 44	13 49	14 53	15 54	
03	222 16.1	11.2	134 33.5	14.0	14 43.3	8.1	54.3	54	02 03	03 15	04 02	12 50	13 56	15 01	16 04	
04	237 15.9	10.7	149 06.5	13.9	14 51.4	7.9	54.3	56	01 30	02 59	03 51	12 56	14 04	15 11	16 15	
05	252 15.7	10.1	163 39.4	13.8	14 59.3	7.9	54.3	58	///	02 39	03 38	13 03	14 14	15 23	16 28	
06	267 15.5	S20 09.6	178 12.2	13.8	N15 07.2	7.8	54.3	S 60	///	02 14	03 23	13 10	14 24	15 36	16 44	
07	282 15.4	09.1	192 45.0	13.8	15 15.0	7.8	54.3	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
08	297 15.2	08.5	207 17.8	13.7	15 22.8	7.7	54.3			Civil	Naut.	19	20	21	22	
09	312 15.0	08.0	221 50.5	13.7	15 30.5	7.6	54.3	o	h m	h m	h m	h m	h m	h m	h m	
10	327 14.8	07.5	236 23.2	13.6	15 38.1	7.6	54.4	N 72	■	14 51	16 35	01 43	03 39	06 26	□	
11	342 14.6	06.9	250 55.8	13.6	15 45.7	7.5	54.4	N 70	13 16	15 20	16 48	01 24	03 05	04 55	□	
12	357 14.4	S20 06.4	265 28.4	13.5	N15 53.2	7.4	54.4	68	14 12	15 41	16 58	01 09	02 42	04 16	05 52	
13	12 14.3	05.8	280 00.9	13.5	16 00.6	7.4	54.4	66	14 45	15 58	17 07	00 57	02 23	03 49	05 13	
14	27 14.1	05.3	294 33.4	13.4	16 08.0	7.3	54.4	64	15 09	16 12	17 15	00 48	02 08	03 29	04 46	
15	42 13.9	04.7	309 05.8	13.4	16 15.3	7.2	54.4	62	15 28	16 24	17 21	00 39	01 56	03 12	04 25	
16	57 13.7	04.2	323 38.2	13.4	16 22.5	7.2	54.4	60	15 43	16 34	17 27	00 32	01 46	02 58	04 08	
17	72 13.5	03.7	338 10.6	13.2	16 29.7	7.1	54.4	N 58	15 56	16 43	17 33	00 25	01 37	02 47	03 54	
18	87 13.4	S20 03.1	352 42.8	13.3	N16 36.8	7.0	54.4	56	16 07	16 51	17 38	00 20	01 29	02 36	03 42	
19	102 13.2	02.6	7 15.1	13.2	16 43.8	7.0	54.4	54	16 17	16 58	17 42	00 15	01 22	02 27	03 31	
20	117 13.0	02.0	21 47.3	13.1	16 50.8	6.9	54.5	52	16 26	17 04	17 46	00 10	01 15	02 19	03 22	
21	132 12.8	01.5	36 19.4	13.1	16 57.7	6.8	54.5	50	16 34	17 10	17 50	00 06	01 09	02 12	03 14	
22	147 12.6	00.9	50 51.5	13.0	17 04.5	6.7	54.5	45	16 51	17 23	17 59	24 57	00 57	01 57	02 56	
23	162 12.5	20 00.4	65 23.5	13.0	17 11.2	6.7	54.5	N 40	17 05	17 34	18 07	24 47	00 47	01 44	02 41	
21 00	177 12.3	S19 59.8	79 55.5	12.9	N17 17.9	6.6	54.5	35	17 16	17 44	18 14	24 38	00 38	01 34	02 29	
01	192 12.1	59.3	94 27.4	12.9	17 24.5	6.5	54.5	30	17 27	17 52	18 21	24 31	00 31	01 24	02 18	
02	207 11.9	58.7	108 59.3	12.8	17 31.0	6.5	54.5	20	17 44	18 08	18 35	24 18	00 18	01 08	02 00	
03	222 11.7	58.2	123 31.1	12.7	17 37.5	6.3	54.5	N 10	18 00	18 22	18 48	24 07	00 07	00 54	01 44	
04	237 11.6	57.6	138 02.8	12.8	17 43.8	6.3	54.6	0	18 15	18 37	19 02	23 56	24 41	00 41	01 29	
05	252 11.4	57.1	152 34.6	12.6	17 50.1	6.3	54.6	S 10	18 29	18 52	19 18	23 45	24 28	00 28	01 14	
06	267 11.2	S19 56.5	167 06.2	12.6	N17 56.4	6.1	54.6	20	18 45	19 09	19 38	23 34	24 14	00 14	00 58	
07	282 11.0	56.0	181 37.8	12.6	18 02.5	6.1	54.6	30	19 04	19 30	20 02	23 21	23 58	24 39	00 39	
08	297 10.9	55.4	196 09.4	12.5	18 08.6	6.0	54.6	35	19 15	19 43	20 18	23 14	23 49	24 29	00 29	
09	312 10.7	54.8	210 40.9	12.4	18 14.6	5.9	54.6	40	19 27	19 58	20 37	23 05	23 39	24 17	00 17	
10	327 10.5	54.3	225 12.3	12.4	18 20.5	5.8	54.7	45	19 42	20 17	21 02	22 55	23 26	24 02	00 02	
11	342 10.3	53.7	239 43.7	12.3	18 26.3	5.8	54.7	S 50	20 00	20 41	21 36	22 44	23 11	23 45	24 25	
12	357 10.2	S19 53.2	254 15.0	12.3	N18 32.1	5.6	54.7	52	20 09	20 52	21 54	22 38	23 05	23 37	24 16	
13	12 10.0	52.6	268 46.3	12.2	18 37.7	5.6	54.7	54	20 19	21 06	22 17	22 32	22 57	23 27	24 06	
14	27 09.8	52.1	283 17.5	12.2	18 43.3	5.5	54.7	56	20 30	21 22	22 48	22 25	22 48	23 17	23 54	
15	42 09.6	51.5	297 48.7	12.1	18 48.8	5.4	54.7	58	20 42	21 41	///	22 18	22 39	23 05	23 41	
16	57 09.5	50.9	312 19.8	12.0	18 54.2	5.4	54.8	S 60	20 57	22 05	///	22 09	22 27	22 52	23 25	
17	72 09.3	50.4	326 50.8	12.0	18 59.6	5.2	54.8	Lat.	SOL		LUNA					
18	87 09.1	S19 49.8	341 21.8	12.0	N19 04.8	5.2	54.8	Día	E.T. (-)	Pas. Mer.	Pas. Mer.	Sup. Mer.	Inf.	Edad.	Fase	
19	102 09.0	49.3	3													

T.M.G. (TU)	ARIES		VENUS -3.9		MARTE +1.2		JUPITER -2.0		SATURNO +0.9		ESTRELLAS		
	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.
22 00	121 07.0		175 39.5	S20 33.1	183 45.9	S22 02.2	260 39.2	S14 28.0	149 17.1	S13 04.7	Acamar	315 29.2	S40 19.9
01	136 09.5		190 38.6	32.4	198 46.3	01.9	275 41.4	28.0	164 19.3	04.6	Achernar	335 37.6	S57 16.3
02	151 11.9		205 37.8	31.7	213 46.7	01.6	290 43.6	28.1	179 21.5	04.5	Acrux	173 25.2	S63 03.8
03	166 14.4		220 37.0	31.1	228 47.1	01.2	305 45.8	28.2	194 23.7	04.4	Adhara	255 23.5	S28 58.0
04	181 16.9		235 36.2	30.4	243 47.5	00.9	320 48.0	28.3	209 25.9	04.3	Aldebaran	291 05.8	N16 29.8
05	196 19.3		250 35.4	29.8	258 47.9	00.5	335 50.2	28.3	224 28.1	04.2			
06	211 21.8		265 34.6	S20 29.1	273 48.3	S22 00.2	350 52.4	S14 28.4	239 30.3	S13 04.1	Alioth	166 33.2	N55 59.1
07	226 24.3		280 33.8	28.4	288 48.7	21 59.9	5 54.6	28.5	254 32.4	04.0	Alkaid	153 10.3	N49 20.2
08	241 26.7		295 32.9	27.8	303 49.1	59.5	20 56.8	28.6	269 34.6	03.9	Al Na'ir	28 02.3	S46 59.4
S 09	256 29.2		310 32.1	27.1	318 49.5	59.2	35 59.0	28.6	284 36.8	03.8	Alnilam	276 00.8	S 1 12.5
A 10	271 31.7		325 31.3	26.4	333 50.0	58.8	51 01.2	28.7	299 39.0	03.7	Alphard	218 10.0	S 8 38.2
B 11	286 34.1		340 30.5	25.7	348 50.4	58.5	66 03.4	28.8	314 41.2	03.6			
A 12	301 36.6		355 29.7	S20 25.1	3 50.8	S21 58.1	81 05.6	S14 28.9	329 43.4	S13 03.5	Alphecca	126 23.4	N26 43.9
D 13	316 39.1		10 28.9	24.4	18 51.2	57.8	96 07.8	28.9	344 45.6	03.4	Alpheratz	357 58.7	N29 03.6
O 14	331 41.5		25 28.1	23.7	33 51.6	57.4	111 10.0	29.0	359 47.8	03.3	Altair	62 22.7	N 8 51.2
15	346 44.0		40 27.3	23.1	48 52.0	57.1	126 12.2	29.1	14 50.0	03.2	Ankaa	353 30.1	S42 20.5
16	1 46.4		55 26.5	22.4	63 52.4	56.7	141 14.4	29.2	29 52.2	03.1	Antares	112 44.3	S26 25.1
17	16 48.9		70 25.7	21.7	78 52.8	56.4	156 16.6	29.2	44 54.4	03.0			
18	31 51.4		85 24.8	S20 21.0	93 53.2	S21 56.1	171 18.8	S14 29.3	59 56.6	S13 02.9	Arcturus	146 09.0	N19 12.6
19	46 53.8		100 24.0	20.3	108 53.6	55.7	186 21.0	29.4	74 58.8	02.8	Atria	107 59.5	S69 00.8
20	61 56.3		115 23.2	19.7	123 54.0	55.4	201 23.2	29.5	90 01.0	02.7	Avior	234 23.3	S59 29.6
21	76 58.8		130 22.4	19.0	138 54.5	55.0	216 25.4	29.5	105 03.2	02.6	Bellatrix	278 47.3	N 6 20.6
22	92 01.2		145 21.6	18.3	153 54.9	54.7	231 27.6	29.6	120 05.3	02.5	Betelgeuse	271 16.7	N 7 24.2
23	107 03.7		160 20.8	17.6	168 55.3	54.3	246 29.8	29.7	135 07.5	02.4			
23 00	122 06.2		175 20.0	S20 16.9	183 55.7	S21 54.0	261 32.0	S14 29.7	150 09.7	S13 02.3	Canopus	264 02.1	S52 41.8
01	137 08.6		190 19.2	16.2	198 56.1	53.6	276 34.2	29.8	165 11.9	02.2	Capella	280 55.5	N45 59.6
02	152 11.1		205 18.4	15.6	213 56.5	53.3	291 36.4	29.9	180 14.1	02.1	Deneb	49 41.8	N45 15.7
03	167 13.6		220 17.6	14.9	228 56.9	52.9	306 38.6	30.0	195 16.3	02.0	Denebola	182 48.2	N14 36.1
04	182 16.0		235 16.8	14.2	243 57.3	52.6	321 40.8	30.0	210 18.5	01.9	Diphda	349 10.5	S18 01.2
05	197 18.5		250 16.0	13.5	258 57.7	52.2	336 43.0	30.1	225 20.7	01.8			
06	212 20.9		265 15.2	S20 12.8	273 58.1	S21 51.8	351 45.2	S14 30.2	240 22.9	S13 01.7	Dubhe	194 08.9	N61 46.6
07	227 23.4		280 14.4	12.1	288 58.6	51.5	6 47.4	30.3	255 25.1	01.6	Elnath	278 30.6	N28 36.1
O 08	242 25.9		295 13.6	11.4	303 59.0	51.1	21 49.6	30.3	270 27.3	01.5	Eltanin	90 53.3	N51 29.3
O 09	257 28.3		310 12.8	10.7	318 59.4	50.8	36 51.8	30.4	285 29.5	01.4	Enif	34 01.6	N 9 50.9
M 10	272 30.8		325 12.0	10.0	333 59.8	50.4	51 54.0	30.5	300 31.7	01.3	Fomalhaut	15 40.2	S29 39.3
I 11	287 33.3		340 11.2	09.3	349 00.2	50.1	66 56.2	30.5	315 33.8	01.2			
N 12	302 35.7		355 10.4	S20 08.6	4 00.6	S21 49.7	81 58.4	S14 30.6	330 36.0	S13 01.1	Gacrux	172 16.9	S57 04.7
G 13	317 38.2		10 09.6	07.9	19 01.0	49.4	97 00.6	30.7	345 38.2	01.0	Gienah	176 07.1	S17 30.6
O 14	332 40.7		25 08.8	07.2	34 01.4	49.0	112 02.8	30.8	0 40.4	00.9	Hadar	149 08.5	S60 20.5
15	347 43.1		40 08.0	06.5	49 01.9	48.7	127 05.0	30.8	15 42.6	00.8	Hamal	328 17.1	N23 26.2
16	2 45.6		55 07.2	05.8	64 02.3	48.3	142 07.2	30.9	30 44.8	00.7	Kaus Aust.	84 03.4	S34 23.2
17	17 48.0		70 06.4	05.1	79 02.7	47.9	157 09.4	31.0	45 47.0	00.6			
18	32 50.5		85 05.6	S20 04.4	94 03.1	S21 47.6	172 11.6	S14 31.1	60 49.2	S13 00.5	Kochab	137 19.7	N74 10.4
19	47 53.0		100 04.8	03.7	109 03.5	47.2	187 13.9	31.1	75 51.4	00.4	Markab	13 53.0	N15 10.5
20	62 55.4		115 04.0	03.0	124 03.9	46.9	202 16.1	31.2	90 53.6	00.3	Menkar	314 30.1	N 4 04.0
21	77 57.9		130 03.2	02.3	139 04.3	46.5	217 18.3	31.3	105 55.8	00.2	Menkent	148 24.7	S36 20.4
22	93 00.4		145 02.4	01.6	154 04.7	46.1	232 20.5	31.3	120 58.0	00.1	Miaplacidus	221 41.8	S69 41.6
23	108 02.8		160 01.6	00.9	169 05.2	45.8	247 22.7	31.4	136 00.1	13 00.0			
24 00	123 05.3		175 00.8	S20 00.2	184 05.6	S21 45.4	262 24.9	S14 31.5	151 02.3	S12 59.9	Mirfak	309 01.0	N49 50.6
01	138 07.8		190 00.1	19 59.5	199 06.0	45.1	277 27.1	31.6	166 04.5	59.8	Nunki	76 16.6	S26 18.2
02	153 10.2		204 59.3	58.8	214 06.4	44.7	292 29.3	31.6	181 06.7	59.7	Peacock	53 42.6	S56 45.2
03	168 12.7		219 58.5	58.1	229 06.8	44.3	307 31.5	31.7	196 08.9	59.6	Pollux	243 45.0	N28 02.3
04	183 15.2		234 57.7	57.3	244 07.2	44.0	322 33.7	31.8	211 11.1	59.5	Procyon	245 14.5	N 5 14.2
05	198 17.6		249 56.9	56.6	259 07.6	43.6	337 35.9	31.8	226 13.3	59.4			
06	213 20.1		264 56.1	S19 55.9	274 08.0	S21 43.3	352 38.1	S14 31.9	241 15.5	S12 59.3	Rasalhague	96 20.2	N12 33.8
07	228 22.5		279 55.3	55.2	289 08.5	42.9	7 40.3	32.0	256 17.7	59.2	Regulus	207 58.6	N11 59.5
08	243 25.0		294 54.5	54.5	304 08.9	42.5	22 42.6	32.1	271 19.9	59.1	Rigel	281 25.7	S 8 12.7
L 09	258 27.5		309 53.7	53.8	319 09.3	42.2	37 44.8	32.1	286 22.1	59.0	Rigil Kent.	140 11.6	S60 48.4
U 10	273 29.9		324 52.9	53.0	334 09.7	41.8	52 47.0	32.2	301 24.2	58.9	Sabik	102 29.4	S15 43.0
N 11	288 32.4		339 52.2	52.3	349 10.1	41.4	67 49.2	32.3	316 26.4	58.8			
E 12	303 34.9		354 51.4	S19 51.6	4 10.5	S21 41.1	82 51.4	S14 32.3	331 28.6	S12 58.7	Schedar	349 57.3	N56 30.6
S 13	318 37.3		9 50.6	50.9	19 10.9	40.7	97 53.6	32.4	346 30.8	58.6	Shaula	96 41.9	S37 05.9
14	333 39.8		24 49.8	50.2	34 11.4	40.3	112 55.8	32.5	1 33.0	58.5	Sirius	258 46.1	S16 42.7
15	348 42.3		39 49.0	49.4	49 11.8	40.0	127 58.0	32.5	16 35.2	58.4	Spica	158 46.5	S11 07.9
16	3 44.7		54 48.2	48.7	64 12.2	39.6	143 00.2	32.6	31 37.4	58.3	Suhail	223 02.7	S43 24.6
17	18 47.2		69 47.5	48.0	79 12.6	39.2	158 02.4	32.7	46 39.6	58.2			
18	33 49.7		84 46.7	S19 47.3	94 13.0	S21 38.9	173 04.7	S14 32.8	61 41.8	S12 58.1	Vega	80 49.2	N38 46.6
19	48 52.1		99 45.9	46.5	109 13.4	38.5	188 06.9	32.8	76 44.0	58.0	Zuben'ubi	137 21.5	S16 01.0
20	63 54.6		114 45.1	45.8	124 13.8	38.1	203 09.1	32.9	91 46.2	57.9			
21	78 57.0		129 44.3	45.1	139 14.3	37.8	218 11.3	33.0	106 48.3	57.8			
22	93 59.5		144 43.5	44.3	154 14.7	37.4	233 13.5	33.0	121 50.5	57.7	Venus	53 13.8	12 19
23	109 02.0		159 42.8	43.6	169 15.1	37.0	248 15.7	33.1	136 52.7	57.6	Marte	61 49.5	11 44
											Júpiter	139 25.8	6 33
											Saturno	28 03.6	13 57
Pas. Mer.	15 49.0		v -0.8	d 0.7	v 0.4	d 0.4	v 2.2	d 0.1	v 2.2	d 0.1			

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.			Civil		22	23	24	25
d h	° / ' "	° / ' "	° / ' "	° / ' "	° / ' "	° / ' "	° / ' "	° / ' "	° / ' "	h m	h m	h m	h m	h m	h m	h m	h m	
22 00	177 08.1	S19 46.4	68 26.7	11.6	N19 34.5	4.7	54.9	72	07 40	09 19	■	□	□	□	□	□	□	
01	192 07.9	45.9	82 57.3	11.5	19 39.2	4.5	54.9	70	07 28	08 53	10 42	□	□	□	□	□	10 35	
02	207 07.8	45.3	97 27.8	11.5	19 43.7	4.5	54.9	68	07 18	08 33	09 57	09 24	09 40	10 34	11 28	12 09	12 48	
03	222 07.6	44.7	111 58.3	11.4	19 48.2	4.3	55.0	66	07 10	08 17	09 28	10 04	10 31	11 06	12 01	13 15	13 52	
04	237 07.4	44.2	126 28.7	11.4	19 52.5	4.3	55.0	64	07 03	08 04	09 06	10 31	11 06	12 01	13 15	13 52	14 29	
05	252 07.2	43.6	140 59.1	11.4	19 56.8	4.2	55.0	62	06 57	07 53	08 48	10 52	11 30	12 25	13 35	14 47	15 05	
06	267 07.1	S19 43.0	155 29.5	11.2	N20 01.0	4.1	55.0	60	06 51	07 44	08 34	11 10	11 50	12 44	13 52	14 29	15 19	
07	282 06.9	42.5	169 59.7	11.3	20 05.1	4.0	55.0	58	06 46	07 35	08 22	11 24	12 06	13 00	14 06	14 19	14 39	
08	297 06.7	41.9	184 30.0	11.1	20 09.1	3.9	55.1	56	06 42	07 28	08 11	11 36	12 19	13 13	14 19	14 39	14 47	
S 09	312 06.6	41.3	199 00.1	11.1	20 13.0	3.8	55.1	54	06 37	07 21	08 01	11 47	12 31	13 25	14 29	14 39	14 47	
A 10	327 06.4	40.8	213 30.2	11.1	20 16.8	3.7	55.1	52	06 33	07 15	07 53	11 57	12 41	13 35	14 39	14 47	15 05	
B 11	342 06.2	40.2	228 00.3	11.0	20 20.5	3.6	55.1	50	06 30	07 09	07 45	12 06	12 51	13 44	14 47	15 05	15 19	
A 12	357 06.1	S19 39.6	242 30.3	10.9	N20 24.1	3.6	55.2	45	06 21	06 57	07 29	12 24	13 10	14 04	15 05	15 19	15 32	
D 13	12 05.9	39.0	257 00.2	10.9	20 27.7	3.4	55.2	N 40	06 14	06 47	07 16	12 39	13 26	14 20	15 19	15 32	15 42	
O 14	27 05.7	38.5	271 30.1	10.9	20 31.1	3.3	55.2	35	06 07	06 38	07 05	12 52	13 39	14 33	15 32	15 42	16 01	
15	42 05.6	37.9	286 00.0	10.8	20 34.4	3.2	55.2	30	06 00	06 29	06 55	13 03	13 51	14 45	15 42	16 01	16 17	
16	57 05.4	37.3	300 29.8	10.7	20 37.6	3.2	55.2	20	05 47	06 14	06 38	13 22	14 11	15 05	16 01	16 17	16 32	
17	72 05.2	36.7	314 59.5	10.7	20 40.8	3.0	55.3	N 10	05 35	06 00	06 23	13 39	14 29	15 22	16 17	16 32	16 47	
18	87 05.1	S19 36.2	329 29.2	10.6	N20 43.8	2.9	55.3	0	05 21	05 46	06 08	13 54	14 45	15 38	16 32	16 47	17 03	
19	102 04.9	35.6	343 58.8	10.6	20 46.7	2.8	55.3	S 10	05 05	05 31	05 54	14 10	15 02	15 54	16 47	17 03	17 21	
20	117 04.8	35.0	358 28.4	10.5	20 49.5	2.8	55.3	20	04 46	05 15	05 38	14 27	15 19	16 12	17 03	17 21	17 32	
21	132 04.6	34.4	12 57.9	10.5	20 52.3	2.6	55.4	30	04 22	04 54	05 20	14 46	15 40	16 31	17 21	17 32	17 44	
22	147 04.4	33.8	27 27.4	10.4	20 54.9	2.5	55.4	35	04 07	04 42	05 10	14 57	15 51	16 43	17 32	17 44	17 58	
23	162 04.3	33.3	41 56.8	10.4	20 57.4	2.4	55.4	40	03 48	04 27	04 58	15 10	16 05	16 56	17 44	17 58	18 16	
23 00	177 04.1	S19 32.7	56 26.2	10.3	N20 59.8	2.3	55.4	S 50	02 52	03 46	04 26	15 45	16 41	17 32	18 16	18 24	18 33	
01	192 03.9	32.1	70 55.5	10.3	21 02.1	2.2	55.5	52	02 35	03 34	04 17	15 54	16 50	17 41	18 24	18 33	18 43	
02	207 03.8	31.5	85 24.8	10.2	21 04.3	2.1	55.5	54	02 13	03 22	04 08	16 04	17 01	17 51	18 33	18 43	18 55	
03	222 03.6	30.9	99 54.0	10.2	21 06.4	2.0	55.5	56	01 44	03 06	03 58	16 15	17 13	18 03	18 43	18 55	19 08	
04	237 03.5	30.4	114 23.2	10.1	21 08.4	1.9	55.5	58	00 53	02 48	03 45	16 28	17 27	18 16	18 55	19 08	19 08	
05	252 03.3	29.8	128 52.3	10.1	21 10.3	1.8	55.6	S 60	///	02 25	03 31	16 44	17 43	18 32	19 08	19 08	19 08	
06	267 03.1	S19 29.2	143 21.4	10.0	N21 12.1	1.7	55.6											
07	282 03.0	28.6	157 50.4	10.0	21 13.8	1.5	55.6	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	22	23	24	25			
08	297 02.8	28.0	172 19.4	9.9	21 15.3	1.5	55.6											
09	312 02.7	27.4	186 48.3	9.9	21 16.8	1.3	55.7											
10	327 02.5	26.9	201 17.2	9.8	21 18.1	1.3	55.7											
11	342 02.3	26.3	215 46.0	9.8	21 19.4	1.1	55.7											
12	357 02.2	S19 25.7	230 14.8	9.8	N21 20.5	1.0	55.8											
13	12 02.0	25.1	244 43.6	9.7	21 21.5	0.9	55.8											
14	27 01.9	24.5	259 12.3	9.7	21 22.4	0.8	55.8											
15	42 01.7	23.9	273 41.0	9.6	21 23.2	0.7	55.8											
16	57 01.6	23.3	288 09.6	9.6	21 23.9	0.6	55.9											
17	72 01.4	22.7	302 38.2	9.5	21 24.5	0.4	55.9											
18	87 01.2	S19 22.1	317 06.7	9.5	N21 24.9	0.4	55.9											
19	102 01.1	21.5	331 35.2	9.5	21 25.3	0.2	56.0											
20	117 00.9	21.0	346 03.7	9.4	21 25.5	0.1	56.0											
21	132 00.8	20.4	0 32.1	9.4	21 25.6	0.0	56.0											
22	147 00.6	19.8	15 00.5	9.4	21 25.6	0.1	56.0											
23	162 00.5	19.2	29 28.9	9.3	21 25.5	0.2	56.1											
24 00	177 00.3	S19 18.6	43 57.2	9.3	N21 25.3	0.4	56.1											
01	192 00.2	18.0	58 25.5	9.2	21 24.9	0.4	56.1											
02	207 00.0	17.4	72 53.7	9.2	21 24.5	0.6	56.2											
03	221 59.8	16.8	87 21.9	9.2	21 23.9	0.7	56.2											
04	236 59.7	16.2	101 50.1	9.1	21 23.2	0.8	56.2											
05	251 59.5	15.6	116 18.2	9.1	21 22.4	0.9	56.2											
06	266 59.4	S19 15.0	130 46.3	9.1	N21 21.5	1.1	56.3											
07	281 59.2	14.4	145 14.4	9.1	21 20.4	1.1	56.3											
08	296 59.1	13.8	159 42.5	9.0	21 19.3	1.3	56.3											
09	311 58.9	13.2	174 10.5	9.0	21 18.0	1.4	56.4											
10	326 58.8	12.6	188 38.5	8.9	21 16.6	1.5	56.4											
11	341 58.6	12.0	203 06.4	8.9	21 15.1	1.6	56.4											
12	356 58.5	S19 11.4	217 34.3	9.0	N21 13.5	1.8	56.5											
13	11 58.3	10.8	232 02.3	8.8	21 11.7	1.9	56.5											
14	26 58.2	10.2	246 30.1	8.9	21 09.8	1.9	56.5											
15	41 58.0	9.6	260 58.0	8.8	21 07.9	2.1	56.5											
16	56 57.9	9.0	275 25.8	8.8	21 05.8	2.3	56.6											
17	71 57.7	8.4	289 53.6	8.8	21 03.5	2.3	56.6											
18	86 57.6	S19 07.8	304 21.4	8.8	N21 01.2	2.5	56.6											
19	101 57.4	07.2	318 49.2	8.7	20 58.7	2.6	56.7											
20	116 57.3	06.5	333 16.9	8.7	20 56.1	2.7	56.7											
21	131 57.1	05.9																

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.0			SATURNO +0.9			ESTRELLAS										
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.	Nombre	A. H. S.	Dec.								
M A R T E S	25 00	124 04.4	174 42.0	S19 42.9	184 15.5	S21 36.6	263 17.9	S14 33.2	151 54.9	S12 57.5	Acamar	315 29.2	S40 20.0													
	01	139 06.9	189 41.2	42.1	199 15.9	36.3	278 20.1	33.2	166 57.1	57.4	Achernar	335 37.6	S57 16.3													
	02	154 09.4	204 40.4	41.4	214 16.3	35.9	293 22.4	33.3	181 59.3	57.3	Acrux	173 25.2	S63 03.9													
	03	169 11.8	219 39.6	40.7	229 16.8	35.5	308 24.6	33.4	197 01.5	57.2	Adhara	255 23.5	S28 58.1													
	04	184 14.3	234 38.9	39.9	244 17.2	35.2	323 26.8	33.4	212 03.7	57.1	Aldebaran	291 05.8	N16 29.8													
	05	199 16.8	249 38.1	39.2	259 17.6	34.8	338 29.0	33.5	227 05.9	57.0																
	06	214 19.2	264 37.3	S19 38.5	274 18.0	S21 34.4	353 31.2	S14 33.6	242 08.1	S12 56.9	Alioth	166 33.1	N55 59.1													
	07	229 21.7	279 36.5	37.7	289 18.4	34.0	8 33.4	33.7	257 10.2	56.8	Alkaid	153 10.2	N49 20.2													
	08	244 24.1	294 35.8	37.0	304 18.8	33.7	23 35.6	33.7	272 12.4	56.7	Al Na'ir	28 02.3	S46 59.4													
	09	259 26.6	309 35.0	36.2	319 19.3	33.3	38 37.9	33.8	287 14.6	56.6	Alnilam	276 00.8	S 1 12.5													
	10	274 29.1	324 34.2	35.5	334 19.7	32.9	53 40.1	33.9	302 16.8	56.5	Alphard	218 10.0	S 8 38.2													
	11	289 31.5	339 33.4	34.7	349 20.1	32.5	68 42.3	33.9	317 19.0	56.4																
	12	304 34.0	354 32.7	S19 34.0	4 20.5	S21 32.2	83 44.5	S14 34.0	332 21.2	S12 56.3	Alphecca	126 23.4	N26 43.9													
	13	319 36.5	9 31.9	33.3	19 20.9	31.8	98 46.7	34.1	347 23.4	56.2	Alpheratz	357 58.7	N29 03.6													
	14	334 38.9	24 31.1	32.5	34 21.3	31.4	113 48.9	34.1	2 25.6	56.1	Altair	62 22.7	N 8 51.2													
	15	349 41.4	39 30.3	31.8	49 21.8	31.0	128 51.2	34.2	17 27.8	56.0	Ankaa	353 30.2	S42 20.5													
	16	4 43.9	54 29.6	31.0	64 22.2	30.7	143 53.4	34.3	32-29.9	55.9	Antares	112 44.2	S26 25.1													
	17	19 46.3	69 28.8	30.3	79 22.6	30.3	158 55.6	34.3	47 32.1	55.8																
	18	34 48.8	84 28.0	S19 29.5	94 23.0	S21 29.9	173 57.8	S14 34.4	62 34.3	S12 55.7	Arcturus	146 08.9	N19 12.6													
	19	49 51.3	99 27.3	28.8	109 23.4	29.5	189 00.0	34.5	77 36.5	55.6	Atria	107 59.5	S69 00.8													
	20	64 53.7	114 26.5	28.0	124 23.9	29.2	204 02.2	34.5	92 38.7	55.5	Avior	234 23.3	S59 29.6													
	21	79 56.2	129 25.7	27.2	139 24.3	28.8	219 04.5	34.6	107 40.9	55.4	Bellatrix	278 47.3	N 6 20.6													
	22	94 58.6	144 25.0	26.5	154 24.7	28.4	234 06.7	34.7	122 43.1	55.3	Betelgeuse	271 16.7	N 7 24.2													
23	110 01.1	159 24.2	25.7	169 25.1	28.0	249 08.9	34.7	137 45.3	55.2	*																
M I E R C O L E S	26 00	125 03.6	174 23.4	S19 25.0	184 25.5	S21 27.6	264 11.1	S14 34.8	152 47.5	S12 55.1	Canopus	264 02.1	S52 41.8													
	01	140 06.0	189 22.6	24.2	199 25.9	27.3	279 13.3	34.9	167 49.6	55.0	Capella	280 55.5	N45 59.6													
	02	155 08.5	204 21.9	23.5	214 26.4	26.9	294 15.6	34.9	182 51.8	54.9	Deneb	49 41.8	N45 15.6													
	03	170 11.0	219 21.1	22.7	229 26.8	26.5	309 17.8	35.0	197 54.0	54.8	Denebola	182 48.2	N14 36.1													
	04	185 13.4	234 20.4	21.9	244 27.2	26.1	324 20.0	35.1	212 56.2	54.7	Diphda	349 10.5	S18 01.2													
	05	200 15.9	249 19.6	21.2	259 27.6	25.7	339 22.2	35.1	227 58.4	54.6																
	06	215 18.4	264 18.8	S19 20.4	274 28.0	S21 25.3	354 24.4	S14 35.2	243 00.6	S12 54.5	Dubhe	194 08.8	N61 46.6													
	07	230 20.8	279 18.1	19.7	289 28.5	25.0	9 26.7	35.3	258 02.8	54.4	Elnath	278 30.6	N28 36.1													
	08	245 23.3	294 17.3	18.9	304 28.9	24.6	24 28.9	35.3	273 05.0	54.3	Eltanin	90 53.3	N51 29.2													
	09	260 25.8	309 16.5	18.1	319 29.3	24.2	39 31.1	35.4	288 07.2	54.2	Enif	34 01.6	N 9 50.9													
	10	275 28.2	324 15.8	17.4	334 29.7	23.8	54 33.3	35.5	303 09.3	54.1	Fomalhaut	15 40.2	S29 39.3													
	11	290 30.7	339 15.0	16.6	349 30.1	23.4	69 35.6	35.5	318 11.5	54.0																
	12	305 33.1	354 14.2	S19 15.8	4 30.6	S21 23.0	84 37.8	S14 35.6	333 13.7	S12 53.9	Gacrux	172 16.8	S57 04.7													
	13	320 35.6	9 13.5	15.1	19 31.0	22.6	99 40.0	35.7	348 15.9	53.8	Gienah	176 07.0	S17 30.6													
	14	335 38.1	24 12.7	14.3	34 31.4	22.3	114 42.2	35.7	3 18.1	53.7	Hadar	149 08.5	S60 20.5													
	15	350 40.5	39 12.0	13.5	49 31.8	21.9	129 44.4	35.8	18 20.3	53.6	Hamal	328 17.1	N23 26.2													
	16	5 43.0	54 11.2	12.7	64 32.2	21.5	144 46.7	35.9	33 22.5	53.5	Kaus Aust.	84 03.4	S34 23.2													
	17	20 45.5	69 10.4	12.0	79 32.7	21.1	159 48.9	35.9	48 24.7	53.4																
	18	35 47.9	84 09.7	S19 11.2	94 33.1	S21 20.7	174 51.1	S14 36.0	63 26.9	S12 53.3	Kochab	137 19.6	N74 10.4													
	19	50 50.4	99 08.9	10.4	109 33.5	20.3	189 53.3	36.1	78 29.0	53.2	Markab	13 53.0	N15 10.5													
	20	65 52.9	114 08.2	09.6	124 33.9	19.9	204 55.6	36.1	93 31.2	53.1	Menkar	314 30.1	N 4 04.0													
	21	80 55.3	129 07.4	08.9	139 34.4	19.5	219 57.8	36.2	108 33.4	53.0	Menkent	148 24.7	S36 20.4													
	22	95 57.8	144 06.7	08.1	154 34.8	19.2	235 00.0	36.3	123 35.6	52.9	Miaplacidus	221 41.7	S69 41.6													
23	111 00.2	159 05.9	07.3	169 35.2	18.8	250 02.2	36.3	138 37.8	52.8																	
J U E S	27 00	126 02.7	174 05.2	S19 06.5	184 35.6	S21 18.4	265 04.5	S14 36.4	153 40.0	S12 52.7	Mirfak	309 01.0	N49 50.6													
	01	141 05.2	189 04.4	05.7	199 36.0	18.0	280 06.7	36.5	168 42.2	52.6	Nunki	76 16.6	S26 18.2													
	02	156 07.6	204 03.6	05.0	214 36.5	17.6	295 08.9	36.5	183 44.4	52.5	Peacock	53 42.6	S56 45.2													
	03	171 10.1	219 02.9	04.2	229 36.9	17.2	310 11.1	36.6	198 46.5	52.4	Pollux	243 45.0	N28 02.3													
	04	186 12.6	234 02.1	03.4	244 37.3	16.8	325 13.4	36.7	213 48.7	52.3	Procyon	245 14.5	N 5 14.2													
	05	201 15.0	249 01.4	02.6	259 37.7	16.4	340 15.6	36.7	228 50.9	52.2																
	06	216 17.5	264 00.6	S19 01.8	274 38.2	S21 16.0	355 17.8	S14 36.8	243 53.1	S12 52.1	Rasalhague	96 20.1	N12 33.8													
	07	231 20.0	279 59.9	01.0	289 38.6	15.6	10 20.1	36.9	258 55.3	52.0	Regulus	207 58.6	N11 59.5													
	08	246 22.4	293 59.1	19 00.2	304 39.0	15.2	25 22.3	36.9	273 57.5	51.9	Rigel	281 25.7	S 8 12.7													
	09	261 24.9	308 58.4	18 59.5	319 39.4	14.8	40 24.5	37.0	288 59.7	51.8	Rigil Kent.	140 11.5	S60 48.4													
	10	276 27.4	323 57.6	58.7	334 39.8	14.4	55 26.7	37.0	304 01.9	51.7	Sabik	102 29.4	S15 43.0													
	11	291 29.8	338 56.9	57.9	349 40.3	14.1	70 29.0	37.1	319 04.0	51.6																
	12	306 32.3	353 56.1	S18 57.1	4 40.7	S21 13.7	85 31.2	S14 37.2	334 06.2	S12 51.5	Schedar	349 57.3	N56 30.6													
	13	321 34.7	8 55.4	56.3	19 41.1	13.3	100 33.4	37.2	349 08.4	51.4	Shaula	96 41.9	S37 05.9													
	14	336 37.2	23 54.6	55.5	34 41.5	12.9	115 35.7	37.3	4 10.6	51.2	Sirius	258 46.1	S16 42.7													
	15	351 39.7	38 53.9	54.7	49 42.0	12.5	130 37.9	37.4	19 12.8	51.1	Spica	158 46.5	S11 07.9													
	16	6 42.1	53 53.2	53.9	64 42.4	12.1	145 40.1	37.4	34 15.0	51.0	Suhail	223 02.6	S43 24.6													
	17	21 44.6	68 52.4	53.1	79 42.8	11.7	160 42.3	37.5	49 17.2	50.9																
	18	36 47.1	83 51.7	S18 52.3	94 43.2	S21 11.3	175 44.6	S14 37.6	64 19.3	S12 50.8	Vega	80 49.1	N38 46.6													
	19	51 49.5	98 50.9	51.5	109 43.7	10.9	190 46.8	37.6	79 21.5	50.7	Zuben'ubi	137 21.5	S16 01.1													
	20	66 52.0	113 50.2	50.7	124 44.1	10.5	205 49.0	37.7	94 23.7	50.6																
	21	81 54.5	128 49.4	49.9	139 44.5	10.1	220 51.3	37.7	109 25.9	50.5																
	22	96 56.9	143 48.7	49.1	154 44.9	09.7	235 53.5	37.8	124 28.1	50.4																
23	111 59.4	158 47.9	48.3	169 45.4	09.3	250 55.7	37.9	139 30.3	50.3																	
Pas. Mer. 15 37.2															v -0.8 d 0.8			v 0.4 d 0.4			v 2.2 d 0.1			v 2.2 d 0.1		
															A. H. S.			Pas. Mer.								
															o / h m			o / h m								
															Venus			49 19.8 12 23								
															Marte			59 22.0 11 42								
															Júpiter			139 07.5 6 22								
															Saturno			27 43.9 13 47								

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna							
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.	Civil		25	26	27	28				
	o	'	o	'	o	'	o	'												
M A R T E S	25 00	176	56.7	S19	04.1	31	07.7	8.6	N20	44.6	3.2	56.8	07 31	09 06	11 44	□	12 14	15 00	17 14	
	01	191	56.6		03.5	45	35.3	8.7	20	41.4	3.3	56.8	07 20	08 43	10 22	10 35	13 21	15 28	17 28	
	02	206	56.4		02.9	60	03.0	8.6	20	38.1	3.4	56.9	07 11	08 25	09 44	12 09	13 57	15 49	17 40	
	03	221	56.3	..	02.3	74	30.6	8.6	20	34.7	3.6	56.9	07 04	08 10	09 18	12 48	14 23	16 05	17 49	
	04	236	56.1		01.7	88	58.2	8.6	20	31.1	3.7	56.9	06 58	07 58	08 58	13 15	14 43	16 18	17 56	
	05	251	56.0		01.0	103	25.8	8.6	20	27.4	3.7	57.0	06 52	07 48	08 41	13 35	14 59	16 29	18 03	
	06	266	55.8	S19	00.4	117	53.4	8.5	N20	23.7	3.9	57.0	06 47	07 39	08 28	13 52	15 12	16 39	18 09	
	07	281	55.7	18	59.8	132	20.9	8.6	20	19.8	4.1	57.0	06 42	07 31	08 16	14 06	15 23	16 47	18 14	
	08	296	55.6		59.2	146	48.5	8.6	20	15.7	4.1	57.1	06 38	07 24	08 06	14 19	15 33	16 54	18 18	
	09	311	55.4	..	58.6	161	16.1	8.5	20	11.6	4.3	57.1	06 34	07 17	07 57	14 29	15 42	17 01	18 22	
	10	326	55.3		58.0	175	43.6	8.5	20	07.3	4.4	57.1	06 30	07 12	07 49	14 39	15 50	17 06	18 26	
	11	341	55.1		57.4	190	11.1	8.6	20	02.9	4.5	57.2	06 27	07 06	07 42	14 47	15 57	17 12	18 29	
	12	356	55.0	S18	56.7	204	38.7	8.5	N19	58.4	4.6	57.2	06 19	06 55	07 27	15 05	16 12	17 23	18 36	
	13	11	54.8		56.1	219	06.2	8.5	19	53.8	4.7	57.2	06 12	06 45	07 14	15 19	16 24	17 32	18 42	
	14	26	54.7		55.5	233	33.7	8.5	19	49.1	4.9	57.2	06 06	06 36	07 03	15 32	16 34	17 40	18 47	
	15	41	54.6	..	54.9	248	01.2	8.5	19	44.2	5.0	57.3	05 59	06 28	06 54	15 42	16 44	17 47	18 51	
	16	56	54.4		54.3	262	28.7	8.5	19	39.2	5.1	57.3	05 47	06 14	06 37	16 01	16 59	17 59	18 59	
	17	71	54.3		53.6	276	56.2	8.5	19	34.1	5.2	57.3	05 35	06 01	06 23	16 17	17 13	18 09	19 05	
	18	86	54.1	S18	53.0	291	23.7	8.5	N19	28.9	5.3	57.4	05 22	05 47	06 09	16 32	17 26	18 19	19 12	
	19	101	54.0		52.4	305	51.2	8.5	19	23.6	5.4	57.4	05 07	05 33	05 55	16 47	17 38	18 29	19 18	
	20	116	53.9		51.8	320	18.7	8.5	19	18.2	5.6	57.4	04 49	05 17	05 40	17 03	17 52	18 39	19 24	
	21	131	53.7	..	51.2	334	46.2	8.5	19	12.6	5.7	57.5	04 26	04 57	05 23	17 21	18 07	18 51	19 32	
	22	146	53.6		50.5	349	13.7	8.5	19	06.9	5.8	57.5	04 11	04 45	05 13	17 32	18 16	18 58	19 36	
23	161	53.4		49.9	3	41.2	8.5	19	01.1	5.9	57.5	03 53	04 31	05 01	17 44	18 27	19 05	19 41		
24												03 30	04 14	04 48	17 58	18 39	19 14	19 47		
M I E R C O L E S	26 00	176	53.3	S18	49.3	18	08.7	8.5	N18	55.2	6.0	57.6	S 50	02 59	03 52	04 31	18 16	18 53	19 25	19 54
	01	191	53.2		48.7	32	36.2	8.5	18	49.2	6.2	57.6	52	02 43	03 41	04 23	18 24	19 00	19 30	19 57
	02	206	53.0		48.0	47	03.7	8.5	18	43.0	6.2	57.6	54	02 23	03 28	04 14	18 33	19 07	19 36	20 00
	03	221	52.9	..	47.4	61	31.2	8.6	18	36.8	6.4	57.6	56	01 57	03 14	04 04	18 43	19 16	19 42	20 04
	04	236	52.8		46.8	75	58.8	8.5	18	30.4	6.5	57.7	58	01 18	02 57	03 53	18 55	19 25	19 49	20 08
	05	251	52.6		46.2	90	26.3	8.5	18	23.9	6.6	57.7	S 60	///	02 36	03 39	19 08	19 36	19 56	20 13
	06	266	52.5	S18	45.5	104	53.8	8.6	N18	17.3	6.7	57.7								
	07	281	52.4		44.9	119	21.4	8.5	18	10.6	6.8	57.8								
	08	296	52.2		44.3	133	48.9	8.6	18	03.8	6.9	57.8								
	09	311	52.1	..	43.6	148	16.5	8.5	17	56.9	7.1	57.8								
	10	326	52.0		43.0	162	44.0	8.6	17	49.8	7.1	57.9								
11	341	51.8		42.4	177	11.6	8.6	17	42.7	7.3	57.9									
12	356	51.7	S18	41.8	191	39.2	8.6	N17	35.4	7.3	57.9									
13	11	51.6		41.1	206	06.8	8.6	17	28.1	7.5	57.9									
14	26	51.4		40.5	220	34.4	8.6	17	20.6	7.6	58.0									
15	41	51.3	..	39.9	235	02.0	8.6	17	13.0	7.7	58.0									
16	56	51.2		39.2	249	29.6	8.7	17	05.3	7.8	58.0									
17	71	51.0		38.6	263	57.3	8.6	16	57.5	7.9	58.1									
18	86	50.9	S18	38.0	278	24.9	8.7	N16	49.6	8.0	58.1									
19	101	50.8		37.3	292	52.6	8.7	16	41.6	8.1	58.1									
20	116	50.6		36.7	307	20.3	8.7	16	33.5	8.3	58.1									
21	131	50.5	..	36.0	321	48.0	8.7	16	25.2	8.3	58.2									
22	146	50.4		35.4	336	15.7	8.7	16	16.9	8.4	58.2									
23	161	50.2		34.8	350	43.4	8.8	16	08.5	8.5	58.2									
J U E V E S	27 00	176	50.1	S18	34.1	5	11.2	8.7	N16	00.0	8.7	58.2								
	01	191	50.0		33.5	19	38.9	8.8	15	51.3	8.7	58.3								
	02	206	49.9		32.8	34	06.7	8.8	15	42.6	8.8	58.3								
	03	221	49.7	..	32.2	48	34.5	8.8	15	33.8	8.9	58.3								
	04	236	49.6		31.6	63	02.3	8.9	15	24.9	9.1	58.4								
	05	251	49.5		30.9	77	30.2	8.8	15	15.8	9.1	58.4								
	06	266	49.3	S18	30.3	91	58.0	8.9	N15	06.7	9.2	58.4								
	07	281	49.2		29.6	106	25.9	8.9	14	57.5	9.3	58.4								
	08	296	49.1		29.0	120	53.8	8.9	14	48.2	9.4	58.5								
	09	311	49.0	..	28.4	135	21.7	8.9	14	38.8	9.5	58.5								
	10	326	48.8		27.7	149	49.6	8.9	14	29.3	9.6	58.5								
11	341	48.7		27.1	164	17.5	9.0	14	19.7	9.7	58.5									
12	356	48.6	S18	26.4	178	45.5	9.0	N14	10.0	9.7	58.6									
13	11	48.5		25.8	193	13.5	9.0	14	00.3	9.9	58.6									
14	26	48.3		25.1	207	41.5	9.0	13	50.4	9.9	58.6									
15	41	48.2	..	24.5	222	09.5	9.1	13	40.5	10.1	58.6									
16	56	48.1		23.8	236	37.6	9.0	13	30.4	10.1	58.7									
17	71	48.0		23.2	251	05.6	9.1	13	20.3	10.2	58.7									
18	86	47.8	S18	22.5	265	33.7	9.1	N13	10.1	10.3	58.7									
19	101	47.7		21.9	280	01.8	9.2	12	59.8	10.3	58.7									
20	116	47.6		21.2	294	30.0	9.1	12												

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.0			SATURNO +0.9			ESTRELLAS		
d h	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	Nombre	A. H. S.	Dec.
28 00	127	01.9	S18 47.5	173	47.2	47.5	184	45.8	S21 08.9	265	58.0	S14 37.9	154	32.5	S12 50.2	Acamar	315 29.2	S40 20.0
01	142	04.3	46.7	188	46.5	46.7	199	46.2	08.5	281	00.2	38.0	169	34.7	50.1	Achernar	335 37.6	S57 16.3
02	157	06.8	45.9	203	45.7	45.9	214	46.6	08.1	296	02.4	38.1	184	36.8	50.0	Acrux	173 25.1	S63 03.9
03	172	09.2	45.1	218	45.0	45.1	229	47.1	07.7	311	04.7	38.1	199	39.0	49.9	Adhara	255 23.5	S28 58.1
04	187	11.7	44.3	233	44.2	44.3	244	47.5	07.3	326	06.9	38.2	214	41.2	49.8	Aldebaran	291 05.8	N16 29.8
05	202	14.2	43.5	248	43.5	43.5	259	47.9	06.9	341	09.1	38.3	229	43.4	49.7			
06	217	16.6	S18 42.7	263	42.8	42.7	274	48.3	S21 06.5	356	11.4	S14 38.3	244	45.6	S12 49.6	Alioth	166 33.1	N55 59.1
07	232	19.1	41.9	278	42.0	41.9	289	48.8	06.1	11	13.6	38.4	259	47.8	49.5	Alkaid	153 10.2	N49 20.2
08	247	21.6	41.1	293	41.3	41.1	304	49.2	05.7	26	15.8	38.4	274	50.0	49.4	Al Na'ir	28 02.3	S46 59.4
V 09	262	24.0	40.2	308	40.6	40.2	319	49.6	05.3	41	18.1	38.5	289	52.1	49.3	Alnilam	276 00.8	S 1 12.5
I 10	277	26.5	39.4	323	39.8	39.4	334	50.0	04.9	56	20.3	38.6	304	54.3	49.2	Alphard	218 10.0	S 8 38.2
E 11	292	29.0	38.6	338	39.1	38.6	349	50.5	04.5	71	22.5	38.6	319	56.5	49.1			
R 12	307	31.4	S18 37.8	353	38.3	37.8	4	50.9	S21 04.0	86	24.8	S14 38.7	334	58.7	S12 49.0	Alphecca	126 23.4	N26 43.8
N 13	322	33.9	37.0	8	37.6	37.0	19	51.3	03.6	101	27.0	38.7	350	00.9	48.9	Alpheratz	357 58.7	N29 03.6
E 14	337	36.3	36.2	23	36.9	36.2	34	51.7	03.2	116	29.2	38.8	5	03.1	48.8	Altair	62 22.7	N 8 51.2
S 15	352	38.8	35.4	38	36.1	35.4	49	52.2	02.8	131	31.5	38.9	20	05.3	48.7	Ankaa	353 30.2	S42 20.4
16	7	41.3	34.5	53	35.4	34.5	64	52.6	02.4	146	33.7	38.9	35	07.4	48.6	Antares	112 44.2	S26 25.1
17	22	43.7	33.7	68	34.7	33.7	79	53.0	02.0	161	35.9	39.0	50	09.6	48.5			
18	37	46.2	S18 32.9	83	33.9	32.9	94	53.5	S21 01.6	176	38.2	S14 39.1	65	11.8	S12 48.4	Arcturus	146 08.9	N19 12.5
19	52	48.7	32.1	98	33.2	32.1	109	53.9	01.2	191	40.4	39.1	80	14.0	48.3	Atria	107 59.4	S69 00.8
20	67	51.1	31.3	113	32.5	31.3	124	54.3	00.8	206	42.7	39.2	95	16.2	48.2	Avior	234 23.3	S59 29.6
21	82	53.6	30.4	128	31.7	30.4	139	54.7	00.4	221	44.9	39.2	110	18.4	48.1	Bellatrix	278 47.3	N 6 20.6
22	97	56.1	29.6	143	31.0	29.6	154	55.2	21 00.0	236	47.1	39.3	125	20.6	48.0	Betelgeuse	271 16.7	N 7 24.2
23	112	58.5	28.8	158	30.3	28.8	169	55.6	20 59.6	251	49.4	39.4	140	22.7	47.9			
29 00	128	01.0	S18 28.0	173	29.6	28.0	184	56.0	S20 59.2	266	51.6	S14 39.4	155	24.9	S12 47.8	Canopus	264 02.1	S52 41.8
01	143	03.5	27.1	188	28.8	27.1	199	56.4	58.7	281	53.9	39.5	170	27.1	47.7	Capella	280 55.5	N45 59.6
02	158	05.9	26.3	203	28.1	26.3	214	56.9	58.3	296	56.1	39.5	185	29.3	47.6	Deneb	49 41.8	N45 15.6
03	173	08.4	25.5	218	27.4	25.5	229	57.3	57.9	311	58.3	39.6	200	31.5	47.5	Denebola	182 48.2	N14 36.0
04	188	10.8	24.7	233	26.7	24.7	244	57.7	57.5	327	00.6	39.7	215	33.7	47.4	Diphda	349 10.5	S18 01.2
05	203	13.3	23.8	248	25.9	23.8	259	58.2	57.1	342	02.8	39.7	230	35.9	47.3			
06	218	15.8	S18 23.0	263	25.2	23.0	274	58.6	S20 56.7	357	05.0	S14 39.8	245	38.0	S12 47.2	Dubhe	194 08.8	N61 46.6
07	233	18.2	22.2	278	24.5	22.2	289	59.0	56.3	12	07.3	39.8	260	40.2	47.1	Elnath	278 30.7	N28 36.1
08	248	20.7	21.3	293	23.7	21.3	304	59.4	55.9	27	09.5	39.9	275	42.4	47.0	Eltanin	90 53.3	N51 29.2
S 09	263	23.2	20.5	308	23.0	20.5	319	59.9	55.4	42	11.8	40.0	290	44.6	46.9	Enif	34 01.6	N 9 50.9
A 10	278	25.6	19.7	323	22.3	19.7	335	00.3	55.0	57	14.0	40.0	305	46.8	46.8	Fomalhaut	15 40.2	S29 39.3
B 11	293	28.1	18.8	338	21.6	18.8	350	00.7	54.6	72	16.3	40.1	320	49.0	46.7			
A 12	308	30.6	S18 18.0	353	20.9	18.0	5	01.2	S20 54.2	87	18.5	S14 40.1	335	51.2	S12 46.6	Gacrux	172 16.8	S57 04.7
D 13	323	33.0	17.2	8	20.1	17.2	20	01.6	53.8	102	20.7	40.2	350	53.3	46.5	Gienah	176 07.0	S17 30.6
O 14	338	35.5	16.3	23	19.4	16.3	35	02.0	53.4	117	23.0	40.3	5	55.5	46.4	Hadar	149 08.4	S60 20.5
15	353	38.0	15.5	38	18.7	15.5	50	02.5	53.0	132	25.2	40.3	20	57.7	46.3	Hamal	328 17.1	N23 26.2
16	8	40.4	14.6	53	18.0	14.6	65	02.9	52.5	147	27.5	40.4	35	59.9	46.1	Kaus Aust.	84 03.3	S34 23.2
17	23	42.9	13.8	68	17.3	13.8	80	03.3	52.1	162	29.7	40.4	51	02.1	46.0			
18	38	45.3	S18 13.0	83	16.5	13.0	95	03.7	S20 51.7	177	32.0	S14 40.5	66	04.3	S12 45.9	Kochab	137 19.6	N74 10.4
19	53	47.8	12.1	98	15.8	12.1	110	04.2	51.3	192	34.2	40.6	81	06.4	45.8	Markab	13 53.0	N15 10.5
20	68	50.3	11.3	113	15.1	11.3	125	04.6	50.9	207	36.4	40.6	96	08.6	45.7	Menkar	314 30.1	N 4 04.0
21	83	52.7	10.4	128	14.4	10.4	140	05.0	50.5	222	38.7	40.7	111	10.8	45.6	Menkent	148 24.6	S36 20.4
22	98	55.2	09.6	143	13.7	09.6	155	05.5	50.0	237	40.9	40.7	126	13.0	45.5	Miaplacidus	221 41.7	S69 41.7
23	113	57.7	08.7	158	12.9	08.7	170	05.9	49.6	252	43.2	40.8	141	15.2	45.4			
30 00	129	00.1	S18 07.9	173	12.2	07.9	185	06.3	S20 49.2	267	45.4	S14 40.9	156	17.4	S12 45.3	Mirfak	309 01.0	N49 50.6
01	144	02.6	07.0	188	11.5	07.0	200	06.8	48.8	282	47.7	40.9	171	19.6	45.2	Nunki	76 16.6	S26 18.2
02	159	05.1	06.2	203	10.8	06.2	215	07.2	48.4	297	49.9	41.0	186	21.7	45.1	Peacock	53 42.6	S56 45.2
03	174	07.5	05.3	218	10.1	05.3	230	07.6	47.9	312	52.2	41.0	201	23.9	45.0	Pollux	243 45.0	N28 02.3
04	189	10.0	04.5	233	09.4	04.5	245	08.1	47.5	327	54.4	41.1	216	26.1	44.9	Procyon	245 14.5	N 5 14.2
05	204	12.5	03.6	248	08.7	03.6	260	08.5	47.1	342	56.6	41.2	231	28.3	44.8			
06	219	14.9	S18 02.8	263	07.9	02.8	275	08.9	S20 46.7	357	58.9	S14 41.2	246	30.5	S12 44.7	Rasalhague	96 20.1	N12 33.8
07	234	17.4	01.9	278	07.2	01.9	290	09.4	46.2	13	01.1	41.3	261	32.7	44.6	Regulus	207 58.6	N11 59.5
D 08	249	19.8	01.1	293	06.5	01.1	305	09.8	45.8	28	03.4	41.3	276	34.8	44.5	Rigel	281 25.7	S 8 12.7
O 09	264	22.3	00.2	308	05.8	00.2	320	10.2	45.4	43	05.6	41.4	291	37.0	44.4	Rigil Kent.	140 11.5	S60 48.4
M 10	279	24.8	17 59.4	323	05.1	17 59.4	335	10.7	45.0	58	07.9	41.4	306	39.2	44.3	Sabik	102 29.4	S15 43.0
I 11	294	27.2	58.5	338	04.4	58.5	350	11.1	44.6	73	10.1	41.5	321	41.4	44.2			
N 12	309	29.7	S17 57.6	353	03.7	57.6	5	11.5	S20 44.1	88	12.4	S14 41.6	336	43.6	S12 44.1	Schedar	349 57.3	N56 30.6
G 13	324	32.2	56.8	8	03.0	56.8	20	12.0	43.7	103	14.6	41.6	351	45.8	44.0	Shaula	96 41.9	S37 05.9
O 14	339	3																

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	28		29		30		31	
												h	m	h	m	h	m	h	m
28 00	176 47.1	S18 18.6	352 22.7	9.2	N12 07.2	10.8	58.8	N 72	07 21	08 53	10 57	17 14	19 21	21 25	23 32				
01	191 47.0	18.0	6 50.9	9.3	11 56.4	10.8	58.9	N 70	07 11	08 32	10 04	17 28	19 26	21 22	23 19				
02	206 46.9	17.3	21 19.2	9.2	11 45.6	11.0	58.9	68	07 04	08 15	09 31	17 40	19 29	21 19	23 09				
03	221 46.8	16.7	35 47.4	9.3	11 34.6	10.9	58.9	66	06 57	08 02	09 08	17 49	19 33	21 16	23 01				
04	236 46.6	16.0	50 15.7	9.3	11 23.7	11.1	58.9	64	06 51	07 51	08 49	17 56	19 35	21 14	22 54				
05	251 46.5	15.4	64 44.0	9.4	11 12.6	11.2	58.9	62	06 46	07 41	08 34	18 03	19 38	21 13	22 48				
06	266 46.4	S18 14.7	79 12.4	9.3	N11 01.4	11.2	59.0	60	06 42	07 33	08 21	18 09	19 40	21 11	22 43				
07	281 46.3	14.0	93 40.7	9.4	10 50.2	11.2	59.0	N 58	06 38	07 26	08 10	18 14	19 42	21 10	22 38				
08	296 46.2	13.4	108 09.1	9.4	10 39.0	11.4	59.0	56	06 34	07 19	08 01	18 18	19 43	21 09	22 35				
V 09	311 46.0	12.7	122 37.5	9.4	10 27.6	11.4	59.0	54	06 30	07 13	07 52	18 22	19 45	21 08	22 31				
I 10	326 45.9	12.1	137 05.9	9.4	10 16.2	11.5	59.0	52	06 27	07 08	07 45	18 26	19 46	21 07	22 28				
E 11	341 45.8	11.4	151 34.3	9.5	10 04.7	11.5	59.1	50	06 24	07 03	07 38	18 29	19 47	21 06	22 25				
R 12	356 45.7	S18 10.8	166 02.8	9.5	N 9 53.2	11.6	59.1	45	06 17	06 52	07 24	18 36	19 50	21 04	22 19				
N 13	11 45.6	10.1	180 31.3	9.4	9 41.6	11.7	59.1	N 40	06 10	06 43	07 12	18 42	19 52	21 03	22 13				
E 14	26 45.5	09.4	194 59.7	9.6	9 29.9	11.7	59.1	35	06 04	06 34	07 01	18 47	19 54	21 01	22 09				
S 15	41 45.3	08.8	209 28.3	9.5	9 18.2	11.8	59.1	30	05 58	06 27	06 52	18 51	19 55	21 00	22 05				
16	56 45.2	08.1	223 56.8	9.5	9 06.4	11.9	59.2	20	05 47	06 13	06 36	18 59	19 58	20 58	21 58				
17	71 45.1	07.5	238 25.3	9.6	8 54.5	11.9	59.2	N 10	05 35	06 01	06 23	19 05	20 01	20 56	21 52				
18	86 45.0	S18 06.8	252 53.9	9.6	N 8 42.6	11.9	59.2	0	05 23	05 48	06 10	19 12	20 03	20 55	21 47				
19	101 44.9	06.1	267 22.5	9.6	8 30.7	12.0	59.2	S 10	05 08	05 34	05 56	19 18	20 06	20 53	21 41				
20	116 44.8	05.5	281 51.1	9.6	8 18.7	12.1	59.2	20	04 51	05 19	05 42	19 24	20 08	20 52	21 36				
21	131 44.7	04.8	296 19.7	9.6	8 06.6	12.1	59.2	30	04 29	05 00	05 26	19 32	20 11	20 50	21 29				
22	146 44.5	04.1	310 48.3	9.7	7 54.5	12.2	59.3	35	04 15	04 48	05 16	19 36	20 13	20 49	21 25				
23	161 44.4	03.5	325 17.0	9.6	7 42.3	12.2	59.3	40	03 57	04 35	05 05	19 41	20 15	20 48	21 21				
29 00	176 44.3	S18 02.8	339 45.6	9.7	N 7 30.1	12.3	59.3	45	03 36	04 18	04 52	19 47	20 17	20 46	21 16				
01	191 44.2	02.1	354 14.3	9.7	7 17.8	12.3	59.3	S 50	03 06	03 57	04 36	19 54	20 20	20 45	21 11				
02	206 44.1	01.5	8 43.0	9.7	7 05.5	12.4	59.3	52	02 51	03 47	04 28	19 57	20 21	20 44	21 08				
03	221 44.0	00.8	23 11.7	9.8	6 53.1	12.4	59.3	54	02 33	03 36	04 20	20 00	20 22	20 43	21 05				
04	236 43.9	18 00.1	37 40.5	9.7	6 40.7	12.4	59.4	56	02 10	03 22	04 11	20 04	20 24	20 42	21 02				
05	251 43.8	17 59.5	52 09.2	9.8	6 28.3	12.5	59.4	58	01 37	03 06	04 00	20 08	20 25	20 41	20 59				
06	266 43.6	S17 58.8	66 38.0	9.7	N 6 15.8	12.6	59.4	S 60	///	02 47	03 47	20 13	20 27	20 40	20 55				
07	281 43.5	58.1	81 06.7	9.8	6 03.2	12.5	59.4												
08	296 43.4	57.5	95 35.5	9.8	5 50.7	12.7	59.4	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	28	29	30	31				
S 09	311 43.3	56.8	110 04.3	9.8	5 38.0	12.6	59.4												
A 10	326 43.2	56.1	124 33.1	9.8	5 25.4	12.7	59.4												
B 11	341 43.1	55.4	139 01.9	9.8	5 12.7	12.7	59.4	N 72	13 30	15 35	17 07	09 06	08 48	08 33	08 18				
A 12	356 43.0	S17 54.8	153 30.7	9.9	N 5 00.0	12.8	59.5	N 70	14 24	15 56	17 16	08 49	08 41	08 33	08 25				
D 13	11 42.9	54.1	167 59.6	9.8	4 47.2	12.7	59.5	68	14 56	16 12	17 24	08 36	08 35	08 32	08 30				
O 14	26 42.8	53.4	182 28.4	9.9	4 34.5	12.8	59.5	66	15 20	16 25	17 30	08 26	08 29	08 32	08 35				
15	41 42.7	52.7	196 57.3	9.8	4 21.7	12.9	59.5	64	15 38	16 36	17 36	08 17	08 25	08 32	08 39				
16	56 42.6	52.1	211 26.1	9.9	4 08.8	12.8	59.5	62	15 53	16 46	17 41	08 09	08 21	08 31	08 42				
17	71 42.5	51.4	225 55.0	9.9	3 56.0	12.9	59.5	60	16 06	16 54	17 45	08 02	08 17	08 31	08 45				
18	86 42.4	S17 50.7	240 23.9	9.9	N 3 43.1	12.9	59.5	N 58	16 17	17 01	17 50	07 56	08 14	08 31	08 47				
19	101 42.2	50.0	254 52.8	9.9	3 30.2	13.0	59.5	56	16 26	17 08	17 53	07 51	08 12	08 31	08 50				
20	116 42.1	49.4	269 21.7	9.9	3 17.2	12.9	59.5	54	16 34	17 14	17 57	07 46	08 09	08 31	08 52				
21	131 42.0	48.7	283 50.6	9.9	3 04.3	13.0	59.5	52	16 42	17 19	18 00	07 42	08 07	08 30	08 54				
22	146 41.9	48.0	298 19.5	9.9	2 51.3	13.0	59.6	50	16 49	17 24	18 03	07 38	08 05	08 30	08 56				
23	161 41.8	47.3	312 48.4	9.9	2 38.3	13.0	59.6	45	17 03	17 35	18 10	07 29	08 00	08 30	08 59				
30 00	176 41.7	S17 46.6	327 17.3	9.9	N 2 25.3	13.1	59.6	N 40	17 15	17 44	18 17	07 22	07 56	08 30	09 03				
01	191 41.6	46.0	341 46.2	10.0	2 12.2	13.0	59.6	35	17 25	17 52	18 23	07 16	07 53	08 29	09 05				
02	206 41.5	45.3	356 15.2	9.9	1 59.2	13.1	59.6	30	17 34	18 00	18 28	07 10	07 50	08 29	09 08				
03	221 41.4	44.6	10 44.1	9.9	1 46.1	13.0	59.6	20	17 50	18 13	18 40	07 01	07 45	08 29	09 12				
04	236 41.3	43.9	25 13.0	10.0	1 33.1	13.1	59.6	N 10	18 04	18 26	18 51	06 52	07 41	08 28	09 16				
05	251 41.2	43.2	39 42.0	9.9	1 20.0	13.1	59.6	0	18 17	18 38	19 04	06 44	07 36	08 28	09 19				
06	266 41.1	S17 42.6	54 10.9	9.9	N 1 06.9	13.1	59.6	S 10	18 30	18 52	19 18	06 36	07 32	08 27	09 23				
07	281 41.0	41.9	68 39.8	10.0	0 53.8	13.1	59.6	20	18 44	19 07	19 35	06 27	07 27	08 27	09 27				
D 08	296 40.9	41.2	83 08.8	9.9	0 40.7	13.1	59.6	30	19 00	19 26	19 57	06 17	07 22	08 26	09 31				
O 09	311 40.8	40.5	97 37.7	9.9	0 27.6	13.1	59.6	35	19 10	19 37	20 11	06 12	07 19	08 26	09 33				
M 10	326 40.7	39.8	112 06.6	9.9	0 14.5	13.2	59.6	40	19 21	19 51	20 28	06 05	07 15	08 26	09 36				
I 11	341 40.6	39.1	126 35.5	10.0	N 0 01.3	13.1	59.6	45	19 33	20 07	20 49	05 57	07 11	08 25	09 39				
N 12	356 40.5	S17 38.4	141 04.5	9.9	S 0 11.8	13.1	59.6	S 50	19 49	20 28	21 18	05 48	07 06	08 24	09 43				
G 13	11 40.4	37.8	155 33.4	9.9	0 24.9	13.1	59.7	52	19 57	20 38	21 33	05 44	07 04	08 24	09 45				
O 14	26 40.3	37.1	170 02.3	9.9	0 38.0	13.1	59.7	54	20 05	20 49	21 51	05 39	07 01	08 24	09 47				
15	41 40.2	36.4	184 31.2	9.9	0 51.1	13.1	59.7	56											

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.0			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		Nombre	A. H. S.	Dec.
31 00	129 59.3	172 55.2	S17 47.3	185 16.7	S20 39.0		268 39.4	S14 42.2		157 09.8	S12 42.9		Acamar	315 29.3	S40 20.0			
01	145 01.7	187 54.5	46.4	200 17.2	38.6		283 41.6	42.3		172 12.0	42.8		Achernar	335 37.6	S57 16.3			
02	160 04.2	202 53.8	45.5	215 17.6	38.1		298 43.9	42.4		187 14.2	42.7		Acrux	173 25.1	S63 03.9			
03	175 06.7	217 53.1	44.7	230 18.0	37.7		313 46.1	42.4		202 16.3	42.6		Adhara	255 23.5	S28 58.1			
04	190 09.1	232 52.4	43.8	245 18.5	37.3		328 48.4	42.5		217 18.5	42.4		Aldebaran	291 05.8	N16 29.8			
05	205 11.6	247 51.7	42.9	260 18.9	36.9		343 50.6	42.5		232 20.7	42.3							
06	220 14.1	262 51.0	S17 42.1	275 19.3	S20 36.4		358 52.9	S14 42.6		247 22.9	S12 42.2		Alioth	166 33.1	N55 59.1			
07	235 16.5	277 50.3	41.2	290 19.8	36.0		13 55.1	42.6		262 25.1	42.1		Alkaid	153 10.2	N49 20.2			
08	250 19.0	292 49.6	40.3	305 20.2	35.6		28 57.4	42.7		277 27.3	42.0		Al Na'ir	28 02.3	S46 59.4			
L 09	265 21.4	307 48.9	39.4	320 20.7	35.1		43 59.7	42.7		292 29.4	41.9		Alnilam	276 00.8	S 1 12.5			
U 10	280 23.9	322 48.2	38.6	335 21.1	34.7		59 01.9	42.8		307 31.6	41.8		Alphard	218 10.0	S 8 38.2			
N 11	295 26.4	337 47.5	37.7	350 21.5	34.3		74 04.2	42.9		322 33.8	41.7							
E 12	310 28.8	352 46.8	S17 36.8	5 22.0	S20 33.8		89 06.4	S14 42.9		337 36.0	S12 41.6		Alphecca	126 23.3	N26 43.8			
S 13	325 31.3	7 46.1	35.9	20 22.4	33.4		104 08.7	43.0		352 38.2	41.5		Alpheratz	357 58.7	N29 03.6			
14	340 33.8	22 45.4	35.0	35 22.8	33.0		119 10.9	43.0		7 40.3	41.4		Altair	62 22.7	N 8 51.2			
15	355 36.2	37 44.7	34.2	50 23.3	32.5		134 13.2	43.1		22 42.5	41.3		Ankaa	353 30.2	S42 20.4			
16	10 38.7	52 44.0	33.3	65 23.7	32.1		149 15.4	43.1		37 44.7	41.2		Antares	112 44.2	S26 25.1			
17	25 41.2	67 43.3	32.4	80 24.1	31.6		164 17.7	43.2		52 46.9	41.1							
18	40 43.6	82 42.7	S17 31.5	95 24.6	S20 31.2		179 20.0	S14 43.2		67 49.1	S12 41.0		Arcturus	146 08.9	N19 12.5			
19	55 46.1	97 42.0	30.6	110 25.0	30.8		194 22.2	43.3		82 51.3	40.9		Atria	107 59.4	S69 00.8			
20	70 48.6	112 41.3	29.7	125 25.5	30.3		209 24.5	43.4		97 53.4	40.8		Avior	234 23.3	S59 29.6			
21	85 51.0	127 40.6	28.9	140 25.9	29.9		224 26.7	43.4		112 55.6	40.7		Bellatrix	278 47.3	N 6 20.6			
22	100 53.5	142 39.9	28.0	155 26.3	29.5		239 29.0	43.5		127 57.8	40.6		Betelgeuse	271 16.7	N 7 24.2			
23	115 55.9	157 39.2	27.1	170 26.8	29.0		254 31.2	43.5		143 00.0	40.5							
I 00	130 58.4	172 38.5	S17 26.2	185 27.2	S20 28.6		269 33.5	S14 43.6		158 02.2	S12 40.4		Canopus	264 02.1	S52 41.8			
01	146 00.9	187 37.8	25.3	200 27.6	28.1		284 35.8	43.6		173 04.4	40.3		Capella	280 55.5	N45 59.6			
02	161 03.3	202 37.1	24.4	215 28.1	27.7		299 38.0	43.7		188 06.5	40.2		Deneb	49 41.8	N45 15.6			
03	176 05.8	217 36.4	23.5	230 28.5	27.3		314 40.3	43.7		203 08.7	40.1		Denebola	182 48.2	N14 36.0			
04	191 08.3	232 35.7	22.6	245 29.0	26.8		329 42.5	43.8		218 10.9	40.0		Diphda	349 10.6	S18 01.2			
05	206 10.7	247 35.1	21.7	260 29.4	26.4		344 44.8	43.8		233 13.1	39.9							
06	221 13.2	262 34.4	S17 20.8	275 29.8	S20 25.9		359 47.1	S14 43.9		248 15.3	S12 39.8		Dubhe	194 08.8	N61 46.6			
07	236 15.7	277 33.7	19.9	290 30.3	25.5		14 49.3	44.0		263 17.5	39.7		Elnath	278 30.7	N28 36.1			
08	251 18.1	292 33.0	19.0	305 30.7	25.1		29 51.6	44.0		278 19.6	39.6		Eltanin	90 53.3	N51 29.2			
M 09	266 20.6	307 32.3	18.1	320 31.2	24.6		44 53.8	44.1		293 21.8	39.5		Enif	34 01.6	N 9 50.9			
A 10	281 23.0	322 31.6	17.2	335 31.6	24.2		59 56.1	44.1		308 24.0	39.4		Fomalhaut	15 40.2	S29 39.3			
R 11	296 25.5	337 31.0	16.4	350 32.0	23.7		74 58.4	44.2		323 26.2	39.2							
T 12	311 28.0	352 30.3	S17 15.5	5 32.5	S20 23.3		90 00.6	S14 44.2		338 28.4	S12 39.1		Gacrux	172 16.8	S57 04.7			
E 13	326 30.4	7 29.6	14.6	20 32.9	22.8		105 02.9	44.3		353 30.5	39.0		Gienah	176 07.0	S17 30.7			
S 14	341 32.9	22 28.9	13.7	35 33.4	22.4		120 05.1	44.3		8 32.7	38.9		Hadar	149 08.4	S60 20.5			
15	356 35.4	37 28.2	12.7	50 33.8	22.0		135 07.4	44.4		23 34.9	38.8		Hamal	328 17.2	N23 26.2			
16	11 37.8	52 27.5	11.8	65 34.2	21.5		150 09.7	44.4		38 37.1	38.7		Kaus Aust.	84 03.3	S34 23.2			
17	26 40.3	67 26.9	10.9	80 34.7	21.1		165 11.9	44.5		53 39.3	38.6							
18	41 42.8	82 26.2	S17 10.0	95 35.1	S20 20.6		180 14.2	S14 44.5		68 41.5	S12 38.5		Kochab	137 19.5	N74 10.4			
19	56 45.2	97 25.5	09.1	110 35.6	20.2		195 16.5	44.6		83 43.6	38.4		Markab	13 53.0	N15 10.5			
20	71 47.7	112 24.8	08.2	125 36.0	19.7		210 18.7	44.6		98 45.8	38.3		Menkar	314 30.2	N 4 04.0			
21	86 50.2	127 24.1	07.3	140 36.4	19.3		225 21.0	44.7		113 48.0	38.2		Menkent	148 24.6	S36 20.4			
22	101 52.6	142 23.5	06.4	155 36.9	18.8		240 23.2	44.8		128 50.2	38.1		Miaplacidus	221 41.7	S69 41.7			
23	116 55.1	157 22.8	05.5	170 37.3	18.4		255 25.5	44.8		143 52.4	38.0							
2 00	131 57.5	172 22.1	S17 04.6	185 37.8	S20 17.9		270 27.8	S14 44.9		158 54.5	S12 37.9		Mirfak	309 01.0	N49 50.6			
01	147 00.0	187 21.4	03.7	200 38.2	17.5		285 30.0	44.9		173 56.7	37.8		Nunki	76 16.6	S26 18.2			
02	162 02.5	202 20.8	02.8	215 38.7	17.0		300 32.3	45.0		188 58.9	37.7		Peacock	53 42.5	S56 45.2			
03	177 04.9	217 20.1	01.9	230 39.1	16.6		315 34.6	45.0		204 01.1	37.6		Pollux	243 45.0	N28 02.3			
04	192 07.4	232 19.4	00.9	245 39.5	16.1		330 36.8	45.1		219 03.3	37.5		Procyon	245 14.5	N 5 14.2			
05	207 09.9	247 18.7	00.0	260 40.0	15.7		345 39.1	45.1		234 05.5	37.4							
06	222 12.3	262 18.1	S16 59.1	275 40.4	S20 15.2		0 41.4	S14 45.2		249 07.6	S12 37.3		Rasalhague	96 20.1	N12 33.8			
07	237 14.8	277 17.4	58.2	290 40.9	14.8		15 43.6	45.2		264 09.8	37.2		Regulus	207 58.6	N11 59.5			
M 08	252 17.3	292 16.7	57.3	305 41.3	14.3		30 45.9	45.3		279 12.0	37.1		Rigel	281 25.8	S 8 12.7			
09	267 19.7	307 16.0	56.4	320 41.8	13.9		45 48.2	45.3		294 14.2	37.0		Rigil Kent.	140 11.5	S60 48.4			
I 10	282 22.2	322 15.4	55.5	335 42.2	13.4		60 50.4	45.4		309 16.4	36.9		Sabik	102 29.4	S15 43.0			
R 11	297 24.7	337 14.7	54.5	350 42.6	13.0		75 52.7	45.4		324 18.5	36.8							
C 12	312 27.1	352 14.0	S16 53.6	5 43.1	S20 12.5		90 55.0	S14 45.5		339 20.7	S12 36.7		Schedar	349 57.4	N56 30.6			
O 13	327 29.6	7 13.4	52.7	20 43.5	12.1		105 57.2	45.5		354 22.9	36.5		Shaula	96 41.8	S37 05.9			
L 14	342 32.0	22 12.7	51.8	35 44.0	11.6		120 59.5	45.6		9 25.1	36.4		Sirius	258 46.1	S16 42.7			
E 15	357 34.5	37 12.0	50.9	50 44.4	11.2		136 01.8	45.6		24 27.3	36.3		Spica	158 46.4				

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna						
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	31 1 2 3					
												h	m	h	m	h	m
31	00	176 39.3	S17 30.2	314 51.1	9.8	S 2 48.8	13.0	59.7	N 72	07 10	08 39	10 29	23 32	25 46	01 46	04 30	
	01	191 39.2	29.5	329 19.9	9.8	3 01.8	12.9	59.7	N 70	07 02	08 21	09 47	23 19	25 21	01 21	03 30	
	02	206 39.1	28.8	343 48.7	9.8	3 14.7	13.0	59.7	68	06 56	08 06	09 18	23 09	25 01	01 01	02 56	
	03	221 39.0	28.1	358 17.5	9.8	3 27.7	13.0	59.7	66	06 50	07 54	08 57	23 01	24 46	00 46	02 31	
	04	236 38.9	27.4	12 46.3	9.8	3 40.7	12.9	59.7	64	06 45	07 44	08 40	22 54	24 34	00 34	02 12	
	05	251 38.9	26.7	27 15.1	9.8	3 53.6	12.9	59.7	62	06 40	07 35	08 26	22 48	24 23	00 23	01 57	
	06	266 38.8	S17 26.0	41 43.9	9.7	S 4 06.5	12.8	59.7	60	06 36	07 27	08 14	22 43	24 14	00 14	01 44	
	07	281 38.7	25.3	56 12.6	9.8	4 19.3	12.9	59.7	N 58	06 33	07 20	08 04	22 38	24 07	00 07	01 33	
	08	296 38.6	24.6	70 41.4	9.7	4 32.2	12.8	59.7	56	06 29	07 14	07 55	22 35	24 00	00 00	01 23	
	L	09	311 38.5	23.9	85 10.1	9.7	4 45.0	12.8	59.7	54	06 26	07 09	07 47	22 31	23 54	25 15	01 15
		10	326 38.4	23.2	99 38.8	9.6	4 57.8	12.8	59.7	52	06 23	07 04	07 40	22 28	23 48	25 07	01 07
		11	341 38.3	22.5	114 07.4	9.7	5 10.6	12.7	59.7	50	06 20	06 59	07 34	22 25	23 43	25 00	01 00
		12	356 38.2	S17 21.8	128 36.1	9.7	S 5 23.3	12.7	59.7	45	06 14	06 49	07 20	22 19	23 33	24 46	00 46
		13	11 38.1	21.1	143 04.8	9.6	5 36.0	12.6	59.7	N 40	06 08	06 40	07 09	22 13	23 24	24 34	00 34
		14	26 38.0	20.4	157 33.4	9.6	5 48.6	12.7	59.7	35	06 02	06 32	06 59	22 09	23 16	24 24	00 24
		15	41 37.9	19.7	172 02.0	9.6	6 01.3	12.6	59.7	30	05 57	06 25	06 51	22 05	23 10	24 15	00 15
		16	56 37.8	19.0	186 30.6	9.5	6 13.9	12.5	59.7	20	05 46	06 13	06 36	21 58	22 59	24 00	00 00
		17	71 37.8	18.3	200 59.1	9.6	6 26.4	12.5	59.7	N 10	05 35	06 01	06 22	21 52	22 49	23 46	24 45
		18	86 37.7	S17 17.6	215 27.7	9.5	S 6 38.9	12.5	59.7	0	05 23	05 48	06 10	21 47	22 40	23 34	24 30
	19	101 37.6	16.9	229 56.2	9.5	6 51.4	12.4	59.7	S 10	05 10	05 35	05 58	21 41	22 31	23 22	24 15	
	20	116 37.5	16.2	244 24.7	9.5	7 03.8	12.4	59.6	20	04 53	05 21	05 44	21 36	22 21	23 09	24 00	
	21	131 37.4	15.5	258 53.2	9.4	7 16.2	12.3	59.6	30	04 32	05 03	05 28	21 29	22 10	22 54	23 42	
	22	146 37.3	14.8	273 21.6	9.4	7 28.5	12.3	59.6	35	04 18	04 52	05 19	21 25	22 04	22 46	23 32	
23	161 37.2	14.1	287 50.0	9.4	7 40.8	12.2	59.6	40	04 02	04 39	05 09	21 21	21 57	22 36	23 20		
1	00	176 37.1	S17 13.4	302 18.4	9.4	S 7 53.0	12.2	59.6	45	03 41	04 23	04 56	21 16	21 49	22 25	23 06	
	01	191 37.0	12.7	316 46.8	9.4	8 05.2	12.2	59.6	S 50	03 14	04 03	04 41	21 11	21 39	22 11	22 49	
	02	206 37.0	12.0	331 15.2	9.3	8 17.4	12.1	59.6	52	02 59	03 54	04 34	21 08	21 34	22 05	22 41	
	03	221 36.9	11.3	345 43.5	9.3	8 29.5	12.0	59.6	54	02 43	03 43	04 26	21 05	21 29	21 58	22 33	
	04	236 36.8	10.6	0 11.8	9.2	8 41.5	12.0	59.6	56	02 22	03 30	04 17	21 02	21 24	21 50	22 23	
	05	251 36.7	09.9	14 40.0	9.3	8 53.5	11.9	59.6	58	01 54	03 15	04 07	20 59	21 18	21 41	22 12	
	06	266 36.6	S17 09.1	29 08.3	9.2	S 9 05.4	11.9	59.6	S 60	01 08	02 58	03 56	20 55	21 11	21 31	21 59	
	07	281 36.5	08.4	43 36.5	9.2	9 17.3	11.8	59.6	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
	08	296 36.4	07.7	58 04.7	9.1	9 29.1	11.8	59.6	Civil	Naut.	31	1	2	3			
	M	09	311 36.4	07.0	72 32.8	9.1	9 40.9	11.7	59.6	h	m	h	m	h	m	h	m
10		326 36.3	06.3	87 00.9	9.1	9 52.6	11.6	59.6	N 72	14 00	15 49	17 18	08 18	08 01	07 39	06 50	
11		341 36.2	05.6	101 29.0	9.1	10 04.2	11.6	59.6	N 70	14 42	16 08	17 26	08 25	08 16	08 06	07 51	
12		356 36.1	S17 04.9	115 57.1	9.0	S10 15.8	11.5	59.6	68	15 10	16 22	17 33	08 30	08 28	08 26	08 26	
13		11 36.0	04.2	130 25.1	9.0	10 27.3	11.4	59.5	66	15 31	16 35	17 38	08 35	08 38	08 43	08 51	
14		26 35.9	03.5	144 53.1	9.0	10 38.7	11.4	59.5	64	15 48	16 45	17 43	08 39	08 46	08 56	09 11	
15		41 35.9	02.7	159 21.1	8.9	10 50.1	11.3	59.5	62	16 02	16 53	17 48	08 42	08 53	09 08	09 27	
16		56 35.8	02.0	173 49.0	8.9	11 01.4	11.2	59.5	60	16 14	17 01	17 52	08 45	09 00	09 18	09 41	
17		71 35.7	01.3	188 16.9	8.9	11 12.6	11.2	59.5	N 58	16 24	17 08	17 55	08 47	09 05	09 26	09 53	
18		86 35.6	S17 00.6	202 44.8	8.8	S11 23.8	11.1	59.5	56	16 33	17 14	17 59	08 50	09 10	09 34	10 03	
19	101 35.5	16 59.9	217 12.6	8.8	11 34.9	11.0	59.5	54	16 40	17 19	18 02	08 52	09 15	09 41	10 12		
20	116 35.5	59.2	231 40.4	8.8	11 45.9	11.0	59.5	52	16 47	17 24	18 05	08 54	09 19	09 47	10 20		
21	131 35.4	58.5	246 08.2	8.7	11 56.9	10.8	59.5	50	16 54	17 29	18 08	08 56	09 22	09 52	10 27		
22	146 35.3	57.7	260 35.9	8.7	12 07.7	10.8	59.5	45	17 07	17 39	18 14	08 59	09 30	10 04	10 43		
23	161 35.2	57.0	275 03.6	8.7	12 18.5	10.7	59.5	N 40	17 19	17 47	18 20	09 03	09 37	10 14	10 55		
2	00	176 35.1	S16 56.3	289 31.3	8.6	S12 29.2	10.7	59.5	35	17 28	17 55	18 25	09 05	09 43	10 23	11 06	
	01	191 35.1	55.6	303 58.9	8.6	12 39.9	10.5	59.4	30	17 37	18 02	18 31	09 08	09 48	10 30	11 16	
	02	206 35.0	54.9	318 26.5	8.5	12 50.4	10.5	59.4	20	17 52	18 15	18 41	09 12	09 57	10 43	11 32	
	03	221 34.9	54.1	332 54.0	8.6	13 00.9	10.4	59.4	N 10	18 05	18 27	18 52	09 16	10 04	10 55	11 47	
	04	236 34.8	53.4	347 21.6	8.4	13 11.3	10.3	59.4	0	18 17	18 39	19 04	09 19	10 12	11 05	12 01	
	05	251 34.7	52.7	1 49.0	8.5	13 21.6	10.3	59.4	S 10	18 30	18 52	19 17	09 23	10 19	11 16	12 14	
	06	266 34.7	S16 52.0	16 16.5	8.4	S13 31.9	10.1	59.4	20	18 43	19 06	19 34	09 27	10 27	11 28	12 29	
	07	281 34.6	51.3	30 43.9	8.4	13 42.0	10.1	59.4	30	18 58	19 24	19 55	09 31	10 36	11 41	12 45	
	08	296 34.5	50.5	45 11.3	8.3	13 52.1	9.9	59.4	35	19 07	19 35	20 08	09 33	10 41	11 48	12 55	
	09	311 34.4	49.8	59 38.6	8.3	14 02.0	9.9	59.4	40	19 18	19 48	20 24	09 36	10 47	11 57	13 06	
M	10	326 34.4	49.1	74 05.9	8.3	14 11.9	9.8	59.3	45	19 30	20 03	20 45	09 39	10 54	12 07	13 19	
	11	341 34.3	48.4	88 33.2	8.2	14 21.7	9.7	59.3	S 50	19 45	20 23	21 12	09 43	11 02	12 20	13 35	
	12	356 34.2	S16 47.6	103 00.4	8.2	S14 31.4	9.6	59.3	52	19 52	20 32	21 26	09 45	11 06	12 26	13 43	
	13	11 34.1	46.9	117 27.6	8.2	14 41.0	9.6	59.3	54	20 00	20 43	21 42	09 47	11 10	12 32	13 51	
	14	26 34.1	46.2	131 54.8	8.1	14 50.6	9.4	59.3	56	20 08	20 55	22 03	09 49	11 15	12 39	14 01	
	15	41 34.0	45.5	146 21.9	8.1	15 00.0	9.3	59.3	58	20 18	21 10	22 29	09 52	11 20	12 47	14 11	
	16	56 33.9	44.7	160 49.0	8.0	15 09.3	9.2	59.3	S 60	20 30	21 27	23 11	09 54	11 26	12 57	14 24	
	17	71 33.8	44.0	175 16.0	8.0	15 18.5	9.2	59.3	Día	SOL		LUNA					
	18	86 33.8	S16 43.3	189 43.0	8.0	S15 27.7	9.0	59.3	E.T. (-)	Pas. Mer.	Pas. Mer.	Sup.	Inf.	Edad.	Fase		
	19	101 33.7	42.6	204 10.0	7.9	15 36.											

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.0			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.		
d h																		
3 00	132 56.7	172 06.0	S16 42.5	185 48.4	S20 07.1	271 22.2	S14 46.1	159 46.9	S12 35.4	Acamar	315 29.3	S40 20.0						
01	147 59.1	187 05.4	41.6	200 48.9	06.6	286 24.5	46.1	174 49.1	35.3	Achernar	335 37.7	S57 16.2						
02	163 01.6	202 04.7	40.7	215 49.3	06.2	301 26.8	46.2	189 51.3	35.2	Acrux	173 25.1	S63 03.9						
03	178 04.1	217 04.0	39.7	230 49.8	05.7	316 29.0	46.2	204 53.4	35.1	Adhara	255 23.6	S28 58.1						
04	193 06.5	232 03.4	38.8	245 50.2	05.2	331 31.3	46.3	219 55.6	35.0	Aldebaran	291 05.8	N16 29.8						
05	208 09.0	247 02.7	37.9	260 50.6	04.8	346 33.6	46.3	234 57.8	34.9									
06	223 11.5	262 02.1	S16 36.9	275 51.1	S20 04.3	1 35.9	S14 46.4	250 00.0	S12 34.8	Alioth	166 33.1	N55 59.1						
07	238 13.9	277 01.4	36.0	290 51.5	03.9	16 38.1	46.4	265 02.2	34.7	Alkaid	153 10.1	N49 20.2						
08	253 16.4	292 00.7	35.1	305 52.0	03.4	31 40.4	46.5	280 04.3	34.6	Al Na'ir	28 02.3	S46 59.4						
J 09	268 18.9	307 00.1	34.1	320 52.4	02.9	46 42.7	46.5	295 06.5	34.5	Alnilam	276 00.8	S 1 12.5						
U 10	283 21.3	321 59.4	33.2	335 52.9	02.5	61 45.0	46.6	310 08.7	34.4	Alphard	218 10.0	S 8 38.2						
E 11	298 23.8	336 58.8	32.3	350 53.3	02.0	76 47.2	46.6	325 10.9	34.3									
V 12	313 26.3	351 58.1	S16 31.3	5 53.8	S20 01.6	91 49.5	S14 46.7	340 13.1	S12 34.2	Alphecca	126 23.3	N26 43.8						
E 13	328 28.7	6 57.4	30.4	20 54.2	01.1	106 51.8	46.7	355 15.2	34.0	Alpheratz	357 58.7	N29 03.6						
S 14	343 31.2	21 56.8	29.4	35 54.7	00.6	121 54.1	46.8	10 17.4	33.9	Altair	62 22.7	N 8 51.2						
15	358 33.6	36 56.1	28.5	50 55.1	20 00.2	136 56.3	46.8	25 19.6	33.8	Ankaa	353 30.2	S42 20.4						
16	13 36.1	51 55.5	27.5	65 55.6	19 59.7	151 58.6	46.9	40 21.8	33.7	Antares	112 44.2	S26 25.1						
17	28 38.6	66 54.8	26.6	80 56.0	59.2	167 00.9	46.9	55 24.0	33.6									
18	43 41.0	81 54.2	S16 25.7	95 56.5	S19 58.8	182 03.2	S14 47.0	70 26.1	S12 33.5	Arcturus	146 08.9	N19 12.5						
19	58 43.5	96 53.5	24.7	110 56.9	58.3	197 05.4	47.0	85 28.3	33.4	Atria	107 59.3	S69 00.8						
20	73 46.0	111 52.9	23.8	125 57.4	57.9	212 07.7	47.1	100 30.5	33.3	Avior	234 23.3	S59 29.6						
21	88 48.4	126 52.2	22.8	140 57.8	57.4	227 10.0	47.1	115 32.7	33.2	Bellatrix	278 47.3	N 6 20.6						
22	103 50.9	141 51.6	21.9	155 58.3	56.9	242 12.3	47.2	130 34.9	33.1	Betelgeuse	271 16.7	N 7 24.2						
23	118 53.4	156 50.9	20.9	170 58.7	56.5	257 14.5	47.2	145 37.0	33.0									
4 00	133 55.8	171 50.3	S16 20.0	185 59.2	S19 56.0	272 16.8	S14 47.3	160 39.2	S12 32.9	Canopus	264 02.1	S52 41.8						
01	148 58.3	186 49.6	19.0	200 59.6	55.5	287 19.1	47.3	175 41.4	32.8	Capella	280 55.6	N45 59.6						
02	164 00.8	201 48.9	18.1	216 00.1	55.1	302 21.4	47.4	190 43.6	32.7	Deneb	49 41.8	N45 15.6						
03	179 03.2	216 48.3	17.1	231 00.5	54.6	317 23.7	47.4	205 45.8	32.6	Denebola	182 48.1	N14 36.0						
04	194 05.7	231 47.7	16.2	246 00.9	54.1	332 25.9	47.5	220 47.9	32.5	Diphda	349 10.6	S18 01.2						
05	209 08.1	246 47.0	15.2	261 01.4	53.7	347 28.2	47.5	235 50.1	32.4									
06	224 10.6	261 46.4	S16 14.3	276 01.8	S19 53.2	2 30.5	S14 47.5	250 52.3	S12 32.3	Dubhe	194 08.7	N61 46.6						
07	239 13.1	276 45.7	13.3	291 02.3	52.7	17 32.8	47.6	265 54.5	32.2	Elnath	278 30.7	N28 36.1						
08	254 15.5	291 45.1	12.4	306 02.7	52.2	32 35.1	47.6	280 56.7	32.1	Eltanin	90 53.2	N51 29.2						
V 09	269 18.0	306 44.4	11.4	321 03.2	51.8	47 37.3	47.7	295 58.8	32.0	Enif	34 01.6	N 9 50.9						
I 10	284 20.5	321 43.8	10.5	336 03.7	51.3	62 39.6	47.7	311 01.0	31.9	Fomalhaut	15 40.2	S29 39.3						
E 11	299 22.9	336 43.1	09.5	351 04.1	50.8	77 41.9	47.8	326 03.2	31.8									
N 12	314 25.4	351 42.5	S16 08.5	6 04.6	S19 50.4	92 44.2	S14 47.8	341 05.4	S12 31.6	Gacrux	172 16.7	S57 04.7						
13	329 27.9	6 41.8	07.6	21 05.0	49.9	107 46.5	47.9	356 07.6	31.5	Gienah	176 07.0	S17 30.7						
14	344 30.3	21 41.2	06.6	36 05.5	49.4	122 48.8	47.9	11 09.7	31.4	Hadar	149 08.3	S60 20.5						
S 15	359 32.8	36 40.5	05.7	51 05.9	48.9	137 51.0	48.0	26 11.9	31.3	Hamal	328 17.2	N23 26.2						
16	14 35.2	51 39.9	04.7	66 06.4	48.5	152 53.3	48.0	41 14.1	31.2	Kaus Aust.	84 03.3	S34 23.2						
17	29 37.7	66 39.3	03.7	81 06.8	48.0	167 55.6	48.1	56 16.3	31.1									
18	44 40.2	81 38.6	S16 02.8	96 07.3	S19 47.5	182 57.9	S14 48.1	71 18.5	S12 31.0	Kochab	137 19.4	N74 10.4						
19	59 42.6	96 38.0	01.8	111 07.7	47.1	198 00.2	48.2	86 20.6	30.9	Markab	13 53.0	N15 10.5						
20	74 45.1	111 37.3	16 00.9	126 08.2	46.6	213 02.5	48.2	101 22.8	30.8	Menkar	314 30.2	N 4 04.0						
21	89 47.6	126 36.7	15 59.9	141 08.6	46.1	228 04.7	48.2	116 25.0	30.7	Menkent	148 24.6	S36 20.4						
22	104 50.0	141 36.1	58.9	156 09.1	45.6	243 07.0	48.3	131 27.2	30.6	Miaplacidus	221 41.7	S69 41.7						
23	119 52.5	156 35.4	58.0	171 09.5	45.2	258 09.3	48.3	146 29.4	30.5									
5 00	134 55.0	171 34.8	S15 57.0	186 10.0	S19 44.7	273 11.6	S14 48.4	161 31.5	S12 30.4	Mirfak	309 01.0	N49 50.6						
01	149 57.4	186 34.1	56.0	201 10.4	44.2	288 13.9	48.4	176 33.7	30.3	Nunki	76 16.5	S26 18.2						
02	164 59.9	201 33.5	55.1	216 10.9	43.7	303 16.2	48.5	191 35.9	30.2	Peacock	53 42.5	S56 45.2						
03	180 02.4	216 32.9	54.1	231 11.3	43.3	318 18.5	48.5	206 38.1	30.1	Pollux	243 45.0	N28 02.3						
04	195 04.8	231 32.2	53.1	246 11.8	42.8	333 20.7	48.6	221 40.3	30.0	Procyon	245 14.5	N 5 14.2						
05	210 07.3	246 31.6	52.1	261 12.2	42.3	348 23.0	48.6	236 42.4	29.9									
06	225 09.7	261 31.0	S15 51.2	276 12.7	S19 41.8	3 25.3	S14 48.7	251 44.6	S12 29.8	Rasalhague	96 20.1	N12 33.8						
07	240 12.2	276 30.3	50.2	291 13.1	41.3	18 27.6	48.7	266 46.8	29.7	Regulus	207 58.6	N11 59.5						
08	255 14.7	291 29.7	49.2	306 13.6	40.9	33 29.9	48.7	281 49.0	29.5	Rigel	281 25.8	S 8 12.7						
S 09	270 17.1	306 29.1	48.3	321 14.1	40.4	48 32.2	48.8	296 51.1	29.4	Rigil Kent.	140 11.4	S60 48.4						
A 10	285 19.6	321 28.4	47.3	336 14.5	39.9	63 34.5	48.8	311 53.3	29.3	Sabik	102 29.3	S15 43.0						
B 11	300 22.1	336 27.8	46.3	351 15.0	39.4	78 36.8	48.9	326 55.5	29.2									
A 12	315 24.5	351 27.2	S15 45.3	6 15.4	S19 38.9	93 39.0	S14 48.9	341 57.7	S12 29.1	Schedar	349 57.4	N56 30.6						
D 13	330 27.0	6 26.5	44.4	21 15.9	38.5	108 41.3	49.0	356 59.9	29.0	Shaula	96 41.8	S37 05.9						
O 14	345 29.5	21 25.9	43.4	36 16.3	38.0	123 43.6	49.0	12 02.0	28.9	Sirius	258 46.1	S16 42.7						
15	0 31.9	36 25.3	42.4	51 16.8	37.5	138 45.9	49.1	27 04.2	28.8	Spica	158 46.4	S11 07.9						
16	15 34.4	51 24.6	41.4	66 17.2	37.0	153 48.2	49.1	42 06.4	28.7	Suhail	223 02.6	S43 24.7						
17	30 36.9	66 24.0	40.4	81 17.7	36.5	168 50.5	49.1	57 08.6	28.6									
18	45 39.3	81 23.4	S15 39.5	96 18.2	S19 36.1	183 52.8	S14 49.2	72 10.8	S12 28.5	Vega	80 49.1	N38 46.6						
19	60 41.8	96 22.8	38.5	111 18.6	35.6	198 55.1	49.2	87 12.9	28.4	Zuben'ubi	137 21.4	S16 01.1						
20	75 44.2	111 22.1	37.5	126 19.1	35.1	213 57.4	49.3	102 15.1	28.3									

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Naut.		Civil	3	4	5	6	
	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "		o / ' / "	h m	h m	h m	h m	h m	h m	h m	
J U E V E S	3 00	176 33.3	S16 38.9	276 24.3	7.8	S16 20.4	8.4	59.2	N 72	06 59	08 26	10 05	04 30	06 20	08 00	09 30
	01	191 33.3	38.2	290 51.1	7.7	16 28.8	8.3	59.2	N 70	06 53	08 09	09 30	03 30	06 20	08 00	09 30
	02	206 33.2	37.5	305 17.8	7.7	16 37.1	8.3	59.1	68	06 47	07 56	09 05	02 56	04 51	06 36	07 35
	03	221 33.1	36.7	319 44.5	7.6	16 45.4	8.1	59.1	66	06 42	07 45	08 46	02 31	04 12	05 39	06 38
	04	236 33.1	36.0	334 11.1	7.7	16 53.5	8.0	59.1	64	06 38	07 36	08 31	02 12	03 46	05 06	06 05
	05	251 33.0	35.3	348 37.8	7.6	17 01.5	7.9	59.1	62	06 34	07 28	08 18	01 57	03 25	04 41	05 40
	06	266 32.9	S16 34.5	3 04.4	7.5	S17 09.4	7.8	59.1	60	06 31	07 21	08 07	01 44	03 08	04 22	05 21
	07	281 32.9	33.8	17 30.9	7.5	17 17.2	7.6	59.1	N 58	06 27	07 15	07 58	01 33	02 54	04 06	05 04
	08	296 32.8	33.1	31 57.4	7.5	17 24.8	7.6	59.1	56	06 24	07 09	07 50	01 23	02 42	03 52	04 51
	09	311 32.7	32.3	46 23.9	7.5	17 32.4	7.5	59.1	54	06 22	07 04	07 42	01 15	02 31	03 40	04 39
	10	326 32.7	31.6	60 50.4	7.4	17 39.9	7.3	59.0	52	06 19	06 59	07 36	01 07	02 22	03 30	04 28
	11	341 32.6	30.9	75 16.8	7.4	17 47.2	7.2	59.0	50	06 16	06 55	07 30	01 00	02 14	03 21	04 19
	12	356 32.5	S16 30.1	89 43.2	7.3	S17 54.4	7.1	59.0	45	06 11	06 46	07 17	00 46	01 56	03 01	03 59
	13	11 32.5	29.4	104 09.5	7.3	18 01.5	7.0	59.0	N 40	06 05	06 38	07 06	00 34	01 41	02 45	03 43
	14	26 32.4	28.6	118 35.8	7.3	18 08.5	6.9	59.0	35	06 00	06 30	06 57	00 24	01 29	02 32	03 30
	15	41 32.3	27.9	133 02.1	7.3	18 15.4	6.8	59.0	30	05 55	06 24	06 49	00 15	01 19	02 20	03 18
	16	56 32.3	27.2	147 28.4	7.2	18 22.2	6.6	59.0	20	05 45	06 12	06 35	00 00	01 00	02 00	02 58
	17	71 32.2	26.4	161 54.6	7.2	18 28.8	6.6	58.9	N 10	05 35	06 00	06 22	24 45	00 45	01 43	02 40
	18	86 32.1	S16 25.7	176 20.8	7.2	S18 35.4	6.4	58.9	0	05 24	05 49	06 10	24 30	00 30	01 27	02 24
	19	101 32.1	25.0	190 47.0	7.2	18 41.8	6.3	58.9	S 10	05 11	05 37	05 59	24 15	00 15	01 11	02 07
	20	116 32.0	24.2	205 13.2	7.1	18 48.1	6.1	58.9	20	04 55	05 23	05 46	24 00	00 00	00 54	01 50
	21	131 31.9	23.5	219 39.3	7.1	18 54.2	6.1	58.9	30	04 35	05 05	05 31	23 42	24 34	00 34	01 30
	22	146 31.9	22.7	234 05.4	7.0	19 00.3	5.9	58.9	35	04 22	04 55	05 22	23 32	24 22	00 22	01 18
23	161 31.8	22.0	248 31.4	7.1	19 06.2	5.8	58.9	40	04 06	04 43	05 12	23 20	24 09	00 09	01 04	
V I E R N E S	4 00	176 31.8	S16 21.2	262 57.5	7.0	S19 12.0	5.7	58.8	45	03 47	04 28	05 01	23 06	23 54	24 49	00 49
	01	191 31.7	20.5	277 23.5	7.0	19 17.7	5.6	58.8	S 50	03 21	04 09	04 47	22 49	23 35	24 29	00 29
	02	206 31.6	19.8	291 49.5	7.0	19 23.3	5.4	58.8	52	03 08	04 00	04 40	22 41	23 26	24 20	00 20
	03	221 31.6	19.0	306 15.5	6.9	19 28.7	5.3	58.8	54	02 52	03 50	04 32	22 33	23 16	24 09	00 09
	04	236 31.5	18.3	320 41.4	7.0	19 34.0	5.2	58.8	56	02 33	03 38	04 24	22 23	23 05	23 57	25 01
	05	251 31.4	17.5	335 07.4	6.9	19 39.2	5.1	58.8	58	02 08	03 24	04 15	22 12	22 52	23 44	24 48
	06	266 31.4	S16 16.8	349 33.3	6.9	S19 44.3	4.9	58.7	S 60	01 33	03 08	04 04	21 59	22 36	23 28	24 33
	07	281 31.3	16.0	3 59.2	6.8	19 49.2	4.8	58.7	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna			
	08	296 31.3	15.3	18 25.0	6.9	19 54.0	4.7	58.7			Civil	Naut.	3	4	5	6
	09	311 31.2	14.5	32 50.9	6.8	19 58.7	4.6	58.7	N 72	14 24	16 03	17 30	06 50	08 28	09 57	11 26
	10	326 31.1	13.8	47 16.7	6.9	20 03.3	4.4	58.7	N 70	14 59	16 20	17 37	07 51	06 58	08 28	09 57
	11	341 31.1	13.0	61 42.6	6.8	20 07.7	4.3	58.7	68	15 24	16 33	17 42	08 26	08 28	08 42	09 42
	12	356 31.0	S16 12.3	76 08.4	6.7	S20 12.0	4.2	58.6	66	15 43	16 44	17 47	08 51	09 07	09 39	10 38
	13	11 31.0	11.6	90 34.1	6.8	20 16.2	4.0	58.6	64	15 58	16 53	17 51	09 11	09 34	10 13	11 12
	14	26 30.9	10.8	104 59.9	6.8	20 20.2	3.9	58.6	62	16 11	17 01	17 55	09 27	09 56	10 37	11 36
	15	41 30.9	10.1	119 25.7	6.7	20 24.1	3.8	58.6	60	16 21	17 08	17 58	09 41	10 13	10 57	11 56
	16	56 30.8	09.3	133 51.4	6.8	20 27.9	3.6	58.6	N 58	16 31	17 14	18 01	09 53	10 27	11 13	12 12
	17	71 30.7	08.6	148 17.2	6.7	20 31.5	3.6	58.6	56	16 39	17 20	18 04	10 03	10 40	11 27	12 25
	18	86 30.7	S16 07.8	162 42.9	6.7	S20 35.1	3.4	58.5	54	16 46	17 25	18 07	10 12	10 50	11 39	12 37
	19	101 30.6	07.1	177 08.6	6.7	20 38.5	3.2	58.5	52	16 53	17 29	18 10	10 20	11 00	11 49	12 48
	20	116 30.6	06.3	191 34.3	6.8	20 41.7	3.1	58.5	50	16 59	17 34	18 12	10 27	11 09	11 59	12 57
	21	131 30.5	05.5	206 00.1	6.7	20 44.8	3.0	58.5	45	17 12	17 43	18 18	10 43	11 27	12 18	13 16
	22	146 30.5	04.8	220 25.8	6.7	20 47.8	2.9	58.5	N 40	17 22	17 51	18 23	10 55	11 42	12 35	13 32
23	161 30.4	04.0	234 51.5	6.6	20 50.7	2.7	58.5	35	17 32	17 58	18 28	11 06	11 55	12 48	13 46	
S A B A D O	5 00	176 30.4	S16 03.3	249 17.1	6.7	S20 53.4	2.6	58.4	30	17 40	18 04	18 33	11 16	12 06	13 00	13 57
	01	191 30.3	02.5	263 42.8	6.7	20 56.0	2.5	58.4	20	17 53	18 16	18 43	11 32	12 25	13 20	14 17
	02	206 30.3	01.8	278 08.5	6.7	20 58.5	2.3	58.4	N 10	18 06	18 28	18 53	11 47	12 41	13 38	14 34
	03	221 30.2	01.0	292 34.2	6.7	21 00.8	2.2	58.4	0	18 17	18 39	19 04	12 01	12 57	13 54	14 51
	04	236 30.1	16 00.3	306 59.9	6.7	21 03.0	2.1	58.4	S 10	18 29	18 51	19 17	12 14	13 13	14 10	15 07
	05	251 30.1	15 59.5	321 25.6	6.7	21 05.1	1.9	58.4	20	18 42	19 05	19 32	12 29	13 29	14 28	15 24
	06	266 30.0	S15 58.8	335 51.3	6.7	S21 07.0	1.8	58.3	30	18 56	19 22	19 52	12 45	13 48	14 48	15 43
	07	281 30.0	58.0	350 17.0	6.7	21 08.8	1.7	58.3	35	19 05	19 32	20 05	12 55	13 59	15 00	15 55
	08	296 29.9	57.2	4 42.7	6.7	21 10.5	1.6	58.3	40	19 15	19 44	20 21	13 06	14 12	15 13	16 08
	09	311 29.9	56.5	19 08.4	6.7	21 12.1	1.4	58.3	45	19 26	19 59	20 40	13 19	14 27	15 29	16 23
	10	326 29.8	55.7	33 34.1	6.7	21 13.5	1.2	58.3	S 50	19 40	20 17	21 05	13 35	14 46	15 49	16 42
	11	341 29.8	55.0	47 59.8	6.8	21 14.7	1.2	58.3	52	19 47	20 26	21 18	13 43	14 55	15 58	16 51
	12	356 29.7	S15 54.2	62 25.6	6.7	S21 15.9	1.0	58.2	54	19 54	20 36	21 34	13 51	15 04	16 09	17 01
	13	11 29.7	53.4	76 51.3	6.8	21 16.9	0.8	58.2	56	20 02	20 48	21 52	14 01	15 16	16 20	17 13
	14	26 29.6	52.7	91 17.1	6.7	21 17.7	0.8	58.2	58	20 11	21 01	22 16	14 11	15 28	16 34	17 26
	15	41 29.6	51.9	105 42.8	6.8	21 18.5	0.6	58.2	S 60	20 22	21 17	22 49	14 24	15 43	16 50	17 41
	16	56 29.5	51.2	120 08.6	6.8	21 19.1	0.5	58.2	Día	SOL		LUNA				
	17	71 29.5	50.4	134 34.4	6.8	21 19.6	0.3	58.2		E.T. (-)	Pas. Mer.	Pas. Mer.	Mer. Sup.	Mer. Inf.	Edad.	Fase
	18	86 29.4	S15 49.6	149 00.2	6.9	S21 19.9	0.2	58.1	3	m s	m s	h m	h m	h m	h m	

T.M.G. (TU)	ARIES	VENUS -3.9	MARTE +1.2	JUPITER -2.1	SATURNO +0.9	ESTRELLAS		
d h	A.H.G.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	Nombre	A. H. S.	Dec.
DOMINGO	6 00	135 54.1	171 19.6 S15 33.6	186 20.9 S19 33.2	274 06.5 S14 49.5	162 23.8 S12 27.9	Acamar	315 29.3 S40 20.0
	01	150 56.6	186 19.0 32.6	201 21.3 32.7	289 08.8 49.5	177 26.0 27.8	Achernar	335 37.7 S57 16.2
	02	165 59.0	201 18.4 31.6	216 21.8 32.2	304 11.1 49.5	192 28.2 27.7	Acrux	173 25.0 S63 03.9
	03	181 01.5	216 17.7 30.6	231 22.3 31.7	319 13.4 49.6	207 30.4 27.6	Adhara	255 23.6 S28 58.1
	04	196 04.0	231 17.1 29.6	246 22.7 31.2	334 15.7 49.6	222 32.5 27.4	Aldebaran	291 05.8 N16 29.8
	05	211 06.4	246 16.5 28.6	261 23.2 30.7	349 18.0 49.7	237 34.7 27.3		
	06	226 08.9	261 15.9 S15 27.6	276 23.6 S19 30.2	4 20.3 S14 49.7	252 36.9 S12 27.2	Alioth	166 33.0 N55 59.1
	07	241 11.3	276 15.3 26.6	291 24.1 29.8	19 22.6 49.8	267 39.1 27.1	Alkaid	153 10.1 N49 20.2
	08	256 13.8	291 14.6 25.6	306 24.5 29.3	34 24.9 49.8	282 41.3 27.0	Al Na'ir	28 02.3 S46 59.4
	09	271 16.3	306 14.0 24.7	321 25.0 28.8	49 27.2 49.8	297 43.4 26.9	Alnilam	276 00.8 S 1 12.5
	10	286 18.7	321 13.4 23.7	336 25.5 28.3	64 29.5 49.9	312 45.6 26.8	Alphard	218 10.0 S 8 38.2
	11	301 21.2	336 12.8 22.7	351 25.9 27.8	79 31.8 49.9	327 47.8 26.7		
	12	316 23.7	351 12.2 S15 21.7	6 26.4 S19 27.3	94 34.1 S14 50.0	342 50.0 S12 26.6	Alphecca	126 23.3 N26 43.8
	13	331 26.1	6 11.5 20.7	21 26.8 26.8	109 36.4 50.0	357 52.1 26.5	Alpheratz	357 58.7 N29 03.6
	14	346 28.6	21 10.9 19.7	36 27.3 26.3	124 38.7 50.1	12 54.3 26.4	Altair	62 22.6 N 8 51.2
	15	1 31.1	36 10.3 18.7	51 27.8 25.9	139 41.0 50.1	27 56.5 26.3	Ankaa	353 30.2 S42 20.4
	16	16 33.5	51 09.7 17.7	66 28.2 25.4	154 43.2 50.1	42 58.7 26.2	Antares	112 44.1 S26 25.1
	17	31 36.0	66 09.1 16.7	81 28.7 24.9	169 45.5 50.2	58 00.9 26.1		
	18	46 38.5	81 08.5 S15 15.7	96 29.1 S19 24.4	184 47.8 S14 50.2	73 03.0 S12 26.0	Arcturus	146 08.8 N19 12.5
	19	61 40.9	96 07.8 14.7	111 29.6 23.9	199 50.1 50.3	88 05.2 25.9	Atria	107 59.2 S69 00.8
	20	76 43.4	111 07.2 13.7	126 30.1 23.4	214 52.4 50.3	103 07.4 25.8	Avior	234 23.3 S59 29.7
	21	91 45.8	126 06.6 12.7	141 30.5 22.9	229 54.7 50.4	118 09.6 25.7	Bellatrix	278 47.3 N 6 20.5
	22	106 48.3	141 06.0 11.7	156 31.0 22.4	244 57.0 50.4	133 11.7 25.6	Betelgeuse	271 16.7 N 7 24.2
23	121 50.8	156 05.4 10.7	171 31.4 21.9	259 59.3 50.4	148 13.9 25.4			
LUNES	7 00	136 53.2	171 04.8 S15 09.7	186 31.9 S19 21.4	275 01.6 S14 50.5	163 16.1 S12 25.3	Canopus	264 02.1 S52 41.9
	01	151 55.7	186 04.2 08.7	201 32.4 20.9	290 03.9 50.5	178 18.3 25.2	Capella	280 55.6 N45 59.6
	02	166 58.2	201 03.5 07.7	216 32.8 20.4	305 06.2 50.6	193 20.5 25.1	Deneb	49 41.8 N45 15.6
	03	182 00.6	216 02.9 06.7	231 33.3 19.9	320 08.5 50.6	208 22.6 25.0	Denebola	182 48.1 N14 36.0
	04	197 03.1	231 02.3 05.7	246 33.7 19.4	335 10.8 50.6	223 24.8 24.9	Diphda	349 10.6 S18 01.2
	05	212 05.6	246 01.7 04.7	261 34.2 19.0	350 13.1 50.7	238 27.0 24.8		
	06	227 08.0	261 01.1 S15 03.7	276 34.7 S19 18.5	5 15.4 S14 50.7	253 29.2 S12 24.7	Dubhe	194 08.7 N61 46.6
	07	242 10.5	276 00.5 02.7	291 35.1 18.0	20 17.7 50.8	268 31.4 24.6	Elnath	278 30.7 N28 36.1
	08	257 13.0	290 59.9 01.6	306 35.6 17.5	35 20.0 50.8	283 33.5 24.5	Eltanin	90 53.2 N51 29.2
	09	272 15.4	305 59.3 15 00.6	321 36.0 17.0	50 22.3 50.8	298 35.7 24.4	Enif	34 01.6 N 9 50.9
	10	287 17.9	320 58.7 14 59.6	336 36.5 16.5	65 24.6 50.9	313 37.9 24.3	Fomalhaut	15 40.2 S29 39.3
	11	302 20.3	335 58.1 58.6	351 37.0 16.0	80 26.9 50.9	328 40.1 24.2		
	12	317 22.8	350 57.4 S14 57.6	6 37.4 S19 15.5	95 29.3 S14 51.0	343 42.2 S12 24.1	Gacrux	172 16.7 S57 04.7
	13	332 25.3	5 56.8 56.6	21 37.9 15.0	110 31.6 51.0	358 44.4 24.0	Gienah	176 07.0 S17 30.7
	14	347 27.7	20 56.2 55.6	36 38.4 14.5	125 33.9 51.0	13 46.6 23.9	Hadar	149 08.3 S60 20.5
	15	2 30.2	35 55.6 54.6	51 38.8 14.0	140 36.2 51.1	28 48.8 23.8	Hamal	328 17.2 N23 26.2
	16	17 32.7	50 55.0 53.5	66 39.3 13.5	155 38.5 51.1	43 50.9 23.7	Kaus Aust.	84 03.3 S34 23.2
	17	32 35.1	65 54.4 52.5	81 39.7 13.0	170 40.8 51.2	58 53.1 23.5		
	18	47 37.6	80 53.8 S14 51.5	96 40.2 S19 12.5	185 43.1 S14 51.2	73 55.3 S12 23.4	Kochab	137 19.4 N74 10.4
	19	62 40.1	95 53.2 50.5	111 40.7 12.0	200 45.4 51.2	88 57.5 23.3	Markab	13 53.0 N15 10.5
	20	77 42.5	110 52.6 49.5	126 41.1 11.5	215 47.7 51.3	103 59.7 23.2	Menkar	314 30.2 N 4 04.0
	21	92 45.0	125 52.0 48.5	141 41.6 11.0	230 50.0 51.3	119 01.8 23.1	Menkent	148 24.5 S36 20.4
	22	107 47.5	140 51.4 47.5	156 42.1 10.5	245 52.3 51.4	134 04.0 23.0	Miaplacidus	221 41.7 S69 41.7
23	122 49.9	155 50.8 46.4	171 42.5 10.0	260 54.6 51.4	149 06.2 22.9			
MARTES	8 00	137 52.4	170 50.2 S14 45.4	186 43.0 S19 09.5	275 56.9 S14 51.4	164 08.4 S12 22.8	Mirfak	309 01.0 N49 50.6
	01	152 54.8	185 49.6 44.4	201 43.5 09.0	290 59.2 51.5	179 10.5 22.7	Nunki	76 16.5 S26 18.2
	02	167 57.3	200 49.0 43.4	216 43.9 08.5	306 01.5 51.5	194 12.7 22.6	Peacock	53 42.5 S56 45.1
	03	182 59.8	215 48.4 42.3	231 44.4 08.0	321 03.8 51.6	209 14.9 22.5	Pollux	243 45.0 N28 02.3
	04	198 02.2	230 47.8 41.3	246 44.8 07.5	336 06.1 51.6	224 17.1 22.4	Procyon	245 14.5 N 5 14.2
	05	213 04.7	245 47.2 40.3	261 45.3 07.0	351 08.4 51.6	239 19.3 22.3		
	06	228 07.2	260 46.6 S14 39.3	276 45.8 S19 06.5	6 10.8 S14 51.7	254 21.4 S12 22.2	Rasalhague	96 20.1 N12 33.8
	07	243 09.6	275 46.0 38.3	291 46.2 06.0	21 13.1 51.7	269 23.6 22.1	Regulus	207 58.6 N11 59.5
	08	258 12.1	290 45.4 37.2	306 46.7 05.5	36 15.4 51.7	284 25.8 22.0	Rigel	281 25.8 S 8 12.7
	09	273 14.6	305 44.8 36.2	321 47.2 04.9	51 17.7 51.8	299 28.0 21.9	Rigil Kent.	140 11.4 S60 48.4
	10	288 17.0	320 44.2 35.2	336 47.6 04.4	66 20.0 51.8	314 30.1 21.8	Sabik	102 29.3 S15 43.0
	11	303 19.5	335 43.6 34.1	351 48.1 03.9	81 22.3 51.9	329 32.3 21.6		
	12	318 21.9	350 43.0 S14 33.1	6 48.6 S19 03.4	96 24.6 S14 51.9	344 34.5 S12 21.5	Schedar	349 57.4 N56 30.6
	13	333 24.4	5 42.4 32.1	21 49.0 02.9	111 26.9 51.9	359 36.7 21.4	Shaula	96 41.8 S37 05.9
	14	348 26.9	20 41.9 31.1	36 49.5 02.4	126 29.2 52.0	14 38.8 21.3	Sirius	258 46.2 S16 42.7
	15	3 29.3	35 41.3 30.0	51 50.0 01.9	141 31.5 52.0	29 41.0 21.2	Spica	158 46.4 S11 08.0
	16	18 31.8	50 40.7 29.0	66 50.4 01.4	156 33.9 52.1	44 43.2 21.1	Suhail	223 02.6 S43 24.7
	17	33 34.3	65 40.1 28.0	81 50.9 00.9	171 36.2 52.1	59 45.4 21.0		
	18	48 36.7	80 39.5 S14 26.9	96 51.4 S19 00.4	186 38.5 S14 52.1	74 47.6 S12 20.9	Vega	80 49.1 N38 46.6
	19	63 39.2	95 38.9 25.9	111 51.8 18 59.9	201 40.8 52.2	89 49.7 20.8	Zuben'ubi	137 21.4 S16 01.1
	20	78 41.7	110 38.3 24.9	126 52.3 59.4	216 43.1 52.2	104 51.9 20.7		
	21	93 44.1	125 37.7 23.8	141 52.8 58.9	231 45.4 52.2	119 54.1 20.6		
	22	108 46.6	140 37.1 22.8	156 53.2 58.3	246 47.7 52.3	134 56.3 20.5	Venus	34 11.5 12 36
23	123 49.1	155 36.5 21.8	171 53.7 57.8	261 50.0 52.3	149 58.4 20.4	Marte	49 38.7 11 34	
						Jupiter	138 08.4 5 39	
						Saturno	26 22.9 13 05	
Pas. Mer. 14	50.0	v -0.6 d 1.0	v 0.5 d 0.5	v 2.3 d 0.0	v 2.2 d 0.1			

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna			
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Náut.		Civil	6	7	8
	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	' / "	°	h m	h m	h m	h m	h m	h m
DOMINICANO	6 00	176 29.2	S15 45.1	235 35.5	7.0	S21 19.2	0.6	58.0	N 72	06 48	08 12	09 44	09 35	08 42
	01	191 29.1	44.3	250 01.5	7.0	21 18.6	0.7	58.0	N 70	06 43	07 58	09 15	09 25	08 28
	02	206 29.1	43.5	264 27.5	7.0	21 17.9	0.8	58.0	68	06 38	07 46	08 53	07 35	07 49
	03	221 29.0	42.8	278 53.5	7.0	21 17.1	1.0	58.0	66	06 34	07 36	08 36	06 38	07 10
	04	236 29.0	42.0	293 19.5	7.1	21 16.1	1.1	58.0	64	06 30	07 28	08 22	06 05	06 42
	05	251 28.9	41.2	307 45.6	7.1	21 15.0	1.2	57.9	62	06 27	07 20	08 10	05 40	06 21
	06	266 28.9	S15 40.4	322 11.7	7.1	S21 13.8	1.4	57.9	60	06 24	07 14	08 00	05 21	06 04
	07	281 28.9	39.7	336 37.8	7.2	21 12.4	1.5	57.9	N 58	06 22	07 08	07 51	05 04	05 49
	08	296 28.8	38.9	351 04.0	7.2	21 10.9	1.6	57.9	56	06 19	07 03	07 43	04 51	05 37
	09	311 28.8	38.1	5 30.2	7.2	21 09.3	1.7	57.9	54	06 17	06 59	07 37	04 39	05 26
	10	326 28.7	37.4	19 56.4	7.3	21 07.6	1.9	57.9	52	06 14	06 55	07 30	04 28	05 16
	11	341 28.7	36.6	34 22.7	7.3	21 05.7	2.0	57.8	50	06 12	06 51	07 25	04 19	05 08
	12	356 28.6	S15 35.8	48 49.0	7.3	S21 03.7	2.1	57.8	45	06 07	06 42	07 13	03 59	04 49
	13	11 28.6	35.1	63 15.3	7.4	21 01.6	2.2	57.8	N 40	06 02	06 35	07 03	03 43	04 34
	14	26 28.6	34.3	77 41.7	7.4	20 59.4	2.4	57.8	35	05 58	06 28	06 54	03 30	04 22
	15	41 28.5	33.5	92 08.1	7.4	20 57.0	2.5	57.8	30	05 53	06 22	06 47	03 18	04 11
	16	56 28.5	32.7	106 34.5	7.5	20 54.5	2.6	57.7	20	05 44	06 11	06 33	02 58	03 51
	17	71 28.4	32.0	121 01.0	7.6	20 51.9	2.8	57.7	N 10	05 35	06 00	06 22	02 40	03 35
	18	86 28.4	S15 31.2	135 27.6	7.5	S20 49.1	2.8	57.7	0	05 24	05 49	06 11	02 24	03 19
	19	101 28.4	30.4	149 54.1	7.6	20 46.3	3.0	57.7	S 10	05 12	05 38	06 00	02 07	03 04
	20	116 28.3	29.6	164 20.7	7.7	20 43.3	3.1	57.7	20	04 57	05 24	05 47	01 50	02 47
	21	131 28.3	28.9	178 47.4	7.7	20 40.2	3.3	57.6	30	04 38	05 08	05 34	01 30	02 28
	22	146 28.2	28.1	193 14.1	7.8	20 36.9	3.3	57.6	35	04 26	04 58	05 25	01 18	02 17
23	161 28.2	27.3	207 40.9	7.8	20 33.6	3.5	57.6	40	04 11	04 47	05 16	01 04	02 04	
7 00	176 28.2	S15 26.5	222 07.7	7.8	S20 30.1	3.6	57.6	45	03 52	04 33	05 05	00 49	01 49	
01	191 28.1	25.8	236 34.5	7.9	20 26.5	3.7	57.6	S 50	03 28	04 15	04 52	00 29	01 30	
02	206 28.1	25.0	251 01.4	8.0	20 22.8	3.8	57.6	52	03 16	04 07	04 46	00 20	01 22	
03	221 28.1	24.2	265 28.4	8.0	20 19.0	3.9	57.5	54	03 01	03 57	04 39	00 09	01 12	
04	236 28.0	23.4	279 55.4	8.0	20 15.1	4.1	57.5	56	02 44	03 46	04 31	25 01	01 01	
05	251 28.0	22.7	294 22.4	8.1	20 11.0	4.2	57.5	58	02 22	03 33	04 22	24 48	00 48	
06	266 28.0	S15 21.9	308 49.5	8.2	S20 06.8	4.3	57.5	S 60	01 53	03 18	04 12	24 33	00 33	
07	281 27.9	21.1	323 16.7	8.2	20 02.5	4.4	57.5							
08	296 27.9	20.3	337 43.9	8.2	19 58.1	4.5	57.4	Lat.	Ocaso Sol	Crepúsculo	Ocaso Luna	6	7	
09	311 27.9	19.5	352 11.1	8.4	19 53.6	4.6	57.4	Civil	Náut.	6	7	8	9	
10	326 27.8	18.8	6 38.5	8.3	19 49.0	4.7	57.4	°	h m	h m	h m	h m	h m	
11	341 27.8	18.0	21 05.8	8.5	19 44.3	4.9	57.4	N 72	14 45	16 17	17 42	11 29	14 07	
12	356 27.7	S15 17.2	35 33.3	8.4	S19 39.4	4.9	57.4	N 70	15 15	16 32	17 47	09 48	12 36	
13	11 27.7	16.4	50 00.7	8.6	19 34.5	5.1	57.3	68	15 37	16 44	17 52	09 42	11 24	
14	26 27.7	15.6	64 28.3	8.6	19 29.4	5.2	57.3	66	15 54	16 53	17 56	10 38	12 02	
15	41 27.7	14.8	78 55.9	8.6	19 24.2	5.2	57.3	64	16 08	17 02	17 59	11 12	12 29	
16	56 27.6	14.1	93 23.5	8.7	19 19.0	5.4	57.3	62	16 19	17 09	18 02	11 36	12 50	
17	71 27.6	13.3	107 51.2	8.8	19 13.6	5.5	57.3	60	16 29	17 15	18 05	11 56	13 07	
18	86 27.6	S15 12.5	122 19.0	8.9	S19 08.1	5.6	57.2	N 58	16 38	17 21	18 08	12 12	13 21	
19	101 27.5	11.7	136 46.9	8.9	19 02.5	5.7	57.2	56	16 46	17 26	18 10	12 25	13 33	
20	116 27.5	10.9	151 14.8	8.9	18 56.8	5.8	57.2	54	16 52	17 30	18 12	12 37	13 44	
21	131 27.5	10.1	165 42.7	9.0	18 51.0	5.9	57.2	52	16 59	17 35	18 15	12 48	13 53	
22	146 27.4	09.4	180 10.7	9.1	18 45.1	6.0	57.2	50	17 04	17 38	18 17	12 57	14 01	
23	161 27.4	08.6	194 38.8	9.1	18 39.1	6.1	57.1	45	17 16	17 47	18 22	13 16	14 19	
8 00	176 27.4	S15 07.8	209 06.9	9.2	S18 33.0	6.2	57.1	N 40	17 26	17 54	18 26	13 32	14 34	
01	191 27.3	07.0	223 35.1	9.3	18 26.8	6.3	57.1	35	17 35	18 01	18 31	13 46	14 46	
02	206 27.3	06.2	238 03.4	9.3	18 20.5	6.4	57.1	30	17 42	18 07	18 35	13 57	14 57	
03	221 27.3	05.4	252 31.7	9.4	18 14.1	6.5	57.1	20	17 55	18 18	18 44	14 17	15 15	
04	236 27.3	04.6	267 00.1	9.5	18 07.6	6.6	57.0	N 10	18 07	18 28	18 54	14 34	15 31	
05	251 27.2	03.8	281 28.6	9.5	18 01.0	6.7	57.0	0	18 18	18 39	19 04	14 51	15 45	
06	266 27.2	S15 03.0	295 57.1	9.6	S17 54.3	6.8	57.0	S 10	18 29	18 51	19 16	15 07	16 00	
07	281 27.2	02.3	310 25.7	9.6	17 47.5	6.8	57.0	20	18 41	19 04	19 31	15 24	16 16	
08	296 27.2	01.5	324 54.3	9.8	17 40.7	7.0	57.0	30	18 54	19 20	19 50	15 43	16 34	
09	311 27.1	15 00.7	339 23.1	9.7	17 33.7	7.0	56.9	35	19 02	19 29	20 02	15 55	16 44	
10	326 27.1	14 59.9	353 51.8	9.9	17 26.7	7.2	56.9	40	19 11	19 41	20 17	16 08	16 56	
11	341 27.1	59.1	8 20.7	9.9	17 19.5	7.2	56.9	45	19 22	19 55	20 35	16 23	17 10	
12	356 27.0	S14 58.3	22 49.6	10.0	S17 12.3	7.3	56.9	S 50	19 35	20 12	20 59	16 42	17 27	
13	11 27.0	57.5	37 18.6	10.0	17 05.0	7.4	56.9	52	19 41	20 20	21 11	16 51	17 35	
14	26 27.0	56.7	51 47.6	10.1	16 57.6	7.5	56.8	54	19 48	20 30	21 25	17 01	17 43	
15	41 27.0	55.9	66 16.7	10.2	16 50.1	7.6	56.8	56	19 56	20 40	21 42	17 13	17 53	
16	56 27.0	55.1	80 45.9	10.2	16 42.5	7.6	56.8	58	20 04	20 53	22 03	17 26	18 05	
17	71 26.9	54.3	95 15.1	10.3	16 34.9	7.8	56.8	S 60	20 14	21 07	22 31	17 41	18 18	
18	86 26.9	S14 53.5	109 44.4	10.4	S16 27.1	7.8	56.8							
19	101 26.9	52.7	124 13.8	10.4	16 19.3	7.9	56.7							
20	116 26.9	51.9	138 43.2	10.5	16 11.4	8.0	56.7	Día	E.T. (-)	Pas. Mer.	Pas. Mer.	Edad.	Fase	
21	131 26.8	51.1	153 12.7	10.6	16 03.4	8.0	56.7	6	00 h 14 03	12 h 14 05	h m 12 14	h m 08 37	h m 21 05	
22	146 26.8	50.3	167 42.3	10.6	15 55.4	8.2	56.7	7	14 07	14 09	12 14	09 32	21 59	
23	161 26.8	49.5	182 11.9	10.7	15 47.2	8.2	56.7	8	14 10	14 12	12 14	10 25	22 51	
	S.D. 16.2	<i>d</i> 0.8	S.D.	15.8	15.6	15.5								

T.M.G. (TU)	ARIES		VENUS -3.9			MARTE +1.2			JUPITER -2.1			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.			
M I E R C O L E S	9 00	138 51.5	170 35.9	S14 20.7	186 54.2	S18 57.3	276 52.4	S14 52.4	165 00.6	S12 20.3	Acamar	315 29.3	S40 20.0				
	01	153 54.0	185 35.4	19.7	201 54.6	56.8	291 54.7	52.4	180 02.8	20.2	Achernar	335 37.7	S57 16.2				
	02	168 56.4	200 34.8	18.7	216 55.1	56.3	306 57.0	52.4	195 05.0	20.1	Acrux	173 25.0	S63 03.9				
	03	183 58.9	215 34.2	17.6	231 55.6	55.8	321 59.3	52.5	210 07.1	20.0	Adhara	255 23.6	S28 58.1				
	04	199 01.4	230 33.6	16.6	246 56.1	55.3	337 01.6	52.5	225 09.3	19.8	Aldebaran	291 05.9	N16 29.8				
	05	214 03.8	245 33.0	15.5	261 56.5	54.8	352 03.9	52.5	240 11.5	19.7							
	06	229 06.3	260 32.4	S14 14.5	276 57.0	S18 54.3	7 06.2	S14 52.6	255 13.7	S12 19.6	Alioth	166 33.0	N55 59.1				
	07	244 08.8	275 31.8	13.5	291 57.5	53.7	22 08.6	52.6	270 15.9	19.5	Alkaid	153 10.1	N49 20.2				
	08	259 11.2	290 31.3	12.4	306 57.9	53.2	37 10.9	52.6	285 18.0	19.4	Al Na'ir	28 02.3	S46 59.4				
	09	274 13.7	305 30.7	11.4	321 58.4	52.7	52 13.2	52.7	300 20.2	19.3	Alnilam	276 00.8	S 1 12.5				
	10	289 16.2	320 30.1	10.3	336 58.9	52.2	67 15.5	52.7	315 22.4	19.2	Alphard	218 09.9	S 8 38.2				
	11	304 18.6	335 29.5	09.3	351 59.3	51.7	82 17.8	52.8	330 24.6	19.1							
	12	319 21.1	350 28.9	S14 08.2	6 59.8	S18 51.2	97 20.1	S14 52.8	345 26.7	S12 19.0	Alphecca	126 23.3	N26 43.8				
	13	334 23.6	5 28.3	07.2	22 00.3	50.7	112 22.5	52.8	0 28.9	18.9	Alpheratz	357 58.7	N29 03.6				
	14	349 26.0	20 27.8	06.1	37 00.8	50.1	127 24.8	52.9	15 31.1	18.8	Altair	62 22.6	N 8 51.1				
	15	4 28.5	35 27.2	05.1	52 01.2	49.6	142 27.1	52.9	30 33.3	18.7	Ankaa	353 30.2	S42 20.4				
	16	19 30.9	50 26.6	04.1	67 01.7	49.1	157 29.4	52.9	45 35.4	18.6	Antares	112 44.1	S26 25.1				
	17	34 33.4	65 26.0	03.0	82 02.2	48.6	172 31.7	53.0	60 37.6	18.5							
	18	49 35.9	80 25.4	S14 02.0	97 02.6	S18 48.1	187 34.1	S14 53.0	75 39.8	S12 18.4	Arcturus	146 08.8	N19 12.5				
	19	64 38.3	95 24.9	14 00.9	112 03.1	47.6	202 36.4	53.0	90 42.0	18.3	Atria	107 59.2	S69 00.8				
	20	79 40.8	110 24.3	13 59.9	127 03.6	47.0	217 38.7	53.1	105 44.1	18.1	Avior	234 23.3	S59 29.7				
	21	94 43.3	125 23.7	58.8	142 04.1	46.5	232 41.0	53.1	120 46.3	18.0	Bellatrix	278 47.3	N 6 20.5				
	22	109 45.7	140 23.1	57.8	157 04.5	46.0	247 43.3	53.1	135 48.5	17.9	Betelgeuse	271 16.7	N 7 24.2				
23	124 48.2	155 22.5	56.7	172 05.0	45.5	262 45.7	53.2	150 50.7	17.8								
J U E V E S	10 00	139 50.7	170 22.0	S13 55.7	187 05.5	S18 45.0	277 48.0	S14 53.2	165 52.9	S12 17.7	Canopus	264 02.1	S52 41.9				
	01	154 53.1	185 21.4	54.6	202 05.9	44.5	292 50.3	53.2	180 55.0	17.6	Capella	280 55.6	N45 59.6				
	02	169 55.6	200 20.8	53.5	217 06.4	43.9	307 52.6	53.3	195 57.2	17.5	Deneb	49 41.8	N45 15.6				
	03	184 58.0	215 20.2	52.5	232 06.9	43.4	322 54.9	53.3	210 59.4	17.4	Denebola	182 48.1	N14 36.0				
	04	200 00.5	230 19.7	51.4	247 07.4	42.9	337 57.3	53.3	226 01.6	17.3	Diphda	349 10.6	S18 01.2				
	05	215 03.0	245 19.1	50.4	262 07.8	42.4	352 59.6	53.4	241 03.7	17.2							
	06	230 05.4	260 18.5	S13 49.3	277 08.3	S18 41.9	8 01.9	S14 53.4	256 05.9	S12 17.1	Dubhe	194 08.7	N61 46.7				
	07	245 07.9	275 18.0	48.3	292 08.8	41.3	23 04.2	53.5	271 08.1	17.0	Elnath	278 30.7	N28 36.2				
	08	260 10.4	290 17.4	47.2	307 09.3	40.8	38 06.6	53.5	286 10.3	16.9	Eltanin	90 53.2	N51 29.2				
	09	275 12.8	305 16.8	46.2	322 09.7	40.3	53 08.9	53.5	301 12.4	16.8	Enif	34 01.6	N 9 50.9				
	10	290 15.3	320 16.2	45.1	337 10.2	39.8	68 11.2	53.6	316 14.6	16.7	Fomalhaut	15 40.2	S29 39.3				
	11	305 17.8	335 15.7	44.0	352 10.7	39.2	83 13.5	53.6	331 16.8	16.6							
	12	320 20.2	350 15.1	S13 43.0	7 11.1	S18 38.7	98 15.8	S14 53.6	346 19.0	S12 16.4	Gacrux	172 16.7	S57 04.8				
	13	335 22.7	5 14.5	41.9	22 11.6	38.2	113 18.2	53.7	1 21.1	16.3	Gienah	176 06.9	S17 30.7				
	14	350 25.2	20 14.0	40.9	37 12.1	37.7	128 20.5	53.7	16 23.3	16.2	Hadar	149 08.3	S60 20.5				
	15	5 27.6	35 13.4	39.8	52 12.6	37.1	143 22.8	53.7	31 25.5	16.1	Hamal	328 17.2	N23 26.2				
	16	20 30.1	50 12.8	38.7	67 13.0	36.6	158 25.1	53.8	46 27.7	16.0	Kaus Aust.	84 03.2	S34 23.2				
	17	35 32.5	65 12.2	37.7	82 13.5	36.1	173 27.5	53.8	61 29.8	15.9							
	18	50 35.0	80 11.7	S13 36.6	97 14.0	S18 35.6	188 29.8	S14 53.8	76 32.0	S12 15.8	Kochab	137 19.3	N74 10.4				
	19	65 37.5	95 11.1	35.5	112 14.5	35.0	203 32.1	53.9	91 34.2	15.7	Markab	13 53.0	N15 10.5				
	20	80 39.9	110 10.5	34.5	127 14.9	34.5	218 34.5	53.9	106 36.4	15.6	Menkar	314 30.2	N 4 04.0				
	21	95 42.4	125 10.0	33.4	142 15.4	34.0	233 36.8	53.9	121 38.5	15.5	Menkent	148 24.5	S36 20.4				
	22	110 44.9	140 09.4	32.3	157 15.9	33.5	248 39.1	54.0	136 40.7	15.4	Miaplacidus	221 41.7	S69 41.7				
23	125 47.3	155 08.9	31.3	172 16.4	32.9	263 41.4	54.0	151 42.9	15.3								
V I R N E S	11 00	140 49.8	170 08.3	S13 30.2	187 16.9	S18 32.4	278 43.8	S14 54.0	166 45.1	S12 15.2	Mirfak	309 01.1	N49 50.6				
	01	155 52.3	185 07.7	29.1	202 17.3	31.9	293 46.1	54.0	181 47.3	15.1	Nunki	76 16.5	S26 18.2				
	02	170 54.7	200 07.2	28.1	217 17.8	31.4	308 48.4	54.1	196 49.4	15.0	Pecock	53 42.5	S56 45.1				
	03	185 57.2	215 06.6	27.0	232 18.3	30.8	323 50.7	54.1	211 51.6	14.9	Pollux	243 45.0	N28 02.3				
	04	200 59.7	230 06.0	25.9	247 18.8	30.3	338 53.1	54.1	226 53.8	14.7	Procyon	245 14.5	N 5 14.2				
	05	216 02.1	245 05.5	24.9	262 19.2	29.8	353 55.4	54.2	241 56.0	14.6							
	06	231 04.6	260 04.9	S13 23.8	277 19.7	S18 29.2	8 57.7	S14 54.2	256 58.1	S12 14.5	Rasalhague	96 20.0	N12 33.7				
	07	246 07.0	275 04.3	22.7	292 20.2	28.7	24 00.1	54.2	272 00.3	14.4	Regulus	207 58.5	N11 59.5				
	08	261 09.5	290 03.8	21.6	307 20.7	28.2	39 02.4	54.3	287 02.5	14.3	Rigel	281 25.8	S 8 12.7				
	09	276 12.0	305 03.2	20.6	322 21.1	27.7	54 04.7	54.3	302 04.7	14.2	Rigil Kent.	140 11.3	S60 48.4				
	10	291 14.4	320 02.7	19.5	337 21.6	27.1	69 07.1	54.3	317 06.8	14.1	Sabik	102 29.3	S15 43.1				
	11	306 16.9	335 02.1	18.4	352 22.1	26.6	84 09.4	54.4	332 09.0	14.0							
	12	321 19.4	350 01.5	S13 17.3	7 22.6	S18 26.1	99 11.7	S14 54.4	347 11.2	S12 13.9	Schedar	349 57.4	N56 30.6				
	13	336 21.8	5 01.0	16.3	22 23.1	25.5	114 14.1	54.4	2 13.4	13.8	Shaula	96 41.8	S37 05.9				
	14	351 24.3	20 00.4	15.2	37 23.5	25.0	129 16.4	54.5	17 15.5	13.7	Sirius	258 46.2	S16 42.7				
	15	6 26.8	34 59.9	14.1	52 24.0	24.5	144 18.7	54.5	32 17.7	13.6	Spica	158 46.3	S11 08.0				
	16	21 29.2	49 59.3	13.0	67 24.5	23.9	159 21.1	54.5	47 19.9	13.5	Suhail	223 02.6	S43 24.7				
	17	36 31.7	64 58.8	12.0	82 25.0	23.4	174 23.4	54.6	62 22.1	13.4							
	18	51 34.1	79 58.2	S13 10.9	97 25.5	S18 22.9	189 25.7	S14 54.6	77 24.2	S12 13.3	Vega	80 49.1	N38 46.6				
	19	66 36.6	94 57.7	09.8	112 25.9	22.3	204 28.1	54.6	92 26.4	13.2	Zuben'ubi	137 21.4	S16 01.1				
	20	81 39.1	109 57.1	08.7	127 26.4	21.8	219 30.4	54.6	107 28.6	13.0							
	21	96 41.5	124 56.5	07.6	142 26.9	21.3	234 32.7	54.7	122 30.8	12.9							
	22	111 44.0	139 56.0	06.6	157 27.4	20.7	249 35.1	54.7	137 32.9	12.8							
23	126 46.5	154 55.4	05.5	172 27.9	20.2	264 37.4	54.7	152 35.1	12.7								
Pas. Mer. 14 38.2		v -0.6 d 1.1			v 0.5 d 0.5			v 2.3 d 0.0			v 2.2 d 0.1			A. H. S. Pas. Mer.			
											o / h m			Venus 30 31.3 12 39			
														Marte 47 14.8 11 31			
														Júpiter 137 57.3 5 28			
														Saturno 26 02.2 12 55			

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.1			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		Nombre	A. H. S.	Dec.
12 00	141 48.9	169 54.9	S13 04.4	187 28.3	S18 19.7		279 39.7	S14 54.8		167 37.3	S12 12.6		Acamar	315 29.3	S40 20.0			
01	156 51.4	184 54.3	03.3	202 28.8	19.1		294 42.1	54.8		182 39.5	12.5		Achernar	335 37.7	S57 16.2			
02	171 53.9	199 53.8	02.2	217 29.3	18.6		309 44.4	54.8		197 41.6	12.4		Acrux	173 25.0	S63 03.9			
03	186 56.3	214 53.2	01.1	232 29.8	18.0		324 46.7	54.9		212 43.8	12.3		Adhara	255 23.6	S28 58.1			
04	201 58.8	229 52.7	13 00.0	247 30.3	17.5		339 49.1	54.9		227 46.0	12.2		Aldebaran	291 05.9	N16 29.8			
05	217 01.3	244 52.1	12 59.0	262 30.7	17.0		354 51.4	54.9		242 48.2	12.1							
06	232 03.7	259 51.6	S12 57.9	277 31.2	S18 16.4		9 53.7	S14 54.9		257 50.3	S12 12.0		Alioth	166 33.0	N55 59.1			
07	247 06.2	274 51.0	56.8	292 31.7	15.9		24 56.1	55.0		272 52.5	11.9		Alkaid	153 10.0	N49 20.2			
08	262 08.6	289 50.5	55.7	307 32.2	15.4		39 58.4	55.0		287 54.7	11.8		Al Na'ir	28 02.3	S46 59.4			
S 09	277 11.1	304 49.9	54.6	322 32.7	14.8		55 00.8	55.0		302 56.9	11.7		Alnilam	276 00.9	S 1 12.5			
A 10	292 13.6	319 49.4	53.5	337 33.1	14.3		70 03.1	55.1		317 59.0	11.6		Alphard	218 09.9	S 8 38.2			
B 11	307 16.0	334 48.8	52.4	352 33.6	13.7		85 05.4	55.1		333 01.2	11.4							
A 12	322 18.5	349 48.3	S12 51.3	7 34.1	S18 13.2		100 07.8	S14 55.1		348 03.4	S12 11.3		Alphecca	126 23.2	N26 43.8			
D 13	337 21.0	4 47.7	50.3	22 34.6	12.7		115 10.1	55.2		3 05.6	11.2		Alpheratz	357 58.7	N29 03.6			
O 14	352 23.4	19 47.2	49.2	37 35.1	12.1		130 12.5	55.2		18 07.7	11.1		Altair	62 22.6	N 8 51.1			
15	7 25.9	34 46.6	48.1	52 35.6	11.6		145 14.8	55.2		33 09.9	11.0		Ankaa	353 30.2	S42 20.4			
16	22 28.4	49 46.1	47.0	67 36.0	11.0		160 17.1	55.2		48 12.1	10.9		Antares	112 44.1	S26 25.1			
17	37 30.8	64 45.6	45.9	82 36.5	10.5		175 19.5	55.3		63 14.3	10.8							
18	52 33.3	79 45.0	S12 44.8	97 37.0	S18 10.0		190 21.8	S14 55.3		78 16.4	S12 10.7		Arcturus	146 08.8	N19 12.5			
19	67 35.8	94 44.5	43.7	112 37.5	09.4		205 24.2	55.3		93 18.6	10.6		Atria	107 59.1	S69 00.8			
20	82 38.2	109 43.9	42.6	127 38.0	08.9		220 26.5	55.4		108 20.8	10.5		Avior	234 23.3	S59 29.7			
21	97 40.7	124 43.4	41.5	142 38.5	08.3		235 28.8	55.4		123 23.0	10.4		Bellatrix	278 47.3	N 6 20.5			
22	112 43.1	139 42.8	40.4	157 38.9	07.8		250 31.2	55.4		138 25.1	10.3		Betelgeuse	271 16.7	N 7 24.2			
23	127 45.6	154 42.3	39.3	172 39.4	07.2		265 33.5	55.4		153 27.3	10.2							
13 00	142 48.1	169 41.8	S12 38.2	187 39.9	S18 06.7		280 35.9	S14 55.5		168 29.5	S12 10.1		Canopus	264 02.2	S52 41.9			
01	157 50.5	184 41.2	37.1	202 40.4	06.2		295 38.2	55.5		183 31.7	09.9		Capella	280 55.6	N45 59.6			
02	172 53.0	199 40.7	36.0	217 40.9	05.6		310 40.6	55.5		198 33.8	09.8		Deneb	49 41.8	N45 13.6			
03	187 55.5	214 40.1	34.9	232 41.4	05.1		325 42.9	55.5		213 36.0	09.7		Denebola	182 48.1	N14 36.0			
04	202 57.9	229 39.6	33.8	247 41.9	04.5		340 45.2	55.6		228 38.2	09.6		Diphda	349 10.6	S18 01.2			
05	218 00.4	244 39.1	32.7	262 42.3	04.0		355 47.6	55.6		243 40.4	09.5							
06	233 02.9	259 38.5	S12 31.6	277 42.8	S18 03.4		10 49.9	S14 55.6		258 42.5	S12 09.4		Dubhe	194 08.7	N61 46.7			
07	248 05.3	274 38.0	30.5	292 43.3	02.9		25 52.3	55.7		273 44.7	09.3		Elnath	278 30.7	N28 36.2			
D 08	263 07.8	289 37.4	29.4	307 43.8	02.3		40 54.6	55.7		288 46.9	09.2		Eltanin	90 53.2	N51 29.2			
O 09	278 10.2	304 36.9	28.3	322 44.3	01.8		55 57.0	55.7		303 49.1	09.1		Enif	34 01.6	N 9 50.9			
M 10	293 12.7	319 36.4	27.2	337 44.8	01.2		70 59.3	55.7		318 51.2	09.0		Fomalhaut	15 40.2	S29 39.2			
I 11	308 15.2	334 35.8	26.1	352 45.3	00.7		86 01.7	55.8		333 53.4	08.9							
N 12	323 17.6	349 35.3	S12 25.0	7 45.7	S18 00.2		101 04.0	S14 55.8		348 55.6	S12 08.8		Gacrux	172 16.6	S57 04.8			
G 13	338 20.1	4 34.8	23.9	22 46.2	17 59.6		116 06.4	55.8		3 57.8	08.7		Gienah	176 06.9	S17 30.7			
O 14	353 22.6	19 34.2	22.8	37 46.7	59.1		131 08.7	55.8		18 59.9	08.6		Hadar	149 08.2	S60 20.5			
15	8 25.0	34 33.7	21.7	52 47.2	58.5		146 11.0	55.9		34 02.1	08.5		Hamal	328 17.2	N23 26.2			
16	23 27.5	49 33.2	20.6	67 47.7	58.0		161 13.4	55.9		49 04.3	08.3		Kaus Aust.	84 03.2	S34 23.1			
17	38 30.0	64 32.6	19.5	82 48.2	57.4		176 15.7	55.9		64 06.5	08.2							
18	53 32.4	79 32.1	S12 18.4	97 48.7	S17 56.9		191 18.1	S14 56.0		79 08.6	S12 08.1		Kochab	137 19.2	N74 10.4			
19	68 34.9	94 31.6	17.3	112 49.2	56.3		206 20.4	56.0		94 10.8	08.0		Markab	13 53.0	N15 10.5			
20	83 37.4	109 31.0	16.2	127 49.6	55.8		221 22.8	56.0		109 13.0	07.9		Menkar	314 30.2	N 4 03.9			
21	98 39.8	124 30.5	15.0	142 50.1	55.2		236 25.1	56.0		124 15.2	07.8		Menkent	148 24.5	S36 20.4			
22	113 42.3	139 30.0	13.9	157 50.6	54.7		251 27.5	56.1		139 17.3	07.7		Miaplacidus	221 41.7	S69 41.8			
23	128 44.7	154 29.4	12.8	172 51.1	54.1		266 29.8	56.1		154 19.5	07.6							
14 00	143 47.2	169 28.9	S12 11.7	187 51.6	S17 53.6		281 32.2	S14 56.1		169 21.7	S12 07.5		Mirfak	309 01.1	N49 50.6			
01	158 49.7	184 28.4	10.6	202 52.1	53.0		296 34.5	56.1		184 23.9	07.4		Nunki	76 16.5	S26 18.2			
02	173 52.1	199 27.8	09.5	217 52.6	52.4		311 36.9	56.2		199 26.0	07.3		Peacock	53 42.5	S56 45.1			
03	188 54.6	214 27.3	08.4	232 53.1	51.9		326 39.2	56.2		214 28.2	07.2		Pollux	243 45.0	N28 02.3			
04	203 57.1	229 26.8	07.3	247 53.6	51.3		341 41.6	56.2		229 30.4	07.1		Procyon	245 14.5	N 5 14.2			
05	218 59.5	244 26.3	06.1	262 54.0	50.8		356 43.9	56.2		244 32.6	07.0							
06	234 02.0	259 25.7	S12 05.0	277 54.5	S17 50.2		11 46.3	S14 56.3		259 34.7	S12 06.8		Rasalhague	96 20.0	N12 33.7			
07	249 04.5	274 25.2	03.9	292 55.0	49.7		26 48.6	56.3		274 36.9	06.7		Regulus	207 58.5	N11 59.5			
08	264 06.9	289 24.7	02.8	307 55.5	49.1		41 51.0	56.3		289 39.1	06.6		Rigel	281 25.8	S 8 12.7			
L 09	279 09.4	304 24.1	01.7	322 56.0	48.6		56 53.4	56.3		304 41.3	06.5		Rigil Kent.	140 11.3	S60 48.4			
U 10	294 11.9	319 23.6	12 00.6	337 56.5	48.0		71 55.7	56.4		319 43.4	06.4		Sabik	102 29.3	S15 43.1			
N 11	309 14.3	334 23.1	11 59.5	352 57.0	47.5		86 58.1	56.4		334 45.6	06.3							
E 12	324 16.8	349 22.6	S11 58.3	7 57.5	S17 46.9		102 00.4	S14 56.4		349 47.8	S12 06.2		Schedar	349 57.4	N56 30.5			
S 13	339 19.2	4 22.0	57.2	22 58.0	46.4		117 02.8	56.4		4 50.0	06.1		Shaula	96 41.7	S37 05.9			
14	354 21.7	19 21.5	56.1	37 58.5	45.8		132 05.1	56.5		19 52.1	06.0		Sirius	258 46.2	S16 42.7			
15	9 24.2	34 21.0	55.0	52 59.0	45.2		147 07.5	56.5		34 54.3	05.9		Spica					

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna														
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.	Civil		12		13		14		15								
	o	'	o	'	o	'	o	'					h	m	h	m	h	m	h	m	h	m	h	m			
12 00	176	26.1	S13	50.2	162	53.9	14.5	S	3	33.8	11.1	55.2	N 72	06	24	07	45	09	07	07	50	07	37	07	24	07	09
01	191	26.1		49.4	177	27.4	14.6		3	22.7	11.1	55.2	N 70	06	21	07	34	08	45	07	47	07	40	07	32	07	25
02	206	26.1		48.6	192	01.0	14.6		3	11.6	11.1	55.2	68	06	19	07	25	08	27	07	44	07	42	07	40	07	38
03	221	26.1	..	47.7	206	34.6	14.6		3	00.5	11.1	55.1	66	06	17	07	17	08	14	07	42	07	44	07	46	07	49
04	236	26.2		46.9	221	08.2	14.7		2	49.4	11.1	55.1	64	06	15	07	11	08	02	07	40	07	46	07	51	07	58
05	251	26.2		46.1	235	41.9	14.7		2	38.3	11.1	55.1	62	06	13	07	05	07	53	07	39	07	47	07	56	08	06
06	266	26.2	S13	45.2	250	15.6	14.7	S	2	27.2	11.1	55.1	60	06	11	07	00	07	44	07	38	07	49	08	00	08	12
07	281	26.2		44.4	264	49.3	14.7		2	16.1	11.1	55.1	N 58	06	09	06	55	07	37	07	36	07	50	08	03	08	18
08	296	26.2		43.6	279	23.0	14.8		2	05.0	11.1	55.0	56	06	08	06	51	07	30	07	35	07	51	08	07	08	24
09	311	26.2	..	42.7	293	56.8	14.8		1	53.9	11.1	55.0	54	06	06	06	48	07	25	07	34	07	52	08	09	08	28
10	326	26.2		41.9	308	30.6	14.8		1	42.8	11.1	55.0	52	06	05	06	44	07	19	07	33	07	53	08	12	08	33
11	341	26.2		41.1	323	04.4	14.8		1	31.7	11.1	55.0	50	06	03	06	41	07	15	07	33	07	53	08	14	08	37
12	356	26.2	S13	40.3	337	38.2	14.9	S	1	20.6	11.1	55.0	45	06	00	06	34	07	04	07	31	07	55	08	20	08	45
13	11	26.2		39.4	352	12.1	14.9		1	09.5	11.1	55.0	N 40	05	56	06	28	06	56	07	29	07	57	08	24	08	52
14	26	26.2		38.6	6	46.0	14.9		0	58.4	11.1	54.9	35	05	53	06	22	06	48	07	28	07	58	08	28	08	58
15	41	26.2	..	37.8	21	19.9	14.9		0	47.3	11.1	54.9	30	05	49	06	17	06	42	07	27	07	59	08	31	09	04
16	56	26.2		36.9	35	53.8	15.0		0	36.2	11.1	54.9	20	05	42	06	08	06	31	07	25	08	01	08	37	09	13
17	71	26.2		36.1	50	27.8	15.0		0	25.1	11.0	54.9	N 10	05	34	05	59	06	20	07	23	08	03	08	42	09	22
18	86	26.2	S13	35.3	65	01.8	15.0	S	0	14.1	11.1	54.9	0	05	25	05	50	06	11	07	22	08	05	08	47	09	30
19	101	26.3		34.4	79	35.8	15.0	S	0	03.0	11.1	54.9	S 10	05	14	05	39	06	01	07	20	08	06	08	52	09	38
20	116	26.3		33.6	94	09.8	15.0	N	0	08.1	11.0	54.8	20	05	01	05	28	05	51	07	18	08	08	08	57	09	46
21	131	26.3	..	32.7	108	43.8	15.1		0	19.1	11.1	54.8	30	04	44	05	13	05	39	07	17	08	10	09	03	09	56
22	146	26.3		31.9	123	17.9	15.0		0	30.2	11.0	54.8	35	04	33	05	05	05	32	07	15	08	11	09	07	10	02
23	161	26.3		31.1	137	51.9	15.1		0	41.2	11.0	54.8	40	04	20	04	55	05	23	07	14	08	13	09	11	10	08
13 00	176	26.3	S13	30.2	152	26.0	15.1	N	0	52.2	11.0	54.8	45	04	03	04	42	05	14	07	13	08	15	09	15	10	16
01	191	26.3		29.4	167	00.1	15.1		1	03.2	11.1	54.8	S 50	03	42	04	27	05	03	07	11	08	16	09	21	10	25
02	206	26.3		28.6	181	34.2	15.2		1	14.3	10.9	54.7	52	03	31	04	19	04	57	07	10	08	17	09	24	10	29
03	221	26.3	..	27.7	196	08.4	15.1		1	25.2	11.0	54.7	54	03	19	04	11	04	51	07	09	08	18	09	26	10	34
04	236	26.4		26.9	210	42.5	15.1		1	36.2	11.0	54.7	56	03	04	04	02	04	45	07	08	08	20	09	30	10	39
05	251	26.4		26.0	225	16.6	15.2		1	47.2	10.9	54.7	58	02	47	03	51	04	37	07	07	08	21	09	33	10	45
06	266	26.4	S13	25.2	239	50.8	15.2	N	1	58.1	11.0	54.7	S 60	02	25	03	38	04	29	07	06	08	22	09	37	10	51
07	281	26.4		24.4	254	25.0	15.2		2	09.1	10.9	54.7	Lat.	Ocaso Sol		Crepúsculo		Ocaso Luna									
08	296	26.4		23.5	268	59.2	15.2		2	20.0	10.9	54.7			Civil	Naut.	12	13	14	15							
09	311	26.4	..	22.7	283	33.4	15.2		2	30.9	10.9	54.6	N 72	15	23	16	45	18	07	19	43	21	25	23	09	24	58
10	326	26.4		21.8	298	07.6	15.2		2	41.8	10.8	54.6	N 70	15	45	16	56	18	09	19	43	21	18	22	54	24	32
11	341	26.4		21.0	312	41.8	15.2		2	52.6	10.9	54.6	68	16	02	17	05	18	11	19	43	21	13	22	43	24	13
12	356	26.5	S13	20.2	327	16.0	15.2	N	3	03.5	10.8	54.6	66	16	16	17	13	18	13	19	43	21	08	22	33	23	58
13	11	26.5		19.3	341	50.2	15.3		3	14.3	10.8	54.6	64	16	27	17	19	18	15	19	43	21	04	22	25	23	46
14	26	26.5		18.5	356	24.5	15.2		3	25.1	10.8	54.6	62	16	37	17	25	18	17	19	43	21	01	22	18	23	35
15	41	26.5	..	17.6	10	58.7	15.2		3	35.9	10.8	54.6	60	16	45	17	30	18	19	19	43	20	58	22	13	23	26
16	56	26.5		16.8	25	32.9	15.3		3	46.7	10.7	54.5	N 58	16	52	17	34	18	20	19	43	20	55	22	07	23	19
17	71	26.5		16.0	40	07.2	15.2		3	57.4	10.8	54.5	56	16	59	17	38	18	22	19	43	20	53	22	03	23	12
18	86	26.6	S13	15.1	54	41.4	15.3	N	4	08.2	10.7	54.5	54	17	05	17	42	18	23	19	43	20	51	21	59	23	06
19	101	26.6		14.3	69	15.7	15.2		4	18.9	10.6	54.5	52	17	10	17	45	18	25	19	43	20	49	21	55	23	00
20	116	26.6		13.4	83	49.9	15.3		4	29.5	10.7	54.5	50	17	15	17	48	18	26	19	43	20	48	21	52	22	55
21	131	26.6	..	12.6	98	24.2	15.3		4	40.2	10.6	54.5	45	17	25	17	55	18	30	19	43	20	44	21	44	22	44
22	146	26.6		11.7	112	58.5	15.2		4	50.8	10.6	54.5	N 40	17	33	18	01	18	33	19	43	20	41	21	38	22	36
23	161	26.6		10.9	127	32.7	15.3		5	01.4	10.6	54.5	35	17	40	18	06	18	36	19	43	20	38	21	33	22	28
14 00	176	26.7	S13	10.0	142	07.0	15.2	N	5	12.0	10.6	54.4	30	17	47	18	11	18	40	19	43	20	36	21	29	22	21
01	191	26.7		09.2	156	41.2	15.3		5	22.6	10.5	54.4	20	17	58	18	21	18	47	19	43	20	32	21	21	22	10
02	206	26.7		08.3	171	15.5	15.2		5	33.1	10.5	54.4	N 10	18	08	18	30	18	55	19	43	20	28	21	14	22	00
03	221	26.7	..	07.5	185	49.7	15.3		5	43.6	10.4	54.4	0	18	18	18	39	19	04								

T.M.G. (TU)	ARIES	VENUS -3.9	MARTE +1.2	JUPITER -2.1	SATURNO +0.9	ESTRELLAS		
d h	A.H.G.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	Nombre	A. H. S.	Dec.
15 00	144 46.3	169 16.3 S11 44.9	188 03.4 S17 40.2	282 28.7 S14 56.7	170 13.9 S12 04.9	Acamar	315 29.4 S40	20.0
01	159 48.8	184 15.8 43.8	203 03.9 39.7	297 31.0 56.7	185 16.1 04.8	Achernar	335 37.8 S57	16.2
02	174 51.3	199 15.3 42.6	218 04.4 39.1	312 33.4 56.7	200 18.2 04.7	Acrux	173 25.0 S63	04.0
03	189 53.7	214 14.8 .. 41.5	233 04.9 .. 38.5	327 35.8 .. 56.8	215 20.4 .. 04.6	Adhara	255 23.6 S28	58.1
04	204 56.2	229 14.2 40.4	248 05.4 38.0	342 38.1 56.8	230 22.6 04.5	Aldebaran	291 05.9 N16	29.8
05	219 58.7	244 13.7 39.3	263 05.8 37.4	357 40.5 56.8	245 24.7 04.4			
06	235 01.1	259 13.2 S11 38.1	278 06.3 S17 36.9	12 42.8 S14 56.8	260 26.9 S12 04.3	Alioth	166 32.9 N55	59.1
07	250 03.6	274 12.7 37.0	293 06.8 36.3	27 45.2 56.9	275 29.1 04.2	Alkaid	153 10.0 N49	20.2
08	265 06.1	289 12.2 35.9	308 07.3 35.7	42 47.6 56.9	290 31.3 04.1	Al Na'ir	28 02.3 S46	59.4
M 09	280 08.5	304 11.7 .. 34.7	323 07.8 .. 35.2	57 49.9 .. 56.9	305 33.4 .. 04.0	Alnilam	276 00.9 S 1	12.5
A 10	295 11.0	319 11.1 33.6	338 08.3 34.6	72 52.3 56.9	320 35.6 03.8	Alphard	218 09.9 S 8	38.2
R 11	310 13.5	334 10.6 32.5	353 08.8 34.0	87 54.6 56.9	335 37.8 03.7			
T 12	325 15.9	349 10.1 S11 31.3	8 09.3 S17 33.5	102 57.0 S14 57.0	350 40.0 S12 03.6	Alphecca	126 23.2 N26	43.8
E 13	340 18.4	4 09.6 30.2	23 09.8 32.9	117 59.4 57.0	5 42.1 03.5	Alpheratz	357 58.8 N29	03.6
S 14	355 20.8	19 09.1 29.1	38 10.3 32.3	133 01.7 57.0	20 44.3 03.4	Altair	62 22.6 N 8	51.1
15	10 23.3	34 08.6 .. 28.0	53 10.8 .. 31.8	148 04.1 .. 57.0	35 46.5 .. 03.3	Ankaa	353 30.2 S42	20.4
16	25 25.8	49 08.1 26.8	68 11.3 31.2	163 06.4 57.1	50 48.7 03.2	Antares	112 44.1 S26	25.1
17	40 28.2	64 07.5 25.7	83 11.8 30.7	178 08.8 57.1	65 50.8 03.1			
18	55 30.7	79 07.0 S11 24.6	98 12.3 S17 30.1	193 11.2 S14 57.1	80 53.0 S12 03.0	Arcturus	146 08.8 N19	12.5
19	70 33.2	94 06.5 23.4	113 12.8 29.5	208 13.5 57.1	95 55.2 02.9	Atria	107 59.1 S69	00.8
20	85 35.6	109 06.0 22.3	128 13.3 29.0	223 15.9 57.1	110 57.4 02.8	Avior	234 23.3 S59	29.7
21	100 38.1	124 05.5 .. 21.1	143 13.8 .. 28.4	238 18.3 .. 57.2	125 59.5 .. 02.7	Bellatrix	278 47.4 N 6	20.5
22	115 40.6	139 05.0 20.0	158 14.3 27.8	253 20.6 57.2	141 01.7 02.6	Betelgeuse	271 16.7 N 7	24.2
23	130 43.0	154 04.5 18.9	173 14.8 27.3	268 23.0 57.2	156 03.9 02.5			
16 00	145 45.5	169 04.0 S11 17.7	188 15.3 S17 26.7	283 25.4 S14 57.2	171 06.1 S12 02.3	Canopus	264 02.2 S52	41.9
01	160 48.0	184 03.5 16.6	203 15.8 26.1	298 27.7 57.3	186 08.2 02.2	Capella	280 55.6 N45	59.6
02	175 50.4	199 03.0 15.5	218 16.3 25.6	313 30.1 57.3	201 10.4 02.1	Deneb	49 41.8 N45	15.5
03	190 52.9	214 02.5 .. 14.3	233 16.8 .. 25.0	328 32.5 .. 57.3	216 12.6 .. 02.0	Denebola	182 48.1 N14	36.0
04	205 55.3	229 01.9 13.2	248 17.3 24.4	343 34.8 57.3	231 14.8 01.9	Diphda	349 10.6 S18	01.2
05	220 57.8	244 01.4 12.0	263 17.8 23.8	358 37.2 57.3	246 16.9 01.8			
06	236 00.3	259 00.9 S11 10.9	278 18.3 S17 23.3	13 39.6 S14 57.4	261 19.1 S12 01.7	Dubhe	194 08.7 N61	46.7
07	251 02.7	274 00.4 09.8	293 18.8 22.7	28 41.9 57.4	276 21.3 01.6	Elnath	278 30.7 N28	36.2
08	266 05.2	288 59.9 08.6	308 19.2 22.1	43 44.3 57.4	291 23.5 01.5	Eltanin	90 53.1 N51	29.2
09	281 07.7	303 59.4 .. 07.5	323 19.7 .. 21.6	58 46.7 .. 57.4	306 25.6 .. 01.4	Enif	34 01.6 N 9	50.9
10	296 10.1	318 58.9 06.3	338 20.2 21.0	73 49.0 57.4	321 27.8 01.3	Fomalhaut	15 40.2 S29	39.2
11	311 12.6	333 58.4 05.2	353 20.7 20.4	88 51.4 57.5	336 30.0 01.2			
12	326 15.1	348 57.9 S11 04.1	8 21.2 S17 19.9	103 53.8 S14 57.5	351 32.1 S12 01.1	Gacrux	172 16.6 S57	04.8
13	341 17.5	3 57.4 02.9	23 21.7 19.3	118 56.1 57.5	6 34.3 01.0	Gienah	176 06.9 S17	30.7
14	356 20.0	18 56.9 01.8	38 22.2 18.7	133 58.5 57.5	21 36.5 00.8	Hadar	149 08.2 S60	20.5
15	11 22.5	33 56.4 11 00.6	53 22.7 .. 18.1	149 00.9 .. 57.5	36 38.7 .. 00.7	Hamal	328 17.2 N23	26.2
16	26 24.9	48 55.9 10 59.5	68 23.2 17.6	164 03.2 57.6	51 40.8 00.6	Kaus Aust.	84 03.2 S34	23.1
17	41 27.4	63 55.4 58.3	83 23.7 17.0	179 05.6 57.6	66 43.0 00.5			
18	56 29.8	78 54.9 S10 57.2	98 24.2 S17 16.4	194 08.0 S14 57.6	81 45.2 S12 00.4	Kochab	137 19.2 N74	10.4
19	71 32.3	93 54.4 56.0	113 24.7 15.9	209 10.4 57.6	96 47.4 00.3	Markab	13 53.0 N15	10.5
20	86 34.8	108 53.9 54.9	128 25.2 15.3	224 12.7 57.6	111 49.5 00.2	Menkar	314 30.2 N 4	03.9
21	101 37.2	123 53.4 .. 53.7	143 25.7 .. 14.7	239 15.1 .. 57.7	126 51.7 .. 00.1	Menkent	148 24.5 S36	20.4
22	116 39.7	138 52.9 52.6	158 26.2 14.1	254 17.5 57.7	141 53.9 12 00.0	Miaplacidus	221 41.8 S69	41.8
23	131 42.2	153 52.4 51.4	173 26.8 13.6	269 19.8 57.7	156 56.1 11 59.9			
17 00	146 44.6	168 51.9 S10 50.3	188 27.3 S17 13.0	284 22.2 S14 57.7	171 58.2 S11 59.8	Mirfak	309 01.1 N49	50.6
01	161 47.1	183 51.4 49.1	203 27.8 12.4	299 24.6 57.7	187 00.4 59.7	Nunki	76 16.5 S26	18.2
02	176 49.6	198 50.9 48.0	218 28.3 11.8	314 27.0 57.8	202 02.6 59.6	Peacock	53 42.5 S56	45.1
03	191 52.0	213 50.4 .. 46.8	233 28.8 .. 11.3	329 29.3 .. 57.8	217 04.8 .. 59.5	Pollux	243 45.0 N28	02.3
04	206 54.5	228 49.9 45.7	248 29.3 10.7	344 31.7 57.8	232 06.9 59.3	Procyon	245 14.5 N 5	14.2
05	221 56.9	243 49.4 44.5	263 29.8 10.1	359 34.1 57.8	247 09.1 59.2			
06	236 59.4	258 48.9 S10 43.4	278 30.3 S17 09.5	14 36.5 S14 57.8	262 11.3 S11 59.1	Rasalhague	96 20.0 N12	33.7
07	252 01.9	273 48.4 42.2	293 30.8 08.9	29 38.8 57.8	277 13.5 59.0	Regulus	207 58.5 N11	59.5
08	267 04.3	288 47.9 41.1	308 31.3 08.4	44 41.2 57.9	292 15.6 58.9	Rigel	281 25.8 S 8	12.7
J 09	282 06.8	303 47.4 .. 39.9	323 31.8 .. 07.8	59 43.6 .. 57.9	307 17.8 .. 58.8	Rigil Kent.	140 11.2 S60	48.5
U 10	297 09.3	318 46.9 38.8	338 32.3 07.2	74 46.0 57.9	322 20.0 58.7	Sabik	102 29.2 S15	43.1
E 11	312 11.7	333 46.4 37.6	353 32.8 06.6	89 48.3 57.9	337 22.1 58.6			
V 12	327 14.2	348 45.9 S10 36.5	8 33.3 S17 06.1	104 50.7 S14 57.9	352 24.3 S11 58.5	Schedar	349 57.5 N56	30.5
E 13	342 16.7	3 45.5 35.3	23 33.8 05.5	119 53.1 58.0	7 26.5 58.4	Shaula	96 41.7 S37	05.9
S 14	357 19.1	18 45.0 34.2	38 34.3 04.9	134 55.5 58.0	22 28.7 58.3	Sirius	258 46.2 S16	42.7
15	12 21.6	33 44.5 .. 33.0	53 34.8 .. 04.3	149 57.8 .. 58.0	37 30.8 .. 58.2	Spica	158 46.3 S11	08.0
16	27 24.1	48 44.0 31.8	68 35.3 03.7	165 00.2 58.0	52 33.0 58.1	Suhail	223 02.6 S43	24.8
17	42 26.5	63 43.5 30.7	83 35.8 03.2	180 02.6 58.0	67 35.2 57.9			
18	57 29.0	78 43.0 S10 29.5	98 36.3 S17 02.6	195 05.0 S14 58.0	82 37.4 S11 57.8	Vega	80 49.0 N38	46.5
19	72 31.4	93 42.5 28.4	113 36.8 02.0	210 07.3 58.1	97 39.5 57.7	Zuben'ubi	137 21.4 S16	01.1
20	87 33.9	108 42.0 27.2	128 37.3 01.4	225 09.7 58.1	112 41.7 57.6			
21	102 36.4	123 41.5 .. 26.0	143 37.8 .. 00.8	240 12.1 .. 58.1	127 43.9 .. 57.5			
22	117 38.8	138 41.0 24.9	158 38.3 17 00.3	255 14.5 58.1	142 46.1 57.4	Venus	23 18.5 12 44	
23	132 41.3	153 40.5 23.7	173 38.8 16 59.7	270 16.9 58.1	157 48.2 57.3	Marte	42 29.8 11 27	
						Júpiter	137 39.9 5 06	
						Saturno	25 20.6 12 34	
	Pas. Mer. 14 14.6	v -0.5 d 1.1	v 0.5 d 0.6	v 2.4 d 0.0	v 2.2 d 0.1			

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.1			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.			
18 00	147 43.8	168 40.1	S10 22.6	188 39.3	S16 59.1		285 19.2	S14 58.1		172 50.4	S11 57.2	Acamar	315 29.4	S40 20.0				
01	162 46.2	183 39.6	21.4	203 39.8	58.5		300 21.6	58.2		187 52.6	57.1	Achernar	335 37.8	S57 16.2				
02	177 48.7	198 39.1	20.2	218 40.4	57.9		315 24.0	58.2		202 54.8	57.0	AcruX	173 24.9	S63 04.0				
03	192 51.2	213 38.6	19.1	233 40.9	57.3		330 26.4	58.2		217 56.9	56.9	Adhara	255 23.6	S28 58.1				
04	207 53.6	228 38.1	17.9	248 41.4	56.8		345 28.8	58.2		232 59.1	56.8	Aldebaran	291 05.9	N16 29.8				
05	222 56.1	243 37.6	16.8	263 41.9	56.2		0 31.2	58.2		248 01.3	56.7							
06	237 58.6	258 37.1	S10 15.6	278 42.4	S16 55.6		15 33.5	S14 58.2		263 03.5	S11 56.5	Alioth	166 32.9	N55 59.2				
07	253 01.0	273 36.6	14.4	293 42.9	55.0		30 35.9	58.3		278 05.6	56.4	Alkaid	153 10.0	N49 20.2				
08	268 03.5	288 36.2	13.3	308 43.4	54.4		45 38.3	58.3		293 07.8	56.3	Al Na'ir	28 02.3	S46 59.3				
V 09	283 05.9	303 35.7	12.1	323 43.9	53.8		60 40.7	58.3		308 10.0	56.2	Alnilam	276 00.9	S 1 12.5				
I 10	298 08.4	318 35.2	10.9	338 44.4	53.2		75 43.1	58.3		323 12.1	56.1	Alphard	218 09.9	S 8 38.2				
E 11	313 10.9	333 34.7	09.8	353 44.9	52.7		90 45.4	58.3		338 14.3	56.0							
R 12	328 13.3	348 34.2	S10 08.6	8 45.4	S16 52.1		105 47.8	S14 58.3		353 16.5	S11 55.9	Alphecca	126 23.2	N26 43.8				
N 13	343 15.8	3 33.7	07.4	23 45.9	51.5		120 50.2	58.3		8 18.7	55.8	Alpheratz	357 58.8	N29 03.6				
E 14	358 18.3	18 33.3	06.3	38 46.4	50.9		135 52.6	58.4		23 20.8	55.7	Altair	62 22.6	N 8 51.1				
S 15	13 20.7	33 32.8	05.1	53 47.0	50.3		150 55.0	58.4		38 23.0	55.6	Ankaa	353 30.2	S42 20.4				
16	28 23.2	48 32.3	03.9	68 47.5	49.7		165 57.4	58.4		53 25.2	55.5	Antares	112 44.0	S26 25.1				
17	43 25.7	63 31.8	02.8	83 48.0	49.1		180 59.8	58.4		68 27.4	55.4							
18	58 28.1	78 31.3	S10 01.6	98 48.5	S16 48.6		196 02.1	S14 58.4		83 29.5	S11 55.3	Arcturus	146 08.7	N19 12.5				
19	73 30.6	93 30.9	10 00.4	113 49.0	48.0		211 04.5	58.4		98 31.7	55.2	Atria	107 59.0	S69 00.8				
20	88 33.0	108 30.4	9 59.2	128 49.5	47.4		226 06.9	58.5		113 33.9	55.0	Avior	234 23.3	S59 29.7				
21	103 35.5	123 29.9	58.1	143 50.0	46.8		241 09.3	58.5		128 36.1	54.9	Bellatrix	278 47.4	N 6 20.5				
22	118 38.0	138 29.4	56.9	158 50.5	46.2		256 11.7	58.5		143 38.2	54.8	Betelgeuse	271 16.8	N 7 24.2				
23	133 40.4	153 28.9	55.7	173 51.0	45.6		171 14.1	58.5		158 40.4	54.7							
19 00	148 42.9	168 28.5	S 9 54.6	188 51.5	S16 45.0		286 16.5	S14 58.5		173 42.6	S11 54.6	Canopus	264 02.2	S52 41.9				
01	163 45.4	183 28.0	53.4	203 52.0	44.4		301 18.9	58.5		188 44.8	54.5	Capella	280 55.6	N45 59.6				
02	178 47.8	198 27.5	52.2	218 52.6	43.8		316 21.2	58.5		203 46.9	54.4	Deneb	49 41.7	N45 15.5				
03	193 50.3	213 27.0	51.0	233 53.1	43.2		331 23.6	58.6		218 49.1	54.3	Denebola	182 48.1	N14 36.0				
04	208 52.8	228 26.5	49.9	248 53.6	42.7		346 26.0	58.6		233 51.3	54.2	Diphda	349 10.6	S18 01.2				
05	223 55.2	243 26.1	48.7	263 54.1	42.1		1 28.4	58.6		248 53.4	54.1							
06	238 57.7	258 25.6	S 9 47.5	278 54.6	S16 41.5		16 30.8	S14 58.6		263 55.6	S11 54.0	Dubhe	194 08.6	N61 46.7				
07	254 00.2	273 25.1	46.3	293 55.1	40.9		31 33.2	58.6		278 57.8	53.9	Elnath	278 30.7	N28 36.2				
08	269 02.6	288 24.6	45.2	308 55.6	40.3		46 35.6	58.6		294 00.0	53.8	Eltanin	90 53.1	N51 29.2				
S 09	284 05.1	303 24.2	44.0	323 56.1	39.7		61 38.0	58.6		309 02.1	53.6	Enif	34 01.6	N 9 50.9				
A 10	299 07.5	318 23.7	42.8	338 56.6	39.1		76 40.4	58.7		324 04.3	53.5	Fomalhaut	15 40.2	S29 39.2				
B 11	314 10.0	333 23.2	41.6	353 57.2	38.5		91 42.8	58.7		339 06.5	53.4							
A 12	329 12.5	348 22.7	S 9 40.5	8 57.7	S16 37.9		106 45.1	S14 58.7		354 08.7	S11 53.3	Gacrux	172 16.6	S57 04.8				
D 13	344 14.9	3 22.3	39.3	23 58.2	37.3		121 47.5	58.7		9 10.8	53.2	Gienah	176 06.9	S17 30.7				
O 14	359 17.4	18 21.8	38.1	38 58.7	36.7		136 49.9	58.7		24 13.0	53.1	Hadar	149 08.1	S60 20.6				
15	14 19.9	33 21.3	36.9	53 59.2	36.1		151 52.3	58.7		39 15.2	53.0	Hamal	328 17.2	N23 26.2				
16	29 22.3	48 20.9	35.7	68 59.7	35.5		166 54.7	58.7		54 17.4	52.9	Kaus Aust.	84 03.2	S34 23.1				
17	44 24.8	63 20.4	34.6	84 00.2	34.9		181 57.1	58.7		69 19.5	52.8							
18	59 27.3	78 19.9	S 9 33.4	99 00.7	S16 34.4		196 59.5	S14 58.8		84 21.7	S11 52.7	Kochab	137 19.1	N74 10.4				
19	74 29.7	93 19.4	32.2	114 01.3	33.8		212 01.9	58.8		99 23.9	52.6	Markab	13 53.0	N15 10.5				
20	89 32.2	108 19.0	31.0	129 01.8	33.2		227 04.3	58.8		114 26.1	52.5	Menkar	314 30.2	N 4 03.9				
21	104 34.7	123 18.5	29.8	144 02.3	32.6		242 06.7	58.8		129 28.2	52.4	Menkent	148 24.5	S36 20.5				
22	119 37.1	138 18.0	28.7	159 02.8	32.0		257 09.1	58.8		144 30.4	52.2	Miaplacidus	221 41.8	S69 41.8				
23	134 39.6	153 17.6	27.5	174 03.3	31.4		272 11.5	58.8		159 32.6	52.1							
20 00	149 42.0	168 17.1	S 9 26.3	189 03.8	S16 30.8		287 13.9	S14 58.8		174 34.7	S11 52.0	Mirfak	309 01.1	N49 50.6				
01	164 44.5	183 16.6	25.1	204 04.3	30.2		302 16.3	58.8		189 36.9	51.9	Nunki	76 16.4	S26 18.2				
02	179 47.0	198 16.1	23.9	219 04.9	29.6		317 18.7	58.9		204 39.1	51.8	Peacock	53 42.4	S56 45.1				
03	194 49.4	213 15.7	22.7	234 05.4	29.0		332 21.1	58.9		219 41.3	51.7	Pollux	243 45.0	N28 02.3				
04	209 51.9	228 15.2	21.6	249 05.9	28.4		347 23.4	58.9		234 43.4	51.6	Procyon	245 14.6	N 5 14.2				
05	224 54.4	243 14.7	20.4	264 06.4	27.8		2 25.8	58.9		249 45.6	51.5							
06	239 56.8	258 14.3	S 9 19.2	279 06.9	S16 27.2		17 28.2	S14 58.9		264 47.8	S11 51.4	Rasalhague	96 20.0	N12 33.7				
07	254 59.3	273 13.8	18.0	294 07.4	26.6		32 30.6	58.9		279 50.0	51.3	Regulus	207 58.5	N11 59.5				
O 08	270 01.8	288 13.3	16.8	309 08.0	26.0		47 33.0	58.9		294 52.1	51.2	Rigel	281 25.8	S 8 12.7				
O 09	285 04.2	303 12.9	15.6	324 08.5	25.4		62 35.4	58.9		309 54.3	51.1	Rigil Kent.	140 11.2	S60 48.5				
M 10	300 06.7	318 12.4	14.4	339 09.0	24.8		77 37.8	58.9		324 56.5	51.0	Sabik	102 29.2	S15 43.1				
I 11	315 09.1	333 11.9	13.3	354 09.5	24.2		92 40.2	59.0		339 58.7	50.8							
N 12	330 11.6	348 11.5	S 9 12.1	9 10.0	S16 23.6		107 42.6	S14 59.0		355 00.8	S11 50.7	Schedar	349 57.5	N56 30.5				
G 13	345 14.1	3 11.0	10.9	24 10.5	23.0		122 45.0	59.0		10 03.0	50.6	Shaula	96 41.7	S37 05.9				
O 14	0 16.5	18 10.6	09.7	39 11.1	22.4		137 47.4	59.0		25 05.2	50.5	Sirius	258 46.2	S16 42.7				
15	15 19.0	33 10.1	08.5	54 11.6	21.8		152 49.8	59.0		40 07.4	50.4	Spica	158 46.3	S11 08.0				
16	30 21.5	48 09.6	07.3	69 12.1	21.2		167 52.2	59.0		55 09.5	50.3	Suhail	223 02.6	S43 24.8				
17	45 23.9	63 09.2	06.1	84 12.6	20.6		182 54.6	59.0		70 11.7	50.2							
18	60 26.4	78 08.7	S 9 04.9	99 13.1	S16 20.0		197 57.0	S14 59.0		85 13.9	S11 50.1	Vega	80 49.0	N38 46.5				
19	75 28.9	93 08.2	03.7	114 13.6	19.4		212 59.4	59.0		100 16.0	50.0	Zuben'ubi	137 21.3	S16 01.1				
20	90 31.3	108 07.8	02.6	129 14.2	18.8		228 01.8	59.1		115 18.2	49.9							
21	105 33.8	123 07.3	01.4	144 14.7	18.2		243 04.2	59.1		130 20.4	49.8							
22	120 36.3	138 06.9	9 00.2	159 15.2	17.6		258 06.6	59.1		145 22.6	49.7	Venus	19 45.6	12 47				
23	135 38.7	153 06.4	8 59.0	174 15.7	17.0		273 09.0	59.1		160 24.7	49.6							

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	18	19	20	21
												h m	h m	h m	h m
18 00	176 30.0	S11 47.2	99 20.1	12.5	N18 37.2	5.3	54.5	N 72	05 58	07 17	08 32	□	□	□	□
01	191 30.0	46.3	113 51.6	12.4	18 42.5	5.2	54.5	N 70	05 58	07 09	08 16	06 48	□	□	□
02	206 30.1	45.4	128 23.0	12.4	18 47.7	5.1	54.5	68	05 58	07 03	08 02	07 40	07 51	08 24	09 39
03	221 30.1	44.5	142 54.4	12.4	18 52.8	5.0	54.5	66	05 58	06 57	07 51	08 12	08 35	09 17	10 23
04	236 30.2	43.7	157 25.8	12.3	18 57.8	5.0	54.5	64	05 57	06 53	07 42	08 36	09 05	09 49	10 52
05	251 30.2	42.8	171 57.1	12.2	19 02.8	4.9	54.5	62	05 57	06 48	07 35	08 55	09 27	10 13	11 14
06	266 30.3	S11 41.9	186 28.3	12.2	N19 07.7	4.8	54.5	60	05 56	06 45	07 28	09 11	09 45	10 32	11 32
07	281 30.3	41.0	200 59.5	12.2	19 12.5	4.7	54.6	N 58	05 56	06 41	07 22	09 24	10 00	10 47	11 47
08	296 30.4	40.1	215 30.7	12.1	19 17.2	4.6	54.6	56	05 55	06 38	07 17	09 36	10 13	11 01	12 00
09	311 30.4	39.3	230 01.8	12.1	19 21.8	4.5	54.6	54	05 54	06 36	07 12	09 46	10 25	11 13	12 11
10	326 30.5	38.4	244 32.9	12.0	19 26.3	4.5	54.6	52	05 54	06 33	07 08	09 55	10 35	11 23	12 20
11	341 30.5	37.5	259 03.9	12.0	19 30.8	4.3	54.6	50	05 53	06 31	07 04	10 03	10 43	11 32	12 29
12	356 30.6	S11 36.6	273 34.9	11.9	N19 35.1	4.3	54.6	45	05 51	06 25	06 55	10 20	11 02	11 51	12 48
13	11 30.6	35.7	288 05.8	11.9	19 39.4	4.1	54.7	N 40	05 49	06 21	06 48	10 34	11 18	12 07	13 03
14	26 30.7	34.8	302 36.7	11.8	19 43.5	4.1	54.7	35	05 47	06 16	06 42	10 46	11 31	12 20	13 16
15	41 30.7	34.0	317 07.5	11.8	19 47.6	4.0	54.7	30	05 44	06 12	06 37	10 57	11 42	12 32	13 27
16	56 30.8	33.1	331 38.3	11.7	19 51.6	3.9	54.7	20	05 39	06 05	06 27	11 15	12 02	12 52	13 46
17	71 30.8	32.2	346 09.0	11.7	19 55.5	3.9	54.7	N 10	05 32	05 57	06 19	11 31	12 19	13 09	14 02
18	86 30.9	S11 31.3	0 39.7	11.6	N19 59.4	3.7	54.7	0	05 25	05 49	06 10	11 46	12 35	13 26	14 18
19	101 30.9	30.4	15 10.3	11.6	20 03.1	3.6	54.8	S 10	05 16	05 41	06 02	12 00	12 51	13 42	14 33
20	116 31.0	29.5	29 40.9	11.6	20 06.7	3.5	54.8	20	05 04	05 31	05 54	12 16	13 08	13 59	14 50
21	131 31.1	28.6	44 11.5	11.5	20 10.2	3.5	54.8	30	04 49	05 19	05 43	12 35	13 27	14 19	15 09
22	146 31.1	27.8	58 42.0	11.4	20 13.7	3.3	54.8	35	04 40	05 11	05 37	12 46	13 39	14 31	15 20
23	161 31.2	26.9	73 12.4	11.4	20 17.0	3.3	54.8	40	04 28	05 02	05 31	12 58	13 52	14 44	15 33
19 00	176 31.2	S11 26.0	87 42.8	11.4	N20 20.3	3.1	54.9	45	04 14	04 52	05 23	13 12	14 08	15 00	15 48
01	191 31.3	25.1	102 13.2	11.3	20 23.4	3.1	54.9	S 50	03 55	04 38	05 13	13 30	14 27	15 20	16 06
02	206 31.3	24.2	116 43.5	11.2	20 26.5	3.0	54.9	52	03 46	04 32	05 09	13 39	14 36	15 29	16 15
03	221 31.4	23.3	131 13.7	11.3	20 29.5	2.9	54.9	54	03 35	04 25	05 04	13 48	14 47	15 39	16 24
04	236 31.5	22.4	145 44.0	11.1	20 32.4	2.7	54.9	56	03 23	04 17	04 58	13 59	14 58	15 51	16 35
05	251 31.5	21.5	160 14.1	11.2	20 35.1	2.7	55.0	58	03 09	04 08	04 52	14 11	15 12	16 04	16 48
06	266 31.6	S11 20.7	174 44.3	11.0	N20 37.8	2.6	55.0	S 60	02 51	03 57	04 45	14 25	15 28	16 20	17 02
07	281 31.6	19.8	189 14.3	11.1	20 40.4	2.5	55.0	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna			
08	296 31.7	18.9	203 44.4	11.0	20 42.9	2.3	55.0			Civil	Naut.	18	19	20	21
09	311 31.7	18.0	218 14.4	10.9	20 45.2	2.3	55.1					h m	h m	h m	h m
10	326 31.8	17.1	232 44.3	10.9	20 47.5	2.2	55.1	N 72	15 57	17 13	18 32	□	□	□	□
11	341 31.9	16.2	247 14.2	10.9	20 49.7	2.1	55.1	N 70	16 14	17 20	18 32	04 11	□	□	□
12	356 31.9	S11 15.3	261 44.1	10.8	N20 51.8	2.0	55.1	68	16 27	17 27	18 32	03 19	04 49	06 00	06 34
13	11 32.0	14.4	276 13.9	10.7	20 53.8	1.8	55.2	66	16 38	17 32	18 32	02 47	04 05	05 08	05 50
14	26 32.0	13.5	290 43.6	10.8	20 55.6	1.8	55.2	64	16 47	17 37	18 32	02 23	03 35	04 36	05 20
15	41 32.1	12.6	305 13.4	10.7	20 57.4	1.7	55.2	62	16 54	17 41	18 32	02 05	03 13	04 12	04 58
16	56 32.2	11.8	319 43.1	10.6	20 59.1	1.5	55.2	60	17 01	17 44	18 33	01 49	02 55	03 53	04 40
17	71 32.2	10.9	334 12.7	10.6	21 00.6	1.5	55.3	N 58	17 07	17 47	18 33	01 37	02 40	03 37	04 25
18	86 32.3	S11 10.0	348 42.3	10.6	N21 02.1	1.4	55.3	56	17 12	17 50	18 34	01 25	02 27	03 24	04 12
19	101 32.4	09.1	3 11.9	10.5	21 03.5	1.2	55.3	54	17 17	17 53	18 34	01 16	02 16	03 12	04 01
20	116 32.4	08.2	17 41.4	10.4	21 04.7	1.2	55.3	52	17 21	17 56	18 35	01 07	02 07	03 02	03 51
21	131 32.5	07.3	32 10.8	10.5	21 05.9	1.0	55.4	50	17 25	17 58	18 36	00 59	01 58	02 52	03 42
22	146 32.5	06.4	46 40.3	10.4	21 06.9	1.0	55.4	45	17 33	18 03	18 37	00 42	01 39	02 33	03 23
23	161 32.6	05.5	61 09.7	10.3	21 07.9	0.8	55.4	N 40	17 40	18 08	18 39	00 29	01 24	02 17	03 07
20 00	176 32.7	S11 04.6	75 39.0	10.3	N21 08.7	0.7	55.4	35	17 46	18 12	18 42	00 17	01 11	02 04	02 54
01	191 32.7	03.7	90 08.3	10.3	21 09.4	0.7	55.5	30	17 52	18 16	18 44	00 07	01 00	01 52	02 43
02	206 32.8	02.8	104 37.6	10.2	21 10.1	0.5	55.5	20	18 01	18 23	18 49	24 41	00 41	01 32	02 24
03	221 32.9	01.9	119 06.8	10.2	21 10.6	0.4	55.5	N 10	18 09	18 31	18 55	24 25	00 25	01 15	02 06
04	236 32.9	01.0	133 36.0	10.2	21 11.0	0.3	55.5	0	18 17	18 38	19 03	24 09	00 09	00 59	01 51
05	251 33.0	11 00.1	148 05.2	10.1	21 11.3	0.2	55.6	S 10	18 25	18 47	19 12	23 54	24 43	00 43	01 35
06	266 33.1	S10 59.2	162 34.3	10.1	N21 11.5	0.0	55.6	20	18 34	18 57	19 23	23 37	24 25	00 25	01 17
07	281 33.1	58.3	177 03.4	10.0	21 11.5	0.0	55.6	30	18 44	19 09	19 38	23 18	24 05	00 05	00 58
08	296 33.2	57.4	191 32.4	10.0	21 11.5	0.1	55.7	35	18 50	19 16	19 47	23 07	23 54	24 46	00 46
09	311 33.3	56.5	206 01.4	10.0	21 11.4	0.3	55.7	40	18 56	19 25	19 59	22 54	23 40	24 33	00 33
10	326 33.3	55.7	220 30.4	10.0	21 11.1	0.3	55.7	45	19 04	19 35	20 13	22 39	23 25	24 17	00 17
11	341 33.4	54.8	234 59.4	9.9	21 10.8	0.5	55.8	S 50	19 14	19 48	20 31	22 21	23 05	23 58	24 59
12	356 33.5	S10 53.9	249 28.3	9.8	N21 10.3	0.6	55.8	52	19 18	19 54	20 40	22 12	22 56	23 49	24 51
13	11 33.5	53.0	263 57.1	9.9	21 09.7	0.7	55.8	54	19 23	20 01	20 50	22 03	22 45	23 38	24 41
14	26 33.6	52.1	278 26.0	9.8	21 09.0	0.8	55.8	56	19 28	20 09	21 02	21 52	22 34	23 27	24 31
15	41 33.7	51.2	292 54.8	9.8	21 08.2	0.9	55.9	58	19 34	20 18	21 16	21 39	22 20	23 13	24 18
16	56 33.7	50.3	307 23.6	9.7	21 07.3	1.0	55.9	S 60	19 41	20 28	21 33	21 25	22 04	22 57	24 04
17	71 33.8	49.4	321 52.3	9.7	21 06.3	1.1	55.9	Día	SOL		LUNA				
18	86 33.9	S10 48.5	336 21.0	9.7	N21 05.2	1.3	56.0		E.T. (-)	Pas. Mer.	Pas. Mer.		Edad.	Fase	
19	101 33.9	47.6	350 49.7	9.6	21 03.9	1.4	56.0		00 h	12 h					

T.M.G. (TU)	ARIES		VENUS -3.9		MARTE +1.2		JUPITER -2.2		SATURNO +0.9		ESTRELLAS		
	A.H.G.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	Nombre	A. H. S.	Dec.		
LUNES	21 00	150 41.2	168 05.9 S 8 57.8	189 16.2 S16 16.4	288 11.4 S14 59.1	175 26.9 S11 49.4	Acamar	315 29.4 S40 19.9					
	01	165 43.6	183 05.5 56.6	204 16.8 15.8	303 13.9 59.1	190 29.1 49.3	Achernar	335 37.8 S57 16.2					
	02	180 46.1	198 05.0 55.4	219 17.3 15.2	318 16.3 59.1	205 31.3 49.2	Acrux	173 24.9 S63 04.0					
	03	195 48.6	213 04.6 .. 54.2	234 17.8 .. 14.5	333 18.7 .. 59.1	220 33.4 .. 49.1	Adhara	255 23.6 S28 58.2					
	04	210 51.0	228 04.1 53.0	249 18.3 13.9	348 21.1 59.1	235 35.6 49.0	Aldebaran	291 05.9 N16 29.8					
	05	225 53.5	243 03.6 51.8	264 18.8 13.3	3 23.5 59.1	250 37.8 48.9							
	06	240 56.0	258 03.2 S 8 50.6	279 19.3 S16 12.7	18 25.9 S14 59.1	265 40.0 S11 48.8	Alioth	166 32.9 N55 59.2					
	07	255 58.4	273 02.7 49.4	294 19.9 12.1	33 28.3 59.2	280 42.1 48.7	Alkaid	153 10.0 N49 20.2					
	08	271 00.9	288 02.3 48.2	309 20.4 11.5	48 30.7 59.2	295 44.3 48.6	Al Na'ir	28 02.2 S46 59.3					
	09	286 03.4	303 01.8 .. 47.0	324 20.9 .. 10.9	63 33.1 .. 59.2	310 46.5 .. 48.5	Alnilam	276 00.9 S 1 12.5					
	10	301 05.8	318 01.4 45.8	339 21.4 10.3	78 35.5 59.2	325 48.7 48.4	Alphard	218 09.9 S 8 38.2					
	11	316 08.3	333 00.9 44.6	354 22.0 09.7	93 37.9 59.2	340 50.8 48.3							
	12	331 10.8	348 00.4 S 8 43.4	9 22.5 S16 09.1	108 40.3 S14 59.2	355 53.0 S11 48.2	Alphecca	126 23.2 N26 43.8					
	13	346 13.2	3 00.0 42.2	24 23.0 08.5	123 42.7 59.2	10 55.2 48.0	Alpheratz	357 58.8 N29 03.6					
	14	1 15.7	17 59.5 41.0	39 23.5 07.9	138 45.1 59.2	25 57.3 47.9	Altair	62 22.6 N 8 51.1					
	15	16 18.1	32 59.1 .. 39.8	54 24.0 .. 07.3	153 47.5 .. 59.2	40 59.5 .. 47.8	Ankaa	353 30.2 S42 20.4					
	16	31 20.6	47 58.6 38.6	69 24.6 06.7	168 49.9 59.2	56 01.7 47.7	Antares	112 44.0 S26 25.1					
	17	46 23.1	62 58.2 37.4	84 25.1 06.0	183 52.3 59.2	71 03.9 47.6							
	18	61 25.5	77 57.7 S 8 36.2	99 25.6 S16 05.4	198 54.8 S14 59.3	86 06.0 S11 47.5	Arcturus	146 08.7 N19 12.5					
	19	76 28.0	92 57.3 35.0	114 26.1 04.8	213 57.2 59.3	101 08.2 47.4	Atria	107 59.0 S69 00.8					
	20	91 30.5	107 56.8 33.8	129 26.6 04.2	228 59.6 59.3	116 10.4 47.3	Avior	234 23.3 S59 29.7					
	21	106 32.9	122 56.4 .. 32.6	144 27.2 .. 03.6	244 02.0 .. 59.3	131 12.6 .. 47.2	Bellatrix	278 47.4 N 6 20.5					
	22	121 35.4	137 55.9 31.4	159 27.7 03.0	259 04.4 59.3	146 14.7 47.1	Betelgeuse	271 16.8 N 7 24.2					
23	136 37.9	152 55.4 30.2	174 28.2 02.4	274 06.8 59.3	161 16.9 47.0								
MARTES	22 00	151 40.3	167 55.0 S 8 29.0	189 28.7 S16 01.8	289 09.2 S14 59.3	176 19.1 S11 46.9	Canopus	264 02.2 S52 41.9					
	01	166 42.8	182 54.5 27.8	204 29.3 01.2	304 11.6 59.3	191 21.3 46.8	Capella	280 55.6 N45 59.6					
	02	181 45.2	197 54.1 26.6	219 29.8 16 00.6	319 14.0 59.3	206 23.4 46.6	Deneb	49 41.7 N45 15.5					
	03	196 47.7	212 53.6 .. 25.4	234 30.3 15 59.9	334 16.5 .. 59.3	221 25.6 .. 46.5	Denebola	182 48.1 N14 36.0					
	04	211 50.2	227 53.2 24.2	249 30.8 59.3	349 18.9 59.3	236 27.8 46.4	Diphda	349 10.6 S18 01.2					
	05	226 52.6	242 52.7 23.0	264 31.4 58.7	4 21.3 59.3	251 30.0 46.3							
	06	241 55.1	257 52.3 S 8 21.8	279 31.9 S15 58.1	19 23.7 S14 59.3	266 32.1 S11 46.2	Dubhe	194 08.6 N61 46.7					
	07	256 57.6	272 51.8 20.6	294 32.4 57.5	34 26.1 59.4	281 34.3 46.1	Elnath	278 30.7 N28 36.2					
	08	272 00.0	287 51.4 19.4	309 32.9 56.9	49 28.5 59.4	296 36.5 46.0	Eltanin	90 53.1 N51 29.1					
	09	287 02.5	302 50.9 .. 18.2	324 33.5 .. 56.3	64 30.9 .. 59.4	311 38.6 .. 45.9	Enif	34 01.6 N 9 50.9					
	10	302 05.0	317 50.5 17.0	339 34.0 55.6	79 33.3 59.4	326 40.8 45.8	Fomalhaut	15 40.2 S29 39.2					
	11	317 07.4	332 50.1 15.8	354 34.5 55.0	94 35.8 59.4	341 43.0 45.7							
	12	332 09.9	347 49.6 S 8 14.6	9 35.0 S15 54.4	109 38.2 S14 59.4	356 45.2 S11 45.6	Gacrux	172 16.6 S57 04.8					
	13	347 12.4	2 49.2 13.4	24 35.6 53.8	124 40.6 59.4	11 47.3 45.5	Gienah	176 06.9 S17 30.7					
	14	2 14.8	17 48.7 12.2	39 36.1 53.2	139 43.0 59.4	26 49.5 45.4	Hadar	149 08.1 S60 20.6					
	15	17 17.3	32 48.3 .. 11.0	54 36.6 .. 52.6	154 45.4 .. 59.4	41 51.7 .. 45.2	Hamal	328 17.2 N23 26.1					
	16	32 19.7	47 47.8 09.7	69 37.1 52.0	169 47.8 59.4	56 53.9 45.1	Kaus Aust.	84 03.1 S34 23.1					
	17	47 22.2	62 47.4 08.5	84 37.7 51.3	184 50.2 59.4	71 56.0 45.0							
	18	62 24.7	77 46.9 S 8 07.3	99 38.2 S15 50.7	199 52.7 S14 59.4	86 58.2 S11 44.9	Kochab	137 19.1 N74 10.4					
	19	77 27.1	92 46.5 06.1	114 38.7 50.1	214 55.1 59.4	102 00.4 44.8	Markab	13 53.0 N15 10.4					
	20	92 29.6	107 46.0 04.9	129 39.2 49.5	229 57.5 59.4	117 02.6 44.7	Menkar	314 30.2 N 4 03.9					
	21	107 32.1	122 45.6 .. 03.7	144 39.8 .. 48.9	244 59.9 .. 59.4	132 04.7 .. 44.6	Menkent	148 24.4 S36 20.5					
	22	122 34.5	137 45.1 02.5	159 40.3 48.3	260 02.3 59.4	147 06.9 44.5	Miaplacidus	221 41.8 S69 41.8					
23	137 37.0	152 44.7 01.3	174 40.8 47.6	275 04.8 59.4	162 09.1 44.4								
MIÉRCOLES	23 00	152 39.5	167 44.3 S 8 00.1	189 41.3 S15 47.0	290 07.2 S14 59.5	177 11.3 S11 44.3	Mirfak	309 01.2 N49 50.6					
	01	167 41.9	182 43.8 7 58.9	204 41.9 46.4	305 09.6 59.5	192 13.4 44.2	Nunki	76 16.4 S26 18.2					
	02	182 44.4	197 43.4 57.6	219 42.4 45.8	320 12.0 59.5	207 15.6 44.1	Peacock	53 42.4 S56 45.1					
	03	197 46.9	212 42.9 .. 56.4	234 42.9 .. 45.2	335 14.4 .. 59.5	222 17.8 .. 44.0	Pollux	243 45.0 N28 02.3					
	04	212 49.3	227 42.5 55.2	249 43.5 44.6	350 16.8 59.5	237 19.9 43.8	Procyon	245 14.6 N 5 14.2					
	05	227 51.8	242 42.0 54.0	264 44.0 43.9	5 19.3 59.5	252 22.1 43.7							
	06	242 54.2	257 41.6 S 7 52.8	279 44.5 S15 43.3	20 21.7 S14 59.5	267 24.3 S11 43.6	Rasalhague	96 20.0 N12 33.7					
	07	257 56.7	272 41.2 51.6	294 45.0 42.7	35 24.1 59.5	282 26.5 43.5	Regulus	207 58.5 N11 59.5					
	08	272 59.2	287 40.7 50.4	309 45.6 42.1	50 26.5 59.5	297 28.6 43.4	Rigel	281 25.8 S 8 12.7					
	09	288 01.6	302 40.3 .. 49.1	324 46.1 .. 41.5	65 28.9 .. 59.5	312 30.8 .. 43.3	Rigil Kent.	140 11.2 S60 48.5					
	10	303 04.1	317 39.8 47.9	339 46.6 40.8	80 31.4 59.5	327 33.0 43.2	Sabik	102 29.2 S15 43.1					
	11	318 06.6	332 39.4 46.7	354 47.2 40.2	95 33.8 59.5	342 35.2 43.1							
	12	333 09.0	347 39.0 S 7 45.5	9 47.7 S15 39.6	110 36.2 S14 59.5	357 37.3 S11 43.0	Schedar	349 57.5 N56 30.5					
	13	348 11.5	2 38.5 44.3	24 48.2 39.0	125 38.6 59.5	12 39.5 42.9	Shaula	96 41.7 S37 05.9					
	14	3 14.0	17 38.1 43.1	39 48.7 38.3	140 41.1 59.5	27 41.7 42.8	Sirius	258 46.2 S16 42.7					
	15	18 16.4	32 37.7 .. 41.8	54 49.3 .. 37.7	155 43.5 .. 59.5	42 43.9 .. 42.7	Spica	158 46.3 S11 08.0					
	16	33 18.9	47 37.2 40.6	69 49.8 37.1	170 45.9 59.5	57 46.0 42.6	Suhail	223 02.6 S43 24.8					
	17	48 21.3	62 36.8 39.4	84 50.3 36.5	185 48.3 59.5	72 48.2 42.4							
	18	63 23.8	77 36.3 S 7 38.2	99 50.9 S15 35.9	200 50.8 S14 59.5	87 50.4 S11 42.3	Vega	80 49.0 N38 46.5					
	19	78 26.3	92 35.9 37.0	114 51.4 35.2	215 53.2 59.5	102 52.6 42.2	Zuben'ubi	137 21.3 S16 01.1					
	20	93 28.7	107 35.5 35.8	129 51.9 34.6	230 55.6 59.5	117 54.7 42.1							
	21	108 31.2	122 35.0 .. 34.5	144 52.5 .. 34.0	245 58.0 .. 59.5	132 56.9 .. 42.0							
	22	123 33.7	137 34.6 33.3	159 53.0 33.4	261 00.5 59.5	147 59.1 41.9	Venus	16 14.7 12 49					
23	138 36.1	152 34.2 32.1	174 53.5 32.7	276 02.9 59.5	163 01.3 41.8	Marte	37 48.4 11 22						
Pas. Mer. 13 51.0		v -0.4 d 1.2	v 0.5 d 0.6	v 2.4 d 0.0	v 2.2 d 0.1	Júpiter	137 28.9 4 43						
						Saturno	24 38.8 12 13						

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Náut.		Civil	21	22	23	24	
	° / ' "	° / ' "	° / ' "	' "	° / ' "	' "		' "	°	h m	h m	h m	h m	h m	h m	h m
LUNES	21 00	176 34.3	S10 43.1	63 12.6	9.5	N20 56.0	2.0	56.2	N 72	05 45	07 03	08 16	□	□	12 01	14 22
	01	191 34.4	42.2	77 41.1	9.5	20 54.0	2.0	56.2	N 70	05 46	06 57	08 01	□	10 30	12 40	14 42
	02	206 34.4	41.3	92 09.6	9.5	20 52.0	2.2	56.2	68	05 47	06 51	07 50	09 39	11 18	13 06	14 57
	03	221 34.5	40.4	106 38.1	9.4	20 49.8	2.2	56.3	66	05 48	06 47	07 40	10 23	11 49	13 27	15 09
	04	236 34.6	39.5	121 06.5	9.4	20 47.6	2.4	56.3	64	05 48	06 43	07 32	10 52	12 12	13 43	15 20
	05	251 34.6	38.6	135 34.9	9.4	20 45.2	2.5	56.3	62	05 48	06 40	07 25	11 14	12 30	13 56	15 28
	06	266 34.7	S10 37.6	150 03.3	9.3	N20 42.7	2.7	56.4	60	05 49	06 37	07 19	11 32	12 45	14 07	15 36
	07	281 34.8	36.7	164 31.6	9.3	20 40.0	2.7	56.4	N 58	05 49	06 34	07 14	11 47	12 58	14 17	15 42
	08	296 34.9	35.8	178 59.9	9.3	20 37.3	2.8	56.4	56	05 48	06 32	07 09	12 00	13 09	14 26	15 48
	09	311 34.9	34.9	193 28.2	9.3	20 34.5	3.0	56.5	54	05 48	06 29	07 05	12 11	13 18	14 33	15 53
	10	326 35.0	34.0	207 56.5	9.3	20 31.5	3.1	56.5	52	05 48	06 27	07 01	12 20	13 27	14 40	15 58
	11	341 35.1	33.1	222 24.8	9.2	20 28.4	3.2	56.5	50	05 48	06 25	06 58	12 29	13 34	14 46	16 02
	12	356 35.2	S10 32.2	236 53.0	9.3	N20 25.2	3.3	56.6	45	05 47	06 21	06 50	12 48	13 51	14 59	16 11
	13	11 35.2	31.3	251 21.3	9.2	20 21.9	3.4	56.6	N 40	05 45	06 17	06 44	13 03	14 04	15 10	16 19
	14	26 35.3	30.4	265 49.5	9.1	20 18.5	3.5	56.6	35	05 43	06 13	06 39	13 16	14 15	15 19	16 25
	15	41 35.4	29.5	280 17.6	9.2	20 15.0	3.7	56.7	30	05 42	06 09	06 34	13 27	14 25	15 27	16 31
	16	56 35.5	28.6	294 45.8	9.1	20 11.3	3.8	56.7	20	05 37	06 03	06 25	13 46	14 42	15 41	16 41
	17	71 35.5	27.7	309 13.9	9.2	20 07.5	3.9	56.7	N 10	05 31	05 56	06 17	14 02	14 57	15 53	16 49
	18	86 35.6	S10 26.8	323 42.1	9.1	N20 03.6	4.0	56.8	0	05 25	05 49	06 10	14 18	15 11	16 04	16 58
	19	101 35.7	25.9	338 10.2	9.1	19 59.6	4.1	56.8	S 10	05 16	05 41	06 03	14 33	15 25	16 16	17 06
	20	116 35.8	25.0	352 38.3	9.1	19 55.5	4.2	56.8	20	05 06	05 32	05 55	14 50	15 39	16 28	17 14
	21	131 35.8	24.1	7 06.4	9.0	19 51.3	4.4	56.9	30	04 52	05 21	05 46	15 09	15 56	16 41	17 24
	22	146 35.9	23.2	21 34.4	9.1	19 46.9	4.4	56.9	35	04 43	05 14	05 40	15 20	16 06	16 49	17 29
23	161 36.0	22.3	36 02.5	9.0	19 42.5	4.6	56.9	40	04 32	05 06	05 34	15 33	16 17	16 58	17 36	
MARTES	22 00	176 36.1	S10 21.3	50 30.5	9.0	N19 37.9	4.7	57.0	45	04 19	04 56	05 27	15 48	16 30	17 09	17 43
	01	191 36.1	20.4	64 58.5	9.0	19 33.2	4.8	57.0	S 50	04 01	04 44	05 18	16 06	16 46	17 21	17 52
	02	206 36.2	19.5	79 26.5	9.0	19 28.4	4.9	57.1	52	03 53	04 38	05 14	16 15	16 54	17 27	17 56
	03	221 36.3	18.6	93 54.5	9.0	19 23.5	5.1	57.1	54	03 43	04 32	05 10	16 24	17 02	17 33	18 00
	04	236 36.4	17.7	108 22.5	9.0	19 18.4	5.1	57.1	56	03 32	04 24	05 05	16 35	17 11	17 41	18 05
	05	251 36.5	16.8	122 50.5	9.0	19 13.3	5.3	57.2	58	03 19	04 16	04 59	16 48	17 22	17 49	18 10
	06	266 36.5	S10 15.9	137 18.5	8.9	N19 08.0	5.4	57.2	S 60	03 03	04 06	04 53	17 02	17 34	17 58	18 17
	07	281 36.6	15.0	151 46.4	9.0	19 02.6	5.5	57.2	Lat.	Ocaso Sol	Crepúsculo Civil	Náut.	Ocaso Luna			
	08	296 36.7	14.1	166 14.4	8.9	18 57.1	5.6	57.3	21	16 13	17 26	18 45	□	□	07 56	07 27
	09	311 36.8	13.2	180 42.3	8.9	18 51.5	5.7	57.3	N 70	16 27	17 32	18 43	□	07 33	07 16	07 05
	10	326 36.9	12.3	195 10.2	9.0	18 45.8	5.8	57.4	68	16 39	17 37	18 42	06 34	06 45	06 48	06 48
	11	341 36.9	11.3	209 38.2	8.9	18 40.0	6.0	57.4	66	16 48	17 42	18 41	05 50	06 14	06 27	06 35
	12	356 37.0	S10 10.4	224 06.1	8.9	N18 34.0	6.1	57.4	64	16 56	17 45	18 40	05 20	05 50	06 10	06 23
	13	11 37.1	09.5	238 34.0	8.9	18 27.9	6.1	57.5	62	17 03	17 49	18 40	04 58	05 32	05 56	06 13
	14	26 37.2	08.6	253 01.9	8.9	18 21.8	6.3	57.5	60	17 09	17 52	18 40	04 40	05 16	05 44	06 05
	15	41 37.3	07.7	267 29.8	8.9	18 15.5	6.4	57.5	N 58	17 14	17 54	18 40	04 25	05 03	05 33	05 58
	16	56 37.3	06.8	281 57.7	8.8	18 09.1	6.5	57.6	56	17 19	17 57	18 40	04 12	04 52	05 24	05 51
	17	71 37.4	05.9	296 25.5	8.9	18 02.6	6.7	57.6	54	17 23	17 59	18 40	04 01	04 42	05 16	05 45
	18	86 37.5	S10 05.0	310 53.4	8.9	N17 55.9	6.7	57.6	52	17 26	18 01	18 40	03 51	04 33	05 09	05 40
	19	101 37.6	04.0	325 21.3	8.9	17 49.2	6.8	57.7	50	17 30	18 03	18 40	03 42	04 25	05 02	05 35
	20	116 37.7	03.1	339 49.2	8.8	17 42.4	7.0	57.7	45	17 37	18 07	18 41	03 23	04 08	04 48	05 24
	21	131 37.8	02.2	354 17.0	8.9	17 35.4	7.0	57.8	N 40	17 44	18 11	18 43	03 07	03 54	04 37	05 16
	22	146 37.8	01.3	8 44.9	8.9	17 28.4	7.2	57.8	35	17 49	18 15	18 44	02 54	03 42	04 27	05 08
23	161 37.9	10 00.4	23 12.8	8.8	17 21.2	7.3	57.8	30	17 54	18 18	18 46	02 43	03 32	04 18	05 01	
MIÉRCOLES	23 00	176 38.0	S 9 59.5	37 40.6	8.9	N17 13.9	7.4	57.9	20	18 02	18 25	18 50	02 24	03 14	04 02	04 50
	01	191 38.1	58.6	52 08.5	8.9	17 06.5	7.5	57.9	N 10	18 10	18 31	18 56	02 06	02 58	03 49	04 39
	02	206 38.2	57.6	66 36.4	8.8	16 59.0	7.6	57.9	0	18 17	18 38	19 02	01 51	02 43	03 36	04 30
	03	221 38.3	56.7	81 04.2	8.9	16 51.4	7.7	58.0	S 10	18 24	18 45	19 10	01 35	02 28	03 24	04 20
	04	236 38.3	55.8	95 32.1	8.9	16 43.7	7.8	58.0	20	18 32	18 54	19 21	01 17	02 13	03 10	04 09
	05	251 38.4	54.9	110 00.0	8.8	16 35.9	7.9	58.1	30	18 41	19 06	19 35	00 58	01 54	02 55	03 57
	06	266 38.5	S 9 54.0	124 27.8	8.9	N16 28.0	8.0	58.1	35	18 46	19 12	19 43	00 46	01 44	02 45	03 50
	07	281 38.6	53.1	138 55.7	8.8	16 20.0	8.2	58.1	40	18 52	19 20	19 54	00 33	01 31	02 35	03 42
	08	296 38.7	52.2	153 23.5	8.9	16 11.8	8.2	58.2	45	18 59	19 30	20 07	00 17	01 17	02 23	03 33
	09	311 38.8	51.2	167 51.4	8.9	16 03.6	8.3	58.2	S 50	19 08	19 42	20 24	24 59	00 59	02 08	03 22
	10	326 38.9	50.3	182 19.3	8.9	15 55.3	8.5	58.2	52	19 12	19 48	20 32	24 51	00 51	02 01	03 16
	11	341 38.9	49.4	196 47.2	8.8	15 46.8	8.5	58.3	54	19 16	19 54	20 42	24 41	00 41	01 53	03 11
	12	356 39.0	S 9 48.5	211 15.0	8.9	N15 38.3	8.7	58.3	56	19 21	20 01	20 53	24 31	00 31	01 44	03 04
	13	11 39.1	47.6	225 42.9	8.9	15 29.6	8.7	58.3	58	19 26	20 09	21 05	24 18	00 18	01 34	02 57
	14	26 39.2	46.6	240 10.8	8.9	15 20.9	8.9	58.4	S 60	19 32	20 19	21 21	24 04	00 04	01 22	02 48
	15	41 39.3	45.7	254 38.7	8.8	15 12.0	8.9	58.4	Día	SOL		LUNA				
	16	56 39.4	44.8	269 06.5	8.9	15 03.1	9.0	58.5	E.T. (-)	Pas. Mer.	Pas. Mer.	Sup.	Mer. Inf.	Edad.	Fase	
	17	71 39.5	43.9	283 34.4	8.9	14 54.1	9.2	58.5	00 h	12 h	h m	h m	h m	d		
	18	86 39.6	S 9 43.0	298 02.3	8.9	N14 44.9	9.2	58.5	m s	m s	h m	h m	h m			
	19	101 39.6	42.1	312 30.2	8.9	14 35.7</										

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.2			SATURNO +0.9			ESTRELLAS		
d h	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.		
24 00	153 38.6	167 33.7	S 7 30.9	189 54.1	S15 32.1	291 05.3	S14 59.6	178 03.4	S11 41.7	Acomar	315 29.4	S40 19.9						
01	168 41.1	182 33.3	29.7	204 54.6	31.5	306 07.7	59.6	193 05.6	41.6	Achernar	335 37.8	S57 16.2						
02	183 43.5	197 32.9	28.4	219 55.1	30.9	321 10.2	59.6	208 07.8	41.5	Acrux	173 24.9	S63 04.0						
03	198 46.0	212 32.4	· · 27.2	234 55.7	· · 30.2	336 12.6	· · 59.6	223 09.9	· · 41.4	Adhara	255 23.6	S28 58.2						
04	213 48.5	227 32.0	26.0	249 56.2	29.6	351 15.0	59.6	238 12.1	41.3	Aldebaran	291 05.9	N16 29.8						
05	228 50.9	242 31.5	24.8	264 56.7	29.0	6 17.4	59.6	253 14.3	41.2									
06	243 53.4	257 31.1	S 7 23.6	279 57.3	S15 28.4	21 19.9	S14 59.6	268 16.5	S11 41.0	Alioth	166 32.9	N55 59.2						
07	258 55.8	272 30.7	22.3	294 57.8	27.7	36 22.3	59.6	283 18.6	40.9	Alkaid	153 09.9	N49 20.2						
08	273 58.3	287 30.2	21.1	309 58.3	27.1	51 24.7	59.6	298 20.8	40.8	Al Na'ir	28 02.2	S46 59.3						
J 09	289 00.8	302 29.8	· · 19.9	324 58.9	· · 26.5	66 27.2	· · 59.6	313 23.0	· · 40.7	Alnilam	276 00.9	S 1 12.5						
U 10	304 03.2	317 29.4	18.7	339 59.4	25.9	81 29.6	59.6	328 25.2	40.6	Alphard	218 09.9	S 8 38.3						
E 11	319 05.7	332 29.0	17.4	354 59.9	25.2	96 32.0	59.6	343 27.3	40.5									
V 12	334 08.2	347 28.5	S 7 16.2	10 00.5	S15 24.6	111 34.4	S14 59.6	358 29.5	S11 40.4	Alphecca	126 23.1	N26 43.8						
E 13	349 10.6	2 28.1	15.0	25 01.0	24.0	126 36.9	59.6	13 31.7	40.3	Alpheratz	357 58.8	N29 03.6						
S 14	4 13.1	17 27.7	13.8	40 01.5	23.3	141 39.3	59.6	28 33.9	40.2	Altair	62 22.6	N 8 51.1						
15	19 15.6	32 27.2	· · 12.5	55 02.1	· · 22.7	156 41.7	· · 59.6	43 36.0	· · 40.1	Ankaa	353 30.3	S42 20.4						
16	34 18.0	47 26.8	11.3	70 02.6	22.1	171 44.2	59.6	58 38.2	40.0	Antares	112 44.0	S26 25.1						
17	49 20.5	62 26.4	10.1	85 03.1	21.5	186 46.6	59.6	73 40.4	39.9									
18	64 23.0	77 25.9	S 7 08.9	100 03.7	S15 20.8	201 49.0	S14 59.6	88 42.6	S11 39.7	Arcturus	146 08.7	N19 12.5						
19	79 25.4	92 25.5	07.6	115 04.2	20.2	216 51.5	59.6	103 44.7	39.6	Atria	107 58.9	S69 00.8						
20	94 27.9	107 25.1	06.4	130 04.7	19.6	231 53.9	59.6	118 46.9	39.5	Avior	234 23.3	S59 29.8						
21	109 30.3	122 24.6	· · 05.2	145 05.3	· · 18.9	246 56.3	· · 59.6	133 49.1	· · 39.4	Bellatrix	278 47.4	N 6 20.5						
22	124 32.8	137 24.2	04.0	160 05.8	18.3	261 58.8	59.6	148 51.3	39.3	Betelgeuse	271 16.8	N 7 24.2						
23	139 35.3	152 23.8	02.7	175 06.3	17.7	277 01.2	59.6	163 53.4	39.2									
25 00	154 37.7	167 23.4	S 7 01.5	190 06.9	S15 17.0	292 03.6	S14 59.6	178 55.6	S11 39.1	Canopus	264 02.3	S52 41.9						
01	169 40.2	182 22.9	7 00.3	205 07.4	16.4	307 06.1	59.6	193 57.8	39.0	Capella	280 55.7	N45 59.6						
02	184 42.7	197 22.5	6 59.0	220 07.9	15.8	322 08.5	59.6	209 00.0	38.9	Deneb	49 41.7	N45 15.5						
03	199 45.1	212 22.1	· · 57.8	235 08.5	· · 15.1	337 10.9	· · 59.6	224 02.1	· · 38.8	Denebola	182 48.0	N14 36.0						
04	214 47.6	227 21.7	56.6	250 09.0	14.5	352 13.4	59.6	239 04.3	38.7	Diphda	349 10.6	S18 01.2						
05	229 50.1	242 21.2	55.4	265 09.6	13.9	7 15.8	59.6	254 06.5	38.6									
06	244 52.5	257 20.8	S 6 54.1	280 10.1	S15 13.2	22 18.2	S14 59.6	269 08.6	S11 38.5	Dubhe	194 08.6	N61 46.7						
07	259 55.0	272 20.4	52.9	295 10.6	12.6	37 20.7	59.6	284 10.8	38.3	Elnath	278 30.8	N28 36.2						
08	274 57.4	287 20.0	51.7	310 11.2	12.0	52 23.1	59.6	299 13.0	38.2	Eltanin	90 53.1	N51 29.1						
V 09	289 59.9	302 19.5	· · 50.4	325 11.7	· · 11.3	67 25.6	· · 59.6	314 15.2	· · 38.1	Enif	34 01.6	N 9 50.9						
I 10	305 02.4	317 19.1	49.2	340 12.2	10.7	82 28.0	59.6	329 17.3	38.0	Fomalhaut	15 40.2	S29 39.2						
E 11	320 04.8	332 18.7	48.0	355 12.8	10.1	97 30.4	59.6	344 19.5	37.9									
R 12	335 07.3	347 18.3	S 6 46.7	10 13.3	S15 09.4	112 32.9	S14 59.6	359 21.7	S11 37.8	Gacrux	172 16.5	S57 04.8						
N 13	350 09.8	2 17.8	45.5	25 13.9	08.8	127 35.3	59.6	14 23.9	37.7	Gienah	176 06.9	S17 30.7						
S 14	5 12.2	17 17.4	44.3	40 14.4	08.2	142 37.7	59.6	29 26.0	37.6	Hadar	149 08.1	S60 20.6						
15	20 14.7	32 17.0	· · 43.0	55 14.9	· · 07.5	157 40.2	· · 59.6	44 28.2	· · 37.5	Hamal	328 17.3	N23 26.1						
16	35 17.2	47 16.6	41.8	70 15.5	06.9	172 42.6	59.6	59 30.4	37.4	Kaus Aust.	84 03.1	S34 23.1						
17	50 19.6	62 16.1	40.6	85 16.0	06.3	187 45.1	59.6	74 32.6	37.3									
18	65 22.1	77 15.7	S 6 39.3	100 16.6	S15 05.6	202 47.5	S14 59.6	89 34.7	S11 37.2	Kochab	137 19.0	N74 10.4						
19	80 24.6	92 15.3	38.1	115 17.1	05.0	217 49.9	59.6	104 36.9	37.1	Markab	13 53.0	N15 10.4						
20	95 27.0	107 14.9	36.9	130 17.6	04.4	232 52.4	59.6	119 39.1	36.9	Menkar	314 30.2	N 4 03.9						
21	110 29.5	122 14.4	· · 35.6	145 18.2	· · 03.7	247 54.8	· · 59.6	134 41.3	· · 36.8	Menkent	148 24.4	S36 20.5						
22	125 31.9	137 14.0	34.4	160 18.7	03.1	262 57.3	59.6	149 43.4	36.7	Miaplacidus	221 41.8	S69 41.8						
23	140 34.4	152 13.6	33.2	175 19.3	02.5	277 59.7	59.6	164 45.6	36.6									
26 00	155 36.9	167 13.2	S 6 31.9	190 19.8	S15 01.8	293 02.1	S14 59.6	179 47.8	S11 36.5	Mirfak	309 01.2	N49 50.6						
01	170 39.3	182 12.8	30.7	205 20.3	01.2	308 04.6	59.6	194 50.0	36.4	Nunki	76 16.4	S26 18.2						
02	185 41.8	197 12.3	29.5	220 20.9	15 00.5	323 07.0	59.6	209 52.1	36.3	Peacock	53 42.4	S56 45.1						
03	200 44.3	212 11.9	· · 28.2	235 21.4	14 59.9	338 09.5	· · 59.6	224 54.3	· · 36.2	Pollux	243 45.1	N28 02.3						
04	215 46.7	227 11.5	27.0	250 22.0	59.3	353 11.9	59.6	239 56.5	36.1	Procyon	245 14.6	N 5 14.2						
05	230 49.2	242 11.1	25.8	265 22.5	58.6	8 14.4	59.6	254 58.7	36.0									
06	245 51.7	257 10.7	S 6 24.5	280 23.0	S14 58.0	23 16.8	S14 59.6	270 00.8	S11 35.9	Rasalhague	96 19.9	N12 33.7						
07	260 54.1	272 10.2	23.3	295 23.6	57.3	38 19.2	59.6	285 03.0	35.8	Regulus	207 58.5	N11 59.5						
08	275 56.6	287 09.8	22.0	310 24.1	56.7	53 21.7	59.6	300 05.2	35.7	Rigel	281 25.8	S 8 12.7						
S 09	290 59.1	302 09.4	· · 20.8	325 24.7	· · 56.1	68 24.1	· · 59.6	315 07.4	· · 35.5	Rigel Kent.	140 11.1	S60 48.5						
A 10	306 01.5	317 09.0	19.6	340 25.2	55.4	83 26.6	59.6	330 09.5	35.4	Sabik	102 29.2	S15 43.1						
B 11	321 04.0	332 08.6	18.3	355 25.7	54.8	98 29.0	59.6	345 11.7	35.3									
A 12	336 06.4	347 08.2	S 6 17.1	10 26.3	S14 54.1	113 31.5	S14 59.6	0 13.9	S11 35.2	Schedar	349 57.5	N56 30.5						
D 13	351 08.9	2 07.7	15.9	25 26.8	53.5	128 33.9	59.6	15 16.1	35.1	Shaula	96 41.6	S37 05.9						
O 14	6 11.4	17 07.3	14.6	40 27.4	52.9	143 36.4	59.6	30 18.2	35.0	Sirius	258 46.2	S16 42.8						
15	21 13.8	32 06.9	· · 13.4	55 27.9	· · 52.2	158 38.8	· · 59.6	45 20.4	· · 34.9	Spica	158 46.2	S11 08.0						
16	36 16.3	47 06.5	12.1	70 28.5	51.6	173 41.3	59.6	60 22.6	34.8	Suhail	223 02.6	S43 24.8						
17	51 18.8	62 06.1	10.9	85 29.0	50.9	188 43.7	59.5	75 24.7	34.7									
18	66 21.2	77 05.7	S 6 09.7	100 29.5	S14 50.3	203 46.1	S14 59.5	90 26.9	S11 34.6	Vega	80							

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	24	25	26	27
	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "		' / "	h m	h m	h m	h m	h m	h m	h m
24 00	176 40.1	S 9 37.5	24 49.8	8.9	N13 48.1	9.8	58.7	N 72	05 31	06 48	07 59	14 22	16 32	18 40	20 48
01	191 40.2	36.5	39 17.7	8.9	13 38.3	9.9	58.8	N 70	05 33	06 44	07 47	14 42	16 41	18 40	20 40
02	206 40.3	35.6	53 45.6	9.0	13 28.4	10.0	58.8	68	05 36	06 40	07 37	14 57	16 48	18 40	20 33
03	221 40.4	34.7	68 13.6	8.9	13 18.4	10.1	58.8	66	05 37	06 36	07 29	15 09	16 54	18 41	20 28
04	236 40.5	33.8	82 41.5	8.9	13 08.3	10.1	58.9	64	05 39	06 34	07 22	15 20	16 59	18 41	20 23
05	251 40.6	32.8	97 09.4	9.0	12 58.2	10.3	58.9	62	05 40	06 31	07 16	15 28	17 04	18 41	20 19
06	266 40.6	S 9 31.9	111 37.4	9.0	N12 47.9	10.3	58.9	60	05 41	06 29	07 11	15 36	17 08	18 41	20 16
07	281 40.7	31.0	126 05.4	8.9	12 37.6	10.4	59.0	N 58	05 41	06 26	07 06	15 42	17 11	18 41	20 13
08	296 40.8	30.1	140 33.3	9.0	12 27.2	10.5	59.0	56	05 42	06 25	07 02	15 48	17 14	18 41	20 10
J 09	311 40.9	29.2	155 01.3	9.0	12 16.7	10.6	59.0	54	05 42	06 23	06 58	15 53	17 17	18 42	20 07
U 10	326 41.0	28.2	169 29.3	8.9	12 06.1	10.7	59.1	52	05 42	06 21	06 55	15 58	17 19	18 42	20 05
V 11	341 41.1	27.3	183 57.2	9.0	11 55.4	10.8	59.1	50	05 42	06 19	06 52	16 02	17 21	18 42	20 03
E 12	356 41.2	S 9 26.4	198 25.2	9.0	N11 44.6	10.8	59.1	45	05 42	06 16	06 45	16 11	17 26	18 42	19 59
E 13	11 41.3	25.5	212 53.2	9.0	11 33.8	10.9	59.2	N 40	05 41	06 12	06 40	16 19	17 30	18 42	19 55
S 14	26 41.4	24.5	227 21.2	9.0	11 22.9	11.0	59.2	35	05 40	06 09	06 35	16 25	17 33	18 43	19 52
15	41 41.5	23.6	241 49.2	9.0	11 11.9	11.1	59.2	30	05 39	06 06	06 31	16 31	17 36	18 43	19 50
16	56 41.6	22.7	256 17.2	9.0	11 00.8	11.1	59.3	20	05 35	06 01	06 23	16 41	17 42	18 43	19 45
17	71 41.7	21.8	270 45.2	9.0	10 49.7	11.3	59.3	N 10	05 30	05 55	06 16	16 49	17 46	18 43	19 41
18	86 41.8	S 9 20.8	285 13.2	9.0	N10 38.4	11.3	59.3	0	05 25	05 49	06 10	16 58	17 51	18 44	19 37
19	101 41.9	19.9	299 41.2	9.1	10 27.1	11.3	59.4	S 10	05 17	05 42	06 03	17 06	17 55	18 44	19 33
20	116 42.0	19.0	314 09.3	9.0	10 15.8	11.5	59.4	20	05 07	05 34	05 56	17 14	17 59	18 44	19 30
21	131 42.1	18.1	328 37.3	9.0	10 04.3	11.5	59.4	30	04 54	05 23	05 48	17 24	18 05	18 45	19 25
22	146 42.2	17.1	343 05.3	9.1	9 52.8	11.6	59.5	35	04 46	05 17	05 43	17 29	18 08	18 45	19 23
23	161 42.2	16.2	357 33.4	9.0	9 41.2	11.6	59.5	40	04 36	05 10	05 38	17 36	18 11	18 45	19 20
25 00	176 42.3	S 9 15.3	12 01.4	9.0	N 9 29.6	11.8	59.5	45	04 24	05 01	05 31	17 43	18 15	18 46	19 17
01	191 42.4	14.4	26 29.4	9.1	9 17.8	11.7	59.5	S 50	04 08	04 49	05 23	17 52	18 20	18 46	19 13
02	206 42.5	13.4	40 57.5	9.0	9 06.1	11.9	59.6	52	04 00	04 44	05 20	17 56	18 22	18 46	19 11
03	221 42.6	12.5	55 25.5	9.1	8 54.2	11.9	59.6	54	03 51	04 38	05 16	18 00	18 24	18 46	19 09
04	236 42.7	11.6	69 53.6	9.1	8 42.3	12.0	59.6	56	03 41	04 32	05 11	18 05	18 27	18 47	19 07
05	251 42.8	10.6	84 21.7	9.0	8 30.3	12.0	59.7	58	03 29	04 24	05 07	18 10	18 29	18 47	19 05
06	266 42.9	S 9 09.7	98 49.7	9.1	N 8 18.3	12.1	59.7	S 60	03 15	04 15	05 01	18 17	18 33	18 47	19 02
07	281 43.0	08.8	113 17.8	9.1	8 06.2	12.2	59.7	Lat.	Ocaso Sol	Crepúsculo	Ocaso Luna	24	25	26	27
08	296 43.1	07.9	127 45.9	9.0	7 54.0	12.2	59.7		Civil	Náut.					
V 09	311 43.2	06.9	142 13.9	9.1	7 41.8	12.3	59.8								
I 10	326 43.3	06.0	156 42.0	9.1	7 29.5	12.3	59.8								
E 11	341 43.4	05.1	171 10.1	9.0	7 17.2	12.4	59.8	N 72	16 29	17 40	18 58	07 27	07 08	06 53	06 39
R 12	356 43.5	S 9 04.1	185 38.1	9.1	N 7 04.8	12.4	59.8	N 70	16 41	17 44	18 55	07 05	06 57	06 49	06 42
N 13	11 43.6	03.2	200 06.2	9.1	6 52.4	12.5	59.9	68	16 51	17 48	18 53	06 48	06 48	06 46	06 45
E 14	26 43.7	02.3	214 34.3	9.1	6 39.9	12.6	59.9	66	16 59	17 51	18 51	06 35	06 40	06 43	06 47
S 15	41 43.8	01.4	229 02.4	9.0	6 27.3	12.5	59.9	64	17 05	17 54	18 49	06 23	06 33	06 41	06 49
16	56 43.9	00.4	243 30.4	9.1	6 14.8	12.7	59.9	62	17 11	17 57	18 48	06 13	06 27	06 39	06 50
17	71 44.0	8 59.5	257 58.5	9.1	6 02.1	12.6	60.0	60	17 16	17 59	18 47	06 05	06 22	06 37	06 52
18	86 44.1	S 8 58.6	272 26.6	9.1	N 5 49.5	12.8	60.0	N 58	17 21	18 01	18 46	05 58	06 18	06 36	06 53
19	101 44.2	57.6	286 54.7	9.0	5 36.7	12.7	60.0	56	17 25	18 03	18 46	05 51	06 14	06 34	06 54
20	116 44.3	56.7	301 22.7	9.1	5 24.0	12.8	60.0	54	17 29	18 05	18 45	05 45	06 10	06 33	06 55
21	131 44.4	55.8	315 50.8	9.1	5 11.2	12.9	60.1	52	17 32	18 06	18 45	05 40	06 07	06 32	06 56
22	146 44.5	54.8	330 18.9	9.0	4 58.3	12.9	60.1	50	17 35	18 08	18 45	05 35	06 04	06 31	06 57
23	161 44.6	53.9	344 46.9	9.1	4 45.4	12.9	60.1	45	17 42	18 11	18 45	05 24	05 57	06 28	06 59
26 00	176 44.7	S 8 53.0	359 15.0	9.1	N 4 32.5	12.9	60.1	N 40	17 47	18 14	18 46	05 16	05 52	06 26	07 01
01	191 44.8	52.0	13 43.1	9.0	4 19.6	13.0	60.1	35	17 52	18 17	18 47	05 08	05 47	06 25	07 02
02	206 44.9	51.1	28 11.1	9.1	4 06.6	13.1	60.2	30	17 56	18 20	18 48	05 01	05 43	06 23	07 03
03	221 45.1	50.2	42 39.2	9.0	3 53.5	13.0	60.2	20	18 03	18 26	18 51	04 50	05 35	06 20	07 05
04	236 45.2	49.2	57 07.2	9.1	3 40.5	13.1	60.2	N 10	18 10	18 31	18 56	04 39	05 29	06 18	07 07
05	251 45.3	48.3	71 35.3	9.0	3 27.4	13.1	60.2	0	18 16	18 37	19 02	04 30	05 23	06 16	07 09
06	266 45.4	S 8 47.4	86 03.3	9.0	N 3 14.3	13.1	60.2	S 10	18 23	18 44	19 09	04 20	05 16	06 13	07 11
07	281 45.5	46.4	100 31.3	9.1	3 01.2	13.2	60.2	20	18 30	18 52	19 18	04 09	05 10	06 11	07 12
08	296 45.6	45.5	114 59.4	9.0	2 48.0	13.2	60.3	30	18 38	19 02	19 31	03 57	05 02	06 08	07 14
S 09	311 45.7	44.6	129 27.4	9.0	2 34.8	13.2	60.3	35	18 43	19 08	19 39	03 50	04 58	06 06	07 16
A 10	326 45.8	43.6	143 55.4	9.0	2 21.6	13.2	60.3	40	18 48	19 16	19 49	03 42	04 53	06 04	07 17
B 11	341 45.9	42.7	158 23.4	9.0	2 08.4	13.3	60.3	45	18 54	19 25	20 01	03 33	04 47	06 02	07 18
A 12	356 46.0	S 8 41.8	172 51.4	9.0	N 1 55.1	13.3	60.3	S 50	19 02	19 36	20 17	03 22	04 39	05 59	07 20
D 13	11 46.1	40.8	187 19.4	8.9	1 41.8	13.2	60.3	52	19 05	19 41	20 25	03 16	04 36	05 58	07 21
O 14	25 46.2	39.9	201 47.3	9.0	1 28.6	13.3	60.4	54	19 09	19 47	20 33	03 11	04 32	05 57	07 22
15	41 46.3	39.0	216 15.3	9.0	1 15.3	13.4	60.4	56	19 13	19 53	20 43	03 04	04 28	05 55	07 23
16	55 46.4	38.0	230 43.3	8.9	1 01.9	13.3	60.4	58	19 18	20 00	20 55	02 57	04 24	05 53	07 24
17	71 46.5	37.1	245 11.2	9.0	0 48.6	13.3	60.4	S 60	19 23	20 09	21 09	02 48	04 19	05 51	07 25
18	86 46.6	S 8 36.2	259 39.2	8.9	N 0 35.3	13.4	60.4								
19	101 46.7	35.2	274 07.1												

T.M.G. (TU)		ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.2			SATURNO +0.9			ESTRELLAS														
d	h	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.														
DOMINGO	27 00	156 36.0	167 03.2	S 6 02.2	190 32.8	S14 46.4	294 00.8	S14 59.5	180 40.0	S11 33.9	Acomar	315 29.4	S40 19.9																		
	01	171 38.5	182 02.8	6 01.0	205 33.4	45.8	309 03.3	59.5	195 42.1	33.8	Achernar	335 37.8	S57 16.2																		
	02	186 40.9	197 02.3	5 59.7	220 33.9	45.1	324 05.7	59.5	210 44.3	33.7	Acrux	173 24.9	S63 04.0																		
	03	201 43.4	212 01.9	58.5	235 34.4	44.5	339 08.2	59.5	225 46.5	33.6	Adhara	255 23.6	S28 58.2																		
	04	216 45.9	227 01.5	57.2	250 35.0	43.9	354 10.6	59.5	240 48.7	33.5	Aldebaran	291 05.9	N16 29.8																		
	05	231 48.3	242 01.1	56.0	265 35.5	43.2	9 13.1	59.5	255 50.8	33.4																					
	06	246 50.8	257 00.7	S 5 54.7	280 36.1	S14 42.6	24 15.5	S14 59.5	270 53.0	S11 33.3	Alioth	166 32.8	N55 59.2																		
	07	261 53.3	272 00.3	53.5	295 36.6	41.9	39 18.0	59.5	285 55.2	33.2	Alkaid	153 09.9	N49 20.2																		
	08	276 55.7	286 59.9	52.3	310 37.2	41.3	54 20.4	59.5	300 57.4	33.1	Al Na'ir	28 02.2	S46 59.3																		
	09	291 58.2	301 59.5	51.0	325 37.7	40.6	69 22.9	59.5	315 59.5	33.0	Alnilam	276 00.9	S 1 12.5																		
	10	307 00.7	316 59.0	49.8	340 38.3	40.0	84 25.4	59.5	331 01.7	32.9	Alphard	218 09.9	S 8 38.3																		
	11	322 03.1	331 58.6	48.5	355 38.8	39.3	99 27.8	59.5	346 03.9	32.8																					
	12	337 05.6	346 58.2	S 5 47.3	10 39.4	S14 38.7	114 30.3	S14 59.5	1 06.1	S11 32.6	Alphecca	126 23.1	N26 43.8																		
	13	352 08.0	1 57.8	46.0	25 39.9	38.0	129 32.7	59.5	16 08.2	32.5	Alpheratz	357 58.8	N29 03.5																		
	14	7 10.5	16 57.4	44.8	40 40.5	37.4	144 35.2	59.5	31 10.4	32.4	Altair	62 22.5	N 8 51.1																		
	15	22 13.0	31 57.0	43.5	55 41.0	36.7	159 37.6	59.5	46 12.6	32.3	Ankaa	353 30.3	S42 20.4																		
	16	37 15.4	46 56.6	42.3	70 41.5	36.1	174 40.1	59.4	61 14.8	32.2	Antares	112 44.0	S26 25.1																		
	17	52 17.9	61 56.2	41.0	85 42.1	35.4	189 42.5	59.4	76 16.9	32.1																					
	18	67 20.4	76 55.8	S 5 39.8	100 42.6	S14 34.8	204 45.0	S14 59.4	91 19.1	S11 32.0	Arcturus	146 08.7	N19 12.5																		
	19	82 22.8	91 55.4	38.6	115 43.2	34.2	219 47.4	59.4	106 21.3	31.9	Atria	107 58.8	S69 00.8																		
	20	97 25.3	106 54.9	37.3	130 43.7	33.5	234 49.9	59.4	121 23.5	31.8	Avior	234 23.4	S59 29.8																		
	21	112 27.8	121 54.5	36.1	145 44.3	32.9	249 52.4	59.4	136 25.6	31.7	Bellatrix	278 47.4	N 6 20.5																		
	22	127 30.2	136 54.1	34.8	160 44.8	32.2	264 54.8	59.4	151 27.8	31.6	Betelgeuse	271 16.8	N 7 24.2																		
23	142 32.7	151 53.7	33.6	175 45.4	31.6	279 57.3	59.4	166 30.0	31.5																						
LUNES	28 00	157 35.2	166 53.3	S 5 32.3	190 45.9	S14 30.9	294 59.7	S14 59.4	181 32.2	S11 31.4	Canopus	264 02.3	S52 41.9																		
	01	172 37.6	181 52.9	31.1	205 46.5	30.3	310 02.2	59.4	196 34.3	31.2	Capella	280 55.7	N45 59.6																		
	02	187 40.1	196 52.5	29.8	220 47.0	29.6	325 04.6	59.4	211 36.5	31.1	Deneb	49 41.7	N45 15.5																		
	03	202 42.5	211 52.1	28.6	235 47.6	29.0	340 07.1	59.4	226 38.7	31.0	Denebola	182 48.0	N14 36.0																		
	04	217 45.0	226 51.7	27.3	250 48.1	28.3	355 09.6	59.4	241 40.9	30.9	Diphda	349 10.6	S18 01.2																		
	05	232 47.5	241 51.3	26.1	265 48.7	27.6	10 12.0	59.4	256 43.0	30.8																					
	06	247 49.9	256 50.9	S 5 24.8	280 49.2	S14 27.0	25 14.5	S14 59.4	271 45.2	S11 30.7	Dubhe	194 08.6	N61 46.7																		
	07	262 52.4	271 50.5	23.6	295 49.8	26.3	40 16.9	59.4	286 47.4	30.6	Elnath	278 30.8	N28 36.2																		
	08	277 54.9	286 50.1	22.3	310 50.3	25.7	55 19.4	59.4	301 49.6	30.5	Eltanin	90 53.0	N51 29.1																		
	09	292 57.3	301 49.7	21.1	325 50.9	25.0	70 21.9	59.3	316 51.7	30.4	Enif	34 01.6	N 9 50.9																		
	10	307 59.8	316 49.2	19.8	340 51.4	24.4	85 24.3	59.3	331 53.9	30.3	Fomalhaut	15 40.2	S29 39.2																		
	11	323 02.3	331 48.8	18.6	355 52.0	23.7	100 26.8	59.3	346 56.1	30.2																					
	12	338 04.7	346 48.4	S 5 17.3	10 52.5	S14 23.1	115 29.2	S14 59.3	1 58.3	S11 30.1	Gacrux	172 16.5	S57 04.9																		
	13	353 07.2	1 48.0	16.1	25 53.1	22.4	130 31.7	59.3	17 00.4	30.0	Gienah	176 06.9	S17 30.8																		
	14	8 09.7	16 47.6	14.8	40 53.6	21.8	145 34.2	59.3	32 02.6	29.8	Hadar	149 08.0	S60 20.6																		
	15	23 12.1	31 47.2	13.6	55 54.2	21.1	160 36.6	59.3	47 04.8	29.7	Hamal	328 17.3	N23 26.1																		
	16	38 14.6	46 46.8	12.3	70 54.7	20.5	175 39.1	59.3	62 07.0	29.6	Kaus Aust.	84 03.1	S34 23.1																		
	17	53 17.0	61 46.4	11.0	85 55.3	19.8	190 41.5	59.3	77 09.1	29.5																					
	18	68 19.5	76 46.0	S 5 09.8	100 55.8	S14 19.2	205 44.0	S14 59.3	92 11.3	S11 29.4	Kochab	137 18.9	N74 10.4																		
	19	83 22.0	91 45.6	08.5	115 56.4	18.5	220 46.5	59.3	107 13.5	29.3	Markab	13 53.0	N15 10.4																		
	20	98 24.4	106 45.2	07.3	130 56.9	17.9	235 48.9	59.3	122 15.7	29.2	Menkar	314 30.3	N 4 03.9																		
	21	113 26.9	121 44.8	06.0	145 57.5	17.2	250 51.4	59.3	137 17.8	29.1	Menkent	148 24.4	S36 20.5																		
	22	128 29.4	136 44.4	04.8	160 58.1	16.5	265 53.9	59.2	152 20.0	29.0	Miaplacidus	221 41.8	S69 41.9																		
23	143 31.8	151 44.0	03.5	175 58.6	15.9	280 56.3	59.2	167 22.2	28.9																						
MARTES	1 00	158 34.3	166 43.6	S 5 02.3	190 59.2	S14 15.2	295 58.8	S14 59.2	182 24.4	S11 28.8	Mirfak	309 01.2	N49 50.6																		
	01	173 36.8	181 43.2	5 01.0	205 59.7	14.6	311 01.3	59.2	197 26.5	28.7	Nunki	76 16.4	S26 18.2																		
	02	188 39.2	196 42.8	4 59.8	221 00.3	13.9	326 03.7	59.2	212 28.7	28.6	Peacock	53 42.4	S56 45.1																		
	03	203 41.7	211 42.4	58.5	236 00.8	13.3	341 06.2	59.2	227 30.9	28.5	Pollux	243 45.1	N28 02.3																		
	04	218 44.1	226 42.0	57.3	251 01.4	12.6	356 08.7	59.2	242 33.1	28.3	Procyon	245 14.6	N 5 14.2																		
	05	233 46.6	241 41.6	56.0	266 01.9	11.9	11 11.1	59.2	257 35.2	28.2																					
	06	248 49.1	256 41.2	S 4 54.7	281 02.5	S14 11.3	26 13.6	S14 59.2	272 37.4	S11 28.1	Rasalhague	96 19.9	N12 33.7																		
	07	263 51.5	271 40.8	53.5	296 03.0	10.6	41 16.1	59.2	287 39.6	28.0	Regulus	207 58.5	N11 59.5																		
	08	278 54.0	286 40.4	52.2	311 03.6	10.0	56 18.5	59.2	302 41.8	27.9	Rigel	281 25.9	S 8 12.7																		
	09	293 56.5	301 40.0	51.0	326 04.1	9.3	71 21.0	59.2	317 43.9	27.8	Rigil Kent.	140 11.1	S60 48.5																		
	10	308 58.9	316 39.6	49.7	341 04.7	8.7	86 23.5	59.1	332 46.1	27.7	Sabik	102 29.1	S15 43.1																		
	11	324 01.4	331 39.2	48.5	356 05.3	8.0	101 25.9	59.1	347 48.3	27.6																					
	12	339 03.9	346 38.8	S 4 47.2	11 05.8	S14 07.3	116 28.4	S14 59.1	2 50.5	S11 27.5	Schedar	349 57.5	N56 30.5																		
	13	354 06.3	1 38.4	45.9	26 06.4	06.7	131 30.9	59.1	17 52.6	27.4	Shaula	96 41.6	S37 05.9																		
	14	9 08.8	16 38.0	44.7	41 06.9	06.0	146 33.3	59.1	32 54.8	27.3	Sirius	258 46.2	S16 42.8																		
	15	24 11.3	31 37.6	43.4	56 07.5	05.4	161 35.8	59.1	47 57.0	27.2	Spica	158 46.2	S11 08.0																		
	16	39 13.7	46 37.2	42.2	71 08.0	04.7	176 38.3	59.1	62 59.2	27.1	Suhail	223 02.6	S43 24.8																		
	17	54 16.2	61 36.8	40.9	86 08.6	04.0	191 40.7	59.1	78 01.3	26.9																					
	18	69 18.6	76 36.4	S 4 39.7	101 09.1	S14 03.4	206 43.2	S14 59.1	93 03.5	S11 26.8	Vega	80 48.9	N38 46.5																		
	19	84 21.1	91 36.0	38.4	116 09.7	02.7	221 45.7	59.1	108 05.7	26.7	Zuben'ubi	137 21.3	S16 01.1																		
	20	99 23.6	106 35.6	37.1	131 10.3	02.1	236 48.2	59.0	123 07.9	26.6																					
	21	114 26.0	121 35.2	35.9	146 10.8	01.4	251 50.6	59.0	138 10.0	26.5																					
	22	129 28.5	136 34.8	34.6	161 11.4	00.7	266 53.1	59.0	153 12.2	26.4																					
23	144 31.0	151 34.4	33.4	176 11.9	00.1	281 55.6	59.0	168 14.4	26.3																						
Pas. Mer. 13 27.4		v -0.4 d 1.3			v 0.6 d 0.7			v 2.5 d 0.0			v 2.2 d 0.1			<table border="0"> <tr> <td></td> <td>A. H. S.</td> <td>Pas. Mer.</td> </tr> <tr> <td>Venus</td> <td>9 18.2</td> <td>12 53</td> </tr> <tr> <td>Marte</td> <td>33 10.8</td> <td>11 17</td> </tr> <tr> <td>Júpiter</td> <td>137 24.6</td> <td>4 19</td> </tr> <tr> <td>Saturno</td> <td>23 57.0</td> <td>11 52</td> </tr> </table>				A. H. S.	Pas. Mer.	Venus	9 18.2	12 53	Marte	33 10.8	11 17	Júpiter	137 24.6	4 19	Saturno	23 57.0	11 52
	A. H. S.	Pas. Mer.																													
Venus	9 18.2	12 53																													
Marte	33 10.8	11 17																													
Júpiter	137 24.6	4 19																													
Saturno	23 57.0	11 52																													

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	27	28	1	2	
												h m	h m	h m	h m	h m
DOMINGO	27 00	176 47.3	S 8 30.5	346 26.5	8.9	S 0	44.8 13.4	60.5	N 72	05 16	06 34	07 43	20 48	23 02	25 31	01 31
	01	191 47.4	29.6	0 54.4	8.8	0	58.2 13.4	60.5	N 70	05 21	06 31	07 33	20 40	22 43	24 52	00 52
	02	206 47.5	28.7	15 22.2	8.8	1	11.6 13.3	60.5	68	05 24	06 28	07 25	20 33	22 28	24 25	00 25
	03	221 47.6	27.7	29 50.0	8.8	1	24.9 13.4	60.5	66	05 27	06 26	07 18	20 28	22 16	24 05	00 05
	04	236 47.7	26.8	44 17.8	8.8	1	38.3 13.3	60.5	64	05 29	06 24	07 12	20 23	22 06	23 48	25 26
	05	251 47.8	25.8	58 45.6	8.8	1	51.6 13.3	60.5	62	05 31	06 22	07 07	20 19	21 58	23 35	25 07
	06	266 47.9	S 8 24.9	73 13.4	8.7	S 2	04.9 13.4	60.5	60	05 32	06 20	07 02	20 16	21 50	23 24	24 52
	07	281 48.0	24.0	87 41.1	8.8	2	18.3 13.3	60.5	N 58	05 33	06 19	06 58	20 13	21 44	23 14	24 39
	08	296 48.2	23.0	102 08.9	8.7	2	31.6 13.3	60.6	56	05 34	06 17	06 55	20 10	21 38	23 05	24 28
	09	311 48.3	22.1	116 36.6	8.7	2	44.9 13.3	60.6	54	05 35	06 16	06 52	20 07	21 33	22 58	24 18
	10	326 48.4	21.1	131 04.3	8.7	2	58.2 13.2	60.6	52	05 36	06 15	06 49	20 05	21 29	22 51	24 10
	11	341 48.5	20.2	145 32.0	8.6	3	11.4 13.3	60.6	50	05 36	06 14	06 46	20 03	21 25	22 45	24 02
	12	356 48.6	S 8 19.3	159 59.6	8.7	S 3	24.7 13.2	60.6	45	05 37	06 11	06 40	19 59	21 16	22 32	23 45
	13	11 48.7	18.3	174 27.3	8.6	3	37.9 13.2	60.6	N 40	05 37	06 08	06 35	19 55	21 09	22 21	23 32
	14	26 48.8	17.4	188 54.9	8.6	3	51.1 13.2	60.6	35	05 36	06 06	06 31	19 52	21 02	22 12	23 20
	15	41 48.9	16.4	203 22.5	8.5	4	04.3 13.1	60.6	30	05 36	06 03	06 27	19 50	20 57	22 04	23 10
	16	56 49.0	15.5	217 50.0	8.6	4	17.4 13.2	60.6	20	05 33	05 59	06 21	19 45	20 48	21 50	22 53
	17	71 49.2	14.6	232 17.6	8.5	4	30.6 13.1	60.6	N 10	05 29	05 54	06 15	19 41	20 39	21 39	22 38
	18	86 49.3	S 8 13.6	246 45.1	8.5	S 4	43.7 13.1	60.6	0	05 24	05 48	06 09	19 37	20 32	21 28	22 25
	19	101 49.4	12.7	261 12.6	8.5	4	56.8 13.0	60.6	S 10	05 18	05 42	06 03	19 33	20 24	21 17	22 11
	20	116 49.5	11.7	275 40.1	8.5	5	09.8 13.0	60.6	20	05 09	05 35	05 57	19 30	20 16	21 05	21 56
	21	131 49.6	10.8	290 07.6	8.4	5	22.8 13.0	60.6	30	04 57	05 26	05 50	19 25	20 07	20 52	21 39
	22	146 49.7	09.9	304 35.0	8.5	5	35.8 12.9	60.6	35	04 49	05 20	05 46	19 23	20 02	20 44	21 30
23	161 49.8	08.9	319 02.5	8.4	5	48.7 12.9	60.6	40	04 40	05 13	05 41	19 20	19 56	20 35	21 19	
28 00	176 50.0	S 8 08.0	333 29.9	8.3	S 6	01.6 12.9	60.6	45	04 29	05 05	05 35	19 17	19 49	20 25	21 06	
01	191 50.1	07.0	347 57.2	8.4	6	14.5 12.8	60.6	S 50	04 14	04 55	05 29	19 13	19 41	20 13	20 50	
02	206 50.2	06.1	2 24.6	8.3	6	27.3 12.8	60.6	52	04 07	04 50	05 25	19 11	19 38	20 08	20 43	
03	221 50.3	05.1	16 51.9	8.3	6	40.1 12.7	60.6	54	03 59	04 45	05 22	19 09	19 33	20 01	20 35	
04	236 50.4	04.2	31 19.2	8.2	6	52.8 12.7	60.6	56	03 49	04 39	05 18	19 07	19 29	19 55	20 26	
05	251 50.5	03.3	45 46.4	8.3	7	05.5 12.7	60.6	58	03 38	04 32	05 14	19 05	19 24	19 47	20 16	
06	266 50.6	S 8 02.3	60 13.7	8.2	S 7	18.2 12.6	60.6	S 60	03 26	04 24	05 09	19 02	19 18	19 38	20 04	
07	281 50.8	01.4	74 40.9	8.2	7	30.8 12.5	60.6	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
08	296 50.9	8 00.4	89 08.1	8.1	7	43.3 12.5	60.6			Civil	Naut.	27	28	1	2	
09	311 51.0	7 59.5	103 35.2	8.2	7	55.8 12.5	60.6					h m	h m	h m	h m	
10	326 51.1	58.5	118 02.4	8.1	8	08.3 12.4	60.6	N 72	16 44	17 54	19 12	06 39	06 24	06 05	05 34	
11	341 51.2	57.6	132 29.5	8.0	8	20.7 12.3	60.6	N 70	16 54	17 56	19 07	06 42	06 34	06 26	06 14	
12	356 51.3	S 7 56.6	146 56.5	8.1	S 8	33.0 12.3	60.6	68	17 02	17 59	19 03	06 45	06 43	06 42	06 42	
13	11 51.5	55.7	161 23.6	8.0	8	45.3 12.2	60.6	66	17 09	18 01	19 00	06 47	06 51	06 56	07 04	
14	26 51.6	54.8	175 50.6	8.0	8	57.5 12.2	60.5	64	17 15	18 03	18 58	06 49	06 57	07 07	07 21	
15	41 51.7	53.8	190 17.6	7.9	9	09.7 12.0	60.5	62	17 20	18 05	18 56	06 50	07 02	07 17	07 35	
16	56 51.8	52.9	204 44.5	7.9	9	21.7 12.1	60.5	60	17 24	18 06	18 54	06 52	07 07	07 25	07 47	
17	71 51.9	51.9	219 11.4	7.9	9	33.8 12.0	60.5	N 58	17 28	18 08	18 53	06 53	07 11	07 32	07 58	
18	86 52.1	S 7 51.0	233 38.3	7.9	S 9	45.8 11.9	60.5	56	17 31	18 09	18 52	06 54	07 15	07 39	08 07	
19	101 52.2	50.0	248 05.2	7.8	9	57.7 11.8	60.5	54	17 35	18 10	18 51	06 55	07 19	07 44	08 15	
20	116 52.3	49.1	262 32.0	7.8	10	09.5 11.8	60.5	52	17 37	18 11	18 50	06 56	07 22	07 50	08 22	
21	131 52.4	48.1	276 58.8	7.8	10	21.3 11.7	60.5	50	17 40	18 13	18 50	06 57	07 25	07 54	08 29	
22	146 52.5	47.2	291 25.6	7.8	10	33.0 11.6	60.5	45	17 46	18 15	18 49	06 59	07 31	08 05	08 43	
23	161 52.6	46.2	305 52.4	7.7	10	44.6 11.5	60.5	N 40	17 50	18 18	18 49	07 01	07 36	08 13	08 55	
LUNES	1 00	176 52.8	S 7 45.3	320 19.1	7.6	S 10	56.1 11.5	60.5	35	17 54	18 20	18 49	07 02	07 40	08 21	09 05
	01	191 52.9	44.3	334 45.7	7.7	11	07.6 11.4	60.4	30	17 58	18 22	18 50	07 03	07 44	08 27	09 13
	02	206 53.0	43.4	349 12.4	7.6	11	19.0 11.3	60.4	20	18 05	18 27	18 52	07 05	07 51	08 39	09 29
	03	221 53.1	42.4	3 39.0	7.6	11	30.3 11.3	60.4	N 10	18 10	18 32	18 56	07 07	07 57	08 49	09 42
	04	236 53.2	41.5	18 05.6	7.6	11	41.6 11.1	60.4	0	18 16	18 37	19 01	07 09	08 03	08 58	09 55
	05	251 53.4	40.5	32 32.2	7.5	11	52.7 11.1	60.4	S 10	18 22	18 43	19 07	07 11	08 09	09 07	10 07
	06	266 53.5	S 7 39.6	46 58.7	7.5	S 12	03.8 11.0	60.4	20	18 28	18 50	19 16	07 12	08 15	09 17	10 20
	07	281 53.6	38.6	61 25.2	7.4	12	14.8 10.9	60.4	30	18 35	18 59	19 28	07 14	08 22	09 29	10 36
	08	296 53.7	37.7	75 51.6	7.5	12	25.7 10.9	60.4	35	18 39	19 05	19 35	07 16	08 26	09 36	10 45
	09	311 53.9	36.7	90 18.1	7.4	12	36.6 10.7	60.3	40	18 43	19 11	19 44	07 17	08 30	09 43	10 55
	10	326 54.0	35.8	104 44.5	7.3	12	47.3 10.7	60.3	45	18 49	19 19	19 55	07 18	08 35	09 52	11 07
	11	341 54.1	34.9	119 10.8	7.4	12	58.0 10.5	60.3	S 50	18 56	19 29	20 10	07 20	08 42	10 03	11 22
	12	356 54.2	S 7 33.9	133 37.2	7.3	S 13	08.5 10.5	60.3	52	18 59	19 34	20 17	07 21	08 45	10 08	11 29
	13	11 54.3	33.0	148 03.5	7.3	13	19.0 10.4	60.3	54	19 02	19 39	20 25	07 22	08 48	10 13	11 36
	14	26 54.5	32.0	162 29.8	7.2	13	29.4 10.3	60.3	56	19 06	19 45	20 34	07 23	08 52	10 20	11 45
	15	41 54.6	31.1	176 56.0	7.2	13	39.7 10.2	60.3	58	19 10	19 52	20 44	07 24	08 56	10 26	11 54
	16	56 54.7	30.1	191 22.2	7.2	13	49.9 10.1	60.2	S 60	19 15	19 59	20 57	07 25	09 00	10 34	12 05
	17	71 54.8	29.1	205 48.4	7.2	14	00.0 10.0	60.2	Día	SOL		LUNA				
	18	86 55.0	S 7 28.2	220 14.6	7.1	S 14	10.0 9.9	60.2		E.T. (-)	Pas. Mer.	Pas. Mer.	Sup.	Inf.	Edad.	Fase
	19	101 55.1	27.2	234 40.7	7.											

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.2			SATURNO +0.9			ESTRELLAS						
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.				
M I E R C O L E S	2 00	159 33.4	166 34.0	S 4 32.1	191 12.5	S13 59.4	296 58.1	S14 59.0	183 16.6	S11 26.2	Acomar	315 29.4	S40 19.9									
	01	174 35.9	181 33.6	30.8	206 13.0	58.7	312 00.5	59.0	198 18.8	26.1	Achernar	335 37.9	S57 16.2									
	02	189 38.4	196 33.2	29.6	221 13.6	58.1	327 03.0	59.0	213 20.9	26.0	Acrux	173 24.8	S63 04.0									
	03	204 40.8	211 32.8	28.3	236 14.2	57.4	342 05.5	59.0	228 23.1	25.9	Adhara	255 23.7	S28 58.2									
	04	219 43.3	226 32.4	27.1	251 14.7	56.8	357 07.9	59.0	243 25.3	25.8	Aldebaran	291 06.0	N16 29.8									
	05	234 45.8	241 32.0	25.8	266 15.3	56.1	12 10.4	58.9	258 27.5	25.7												
	06	249 48.2	256 31.6	S 4 24.5	281 15.8	S13 55.4	27 12.9	S14 58.9	273 29.6	S11 25.6	Alioth	166 32.8	N55 59.2									
	07	264 50.7	271 31.3	23.3	296 16.4	54.8	42 15.4	58.9	288 31.8	25.4	Alkaid	153 09.9	N49 20.2									
	08	279 53.1	286 30.9	22.0	311 16.9	54.1	57 17.8	58.9	303 34.0	25.3	Al Na'ir	28 02.2	S46 59.3									
	09	294 55.6	301 30.5	20.7	326 17.5	53.4	72 20.3	58.9	318 36.2	25.2	Alnilam	276 00.9	S 1 12.5									
	10	309 58.1	316 30.1	19.5	341 18.1	52.8	87 22.8	58.9	333 38.3	25.1	Alphard	218 09.9	S 8 38.3									
	11	325 00.5	331 29.7	18.2	356 18.6	52.1	102 25.3	58.9	348 40.5	25.0												
	12	340 03.0	346 29.3	S 4 17.0	11 19.2	S13 51.4	117 27.7	S14 58.9	3 42.7	S11 24.9	Alphecca	126 23.1	N26 43.8									
	13	355 05.5	1 28.9	15.7	26 19.7	50.8	132 30.2	58.9	18 44.9	24.8	Alpheratz	357 58.8	N29 03.5									
	14	10 07.9	16 28.5	14.4	41 20.3	50.1	147 32.7	58.8	33 47.0	24.7	Altair	62 22.5	N 8 51.1									
	15	25 10.4	31 28.1	13.2	56 20.9	49.5	162 35.2	58.8	48 49.2	24.6	Ankaa	353 30.3	S42 20.4									
	16	40 12.9	46 27.7	11.9	71 21.4	48.8	177 37.7	58.8	63 51.4	24.5	Antares	112 43.9	S26 25.1									
	17	55 15.3	61 27.3	10.6	86 22.0	48.1	192 40.1	58.8	78 53.6	24.4												
	18	70 17.8	76 26.9	S 4 09.4	101 22.5	S13 47.5	207 42.6	S14 58.8	93 55.7	S11 24.3	Arcturus	146 08.7	N19 12.5									
	19	85 20.2	91 26.5	08.1	116 23.1	46.8	222 45.1	58.8	108 57.9	24.2	Atria	107 58.8	S69 00.8									
	20	100 22.7	106 26.1	06.9	131 23.7	46.1	237 47.6	58.8	124 00.1	24.0	Avior	234 23.4	S59 29.8									
	21	115 25.2	121 25.7	05.6	146 24.2	45.5	252 50.1	58.8	139 02.3	23.9	Bellatrix	278 47.4	N 6 20.5									
	22	130 27.6	136 25.4	04.3	161 24.8	44.8	267 52.5	58.7	154 04.4	23.8	Betelgeuse	271 16.8	N 7 24.2									
23	145 30.1	151 25.0	03.1	176 25.3	44.1	282 55.0	58.7	169 06.6	23.7													
J U E V E S	3 00	160 32.6	166 24.6	S 4 01.8	191 25.9	S13 43.5	297 57.5	S14 58.7	184 08.8	S11 23.6	Canopus	264 02.3	S52 41.9									
	01	175 35.0	181 24.2	4 00.5	206 26.5	42.8	313 00.0	58.7	199 11.0	23.5	Capella	280 55.7	N45 59.6									
	02	190 37.5	196 23.8	3 59.3	221 27.0	42.1	328 02.5	58.7	214 13.1	23.4	Deneb	49 41.7	N45 15.5									
	03	205 40.0	211 23.4	58.0	236 27.6	41.4	343 04.9	58.7	229 15.3	23.3	Denebola	182 48.0	N14 36.0									
	04	220 42.4	226 23.0	56.7	251 28.1	40.8	358 07.4	58.7	244 17.5	23.2	Diphda	349 10.6	S18 01.2									
	05	235 44.9	241 22.6	55.5	266 28.7	40.1	13 09.9	58.7	259 19.7	23.1												
	06	250 47.4	256 22.2	S 3 54.2	281 29.3	S13 39.4	28 12.4	S14 58.6	274 21.9	S11 23.0	Dubhe	194 08.6	N61 46.7									
	07	265 49.8	271 21.8	52.9	296 29.8	38.8	43 14.9	58.6	289 24.0	22.9	Elnath	278 30.8	N28 36.2									
	08	280 52.3	286 21.4	51.7	311 30.4	38.1	58 17.4	58.6	304 26.2	22.8	Eltanin	90 53.0	N51 29.1									
	09	295 54.7	301 21.1	50.4	326 31.0	37.4	73 19.8	58.6	319 28.4	22.7	Enif	34 01.6	N 9 50.9									
	10	310 57.2	316 20.7	49.1	341 31.5	36.8	88 22.3	58.6	334 30.6	22.5	Fomalhaut	15 40.2	S29 39.2									
	11	325 59.7	331 20.3	47.9	356 32.1	36.1	103 24.8	58.6	349 32.7	22.4												
	12	341 02.1	346 19.9	S 3 46.6	11 32.7	S13 35.4	118 27.3	S14 58.6	4 34.9	S11 22.3	Gacrux	172 16.5	S57 04.9									
	13	356 04.6	1 19.5	45.3	26 33.2	34.8	133 29.8	58.5	19 37.1	22.2	Gienah	176 06.8	S17 30.8									
	14	11 07.1	16 19.1	44.1	41 33.8	34.1	148 32.3	58.5	34 39.3	22.1	Hadar	149 08.0	S60 20.6									
	15	26 09.5	31 18.7	42.8	56 34.3	33.4	163 34.7	58.5	49 41.4	22.0	Hamal	328 17.3	N23 26.1									
	16	41 12.0	46 18.3	41.5	71 34.9	32.7	178 37.2	58.5	64 43.6	21.9	Kaus Aust.	84 03.1	S34 23.1									
	17	56 14.5	61 17.9	40.3	86 35.5	32.1	193 39.7	58.5	79 45.8	21.8												
	18	71 16.9	76 17.6	S 3 39.0	101 36.0	S13 31.4	208 42.2	S14 58.5	94 48.0	S11 21.7	Kochab	137 18.9	N74 10.4									
	19	86 19.4	91 17.2	37.7	116 36.6	30.7	223 44.7	58.5	109 50.1	21.6	Markab	13 53.0	N15 10.4									
	20	101 21.9	106 16.8	36.5	131 37.2	30.1	238 47.2	58.4	124 52.3	21.5	Menkar	314 30.3	N 4 03.9									
	21	116 24.3	121 16.4	35.2	146 37.7	29.4	253 49.7	58.4	139 54.5	21.4	Menkent	148 24.4	S36 20.5									
	22	131 26.8	136 16.0	33.9	161 38.3	28.7	268 52.2	58.4	154 56.7	21.3	Miaplacidus	221 41.8	S69 41.9									
23	146 29.2	151 15.6	32.7	176 38.9	28.0	283 54.6	58.4	169 58.9	21.2													
V I E R N S	4 00	161 31.7	166 15.2	S 3 31.4	191 39.4	S13 27.4	298 57.1	S14 58.4	185 01.0	S11 21.0	Mirfak	309 01.2	N49 50.6									
	01	176 34.2	181 14.8	30.1	206 40.0	26.7	313 59.6	58.4	200 03.2	20.9	Nunki	76 16.4	S26 18.2									
	02	191 36.6	196 14.5	28.9	221 40.6	26.0	329 02.1	58.4	215 05.4	20.8	Peacock	53 42.3	S56 45.1									
	03	206 39.1	211 14.1	27.6	236 41.1	25.3	344 04.6	58.3	230 07.6	20.7	Pollux	243 45.1	N28 02.3									
	04	221 41.6	226 13.7	26.3	251 41.7	24.7	359 07.1	58.3	245 09.7	20.6	Procyon	245 14.6	N 5 14.2									
	05	236 44.0	241 13.3	25.0	266 42.3	24.0	14 09.6	58.3	260 11.9	20.5												
	06	251 46.5	256 12.9	S 3 23.8	281 42.8	S13 23.3	29 12.1	S14 58.3	275 14.1	S11 20.4	Rasalhague	96 19.9	N12 33.7									
	07	266 49.0	271 12.5	22.5	296 43.4	22.6	44 14.6	58.3	290 16.3	20.3	Regulus	207 58.5	N11 59.5									
	08	281 51.4	286 12.1	21.2	311 44.0	22.0	59 17.0	58.3	305 18.4	20.2	Rigel	281 25.9	S 8 12.7									
	09	296 53.9	301 11.8	20.0	326 44.5	21.3	74 19.5	58.2	320 20.6	20.1	Rigil Kent.	140 11.1	S60 48.5									
	10	311 56.3	316 11.4	18.7	341 45.1	20.6	89 22.0	58.2	335 22.8	20.0	Sabik	102 29.1	S15 43.1									
	11	326 58.8	331 11.0	17.4	356 45.7	19.9	104 24.5	58.2	350 25.0	19.9												
	12	342 01.3	346 10.6	S 3 16.1	11 46.2	S13 19.3	119 27.0	S14 58.2	5 27.1	S11 19.8	Schedar	349 57.5	N56 30.5									
	13	357 03.7	1 10.2	14.9	26 46.8	18.6	134 29.5	58.2	20 29.3	19.7	Shaula	96 41.6	S37 05.9									
	14	12 06.2	16 09.8	13.6	41 47.4	17.9	149 32.0	58.2	35 31.5	19.6	Sirius	258 46.2	S16 42.8									
	15	27 08.7	31 09.4	12.3	56 47.9	17.2	164 34.5	58.1	50 33.7	19.4	Spica	158 46.2	S11 08.0									
	16	42 11.1	46 09.1	11.1	71 48.5	16.6	179 37.0	58.1	65 35.9	19.3	Suhail	223 02.7	S43 24.8									
	17	57 13.6	61 08.7	09.8	86 49.1	15.9	194 39.5	58.1	80 38.0	19.2												
	18	72 16.1	76 08.3	S 3 08.5	101 49.6	S13 15.2	209 42.0	S14 58.1	95 40.2	S11 19.1	Vega	80 48.9	N38 46.5									
	19	87 18.5	91 07.9	07.2	116 50.2	14.5	224 44.5	58.1	110 42.4	19.0	Zuben'ubi	137 21.2	S16 01.1									
	20	102 21.0	106 07.5	06.0	131 50.8	13.8	239 47.0	58.1	125 44.6	18.9												
	21	117 23.5	121 07.1	04.7	146 51.3	13.2	254 49.5	58.0	140 46.7	18.8												
	22	132 25.9	136 06.8	03.4	161 51.9	12.5	269 52.0	58.0	155 48.9	18.7												
23	147 28.4	151 06.4	02.2	176 52.5	11.8	284 54.4	58.0	170 51.1	18.6													
Pas. Mer. 13 15.7		v -0.4 d 1.3			v 0.6 d 0.7			v 2.5 d 0.0			v 2.2 d 0.1			A. H. S. Pas. Mer.								
											Venus			5 52.0 12 55								
														Marte			30 53.3 11 14					
																	Júpiter			137 24.9 4 07		
																	Saturno			23 36.2 11 42		

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna									
	A.H.G.		A.H.G.		v	Dec.		d	P.H.		Náut.	Civil	2		3		4		5	
	o	'	o	'									o	'	h	m	h	m	h	m
M I E R C O L E S	2 00	176 55.7	S 7 22.5	306 50.9	6.9	S15 07.9	9.3	60.1	N 72	05 01	06 19	07 28	01 31	■	■	■	■	■		
	01	191 55.8	21.5	321 16.8	6.9	15 17.2	9.2	60.1	N 70	05 07	06 18	07 19	00 52	03 13	■	■	■	■		
	02	206 55.9	20.6	335 42.7	6.9	15 26.4	9.1	60.1	68	05 12	06 16	07 12	00 25	02 22	04 10	05 26	06 41	07 56		
	03	221 56.1	19.6	350 08.6	6.9	15 35.5	9.0	60.0	66	05 16	06 15	07 06	00 05	01 50	03 23	04 31	05 38	06 45		
	04	236 56.2	18.7	4 34.5	6.9	15 44.5	8.8	60.0	64	05 19	06 14	07 01	25 26	01 26	02 52	03 58	04 58	05 58		
	05	251 56.3	17.7	19 00.4	6.8	15 53.3	8.8	60.0	62	05 22	06 13	06 57	25 07	01 07	02 29	03 34	04 34	05 34		
	06	266 56.5	S 7 16.8	33 26.2	6.8	S16 02.1	8.7	60.0	60	05 24	06 12	06 53	24 52	00 52	02 11	03 15	04 15	05 15		
	07	281 56.6	15.8	47 52.0	6.7	16 10.8	8.5	60.0	N 58	05 26	06 11	06 50	24 39	00 39	01 56	02 59	03 59	04 59		
	08	296 56.7	14.9	62 17.7	6.8	16 19.3	8.4	59.9	56	05 27	06 10	06 47	24 28	00 28	01 42	02 45	03 45	04 45		
	09	311 56.8	13.9	76 43.5	6.7	16 27.7	8.3	59.9	54	05 28	06 09	06 45	24 18	00 18	01 31	02 33	03 33	04 33		
	10	326 57.0	13.0	91 09.2	6.7	16 36.0	8.2	59.9	52	05 29	06 08	06 42	24 10	00 10	01 21	02 23	03 23	04 23		
	11	341 57.1	12.0	105 34.9	6.6	16 44.2	8.1	59.9	50	05 30	06 08	06 40	24 02	00 02	01 12	02 14	03 14	04 14		
	12	356 57.2	S 7 11.0	120 00.5	6.7	S16 52.3	8.0	59.8	45	05 32	06 06	06 35	23 45	24 53	00 53	01 54	02 54	03 54		
	13	11 57.3	10.1	134 26.2	6.6	17 00.3	7.8	59.8	N 40	05 32	06 04	06 31	23 32	24 38	00 38	01 38	02 38	03 38		
	14	26 57.5	09.1	148 51.8	6.6	17 08.1	7.8	59.8	35	05 33	06 02	06 27	23 20	24 25	00 25	01 25	02 25	03 25		
	15	41 57.6	08.2	163 17.4	6.6	17 15.9	7.6	59.8	30	05 32	06 00	06 24	23 10	24 14	00 14	01 13	02 13	03 13		
	16	56 57.7	07.2	177 43.0	6.5	17 23.5	7.5	59.8	20	05 31	05 56	06 19	22 53	23 55	24 53	00 53	01 53	02 53		
	17	71 57.9	06.3	192 08.5	6.6	17 31.0	7.3	59.7	N 10	05 28	05 52	06 14	22 38	23 38	24 36	00 36	01 36	02 36		
	18	86 58.0	S 7 05.3	206 34.1	6.5	S17 38.3	7.3	59.7	0	05 24	05 48	06 09	22 25	23 22	24 20	00 20	01 20	02 20		
	19	101 58.1	04.4	220 59.6	6.5	17 45.6	7.1	59.7	S 10	05 18	05 43	06 04	22 11	23 07	24 03	00 03	01 03	02 03		
	20	116 58.2	03.4	235 25.1	6.4	17 52.7	7.0	59.7	20	05 10	05 36	05 58	21 56	22 50	23 46	24 43	00 43	01 43		
	21	131 58.4	02.5	249 50.5	6.5	17 59.7	6.9	59.6	30	04 59	05 28	05 52	21 39	22 31	23 26	24 24	00 24	01 24		
	22	146 58.5	01.5	264 16.0	6.5	18 06.6	6.8	59.6	35	04 52	05 23	05 48	21 30	22 20	23 15	24 13	00 13	01 13		
23	161 58.6	7 00.5	278 41.5	6.4	18 13.4	6.6	59.6	40	04 44	05 17	05 44	21 19	22 08	23 01	24 00	00 00	01 00			
3 00	176 58.8	S 6 59.6	293 06.9	6.4	S18 20.0	6.5	59.6	45	04 33	05 09	05 39	21 06	21 53	22 46	23 44	00 44	01 44			
01	191 58.9	58.6	307 32.3	6.4	18 26.5	6.4	59.5	S 50	04 20	05 00	05 34	20 50	21 35	22 26	23 26	00 26	01 26			
02	206 59.0	57.7	321 57.7	6.4	18 32.9	6.3	59.5	52	04 13	04 56	05 31	20 43	21 26	22 17	23 17	00 17	01 17			
03	221 59.1	56.7	336 23.1	6.4	18 39.2	6.1	59.5	54	04 06	04 51	05 28	20 35	21 16	22 07	23 07	00 07	01 07			
04	236 59.3	55.8	350 48.5	6.3	18 45.3	6.0	59.5	56	03 57	04 46	05 25	20 26	21 06	21 56	22 56	00 56	01 56			
05	251 59.4	54.8	5 13.8	6.4	18 51.3	5.9	59.4	58	03 47	04 40	05 21	20 16	20 53	21 42	22 43	00 43	01 43			
06	266 59.5	S 6 53.8	19 39.2	6.3	S18 57.2	5.7	59.4	S 60	03 36	04 33	05 17	20 04	20 39	21 27	22 28	00 28	01 28			
07	281 59.7	52.9	34 04.5	6.4	19 02.9	5.7	59.4	Lat.	Ocaso Sol	Crepúsculo Civil	Ocaso Luna	2	3	4	5					
08	296 59.8	51.9	48 29.9	6.3	19 08.6	5.5	59.4	N 72	16 58	18 07	19 26	05 34	■	■	■	■	■			
09	311 59.9	51.0	62 55.2	6.3	19 14.1	5.3	59.3	N 70	17 07	18 08	19 19	06 14	05 53	■	■	■	■			
10	327 00.1	50.0	77 20.5	6.3	19 19.4	5.3	59.3	68	17 13	18 10	19 14	06 42	06 45	06 58	07 41	08 36	09 36			
11	342 00.2	49.1	91 45.8	6.3	19 24.7	5.1	59.3	66	17 19	18 11	19 10	07 04	07 18	07 45	08 36	09 36	10 36			
12	357 00.3	S 6 48.1	106 11.1	6.3	S19 29.8	4.9	59.3	64	17 24	18 12	19 07	07 21	07 42	08 16	09 09	10 09	11 09			
13	12 00.5	47.1	120 36.4	6.3	19 34.7	4.9	59.2	62	17 28	18 13	19 04	07 35	08 01	08 39	09 33	10 33	11 33			
14	27 00.6	46.2	135 01.7	6.3	19 39.6	4.7	59.2	60	17 32	18 14	19 02	07 47	08 17	08 58	09 52	10 52	11 52			
15	42 00.7	45.2	149 27.0	6.3	19 44.3	4.5	59.2	N 58	17 35	18 14	19 00	07 58	08 30	09 13	10 08	11 08	12 08			
16	57 00.9	44.3	163 52.3	6.3	19 48.8	4.5	59.2	56	17 38	18 15	18 58	08 07	08 42	09 26	10 22	11 22	12 22			
17	72 01.0	43.3	178 17.6	6.3	19 53.3	4.3	59.1	54	17 40	18 16	18 57	08 15	08 52	09 38	10 33	11 33	12 33			
18	87 01.1	S 6 42.3	192 42.9	6.3	S19 57.6	4.2	59.1	52	17 43	18 17	18 56	08 22	09 01	09 48	10 44	11 44	12 44			
19	102 01.3	41.4	207 08.2	6.3	20 01.8	4.0	59.1	50	17 45	18 17	18 55	08 29	09 09	09 57	10 53	11 53	12 53			
20	117 01.4	40.4	221 33.5	6.3	20 05.8	3.9	59.1	45	17 50	18 19	18 53	08 43	09 26	10 16	11 13	12 13	13 13			
21	132 01.5	39.5	235 58.8	6.3	20 09.7	3.8	59.0	N 40	17 54	18 21	18 52	08 55	09 41	10 32	11 28	12 28	13 28			
22	147 01.7	38.5	250 24.1	6.3	20 13.5	3.6	59.0	35	17 57	18 23	18 52	09 05	09 53	10 45	11 42	12 42	13 42			
23	162 01.8	37.5	264 49.4	6.3	20 17.1	3.6	59.0	30	18 00	18 24	18 52	09 13	10 03	10 57	11 53	12 53	13 53			
4 00	177 01.9	S 6 36.6	279 14.7	6.3	S20 20.7	3.3	59.0	20	18 06	18 28	18 53	09 29	10 21	11 17	12 13	13 13	14 13			
01	192 02.1	35.6	293 40.0	6.3	20 24.0	3.1	58.9	N 10	18 11	18 32	18 56	09 42	10 37	11 34	12 30	13 30	14 30			
02	207 02.2	34.7	308 05.3	6.4	20 27.3	3.1	58.9	0	18 15	18 36	19 00	09 55	10 52	11 50	12 47	13 47	14 47			
03	222 02.3	33.7	322 30.7	6.3	20 30.4	2.9	58.9	S 10	18 20	18 41	19 06	10 07	11 07	12 06	13 03	14 03	15 03			
04	237 02.5	32.7	336 56.0	6.4	20 33.3	2.9	58.8	20	18 25	18 48	19 13	10 20	11 23	12 23	13 20	14 20	15 20			
05	252 02.6	31.8	351 21.4	6.3	20 36.2	2.7	58.8	30	18 31	18 56	19 24	10 36	11 41	12 43	13 39	14 39	15 39			
06	267 02.7	S 6 30.8	5 46.7	6.4	S20 38.9	2.6	58.8	35	18 35	19 01	19 31	10 45	11 51	12 54	13 51	14 51	15 51			
07	282 02.9	29.9	20 12.1	6.4	20 41.5	2.4	58.8	40	18 39	19 06	19 39	10 55	12 04	13 07	14 04	15 04	16 04			
08	297 03.0	28.9	34 37.5	6.4	20 43.9	2.3	58.7	45	18 44	19 14	19 50	11 07	12 18	13 23	14 20	15 20	16 20			
09	312 03.1	27.9	49 02.9	6.5	20 46.2	2.2	58.7	S 50	18 49	19 23	20 03	11 22	12 36	13 42	14 39	15 39	16 39			
10	327 03.3	27.0	63 28.4	6.4	20 48.4	2.0	58.7	52	18 52	19 27	20 09	11 29	12 44	13 51	14 48	15 48	16 48			
11	342 03.4	26.0	77 53.8	6.5	20 50.4	1.9														

T.M.G. (TU)	ARIES		VENUS -3.9		MARTE +1.2		JUPITER -2.2		SATURNO +0.9		ESTRELLAS																																																			
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.																																																		
5 00	162 30.8	166 06.0	S 3 00.9	191 53.0	S13 11.1	299 56.9	S14 58.0	185 53.3	S11 18.5	Acamar	315 29.5	S40 19.9																																																		
01	177 33.3	181 05.6	2 59.6	206 53.6	10.5	314 59.4	58.0	200 55.4	18.4	Achernar	335 37.9	S57 16.2																																																		
02	192 35.8	196 05.2	58.3	221 54.2	09.8	330 01.9	58.0	215 57.6	18.3	Acrux	173 24.8	S63 04.1																																																		
03	207 38.2	211 04.8	57.1	236 54.7	09.1	345 04.4	57.9	230 59.8	18.2	Adhara	255 23.7	S28 58.2																																																		
04	222 40.7	226 04.5	55.8	251 55.3	08.4	0 06.9	57.9	246 02.0	18.1	Aldebaran	291 06.0	N16 29.8																																																		
05	237 43.2	241 04.1	54.5	266 55.9	07.7	15 09.4	57.9	261 04.2	17.9																																																					
06	252 45.6	256 03.7	S 2 53.2	281 56.5	S13 07.1	30 11.9	S14 57.9	276 06.3	S11 17.8	Alioth	166 32.8	N55 59.2																																																		
07	267 48.1	271 03.3	52.0	296 57.0	06.4	45 14.4	57.9	291 08.5	17.7	Alkaid	153 09.9	N49 20.2																																																		
08	282 50.6	286 02.9	50.7	311 57.6	05.7	60 16.9	57.9	306 10.7	17.6	Al Na'ir	28 02.2	S46 59.3																																																		
S 09	297 53.0	301 02.5	49.4	326 58.2	05.0	75 19.4	57.8	321 12.9	17.5	Alnilam	276 00.9	S 1 12.5																																																		
A 10	312 55.5	316 02.2	48.1	341 58.7	04.3	90 21.9	57.8	336 15.0	17.4	Alphard	218 09.9	S 8 38.3																																																		
B 11	327 58.0	331 01.8	46.9	356 59.3	03.7	105 24.4	57.8	351 17.2	17.3																																																					
A 12	343 00.4	346 01.4	S 2 45.6	11 59.9	S13 03.0	120 26.9	S14 57.8	6 19.4	S11 17.2	Alphecca	126 23.1	N26 43.8																																																		
D 13	358 02.9	1 01.0	44.3	27 00.5	02.3	135 29.4	57.8	21 21.6	17.1	Alpheratz	357 58.8	N29 03.5																																																		
O 14	13 05.3	16 00.6	43.1	42 01.0	01.6	150 31.9	57.7	36 23.8	17.0	Altair	62 22.5	N 8 51.1																																																		
15	28 07.8	31 00.3	41.8	57 01.6	00.9	165 34.4	57.7	51 25.9	16.9	Ankaa	353 30.3	S42 20.3																																																		
16	43 10.3	45 59.9	40.5	72 02.2	13 00.2	180 36.9	57.7	66 28.1	16.8	Antares	112 43.9	S26 25.1																																																		
17	58 12.7	60 59.5	39.2	87 02.7	12 59.6	195 39.4	57.7	81 30.3	16.7																																																					
18	73 15.2	75 59.1	S 2 37.9	102 03.3	S12 58.9	210 41.9	S14 57.7	96 32.5	S11 16.6	Arcturus	146 08.6	N19 12.5																																																		
19	88 17.7	90 58.7	36.7	117 03.9	58.2	225 44.4	57.7	111 34.6	16.5	Atria	107 58.7	S69 00.8																																																		
20	103 20.1	105 58.4	35.4	132 04.5	57.5	240 46.9	57.6	126 36.8	16.3	Avior	234 23.4	S59 29.8																																																		
21	118 22.6	120 58.0	34.1	147 05.0	56.8	255 49.4	57.6	141 39.0	16.2	Bellatrix	278 47.4	N 6 20.5																																																		
22	133 25.1	135 57.6	32.8	162 05.6	56.1	270 51.9	57.6	156 41.2	16.1	Betelgeuse	271 16.8	N 7 24.2																																																		
23	148 27.5	150 57.2	31.6	177 06.2	55.5	285 54.4	57.6	171 43.3	16.0																																																					
6 00	163 30.0	165 56.8	S 2 30.3	192 06.8	S12 54.8	300 57.0	S14 57.6	186 45.5	S11 15.9	Canopus	264 02.3	S52 41.9																																																		
01	178 32.4	180 56.5	29.0	207 07.3	54.1	315 59.5	57.5	201 47.7	15.8	Capella	280 55.7	N45 59.6																																																		
02	193 34.9	195 56.1	27.7	222 07.9	53.4	331 02.0	57.5	216 49.9	15.7	Deneb	49 41.7	N45 15.5																																																		
03	208 37.4	210 55.7	26.5	237 08.5	52.7	346 04.5	57.5	231 52.1	15.6	Denebola	182 48.0	N14 36.0																																																		
04	223 39.8	225 55.3	25.2	252 09.0	52.0	1 07.0	57.5	246 54.2	15.5	Diphda	349 10.6	S18 01.2																																																		
05	238 42.3	240 54.9	23.9	267 09.6	51.4	16 09.5	57.5	261 56.4	15.4																																																					
06	253 44.8	255 54.6	S 2 22.6	282 10.2	S12 50.7	31 12.0	S14 57.4	276 58.6	S11 15.3	Dubhe	194 08.6	N61 46.8																																																		
07	268 47.2	270 54.2	21.4	297 10.8	50.0	46 14.5	57.4	292 00.8	15.2	Elnath	278 30.8	N28 36.2																																																		
08	283 49.7	285 53.8	20.1	312 11.3	49.3	61 17.0	57.4	307 02.9	15.1	Eltanin	90 53.0	N51 29.1																																																		
O 09	298 52.2	300 53.4	18.8	327 11.9	48.6	76 19.5	57.4	322 05.1	15.0	Enif	34 01.6	N 9 50.9																																																		
M 10	313 54.6	315 53.1	17.5	342 12.5	47.9	91 22.0	57.4	337 07.3	14.9	Fomalhaut	15 40.2	S29 39.2																																																		
I 11	328 57.1	330 52.7	16.2	357 13.1	47.2	106 24.5	57.3	352 09.5	14.7																																																					
N 12	343 59.6	345 52.3	S 2 15.0	12 13.6	S12 46.6	121 27.0	S14 57.3	7 11.7	S11 14.6	Gacrux	172 16.5	S57 04.9																																																		
G 13	359 02.0	0 51.9	13.7	27 14.2	45.9	136 29.5	57.3	22 13.8	14.5	Gienah	176 06.8	S17 30.8																																																		
O 14	14 04.5	15 51.5	12.4	42 14.8	45.2	151 32.0	57.3	37 16.0	14.4	Hadar	149 08.0	S60 20.6																																																		
15	29 06.9	30 51.2	11.1	57 15.4	44.5	166 34.5	57.2	52 18.2	14.3	Hamal	328 17.3	N23 26.1																																																		
16	44 09.4	45 50.8	09.9	72 15.9	43.8	181 37.1	57.2	67 20.4	14.2	Kaus Aust.	84 03.0	S34 23.1																																																		
17	59 11.9	60 50.4	08.6	87 16.5	43.1	196 39.6	57.2	82 22.6	14.1																																																					
18	74 14.3	75 50.0	S 2 07.3	102 17.1	S12 42.4	211 42.1	S14 57.2	97 24.7	S11 14.0	Kochab	137 18.8	N74 10.4																																																		
19	89 16.8	90 49.7	06.0	117 17.7	41.7	226 44.6	57.2	112 26.9	13.9	Markab	13 53.0	N15 10.4																																																		
20	104 19.3	105 49.3	04.7	132 18.3	41.1	241 47.1	57.1	127 29.1	13.8	Menkar	314 30.3	N 4 03.9																																																		
21	119 21.7	120 48.9	03.5	147 18.8	40.4	256 49.6	57.1	142 31.3	13.7	Menkent	148 24.3	S36 20.5																																																		
22	134 24.2	135 48.5	02.2	162 19.4	39.7	271 52.1	57.1	157 33.4	13.6	Miaplacidus	221 41.9	S69 41.9																																																		
23	149 26.7	150 48.2	2 00.9	177 20.0	39.0	286 54.6	57.1	172 35.6	13.5																																																					
7 00	164 29.1	165 47.8	S 1 59.6	192 20.6	S12 38.3	301 57.1	S14 57.1	187 37.8	S11 13.4	Mirfak	309 01.2	N49 50.6																																																		
01	179 31.6	180 47.4	58.4	207 21.1	37.6	316 59.7	57.0	202 40.0	13.3	Nunki	76 16.3	S26 18.2																																																		
02	194 34.1	195 47.0	57.1	222 21.7	36.9	332 02.2	57.0	217 42.2	13.1	Peacock	53 42.3	S56 45.0																																																		
03	209 36.5	210 46.7	55.8	237 22.3	36.2	347 04.7	57.0	232 44.3	13.0	Pollux	243 45.1	N28 02.3																																																		
04	224 39.0	225 46.3	54.5	252 22.9	35.5	2 07.2	57.0	247 46.5	12.9	Procyon	245 14.6	N 5 14.2																																																		
05	239 41.4	240 45.9	53.2	267 23.4	34.9	17 09.7	56.9	262 48.7	12.8																																																					
06	254 43.9	255 45.5	S 1 52.0	282 24.0	S12 34.2	32 12.2	S14 56.9	277 50.9	S11 12.7	Rasalhague	96 19.9	N12 33.7																																																		
07	269 46.4	270 45.1	50.7	297 24.6	33.5	47 14.7	56.9	292 53.0	12.6	Regulus	207 58.5	N11 59.5																																																		
08	284 48.8	285 44.8	49.4	312 25.2	32.8	62 17.2	56.9	307 55.2	12.5	Rigel	281 25.9	S 8 12.7																																																		
L 09	299 51.3	300 44.4	48.1	327 25.8	32.1	77 19.8	56.9	322 57.4	12.4	Rigil Kent.	140 11.0	S60 48.5																																																		
U 10	314 53.8	315 44.0	46.8	342 26.3	31.4	92 22.3	56.8	337 59.6	12.3	Sabik	102 29.1	S15 43.1																																																		
N 11	329 56.2	330 43.6	45.6	357 26.9	30.7	107 24.8	56.8	353 01.8	12.2																																																					
E 12	344 58.7	345 43.3	S 1 44.3	12 27.5	S12 30.0	122 27.3	S14 56.8	8 03.9	S11 12.1	Schedar	349 57.5	N56 30.5																																																		
S 13	0 01.2	0 42.9	43.0	27 28.1	29.3	137 29.8	56.8	23 06.1	12.0	Shaula	96 41.5	S37 05.9																																																		
14	15 03.6	15 42.5	41.7	42 28.7	28.6	152 32.3	56.7	38 08.3	11.9	Sirius	258 46.2	S16 42.8																																																		
15	30 06.1	30 42.2	40.4	57 29.2	27.9	167 34.9	56.7	53 10.5	11.8	Spica	158 46.2	S11 08.0																																																		
16	45 08.5	45 41.8	39.2	72 29.8	27.2	182 37.4	56.7	68 12.7	11.7	Suhail	223 02.7	S43 24.9																																																		
17	60 11.0	60 41.4	37.9	87 30.4	26.6	197 39.9	56.7	83 14.8	11.5																																																					
18	75 13.5	75 41.0	S 1 36.6	102 31.0	S12 25.9	212 42.4	S14 56.6	98 17.0	S11 11.4	Vega	80 48.9	N38 46.5																																																		
19	90 15.9	90 40.7	35.3	117 31.6	25.2	227 44.9	56.6	113 19.2	11.3	Zuben'ubi	137 21.2	S16 01.1																																																		
20	105 18.4	105 40.3	34.0	132 32.1	24.5	242 47.4	56.6	128 21.4	11.2																																																					
21	120 20.9	120 39.9	32.8	147 32.7	23.8	257 50.0	56.6	143 23.5	11.1																																																					
22	135 23.3	135 39.5	31.5	162 33.3	23.1	272 52.5	56.6	158 25.7	11.0																																																					
23	150 25.8	150 39.2	30.2	177 33.9	22.4	287 55.0	56.5	173 27.9	10.9																																																					
<table border="0" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%; text-align: center;">h</td> <td style="width:10%; text-align: center;">m</td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> </tr> <tr> <td>Pas. Mer.</td> <td>13</td> <td>03.9</td> <td>v -0.4</td> <td>d 1.3</td> <td>v 0.6</td> <td>d 0.7</td> <td>v 2.5</td> <td>d 0.0</td> <td>v 2.2</td> <td>d 0.1</td> <td></td> <td></td> </tr> </table>												h	m											Pas. Mer.	13	03.9	v -0.4	d 1.3	v 0.6	d 0.7	v 2.5	d 0.0	v 2.2	d 0.1																												
	h	m																																																												
Pas. Mer.	13	03.9	v -0.4	d 1.3	v 0.6	d 0.7	v 2.5	d 0.0	v 2.2	d 0.1																																																				
<table border="0" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">A. H. S.</td> <td style="text-align: center;">Pas. Mer.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">o /</td> <td style="text-align: center;">h m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">2</td> <td style="text-align: center;">26.9</td> <td style="text-align: center;">12</td> <td style="text-align: center;">57</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr></table>																											A. H. S.	Pas. Mer.												o /	h m												2	26.9	12	57						
			A. H. S.	Pas. Mer.																																																										
			o /	h m																																																										
			2	26.9	12	57																																																								

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	5	6	7	8
												h m	h m	h m	h m
5 00	177 05.2	S 6 13.5	265 26.8	6.8	S21 04.6	0.2	58.3	N 72	04 46	06 04	07 12	05 26	05 53	05 59	06 01
01	192 05.4	12.5	279 52.6	6.8	21 04.8	0.0	58.3	N 70	04 53	06 04	07 05	05 26	05 53	05 59	06 01
02	207 05.5	11.6	294 18.4	6.9	21 04.8	0.1	58.2	68	05 00	06 04	07 00	04 31	05 11	05 31	05 41
03	222 05.6	10.6	308 44.3	6.9	21 04.7	0.2	58.2	66	05 05	06 04	06 55	04 31	05 11	05 31	05 41
04	237 05.8	09.6	323 10.2	6.9	21 04.5	0.4	58.2	64	05 09	06 04	06 51	03 58	04 42	05 09	05 25
05	252 05.9	08.7	337 36.1	7.0	21 04.1	0.5	58.2	62	05 12	06 03	06 48	03 34	04 20	04 51	05 12
06	267 06.1	S 6 07.7	352 02.1	7.0	S21 03.6	0.6	58.1	60	05 15	06 03	06 45	03 15	04 02	04 36	05 01
07	282 06.2	06.7	6 28.1	7.1	21 03.0	0.7	58.1	N 58	05 17	06 03	06 42	02 59	03 48	04 24	04 51
08	297 06.3	05.8	20 54.2	7.1	21 02.3	0.9	58.1	56	05 20	06 02	06 40	02 45	03 35	04 13	04 42
S 09	312 06.5	04.8	35 20.3	7.1	21 01.4	1.0	58.1	54	05 21	06 02	06 37	02 33	03 24	04 04	04 35
A 10	327 06.6	03.8	49 46.4	7.2	21 00.4	1.1	58.0	52	05 23	06 02	06 35	02 23	03 14	03 55	04 28
B 11	342 06.8	02.9	64 12.6	7.3	20 59.3	1.3	58.0	50	05 24	06 01	06 34	02 14	03 05	03 47	04 22
A 12	357 06.9	S 6 01.9	78 38.9	7.2	S20 58.0	1.4	58.0	45	05 26	06 00	06 30	01 54	02 47	03 31	04 08
D 13	12 07.0	00.9	93 05.1	7.3	20 56.6	1.5	57.9	N 40	05 28	05 59	06 26	01 38	02 31	03 17	03 57
O 14	27 07.2	6 00.0	107 31.4	7.4	20 55.1	1.6	57.9	35	05 29	05 58	06 23	01 25	02 19	03 06	03 48
15	42 07.3	5 59.0	121 57.8	7.4	20 53.5	1.7	57.9	30	05 29	05 57	06 21	01 13	02 07	02 56	03 39
16	57 07.5	58.0	136 24.2	7.5	20 51.8	1.9	57.9	20	05 29	05 54	06 16	00 53	01 48	02 39	03 25
17	72 07.6	57.1	150 50.7	7.5	20 49.9	2.0	57.8	N 10	05 27	05 51	06 12	00 36	01 31	02 23	03 12
18	87 07.7	S 5 56.1	165 17.2	7.5	S20 47.9	2.2	57.8	0	05 23	05 47	06 08	00 20	01 16	02 09	03 00
19	102 07.9	55.1	179 43.7	7.6	20 45.7	2.2	57.8	S 10	05 18	05 43	06 04	00 03	01 00	01 55	02 48
20	117 08.0	54.2	194 10.3	7.7	20 43.5	2.4	57.8	20	05 11	05 37	05 59	24 43	00 43	01 40	02 35
21	132 08.2	53.2	208 37.0	7.7	20 41.1	2.5	57.7	30	05 02	05 30	05 54	24 24	00 24	01 22	02 21
22	147 08.3	52.2	223 03.7	7.7	20 38.6	2.6	57.7	35	04 55	05 26	05 51	24 13	00 13	01 12	02 12
23	162 08.5	51.3	237 30.4	7.8	20 36.0	2.7	57.7	40	04 48	05 20	05 48	24 00	00 00	01 01	02 03
6 00	177 08.6	S 5 50.3	251 57.2	7.9	S20 33.3	2.8	57.6	45	04 38	05 14	05 44	23 44	24 47	00 47	01 51
01	192 08.7	49.3	266 24.1	7.9	20 30.5	3.0	57.6	S 50	04 26	05 05	05 39	23 26	24 30	00 30	01 37
02	207 08.9	48.4	280 51.0	7.9	20 27.5	3.1	57.6	52	04 20	05 02	05 36	23 17	24 22	00 22	01 31
03	222 09.0	47.4	295 17.9	8.1	20 24.4	3.2	57.6	54	04 13	04 57	05 34	23 07	24 13	00 13	01 24
04	237 09.2	46.4	309 45.0	8.0	20 21.2	3.3	57.5	56	04 05	04 53	05 31	22 56	24 03	00 03	01 16
05	252 09.3	45.5	324 12.0	8.2	20 17.9	3.4	57.5	58	03 56	04 47	05 28	22 43	23 52	25 07	01 07
06	267 09.5	S 5 44.5	338 39.2	8.2	S20 14.5	3.6	57.5	S 60	03 46	04 41	05 24	22 28	23 39	24 56	00 56
07	282 09.6	43.5	353 06.4	8.2	20 10.9	3.6	57.5	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna			
08	297 09.8	42.6	7 33.6	8.3	20 07.3	3.8	57.4	5	5	6	7	8			
09	312 09.9	41.6	22 00.9	8.4	20 03.5	3.9	57.4	N 72	17 13	18 21	19 40	h m	h m	h m	h m
10	327 10.0	40.6	36 28.3	8.4	19 59.6	4.0	57.4	N 70	17 19	18 21	19 32	h m	h m	10 12	12 12
11	342 10.2	39.6	50 55.7	8.5	19 55.6	4.1	57.4	68	17 25	18 20	19 25	07 41	09 11	10 54	12 36
12	357 10.3	S 5 38.7	65 23.2	8.5	S19 51.5	4.2	57.3	66	17 29	18 20	19 20	08 36	09 52	11 22	12 55
13	12 10.5	37.7	79 50.7	8.6	19 47.3	4.4	57.3	64	17 33	18 21	19 16	09 09	10 20	11 43	13 10
14	27 10.6	36.7	94 18.3	8.7	19 42.9	4.4	57.3	62	17 36	18 21	19 12	09 33	10 42	12 00	13 23
15	42 10.8	35.8	108 46.0	8.7	19 38.5	4.5	57.3	60	17 39	18 21	19 09	09 52	10 59	12 15	13 33
16	57 10.9	34.8	123 13.7	8.8	19 34.0	4.7	57.2	N 58	17 42	18 21	19 07	10 08	11 14	12 27	13 42
17	72 11.1	33.8	137 41.5	8.9	19 29.3	4.7	57.2	56	17 44	18 21	19 04	10 22	11 26	12 37	13 50
18	87 11.2	S 5 32.9	152 09.4	8.9	S19 24.6	4.9	57.2	54	17 46	18 22	19 03	10 33	11 37	12 46	13 58
19	102 11.4	31.9	166 37.3	8.9	19 19.7	5.0	57.2	52	17 48	18 22	19 01	10 44	11 47	12 54	14 04
20	117 11.5	30.9	181 05.2	9.1	19 14.7	5.0	57.1	50	17 50	18 22	19 00	10 53	11 55	13 02	14 10
21	132 11.7	30.0	195 33.3	9.1	19 09.7	5.2	57.1	45	17 54	18 23	18 57	11 13	12 14	13 17	14 22
22	147 11.8	29.0	210 01.4	9.1	19 04.5	5.3	57.1	N 40	17 57	18 24	18 55	11 28	12 28	13 30	14 32
23	162 11.9	28.0	224 29.5	9.3	18 59.2	5.3	57.1	35	18 00	18 25	18 54	11 42	12 41	13 41	14 41
7 00	177 12.1	S 5 27.0	238 57.8	9.3	S18 53.9	5.5	57.0	30	18 02	18 26	18 54	11 53	12 52	13 50	14 49
01	192 12.2	26.1	253 26.1	9.3	18 48.4	5.6	57.0	20	18 07	18 29	18 54	12 13	13 10	14 07	15 02
02	207 12.4	25.1	267 54.4	9.4	18 42.8	5.6	57.0	N 10	18 11	18 32	18 56	12 30	13 26	14 21	15 13
03	222 12.5	24.1	282 22.8	9.5	18 37.2	5.8	57.0	0	18 15	18 35	18 59	12 47	13 42	14 34	15 24
04	237 12.7	23.2	296 51.3	9.6	18 31.4	5.9	56.9	S 10	18 19	18 40	19 04	13 03	13 57	14 47	15 34
05	252 12.8	22.2	311 19.9	9.6	18 25.5	5.9	56.9	20	18 23	18 45	19 11	13 20	14 13	15 01	15 45
06	267 13.0	S 5 21.2	325 48.5	9.7	S18 19.6	6.1	56.9	30	18 28	18 52	19 20	13 39	14 31	15 17	15 58
07	282 13.1	20.2	340 17.2	9.7	18 13.5	6.1	56.9	35	18 31	18 56	19 27	13 51	14 42	15 26	16 05
08	297 13.3	19.3	354 45.9	9.9	18 07.4	6.3	56.8	40	18 34	19 02	19 34	14 04	14 54	15 37	16 14
09	312 13.4	18.3	9 14.8	9.8	18 01.1	6.3	56.8	45	18 38	19 08	19 44	14 20	15 08	15 49	16 23
10	327 13.6	17.3	23 43.6	10.0	17 54.8	6.4	56.8	S 50	18 43	19 16	19 56	14 39	15 25	16 04	16 35
11	342 13.7	16.4	38 12.6	10.0	17 48.4	6.5	56.8	52	18 45	19 20	20 02	14 48	15 34	16 10	16 40
12	357 13.9	S 5 15.4	52 41.6	10.1	S17 41.9	6.6	56.7	54	18 48	19 24	20 08	14 58	15 43	16 18	16 46
13	12 14.0	14.4	67 10.7	10.1	17 35.3	6.7	56.7	56	18 50	19 29	20 16	15 09	15 53	16 27	16 53
14	27 14.2	13.4	81 39.8	10.2	17 28.6	6.8	56.7	58	18 53	19 34	20 24	15 22	16 05	16 36	17 00
15	42 14.3	12.5	96 09.0	10.3	17 21.8	6.8	56.7	S 60	18 57	19 40	20 34	15 37	16 18	16 47	17 08
16	57 14.5	11.5	110 38.3	10.4	17 15.0	7.0	56.6	Día	SOL		LUNA				
17	72 14.6	10.5	125 07.7	10.4	17 08.0	7.0	56.6	5	E.T. (-)	Pas. Mer.	Pas. Mer.		Edad.	Fase	
18	87 14.8	S 5 09.5	139 37.1	10.5	S17 01.0	7.1	56.6	6	00 h	12 h	Sup.	Inf.	d		
19	102 14.9	08.6	154 06.6	10.5	16 53.9	7.2	56.6	7	m s	m s	h m	h m			

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.3			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.	A. H. S.	Dec.	
8 00	165 28.3	165 38.8	S 1 28.9	192 34.5	S12 21.7		302 57.5	S14 56.5		188 30.1	S11 10.8		Acamar	315 29.5	S40 19.9			
01	180 30.7	180 38.4	27.6	207 35.0	21.0		318 00.0	56.5		203 32.3	10.7		Achernar	335 37.9	S57 16.1			
02	195 33.2	195 38.0	26.3	222 35.6	20.3		333 02.6	56.5		218 34.4	10.6		Acrux	173 24.8	S63 04.1			
03	210 35.7	210 37.7	25.1	237 36.2	19.6		348 05.1	56.4		233 36.6	10.5		Adhara	255 23.7	S28 58.2			
04	225 38.1	225 37.3	23.8	252 36.8	18.9		3 07.6	56.4		248 38.8	10.4		Aldebaran	291 06.0	N16 29.8			
05	240 40.6	240 36.9	22.5	267 37.4	18.2		18 10.1	56.4		263 41.0	10.3							
06	255 43.0	255 36.5	S 1 21.2	282 37.9	S12 17.5		33 12.6	S14 56.4		278 43.2	S11 10.2		Alioth	166 32.8	N55 59.2			
07	270 45.5	270 36.2	19.9	297 38.5	16.8		48 15.2	56.3		293 45.3	10.1		Alkaid	153 09.8	N49 20.2			
08	285 48.0	285 35.8	18.7	312 39.1	16.1		63 17.7	56.3		308 47.5	10.0		Al Na'ir	28 02.2	S46 59.3			
M 09	300 50.4	300 35.4	17.4	327 39.7	15.4		78 20.2	56.3		323 49.7	09.8		Alnilam	276 01.0	S 1 12.5			
A 10	315 52.9	315 35.1	16.1	342 40.3	14.7		93 22.7	56.3		338 51.9	09.7		Alphard	218 09.9	S 8 38.3			
R 11	330 55.4	330 34.7	14.8	357 40.9	14.0		108 25.3	56.2		353 54.1	09.6							
T 12	345 57.8	345 34.3	S 1 13.5	12 41.4	S12 13.4		123 27.8	S14 56.2		8 56.2	S11 09.5		Alphecca	126 23.1	N26 43.8			
E 13	1 00.3	0 33.9	12.2	27 42.0	12.7		138 30.3	56.2		23 58.4	09.4		Alpheratz	357 58.8	N29 03.5			
S 14	16 02.8	15 33.6	11.0	42 42.6	12.0		153 32.8	56.2		39 00.6	09.3		Altair	62 22.5	N 8 51.1			
15	31 05.2	30 33.2	09.7	57 43.2	11.3		168 35.4	56.1		54 02.8	09.2		Ankaa	353 30.3	S42 20.3			
16	46 07.7	45 32.8	08.4	72 43.8	10.6		183 37.9	56.1		69 05.0	09.1		Antares	112 43.9	S26 25.1			
17	61 10.2	60 32.4	07.1	87 44.4	09.9		198 40.4	56.1		84 07.1	09.0							
18	76 12.6	75 32.1	S 1 05.8	102 44.9	S12 09.2		213 42.9	S14 56.1		99 09.3	S11 08.9		Arcturus	146 08.6	N19 12.5			
19	91 15.1	90 31.7	04.6	117 45.5	08.5		228 45.5	56.0		114 11.5	08.8		Atria	107 58.7	S69 00.8			
20	106 17.5	105 31.3	03.3	132 46.1	07.8		243 48.0	56.0		129 13.7	08.7		Avior	234 23.4	S59 29.8			
21	121 20.0	120 31.0	02.0	147 46.7	07.1		258 50.5	56.0		144 15.8	08.6		Bellatrix	278 47.4	N 6 20.5			
22	136 22.5	135 30.6	1 00.7	162 47.3	06.4		273 53.0	56.0		159 18.0	08.5		Betelgeuse	271 16.8	N 7 24.2			
23	151 24.9	150 30.2	0 59.4	177 47.9	05.7		288 55.6	55.9		174 20.2	08.4							
9 00	166 27.4	165 29.8	S 0 58.1	192 48.5	S12 05.0		303 58.1	S14 55.9		189 22.4	S11 08.3		Canopus	264 02.4	S52 41.9			
01	181 29.9	180 29.5	56.9	207 49.0	04.3		319 00.6	55.9		204 24.6	08.2		Capella	280 55.7	N45 59.6			
02	196 32.3	195 29.1	55.6	222 49.6	03.6		334 03.1	55.9		219 26.7	08.0		Deneb	49 41.6	N45 15.5			
03	211 34.8	210 28.7	54.3	237 50.2	02.9		349 05.7	55.8		234 28.9	07.9		Denebola	182 48.0	N14 36.0			
04	226 37.3	225 28.4	53.0	252 50.8	02.2		4 08.2	55.8		249 31.1	07.8		Diphda	349 10.6	S18 01.2			
05	241 39.7	240 28.0	51.7	267 51.4	01.5		19 10.7	55.8		264 33.3	07.7							
06	256 42.2	255 27.6	S 0 50.4	282 52.0	S12 00.8		34 13.3	S14 55.7		279 35.5	S11 07.6		Dubhe	194 08.6	N61 46.8			
07	271 44.6	270 27.3	49.2	297 52.6	12 00.1		49 15.8	55.7		294 37.6	07.5		Elnath	278 30.8	N28 36.2			
08	286 47.1	285 26.9	47.9	312 53.1	11 59.4		64 18.3	55.7		309 39.8	07.4		Eltanin	90 52.9	N51 29.1			
M 09	301 49.6	300 26.5	46.6	327 53.7	11 58.7		79 20.8	55.7		324 42.0	07.3		Enif	34 01.6	N 9 50.9			
A 10	316 52.0	315 26.1	45.3	342 54.3	58.0		94 23.4	55.6		339 44.2	07.2		Fomalhaut	15 40.2	S29 39.2			
R 11	331 54.5	330 25.8	44.0	357 54.9	57.3		109 25.9	55.6		354 46.4	07.1							
T 12	346 57.0	345 25.4	S 0 42.7	12 55.5	S11 56.6		124 28.4	S14 55.6		9 48.5	S11 07.0		Gacrux	172 16.5	S57 04.9			
E 13	1 59.4	0 25.0	41.5	27 56.1	55.9		139 31.0	55.6		24 50.7	06.9		Gienah	176 06.8	S17 30.8			
S 14	17 01.9	15 24.7	40.2	42 56.7	55.2		154 33.5	55.5		39 52.9	06.8		Hadar	149 07.9	S60 20.6			
15	32 04.4	30 24.3	38.9	57 57.2	54.5		169 36.0	55.5		54 55.1	06.7		Hamal	328 17.3	N23 26.1			
16	47 06.8	45 23.9	37.6	72 57.8	53.8		184 38.6	55.5		69 57.3	06.6		Kaus Aust.	84 03.0	S34 23.1			
17	62 09.3	60 23.5	36.3	87 58.4	53.1		199 41.1	55.4		84 59.4	06.5							
18	77 11.8	75 23.2	S 0 35.0	102 59.0	S11 52.4		214 43.6	S14 55.4		100 01.6	S11 06.3		Kochab	137 18.8	N74 10.4			
19	92 14.2	90 22.8	33.7	117 59.6	51.7		229 46.2	55.4		115 03.8	06.2		Markab	13 53.0	N15 10.4			
20	107 16.7	105 22.4	32.5	133 00.2	51.0		244 48.7	55.4		130 06.0	06.1		Menkar	314 30.3	N 4 03.9			
21	122 19.1	120 22.1	31.2	148 00.8	50.2		259 51.2	55.3		145 08.2	06.0		Menkent	148 24.3	S36 20.5			
22	137 21.6	135 21.7	29.9	163 01.4	49.5		274 53.8	55.3		160 10.3	05.9		Miaplacidus	221 41.9	S69 41.9			
23	152 24.1	150 21.3	28.6	178 01.9	48.8		289 56.3	55.3		175 12.5	05.8							
10 00	167 26.5	165 21.0	S 0 27.3	193 02.5	S11 48.1		304 58.8	S14 55.2		190 14.7	S11 05.7		Mirfak	309 01.2	N49 50.6			
01	182 29.0	180 20.6	26.0	208 03.1	47.4		320 01.4	55.2		205 16.9	05.6		Nunki	76 16.3	S26 18.2			
02	197 31.5	195 20.2	24.8	223 03.7	46.7		335 03.9	55.2		220 19.1	05.5		Peacock	53 42.3	S56 45.0			
03	212 33.9	210 19.9	23.5	238 04.3	46.0		350 06.4	55.2		235 21.2	05.4		Pollux	243 45.1	N28 02.3			
04	227 36.4	225 19.5	22.2	253 04.9	45.3		5 09.0	55.1		250 23.4	05.3		Procyon	245 14.6	N 5 14.2			
05	242 38.9	240 19.1	20.9	268 05.5	44.6		20 11.5	55.1		265 25.6	05.2							
06	257 41.3	255 18.7	S 0 19.6	283 06.1	S11 43.9		35 14.0	S14 55.1		280 27.8	S11 05.1		Rasalhague	96 19.9	N12 33.7			
07	272 43.8	270 18.4	18.3	298 06.7	43.2		50 16.6	55.0		295 30.0	05.0		Regulus	207 58.5	N11 59.5			
08	287 46.3	285 18.0	17.1	313 07.3	42.5		65 19.1	55.0		310 32.2	04.9		Rigel	281 25.9	S 8 12.7			
J 09	302 48.7	300 17.6	15.8	328 07.8	41.8		80 21.7	55.0		325 34.3	04.8		Rigel Kent.	140 11.0	S60 48.5			
U 10	317 51.2	315 17.3	14.5	343 08.4	41.1		95 24.2	55.0		340 36.5	04.7		Sabik	102 29.1	S15 43.1			
E 11	332 53.6	330 16.9	13.2	358 09.0	40.4		110 26.7	54.9		355 38.7	04.6							
V 12	347 56.1	345 16.5	S 0 11.9	13 09.6	S11 39.7		125 29.3	S14 54.9		10 40.9	S11 04.4		Schedar	349 57.5	N56 30.5			
E 13	2 58.6	0 16.2	10.6	28 10.2	39.0		140 31.8	54.9		25 43.1	04.3		Shaula	96 41.5	S37 05.9			
S 14	18 01.0	15 15.8	09.3	43 10.8	38.3		155 34.4	54.8		40 45.2	04.2		Sirius	258 46.3	S16 42.8			
15	33 03.5	30 15.4	08.1	58 11.4	37.6		170 36.9	54.8		55 47.4	04.1		Spica	158 46.2	S11 08.0			
16	48 06.0	45 15.1	06.8	73 12.0	36.9		185 39.4	54.8		70 49.6	04.0		Suhail	223 02.7	S43 24.9			
17	63 08.4	60 14.7	05.5	88 12.6	36.1		200 42.0	54.8										

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	8	9	10	11	
																h
M A R T E S	8 00	177 15.7	S 5 03.7	226 34.9	10.9	S16 17.1	7.6	56.5	N 72	04 29	05 49	06 56	07 02	06 37	06 20	06 07
	01	192 15.8	02.7	241 04.8	10.9	16 09.5	7.6	56.4	N 70	04 39	05 51	06 51	06 26	06 17	06 09	06 02
	02	207 16.0	01.8	255 34.7	11.0	16 01.9	7.8	56.4	68	04 47	05 52	06 47	06 01	06 00	05 59	05 58
	03	222 16.1	5 00.8	270 04.7	11.1	15 54.1	7.8	56.4	66	04 53	05 53	06 44	05 41	05 47	05 51	05 54
	04	237 16.3	4 59.8	284 34.8	11.1	15 46.3	7.9	56.4	64	04 58	05 53	06 41	05 25	05 36	05 44	05 51
	05	252 16.4	58.8	299 04.9	11.2	15 38.4	7.9	56.3	62	05 02	05 54	06 38	05 12	05 27	05 39	05 48
	06	267 16.6	S 4 57.9	313 35.1	11.3	S15 30.5	8.1	56.3	60	05 06	05 54	06 36	05 01	05 19	05 34	05 46
	07	282 16.7	56.9	328 05.4	11.3	15 22.4	8.1	56.3	N 58	05 09	05 55	06 34	04 51	05 12	05 29	05 44
	08	297 16.9	55.9	342 35.7	11.4	15 14.3	8.1	56.3	56	05 12	05 55	06 32	04 42	05 06	05 25	05 42
	09	312 17.1	.. 54.9	357 06.1	11.5	15 06.2	8.3	56.3	54	05 14	05 55	06 30	04 35	05 00	05 21	05 40
	10	327 17.2	54.0	11 36.6	11.5	14 57.9	8.3	56.2	52	05 16	05 55	06 29	04 28	04 55	05 18	05 39
	11	342 17.4	53.0	26 07.1	11.5	14 49.6	8.4	56.2	50	05 18	05 55	06 27	04 22	04 50	05 15	05 37
	12	357 17.5	S 4 52.0	40 37.6	11.7	S14 41.2	8.4	56.2	45	05 21	05 55	06 24	04 08	04 40	05 08	05 34
	13	12 17.7	51.0	55 08.3	11.7	14 32.8	8.5	56.2	N 40	05 23	05 55	06 22	03 57	04 32	05 03	05 32
	14	27 17.8	50.1	69 39.0	11.8	14 24.3	8.6	56.1	35	05 25	05 54	06 19	03 48	04 25	04 58	05 30
	15	42 18.0	.. 49.1	84 09.8	11.8	14 15.7	8.7	56.1	30	05 26	05 53	06 17	03 39	04 18	04 54	05 28
	16	57 18.1	48.1	98 40.6	11.9	14 07.0	8.7	56.1	20	05 26	05 52	06 14	03 25	04 07	04 47	05 24
	17	72 18.3	47.1	113 11.5	11.9	13 58.3	8.7	56.1	N 10	05 25	05 49	06 10	03 12	03 58	04 40	05 21
	18	87 18.4	S 4 46.2	127 42.4	12.0	S13 49.6	8.9	56.1	0	05 23	05 47	06 07	03 00	03 48	04 34	05 18
	19	102 18.6	45.2	142 13.4	12.1	13 40.7	8.8	56.0	S 10	05 18	05 43	06 04	02 48	03 39	04 28	05 16
	20	117 18.7	44.2	156 44.5	12.1	13 31.9	9.0	56.0	20	05 12	05 38	06 00	02 35	03 29	04 22	05 13
	21	132 18.9	.. 43.2	171 15.6	12.2	13 22.9	9.0	56.0	30	05 04	05 32	05 56	02 21	03 18	04 14	05 09
	22	147 19.1	42.2	185 46.8	12.3	13 13.9	9.1	56.0	35	04 58	05 28	05 54	02 12	03 12	04 10	05 07
23	162 19.2	41.3	200 18.1	12.3	13 04.8	9.1	56.0	40	04 51	05 24	05 51	02 03	03 04	04 05	05 05	
9 00	177 19.4	S 4 40.3	214 49.4	12.3	S12 55.7	9.1	55.9	45	04 42	05 18	05 48	01 51	02 56	04 00	05 02	
01	192 19.5	39.3	229 20.7	12.5	12 46.6	9.3	55.9	S 50	04 31	05 11	05 44	01 37	02 45	03 53	04 59	
02	207 19.7	38.3	243 52.2	12.4	12 37.3	9.2	55.9	52	04 26	05 07	05 42	01 31	02 41	03 50	04 58	
03	222 19.8	.. 37.4	258 23.6	12.6	12 28.1	9.4	55.9	54	04 20	05 03	05 40	01 24	02 35	03 46	04 56	
04	237 20.0	36.4	272 55.2	12.6	12 18.7	9.4	55.9	56	04 13	04 59	05 37	01 16	02 29	03 42	04 55	
05	252 20.1	35.4	287 26.8	12.6	12 09.3	9.4	55.8	58	04 05	04 54	05 35	01 07	02 23	03 38	04 53	
06	267 20.3	S 4 34.4	301 58.4	12.7	S11 59.9	9.5	55.8	S 60	03 55	04 49	05 32	00 56	02 15	03 33	04 50	
07	282 20.5	33.5	316 30.1	12.8	11 50.4	9.5	55.8									
08	297 20.6	32.5	331 01.9	12.8	11 40.9	9.6	55.8	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
09	312 20.8	.. 31.5	345 33.7	12.9	11 31.3	9.6	55.8			Civil	Naut.	8	9	10	11	
10	327 20.9	30.5	0 05.6	12.9	11 21.7	9.7	55.7					h m	h m	h m	h m	
11	342 21.1	29.5	14 37.5	13.0	11 12.0	9.7	55.7	N 72	17 27	18 34	19 55	11 38	13 42	15 32	17 17	
12	357 21.2	S 4 28.6	29 09.5	13.0	S11 02.3	9.8	55.7	N 70	17 32	18 33	19 45	12 12	14 00	15 42	17 19	
13	12 21.4	27.6	43 41.5	13.1	10 52.5	9.8	55.7	68	17 36	18 31	19 37	12 36	14 15	15 50	17 21	
14	27 21.6	26.6	58 13.6	13.1	10 42.7	9.8	55.7	66	17 39	18 30	19 30	12 55	14 27	15 56	17 23	
15	42 21.7	.. 25.6	72 45.7	13.2	10 32.9	9.9	55.6	64	17 42	18 29	19 25	13 10	14 37	16 02	17 24	
16	57 21.9	24.7	87 17.9	13.2	10 23.0	9.9	55.6	62	17 45	18 29	19 21	13 23	14 45	16 06	17 26	
17	72 22.0	23.7	101 50.1	13.3	10 13.1	10.0	55.6	60	17 47	18 28	19 17	13 33	14 52	16 10	17 27	
18	87 22.2	S 4 22.7	116 22.4	13.3	S10 03.1	10.0	55.6	N 58	17 49	18 28	19 14	13 42	14 59	16 14	17 28	
19	102 22.3	21.7	130 54.7	13.4	9 53.1	10.1	55.6	56	17 50	18 28	19 11	13 50	15 04	16 17	17 29	
20	117 22.5	20.7	145 27.1	13.4	9 43.0	10.0	55.5	54	17 52	18 27	19 08	13 58	15 09	16 20	17 29	
21	132 22.7	.. 19.8	159 59.5	13.5	9 33.0	10.2	55.5	52	17 53	18 27	19 06	14 04	15 14	16 22	17 30	
22	147 22.8	18.8	174 32.0	13.5	9 22.8	10.1	55.5	50	17 55	18 27	19 05	14 10	15 18	16 25	17 31	
23	162 23.0	17.8	189 04.5	13.6	9 12.7	10.2	55.5	45	17 58	18 27	19 01	14 22	15 27	16 30	17 32	
10 00	177 23.1	S 4 16.8	203 37.1	13.6	S 9 02.5	10.2	55.5	N 40	18 00	18 27	18 59	14 32	15 34	16 34	17 33	
01	192 23.3	15.8	218 09.7	13.7	8 52.3	10.3	55.5	35	18 02	18 28	18 57	14 41	15 40	16 38	17 34	
02	207 23.4	14.9	232 42.4	13.7	8 42.0	10.3	55.4	30	18 04	18 28	18 56	14 49	15 45	16 41	17 35	
03	222 23.6	.. 13.9	247 15.1	13.7	8 31.7	10.3	55.4	20	18 08	18 30	18 55	15 02	15 55	16 46	17 37	
04	237 23.8	12.9	261 47.8	13.8	8 21.4	10.4	55.4	N 10	18 11	18 32	18 56	15 13	16 03	16 51	17 38	
05	252 23.9	11.9	276 20.6	13.8	8 11.0	10.3	55.4	0	18 14	18 35	18 59	15 24	16 11	16 56	17 39	
06	267 24.1	S 4 11.0	290 53.4	13.9	S 8 00.7	10.4	55.4	S 10	18 17	18 38	19 03	15 34	16 18	17 00	17 40	
07	282 24.2	10.0	305 26.3	13.9	7 50.3	10.5	55.3	20	18 20	18 43	19 08	15 45	16 26	17 05	17 41	
08	297 24.4	09.0	319 59.2	14.0	7 39.8	10.5	55.3	30	18 25	18 49	19 17	15 58	16 35	17 10	17 43	
09	312 24.6	.. 08.0	334 32.2	14.0	7 29.3	10.4	55.3	35	18 27	18 52	19 22	16 05	16 41	17 13	17 44	
10	327 24.7	07.0	349 05.2	14.0	7 18.9	10.6	55.3	40	18 30	18 57	19 29	16 14	16 47	17 16	17 45	
11	342 24.9	06.1	3 38.2	14.1	7 08.3	10.5	55.3	45	18 33	19 02	19 38	16 23	16 53	17 20	17 46	
12	357 25.0	S 4 05.1	18 11.3	14.1	S 6 57.8	10.6	55.3	S 50	18 37	19 09	19 49	16 35	17 02	17 25	17 47	
13	12 25.2	04.1	32 44.4	14.2	6 47.2	10.6	55.2	52	18 38	19 13	19 54	16 40	17 05	17 27	17 47	
14	27 25.4	03.1	47 17.6	14.2	6 36.6	10.6	55.2	54	18 40	19 16	20 00	16 46	17 09	17 30	17 48	
15	42 25.5	.. 02.1	61 50.8	14.2	6 26.0	10.6	55.2	56	18 43	19 20	20 07	16 53	17 14	17 32	17 49	
16	57 25.7	01.2	76 24.0	14.3	6 15.4	10.7	55.2	58	18 45	19 25	20 14	17 00	17 19	17 35	17 49	
17	72 25.9	4 00.2	90 57.3	14.3	6 04.7	10.6	55.2	S 60	18 48	19 30	20 24	17 08	17 25	17 38	17 50	
18	87 26.0	S 3 59.2	105 30.6	14.3	S 5 54.1	10.7	55.2									
19																

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.3			SATURNO +0.9			ESTRELLAS			
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		Nombre	A. H. S.	Dec.	
11 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	168	25.7		165	12.1	N 0 03.5	193	16.7	S11 31.2	305	59.8	S14 54.5	191	07.0	S11 03.2	Acamar	315	29.5	S40 19.9
	183	28.1		180	11.7	04.8	208	17.3	30.5	321	02.3	54.5	206	09.2	03.1	Achernar	335	37.9	S57 16.1
	198	30.6		195	11.4	06.1	223	17.9	29.8	336	04.8	54.5	221	11.4	03.0	Acrux	173	24.8	S63 04.1
	213	33.1		210	11.0	07.4	238	18.5	29.1	351	07.4	54.4	236	13.6	02.9	Adhara	255	23.7	S28 58.2
	228	35.5		225	10.6	08.6	253	19.1	28.4	6	09.9	54.4	251	15.8	02.8	Aldebaran	291	06.0	N16 29.8
	243	38.0		240	10.3	09.9	268	19.7	27.6	21	12.5	54.4	266	18.0	02.7				
	258	40.5		255	09.9	N 0 11.2	283	20.3	S11 26.9	36	15.0	S14 54.4	281	20.1	S11 02.5	Alioth	166	32.8	N55 59.2
	273	42.9		270	09.5	12.5	298	20.9	26.2	51	17.6	54.3	296	22.3	02.4	Alkaid	153	09.8	N49 20.2
	288	45.4		285	09.2	13.8	313	21.5	25.5	66	20.1	54.3	311	24.5	02.3	Al Na'ir	28	02.2	S46 59.3
	303	47.9		300	08.8	15.1	328	22.1	24.8	81	22.7	54.3	326	26.7	02.2	Alnilam	276	01.0	S 1 12.5
	318	50.3		315	08.4	16.4	343	22.6	24.1	96	25.2	54.2	341	28.9	02.1	Alphard	218	10.0	S 8 38.3
	333	52.8		330	08.1	17.6	358	23.2	23.4	111	27.8	54.2	356	31.0	02.0				
	348	55.2		345	07.7	N 0 18.9	13	23.8	S11 22.7	126	30.3	S14 54.2	11	33.2	S11 01.9	Alphecca	126	23.0	N26 43.8
	3	57.7		0	07.3	20.2	28	24.4	22.0	141	32.8	54.1	26	35.4	01.8	Alpheratz	357	58.8	N29 03.5
	19	00.2		15	07.0	21.5	43	25.0	21.3	156	35.4	54.1	41	37.6	01.7	Altair	62	22.5	N 8 51.1
	34	02.6		30	06.6	22.8	58	25.6	20.5	171	37.9	54.1	56	39.8	01.6	Ankaa	353	30.3	S42 20.3
	49	05.1		45	06.2	24.1	73	26.2	19.8	186	40.5	54.0	71	41.9	01.5	Antares	112	43.9	S26 25.1
	64	07.6		60	05.9	25.3	88	26.8	19.1	201	43.0	54.0	86	44.1	01.4				
	79	10.0		75	05.5	N 0 26.6	103	27.4	S11 18.4	216	45.6	S14 54.0	101	46.3	S11 01.3	Arcturus	146	08.6	N19 12.5
	94	12.5		90	05.1	27.9	118	28.0	17.7	231	48.1	53.9	116	48.5	01.2	Atria	107	58.6	S69 00.8
	109	15.0		105	04.8	29.2	133	28.6	17.0	246	50.7	53.9	131	50.7	01.1	Avior	234	23.5	S59 29.8
	124	17.4		120	04.4	30.5	148	29.2	16.3	261	53.2	53.9	146	52.9	01.0	Bellatrix	278	47.5	N 6 20.5
	139	19.9		135	04.0	31.8	163	29.8	15.6	276	55.8	53.8	161	55.0	00.9	Betelgeuse	271	16.8	N 7 24.2
154	22.4		150	03.7	33.1	178	30.4	14.8	291	58.3	53.8	176	57.2	00.8					
12 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	169	24.8		165	03.3	N 0 34.3	193	31.0	S11 14.1	307	00.9	S14 53.8	191	59.4	S11 00.7	Canopus	264	02.4	S52 41.9
	184	27.3		180	02.9	35.6	208	31.6	13.4	322	03.4	53.7	207	01.6	00.5	Capella	280	55.8	N45 59.6
	199	29.7		195	02.6	36.9	223	32.2	12.7	337	06.0	53.7	222	03.8	00.4	Deneb	49	41.6	N45 15.4
	214	32.2		210	02.2	38.2	238	32.8	12.0	352	08.5	53.7	237	06.0	00.3	Denebola	182	48.0	N14 36.0
	229	34.7		225	01.8	39.5	253	33.4	11.3	7	11.1	53.6	252	08.1	00.2	Diphda	349	10.6	S18 01.2
	244	37.1		240	01.5	40.8	268	34.0	10.6	22	13.6	53.6	267	10.3	00.1				
	259	39.6		255	01.1	N 0 42.1	283	34.6	S11 09.9	37	16.2	S14 53.6	282	12.5	S11 00.0	Dubhe	194	08.6	N61 46.8
	274	42.1		270	00.7	43.3	298	35.2	09.1	52	18.7	53.5	297	14.7	10 59.9	Elnath	278	30.8	N28 36.2
	289	44.5		285	00.4	44.6	313	35.8	08.4	67	21.3	53.5	312	16.9	59.8	Eltanin	90	52.9	N51 29.1
	304	47.0		300	00.0	45.9	328	36.4	07.7	82	23.8	53.5	327	19.0	59.7	Enif	34	01.5	N 9 50.9
	319	49.5		314	59.6	47.2	343	36.9	07.0	97	26.4	53.4	342	21.2	59.6	Fomalhaut	15	40.2	S29 39.2
	334	51.9		329	59.3	48.5	358	37.5	06.3	112	29.0	53.4	357	23.4	59.5				
	349	54.4		344	58.9	N 0 49.8	13	38.1	S11 05.6	127	31.5	S14 53.4	12	25.6	S10 59.4	Gacrux	172	16.5	S57 04.9
	4	56.9		359	58.5	51.1	28	38.7	04.8	142	34.1	53.3	27	27.8	59.3	Gienah	176	06.8	S17 30.8
	19	59.3		14	58.2	52.3	43	39.3	04.1	157	36.6	53.3	42	30.0	59.2	Hadar	149	07.9	S60 20.7
	35	01.8		29	57.8	53.6	58	39.9	03.4	172	39.2	53.3	57	32.1	59.1	Hamal	328	17.3	N23 26.1
	50	04.2		44	57.4	54.9	73	40.5	02.7	187	41.7	53.2	72	34.3	59.0	Kaus Aust.	84	03.0	S34 23.1
	65	06.7		59	57.1	56.2	88	41.1	02.0	202	44.3	53.2	87	36.5	58.9				
	80	09.2		74	56.7	N 0 57.5	103	41.7	S11 01.3	217	46.8	S14 53.2	102	38.7	S10 58.8	Kochab	137	18.7	N74 10.5
	95	11.6		89	56.3	0 58.8	118	42.3	11 00.6	232	49.4	53.1	117	40.9	58.7	Markab	13	53.0	N15 10.4
	110	14.1		104	56.0	1 00.0	133	42.9	10 59.8	247	51.9	53.1	132	43.1	58.5	Menkar	314	30.3	N 4 03.9
	125	16.6		119	55.6	01.3	148	43.5	09.1	262	54.5	53.1	147	45.2	58.4	Menkent	148	24.3	S36 20.5
	140	19.0		134	55.2	02.6	163	44.1	58.4	277	57.1	53.0	162	47.4	58.3	Miaplacidus	221	41.9	S69 41.9
155	21.5		149	54.9	03.9	178	44.7	57.7	292	59.6	53.0	177	49.6	58.2					
13 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	170	24.0		164	54.5	N 1 05.2	193	45.3	S10 57.0	308	02.2	S14 53.0	192	51.8	S10 58.1	Mirfak	309	01.3	N49 50.6
	185	26.4		179	54.1	06.5	208	45.9	56.3	323	04.7	52.9	207	54.0	58.0	Nunki	76	16.3	S26 18.2
	200	28.9		194	53.8	07.8	223	46.5	55.5	338	07.3	52.9	222	56.1	57.9	Peacock	53	42.2	S56 45.0
	215	31.3		209	53.4	09.0	238	47.1	54.8	353	09.9	52.9	237	58.3	57.8	Pollux	243	45.1	N28 02.3
	230	33.8		224	53.0	10.3	253	47.7	54.1	8	12.4	52.8	253	00.5	57.7	Procyon	245	14.6	N 5 14.2
	245	36.3		239	52.7	11.6	268	48.3	53.4	23	15.0	52.8	268	02.7	57.6				
	260	38.7		254	52.3	N 1 12.9	283	48.9	S10 52.7	38	17.5	S14 52.8	283	04.9	S10 57.5	Rasalhague	96	19.8	N12 33.7
	275	41.2		269	51.9	14.2	298	49.5	51.9	53	20.1	52.7	298	07.1	57.4	Regulus	207	58.5	N11 59.5
	290	43.7		284	51.6	15.5	313	50.1	51.2	68	22.6	52.7	313	09.2	57.3	Rigel	281	25.9	S 8 12.7
	305	46.1		299	51.2	16.8	328	50.7	50.5	83	25.2	52.6	328	11.4	57.2	Rigil Kent.	140	11.0	S60 48.5
	320	48.6		314	50.8	18.0	343	51.3	49.8	98	27.8	52.6	343	13.6	57.1	Sabik	102	29.0	S15 43.1
	335	51.1		329	50.5	19.3	358	51.9	49.1	113	30.3	52.6	358	15.8	57.0				
	350	53.5		344	50.1	N 1 20.6	13	52.5	S10 48.3	128	32.9	S14 52.5	13	18.0	S10 56.9	Schedar	349	57.5	N56 30.4
	5	56.0		359	49.7	21.9	28	53.1	47.6	143	35.5	52.5	28	20.2	56.8	Shaula	96	41.5	S37 05.9
	20	58.5		14	49.4	23.2	43	53.7	46.9	158	38.0	52.5	43	22.3	56.7	Sirius	258	46.3	S16 42.8
	36	00.9		29	49.0	24.5	58	54.3	46.2	173	40.6	52.4	58	24.5	56.6	Spica	158	46.2	S11 08.0
	51	03.4		44	48.6	25.7	73	54.9	45.5	188	43.1	52.4	73	26.7	56.5	Suhail	223	02.7	S43 24.9
	66	05.8		59	48.3	27.0	88	55.6	44.7	203	45.7	52.4	88	28.9	56.3				
	81	08.3		74	47.9	N 1 28.3	103	56.2	S10 44.0	218	48.3	S14 52.3	103	31.1	S10 56.2	Vega	80	48.8	N38 46.5
	96	10.8		89	47.5	29.6	118	56.8	43.3	233	50.8	52.3	118</						

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna													
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.	Civil		11	12	13	14										
	o	'	o	'	o	'	o	'																		
11 00	177	27.0	S 3	53.3	192	51.1	14.5	S 4	49.7	10.8	55.1	N 72	04	13	05	34	06	41	06	07	05	55	05	42	05	29
01	192	27.1		52.3	207	24.6	14.6	4	38.9	10.8	55.0	N 70	04	24	05	37	06	37	06	02	05	55	05	49	05	42
02	207	27.3		51.3	221	58.2	14.5	4	28.1	10.8	55.0	68	04	34	05	39	06	35	05	58	05	56	05	54	05	53
03	222	27.5	..	50.4	236	31.7	14.7	4	17.3	10.9	55.0	66	04	41	05	41	06	32	05	54	05	56	05	59	06	02
04	237	27.6		49.4	251	05.4	14.6	4	06.4	10.8	55.0	64	04	47	05	43	06	30	05	51	05	57	06	02	06	09
05	252	27.8		48.4	265	39.0	14.7	3	55.6	10.9	55.0	62	04	52	05	44	06	28	05	48	05	57	06	06	06	16
06	267	28.0	S 3	47.4	280	12.7	14.7	S 3	44.7	10.8	55.0	60	04	57	05	45	06	27	05	46	05	57	06	09	06	21
07	282	28.1		46.4	294	46.4	14.7	3	33.9	10.9	54.9	N 58	05	01	05	46	06	25	05	44	05	58	06	11	06	26
08	297	28.3		45.5	309	20.1	14.8	3	23.0	10.9	54.9	56	05	04	05	47	06	24	05	42	05	58	06	14	06	31
09	312	28.4	..	44.5	323	53.9	14.7	3	12.1	10.8	54.9	54	05	07	05	48	06	23	05	40	05	58	06	16	06	35
10	327	28.6		43.5	338	27.6	14.8	3	01.3	10.9	54.9	52	05	09	05	48	06	22	05	39	05	58	06	18	06	38
11	342	28.8		42.5	353	01.4	14.9	2	50.4	10.9	54.9	50	05	11	05	49	06	21	05	37	05	58	06	20	06	41
12	357	28.9	S 3	41.5	7	35.3	14.8	S 2	39.5	10.9	54.9	45	05	16	05	50	06	19	05	34	05	59	06	23	06	49
13	12	29.1		40.5	22	09.1	14.9	2	28.6	10.9	54.9	N 40	05	19	05	50	06	17	05	32	05	59	06	27	06	55
14	27	29.3		39.6	36	43.0	14.9	2	17.7	10.9	54.8	35	05	21	05	50	06	15	05	30	06	00	06	29	07	00
15	42	29.4	..	38.6	51	16.9	14.9	2	06.8	10.9	54.8	30	05	22	05	50	06	14	05	28	06	00	06	32	07	04
16	57	29.6		37.6	65	50.8	14.9	1	55.9	11.0	54.8	20	05	24	05	49	06	11	05	24	06	00	06	36	07	13
17	72	29.8		36.6	80	24.7	15.0	1	44.9	10.9	54.8	N 10	05	24	05	48	06	09	05	21	06	01	06	40	07	20
18	87	29.9	S 3	35.6	94	58.7	15.0	S 1	34.0	10.9	54.8	0	05	22	05	46	06	07	05	18	06	01	06	44	07	26
19	102	30.1		34.7	109	32.7	15.0	1	23.1	10.9	54.8	S 10	05	19	05	43	06	04	05	16	06	02	06	47	07	33
20	117	30.2		33.7	124	06.7	15.0	1	12.2	10.9	54.8	20	05	14	05	39	06	01	05	13	06	02	06	51	07	40
21	132	30.4	..	32.7	138	40.7	15.0	1	01.3	10.9	54.7	30	05	06	05	34	05	58	05	09	06	03	06	56	07	49
22	147	30.6		31.7	153	14.7	15.0	0	50.4	10.9	54.7	35	05	01	05	31	05	56	05	07	06	03	06	58	07	53
23	162	30.7		30.7	167	48.7	15.1	0	39.5	10.9	54.7	40	04	55	05	27	05	54	05	05	06	04	07	01	07	59
12 00	177	30.9	S 3	29.7	182	22.8	15.1	S 0	28.6	10.9	54.7	45	04	47	05	22	05	52	05	02	06	04	07	05	08	05
01	192	31.1		28.8	196	56.9	15.0	0	17.7	10.9	54.7	S 50	04	37	05	16	05	48	04	59	06	05	07	09	08	13
02	207	31.2		27.8	211	30.9	15.2	S 0	06.8	10.9	54.7	52	04	32	05	13	05	47	04	58	06	05	07	11	08	16
03	222	31.4	..	26.8	226	05.1	15.1	N 0	04.1	10.9	54.7	54	04	26	05	10	05	45	04	56	06	05	07	13	08	20
04	237	31.6		25.8	240	39.2	15.1	0	15.0	10.9	54.6	56	04	20	05	06	05	44	04	55	06	05	07	15	08	25
05	252	31.7		24.8	255	13.3	15.1	0	25.9	10.9	54.6	58	04	13	05	02	05	42	04	53	06	06	07	18	08	30
06	267	31.9	S 3	23.8	269	47.4	15.2	N 0	36.8	10.8	54.6	S 60	04	04	04	57	05	40	04	50	06	06	07	21	08	35
07	282	32.1		22.9	284	21.6	15.1	0	47.6	10.9	54.6															
08	297	32.2		21.9	298	55.7	15.2	0	58.5	10.8	54.6	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna										
09	312	32.4	..	20.9	313	29.9	15.2	1	09.3	10.9	54.6															
10	327	32.6		19.9	328	04.1	15.2	1	20.2	10.8	54.6															
11	342	32.7		18.9	342	38.3	15.2	1	31.0	10.8	54.6															
12	357	32.9	S 3	17.9	357	12.5	15.2	N 1	41.8	10.8	54.5															
13	12	33.1		17.0	11	46.7	15.2	1	52.6	10.8	54.5															
14	27	33.2		16.0	26	20.9	15.2	2	03.4	10.8	54.5															
15	42	33.4	..	15.0	40	55.1	15.3	2	14.2	10.7	54.5															
16	57	33.6		14.0	55	29.4	15.2	2	24.9	10.8	54.5															
17	72	33.7		13.0	70	03.6	15.2	2	35.7	10.7	54.5															
18	87	33.9	S 3	12.0	84	37.8	15.3	N 2	46.4	10.7	54.5															
19	102	34.1		11.0	99	12.1	15.2	2	57.1	10.7	54.5															
20	117	34.2		10.1	113	46.3	15.2	3	07.8	10.7	54.4															
21	132	34.4	..	09.1	128	20.5	15.3	3	18.5	10.7	54.4															
22	147	34.6		08.1	142	54.8	15.2	3	29.2	10.6	54.4															
23	162	34.7		07.1	157	29.0	15.3	3	39.8	10.6	54.4															
13 00	177	34.9	S 3	06.1	172	03.3	15.2	N 3	50.4	10.6	54.4															
01	192	35.1		05.1	186	37.5	15.3	4	01.0	10.6	54.4															
02	207	35.2		04.2	201	11.8	15.2	4	11.6	10.6	54.4															
03	222	35.4	..	03.2	215	46.0	15.3	4	22.2	10.5	54.4															
04	237	35.6		02.2	230	20.3	15.2	4	32.7	10.5	54.4															
05	252	35.8		01.2	244	54.5	15.2	4	43.2	10.5	54.4															
06	267	35.9	S 3	00.2	259	28.7	15.3	N 4	53.7	10.5	54.3															
07	282	36.1	2	59.2	274	03.0	15.2	5	04.2	10.4	54															

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	14		15		16		17	
												h	m	h	m	h	m	h	m
L U N E S	14 00	177 39.0	S 2 42.5	161 43.9	15.0	N 7 57.8	9.9	54.2	N 72	03 55	05 18	06 25	05 29	05 14	04 51	03 41			
	01	192 39.2	41.5	176 17.9	15.1	8 07.7	9.9	54.2	N 70	04 09	05 23	06 24	05 42	05 35	05 27	05 16			
	02	207 39.3	40.5	190 52.0	15.0	8 17.6	9.8	54.2	68	04 20	05 27	06 22	05 53	05 52	05 53	05 55			
	03	222 39.5	39.5	205 26.0	15.1	8 27.4	9.8	54.2	66	04 29	05 30	06 21	06 02	06 06	06 12	06 23			
	04	237 39.7	38.5	220 00.1	15.0	8 37.2	9.8	54.2	64	04 36	05 32	06 20	06 09	06 17	06 28	06 44			
	05	252 39.8	37.6	234 34.1	15.0	8 47.0	9.7	54.1	62	04 42	05 35	06 19	06 16	06 27	06 42	07 01			
	06	267 40.0	36.6	249 08.1	15.0	N 8 56.7	9.7	54.1	60	04 47	05 36	06 18	06 21	06 35	06 53	07 16			
	07	282 40.2	35.6	263 42.1	14.9	9 06.4	9.7	54.1	N 58	04 52	05 38	06 17	06 26	06 43	07 03	07 28			
	08	297 40.4	34.6	278 16.0	15.0	9 16.1	9.6	54.1	56	04 56	05 39	06 16	06 31	06 49	07 11	07 39			
	09	312 40.5	33.6	292 50.0	14.9	9 25.7	9.5	54.1	54	04 59	05 40	06 16	06 35	06 55	07 19	07 48			
	10	327 40.7	32.6	307 23.9	14.9	9 35.2	9.6	54.1	52	05 02	05 41	06 15	06 38	07 00	07 26	07 56			
	11	342 40.9	31.6	321 57.8	14.9	9 44.8	9.4	54.1	50	05 05	05 42	06 14	06 41	07 05	07 32	08 04			
	12	357 41.0	30.6	336 31.7	14.8	N 9 54.2	9.5	54.1	45	05 10	05 44	06 13	06 49	07 16	07 46	08 20			
	13	12 41.2	29.7	351 05.5	14.9	10 03.7	9.4	54.1	N 40	05 14	05 45	06 12	06 55	07 24	07 57	08 33			
	14	27 41.4	28.7	5 39.4	14.8	10 13.1	9.3	54.1	35	05 17	05 46	06 11	07 00	07 32	08 06	08 44			
	15	42 41.6	27.7	20 13.2	14.8	10 22.4	9.3	54.1	30	05 19	05 46	06 10	07 04	07 39	08 15	08 54			
	16	57 41.7	26.7	34 47.0	14.8	10 31.7	9.3	54.1	20	05 21	05 47	06 09	07 13	07 50	08 29	09 11			
	17	72 41.9	25.7	49 20.8	14.8	10 41.0	9.2	54.1	N 10	05 22	05 46	06 07	07 20	08 00	08 42	09 26			
	18	87 42.1	24.7	63 54.6	14.7	N10 50.2	9.2	54.1	0	05 21	05 45	06 06	07 26	08 10	08 54	09 40			
	19	102 42.3	23.7	78 28.3	14.7	10 59.4	9.1	54.1	S 10	05 19	05 43	06 04	07 33	08 19	09 06	09 54			
	20	117 42.4	22.8	93 02.0	14.7	11 08.5	9.1	54.1	20	05 15	05 40	06 02	07 40	08 30	09 19	10 09			
	21	132 42.6	21.8	107 35.7	14.7	11 17.6	9.0	54.1	30	05 08	05 36	06 00	07 49	08 41	09 34	10 27			
	22	147 42.8	20.8	122 09.4	14.6	11 26.6	9.0	54.1	35	05 04	05 33	05 59	07 53	08 48	09 43	10 37			
23	162 42.9	19.8	136 43.0	14.6	11 35.6	8.9	54.1	40	04 58	05 30	05 57	07 59	08 56	09 53	10 49				
15 00	177 43.1	18.8	151 16.6	14.6	N11 44.5	8.9	54.1	45	04 51	05 26	05 55	08 05	09 05	10 04	11 02				
01	192 43.3	17.8	165 50.2	14.6	11 53.4	8.8	54.0	S 50	04 42	05 21	05 53	08 13	09 16	10 18	11 19				
02	207 43.5	16.8	180 23.8	14.5	12 02.2	8.8	54.0	52	04 38	05 18	05 52	08 16	09 21	10 25	11 27				
03	222 43.6	15.8	194 57.3	14.6	12 11.0	8.7	54.0	54	04 33	05 16	05 51	08 20	09 27	10 32	11 36				
04	237 43.8	14.9	209 30.9	14.4	12 19.7	8.7	54.0	56	04 27	05 12	05 50	08 25	09 33	10 41	11 46				
05	252 44.0	13.9	224 04.3	14.5	12 28.4	8.6	54.0	58	04 21	05 09	05 49	08 30	09 40	10 50	11 57				
06	267 44.2	12.9	238 37.8	14.4	N12 37.0	8.5	54.0	S 60	04 13	05 05	05 47	08 35	09 49	11 01	12 10				
07	282 44.3	11.9	253 11.2	14.4	12 45.5	8.5	54.0												
08	297 44.5	10.9	267 44.6	14.4	12 54.0	8.5	54.0	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna							
09	312 44.7	09.9	282 18.0	14.4	13 02.5	8.4	54.0			Civil	Naut.	14	15	16	17				
10	327 44.9	08.9	296 51.4	14.3	13 10.9	8.3	54.0												
11	342 45.0	07.9	311 24.7	14.3	13 19.2	8.3	54.0												
12	357 45.2	07.0	325 58.0	14.2	N13 27.5	8.2	54.0												
13	12 45.4	06.0	340 31.2	14.3	13 35.7	8.2	54.0												
14	27 45.6	05.0	355 04.5	14.2	13 43.9	8.1	54.0												
15	42 45.7	04.0	9 37.7	14.1	13 52.0	8.1	54.0												
16	57 45.9	03.0	24 10.8	14.2	14 00.1	7.9	54.0												
17	72 46.1	02.0	38 44.0	14.1	14 08.0	8.0	54.0												
18	87 46.3	01.0	53 17.1	14.0	N14 16.0	7.8	54.0												
19	102 46.4	00.0	67 50.1	14.1	14 23.8	7.8	54.0												
20	117 46.6	59.1	82 23.2	14.0	14 31.6	7.8	54.0												
21	132 46.8	58.1	96 56.2	14.0	14 39.4	7.7	54.0												
22	147 47.0	57.1	111 29.2	13.9	14 47.1	7.6	54.0												
23	162 47.1	56.1	126 02.1	13.9	14 54.7	7.5	54.0												
16 00	177 47.3	55.1	140 35.0	13.9	N15 02.2	7.5	54.0												
01	192 47.5	54.1	155 07.9	13.8	15 09.7	7.5	54.0												
02	207 47.7	53.1	169 40.7	13.8	15 17.2	7.3	54.0												
03	222 47.8	52.1	184 13.5	13.8	15 24.5	7.3	54.0												
04	237 48.0	51.2	198 46.3	13.7	15 31.8	7.2	54.0												
05	252 48.2	50.2	213 19.0	13.7	15 39.0	7.2	54.0												
06	267 48.4	49.2	227 51.7	13.7	N15 46.2	7.1	54.0												
07	282 48.6	48.2	242 24.4	13.6	15 53.3	7.0	54.0												
08	297 48.7	47.2	256 57.0	13.6	16 00.3	7.0	54.0												
09	312 48.9	46.2	271 29.6	13.6	16 07.3	6.9	54.0												
10	327 49.1	45.2	286 02.2	13.5	16 14.2	6.8	54.1												
11	342 49.3	44.2	300 34.7	13.5	16 21.0	6.7	54.1												
12	357 49.4	43.3	315 07.2	13.4	N16 27.7	6.7	54.1												
13	12 49.6	42.3	329 39.6	13.4	16 34.4	6.6	54.1												
14	27 49.8	41.3	344 12.0	13.4	16 41.0	6.5	54.1												
15	42 50.0	40.3	358 44.4	13.3	16 47.5	6.5	54.1												
16	57 50.1	39.3	13 16.7	13.3	16 54.0	6.4	54.1												
17	72 50.3	38.3	27 49.0	13.3	17 00.4	6.3	54.1												
18	87 50.5	37.3	42 21.3	13.2	N17 06.7	6.2	54.1												
19	102 50.7	36.3	56 53.5	13.2	17 12.9	6.2	54.1												
20	117 50.9	35.3	71 25.7	13.2	17 19.1	6.1	54.1												
21	132 51.0	34.4	85 57.9	13.1	17 25.2	6.0	54.1												
22	147 51.2	33.4	100 30.0	13.1	17 31.2	5.9	54.1												
23	162 51.4	32.4	115 02.1	13.0	17 37.1	5.9	54.1												
	S.D.	16.1	d	1.0	S.D.	14.7	14.7	14.7											

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	17	18	19	20	
												h m	h m	h m	h m	h m
J U E V E S	17 00	177 51.6	S 1 31.4	129 34.1	13.0	N17 43.0	5.7	54.1	N 72	03 36	05 03	06 10	03 41	□	□	□
	01	192 51.8	30.4	144 06.1	12.9	17 48.7	5.7	54.1	N 70	03 53	05 09	06 10	05 16	04 46	□	□
	02	207 51.9	29.4	158 38.0	13.0	17 54.4	5.7	54.1	68	04 06	05 14	06 09	05 55	06 04	06 28	07 24
	03	222 52.1	28.4	173 10.0	12.9	18 00.1	5.5	54.2	66	04 16	05 18	06 09	06 23	06 42	07 15	08 09
	04	237 52.3	27.4	187 41.9	12.8	18 05.6	5.5	54.2	64	04 25	05 22	06 09	06 44	07 08	07 45	08 39
	05	252 52.5	26.5	202 13.7	12.8	18 11.1	5.4	54.2	62	04 32	05 25	06 09	07 01	07 29	08 08	09 02
	06	267 52.6	S 1 25.5	216 45.5	12.8	N18 16.5	5.3	54.2	60	04 38	05 27	06 09	07 16	07 46	08 27	09 20
	07	282 52.8	24.5	231 17.3	12.7	18 21.8	5.2	54.2	N 58	04 43	05 29	06 08	07 28	08 00	08 42	09 35
	08	297 53.0	23.5	245 49.0	12.7	18 27.0	5.1	54.2	56	04 48	05 31	06 08	07 39	08 12	08 55	09 48
	09	312 53.2	22.5	260 20.7	12.6	18 32.1	5.1	54.2	54	04 51	05 33	06 08	07 48	08 23	09 06	09 59
	10	327 53.4	21.5	274 52.3	12.6	18 37.2	5.0	54.2	52	04 55	05 34	06 08	07 56	08 33	09 16	10 09
	11	342 53.5	20.5	289 23.9	12.6	18 42.2	4.9	54.2	50	04 58	05 36	06 08	08 04	08 41	09 25	10 18
	12	357 53.7	S 1 19.5	303 55.5	12.6	N18 47.1	4.8	54.2	45	05 04	05 38	06 08	08 20	08 59	09 44	10 36
	13	12 53.9	18.5	318 27.1	12.5	18 51.9	4.7	54.2	N 40	05 09	05 40	06 07	08 33	09 14	10 00	10 52
	14	27 54.1	17.6	332 58.6	12.4	18 56.6	4.7	54.3	35	05 12	05 42	06 07	08 44	09 26	10 13	11 05
	15	42 54.3	16.6	347 30.0	12.4	19 01.3	4.5	54.3	30	05 15	05 43	06 07	08 54	09 37	10 24	11 16
	16	57 54.4	15.6	2 01.4	12.4	19 05.8	4.5	54.3	20	05 19	05 44	06 06	09 11	09 56	10 44	11 35
	17	72 54.6	14.6	16 32.8	12.4	19 10.3	4.4	54.3	N 10	05 20	05 45	06 06	09 26	10 13	11 01	11 52
	18	87 54.8	S 1 13.6	31 04.2	12.3	N19 14.7	4.3	54.3	0	05 20	05 44	06 05	09 40	10 28	11 17	12 08
	19	102 55.0	12.6	45 35.5	12.2	19 19.0	4.2	54.3	S 10	05 19	05 43	06 04	09 54	10 43	11 33	12 23
	20	117 55.2	11.6	60 06.7	12.3	19 23.2	4.1	54.3	20	05 16	05 41	06 03	10 09	11 00	11 50	12 40
	21	132 55.3	10.6	74 38.0	12.1	19 27.3	4.0	54.3	30	05 10	05 38	06 02	10 27	11 19	12 10	12 59
	22	147 55.5	09.7	89 09.1	12.2	19 31.3	4.0	54.3	35	05 06	05 36	06 01	10 37	11 30	12 22	13 11
23	162 55.7	08.7	103 40.3	12.1	19 35.3	3.9	54.4	40	05 02	05 33	06 00	10 49	11 43	12 35	13 23	
								45	04 55	05 30	05 59	11 02	11 58	12 50	13 39	
V I E R N E S	18 00	177 55.9	S 1 07.7	118 11.4	12.1	N19 39.2	3.7	54.4	S 50	04 47	05 26	05 58	11 19	12 17	13 10	13 57
	01	192 56.1	06.7	132 42.5	12.0	19 42.9	3.7	54.4	52	04 44	05 24	05 58	11 27	12 25	13 19	14 06
	02	207 56.2	05.7	147 13.5	12.0	19 46.6	3.6	54.4	54	04 39	05 21	05 57	11 36	12 35	13 29	14 16
	03	222 56.4	04.7	161 44.5	12.0	19 50.2	3.5	54.4	56	04 34	05 19	05 56	11 46	12 46	13 41	14 27
	04	237 56.6	03.7	176 15.5	11.9	19 53.7	3.4	54.4	58	04 28	05 16	05 55	11 57	12 59	13 54	14 40
	05	252 56.8	02.7	190 46.4	11.9	19 57.1	3.3	54.4	S 60	04 22	05 13	05 54	12 10	13 14	14 10	14 55
	06	267 57.0	S 1 01.7	205 17.3	11.8	N20 00.4	3.2	54.5								
	07	282 57.2	1 00.8	219 48.1	11.9	20 03.6	3.2	54.5	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna			
	08	297 57.3	0 59.8	234 19.0	11.7	20 06.8	3.0	54.5			Civil	Naut.	17	18	19	20
	09	312 57.5	58.8	248 49.7	11.8	20 09.8	3.0	54.5								
	10	327 57.7	57.8	263 20.5	11.7	20 12.8	2.8	54.5								
	11	342 57.9	56.8	277 51.2	11.7	20 15.6	2.8	54.5								
	12	357 58.1	S 0 55.8	292 21.9	11.6	N20 18.4	2.6	54.5	N 72	18 09	19 17	20 44	03 05	□	□	□
	13	12 58.2	54.8	306 52.5	11.6	20 21.0	2.6	54.6	N 70	18 09	19 10	20 27	01 31	03 39	□	□
	14	27 58.4	53.8	321 23.1	11.6	20 23.6	2.5	54.6	68	18 09	19 05	20 14	00 52	02 21	03 39	04 28
	15	42 58.6	52.8	335 53.7	11.5	20 26.1	2.4	54.6	66	18 09	19 00	20 03	00 25	01 44	02 52	03 42
	16	57 58.8	51.9	350 24.2	11.5	20 28.5	2.3	54.6	64	18 09	18 56	19 54	00 04	01 18	02 22	03 12
	17	72 59.0	50.9	4 54.7	11.4	20 30.8	2.1	54.6	62	18 09	18 53	19 47	24 57	00 57	01 59	02 49
	18	87 59.2	S 0 49.9	19 25.1	11.5	N20 32.9	2.1	54.7	60	18 09	18 51	19 40	24 41	00 41	01 41	02 31
	19	102 59.3	48.9	33 55.6	11.3	20 35.0	2.0	54.7	N 58	18 09	18 48	19 35	24 27	00 27	01 25	02 16
	20	117 59.5	47.9	48 25.9	11.4	20 37.0	1.9	54.7	56	18 09	18 46	19 30	24 15	00 15	01 12	02 03
	21	132 59.7	46.9	62 56.3	11.3	20 38.9	1.8	54.7	54	18 09	18 44	19 26	24 04	00 04	01 01	01 52
	22	147 59.9	45.9	77 26.6	11.3	20 40.7	1.7	54.7	52	18 09	18 43	19 23	23 55	24 51	00 51	01 42
23	163 00.1	44.9	91 56.9	11.3	20 42.4	1.6	54.7	50	18 09	18 42	19 19	23 47	24 42	00 42	01 33	
								45	18 09	18 39	19 13	23 29	24 23	00 23	01 14	
S A B A D O	19 00	178 00.2	S 0 43.9	106 27.2	11.2	N20 44.0	1.5	54.8	N 40	18 10	18 37	19 08	23 15	24 03	00 08	00 58
	01	193 00.4	43.0	120 57.4	11.2	20 45.5	1.4	54.8	35	18 10	18 35	19 05	23 03	23 55	24 45	00 45
	02	208 00.6	42.0	135 27.6	11.1	20 46.9	1.3	54.8	30	18 10	18 34	19 02	22 52	23 44	24 34	00 34
	03	223 00.8	41.0	149 57.7	11.2	20 48.2	1.2	54.8	20	18 10	18 32	18 58	22 34	23 24	24 14	00 14
	04	238 01.0	40.0	164 27.9	11.1	20 49.4	1.1	54.8	N 10	18 11	18 32	18 56	22 18	23 07	23 57	24 47
	05	253 01.2	39.0	178 58.0	11.0	20 50.5	1.0	54.9	0	18 11	18 32	18 56	22 03	22 52	23 41	24 32
	06	268 01.3	S 0 38.0	193 28.0	11.0	N20 51.5	0.9	54.9	S 10	18 12	18 33	18 57	21 48	22 36	23 25	24 17
	07	283 01.5	37.0	207 58.0	11.0	20 52.4	0.8	54.9	20	18 13	18 35	19 00	21 32	22 19	23 08	24 01
	08	298 01.7	36.0	222 28.0	11.0	20 53.2	0.7	54.9	30	18 14	18 38	19 06	21 14	21 59	22 49	23 42
	09	313 01.9	35.1	236 58.0	11.0	20 53.9	0.6	55.0	35	18 14	18 40	19 09	21 04	21 48	22 37	23 31
	10	328 02.1	34.1	251 28.0	10.9	20 54.5	0.5	55.0	40	18 15	18 42	19 14	20 52	21 35	22 24	23 18
	11	343 02.3	33.1	265 57.9	10.9	20 55.0	0.4	55.0	45	18 16	18 45	19 20	20 38	21 20	22 08	23 03
	12	358 02.4	S 0 32.1	280 27.8	10.8	N20 55.4	0.3	55.0	S 50	18 17	18 49	19 28	20 20	21 01	21 49	22 45
	13	13 02.6	31.1	294 57.6	10.8	20 55.7	0.1	55.0	52	18 18	18 51	19 31	20 12	20 52	21 40	22 36
	14	28 02.8	30.1	309 27.4	10.8	20 55.8	0.1	55.1	54	18 18	18 54	19 36	20 03	20 42	21 30	22 27
	15	43 03.0	29.1	323 57.2	10.8	20 55.9	0.0	55.1	56	18 19	18 56	19 41	19 53	20 31	21 18	22 16
	16	58 03.2	28.1	338 27.0	10.8	20 55.9	0.1	55.1	58	18 20	18 59	19 46	19 41	20 18	21 05	22 03
	17	73 03.4	27.1	352 56.8	10.7	20 55.8	0.3	55.1	S 60	18 20	19 02	19 52	19 28	20 03	20 49</	

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.3			SATURNO +1.0			ESTRELLAS			
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		Nombre	A. H. S.	Dec.	
DOMINGO	20 00	177 17.9	163 52.5 N 4	195 28.2 S 8	54.2		315 16.2 S14	45.8		198 59.1 S10	40.7		Acomar	315 29.5 S40	19.9				
	01	192 20.4	178 52.1 41.3	210 28.9 53.4			330 18.9 45.8			214 01.3 40.6			Achernar	335 38.0 S57	16.1				
	02	207 22.9	193 51.7 42.6	225 29.5 52.7			345 21.5 45.7			229 03.5 40.5			Acrux	173 24.7 S63	04.1				
	03	222 25.3	208 51.4 43.8	240 30.1 51.9			0 24.1 45.7			244 05.7 40.4			Adhara	255 23.7 S28	58.2				
	04	237 27.8	223 51.0 45.1	255 30.7 51.2			15 26.7 45.6			259 07.9 40.3			Aldebaran	291 06.0 N16	29.8				
	05	252 30.2	238 50.6 46.4	270 31.4 50.4			30 29.3 45.6			274 10.0 40.2									
	06	267 32.7	253 50.2 N 4	285 32.0 S 8	49.7		45 31.9 S14	45.5		289 12.2 S10	40.1		Alioth	166 32.7 N55	59.3				
	07	282 35.2	268 49.9 48.9	300 32.6 49.0			60 34.5 45.5			304 14.4 40.0			Alkaid	153 09.8 N49	20.3				
	08	297 37.6	283 49.5 50.2	315 33.2 48.2			75 37.1 45.4			319 16.6 39.9			Al Na'ir	28 02.1 S46	59.2				
	09	312 40.1	298 49.1 51.4	330 33.9 47.5			90 39.7 45.4			334 18.8 39.8			Alnilam	276 01.0 S 1	12.5				
	10	327 42.6	313 48.7 52.7	345 34.5 46.7			105 42.4 45.3			349 21.0 39.7			Alphard	218 10.0 S 8	38.3				
	11	342 45.0	328 48.4 54.0	0 35.1 46.0			120 45.0 45.3			4 23.2 39.6									
	12	357 47.5	343 48.0 N 4	15 35.7 S 8	45.2		135 47.6 S14	45.2		19 25.4 S10	39.5		Alphecca	126 23.0 N26	43.8				
	13	12 50.0	358 47.6 56.5	30 36.4 44.5			150 50.2 45.2			34 27.6 39.4			Alpheratz	357 58.8 N29	03.5				
	14	27 52.4	13 47.2 57.8	45 37.0 43.7			165 52.8 45.1			49 29.8 39.3			Altair	62 22.4 N 8	51.1				
	15	42 54.9	28 46.9 4 59.0	60 37.6 43.0			180 55.4 45.1			64 31.9 39.2			Ankaa	353 30.3 S42	20.3				
	16	57 57.4	43 46.5 5 00.3	75 38.2 42.3			195 58.0 45.0			79 34.1 39.1			Antares	112 43.8 S26	25.1				
	17	72 59.8	58 46.1 01.6	90 38.9 41.5			211 00.6 45.0			94 36.3 39.0									
	18	88 02.3	73 45.7 N 5	105 39.5 S 8	40.8		226 03.3 S14	44.9		109 38.5 S10	38.9		Arcturus	146 08.6 N19	12.5				
	19	103 04.7	88 45.3 04.1	120 40.1 40.0			241 05.9 44.9			124 40.7 38.8			Atria	107 58.4 S69	00.8				
	20	118 07.2	103 45.0 05.4	135 40.8 39.3			256 08.5 44.9			139 42.9 38.7			Avior	234 23.5 S59	29.9				
	21	133 09.7	118 44.6 06.6	150 41.4 38.5			271 11.1 44.8			154 45.1 38.6			Bellatrix	278 47.5 N 6	20.5				
	22	148 12.1	133 44.2 07.9	165 42.0 37.8			286 13.7 44.7			169 47.3 38.5			Betelgeuse	271 16.9 N 7	24.2				
23	163 14.6	148 43.8 09.2	180 42.6 37.0			301 16.3 44.7			184 49.5 38.4										
LUNES	21 00	178 17.1	163 43.5 N 5	10.4		195 43.3 S 8	36.3		316 19.0 S14	44.6		199 51.7 S10	38.3		Canopus	264 02.5 S52	42.0		
	01	193 19.5	178 43.1 11.7	210 43.9 35.5			331 21.6 44.6			214 53.9 38.2			Capella	280 55.8 N45	59.6				
	02	208 22.0	193 42.7 12.9	225 44.5 34.8			346 24.2 44.5			229 56.1 38.1			Deneb	49 41.6 N45	15.4				
	03	223 24.5	208 42.3 14.2	240 45.2 34.0			1 26.8 44.5			244 58.2 38.0			Denebola	182 48.0 N14	36.0				
	04	238 26.9	223 41.9 15.5	255 45.8 33.3			16 29.4 44.4			260 00.4 37.9			Diphda	349 10.6 S18	01.2				
	05	253 29.4	238 41.6 16.7	270 46.4 32.5			31 32.0 44.4			275 02.6 37.8									
	06	268 31.8	253 41.2 N 5	285 47.0 S 8	31.8		46 34.7 S14	44.3		290 04.8 S10	37.7		Dubhe	194 08.6 N61	46.8				
	07	283 34.3	268 40.8 19.3	300 47.7 31.1			61 37.3 44.3			305 07.0 37.6			Elnath	278 30.9 N28	36.1				
	08	298 36.8	283 40.4 20.5	315 48.3 30.3			76 39.9 44.2			320 09.2 37.5			Eltanin	90 52.8 N51	29.1				
	09	313 39.2	298 40.1 21.8	330 48.9 29.6			91 42.5 44.2			335 11.4 37.4			Enif	34 01.5 N 9	50.9				
	10	328 41.7	313 39.7 23.0	345 49.6 28.8			106 45.1 44.1			350 13.6 37.3			Fomalhaut	15 40.2 S29	39.1				
	11	343 44.2	328 39.3 24.3	0 50.2 28.1			121 47.7 44.0			5 15.8 37.2									
	12	358 46.6	343 38.9 N 5	15 50.8 S 8	27.3		136 50.4 S14	44.0		20 18.0 S10	37.1		Gacrux	172 16.4 S57	05.0				
	13	13 49.1	358 38.5 26.8	30 51.4 26.6			151 53.0 43.9			35 20.2 37.0			Gienah	176 06.8 S17	30.8				
	14	28 51.6	13 38.2 28.1	45 52.1 25.8			166 55.6 43.9			50 22.4 36.8			Hadar	149 07.8 S60	20.7				
	15	43 54.0	28 37.8 29.4	60 52.7 25.1			181 58.2 43.8			65 24.5 36.7			Hamal	328 17.3 N23	26.1				
	16	58 56.5	43 37.4 30.6	75 53.3 24.3			197 00.8 43.8			80 26.7 36.6			Kaus Aust.	84 02.9 S34	23.1				
	17	73 59.0	58 37.0 31.9	90 54.0 23.6			212 03.5 43.7			95 28.9 36.5									
	18	89 01.4	73 36.6 N 5	105 54.6 S 8	22.8		227 06.1 S14	43.7		110 31.1 S10	36.4		Kochab	137 18.6 N74	10.5				
	19	104 03.9	88 36.3 34.4	120 55.2 22.1			242 08.7 43.6			125 33.3 36.3			Markab	13 53.0 N15	10.4				
	20	119 06.3	103 35.9 35.7	135 55.9 21.3			257 11.3 43.6			140 35.5 36.2			Menkar	314 30.3 N 4	03.9				
	21	134 08.8	118 35.5 36.9	150 56.5 20.6			272 14.0 43.5			155 37.7 36.1			Menkent	148 24.2 S36	20.6				
	22	149 11.3	133 35.1 38.2	165 57.1 19.8			287 16.6 43.5			170 39.9 36.0			Miaplacidus	221 42.0 S69	42.0				
23	164 13.7	148 34.7 39.4	180 57.8 19.1			302 19.2 43.4			185 42.1 35.9										
MARTES	22 00	179 16.2	163 34.4 N 5	40.7		195 58.4 S 8	18.3		317 21.8 S14	43.4		200 44.3 S10	35.8		Mirfak	309 01.3 N49	50.6		
	01	194 18.7	178 34.0 42.0	210 59.0 17.6			332 24.4 43.3			215 46.5 35.7			Nunki	76 16.2 S26	18.1				
	02	209 21.1	193 33.6 43.2	225 59.6 16.8			347 27.1 43.2			230 48.7 35.6			Peacock	53 42.2 S56	45.0				
	03	224 23.6	208 33.2 44.5	241 00.3 16.1			2 29.7 43.2			245 50.9 35.5			Pollux	243 45.1 N28	02.3				
	04	239 26.1	223 32.8 45.7	256 00.9 15.3			17 32.3 43.1			260 53.0 35.4			Procyon	245 14.6 N 5	14.2				
	05	254 28.5	238 32.5 47.0	271 01.5 14.6			32 34.9 43.1			275 55.2 35.3									
	06	269 31.0	253 32.1 N 5	286 02.2 S 8	13.8		47 37.6 S14	43.0		290 57.4 S10	35.2		Rasalhague	96 19.8 N12	33.7				
	07	284 33.5	268 31.7 49.5	301 02.8 13.1			62 40.2 43.0			305 59.6 35.1			Regulus	207 58.5 N11	59.5				
	08	299 35.9	283 31.3 50.8	316 03.4 12.3			77 42.8 42.9			321 01.8 35.0			Rigel	281 26.0 S 8	12.7				
	09	314 38.4	298 30.9 52.0	331 04.1 11.6			92 45.4 42.9			336 04.0 34.9			Rigil Kent.	140 10.9 S60	48.6				
	10	329 40.8	313 30.6 53.3	346 04.7 10.8			107 48.1 42.8			351 06.2 34.8			Sabik	102 29.0 S15	43.1				
	11	344 43.3	328 30.2 54.5	1 05.3 10.1			122 50.7 42.8			6 08.4 34.7									
	12	359 45.8	343 29.8 N 5	16 06.0 S 8	09.3		137 53.3 S14	42.7		21 10.6 S10	34.6		Schedar	349 57.5 N56	30.4				
	13	14 48.2	358 29.4 57.0	31 06.6 08.6			152 55.9 42.7			36 12.8 34.5			Shaula	96 41.4 S37	05.9				
	14	29 50.7	13 29.0 58.3	46 07.2 07.8			167 58.6 42.6			51 15.0 34.4			Sirius	258 46.3 S16	42.8				
	15	44 53.2	28 28.6 5 59.6	61 07.9 07.1			183 01.2 42.5			66 17.2 34.3			Spica	158 46.1 S11	08.1				
	16	59 55.6	43 28.3 6 00.8	76 08.5 06.3			198 03.8 42.5			81 19.4 34.2			Suhail	223 02.7 S43	24.9				
	17	74 58.1	58 27.9 02.1	91 09.1 05.6			213 06.5 42.4			96 21.6 34.1									
	18	90 00.6	73 27.5 N 6	106 09.8 S 8	04.8		228 09.1 S14	42.4											

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P. H.	Náut.		Civil	20	21	22	23	
									h			m	h	m	h	m
DOMINICANO	00	178 04.7	S 0 20.2	94 24.2	10.6	N20 51.9	0.9	55.3	N 72	03 16	04 46	05 55	□	□	09 01	11 29
	01	193 04.8	19.2	108 53.8	10.5	20 51.0	1.1	55.3	N 70	03 36	04 55	05 56	□	07 48	09 57	11 55
	02	208 05.0	18.3	123 23.3	10.5	20 49.9	1.2	55.4	68	03 51	05 01	05 57	07 24	08 50	10 30	12 15
	03	223 05.2	17.3	137 52.8	10.4	20 48.7	1.3	55.4	66	04 03	05 06	05 58	08 09	09 24	10 54	12 31
	04	238 05.4	16.3	152 22.2	10.5	20 47.4	1.4	55.4	64	04 13	05 11	05 58	08 39	09 49	11 13	12 44
	05	253 05.6	15.3	166 51.7	10.4	20 46.0	1.5	55.5	62	04 21	05 15	05 59	09 02	10 09	11 28	12 55
	06	268 05.8	S 0 14.3	181 21.1	10.4	N20 44.5	1.6	55.5	60	04 28	05 18	06 00	09 20	10 25	11 41	13 04
	07	283 05.9	13.3	195 50.5	10.4	20 42.9	1.7	55.5	N 58	04 34	05 21	06 00	09 35	10 39	11 52	13 12
	08	298 06.1	12.3	210 19.9	10.3	20 41.2	1.8	55.5	56	04 39	05 23	06 00	09 48	10 50	12 01	13 19
	09	313 06.3	11.3	224 49.2	10.4	20 39.4	1.9	55.6	54	04 44	05 26	06 01	09 59	11 00	12 10	13 25
	10	328 06.5	10.3	239 18.6	10.3	20 37.5	2.1	55.6	52	04 48	05 27	06 01	10 09	11 09	12 17	13 31
	11	343 06.7	09.4	253 47.9	10.3	20 35.4	2.1	55.6	50	04 51	05 29	06 01	10 18	11 18	12 24	13 36
	12	358 06.9	S 0 08.4	268 17.2	10.3	N20 33.3	2.3	55.7	45	04 58	05 33	06 02	10 36	11 35	12 39	13 47
	13	13 07.1	07.4	282 46.5	10.2	20 31.0	2.3	55.7	N 40	05 04	05 35	06 02	10 52	11 49	12 51	13 56
	14	28 07.2	06.4	297 15.7	10.3	20 28.7	2.5	55.7	35	05 08	05 38	06 03	11 05	12 01	13 01	14 04
	15	43 07.4	05.4	311 45.0	10.2	20 26.2	2.6	55.7	30	05 11	05 39	06 03	11 16	12 11	13 10	14 11
	16	58 07.6	04.4	326 14.2	10.2	20 23.6	2.6	55.8	20	05 16	05 42	06 04	11 35	12 29	13 25	14 23
	17	73 07.8	03.4	340 43.4	10.2	20 21.0	2.8	55.8	N 10	05 18	05 43	06 04	11 52	12 44	13 38	14 33
	18	88 08.0	S 0 02.4	355 12.6	10.2	N20 18.2	2.9	55.8	0	05 19	05 43	06 04	12 08	12 59	13 51	14 42
	19	103 08.2	01.5	9 41.8	10.1	20 15.3	3.0	55.9	S 10	05 19	05 43	06 04	12 23	13 13	14 03	14 52
	20	118 08.4	S 0 00.5	24 10.9	10.2	20 12.3	3.2	55.9	20	05 16	05 42	06 04	12 40	13 29	14 16	15 02
	21	133 08.5	N 0 00.5	38 40.1	10.1	20 09.1	3.2	55.9	30	05 12	05 40	06 04	12 59	13 46	14 31	15 14
	22	148 08.7	01.5	53 09.2	10.1	20 05.9	3.3	56.0	35	05 09	05 38	06 04	13 11	13 57	14 40	15 21
23	163 08.9	02.5	67 38.3	10.1	20 02.6	3.4	56.0	40	05 05	05 36	06 04	13 23	14 09	14 50	15 28	
21	00	178 09.1	N 0 03.5	82 07.4	10.1	N19 59.2	3.6	56.0	45	05 00	05 34	06 03	13 39	14 22	15 02	15 37
01	193 09.3	04.5	96 36.5	10.1	19 55.6	3.6	56.1	S 50	04 53	05 31	06 03	13 57	14 39	15 16	15 48	
02	208 09.5	05.5	111 05.6	10.0	19 52.0	3.8	56.1	52	04 49	05 29	06 03	14 06	14 47	15 22	15 52	
03	223 09.7	06.4	125 34.6	10.0	19 48.2	3.9	56.1	54	04 45	05 27	06 03	14 16	14 56	15 29	15 58	
04	238 09.8	07.4	140 03.6	10.1	19 44.3	4.0	56.2	56	04 41	05 25	06 02	14 27	15 06	15 37	16 04	
05	253 10.0	08.4	154 32.7	10.0	19 40.3	4.0	56.2	58	04 36	05 23	06 02	14 40	15 17	15 46	16 10	
06	268 10.2	N 0 09.4	169 01.7	10.0	N19 36.3	4.2	56.2	S 60	04 30	05 20	06 02	14 55	15 30	15 57	16 18	
07	283 10.4	10.4	183 30.7	10.0	19 32.1	4.3	56.3	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
08	298 10.6	11.4	197 59.7	9.9	19 27.8	4.5	56.3					20	21	22	23	
09	313 10.8	12.4	212 28.6	10.0	19 23.3	4.5	56.3									
10	328 11.0	13.4	226 57.6	10.0	19 18.8	4.6	56.4									
11	343 11.1	14.3	241 26.6	9.9	19 14.2	4.7	56.4									
12	358 11.3	N 0 15.3	255 55.5	9.9	N19 09.5	4.9	56.4									
13	13 11.5	16.3	270 24.4	10.0	19 04.6	4.9	56.5	N 72	18 22	19 31	21 03	□	□	06 26	05 47	
14	28 11.7	17.3	284 53.4	9.9	18 59.7	5.1	56.5	N 70	18 21	19 23	20 42	□	05 50	05 29	05 19	
15	43 11.9	18.3	299 22.3	9.9	18 54.6	5.1	56.5	68	18 20	19 16	20 27	04 28	04 48	04 55	04 58	
16	58 12.1	19.3	313 51.2	9.9	18 49.5	5.3	56.6	66	18 19	19 10	20 14	03 42	04 13	04 30	04 41	
17	73 12.3	20.3	328 20.1	9.9	18 44.2	5.4	56.6	64	18 18	19 05	20 04	03 12	03 47	04 11	04 27	
18	88 12.5	N 0 21.3	342 49.0	9.8	N18 38.8	5.5	56.6	62	18 17	19 01	19 56	02 49	03 27	03 55	04 15	
19	103 12.6	22.2	357 17.8	9.9	18 33.3	5.6	56.7	60	18 16	18 58	19 48	02 31	03 11	03 42	04 05	
20	118 12.8	23.2	11 46.7	9.9	18 27.7	5.7	56.7	N 58	18 16	18 55	19 42	02 16	02 57	03 30	03 57	
21	133 13.0	24.2	26 15.6	9.8	18 22.0	5.8	56.8	56	18 15	18 52	19 37	02 03	02 45	03 20	03 49	
22	148 13.2	25.2	40 44.4	9.9	18 16.2	5.9	56.8	54	18 15	18 50	19 32	01 52	02 35	03 11	03 42	
23	163 13.4	26.2	55 13.3	9.8	18 10.3	6.0	56.8	52	18 14	18 48	19 28	01 42	02 26	03 03	03 36	
22	00	178 13.6	N 0 27.2	69 42.1	9.8	N18 04.3	6.1	56.9	50	18 14	18 46	19 25	01 33	02 17	02 56	03 30
01	193 13.8	28.2	84 10.9	9.9	17 58.2	6.2	56.9	45	18 13	18 43	19 17	01 14	02 00	02 41	03 18	
02	208 14.0	29.2	98 39.8	9.8	17 52.0	6.3	56.9	N 40	18 13	18 40	19 11	00 58	01 45	02 28	03 08	
03	223 14.1	30.1	113 08.6	9.8	17 45.7	6.5	57.0	35	18 12	18 38	19 07	00 45	01 33	02 17	02 59	
04	238 14.3	31.1	127 37.4	9.8	17 39.2	6.5	57.0	30	18 12	18 36	19 04	00 34	01 22	02 08	02 51	
05	253 14.5	32.1	142 06.2	9.8	17 32.7	6.6	57.1	20	18 11	18 33	18 59	00 14	01 03	01 51	02 38	
06	268 14.7	N 0 33.1	156 35.0	9.8	N17 26.1	6.8	57.1	N 10	18 11	18 32	18 56	24 47	00 47	01 37	02 26	
07	283 14.9	34.1	171 03.8	9.8	17 19.3	6.8	57.1	0	18 11	18 31	18 55	24 32	00 32	01 24	02 15	
08	298 15.1	35.1	185 32.6	9.8	17 12.5	7.0	57.2	S 10	18 10	18 31	18 56	24 17	00 17	01 10	02 04	
09	313 15.3	36.1	200 01.4	9.7	17 05.5	7.0	57.2	20	18 10	18 30	18 58	24 01	00 01	00 55	01 52	
10	328 15.5	37.0	214 30.1	9.8	16 58.5	7.2	57.3	30	18 10	18 34	19 02	23 42	24 39	00 39	01 39	
11	343 15.6	38.0	228 58.9	9.8	16 51.3	7.2	57.3	35	18 10	18 35	19 05	23 31	24 29	00 29	01 31	
12	358 15.8	N 0 39.0	243 27.7	9.7	N16 44.1	7.4	57.3	40	18 10	18 37	19 09	23 18	24 18	00 18	01 21	
13	13 16.0	40.0	257 56.4	9.8	16 36.7	7.4	57.4	45	18 10	18 40	19 14	23 03	24 04	00 04	01 11	
14	28 16.2	41.0	272 25.2	9.8	16 29.3	7.6	57.4	S 50	18 11	18 43	19 21	22 45	23 48	24 58	00 58	
15	43 16.4	42.0	286 54.0	9.7	16 21.7	7.6	57.4	52	18 11	18 44	19 24	22 36	23 41	24 52	00 52	
16	58 16.6	43.0	301 22.7	9.8	16 14.1	7.8	57.5	54	18 11	18 46	19 28	22 27	23 32	24 45	00 45	
17	73 16.8	43.9	315 51.5	9.7	16 06.3	7.9	57.5	56	18 11	18 48	19 32	22 16	23 23	24 37	00 37	
18	88 17.0	N 0 44.9	330 20.2	9.7	N15 58.4	7.9	57.6	58	18 11	18 50	19 37	22 03	23 12	24 29	00 29	
19	103 17.2	45.9	344 48.9	9.8	15 50.5	8.1	57.6	S 60	18 11	18 53	19 43	2				

T.M.G. (TU)		ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.4			SATURNO +1.0			ESTRELLAS		
d h		A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	Nombre	A. H. S.	Dec.
M I E R C O L E S	23 00	180	15.3	163 25.2 N 6 10.9	196 13.6 S 8 00.3	318 24.9 S14 42.0	201 36.9 S10 33.4	Acamar	315	29.6	S40	19.9							
	01	195	17.8	178 24.8 12.1	211 14.2 7 59.5	333 27.5 42.0	216 39.1 33.3	Achernar	335	38.0	S57	16.1							
	02	210	20.3	193 24.4 13.4	226 14.9 58.8	348 30.1 41.9	231 41.3 33.2	Acrux	173	24.7	S63	04.2							
	03	225	22.7	208 24.0 14.6	241 15.5 58.0	3 32.8 41.9	246 43.5 33.1	Adhara	255	23.8	S28	58.2							
	04	240	25.2	223 23.7 15.9	256 16.1 57.3	18 35.4 41.8	261 45.7 33.0	Aldebaran	291	06.0	N16	29.8							
	05	255	27.7	238 23.3 17.1	271 16.8 56.5	33 38.0 41.8	276 47.9 32.9												
	06	270	30.1	253 22.9 N 6 18.4	286 17.4 S 7 55.8	48 40.6 S14 41.7	291 50.1 S10 32.8	Alioth	166	32.7	N55	59.3							
	07	285	32.6	268 22.5 19.6	301 18.0 55.0	63 43.3 41.7	306 52.3 32.7	Alkaid	153	09.8	N49	20.3							
	08	300	35.1	283 22.1 20.9	316 18.7 54.3	78 45.9 41.6	321 54.5 32.6	Al Na'ir	28	02.1	S46	59.2							
	09	315	37.5	298 21.7 22.1	331 19.3 53.5	93 48.5 41.5	336 56.7 32.5	Alnilam	276	01.0	S 1	12.5							
	10	330	40.0	313 21.3 23.4	346 19.9 52.8	108 51.2 41.5	351 58.9 32.4	Alphard	218	10.0	S 8	38.3							
	11	345	42.4	328 21.0 24.6	1 20.6 52.0	123 53.8 41.4	7 01.1 32.3												
	12	0	44.9	343 20.6 N 6 25.9	16 21.2 S 7 51.3	138 56.4 S14 41.4	22 03.2 S10 32.2	Alphecca	126	23.0	N26	43.8							
	13	15	47.4	358 20.2 27.1	31 21.9 50.5	153 59.1 41.3	37 05.4 32.1	Alpheratz	357	58.8	N29	03.5							
	14	30	49.8	13 19.8 28.4	46 22.5 49.7	169 01.7 41.3	52 07.6 32.0	Altair	62	22.4	N 8	51.1							
	15	45	52.3	28 19.4 29.6	61 23.1 49.0	184 04.3 41.2	67 09.8 31.9	Ankaa	353	30.3	S42	20.3							
	16	60	54.8	43 19.0 30.9	76 23.8 48.2	199 07.0 41.1	82 12.0 31.8	Antares	112	43.8	S26	25.1							
	17	75	57.2	58 18.6 32.1	91 24.4 47.5	214 09.6 41.1	97 14.2 31.7												
	18	90	59.7	73 18.3 N 6 33.4	106 25.0 S 7 46.7	229 12.2 S14 41.0	112 16.4 S10 31.6	Arcturus	146	08.6	N19	12.5							
	19	106	02.2	88 17.9 34.6	121 25.7 46.0	244 14.9 41.0	127 18.6 31.5	Atria	107	58.4	S69	00.8							
	20	121	04.6	103 17.5 35.9	136 26.3 45.2	259 17.5 40.9	142 20.8 31.4	Avior	234	23.6	S59	29.9							
	21	136	07.1	118 17.1 37.1	151 26.9 44.5	274 20.2 40.9	157 23.0 31.3	Bellatrix	278	47.5	N 6	20.5							
	22	151	09.6	133 16.7 38.4	166 27.6 43.7	289 22.8 40.8	172 25.2 31.2	Betelgeuse	271	16.9	N 7	24.2							
23	166	12.0	148 16.3 39.6	181 28.2 43.0	304 25.4 40.7	187 27.4 31.1													
J U E V E S	24 00	181	14.5	163 15.9 N 6 40.9	196 28.9 S 7 42.2	319 28.1 S14 40.7	202 29.6 S10 31.0	Canopus	264	02.5	S52	42.0							
	01	196	16.9	178 15.5 42.1	211 29.5 41.4	334 30.7 40.6	217 31.8 30.9	Capella	280	55.8	N45	59.6							
	02	211	19.4	193 15.2 43.4	226 30.1 40.7	349 33.3 40.6	232 34.0 30.8	Deneb	49	41.5	N45	15.4							
	03	226	21.9	208 14.8 44.6	241 30.8 39.9	4 36.0 40.5	247 36.2 30.7	Denebola	182	48.0	N14	36.0							
	04	241	24.3	223 14.4 45.9	256 31.4 39.2	19 38.6 40.5	262 38.4 30.6	Diphda	349	10.6	S18	01.2							
	05	256	26.8	238 14.0 47.1	271 32.1 38.4	34 41.2 40.4	277 40.6 30.5												
	06	271	29.3	253 13.6 N 6 48.4	286 32.7 S 7 37.7	49 43.9 S14 40.3	292 42.8 S10 30.4	Dubhe	194	08.6	N61	46.8							
	07	286	31.7	268 13.2 49.6	301 33.3 36.9	64 46.5 40.3	307 45.0 30.3	Elnath	278	30.9	N28	36.1							
	08	301	34.2	283 12.8 50.8	316 34.0 36.2	79 49.2 40.2	322 47.2 30.2	Eltanin	90	52.8	N51	29.1							
	09	316	36.7	298 12.4 52.1	331 34.6 35.4	94 51.8 40.2	337 49.3 30.1	Enif	34	01.5	N 9	50.9							
	10	331	39.1	313 12.0 53.3	346 35.2 34.6	109 54.4 40.1	352 51.5 30.0	Fomalhaut	15	40.1	S29	39.1							
11	346	41.6	328 11.7 54.6	1 35.9 33.9	124 57.1 40.0	7 53.7 29.9													
12	1	44.1	343 11.3 N 6 55.8	16 36.5 S 7 33.1	139 59.7 S14 40.0	22 55.9 S10 29.8	Gacrux	172	16.4	S57	05.0								
13	16	46.5	358 10.9 57.1	31 37.2 32.4	155 02.4 39.9	37 58.1 29.7	Gienah	176	06.8	S17	30.8								
14	31	49.0	13 10.5 58.3	46 37.8 31.6	170 05.0 39.9	53 00.3 29.6	Hadar	149	07.8	S60	20.7								
15	46	51.4	28 10.1 59.6	61 38.4 30.9	185 07.6 39.8	68 02.5 29.5	Hamal	328	17.3	N23	26.1								
16	61	53.9	43 09.7 7 00.8	76 39.1 30.1	200 10.3 39.7	83 04.7 29.4	Kaus Aust.	84	02.9	S34	23.1								
17	76	56.4	58 09.3 02.0	91 39.7 29.3	215 12.9 39.7	98 06.9 29.3													
18	91	58.8	73 08.9 N 7 03.3	106 40.4 S 7 28.6	230 15.6 S14 39.6	113 09.1 S10 29.2	Kochab	137	18.5	N74	10.5								
19	107	01.3	88 08.5 04.5	121 41.0 27.8	245 18.2 39.6	128 11.3 29.1	Markab	13	53.0	N15	10.4								
20	122	03.8	103 08.1 05.8	136 41.6 27.1	260 20.8 39.5	143 13.5 29.0	Menkar	314	30.3	N 4	03.9								
21	137	06.2	118 07.7 07.0	151 42.3 26.3	275 23.5 39.5	158 15.7 28.9	Menkent	148	24.2	S36	20.6								
22	152	08.7	133 07.4 08.3	166 42.9 25.6	290 26.1 39.4	173 17.9 28.8	Miaplacidus	221	42.0	S69	42.0								
23	167	11.2	148 07.0 09.5	181 43.6 24.8	305 28.8 39.3	188 20.1 28.7													
V I E R N E S	25 00	182	13.6	163 06.6 N 7 10.7	196 44.2 S 7 24.0	320 31.4 S14 39.3	203 22.3 S10 28.6	Mirfak	309	01.3	N49	50.6							
	01	197	16.1	178 06.2 12.0	211 44.9 23.3	335 34.1 39.2	218 24.5 28.5	Nunki	76	16.2	S26	18.1							
	02	212	18.5	193 05.8 13.2	226 45.5 22.5	350 36.7 39.2	233 26.7 28.4	Peacock	53	42.1	S56	45.0							
	03	227	21.0	208 05.4 14.5	241 46.1 21.8	5 39.3 39.1	248 28.9 28.3	Pollux	243	45.2	N28	02.3							
	04	242	23.5	223 05.0 15.7	256 46.8 21.0	20 42.0 39.0	263 31.1 28.2	Procyon	245	14.7	N 5	14.2							
	05	257	25.9	238 04.6 16.9	271 47.4 20.2	35 44.6 39.0	278 33.3 28.1												
	06	272	28.4	253 04.2 N 7 18.2	286 48.1 S 7 19.5	50 47.3 S14 38.9	293 35.5 S10 28.0	Rasalhague	96	19.7	N12	33.7							
	07	287	30.9	268 03.8 19.4	301 48.7 18.7	65 49.9 38.9	308 37.7 27.9	Regulus	207	58.5	N11	59.5							
	08	302	33.3	283 03.4 20.7	316 49.3 18.0	80 52.6 38.8	323 39.9 27.8	Rigel	281	26.0	S 8	12.7							
	09	317	35.8	298 03.0 21.9	331 50.0 17.2	95 55.2 38.7	338 42.1 27.7	Rigel Kent.	140	10.8	S60	48.6							
	10	332	38.3	313 02.6 23.1	346 50.6 16.5	110 57.9 38.7	353 44.3 27.6	Sabik	102	29.0	S15	43.1							
11	347	40.7	328 02.2 24.4	1 51.3 15.7	126 00.5 38.6	8 46.5 27.5													
12	2	43.2	343 01.8 N 7 25.6	16 51.9 S 7 14.9	141 03.2 S14 38.6	23 48.7 S10 27.4	Schedar	349	57.5	N56	30.4								
13	17	45.7	358 01.5 26.9	31 52.6 14.2	156 05.8 38.5	38 50.9 27.3	Shaula	96	41.4	S37	05.9								
14	32	48.1	13 01.1 28.1	46 53.2 13.4	171 08.4 38.4	53 53.0 27.2	Sirius	258	46.3	S16	42.8								
15	47	50.6	28 00.7 29.3	61 53.8 12.7	186 11.1 38.4	68 55.2 27.1	Spica	158	46.1	S11	08.1								
16	62	53.0	43 00.3 30.6	76 54.5 11.9	201 13.7 38.3	83 57.4 27.0	Suhail	223	02.7	S43	24.9					</			

T.M.G. (TU)	SOL		LUNA					Lat.	Crepúsculo		Orto Sol	Orto Luna			
	A.H.G.	Dec.	A.H.G.	v	Dec.	d	P.H.		Naut.	Civil		23	24	25	26
												h m	h m	h m	h m
M I E R C O L E S	23 00	178 18.1	N 0 50.9	57 12.6	9.7	N15 09.3	8.6 57.8	N 72	02 55	04 30	05 39	11 29	13 38	15 45	17 52
	01	193 18.3	51.8	71 41.3	9.7	15 00.7	8.6 57.8	N 70	03 18	04 40	05 42	11 55	13 52	15 49	17 49
	02	208 18.5	52.8	86 10.0	9.7	14 52.1	8.7 57.9	68	03 36	04 48	05 44	12 15	14 03	15 53	17 46
	03	223 18.7	53.8	100 38.7	9.7	14 43.4	8.9 57.9	66	03 50	04 54	05 46	12 31	14 12	15 57	17 43
	04	238 18.8	54.8	115 07.4	9.7	14 34.5	8.9 58.0	64	04 01	05 00	05 48	12 44	14 20	15 59	17 41
	05	253 19.0	55.8	129 36.1	9.7	14 25.6	9.0 58.0	62	04 10	05 05	05 49	12 55	14 27	16 02	17 39
	06	268 19.2	N 0 56.8	144 04.8	9.7	N14 16.6	9.1 58.0	60	04 18	05 09	05 50	13 04	14 32	16 04	17 38
	07	283 19.4	57.7	158 33.5	9.7	14 07.5	9.2 58.1	N 58	04 25	05 12	05 52	13 12	14 37	16 06	17 37
	08	298 19.6	58.7	173 02.2	9.6	13 58.3	9.3 58.1	56	04 31	05 15	05 53	13 19	14 41	16 07	17 35
	09	313 19.8	0 59.7	187 30.8	9.7	13 49.0	9.3 58.2	54	04 36	05 18	05 53	13 25	14 45	16 09	17 34
	10	328 20.0	1 00.7	201 59.5	9.7	13 39.7	9.5 58.2	52	04 40	05 20	05 54	13 31	14 49	16 10	17 33
	11	343 20.2	01.7	216 28.2	9.7	13 30.2	9.5 58.2	50	04 44	05 23	05 55	13 36	14 52	16 11	17 32
	12	358 20.4	N 1 02.7	230 56.9	9.6	N13 20.7	9.7 58.3	45	04 52	05 27	05 56	13 47	14 59	16 14	17 30
	13	13 20.5	03.7	245 25.5	9.7	13 11.0	9.7 58.3	N 40	04 59	05 31	05 58	13 56	15 05	16 16	17 29
	14	28 20.7	04.6	259 54.2	9.6	13 01.3	9.8 58.4	35	05 04	05 33	05 59	14 04	15 10	16 18	17 27
	15	43 20.9	05.6	274 22.8	9.7	12 51.5	9.9 58.4	30	05 08	05 36	05 59	14 11	15 14	16 19	17 26
	16	58 21.1	06.6	288 51.5	9.6	12 41.6	10.0 58.4	20	05 13	05 39	06 01	14 23	15 22	16 22	17 24
	17	73 21.3	07.6	303 20.1	9.7	12 31.6	10.1 58.5	N 10	05 17	05 41	06 02	14 33	15 28	16 25	17 22
	18	88 21.5	N 1 08.6	317 48.8	9.6	N12 21.5	10.1 58.5	0	05 18	05 42	06 03	14 42	15 35	16 27	17 21
	19	103 21.7	09.6	332 17.4	9.6	12 11.4	10.3 58.6	S 10	05 19	05 43	06 04	14 52	15 41	16 30	17 19
	20	118 21.9	10.6	346 46.0	9.6	12 01.1	10.3 58.6	20	05 17	05 43	06 05	15 02	15 47	16 32	17 18
	21	133 22.1	11.5	1 14.6	9.7	11 50.8	10.4 58.6	30	05 14	05 42	06 06	15 14	15 55	16 35	17 16
	22	148 22.3	12.5	15 43.3	9.6	11 40.4	10.5 58.7	35	05 11	05 41	06 06	15 21	15 59	16 37	17 15
23	163 22.4	13.5	30 11.9	9.6	11 29.9	10.5 58.7	40	05 08	05 40	06 07	15 28	16 04	16 39	17 13	
24 00	178 22.6	N 1 14.5	44 40.5	9.6	N11 19.4	10.7 58.8	45	05 04	05 38	06 07	15 37	16 10	16 41	17 12	
01	193 22.8	15.5	59 09.1	9.6	11 08.7	10.7 58.8	S 50	04 58	05 35	06 08	15 48	16 16	16 44	17 11	
02	208 23.0	16.5	73 37.7	9.5	10 58.0	10.8 58.8	52	04 55	05 34	06 08	15 52	16 19	16 45	17 10	
03	223 23.2	17.4	88 06.2	9.6	10 47.2	10.9 58.9	54	04 51	05 33	06 08	15 58	16 23	16 46	17 09	
04	238 23.4	18.4	102 34.8	9.6	10 36.3	10.9 58.9	56	04 47	05 31	06 08	16 04	16 27	16 48	17 08	
05	253 23.6	19.4	117 03.4	9.5	10 25.4	11.0 59.0	58	04 43	05 30	06 09	16 10	16 31	16 49	17 07	
06	268 23.8	N 1 20.4	131 31.9	9.6	N10 14.4	11.1 59.0	S 60	04 38	05 28	06 09	16 18	16 35	16 51	17 06	
07	283 24.0	21.4	146 00.5	9.5	10 03.3	11.2 59.0	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
08	298 24.1	22.4	160 29.0	9.6	9 52.1	11.2 59.1	Civil	Naut.	23	24	25	26			
09	313 24.3	23.4	174 57.6	9.5	9 40.9	11.4 59.1	N 72	18 36	19 46	21 24	05 47	05 27	05 12	04 58	
10	328 24.5	24.3	189 26.1	9.5	9 29.5	11.3 59.2	N 70	18 33	19 36	20 59	05 19	05 11	05 04	04 57	
11	343 24.7	25.3	203 54.6	9.5	9 18.2	11.5 59.2	68	18 31	19 27	20 41	04 58	04 58	04 58	04 57	
12	358 24.9	N 1 26.3	218 23.1	9.5	N 9 06.7	11.5 59.2	66	18 28	19 20	20 26	04 41	04 48	04 53	04 57	
13	13 25.1	27.3	232 51.6	9.5	8 55.2	11.6 59.3	64	18 27	19 15	20 14	04 27	04 39	04 48	04 56	
14	28 25.3	28.3	247 20.1	9.5	8 43.6	11.7 59.3	62	18 25	19 10	20 05	04 15	04 31	04 44	04 56	
15	43 25.5	29.3	261 48.6	9.4	8 31.9	11.7 59.4	60	18 24	19 06	19 57	04 05	04 24	04 41	04 56	
16	58 25.7	30.2	276 17.0	9.5	8 20.2	11.8 59.4	N 58	18 22	19 02	19 50	03 57	04 18	04 38	04 56	
17	73 25.9	31.2	290 45.5	9.4	8 08.4	11.8 59.4	56	18 21	18 59	19 44	03 49	04 13	04 35	04 55	
18	88 26.0	N 1 32.2	305 13.9	9.4	N 7 56.6	11.9 59.5	54	18 20	18 56	19 38	03 42	04 09	04 32	04 55	
19	103 26.2	33.2	319 42.3	9.5	7 44.7	12.0 59.5	52	18 20	18 53	19 34	03 36	04 04	04 30	04 55	
20	118 26.4	34.2	334 10.8	9.4	7 32.7	12.0 59.5	50	18 19	18 51	19 30	03 30	04 00	04 28	04 55	
21	133 26.6	35.2	348 39.2	9.3	7 20.7	12.1 59.6	45	18 17	18 47	19 21	03 18	03 52	04 24	04 55	
22	148 26.8	36.1	3 07.5	9.4	7 08.6	12.1 59.6	N 40	18 16	18 43	19 15	03 08	03 45	04 20	04 54	
23	163 27.0	37.1	17 35.9	9.4	6 56.5	12.2 59.6	35	18 15	18 40	19 10	02 59	03 39	04 16	04 54	
25 00	178 27.2	N 1 38.1	32 04.3	9.3	N 6 44.3	12.3 59.7	30	18 14	18 38	19 06	02 51	03 33	04 14	04 54	
01	193 27.4	39.1	46 32.6	9.3	6 32.0	12.3 59.7	20	18 12	18 34	19 00	02 38	03 24	04 08	04 53	
02	208 27.6	40.1	61 00.9	9.4	6 19.7	12.3 59.8	N 10	18 11	18 32	18 56	02 26	03 15	04 04	04 53	
03	223 27.8	41.1	75 29.3	9.3	6 07.4	12.4 59.8	0	18 10	18 30	18 54	02 15	03 07	04 00	04 53	
04	238 27.9	42.0	89 57.6	9.2	5 55.0	12.5 59.8	S 10	18 09	18 30	18 54	02 04	02 59	03 55	04 52	
05	253 28.1	43.0	104 25.8	9.3	5 42.5	12.5 59.9	20	18 08	18 30	18 55	01 52	02 51	03 50	04 52	
06	268 28.3	N 1 44.0	118 54.1	9.3	N 5 30.0	12.6 59.9	30	18 07	18 30	18 58	01 39	02 41	03 45	04 51	
07	283 28.5	45.0	133 22.4	9.2	5 17.4	12.6 59.9	35	18 06	18 31	19 01	01 31	02 35	03 42	04 51	
08	298 28.7	46.0	147 50.6	9.2	5 04.8	12.6 60.0	40	18 05	18 32	19 04	01 21	02 29	03 38	04 50	
09	313 28.9	46.9	162 18.8	9.2	4 52.2	12.7 60.0	45	18 05	18 34	19 08	01 11	02 21	03 34	04 50	
10	328 29.1	47.9	176 47.0	9.2	4 39.5	12.7 60.0	S 50	18 04	18 36	19 14	00 58	02 12	03 29	04 49	
11	343 29.3	48.9	191 15.2	9.1	4 26.8	12.8 60.1	52	18 04	18 37	19 17	00 52	02 07	03 27	04 49	
12	358 29.5	N 1 49.9	205 43.3	9.1	N 4 14.0	12.8 60.1	54	18 03	18 39	19 20	00 45	02 03	03 24	04 49	
13	13 29.7	50.9	220 11.4	9.2	4 01.2	12.8 60.1	56	18 03	18 40	19 24	00 37	01 57	03 21	04 48	
14	28 29.8	51.9	234 39.6	9.0	3 48.4	12.9 60.2	58	18 03	18 42	19 28	00 29	01 52	03 18	04 48	
15	43 30.0	52.8	249 07.6	9.1	3 35.5	13.0 60.2	S 60	18 02	18 44	19 33	00 19	01 45	03 15	04 48	
16	58 30.2	53.8	263 35.7	9.1	3 22.5	12.9 60.2	Día	SOL		LUNA					
17	73 30.4	54.8	278 03.8	9.0	3 09.6	13.0 60.3	E.T. (-)	Pas. Mer.	Pas. Mer.	Sup.	Inf.	Edad	Fase		
18	88 30.6	N 1 55.8	292 31.8	9.0	N 2 56.6	13.0 60.3	00 h	12 h	h m	h m	h m	d			
19	103 30.8	56.8	306 59.8	9.0	2 43.6	13.1 60.3	m s	m s	h m	h m	h m				
20	118 31.0	57.7	321 27.8	8.9	2 30.5	13.0 60.3	23	06 48	06 39	12 07	20 55	08 29	11	☉	
21	133 31.2	58.7	335 55.7	8.9	2 17.5	13.1 60.4	24	06 30	06 21						

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.4			SATURNO +1.0			ESTRELLAS																																			
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.																																					
26 00	183 12.8	162 57.1 N 7	40.4	196 59.6 S 7	05.8	321 34.9 S14	37.8	204 15.0 S10	26.2	Acomar	315 29.6 S40	19.9																																							
01	198 15.2	177 56.7	41.7	212 00.3	05.1	336 37.6	37.8	219 17.2	26.1	Achernar	335 38.0 S57	16.1																																							
02	213 17.7	192 56.3	42.9	227 00.9	04.3	351 40.2	37.7	234 19.4	26.0	Acrux	173 24.7 S63	04.2																																							
03	228 20.2	207 55.9	44.1	242 01.6	03.5	6 42.9	37.6	249 21.6	25.9	Adhara	255 23.8 S28	58.2																																							
04	243 22.6	222 55.5	45.4	257 02.2	02.8	21 45.5	37.6	264 23.8	25.8	Aldebaran	291 06.1 N16	29.8																																							
05	258 25.1	237 55.1	46.6	272 02.9	02.0	36 48.2	37.5	279 26.0	25.7																																										
06	273 27.5	252 54.7 N 7	47.8	287 03.5 S 7	01.3	51 50.8 S14	37.4	294 28.2 S10	25.6	Alioth	166 32.7 N55	59.3																																							
07	288 30.0	267 54.3	49.1	302 04.1	00.5	66 53.5	37.4	309 30.4	25.5	Alkaid	153 09.7 N49	20.3																																							
08	303 32.5	282 53.9	50.3	317 04.8	6 59.7	81 56.1	37.3	324 32.6	25.4	Al Na'ir	28 02.1 S46	59.2																																							
S 09	318 34.9	297 53.5	51.5	332 05.4	59.0	96 58.8	37.3	339 34.8	25.3	Alnilam	276 01.0 S 1	12.5																																							
A 10	333 37.4	312 53.1	52.8	347 06.1	58.2	112 01.4	37.2	354 37.0	25.2	Alphard	218 10.0 S 8	38.3																																							
B 11	348 39.9	327 52.7	54.0	2 06.7	57.4	127 04.1	37.1	9 39.2	25.1																																										
A 12	3 42.3	342 52.3 N 7	55.2	17 07.4 S 6	56.7	142 06.7 S14	37.1	24 41.4 S10	25.0	Alphecca	126 22.9 N26	43.8																																							
D 13	18 44.8	357 51.9	56.5	32 08.0	55.9	157 09.4	37.0	39 43.6	24.9	Alpheratz	357 58.8 N29	03.5																																							
O 14	33 47.3	12 51.5	57.7	47 08.7	55.2	172 12.1	36.9	54 45.8	24.8	Altair	62 22.4 N 8	51.1																																							
15	48 49.7	27 51.1	58.9	62 09.3	54.4	187 14.7	36.9	69 48.0	24.7	Ankaa	353 30.3 S42	20.3																																							
16	63 52.2	42 50.7	60.2	77 10.0	53.6	202 17.4	36.8	84 50.2	24.6	Antares	112 43.8 S26	25.1																																							
17	78 54.6	57 50.3	61.4	92 10.6	52.9	217 20.0	36.8	99 52.4	24.5																																										
18	93 57.1	72 49.9 N 8	62.6	107 11.2 S 6	52.1	232 22.7 S14	36.7	114 54.6 S10	24.4	Arcturus	146 08.5 N19	12.5																																							
19	108 59.6	87 49.5	63.8	122 11.9	51.3	247 25.3	36.6	129 56.8	24.3	Atria	107 58.3 S69	00.8																																							
20	124 02.0	102 49.1	65.1	137 12.5	50.6	262 28.0	36.6	144 59.0	24.2	Avior	234 23.6 S59	29.9																																							
21	139 04.5	117 48.7	66.3	152 13.2	49.8	277 30.6	36.5	160 01.2	24.1	Bellatrix	278 47.5 N 6	20.5																																							
22	154 07.0	132 48.3	67.5	167 13.8	49.1	292 33.3	36.4	175 03.4	24.0	Betelgeuse	271 16.9 N 7	24.2																																							
23	169 09.4	147 47.9	68.7	182 14.5	48.3	307 35.9	36.4	190 05.6	23.9																																										
27 00	184 11.9	162 47.5 N 8	10.0	197 15.1 S 6	47.5	322 38.6 S14	36.3	205 07.8 S10	23.8	Canopus	264 02.5 S52	42.0																																							
01	199 14.4	177 47.1	11.2	212 15.8	46.8	337 41.3	36.3	220 10.0	23.7	Capella	280 55.9 N45	59.6																																							
02	214 16.8	192 46.7	12.4	227 16.4	46.0	352 43.9	36.2	235 12.2	23.6	Deneb	49 41.5 N45	15.4																																							
03	229 19.3	207 46.3	13.7	242 17.1	45.2	7 46.6	36.1	250 14.4	23.5	Denebola	182 48.0 N14	36.0																																							
04	244 21.8	222 45.9	14.9	257 17.7	44.5	22 49.2	36.1	265 16.6	23.5	Diphda	349 10.6 S18	01.1																																							
05	259 24.2	237 45.5	16.1	272 18.4	43.7	37 51.9	36.0	280 18.8	23.4																																										
06	274 26.7	252 45.1 N 8	17.3	287 19.0 S 6	43.0	52 54.5 S14	35.9	295 21.0 S10	23.3	Dubhe	194 08.6 N61	46.9																																							
07	289 29.1	267 44.7	18.6	302 19.6	42.2	67 57.2	35.9	310 23.2	23.2	Elnath	278 30.9 N28	36.1																																							
D 08	304 31.6	282 44.3	19.8	317 20.3	41.4	82 59.9	35.8	325 25.4	23.1	Eltanin	90 52.8 N51	29.1																																							
O 09	319 34.1	297 43.9	21.0	332 20.9	40.7	98 02.5	35.7	340 27.6	23.0	Enif	34 01.5 N 9	50.9																																							
M 10	334 36.5	312 43.4	22.2	347 21.6	39.9	113 05.2	35.7	355 29.8	22.9	Fomalhaut	15 40.1 S29	39.1																																							
I 11	349 39.0	327 43.0	23.4	2 22.2	39.1	128 07.8	35.6	10 32.0	22.8																																										
N 12	4 41.5	342 42.6 N 8	24.7	17 22.9 S 6	38.4	143 10.5 S14	35.6	25 34.2 S10	22.7	Gacrux	172 16.4 S57	05.0																																							
G 13	19 43.9	357 42.2	25.9	32 23.5	37.6	158 13.1	35.5	40 36.4	22.6	Gienah	176 06.8 S17	30.8																																							
O 14	34 46.4	12 41.8	27.1	47 24.2	36.8	173 15.8	35.4	55 38.6	22.5	Hadar	149 07.8 S60	20.7																																							
15	49 48.9	27 41.4	28.3	62 24.8	36.1	188 18.5	35.4	70 40.8	22.4	Hamal	328 17.3 N23	26.1																																							
16	64 51.3	42 41.0	29.6	77 25.5	35.3	203 21.1	35.3	85 43.0	22.3	Kaus Aust.	84 02.9 S34	23.1																																							
17	79 53.8	57 40.6	30.8	92 26.1	34.6	218 23.8	35.2	100 45.2	22.2																																										
18	94 56.3	72 40.2 N 8	32.0	107 26.8 S 6	33.8	233 26.4 S14	35.2	115 47.4 S10	22.1	Kochab	137 18.5 N74	10.5																																							
19	109 58.7	87 39.8	33.2	122 27.4	33.0	248 29.1	35.1	130 49.6	22.0	Markab	13 53.0 N15	10.4																																							
20	125 01.2	102 39.4	34.4	137 28.1	32.3	263 31.8	35.0	145 51.8	21.9	Menkar	314 30.4 N 4	03.9																																							
21	140 03.6	117 39.0	35.7	152 28.7	31.5	278 34.4	35.0	160 54.0	21.8	Menkent	148 24.2 S36	20.6																																							
22	155 06.1	132 38.6	36.9	167 29.4	30.7	293 37.1	34.9	175 56.2	21.7	Miaplacidus	221 42.1 S69	42.0																																							
23	170 08.6	147 38.2	38.1	182 30.0	30.0	308 39.8	34.8	190 58.4	21.6																																										
28 00	185 11.0	162 37.7 N 8	39.3	197 30.7 S 6	29.2	323 42.4 S14	34.8	206 00.6 S10	21.5	Mirfak	309 01.4 N49	50.5																																							
01	200 13.5	177 37.3	40.5	212 31.3	28.4	338 45.1	34.7	221 02.8	21.4	Nunki	76 16.2 S26	18.1																																							
02	215 16.0	192 36.9	41.8	227 32.0	27.7	353 47.7	34.6	236 05.0	21.3	Peacock	53 42.1 S56	45.0																																							
03	230 18.4	207 36.5	43.0	242 32.6	26.9	8 50.4	34.6	251 07.2	21.2	Pollux	243 45.2 N28	02.3																																							
04	245 20.9	222 36.1	44.2	257 33.3	26.1	23 53.1	34.5	266 09.4	21.1	Procyon	245 14.7 N 5	14.2																																							
05	260 23.4	237 35.7	45.4	272 33.9	25.4	38 55.7	34.4	281 11.6	21.0																																										
06	275 25.8	252 35.3 N 8	46.6	287 34.6 S 6	24.6	53 58.4 S14	34.4	296 13.8 S10	20.9	Rasalhague	96 19.7 N12	33.7																																							
07	290 28.3	267 34.9	47.8	302 35.2	23.8	69 01.1	34.3	311 16.0	20.8	Regulus	207 58.5 N11	59.5																																							
08	305 30.7	282 34.5	49.1	317 35.9	23.1	84 03.7	34.2	326 18.2	20.7	Rigel	281 26.0 S 8	12.7																																							
L 09	320 33.2	297 34.1	50.3	332 36.5	22.3	99 06.4	34.2	341 20.4	20.6	Rigil Kent.	140 10.8 S60	48.6																																							
U 10	335 35.7	312 33.6	51.5	347 37.2	21.5	114 09.1	34.1	356 22.6	20.5	Sabik	102 28.9 S15	43.1																																							
N 11	350 38.1	327 33.2	52.7	2 37.8	20.8	129 11.7	34.0	11 24.8	20.4																																										
S 12	5 40.6	342 32.8 N 8	53.9	17 38.5 S 6	20.0	144 14.4 S14	34.0	26 27.0 S10	20.3	Schedar	349 57.6 N56	30.4																																							
13	20 43.1	357 32.4	55.1	32 39.1	19.2	159 17.0	33.9	41 29.2	20.2	Shaula	96 41.4 S37	05.9																																							
14	35 45.5	12 32.0	56.3	47 39.8	18.5	174 19.7	33.8	56 31.4	20.1	Sirius	258 46.4 S16	42.8																																							
15	50 48.0	27 31.6	57.6	62 40.4	17.7	189 22.4	33.8	71 33.6	20.0	Spica	158 46.1 S11	08.1																																							
16	65 50.5	42 31.2	58.8	77 41.1	16.9	204 25.0	33.7	86 35.8	19.9	Suhail	223 02.7 S43	24.9																																							
17	80 52.9	57 30.8	60.0	92 41.7	16.2	219 27.7	33.7	101 38.0	19.8																																										
18	95 55.4	72 30.3 N 9	61.2	107 42.4 S 6	15.4	234 30.4 S14	33.6	116 40.2 S10	19.7	Vega	80 48.7 N38	46.5																																							
19	110 57.9	87 29.9	62.4	122 43.0	14.6	249 33.0	33.5	131 42.4	19.6	Zuben'ubi	137 21.1 S16	01.2																																							
20	126 00.3	102 29.5	63.6	137 43.7	13.9	264 35.7	33.4	146 44.6	19.5																																										
21	141 02.8	117 29.1	64.8	152 44.3	13.1	279 38.4	33.4	161 46.8	19.4																																										
22	156 05.2	132 28.7	66.0	167 45.0	12.3	294 41.0	33.3	176 49.0	19.3																																										
23	171 07.7	147 28.3	67.2	182 45.6	11.6	309 43.7	33.2	191 51.2	19.2																																										
<table border="0" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%; text-align: center;">h m</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td>Pas. Mer.</td> <td>11 41.3</td> <td>v -0.4</td> <td>d 1.2</td> <td>v 0.6</td> <td>d 0.8</td> <td>v 2.7</td> <td>d 0.1</td> <td>v 2.2</td> <td>d 0.1</td> <td></td> <td></td> <td></td> </tr> </table>														h m												Pas. Mer.	11 41.3	v -0.4	d 1.2	v 0.6	d 0.8	v 2.7	d 0.1	v 2.2	d 0.1																
	h m																																																		
Pas. Mer.	11 41.3	v -0.4	d 1.2	v 0.6	d 0.8	v 2.7	d 0.1	v 2.2	d 0.1																																										
<table border="0" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">A. H. S.</td> <td style="text-align: center;">Pas.</td> <td style="text-align: center;">Mer.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td style="text-align: center;">o /</td> <td style="text-align: center;">h m</td> <td style="text-align: center;">o m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> </tr></table>																												A. H. S.	Pas.	Mer.											o /	h m	o m								
		A. H. S.	Pas.	Mer.																																															
		o /	h m	o m																																															

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	26	27	28	29
	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	h m	h m	h m	h m	h m	h m	h m	
26 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	178 31.8	N 2 01.7	19 19.4	8.9	N 1 38.1	13.2	60.5	N 72	02 31	04 13	05 24	17 52	20 05	22 27	25 27
	193 31.9	02.7	33 47.3	8.8	1 24.9	13.2	60.5	N 70	02 59	04 25	05 28	17 49	19 52	22 00	24 17
	208 32.1	03.6	48 15.1	8.8	1 11.7	13.2	60.5	68	03 20	04 34	05 32	17 46	19 41	21 40	23 40
	223 32.3	04.6	62 42.9	8.8	0 58.5	13.2	60.5	66	03 36	04 42	05 35	17 43	19 33	21 24	23 14
	238 32.5	05.6	77 10.7	8.7	0 45.3	13.3	60.6	64	03 48	04 49	05 37	17 41	19 25	21 11	22 54
	253 32.7	06.6	91 38.4	8.7	0 32.0	13.3	60.6	62	03 59	04 54	05 39	17 39	19 19	21 00	22 38
	268 32.9	N 2 07.6	106 06.1	8.7	N 0 18.7	13.2	60.6	60	04 08	04 59	05 41	17 38	19 14	20 51	22 25
	283 33.1	08.5	120 33.8	8.6	N 0 05.5	13.3	60.6	N 58	04 15	05 03	05 43	17 37	19 09	20 43	22 14
	298 33.3	09.5	135 01.4	8.7	S 0 07.8	13.3	60.7	56	04 22	05 07	05 45	17 35	19 05	20 36	22 04
	313 33.5	10.5	149 29.1	8.5	0 21.1	13.3	60.7	54	04 28	05 10	05 46	17 34	19 02	20 29	21 55
	328 33.7	11.5	163 56.6	8.6	0 34.4	13.3	60.7	52	04 33	05 13	05 47	17 33	18 58	20 24	21 47
	343 33.8	12.5	178 24.2	8.5	0 47.7	13.4	60.7	50	04 37	05 16	05 48	17 32	18 55	20 19	21 40
	358 34.0	N 2 13.4	192 51.7	8.5	S 1 01.1	13.3	60.8	45	04 47	05 21	05 51	17 30	18 49	20 08	21 25
	13 34.2	14.4	207 19.2	8.5	1 14.4	13.3	60.8	N 40	04 54	05 26	05 53	17 29	18 43	19 59	21 13
	28 34.4	15.4	221 46.7	8.4	1 27.7	13.3	60.8	35	04 59	05 29	05 54	17 27	18 39	19 51	21 02
	43 34.6	16.4	236 14.1	8.4	1 41.0	13.4	60.8	30	05 04	05 32	05 56	17 26	18 35	19 44	20 53
	58 34.8	17.4	250 41.5	8.4	1 54.4	13.3	60.8	20	05 11	05 36	05 58	17 24	18 28	19 32	20 38
	73 35.0	18.3	265 08.9	8.3	2 07.7	13.3	60.9	N 10	05 15	05 39	06 00	17 22	18 22	19 22	20 24
	88 35.2	N 2 19.3	279 36.2	8.3	S 2 21.0	13.3	60.9	0	05 17	05 41	06 02	17 21	18 16	19 13	20 12
	103 35.4	20.3	294 03.5	8.3	2 34.3	13.3	60.9	S 10	05 19	05 43	06 04	17 19	18 10	19 03	19 59
	118 35.6	21.3	308 30.8	8.2	2 47.6	13.3	60.9	20	05 18	05 44	06 06	17 18	18 04	18 54	19 46
	133 35.8	22.3	322 58.0	8.2	3 00.9	13.3	60.9	30	05 16	05 44	06 07	17 16	17 58	18 42	19 31
	148 35.9	23.2	337 25.2	8.1	3 14.2	13.3	61.0	35	05 14	05 43	06 08	17 15	17 54	18 36	19 22
163 36.1	24.2	351 52.3	8.1	3 27.5	13.2	61.0	40	05 11	05 43	06 10	17 13	17 50	18 29	19 12	
178 36.3	N 2 25.2	6 19.4	8.1	S 3 40.7	13.3	61.0	45	05 07	05 42	06 11	17 12	17 45	18 20	19 00	
193 36.5	26.2	20 46.5	8.0	3 54.0	13.2	61.0	S 50	05 02	05 40	06 12	17 11	17 39	18 10	18 46	
208 36.7	27.2	35 13.5	8.0	4 07.2	13.2	61.0	52	05 00	05 39	06 13	17 10	17 36	18 05	18 40	
223 36.9	28.1	49 40.5	8.0	4 20.4	13.2	61.0	54	04 57	05 38	06 14	17 09	17 33	18 00	18 33	
238 37.1	29.1	64 07.5	7.9	4 33.6	13.2	61.1	56	04 54	05 37	06 15	17 08	17 30	17 55	18 25	
253 37.3	30.1	78 34.4	7.9	4 46.8	13.1	61.1	58	04 50	05 36	06 15	17 07	17 26	17 48	18 16	
268 37.5	N 2 31.1	93 01.3	7.8	S 4 59.9	13.1	61.1	S 60	04 46	05 35	06 16	17 06	17 22	17 41	18 06	
283 37.7	32.1	107 28.1	7.8	5 13.0	13.1	61.1									
298 37.8	33.0	121 54.9	7.8	5 26.1	13.0	61.1	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
313 38.0	34.0	136 21.7	7.7	5 39.1	13.0	61.1			Civil	Náut.	26	27	28	29	
328 38.2	35.0	150 48.4	7.7	5 52.1	13.0	61.1									
343 38.4	36.0	165 15.1	7.6	6 05.1	13.0	61.2	N 72	18 50	20 02	21 47	04 58	04 44	04 28	04 06	
358 38.6	N 2 36.9	179 41.7	7.6	S 6 18.1	12.9	61.2	N 70	18 45	19 49	21 17	04 57	04 51	04 43	04 34	
13 38.8	37.9	194 08.3	7.5	6 31.0	12.9	61.2	68	18 41	19 39	20 55	04 57	04 56	04 56	04 56	
28 39.0	38.9	208 34.8	7.5	6 43.9	12.8	61.2	66	18 38	19 31	20 39	04 57	05 01	05 06	05 13	
43 39.2	39.9	223 01.3	7.5	6 56.7	12.8	61.2	64	18 35	19 24	20 25	04 56	05 05	05 14	05 27	
58 39.4	40.9	237 27.8	7.4	7 09.5	12.8	61.2	62	18 33	19 18	20 14	04 56	05 08	05 22	05 39	
73 39.6	41.8	251 54.2	7.4	7 22.3	12.7	61.2	60	18 31	19 13	20 05	04 56	05 11	05 28	05 49	
88 39.8	N 2 42.8	266 20.6	7.3	S 7 35.0	12.6	61.2	N 58	18 29	19 09	19 57	04 56	05 14	05 34	05 58	
103 39.9	43.8	280 46.9	7.3	7 47.6	12.6	61.2	56	18 28	19 05	19 51	04 55	05 16	05 39	06 06	
118 40.1	44.8	295 13.2	7.3	8 00.2	12.6	61.2	54	18 26	19 02	19 45	04 55	05 18	05 44	06 13	
133 40.3	45.7	309 39.5	7.2	8 12.8	12.5	61.2	52	18 25	18 59	19 39	04 55	05 20	05 48	06 19	
148 40.5	46.7	324 05.7	7.1	8 25.3	12.4	61.2	50	18 24	18 56	19 35	04 55	05 22	05 52	06 25	
163 40.7	47.7	338 31.8	7.1	8 37.7	12.4	61.2	45	18 21	18 50	19 25	04 55	05 26	06 00	06 37	
178 40.9	N 2 48.7	352 57.9	7.1	S 8 50.1	12.4	61.2	N 40	18 19	18 46	19 18	04 54	05 29	06 07	06 48	
193 41.1	49.7	7 24.0	7.0	9 02.5	12.2	61.2	35	18 17	18 42	19 12	04 54	05 32	06 13	06 56	
208 41.3	50.6	21 50.0	7.0	9 14.7	12.3	61.3	30	18 15	18 39	19 07	04 54	05 35	06 18	07 04	
223 41.5	51.6	36 16.0	7.0	9 27.0	12.1	61.3	20	18 13	18 35	19 01	04 53	05 39	06 27	07 18	
238 41.7	52.6	50 42.0	6.8	9 39.1	12.1	61.3	N 10	18 11	18 32	18 56	04 53	05 43	06 35	07 29	
253 41.8	53.6	65 07.8	6.9	9 51.2	12.0	61.3	0	18 09	18 29	18 53	04 53	05 47	06 43	07 40	
268 42.0	N 2 54.5	79 33.7	6.8	S 10 03.2	12.0	61.3	S 10	18 07	18 28	18 52	04 52	05 50	06 50	07 52	
283 42.2	55.5	93 59.5	6.7	10 15.2	11.9	61.3	20	18 05	18 27	18 52	04 52	05 54	06 58	08 03	
298 42.4	56.5	108 25.2	6.8	10 27.1	11.8	61.3	30	18 03	18 27	18 54	04 51	05 59	07 08	08 17	
313 42.6	57.5	122 51.0	6.6	10 38.9	11.7	61.3	35	18 02	18 27	18 56	04 51	06 01	07 13	08 25	
328 42.8	58.4	137 16.6	6.7	10 50.6	11.7	61.3	40	18 01	18 28	18 59	04 50	06 04	07 19	08 34	
343 43.0	2 59.4	151 42.3	6.5	11 02.3	11.6	61.3	45	17 59	18 28	19 02	04 50	06 07	07 26	08 44	
358 43.2	N 3 00.4	166 07.8	6.6	S 11 13.9	11.5	61.2	S 50	17 58	18 30	19 07	04 49	06 11	07 35	08 57	
13 43.4	01.4	180 33.4	6.5	11 25.4	11.5	61.2	52	17 57	18 30	19 10	04 49	06 13	07 39	09 03	
28 43.6	02.3	194 58.9	6.4	11 36.9	11.3	61.2	54	17 56	18 31	19 12	04 49	06 15	07 43	09 10	
43 43.7	03.3	209 24.3	6.4	11 48.2	11.3	61.2	56	17 55	18 32	19 16	04 48	06 17	07 48	09 17	
58 43.9	04.3	223 49.7	6.4	11 59.5	11.2	61.2	58	17 54	18 33	19 19	04 48	06 20	07 53	09 26	
73 44.1	05.3	238 15.1	6.3	12 10.7	11.1	61.2	S 60	17 53	18 35	19 23	04 48	06 23	07 59	09 35	
88 44.3	N 3 06.2	252 40.4	6.3	S 12 21.8	11.0	61.2									
103 44.5	07.2	267 05.7	6.2	12 32.8	10.9	61.2									
118 44.7	08.2	281 30.9	6.2	12 43.7	10.9	61.2									
133 44.9	09.2	295 56.1	6.1	12 54.6	10.7	61.2									
148 45.1	10.1	310 21.2	6.1	13 05.3	10.7	61.2									

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.4			SATURNO +1.0			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.		
29 00	186 10.2	162 27.9 N 9	08.4	197 46.3 S 6	10.8	324 46.4 S14	33.2	206 53.5 S10	19.1	Acamar	315 29.6 S40	19.9						
01	201 12.6	177 27.4	09.7	212 46.9	10.1	339 49.1	33.1	221 55.7	19.0	Achernar	335 38.0 S57	16.0						
02	216 15.1	192 27.0	10.9	227 47.6	09.3	354 51.7	33.1	236 57.9	18.9	Acrux	173 24.7 S63	04.2						
03	231 17.6	207 26.6	12.1	242 48.2	08.5	9 54.4	33.0	252 00.1	18.8	Adhara	255 23.8 S28	58.2						
04	246 20.0	222 26.2	13.3	257 48.9	07.8	24 57.1	32.9	267 02.3	18.8	Aldebaran	291 06.1 N16	29.8						
05	261 22.5	237 25.8	14.5	272 49.5	07.0	39 59.7	32.9	282 04.5	18.7									
06	276 25.0	252 25.4 N 9	15.7	287 50.2 S 6	06.2	55 02.4 S14	32.8	297 06.7 S10	18.6	Alioth	166 32.7 N55	59.3						
07	291 27.4	267 25.0	16.9	302 50.8	05.5	70 05.1	32.7	312 08.9	18.5	Alkaid	153 09.7 N49	20.3						
08	306 29.9	282 24.5	18.1	317 51.5	04.7	85 07.7	32.7	327 11.1	18.4	Al Na'ir	28 02.1 S46	59.2						
M 09	321 32.4	297 24.1	19.3	332 52.1	03.9	100 10.4	32.6	342 13.3	18.3	Anilam	276 01.1 S 1	12.5						
A 10	336 34.8	312 23.7	20.5	347 52.8	03.1	115 13.1	32.5	357 15.5	18.2	Alphard	218 10.0 S 8	38.3						
R 11	351 37.3	327 23.3	21.7	2 53.5	02.4	130 15.8	32.5	12 17.7	18.1									
T 12	6 39.7	342 22.9 N 9	23.0	17 54.1 S 6	01.6	145 18.4 S14	32.4	27 19.9 S10	18.0	Alphecca	126 22.9 N26	43.8						
E 13	21 42.2	357 22.4	24.2	32 54.8	00.8	160 21.1	32.3	42 22.1	17.9	Alpheratz	357 58.8 N29	03.5						
S 14	36 44.7	12 22.0	25.4	47 55.4	6 00.1	175 23.8	32.3	57 24.3	17.8	Altair	62 22.4 N 8	51.1						
15	51 47.1	27 21.6	26.6	62 56.1	5 59.3	190 26.4	32.2	72 26.5	17.7	Ankaa	353 30.3 S42	20.2						
16	66 49.6	42 21.2	27.8	77 56.7	58.5	205 29.1	32.1	87 28.7	17.6	Antares	112 43.7 S26	25.1						
17	81 52.1	57 20.8	29.0	92 57.4	57.8	220 31.8	32.0	102 30.9	17.5									
18	96 54.5	72 20.3 N 9	30.2	107 58.0 S 5	57.0	235 34.5 S14	32.0	117 33.1 S10	17.4	Arcturus	146 08.5 N19	12.5						
19	111 57.0	87 19.9	31.4	122 58.7	56.2	250 37.1	31.9	132 35.3	17.3	Atria	107 58.3 S69	00.8						
20	126 59.5	102 19.5	32.6	137 59.3	55.5	265 39.8	31.8	147 37.5	17.2	Avior	234 23.6 S59	29.9						
21	142 01.9	117 19.1	33.8	153 00.0	54.7	280 42.5	31.8	162 39.7	17.1	Bellatrix	278 47.5 N 6	20.5						
22	157 04.4	132 18.7	35.0	168 00.6	53.9	295 45.1	31.7	177 41.9	17.0	Betelgeuse	271 16.9 N 7	24.2						
23	172 06.8	147 18.2	36.2	183 01.3	53.1	310 47.8	31.6	192 44.1	16.9									
30 00	187 09.3	162 17.8 N 9	37.4	198 01.9 S 5	52.4	325 50.5 S14	31.6	207 46.3 S10	16.8	Canopus	264 02.5 S52	42.0						
01	202 11.8	177 17.4	38.6	213 02.6	51.6	340 53.2	31.5	222 48.5	16.7	Capella	280 55.9 N45	59.6						
02	217 14.2	192 17.0	39.8	228 03.3	50.8	355 55.8	31.4	237 50.7	16.6	Deneb	49 41.5 N45	15.4						
03	232 16.7	207 16.6	41.0	243 03.9	50.1	10 58.5	31.4	252 52.9	16.5	Denebola	182 48.0 N14	36.0						
04	247 19.2	222 16.1	42.2	258 04.6	49.3	26 01.2	31.3	267 55.1	16.4	Diphda	349 10.6 S18	01.1						
05	262 21.6	237 15.7	43.4	273 05.2	48.5	41 03.9	31.2	282 57.4	16.3									
06	277 24.1	252 15.3 N 9	44.6	288 05.9 S 5	47.8	56 06.5 S14	31.2	297 59.6 S10	16.2	Dubhe	194 08.6 N61	46.9						
07	292 26.6	267 14.9	45.8	303 06.5	47.0	71 09.2	31.1	313 01.8	16.1	Elnath	278 30.9 N28	36.1						
08	307 29.0	282 14.4	47.0	318 07.2	46.2	86 11.9	31.0	328 04.0	16.0	Eltanin	90 52.7 N51	29.1						
09	322 31.5	297 14.0	48.2	333 07.8	45.5	101 14.6	30.9	343 06.2	15.9	Enif	34 01.5 N 9	50.9						
M 10	337 34.0	312 13.6	49.4	348 08.5	44.7	116 17.2	30.9	358 08.4	15.8	Fomalhaut	15 40.1 S29	39.1						
R 11	352 36.4	327 13.2	50.6	3 09.2	43.9	131 19.9	30.8	13 10.6	15.7									
T 12	7 38.9	342 12.7 N 9	51.8	18 09.8 S 5	43.1	146 22.6 S14	30.7	28 12.8 S10	15.6	Gacrux	172 16.4 S57	05.0						
E 13	22 41.3	357 12.3	53.0	33 10.5	42.4	161 25.3	30.7	43 15.0	15.6	Gienah	176 06.8 S17	30.8						
S 14	37 43.8	12 11.9	54.2	48 11.1	41.6	176 28.0	30.6	58 17.2	15.5	Hadar	149 07.8 S60	20.7						
15	52 46.3	27 11.5	55.4	63 11.8	40.8	191 30.6	30.5	73 19.4	15.4	Hamal	328 17.3 N23	26.1						
16	67 48.7	42 11.0	56.6	78 12.4	40.1	206 33.3	30.5	88 21.6	15.3	Kaus Aust.	84 02.8 S34	23.1						
17	82 51.2	57 10.6	57.8	93 13.1	39.3	221 36.0	30.4	103 23.8	15.2									
18	97 53.7	72 10.2 N 9	59.0	108 13.7 S 5	38.5	236 38.7 S14	30.3	118 26.0 S10	15.1	Kochab	137 18.5 N74	10.5						
19	112 56.1	87 09.8	10 00.2	123 14.4	37.7	251 41.3	30.2	133 28.2	15.0	Markab	13 53.0 N15	10.4						
20	127 58.6	102 09.3	01.4	138 15.1	37.0	266 44.0	30.2	148 30.4	14.9	Menkar	314 30.4 N 4	03.9						
21	143 01.1	117 08.9	02.6	153 15.7	36.2	281 46.7	30.1	163 32.6	14.8	Menkent	148 24.2 S36	20.6						
22	158 03.5	132 08.5	03.7	168 16.4	35.4	296 49.4	30.0	178 34.8	14.7	Miaplacidus	221 42.1 S69	42.0						
23	173 06.0	147 08.1	04.9	183 17.0	34.7	311 52.1	30.0	193 37.0	14.6									
31 00	188 08.5	162 07.6 N10	06.1	198 17.7 S 5	33.9	326 54.7 S14	29.9	208 39.2 S10	14.5	Mirfak	309 01.4 N49	50.5						
01	203 10.9	177 07.2	07.3	213 18.3	33.1	341 57.4	29.8	223 41.4	14.4	Nunki	76 16.1 S26	18.1						
02	218 13.4	192 06.8	08.5	228 19.0	32.3	357 00.1	29.8	238 43.7	14.3	Peacock	53 42.1 S56	45.0						
03	233 15.8	207 06.3	09.7	243 19.7	31.6	12 02.8	29.7	253 45.9	14.2	Pollux	243 45.2 N28	02.3						
04	248 18.3	222 05.9	10.9	258 20.3	30.8	27 05.5	29.6	268 48.1	14.1	Procyon	245 14.7 N 5	14.2						
05	263 20.8	237 05.5	12.1	273 21.0	30.0	42 08.1	29.5	283 50.3	14.0									
06	278 23.2	252 05.0 N10	13.3	288 21.6 S 5	29.3	57 10.8 S14	29.5	298 52.5 S10	13.9	Rasalhague	96 19.7 N12	33.7						
07	293 25.7	267 04.6	14.5	303 22.3	28.5	72 13.5	29.4	313 54.7	13.8	Regulus	207 58.5 N11	59.5						
08	308 28.2	282 04.2	15.7	318 22.9	27.7	87 16.2	29.3	328 56.9	13.7	Rigel	281 26.0 S 8	12.7						
J 09	323 30.6	297 03.8	16.8	333 23.6	26.9	102 18.9	29.3	343 59.1	13.6	Rigel Kent.	140 10.8 S60	48.6						
U 10	338 33.1	312 03.3	18.0	348 24.3	26.2	117 21.6	29.2	359 01.3	13.5	Sabik	102 28.9 S15	43.1						
E 11	353 35.6	327 02.9	19.2	3 24.9	25.4	132 24.2	29.1	14 03.5	13.4									
V 12	8 38.0	342 02.5 N10	20.4	18 25.6 S 5	24.6	147 26.9 S14	29.0	29 05.7 S10	13.3	Schedar	349 57.5 N56	30.4						
E 13	23 40.5	357 02.0	21.6	33 26.2	23.9	162 29.6	29.0	44 07.9	13.2	Shaula	96 41.3 S37	05.9						
S 14	38 42.9	12 01.6	22.8	48 26.9	23.1	177 32.3	28.9	59 10.1	13.1	Sirius	258 46.4 S16	42.8						
15	53 45.4	27 01.2	24.0	63 27.5	22.3	192 35.0	28.8	74 12.3	13.0	Spica	158 46.1 S11	08.1						
16	68 47.9	42 00.7	25.2	78 28.2	21.5	207 37.7	28.8	89 14.5	13.0	Suhail	223 02.8 S43	24.9						
17	83 50.3	57 00.3	26.3	93 28.9	20.8	222 40.3	28.7	104 16.7	12.9									
18	98 52.8	71 59.9 N10	27.5	108 29.5 S 5	20.0	237 43.0 S14	28.6	119 19.0 S10	12.8	Vega	80 48.7 N38	46.5						
19	113 55.3	86 59.4	28.7	123 30.2	19.2	252 45.7	28.5	134 21.2	12.7	Zuben'ubi	137 21.1 S16	01.2						
20	128 57.7	101 59.0	29.9	138 30.8	18.5	267 48.4	28.5	149 23.4	12.6									
21	144 00.2	116 58.6	31.1	153 31.5	17.7	282 51.1	2											

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	29		30		31		1	
												h	m	h	m	h	m	h	m
29	00	178 45.5	N 3 12.1	339 11.4	6.0	S13 26.5	10.5	61.2	N 72	02 03	03 55	05 08	25 27	01 27	■	■			
	01	193 45.7	13.1	353 36.4	6.0	13 37.0	10.3	61.2	N 70	02 38	04 09	05 14	24 17	00 17	■	■			
	02	208 45.9	14.0	8 01.4	5.9	13 47.3	10.3	61.1	68	03 03	04 21	05 19	23 40	25 36	01 36	03 08			
	03	223 46.0	15.0	22 26.3	6.0	13 57.6	10.2	61.1	66	03 21	04 30	05 23	23 14	24 57	00 57	02 18			
	04	238 46.2	16.0	36 51.3	5.8	14 07.8	10.0	61.1	64	03 35	04 38	05 27	22 54	24 29	00 29	01 46			
	05	253 46.4	17.0	51 16.1	5.8	14 17.8	10.0	61.1	62	03 47	04 44	05 30	22 38	24 08	00 08	01 22			
	06	268 46.6	N 3 17.9	65 40.9	5.8	S14 27.8	9.8	61.1	60	03 57	04 50	05 32	22 25	23 51	25 03	01 03			
	07	283 46.8	18.9	80 05.7	5.8	14 37.6	9.8	61.1	N 58	04 06	04 55	05 35	22 14	23 37	24 48	00 48			
	08	298 47.0	19.9	94 30.5	5.7	14 47.4	9.6	61.1	56	04 13	04 59	05 37	22 04	23 25	24 34	00 34			
	M 09	313 47.2	20.9	108 55.2	5.7	14 57.0	9.6	61.1	54	04 20	05 03	05 39	21 55	23 14	24 23	00 23			
	A 10	328 47.4	21.8	123 19.9	5.6	15 06.6	9.4	61.0	52	04 25	05 06	05 40	21 47	23 05	24 13	00 13			
	R 11	343 47.5	22.8	137 44.5	5.6	15 16.0	9.3	61.0	50	04 30	05 09	05 42	21 40	22 56	24 04	00 04			
	T 12	358 47.7	N 3 23.8	152 09.1	5.6	S15 25.3	9.2	61.0	45	04 41	05 16	05 45	21 25	22 38	23 44	24 41			
	E 13	13 47.9	24.8	166 33.7	5.5	15 34.5	9.1	61.0	N 40	04 49	05 21	05 48	21 13	22 24	23 29	24 26			
	S 14	28 48.1	25.7	180 58.2	5.5	15 43.6	8.9	61.0	35	04 55	05 25	05 50	21 02	22 11	23 15	24 13			
	15	43 48.3	26.7	195 22.7	5.5	15 52.5	8.9	61.0	30	05 00	05 28	05 52	20 53	22 01	23 04	24 02			
	16	58 48.5	27.7	209 47.2	5.4	16 01.4	8.7	60.9	20	05 08	05 34	05 56	20 38	21 42	22 44	23 42			
	17	73 48.7	28.7	224 11.6	5.4	16 10.1	8.6	60.9	N 10	05 13	05 38	05 59	20 24	21 26	22 27	23 25			
	18	88 48.9	N 3 29.6	238 36.0	5.4	S16 18.7	8.5	60.9	0	05 17	05 41	06 01	20 12	21 11	22 11	23 09			
	19	103 49.1	30.6	253 00.4	5.4	16 27.2	8.4	60.9	S 10	05 18	05 43	06 04	19 59	20 57	21 55	22 54			
	20	118 49.2	31.6	267 24.8	5.3	16 35.6	8.3	60.9	20	05 19	05 44	06 06	19 46	20 41	21 38	22 37			
	21	133 49.4	32.5	281 49.1	5.3	16 43.9	8.1	60.9	30	05 18	05 45	06 09	19 31	20 23	21 19	22 17			
	22	148 49.6	33.5	296 13.4	5.3	16 52.0	8.0	60.8	35	05 16	05 46	06 11	19 22	20 12	21 07	22 06			
23	163 49.8	34.5	310 37.7	5.2	17 00.0	7.9	60.8	40	05 14	05 46	06 13	19 12	20 00	20 54	21 53				
30	00	178 50.0	N 3 35.5	325 01.9	5.2	S17 07.9	7.7	60.8	45	05 11	05 45	06 15	19 00	19 46	20 39	21 38			
01	193 50.2	36.4	339 26.1	5.2	17 15.6	7.7	60.8	S 50	05 07	05 45	06 17	18 46	19 29	20 20	21 19				
02	208 50.4	37.4	353 50.3	5.2	17 23.3	7.5	60.7	52	05 05	05 44	06 18	18 40	19 21	20 11	21 10				
03	223 50.6	38.4	8 14.5	5.2	17 30.8	7.3	60.7	54	05 03	05 44	06 19	18 33	19 12	20 01	21 00				
04	238 50.8	39.3	22 38.7	5.1	17 38.1	7.3	60.7	56	05 00	05 44	06 21	18 25	19 02	19 50	20 49				
05	253 50.9	40.3	37 02.8	5.1	17 45.4	7.1	60.7	58	04 57	05 43	06 22	18 16	18 51	19 37	20 36				
06	268 51.1	N 3 41.3	51 26.9	5.1	S17 52.5	7.0	60.7	S 60	04 53	05 42	06 24	18 06	18 38	19 22	20 21				
07	283 51.3	42.3	65 51.0	5.1	17 59.5	6.8	60.6												
08	298 51.5	43.2	80 15.1	5.1	18 06.3	6.7	60.6	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna							
M 09	313 51.7	44.2	94 39.2	5.0	18 13.0	6.6	60.6			Civil	Náut.	29	30	31	1				
A 10	328 51.9	45.2	109 03.2	5.0	18 19.6	6.4	60.6	N 72	19 04	20 18	22 14	04 06	03 10	■	■				
R 11	343 52.1	46.1	123 27.2	5.1	18 26.0	6.4	60.5	N 70	18 58	20 03	21 36	04 34	04 21	■	■				
T 12	358 52.3	N 3 47.1	137 51.3	5.0	S18 32.4	6.1	60.5	68	18 52	19 51	21 11	04 56	04 59	05 09	05 41				
E 13	13 52.4	48.1	152 15.3	5.0	18 38.5	6.1	60.5	66	18 52	19 51	21 11	04 56	04 59	05 09	05 41				
S 14	28 52.6	49.1	166 39.3	5.0	18 44.6	5.9	60.5	64	18 48	19 42	20 52	05 13	05 26	05 49	06 32				
15	43 52.8	50.0	181 03.3	5.0	18 50.5	5.7	60.4	62	18 44	19 34	20 37	05 27	05 46	06 16	07 04				
16	58 53.0	51.0	195 27.3	5.0	18 56.2	5.7	60.4	60	18 41	19 27	20 24	05 39	06 03	06 38	07 27				
17	73 53.2	52.0	209 51.3	4.9	19 01.9	5.5	60.4	N 58	18 38	19 21	20 14	05 49	06 17	06 55	07 46				
18	88 53.4	N 3 52.9	224 15.2	5.0	S19 07.4	5.3	60.3	56	18 36	19 16	20 05	05 58	06 29	07 10	08 02				
19	103 53.6	53.9	238 39.2	5.0	19 12.7	5.2	60.3	54	18 34	19 11	19 58	06 06	06 40	07 22	08 15				
20	118 53.8	54.9	253 03.2	4.9	19 17.9	5.1	60.3	52	18 32	19 08	19 51	06 13	06 49	07 33	08 27				
21	133 54.0	55.8	267 27.1	5.0	19 23.0	4.9	60.3	50	18 30	19 04	19 45	06 19	06 57	07 43	08 37				
22	148 54.1	56.8	281 51.1	5.0	19 27.9	4.8	60.2	45	18 28	19 01	19 40	06 25	07 04	07 51	08 46				
23	163 54.3	57.8	296 15.1	5.0	19 32.7	4.7	60.2	N 40	18 25	18 54	19 30	06 37	07 20	08 10	09 06				
31	00	178 54.5	N 3 58.8	310 39.1	4.9	S19 37.4	4.5	60.2	35	18 22	18 49	19 21	06 48	07 33	08 25	09 21			
01	193 54.7	3 59.7	325 03.0	5.0	19 41.9	4.3	60.1	30	18 19	18 45	19 15	06 56	07 45	08 38	09 35				
02	208 54.9	4 00.7	339 27.0	5.0	19 46.2	4.3	60.1	20	18 17	18 41	19 09	07 04	07 54	08 49	09 46				
03	223 55.1	01.7	353 51.0	5.0	19 50.5	4.0	60.1	N 10	18 14	18 36	19 02	07 18	08 11	09 08	10 06				
04	238 55.3	02.6	8 15.0	5.0	19 54.5	4.0	60.0	0	18 11	18 32	18 56	07 29	08 26	09 24	10 23				
05	253 55.5	03.6	22 39.0	5.0	19 58.5	3.8	60.0	S 10	18 08	18 28	18 53	07 40	08 40	09 40	10 39				
06	268 55.7	N 4 04.6	37 03.0	5.1	S20 02.3	3.6	60.0	20	18 05	18 26	18 50	07 52	08 54	09 55	10 55				
07	283 55.8	05.5	51 27.1	5.0	20 05.9	3.5	60.0	30	18 02	18 24	18 50	08 03	09 09	10 12	11 12				
08	298 56.0	06.5	65 51.1	5.1	20 09.4	3.4	59.9	35	17 59	18 23	18 51	08 17	09 26	10 31	11 32				
M 09	313 56.2	07.5	80 15.2	5.1	20 12.8	3.2	59.9	40	17 58	18 23	18 52	08 25	09 35	10 42	11 43				
A 10	328 56.4	08.4	94 39.3	5.1	20 16.0	3.1	59.9	45	17 56	18 23	18 54	08 34	09 47	10 55	11 56				
R 11	343 56.6	09.4	109 03.4	5.1	20 19.1	3.0	59.8	S 50	17 54	18 23	18 57	08 44	10 00	11 10	12 12				
T 12	358 56.8	N 4 10.4	123 27.5	5.1	S20 22.1	2.8	59.8	52	17 51	18 23	19 01	08 57	10 16	11 29	12 31				
E 13	13 57.0	11.3	137 51.6	5.2	20 24.9	2.6	59.8	54	17 50	18 24	19 03	09 03	10 24	11 37	12 40				
S 14	28 57.2	12.3	152 15.8	5.2	20 27.5	2.5	59.7	56	17 49	18 24	19 05	09 10	10 33	11 47	12 50				
15	43 57.3	13.3	166 40.0	5.2	20 30.0	2.4	59.7	58	17 4										

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.4			SATURNO +1.0			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		Nombre	A. H. S.	Dec.
100	189 07.6	161 57.3 N10	34.6	198 33.5 S 5	15.4		327 59.1 S14	28.2		209 32.2 S10	12.2		Acomar	315 29.6 S40	19.9			
01	204 10.1	176 56.8	35.8	213 34.1	14.6		343 01.8	28.1		224 34.4	12.1		Achernar	335 38.0 S57	16.0			
02	219 12.5	191 56.4	37.0	228 34.8	13.8		358 04.5	28.0		239 36.6	12.0		Acrux	173 24.7 S63	04.2			
03	234 15.0	206 55.9	38.2	243 35.5	13.0		13 07.2	28.0		254 38.8	11.9		Adhara	255 23.8 S28	58.2			
04	249 17.4	221 55.5	39.3	258 36.1	12.3		28 09.9	27.9		269 41.0	11.8		Aldebaran	291 06.1 N16	29.8			
05	264 19.9	236 55.1	40.5	273 36.8	11.5		43 12.6	27.8		284 43.2	11.7							
06	279 22.4	251 54.6 N10	41.7	288 37.4 S 5	10.7		58 15.3 S14	27.8		299 45.4 S10	11.6		Alioth	166 32.7 N55	59.3			
07	294 24.8	266 54.2	42.9	303 38.1	09.9		73 17.9	27.7		314 47.6	11.5		Alkaid	153 09.7 N49	20.3			
08	309 27.3	281 53.8	44.1	318 38.8	09.2		88 20.6	27.6		329 49.9	11.4		Al Na'ir	28 02.1 S46	59.2			
09	324 29.8	296 53.3	45.2	333 39.4	08.4		103 23.3	27.5		344 52.1	11.3		Alnilam	276 01.1 S 1	12.5			
10	339 32.2	311 52.9	46.4	348 40.1	07.6		118 26.0	27.5		359 54.3	11.2		Alphard	218 10.0 S 8	38.3			
11	354 34.7	326 52.4	47.6	3 40.7	06.9		133 28.7	27.4		14 56.5	11.1							
12	9 37.2	341 52.0 N10	48.8	18 41.4 S 5	06.1		148 31.4 S14	27.3		29 58.7 S10	11.0		Alphecca	126 22.9 N26	43.8			
13	24 39.6	356 51.6	50.0	33 42.1	05.3		163 34.1	27.2		45 00.9	10.9		Alpheratz	357 58.7 N29	03.5			
14	39 42.1	11 51.1	51.1	48 42.7	04.5		178 36.8	27.2		60 03.1	10.9		Altair	62 22.3 N 8	51.1			
15	54 44.6	26 50.7	52.3	63 43.4	03.8		193 39.5	27.1		75 05.3	10.8		Ankaa	353 30.3 S42	20.2			
16	69 47.0	41 50.2	53.5	78 44.0	03.0		208 42.1	27.0		90 07.5	10.7		Antares	112 43.7 S26	25.1			
17	84 49.5	56 49.8	54.7	93 44.7	02.2		223 44.8	27.0		105 09.7	10.6							
18	99 51.9	71 49.4 N10	55.8	108 45.4 S 5	01.4		238 47.5 S14	26.9		120 11.9 S10	10.5		Arcturus	146 08.5 N19	12.5			
19	114 54.4	86 48.9	57.0	123 46.0	00.7		253 50.2	26.8		135 14.1	10.4		Atria	107 58.2 S69	00.8			
20	129 56.9	101 48.5	58.2	138 46.7	4 59.9		268 52.9	26.7		150 16.4	10.3		Avior	234 23.6 S59	29.9			
21	144 59.3	116 48.0	59.3	153 47.3	59.1		283 55.6	26.7		165 18.6	10.2		Bellatrix	278 47.6 N 6	20.5			
22	160 01.8	131 47.6	60.5	168 48.0	58.3		298 58.3	26.6		180 20.8	10.1		Betelgeuse	271 16.9 N 7	24.2			
23	175 04.3	146 47.2	61.7	183 48.7	57.6		314 01.0	26.5		195 23.0	10.0							
200	190 06.7	161 46.7 N11	02.9	198 49.3 S 4	56.8		329 03.7 S14	26.4		210 25.2 S10	09.9		Canopus	264 02.6 S52	42.0			
01	205 09.2	176 46.3	04.0	213 50.0	56.0		344 06.4	26.4		225 27.4	09.8		Capella	280 55.9 N45	59.6			
02	220 11.7	191 45.8	05.2	228 50.7	55.2		359 09.1	26.3		240 29.6	09.7		Deneb	49 41.5 N45	15.4			
03	235 14.1	206 45.4	06.4	243 51.3	54.5		14 11.7	26.2		255 31.8	09.6		Denebola	182 48.0 N14	36.0			
04	250 16.6	221 44.9	07.5	258 52.0	53.7		29 14.4	26.1		270 34.0	09.5		Diphda	349 10.6 S18	01.1			
05	265 19.0	236 44.5	08.7	273 52.6	52.9		44 17.1	26.1		285 36.2	09.4							
06	280 21.5	251 44.0 N11	09.9	288 53.3 S 4	52.1		59 19.8 S14	26.0		300 38.4 S10	09.3		Dubhe	194 08.6 N61	46.9			
07	295 24.0	266 43.6	11.1	303 54.0	51.4		74 22.5	25.9		315 40.7	09.2		Elnath	278 30.9 N28	36.1			
08	310 26.4	281 43.2	12.2	318 54.6	50.6		89 25.2	25.8		330 42.9	09.1		Eltanin	90 52.7 N51	29.1			
09	325 28.9	296 42.7	13.4	333 55.3	49.8		104 27.9	25.8		345 45.1	09.0		Enif	34 01.4 N 9	50.9			
10	340 31.4	311 42.3	14.6	348 55.9	49.0		119 30.6	25.7		0 47.3	09.0		Fomalhaut	15 40.1 S29	39.1			
11	355 33.8	326 41.8	15.7	3 56.6	48.3		134 33.3	25.6		15 49.5	08.9							
12	10 36.3	341 41.4 N11	16.9	18 57.3 S 4	47.5		149 36.0 S14	25.5		30 51.7 S10	08.8		Gacrux	172 16.4 S57	05.0			
13	25 38.8	356 40.9	18.1	33 57.9	46.7		164 38.7	25.5		45 53.9	08.7		Gienah	176 06.8 S17	30.8			
14	40 41.2	11 40.5	19.2	48 58.6	45.9		179 41.4	25.4		60 56.1	08.6		Hadar	149 07.7 S60	20.8			
15	55 43.7	26 40.0	20.4	63 59.3	45.2		194 44.1	25.3		75 58.3	08.5		Hamal	328 17.3 N23	26.1			
16	70 46.2	41 39.6	21.5	78 59.9	44.4		209 46.8	25.2		91 00.5	08.4		Kaus Aust.	84 02.8 S34	23.1			
17	85 48.6	56 39.1	22.7	94 00.6	43.6		224 49.5	25.2		106 02.7	08.3							
18	100 51.1	71 38.7 N11	23.9	109 01.3 S 4	42.8		239 52.2 S14	25.1		121 05.0 S10	08.2		Kochab	137 18.4 N74	10.5			
19	115 53.5	86 38.2	25.0	124 01.9	42.1		254 54.9	25.0		136 07.2	08.1		Markab	13 52.9 N15	10.4			
20	130 56.0	101 37.8	26.2	139 02.6	41.3		269 57.6	24.9		151 09.4	08.0		Menkar	314 30.4 N 4	03.9			
21	145 58.5	116 37.3	27.4	154 03.2	40.5		285 00.3	24.9		166 11.6	07.9		Menkent	148 24.2 S36	20.6			
22	161 00.9	131 36.9	28.5	169 03.9	39.7		300 03.0	24.8		181 13.8	07.8		Miaplacidus	221 42.1 S69	42.0			
23	176 03.4	146 36.4	29.7	184 04.6	39.0		315 05.6	24.7		196 16.0	07.7							
300	191 05.9	161 36.0 N11	30.8	199 05.2 S 4	38.2		330 08.3 S14	24.6		211 18.2 S10	07.6		Mirfak	309 01.4 N49	50.5			
01	206 08.3	176 35.5	32.0	214 05.9	37.4		345 11.0	24.6		226 20.4	07.5		Nunki	76 16.1 S26	18.1			
02	221 10.8	191 35.1	33.2	229 06.6	36.6		0 13.7	24.5		241 22.6	07.4		Peacock	53 42.0 S56	44.9			
03	236 13.3	206 34.6	34.3	244 07.2	35.9		15 16.4	24.4		256 24.9	07.3		Pollux	243 45.2 N28	02.3			
04	251 15.7	221 34.2	35.5	259 07.9	35.1		30 19.1	24.3		271 27.1	07.3		Procyon	245 14.7 N 5	14.2			
05	266 18.2	236 33.7	36.6	274 08.6	34.3		45 21.8	24.3		286 29.3	07.2							
06	281 20.7	251 33.3 N11	37.8	289 09.2 S 4	33.5		60 24.5 S14	24.2		301 31.5 S10	07.1		Rasalhague	96 19.7 N12	33.7			
07	296 23.1	266 32.8	39.0	304 09.9	32.8		75 27.2	24.1		316 33.7	07.0		Regulus	207 58.5 N11	59.5			
08	311 25.6	281 32.4	40.1	319 10.5	32.0		90 29.9	24.0		331 35.9	06.9		Rigel	281 26.0 S 8	12.7			
09	326 28.0	296 31.9	41.3	334 11.2	31.2		105 32.6	24.0		346 38.1	06.8		Rigil Kent.	140 10.8 S60	48.6			
10	341 30.5	311 31.5	42.4	349 11.9	30.4		120 35.3	23.9		1 40.3	06.7		Sabik	102 28.9 S15	43.1			
11	356 33.0	326 31.0	43.6	4 12.5	29.7		135 38.0	23.8		16 42.5	06.6							
12	11 35.4	341 30.5 N11	44.7	19 13.2 S 4	28.9		150 40.7 S14	23.7		31 44.8 S10	06.5		Schedar	349 57.5 N56	30.3			
13	26 37.9	356 30.1	45.9	34 13.9	28.1		165 43.4	23.7		46 47.0	06.4		Shaula	96 41.3 S37	05.9			
14	41 40.4	11 29.6	47.0	49 14.5	27.3		180 46.1	23.6		61 49.2	06.3		Sirius	258 46.4 S16	42.8			
15	56 42.8	26 29.2	48.2	64 15.2	26.6		195 48.8	23.5		76 51.4	06.2		Spica	158 46.1 S11	08.1			

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Náut.		Civil	1	2	3	4	
d h	o / ' / "	o / ' / "	o / ' / "	' / "	o / ' / "	' / "	' / "	h m	h m	h m	h m	h m	h m	h m		
V I E R N E S	1 00	178 59.0	N 4 22.0	296 18.9	5.5	S20 46.2	1.1	59.4	N 72	01 29	03 37	04 52	■	■	■	05 20
	01	193 59.2	22.9	310 43.4	5.5	20 47.3	0.9	59.4	N 70	02 15	03 53	05 00	■	■	04 55	04 39
	02	208 59.4	23.9	325 07.9	5.6	20 48.2	0.9	59.3	68	02 44	04 07	05 06	03 08	03 53	04 06	04 10
	03	223 59.6	24.9	339 32.5	5.6	20 49.1	0.6	59.3	66	03 05	04 17	05 11	02 18	03 08	03 35	03 49
	04	238 59.8	25.8	353 57.1	5.6	20 49.7	0.6	59.2	64	03 22	04 26	05 16	01 46	02 39	03 11	03 31
	05	254 00.0	26.8	8 21.7	5.7	20 50.3	0.4	59.2	62	03 35	04 34	05 20	01 22	02 16	02 53	03 17
	06	269 00.2	N 4 27.8	22 46.4	5.8	S20 50.7	0.2	59.2	60	03 47	04 40	05 23	01 03	01 58	02 37	03 05
	07	284 00.4	28.7	37 11.2	5.7	20 50.9	0.1	59.1	N 58	03 56	04 46	05 26	00 48	01 43	02 24	02 54
	08	299 00.5	29.7	51 35.9	5.9	20 51.0	0.0	59.1	56	04 04	04 51	05 29	00 34	01 30	02 13	02 45
	09	314 00.7	30.7	66 00.8	5.8	20 51.0	0.2	59.1	54	04 11	04 55	05 31	00 23	01 19	02 03	02 37
	10	329 00.9	31.6	80 25.6	6.0	20 50.8	0.3	59.0	52	04 18	04 59	05 33	00 13	01 09	01 54	02 30
	11	344 01.1	32.6	94 50.6	5.9	20 50.5	0.4	59.0	50	04 23	05 02	05 35	00 04	01 00	01 46	02 23
	12	359 01.3	N 4 33.6	109 15.5	6.1	S20 50.1	0.5	59.0	45	04 35	05 10	05 40	24 41	00 41	01 29	02 09
	13	14 01.5	34.5	123 40.6	6.1	20 49.6	0.7	58.9	N 40	04 43	05 16	05 43	24 26	00 26	01 15	01 57
	14	29 01.7	35.5	138 05.7	6.1	20 48.9	0.9	58.9	35	04 51	05 21	05 46	24 13	00 13	01 03	01 47
	15	44 01.9	36.5	152 30.8	6.2	20 48.0	0.9	58.9	30	04 56	05 25	05 49	24 02	00 02	00 53	01 38
	16	59 02.0	37.4	166 56.0	6.2	20 47.1	1.1	58.8	20	05 05	05 31	05 53	23 42	24 35	00 35	01 23
	17	74 02.2	38.4	181 21.2	6.3	20 46.0	1.3	58.8	N 10	05 11	05 36	05 57	23 25	24 20	00 20	01 10
	18	89 02.4	N 4 39.4	195 46.5	6.4	S20 44.7	1.3	58.8	0	05 16	05 40	06 00	23 09	24 05	00 05	00 57
	19	104 02.6	40.3	210 11.9	6.4	20 43.4	1.5	58.7	S 10	05 18	05 43	06 04	22 54	23 50	24 45	00 45
	20	119 02.8	41.3	224 37.3	6.5	20 41.9	1.7	58.7	20	05 20	05 45	06 07	22 37	23 35	24 31	00 31
	21	134 03.0	42.2	239 02.8	6.5	20 40.2	1.7	58.6	30	05 19	05 47	06 11	22 17	23 17	24 16	00 16
	22	149 03.2	43.2	253 28.3	6.6	20 38.5	1.9	58.6	35	05 19	05 48	06 13	22 06	23 06	24 07	00 07
23	164 03.3	44.2	267 53.9	6.7	20 36.6	2.0	58.6	40	05 17	05 49	06 16	21 53	22 54	23 57	24 59	
								45	05 15	05 49	06 18	21 38	22 40	23 45	24 50	
S A B A D O	2 00	179 03.5	N 4 45.1	282 19.6	6.7	S20 34.6	2.1	58.5	S 50	05 12	05 49	06 22	21 19	22 23	23 30	24 38
	01	194 03.7	46.1	296 45.3	6.8	20 32.5	2.3	58.5	52	05 10	05 50	06 23	21 10	22 15	23 23	24 33
	02	209 03.9	47.1	311 11.1	6.9	20 30.2	2.4	58.5	54	05 08	05 50	06 25	21 00	22 06	23 16	24 27
	03	224 04.1	48.0	325 37.0	6.9	20 27.8	2.5	58.4	56	05 06	05 49	06 27	20 49	21 56	23 07	24 21
	04	239 04.3	49.0	340 02.9	7.0	20 25.3	2.6	58.4	58	05 04	05 49	06 29	20 36	21 44	22 58	24 13
	05	254 04.5	49.9	354 28.9	7.0	20 22.7	2.8	58.4	S 60	05 01	05 49	06 31	20 21	21 30	22 47	24 05
	06	269 04.6	N 4 50.9	8 54.9	7.1	S20 19.9	2.9	58.3								
	07	284 04.8	51.9	23 21.0	7.2	20 17.0	3.0	58.3	Lat.	Ocaso Sol	Crepúsculo Civil	Náut.	Ocaso Luna			
	08	299 05.0	52.8	37 47.2	7.3	20 14.0	3.1	58.2					1	2	3	4
	09	314 05.2	53.8	52 13.5	7.3	20 10.9	3.2	58.2					h m	h m	h m	h m
	10	329 05.4	54.8	66 39.8	7.4	20 07.7	3.4	58.2	N 72	19 18	20 35	22 52	■	■	■	09 13
	11	344 05.6	55.7	81 06.2	7.5	20 04.3	3.5	58.1	N 70	19 10	20 17	21 59	■	■	07 50	09 54
	12	359 05.8	N 4 56.7	95 32.7	7.5	S20 00.8	3.6	58.1	68	19 03	20 03	21 28	05 41	06 58	08 38	10 21
	13	14 06.0	57.6	109 59.2	7.7	19 57.2	3.7	58.1	66	18 58	19 52	21 06	06 32	07 42	09 09	10 42
	14	29 06.1	58.6	124 25.9	7.6	19 53.5	3.8	58.0	64	18 53	19 43	20 48	07 04	08 11	09 32	10 58
	15	44 06.3	4 59.6	138 52.5	7.8	19 49.7	3.9	58.0	62	18 49	19 35	20 34	07 27	08 33	09 50	11 12
	16	59 06.5	5 00.5	153 19.3	7.8	19 45.8	4.1	58.0	60	18 46	19 29	20 23	07 46	08 51	10 05	11 23
	17	74 06.7	01.5	167 46.1	8.0	19 41.7	4.1	57.9	N 58	18 42	19 23	20 13	08 02	09 06	10 18	11 33
	18	89 06.9	N 5 02.4	182 13.1	7.9	S19 37.6	4.3	57.9	56	18 40	19 18	20 05	08 15	09 19	10 29	11 42
	19	104 07.1	03.4	196 40.0	8.1	19 33.3	4.4	57.9	54	18 37	19 13	19 58	08 27	09 30	10 38	11 50
	20	119 07.2	04.4	211 07.1	8.1	19 28.9	4.5	57.8	52	18 35	19 09	19 51	08 37	09 39	10 47	11 56
	21	134 07.4	05.3	225 34.2	8.2	19 24.4	4.6	57.8	50	18 33	19 06	19 46	08 46	09 48	10 55	12 03
	22	149 07.6	06.3	240 01.4	8.3	19 19.8	4.7	57.8	45	18 29	18 58	19 34	09 06	10 07	11 11	12 16
23	164 07.8	07.2	254 28.7	8.4	19 15.1	4.8	57.7	N 40	18 25	18 52	19 25	09 21	10 22	11 24	12 27	
D O M I N G O	3 00	179 08.0	N 5 08.2	268 56.1	8.4	S19 10.3	4.9	57.7	35	18 22	18 47	19 17	09 35	10 35	11 35	12 36
	01	194 08.2	09.2	283 23.5	8.6	19 05.4	5.0	57.6	30	18 19	18 43	19 11	09 46	10 46	11 45	12 44
	02	209 08.4	10.1	297 51.1	8.6	19 00.4	5.2	57.6	20	18 14	18 37	19 02	10 06	11 05	12 02	12 58
	03	224 08.5	11.1	312 18.7	8.6	18 55.2	5.2	57.6	N 10	18 11	18 32	18 56	10 23	11 21	12 17	13 10
	04	239 08.7	12.0	326 46.3	8.8	18 50.0	5.3	57.5	0	18 07	18 28	18 52	10 39	11 36	12 30	13 21
	05	254 08.9	13.0	341 14.1	8.8	18 44.7	5.4	57.5	S 10	18 03	18 24	18 49	10 55	11 52	12 44	13 33
	06	269 09.1	N 5 13.9	355 41.9	8.9	S18 39.3	5.6	57.5	20	18 00	18 22	18 47	11 12	12 08	12 59	13 44
	07	284 09.3	14.9	10 09.8	9.0	18 33.7	5.6	57.4	30	17 56	18 20	18 47	11 32	12 27	13 15	13 58
	08	299 09.5	15.9	24 37.8	9.1	18 28.1	5.7	57.4	35	17 53	18 19	18 48	11 43	12 37	13 25	14 06
	09	314 09.6	16.8	39 05.9	9.1	18 22.4	5.8	57.4	40	17 51	18 18	18 49	11 56	12 50	13 36	14 15
	10	329 09.8	17.8	53 34.0	9.3	18 16.6	5.9	57.3	45	17 48	18 17	18 51	12 12	13 04	13 48	14 25
	11	344 10.0	18.7	68 02.3	9.3	18 10.7	6.1	57.3	S 50	17 45	18 17	18 54	12 31	13 22	14 04	14 37
	12	359 10.2	N 5 19.7	82 30.6	9.3	S18 04.6	6.1	57.3	52	17 43	18 17	18 56	12 40	13 31	14 11	14 43
	13	14 10.4	20.7	96 58.9	9.5	17 58.5	6.1	57.2	54	17 41	18 17	18 58	12 50	13 40	14 19	14 50
	14	29 10.6	21.6	111 27.4	9.5	17 52.4	6.3	57.2	56	17 40	18 17	19 00	13 01	13 51	14 28	14 57
	15	44 10.8	22.6	125 55.9	9.7	17 46.1	6.4	57.2	58	17 37	18 17	19 02	13 14	14 03	14 38	15 05
	16	59 10.9	23.5	140 24.6	9.6	17 39.7	6.5	57.1	S 60	17 35	18 17	19 05	13 30	14 16	14 50	15 13
	17	74 11.1	24.5	154 53.2	9.8	17 33.2	6.5	57.1								
	18	89 11.3	N 5 25.4	169 22.0	9.9	S17 26.7	6.6	57.1								

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.4			SATURNO +1.0			ESTRELLAS									
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.										
LUNES	4 00	192 05.0	161 25.1 N11	58.5	199 21.2 S 4	19.6	331 13.2 S14	22.8	212 11.3 S10	05.4	Acamar	315 29.6 S40	19.8												
	01	207 07.5	176 24.6 11	59.7	214 21.9	18.8	346 15.9	22.7	227 13.5	05.3	Achernar	335 38.0 S57	16.0												
	02	222 09.9	191 24.1 12	00.8	229 22.5	18.0	1 18.6	22.7	242 15.7	05.2	Acrux	173 24.7 S63	04.2												
	03	237 12.4	206 23.7 ..	02.0	244 23.2 ..	17.2	16 21.3 ..	22.6	257 17.9 ..	05.1	Adhara	255 23.8 S28	58.2												
	04	252 14.9	221 23.2	03.1	259 23.9	16.5	31 24.0	22.5	272 20.2	05.0	Aldebaran	291 06.1 N16	29.8												
	05	267 17.3	236 22.7	04.3	274 24.5	15.7	46 26.7	22.4	287 22.4	04.9															
	06	282 19.8	251 22.3 N12	05.4	289 25.2 S 4	14.9	61 29.4 S14	22.4	302 24.6 S10	04.8	Alioth	166 32.7 N55	59.3												
	07	297 22.3	266 21.8	06.6	304 25.9	14.1	76 32.1	22.3	317 26.8	04.7	Alkaid	153 09.7 N49	20.3												
	08	312 24.7	281 21.4	07.7	319 26.5	13.3	91 34.8	22.2	332 29.0	04.6	Al Na'ir	28 02.0 S46	59.2												
	09	327 27.2	296 20.9 ..	08.9	334 27.2 ..	12.6	106 37.5 ..	22.1	347 31.2 ..	04.5	Alnilam	276 01.1 S 1	12.5												
	10	342 29.6	311 20.4	10.0	349 27.9	11.8	121 40.2	22.1	2 33.4	04.4	Alphard	218 10.0 S 8	38.3												
	11	357 32.1	326 20.0	11.1	4 28.5	11.0	136 42.9	22.0	17 35.6	04.4															
	12	12 34.6	341 19.5 N12	12.3	19 29.2 S 4	10.2	151 45.6 S14	21.9	32 37.9 S10	04.3	Alphecca	126 22.9 N26	43.8												
	13	27 37.0	356 19.0	13.4	34 29.9	09.5	166 48.3	21.8	47 40.1	04.2	Alpheratz	357 58.7 N29	03.5												
	14	42 39.5	11 18.6	14.6	49 30.5	08.7	181 51.0	21.7	62 42.3	04.1	Altair	62 22.3 N 8	51.1												
	15	57 42.0	26 18.1 ..	15.7	64 31.2 ..	07.9	196 53.7 ..	21.7	77 44.5 ..	04.0	Ankaa	353 30.3 S42	20.2												
	16	72 44.4	41 17.7	16.9	79 31.9	07.1	211 56.4	21.6	92 46.7	03.9	Antares	112 43.7 S26	25.2												
	17	87 46.9	56 17.2	18.0	94 32.5	06.3	226 59.1	21.5	107 48.9	03.8															
	18	102 49.4	71 16.7 N12	19.1	109 33.2 S 4	05.6	242 01.8 S14	21.4	122 51.1 S10	03.7	Arcturus	146 08.5 N19	12.5												
	19	117 51.8	86 16.3	20.3	124 33.9	04.8	257 04.5	21.4	137 53.4	03.6	Atria	107 58.2 S69	00.8												
	20	132 54.3	101 15.8	21.4	139 34.5	04.0	272 07.3	21.3	152 55.6	03.5	Avior	234 23.7 S59	29.9												
	21	147 56.8	116 15.3 ..	22.6	154 35.2 ..	03.2	287 10.0 ..	21.2	167 57.8 ..	03.4	Bellatrix	278 47.6 N 6	20.5												
	22	162 59.2	131 14.9	23.7	169 35.9	02.5	302 12.7	21.1	183 00.0	03.3	Betelgeuse	271 16.9 N 7	24.2												
23	178 01.7	146 14.4	24.8	184 36.5	01.7	317 15.4	21.0	198 02.2	03.2																
MARTES	5 00	193 04.1	161 13.9 N12	26.0	199 37.2 S 4	00.9	332 18.1 S14	21.0	213 04.4 S10	03.1	Canopus	264 02.6 S52	42.0												
	01	208 06.6	176 13.5	27.1	214 37.9 4	00.1	347 20.8	20.9	228 06.6	03.1	Capella	280 55.9 N45	59.6												
	02	223 09.1	191 13.0	28.2	229 38.5 3	59.3	2 23.5	20.8	243 08.8	03.0	Deneb	49 41.4 N45	15.4												
	03	238 11.5	206 12.5 ..	29.4	244 39.2 ..	58.6	17 26.2 ..	20.7	258 11.1 ..	02.9	Denebola	182 48.0 N14	36.0												
	04	253 14.0	221 12.0	30.5	259 39.9	57.8	32 28.9	20.6	273 13.3	02.8	Diphda	349 10.6 S18	01.1												
	05	268 16.5	236 11.6	31.6	274 40.5	57.0	47 31.6	20.6	288 15.5	02.7															
	06	283 18.9	251 11.1 N12	32.8	289 41.2 S 3	56.2	62 34.3 S14	20.5	303 17.7 S10	02.6	Dubhe	194 08.6 N61	46.9												
	07	298 21.4	266 10.6	33.9	304 41.9	55.5	77 37.0	20.4	318 19.9	02.5	Elnath	278 30.9 N28	36.1												
	08	313 23.9	281 10.2	35.0	319 42.5	54.7	92 39.8	20.3	333 22.1	02.4	Eltanin	90 52.7 N51	29.1												
	09	328 26.3	296 09.7 ..	36.2	334 43.2 ..	53.9	107 42.5 ..	20.3	348 24.4 ..	02.3	Enif	34 01.4 N 9	50.9												
	10	343 28.8	311 09.2	37.3	349 43.9	53.1	122 45.2	20.2	3 26.6	02.2	Fomalhaut	15 40.1 S29	39.1												
	11	358 31.2	326 08.7	38.4	4 44.5	52.3	137 47.9	20.1	18 28.8	02.1															
	12	13 33.7	341 08.3 N12	39.6	19 45.2 S 3	51.6	152 50.6 S14	20.0	33 31.0 S10	02.0	Gacrux	172 16.4 S57	05.1												
	13	28 36.2	356 07.8	40.7	34 45.9	50.8	167 53.3	19.9	48 33.2	01.9	Gienah	176 06.8 S17	30.8												
	14	43 38.6	11 07.3	41.8	49 46.6	50.0	182 56.0	19.9	63 35.4	01.8	Hadar	149 07.7 S60	20.8												
	15	58 41.1	26 06.9 ..	43.0	64 47.2 ..	49.2	197 58.7 ..	19.8	78 37.6 ..	01.8	Hamal	328 17.3 N23	26.1												
	16	73 43.6	41 06.4	44.1	79 47.9	48.4	213 01.4	19.7	93 39.9	01.7	Kaus Aust.	84 02.8 S34	23.1												
	17	88 46.0	56 05.9	45.2	94 48.6	47.7	228 04.2	19.6	108 42.1	01.6															
	18	103 48.5	71 05.4 N12	46.3	109 49.2 S 3	46.9	243 06.9 S14	19.5	123 44.3 S10	01.5	Kochab	137 18.4 N74	10.5												
	19	118 51.0	86 05.0	47.5	124 49.9	46.1	258 09.6	19.5	138 46.5	01.4	Markab	13 52.9 N15	10.4												
	20	133 53.4	101 04.5	48.6	139 50.6	45.3	273 12.3	19.4	153 48.7	01.3	Menkar	314 30.4 N 4	03.9												
	21	148 55.9	116 04.0 ..	49.7	154 51.2 ..	44.6	288 15.0 ..	19.3	168 50.9 ..	01.2	Menkent	148 24.2 S36	20.6												
	22	163 58.4	131 03.5	50.8	169 51.9	43.8	303 17.7	19.2	183 53.2	01.1	Miaplacidus	221 42.2 S69	42.0												
23	179 00.8	146 03.1	52.0	184 52.6	43.0	318 20.4	19.1	198 55.4	01.0																
MIÉRCOLES	6 00	194 03.3	161 02.6 N12	53.1	199 53.2 S 3	42.2	333 23.1 S14	19.1	213 57.6 S10	00.9	Mirfak	309 01.4 N49	50.5												
	01	209 05.7	176 02.1	54.2	214 53.9	41.4	348 25.9	19.0	228 59.8	00.8	Nunki	76 16.1 S26	18.1												
	02	224 08.2	191 01.6	55.3	229 54.6	40.7	3 28.6	18.9	244 02.0	00.7	Peacock	53 42.0 S56	44.9												
	03	239 10.7	206 01.1 ..	56.5	244 55.3 ..	39.9	18 31.3 ..	18.8	259 04.2 ..	00.6	Pallac	243 45.2 N28	02.3												
	04	254 13.1	221 00.7	57.6	259 55.9	39.1	33 34.0	18.7	274 06.5	00.6	Procyon	245 14.7 N 5	14.2												
	05	269 15.6	236 00.2	58.7	274 56.6	38.3	48 36.7	18.7	289 08.7	00.5															
	06	284 18.1	250 59.7 N12	59.8	289 57.3 S 3	37.5	63 39.4 S14	18.6	304 10.9 S10	00.4	Rasalhague	96 19.7 N12	33.7												
	07	299 20.5	265 59.2 13	00.9	304 57.9	36.8	78 42.1	18.5	319 13.1	00.3	Regulus	207 58.6 N11	59.5												
	08	314 23.0	280 58.7	02.1	319 58.6	36.0	93 44.9	18.4	334 15.3	00.2	Rigel	281 26.0 S 8	12.7												
	09	329 25.5	295 58.3 ..	03.2	334 59.3 ..	35.2	108 47.6 ..	18.3	349 17.5 ..	00.1	Rigil Kent.	140 10.7 S60	48.6												
	10	344 27.9	310 57.8	04.3	350 00.0	34.4	123 50.3	18.3	4 19.8 10	00.0	Sabik	102 28.9 S15	43.1												
	11	359 30.4	325 57.3	05.4	5 00.6	33.6	138 53.0	18.2	19 22.0 9	59.9															
	12	14 32.9	340 56.8 N13	06.5	20 01.3 S 3	32.9	153 55.7 S14	18.1	34 24.2 S 9	59.8	Schedar	349 57.5 N56	30.3												
	13	29 35.3	355 56.3	07.6	35 02.0	32.1	168 58.4	18.0	49 26.4	59.7	Shaula	96 41.3 S37	05.9												
	14	44 37.8	10 55.9	08.8	50 02.6	31.3	184 01.1	17.9	64 28.6	59.6	Sirius	258 46.4 S16	42.8												
	15	59 40.2	25 55.4 ..	09.9	65 03.3 ..	30.5	199 03.9 ..	17.9	79 30.8 ..	59.5	Spica	158 46.1 S11	08.1												
	16	74 42.7	40 54.9	11.0	80 04.0	29.7	214 06.6	17.8	94 33.1	59.5	Suhail	223 02.8 S43	25.0												
	17	89 45.2	55 54.4	12.1	95 04.6	29.0	229 09.3	17.7	109 35.3	59.4															
	18	104 47.6	70 53.9 N13	13.2	110 05.3 S 3	28.2	244 12.0 S14	17.6	124 37.5 S 9	59.3	Vega	80 48.6 N38	46.5												
	19	119 50.1	85 53.4	14.3	125 06.0	27.4	259 14.7	17.5	139 39.7	59.2	Zuben'ubi	137 21.1 S16	01.2												
	20	134 52.6	100 53.0	15.4	140 06.7	26.6	274 17.4	17.5	154 41.9	59.1															
	21	149 55.0	115 52.5 ..	16.6	155 07.3 ..	25.8	289 20.2 ..	17.4	169 44.1 ..	59.0															
	22	164 57.5	130 52.0	17.7	170 08.0	25.1	304 22.9	17.3	184 46.4	58.9															
23	180 00.0	145 51.5	18.8	185 08.7	24.3	319 25.6	17.2	199 48.6	58.8																
Pas. Mer. 11 05.9		v -0.5 d 1.1			v 0.7 d 0.8			v 2.7 d 0.1			v 2.2 d 0.1			A. H. S. Pas. Mer. o / h m											
											Venus			328 09.8 13 15											
														Marte			6 33.0 10 41								
																	Júpiter			139 13.9 1 50					
																				Saturno			20 00.3 9 46		

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>	P.H.	Náut.		Civil	4		5	6	7		
L U N E S	4 00	179 12.4	N 5 31.2		256 16.3	10.3	S16 45.6	7.1	56.9	N 72	00 26	03 17	04 36	05 20	04 53	04 36	04 22
	01	194 12.6	32.1		270 45.6	10.4	16 38.5	7.2	56.8	N 70	01 48	03 37	04 46	04 39	04 29	04 22	04 15
	02	209 12.8	33.1		285 15.0	10.5	16 31.3	7.3	56.8	68	02 24	03 52	04 53	04 10	04 11	04 11	04 09
	03	224 13.0	34.0		299 44.5	10.5	16 24.0	7.4	56.8	66	02 49	04 05	05 00	03 49	03 56	04 01	04 05
	04	239 13.1	35.0		314 14.0	10.7	16 16.6	7.4	56.8	64	03 08	04 15	05 05	03 31	03 44	03 53	04 01
	05	254 13.3	35.9		328 43.7	10.7	16 09.2	7.6	56.7	62	03 23	04 23	05 10	03 17	03 34	03 47	03 57
	06	269 13.5	N 5 36.9		343 13.4	10.7	S16 01.6	7.6	56.7	60	03 36	04 31	05 14	03 05	03 25	03 41	03 54
	07	284 13.7	37.9		357 43.1	10.9	15 54.0	7.6	56.7	N 58	03 46	04 37	05 18	02 54	03 17	03 36	03 51
	08	299 13.9	38.8		12 13.0	10.9	15 46.4	7.8	56.6	56	03 55	04 43	05 21	02 45	03 10	03 31	03 49
	09	314 14.0	39.8		26 42.9	11.0	15 38.6	7.8	56.6	54	04 03	04 47	05 24	02 37	03 04	03 27	03 46
	10	329 14.2	40.7		41 12.9	11.1	15 30.8	7.9	56.6	52	04 10	04 52	05 26	02 30	02 59	03 23	03 44
	11	344 14.4	41.7		55 43.0	11.2	15 22.9	7.9	56.5	50	04 16	04 56	05 29	02 23	02 54	03 19	03 42
	12	359 14.6	N 5 42.6		70 13.2	11.2	S15 15.0	8.1	56.5	45	04 28	05 04	05 34	02 09	02 43	03 12	03 38
	13	14 14.8	43.6		84 43.4	11.3	15 06.9	8.0	56.5	N 40	04 38	05 11	05 38	01 57	02 34	03 06	03 35
	14	29 15.0	44.5		99 13.7	11.3	14 58.9	8.2	56.4	35	04 46	05 16	05 42	01 47	02 26	03 00	03 32
	15	44 15.1	45.5		113 44.0	11.5	14 50.7	8.2	56.4	30	04 53	05 21	05 45	01 38	02 19	02 55	03 29
	16	59 15.3	46.4		128 14.5	11.5	14 42.5	8.3	56.4	20	05 02	05 28	05 50	01 23	02 07	02 47	03 25
	17	74 15.5	47.4		142 45.0	11.6	14 34.2	8.4	56.4	N 10	05 09	05 34	05 55	01 10	01 56	02 40	03 21
	18	89 15.7	N 5 48.3		157 15.6	11.6	S14 25.8	8.4	56.3	0	05 15	05 39	05 59	00 57	01 47	02 33	03 17
	19	104 15.9	49.3		171 46.2	11.8	14 17.4	8.5	56.3	S 10	05 18	05 43	06 04	00 45	01 37	02 26	03 13
	20	119 16.0	50.2		186 17.0	11.8	14 08.9	8.5	56.3	20	05 20	05 46	06 08	00 31	01 26	02 19	03 09
	21	134 16.2	51.2		200 47.8	11.8	14 00.4	8.6	56.2	30	05 21	05 49	06 13	00 16	01 14	02 10	03 05
	22	149 16.4	52.1		215 18.6	12.0	13 51.8	8.7	56.2	35	05 21	05 50	06 16	00 07	01 07	02 05	03 02
23	164 16.6	53.1		229 49.6	12.0	13 43.1	8.7	56.2	40	05 20	05 52	06 19	24 59	00 59	02 00	02 59	
5 00	179 16.8	N 5 54.1		244 20.6	12.0	S13 34.4	8.8	56.2	45	05 19	05 53	06 22	24 50	00 50	01 53	02 56	
01	194 17.0	55.0		258 51.6	12.2	13 25.6	8.8	56.1	S 50	05 17	05 54	06 26	24 38	00 38	01 45	02 51	
02	209 17.1	56.0		273 22.8	12.2	13 16.8	8.9	56.1	52	05 15	05 54	06 28	24 33	00 33	01 42	02 49	
03	224 17.3	56.9		287 54.0	12.3	13 07.9	8.9	56.1	54	05 14	05 55	06 30	24 27	00 27	01 38	02 47	
04	239 17.5	57.9		302 25.3	12.3	12 59.0	9.0	56.1	56	05 12	05 55	06 33	24 21	00 21	01 33	02 45	
05	254 17.7	58.8		316 56.6	12.4	12 50.0	9.0	56.0	58	05 10	05 56	06 35	24 13	00 13	01 29	02 42	
06	269 17.9	N 5 59.8		331 28.0	12.5	S12 41.0	9.1	56.0	S 60	05 08	05 56	06 38	24 05	00 05	01 23	02 40	
07	284 18.0	6 00.7		345 59.5	12.5	12 31.9	9.2	56.0									
08	299 18.2	01.7		0 31.0	12.6	12 22.7	9.2	55.9	Lat.	Ocaso Sol	Crepúsculo Civil	Náut.	Ocaso Luna				
09	314 18.4	02.6		15 02.6	12.6	12 13.5	9.2	55.9					4	5	6	7	
10	329 18.6	03.6		29 34.2	12.8	12 04.3	9.3	55.9									
11	344 18.8	04.5		44 06.0	12.7	11 55.0	9.4	55.9	N 72	19 33	20 53	///	09 13	11 21	13 13	14 57	
12	359 18.9	N 6 05.5		58 37.7	12.9	S11 45.6	9.4	55.8	N 70	19 23	20 32	22 26	09 54	11 43	13 25	15 02	
13	14 19.1	06.4		73 09.6	12.9	11 36.2	9.4	55.8	68	19 14	20 16	21 47	10 21	12 00	13 35	15 06	
14	29 19.3	07.4		87 41.5	12.9	11 26.8	9.5	55.8	66	19 08	20 04	21 20	10 42	12 14	13 42	15 09	
15	44 19.5	08.3		102 13.4	13.1	11 17.3	9.5	55.8	64	19 02	19 53	21 01	10 58	12 25	13 49	15 11	
16	59 19.7	09.2		116 45.5	13.0	11 07.8	9.6	55.7	62	18 57	19 44	20 45	11 12	12 34	13 55	15 14	
17	74 19.8	10.2		131 17.5	13.2	10 58.2	9.6	55.7	60	18 53	19 37	20 32	11 23	12 42	14 00	15 16	
18	89 20.0	N 6 11.1		145 49.7	13.2	S10 48.6	9.7	55.7	N 58	18 49	19 30	20 21	11 33	12 49	14 04	15 17	
19	104 20.2	12.1		160 21.9	13.2	10 38.9	9.6	55.7	56	18 46	19 24	20 12	11 42	12 55	14 08	15 19	
20	119 20.4	13.0		174 54.1	13.3	10 29.3	9.8	55.6	54	18 43	19 19	20 04	11 50	13 01	14 11	15 20	
21	134 20.6	14.0		189 26.4	13.4	10 19.5	9.7	55.6	52	18 40	19 15	19 57	11 56	13 06	14 14	15 22	
22	149 20.7	14.9		203 58.8	13.4	10 09.8	9.9	55.6	50	18 38	19 11	19 51	12 03	13 10	14 17	15 23	
23	164 20.9	15.9		218 31.2	13.4	9 59.9	9.8	55.6	45	18 32	19 02	19 38	12 16	13 20	14 23	15 25	
6 00	179 21.1	N 6 16.8		233 03.6	13.5	S 9 50.1	9.9	55.5	N 40	18 28	18 55	19 28	12 27	13 28	14 28	15 27	
01	194 21.3	17.8		247 36.1	13.6	9 40.2	9.9	55.5	35	18 24	18 50	19 20	12 36	13 35	14 33	15 29	
02	209 21.4	18.7		262 08.7	13.6	9 30.3	10.0	55.5	30	18 21	18 45	19 14	12 44	13 41	14 37	15 31	
03	224 21.6	19.7		276 41.3	13.7	9 20.3	9.9	55.5	20	18 15	18 37	19 03	12 58	13 52	14 43	15 33	
04	239 21.8	20.6		291 14.0	13.7	9 10.4	10.1	55.5	N 10	18 10	18 32	18 56	13 10	14 01	14 49	15 36	
05	254 22.0	21.6		305 46.7	13.8	9 00.3	10.0	55.4	0	18 06	18 27	18 51	13 21	14 09	14 54	15 38	
06	269 22.2	N 6 22.5		320 19.5	13.8	S 8 50.3	10.1	55.4	S 10	18 02	18 23	18 47	13 33	14 17	15 00	15 40	
07	284 22.3	23.5		334 52.3	13.9	8 40.2	10.1	55.4	20	17 57	18 19	18 45	13 44	14 26	15 05	15 42	
08	299 22.5	24.4		349 25.2	13.9	8 30.1	10.1	55.4	30	17 52	18 16	18 44	13 58	14 36	15 12	15 45	
09	314 22.7	25.3		3 58.1	13.9	8 20.0	10.2	55.3	35	17 49	18 15	18 44	14 06	14 42	15 15	15 46	
10	329 22.9	26.3		18 31.0	14.0	8 09.8	10.2	55.3	40	17 46	18 13	18 45	14 15	14 49	15 19	15 48	
11	344 23.0	27.2		33 04.0	14.1	7 59.6	10.2	55.3	45	17 43	18 12	18 46	14 25	14 56	15 24	15 50	
12	359 23.2	N 6 28.2		47 37.1	14.1	S 7 49.4	10.3	55.3	S 50	17 38	18 11	18 48	14 37	15 06	15 30	15 52	
13	14 23.4	29.1		62 10.2	14.1	7 39.1	10.3	55.3	52	17 36	18 10	18 49	14 43	15 10	15 32	15 53	
14	29 23.6	30.1		76 43.3	14.2	7 28.8	10.3	55.2	54	17 34	18 09	18 50	14 50	15 14	15 35	15 54	
15	44 23.8	31.0		91 16.5	14.2	7 18.5	10.3	55.2	56	17 32	18 09	18 52	14 57	15 19	15 38	15 55	
16	59 23.9	32.0		105 49.7	14.2	7 08.2	10.4	55.2	58	17 29	18 08	18 54	15 05	15 25	15 42	15 57	
17	74 24.1	32.9		120 22.9	14.3	6 57.8	10.4	55.2	S 60	17 26	18 08	18 56	15 13				

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.4			SATURNO +1.0			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.
d h																		
7 00	195 02.4	160 51.0 N13	19.9	200 09.3 S 3	23.5		334 28.3 S14	17.1	214 50.8 S 9	58.7			Acamar	315 29.6 S40	19.8			
01	210 04.9	175 50.5	21.0	215 10.0	22.7		349 31.0	17.1	229 53.0	58.6			Achernar	335 38.0 S57	16.0			
02	225 07.4	190 50.0	22.1	230 10.7	22.0		4 33.8	17.0	244 55.2	58.5			Acrux	173 24.7 S63	04.2			
03	240 09.8	205 49.5	23.2	245 11.4	21.2		19 36.5	16.9	259 57.5	58.5			Adhara	255 23.8 S28	58.2			
04	255 12.3	220 49.1	24.3	260 12.0	20.4		34 39.2	16.8	274 59.7	58.4			Aldebaran	291 06.1 N16	29.8			
05	270 14.7	235 48.6	25.4	275 12.7	19.6		49 41.9	16.7	290 01.9	58.3								
06	285 17.2	250 48.1 N13	26.5	290 13.4 S 3	18.8		64 44.6 S14	16.6	305 04.1 S 9	58.2			Alioth	166 32.7 N55	59.3			
07	300 19.7	265 47.6	27.7	305 14.1	18.1		79 47.3	16.6	320 06.3	58.1			Alkaid	153 09.7 N49	20.3			
08	315 22.1	280 47.1	28.8	320 14.7	17.3		94 50.1	16.5	335 08.5	58.0			Al Na'ir	28 02.0 S46	59.1			
J 09	330 24.6	295 46.6	29.9	335 15.4	16.5		109 52.8	16.4	350 10.8	57.9			Alnilam	276 01.1 S 1	12.5			
U 10	345 27.1	310 46.1	31.0	350 16.1	15.7		124 55.5	16.3	5 13.0	57.8			Alphard	218 10.0 S 8	38.3			
E 11	0 29.5	325 45.6	32.1	5 16.7	14.9		139 58.2	16.2	20 15.2	57.7								
V 12	15 32.0	340 45.1 N13	33.2	20 17.4 S 3	14.2		155 00.9 S14	16.2	35 17.4 S 9	57.6			Alphecca	126 22.9 N26	43.8			
E 13	30 34.5	355 44.7	34.3	35 18.1	13.4		170 03.7	16.1	50 19.6	57.5			Alpheratz	357 58.7 N29	03.5			
S 14	45 36.9	10 44.2	35.4	50 18.8	12.6		185 06.4	16.0	65 21.9	57.5			Altair	62 22.3 N 8	51.1			
15	60 39.4	25 43.7	36.5	65 19.4	11.8		200 09.1	15.9	80 24.1	57.4			Ankaa	353 30.3 S42	20.2			
16	75 41.8	40 43.2	37.6	80 20.1	11.0		215 11.8	15.8	95 26.3	57.3			Antares	112 43.7 S26	25.2			
17	90 44.3	55 42.7	38.7	95 20.8	10.2		230 14.6	15.7	110 28.5	57.2								
18	105 46.8	70 42.2 N13	39.8	110 21.5 S 3	09.5		245 17.3 S14	15.7	125 30.7 S 9	57.1			Arcturus	146 08.5 N19	12.5			
19	120 49.2	85 41.7	40.9	125 22.1	08.7		260 20.0	15.6	140 33.0	57.0			Atria	107 58.1 S69	00.8			
20	135 51.7	100 41.2	42.0	140 22.8	07.9		275 22.7	15.5	155 35.2	56.9			Avior	234 23.7 S59	29.9			
21	150 54.2	115 40.7	43.1	155 23.5	07.1		290 25.4	15.4	170 37.4	56.8			Bellatrix	278 47.6 N 6	20.5			
22	165 56.6	130 40.2	44.2	170 24.1	06.3		305 28.2	15.3	185 39.6	56.7			Betelgeuse	271 17.0 N 7	24.2			
23	180 59.1	145 39.7	45.3	185 24.8	05.6		320 30.9	15.3	200 41.8	56.6								
8 00	196 01.6	160 39.2 N13	46.4	200 25.5 S 3	04.8		335 33.6 S14	15.2	215 44.1 S 9	56.5			Canopus	264 02.6 S52	42.0			
01	211 04.0	175 38.7	47.5	215 26.2	04.0		350 36.3	15.1	230 46.3	56.5			Capella	280 55.9 N45	59.6			
02	226 06.5	190 38.2	48.6	230 26.8	03.2		5 39.1	15.0	245 48.5	56.4			Deneb	49 41.4 N45	15.4			
03	241 09.0	205 37.7	49.7	245 27.5	02.4		20 41.8	14.9	260 50.7	56.3			Denebola	182 48.0 N14	36.1			
04	256 11.4	220 37.2	50.8	260 28.2	01.7		35 44.5	14.8	275 52.9	56.2			Diphda	349 10.6 S18	01.1			
05	271 13.9	235 36.7	51.9	275 28.9	00.9		50 47.2	14.8	290 55.2	56.1								
06	286 16.3	250 36.2 N13	53.0	290 29.5 S 3	00.1		65 49.9 S14	14.7	305 57.4 S 9	56.0			Dubhe	194 08.7 N61	46.9			
07	301 18.8	265 35.7	54.0	305 30.2	2 59.3		80 52.7	14.6	320 59.6	55.9			Elnath	278 31.0 N28	36.1			
08	316 21.3	280 35.2	55.1	320 30.9	58.5		95 55.4	14.5	336 01.8	55.8			Eltanin	90 52.6 N51	29.1			
V 09	331 23.7	295 34.7	56.2	335 31.6	57.8		110 58.1	14.4	351 04.0	55.7			Enif	34 01.4 N 9	50.9			
I 10	346 26.2	310 34.2	57.3	350 32.2	57.0		126 00.8	14.3	6 06.3	55.6			Fomalhaut	15 40.1 S29	39.1			
E 11	1 28.7	325 33.7	58.4	5 32.9	56.2		141 03.6	14.3	21 08.5	55.6								
N 12	16 31.1	340 33.2 N13	59.5	20 33.6 S 2	55.4		156 06.3 S14	14.2	36 10.7 S 9	55.5			Gacrux	172 16.4 S57	05.1			
13	31 33.6	355 32.7	14 00.6	35 34.3	54.6		171 09.0	14.1	51 12.9	55.4			Gienah	176 06.8 S17	30.8			
14	46 36.1	10 32.2	01.7	50 34.9	53.9		186 11.7	14.0	66 15.1	55.3			Hadar	149 07.7 S60	20.8			
S 15	61 38.5	25 31.7	02.8	65 35.6	53.1		201 14.5	13.9	81 17.4	55.2			Hamal	328 17.3 N23	26.1			
16	76 41.0	40 31.2	03.9	80 36.3	52.3		216 17.2	13.8	96 19.6	55.1			Kaus Aust.	84 02.8 S34	23.1			
17	91 43.5	55 30.7	04.9	95 37.0	51.5		231 19.9	13.8	111 21.8	55.0								
18	106 45.9	70 30.2 N14	06.0	110 37.6 S 2	50.7		246 22.6 S14	13.7	126 24.0 S 9	54.9			Kochab	137 18.4 N74	10.6			
19	121 48.4	85 29.7	07.1	125 38.3	50.0		261 25.4	13.6	141 26.3	54.8			Markab	13 52.9 N15	10.4			
20	136 50.8	100 29.2	08.2	140 39.0	49.2		276 28.1	13.5	156 28.5	54.7			Menkar	314 30.4 N 4	03.9			
21	151 53.3	115 28.7	09.3	155 39.7	48.4		291 30.8	13.4	171 30.7	54.7			Menkent	148 24.2 S36	20.6			
22	166 55.8	130 28.2	10.4	170 40.3	47.6		306 33.6	13.3	186 32.9	54.6			Miaplacidus	221 42.2 S69	42.0			
23	181 58.2	145 27.7	11.5	185 41.0	46.8		321 36.3	13.3	201 35.1	54.5								
9 00	197 00.7	160 27.2 N14	12.5	200 41.7 S 2	46.0		336 39.0 S14	13.2	216 37.4 S 9	54.4			Mirfak	309 01.4 N49	50.5			
01	212 03.2	175 26.7	13.6	215 42.4	45.3		351 41.7	13.1	231 39.6	54.3			Nunki	76 16.1 S26	18.1			
02	227 05.6	190 26.2	14.7	230 43.0	44.5		6 44.5	13.0	246 41.8	54.2			Peacock	53 41.9 S56	44.9			
03	242 08.1	205 25.7	15.8	245 43.7	43.7		21 47.2	12.9	261 44.0	54.1			Pollux	243 45.2 N28	02.3			
04	257 10.6	220 25.2	16.9	260 44.4	42.9		36 49.9	12.8	276 46.2	54.0			Procyon	245 14.7 N 5	14.2			
05	272 13.0	235 24.7	17.9	275 45.1	42.1		51 52.6	12.8	291 48.5	53.9								
06	287 15.5	250 24.2 N14	19.0	290 45.7 S 2	41.4		66 55.4 S14	12.7	306 50.7 S 9	53.8			Rasalhague	96 19.6 N12	33.7			
07	302 17.9	265 23.6	20.1	305 46.4	40.6		81 58.1	12.6	321 52.9	53.8			Regulus	207 58.6 N11	59.5			
08	317 20.4	280 23.1	21.2	320 47.1	39.8		97 00.8	12.5	336 55.1	53.7			Rigel	281 26.0 S 8	12.7			
S 09	332 22.9	295 22.6	22.3	335 47.8	39.0		112 03.6	12.4	351 57.4	53.6			Rigil Kent.	140 10.7 S60	48.7			
A 10	347 25.3	310 22.1	23.3	350 48.4	38.2		127 06.3	12.3	6 59.6	53.5			Sabik	102 28.9 S15	43.1			
B 11	2 27.8	325 21.6	24.4	5 49.1	37.5		142 09.0	12.2	22 01.8	53.4								
A 12	17 30.3	340 21.1 N14	25.5	20 49.8 S 2	36.7		157 11.7 S14	12.2	37 04.0 S 9	53.3			Schedar	349 57.5 N56	30.3			
D 13	32 32.7	355 20.6	26.6	35 50.5	35.9		172 14.5	12.1	52 06.3	53.2			Shaula	96 41.2 S37	05.9			
O 14	47 35.2	10 20.1	27.6	50 51.2	35.1		187 17.2	12.0	67 08.5	53.1			Sirius	258 46.4 S16	42.8			
15	62 37.7	25 19.6	28.7	65 51.8	34.3		202 19.9	11.9	82 10.7	53.0			Spica	158 46.1 S11	08.1			
16	77 40.1	40 19.0	29.8	80 52.5	33.5		217 22.7	11.8	97 12.9	53.0			Suhail	223 02.8 S43	25.0			

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.	Civil		7	8	9	10		
	o	'	o	'	o	'	o	'										
7 00	179	25.3	N 6	39.5	222	16.8	14.6	S 5	44.7	10.5	55.0	02 57	04 20	04 22	04 10	03 59	03 46	
01	194	25.5		40.4	236	50.4	14.6	5	34.2	10.5	55.0	01 13	03 20	04 31	04 15	04 09	04 03	03 57
02	209	25.7		41.4	251	24.0	14.6	5	23.7	10.6	55.0	02 02	03 38	04 41	04 09	04 08	04 07	04 06
03	224	25.9		42.3	265	57.6	14.7	5	13.1	10.5	55.0	02 32	03 52	04 48	04 05	04 07	04 10	04 13
04	239	26.0		43.3	280	31.3	14.7	5	02.6	10.6	55.0	02 54	04 03	04 55	04 01	04 07	04 13	04 19
05	254	26.2		44.2	295	05.0	14.7	4	52.0	10.6	55.0	03 11	04 13	05 00	03 57	04 06	04 15	04 25
06	269	26.4	N 6	45.1	309	38.7	14.8	S 4	41.4	10.6	54.9	03 25	04 21	05 05	03 54	04 06	04 17	04 29
07	284	26.6		46.1	324	12.5	14.7	4	30.8	10.6	54.9	03 36	04 28	05 09	03 51	04 05	04 19	04 34
08	299	26.8		47.0	338	46.2	14.9	4	20.2	10.7	54.9	03 46	04 34	05 13	03 49	04 05	04 21	04 37
J 09	314	26.9		48.0	353	20.1	14.8	4	09.5	10.6	54.9	03 55	04 40	05 17	03 46	04 04	04 22	04 41
U 10	329	27.1		48.9	7	53.9	14.9	3	58.9	10.7	54.9	04 02	04 45	05 20	03 44	04 04	04 24	04 44
E 11	344	27.3		49.9	22	27.8	14.9	3	48.2	10.6	54.8	04 09	04 49	05 22	03 42	04 04	04 25	04 46
V 12	359	27.5	N 6	50.8	37	01.7	14.9	S 3	37.6	10.7	54.8	04 22	04 58	05 28	03 38	04 03	04 28	04 53
E 13	14	27.6		51.7	51	35.6	14.9	3	26.9	10.7	54.8	04 33	05 06	05 33	03 35	04 03	04 30	04 58
S 14	29	27.8		52.7	66	09.5	15.0	3	16.2	10.7	54.8	04 42	05 12	05 38	03 32	04 02	04 32	05 02
15	44	28.0		53.6	80	43.5	15.0	3	05.5	10.7	54.8	04 49	05 17	05 42	03 29	04 02	04 34	05 06
16	59	28.2		54.5	95	17.5	15.0	2	54.8	10.7	54.8	05 00	05 26	05 48	03 25	04 01	04 37	05 13
17	74	28.3		55.5	109	51.5	15.1	2	44.1	10.7	54.7	05 08	05 32	05 54	03 21	04 00	04 40	05 19
18	89	28.5	N 6	56.4	124	25.6	15.0	S 2	33.4	10.7	54.7	05 14	05 38	05 59	03 17	04 00	04 42	05 24
19	104	28.7		57.4	138	59.6	15.1	2	22.7	10.7	54.7	05 18	05 42	06 04	03 13	03 59	04 45	05 30
20	119	28.8		58.3	153	33.7	15.1	2	12.0	10.7	54.7	05 21	05 47	06 09	03 09	03 59	04 48	05 36
21	134	29.0		59.2	168	07.8	15.2	2	01.3	10.8	54.7	05 23	05 51	06 15	03 05	03 58	04 51	05 43
22	149	29.2		7 00.2	182	42.0	15.1	1	50.5	10.7	54.7	05 23	05 54	06 22	02 59	03 57	04 53	05 52
23	164	29.4		01.1	197	16.1	15.2	1	39.8	10.7	54.7	05 22	05 56	06 26	02 56	03 57	04 57	05 57
8 00	179	29.5	N 7	02.1	211	50.3	15.1	S 1	29.1	10.7	54.6	05 21	05 59	06 31	02 51	03 56	05 00	06 04
01	194	29.7		03.0	226	24.4	15.2	1	18.4	10.8	54.6	05 20	05 59	06 33	02 49	03 56	05 02	06 07
02	209	29.9		03.9	240	58.6	15.3	1	07.6	10.7	54.6	05 19	06 00	06 36	02 47	03 56	05 03	06 10
03	224	30.1		04.9	255	32.9	15.2	0	56.9	10.7	54.6	05 18	06 01	06 39	02 45	03 55	05 05	06 14
04	239	30.2		05.8	270	07.1	15.2	0	46.2	10.8	54.6	05 17	06 02	06 42	02 42	03 55	05 07	06 18
05	254	30.4		06.7	284	41.3	15.3	0	35.4	10.7	54.6	05 15	06 03	06 45	02 40	03 55	05 09	06 23
06	269	30.6	N 7	07.7	299	15.6	15.3	S 0	24.7	10.7	54.6	05 21	05 59	06 31	02 51	03 56	05 00	06 04
07	284	30.8		08.6	313	49.9	15.2	0	14.0	10.7	54.5	05 20	05 59	06 33	02 49	03 56	05 02	06 07
08	299	30.9		09.5	328	24.1	15.3	S 0	03.3	10.7	54.5	05 19	06 00	06 36	02 47	03 56	05 03	06 10
V 09	314	31.1		10.5	342	58.4	15.3	N 0	07.4	10.7	54.5	05 18	06 01	06 39	02 45	03 55	05 05	06 14
I 10	329	31.3		11.4	357	32.7	15.4	0	18.1	10.7	54.5	05 17	06 02	06 42	02 42	03 55	05 07	06 18
R 11	344	31.5		12.4	12	07.1	15.3	0	28.8	10.7	54.5	05 15	06 03	06 45	02 40	03 55	05 09	06 23
N 12	359	31.6	N 7	13.3	26	41.4	15.3	N 0	39.5	10.7	54.5	05 21	05 59	06 31	02 51	03 56	05 00	06 04
E 13	14	31.8		14.2	41	15.7	15.4	0	50.2	10.7	54.5	05 20	05 59	06 33	02 49	03 56	05 02	06 07
S 14	29	32.0		15.2	55	50.1	15.3	1	00.9	10.7	54.5	05 19	06 00	06 36	02 47	03 56	05 03	06 10
15	44	32.1		16.1	70	24.4	15.4	1	11.6	10.6	54.4	05 18	06 01	06 39	02 45	03 55	05 05	06 14
16	59	32.3		17.0	84	58.8	15.3	1	22.2	10.7	54.4	05 17	06 02	06 42	02 42	03 55	05 07	06 18
17	74	32.5		18.0	99	33.1	15.4	1	32.9	10.6	54.4	05 15	06 03	06 45	02 40	03 55	05 09	06 23
18	89	32.7	N 7	18.9	114	07.5	15.4	N 1	43.5	10.7	54.4	05 21	05 59	06 31	02 51	03 56	05 00	06 04
19	104	32.8		19.8	128	41.9	15.4	1	54.2	10.6	54.4	05 20	05 59	06 33	02 49	03 56	05 02	06 07
20	119	33.0		20.8	143	16.3	15.3	2	04.8	10.6	54.4	05 19	06 00	06 36	02 47	03 56	05 03	06 10
21	134	33.2		21.7	157	50.6	15.4	2	15.4	10.6	54.4	05 18	06 01	06 39	02 45	03 55	05 05	06 14
22	149	33.3		22.6	172	25.0	15.4	2	26.0	10.6	54.4	05 17	06 02	06 42	02 42	03 55	05 07	06 18
23	164	33.5		23.6	186	59.4	15.4	2	36.6	10.5	54.3	05 15	06 03	06 45	02 40	03 55	05 09	06 23
9 00	179	33.7	N 7	24.5	201	33.8	15.4	N 2	47.1	10.6	54.3	05 21	05 59	06 31	02 51	03 56	05 00	06 04
01	194	33.9		25.4	216	08.2	15.4	2	57.7	10.5	54.3	05 20	05 59	06 33	02 49	03 56	05 02	06 07
02	209	34.0		26.4	230	42.6	15.4	3	08.2	10.6	54.3	05 19	06 00	06 36	02 47	03 56	05 03	06 10
03	224	34.2		27.3	245	17.0	15.4	3	18.8	10.5	54.3	05 18	06 01	06 39	02 45	03 55	05 05	06 14
04	239	34.4		28.2	259	51.4	15.3	3	29.3	10.4	54.3	05 17	06 02	06 42	02 42	03 55	05 07	06 18
05	254	34.5		29.2	274	25.7	15.4	3	39.7	10.5	54.3	05 15	06 03	06 45	02 40	03 55	05 09	06 23
06	269	34.7	N 7	30.1	289	00.1	15.4	N 3	50.2	10.5	54.3	05 21	05 59	06 31	02 51	03 56	05 00	06 04
07	284	34.9		31.0	303	34.5	15.4	4	00.7	10.4	54.3	05 20	05 59	06 33	02 49	03 56	05 02	06 07
08	299	35.1		31.9	318	08.9	15.4	4	11.1	10.4	54.3	05 19	06 00	06 36	02 47	03 56	05 03	06 10
S 09	314	35.2		32.9	332	43.3	15.3	4	21.5	10.4	54.2	05 18	06 01	06 39	02 45	03 55	05 05	06 14
A 10	329	35.4		33.8	347	17.6	15.4	4	31.9	10.4	54.2	05 17	06 02	06 42	02 42	03 55	05 07	06 18
B 11	344	35.6		34.7	1	52.0	15.4	4	42.3	10.3	54.2	05 15	06 03	06 45	02 40	03 55	05 09	06 23
A 12	359	35.7	N 7	35.7	16	26.4	15.3	N 4	52.6	10.3	54.2	05 21	05 59	06 31	02 51	03 56	05 00	06 04
D 13	14	35.9		36.6	31	00.7	15.4	5	02.9	10.3	54.2	05 20	05 59	06 33	02 49	03 56	05 02	06 07
O 14	29	36.1		37.														

T.M.G. (TU)	ARIES		VENUS -3.9		MARTE +1.2		JUPITER -2.4		SATURNO +1.0		ESTRELLAS		
	A.H.G.	A.H.G. Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.
10 00	197 59.8	160 14.9 N14 38.3	200 57.9 S 2 27.3	337 44.5 S14 11.1	217 30.7 S 9 52.2	Acamar	315 29.6 S40 19.8						
01	213 02.3	175 14.4 39.4	215 58.6 26.5	352 47.2 11.1	232 32.9 52.2	Achernar	335 38.0 S57 16.0						
02	228 04.8	190 13.9 40.5	230 59.3 25.7	7 50.0 11.0	247 35.2 52.1	Acrux	173 24.7 S63 04.3						
03	243 07.2	205 13.4 .. 41.5	246 00.0 .. 25.0	22 52.7 .. 10.9	262 37.4 .. 52.0	Adhara	255 23.9 S28 58.2						
04	258 09.7	220 12.9 42.6	261 00.6 24.2	37 55.4 10.8	277 39.6 51.9	Aldebaran	291 06.1 N16 29.8						
05	273 12.2	235 12.4 43.7	276 01.3 23.4	52 58.2 10.7	292 41.8 51.8								
06	288 14.6	250 11.8 N14 44.7	291 02.0 S 2 22.6	68 00.9 S14 10.6	307 44.1 S 9 51.7	Alioth	166 32.7 N55 59.4						
07	303 17.1	265 11.3 45.8	306 02.7 21.8	83 03.6 10.5	322 46.3 51.6	Alkaid	153 09.7 N49 20.4						
08	318 19.6	280 10.8 46.9	321 03.3 21.0	98 06.4 10.5	337 48.5 51.5	Al Na'ir	28 02.0 S46 59.1						
O 09	333 22.0	295 10.3 .. 47.9	336 04.0 .. 20.3	113 09.1 .. 10.4	352 50.7 .. 51.4	Alnilam	276 01.1 S 1 12.5						
M 10	348 24.5	310 09.8 49.0	351 04.7 19.5	128 11.8 10.3	7 53.0 51.4	Alphard	218 10.0 S 8 38.3						
I 11	3 26.9	325 09.2 50.1	6 05.4 18.7	143 14.6 10.2	22 55.2 51.3								
N 12	18 29.4	340 08.7 N14 51.1	21 06.1 S 2 17.9	158 17.3 S14 10.1	37 57.4 S 9 51.2	Alphecca	126 22.9 N26 43.8						
G 13	33 31.9	355 08.2 52.2	36 06.7 17.1	173 20.0 10.0	52 59.6 51.1	Alpheratz	357 58.7 N29 03.5						
O 14	48 34.3	10 07.7 53.2	51 07.4 16.4	188 22.8 09.9	68 01.9 51.0	Altair	62 22.3 N 8 51.1						
15	63 36.8	25 07.2 .. 54.3	66 08.1 .. 15.6	203 25.5 .. 09.9	83 04.1 .. 50.9	Ankaa	353 30.2 S42 20.2						
16	78 39.3	40 06.6 55.4	81 08.8 14.8	218 28.2 09.8	98 06.3 50.8	Antares	112 43.7 S26 25.2						
17	93 41.7	55 06.1 56.4	96 09.4 14.0	233 31.0 09.7	113 08.5 50.7								
18	108 44.2	70 05.6 N14 57.5	111 10.1 S 2 13.2	248 33.7 S14 09.6	128 10.8 S 9 50.6	Arcturus	146 08.5 N19 12.6						
19	123 46.7	85 05.1 58.5	126 10.8 12.4	263 36.4 09.5	143 13.0 50.6	Atria	107 58.1 S69 00.8						
20	138 49.1	100 04.5 14 59.6	141 11.5 11.7	278 39.2 09.4	158 15.2 50.5	Avior	234 23.7 S59 29.9						
21	153 51.6	115 04.0 15 00.6	156 12.2 .. 10.9	293 41.9 .. 09.3	173 17.4 .. 50.4	Bellatrix	278 47.6 N 6 20.5						
22	168 54.0	130 03.5 01.7	171 12.8 10.1	308 44.6 09.3	188 19.7 50.3	Betelgeuse	271 17.0 N 7 24.2						
23	183 56.5	145 03.0 02.7	186 13.5 09.3	323 47.4 09.2	203 21.9 50.2								
11 00	198 59.0	160 02.4 N15 03.8	201 14.2 S 2 08.5	338 50.1 S14 09.1	218 24.1 S 9 50.1	Canopus	264 02.7 S52 41.9						
01	214 01.4	175 01.9 04.9	216 14.9 07.8	353 52.9 09.0	233 26.3 50.0	Capella	280 56.0 N45 59.6						
02	229 03.9	190 01.4 05.9	231 15.6 07.0	8 55.6 08.9	248 28.6 49.9	Deneb	49 41.4 N45 15.4						
03	244 06.4	205 00.9 .. 07.0	246 16.2 .. 06.2	23 58.3 .. 08.8	263 30.8 .. 49.9	Denebola	182 48.0 N14 36.1						
04	259 08.8	220 00.3 08.0	261 16.9 05.4	39 01.1 08.7	278 33.0 49.8	Diphda	349 10.6 S18 01.1						
05	274 11.3	234 59.8 09.1	276 17.6 04.6	54 03.8 08.7	293 35.2 49.7								
06	289 13.8	249 59.3 N15 10.1	291 18.3 S 2 03.8	69 06.5 S14 08.6	308 37.5 S 9 49.6	Dubhe	194 08.7 N61 46.9						
07	304 16.2	264 58.7 11.2	306 19.0 03.1	84 09.3 08.5	323 39.7 49.5	Elnath	278 31.0 N28 36.1						
08	319 18.7	279 58.2 12.2	321 19.6 02.3	99 12.0 08.4	338 41.9 49.4	Eltanin	90 52.6 N51 29.1						
L 09	334 21.2	294 57.7 .. 13.2	336 20.3 .. 01.5	114 14.7 .. 08.3	353 44.2 .. 49.3	Enif	34 01.4 N 9 50.9						
U 10	349 23.6	309 57.2 14.3	351 21.0 2 00.7	129 17.5 08.2	8 46.4 49.2	Fomalhaut	15 40.1 S29 39.1						
N 11	4 26.1	324 56.6 15.3	6 21.7 1 59.9	144 20.2 08.1	23 48.6 49.2								
E 12	19 28.5	339 56.1 N15 16.4	21 22.4 S 1 59.2	159 23.0 S14 08.0	38 50.8 S 9 49.1	Gacrux	172 16.4 S57 05.1						
S 13	34 31.0	354 55.6 17.4	36 23.0 58.4	174 25.7 08.0	53 53.1 49.0	Gienah	176 06.8 S17 30.8						
14	49 33.5	9 55.0 18.5	51 23.7 57.6	189 28.4 07.9	68 55.3 48.9	Hadar	149 07.7 S60 20.8						
15	64 35.9	24 54.5 .. 19.5	66 24.4 .. 56.8	204 31.2 .. 07.8	83 57.5 .. 48.8	Hamal	328 17.3 N23 26.1						
16	79 38.4	39 54.0 20.6	81 25.1 56.0	219 33.9 07.7	98 59.7 48.7	Kaus Aust.	84 02.7 S34 23.1						
17	94 40.9	54 53.4 21.6	96 25.8 55.2	234 36.7 07.6	114 02.0 48.6								
18	109 43.3	69 52.9 N15 22.6	111 26.4 S 1 54.5	249 39.4 S14 07.5	129 04.2 S 9 48.5	Kochab	137 18.4 N74 10.6						
19	124 45.8	84 52.4 23.7	126 27.1 53.7	264 42.1 07.4	144 06.4 48.5	Markab	13 52.9 N15 10.4						
20	139 48.3	99 51.8 24.7	141 27.8 52.9	279 44.9 07.3	159 08.7 48.4	Menkar	314 30.4 N 4 03.9						
21	154 50.7	114 51.3 .. 25.8	156 28.5 .. 52.1	294 47.6 .. 07.3	174 10.9 .. 48.3	Menkent	148 24.2 S36 20.6						
22	169 53.2	129 50.8 26.8	171 29.2 51.3	309 50.3 07.2	189 13.1 48.2	Miaplacidus	221 42.3 S69 42.0						
23	184 55.7	144 50.2 27.8	186 29.8 50.6	324 53.1 07.1	204 15.3 48.1								
12 00	199 58.1	159 49.7 N15 28.9	201 30.5 S 1 49.8	339 55.8 S14 07.0	219 17.6 S 9 48.0	Mirfak	309 01.4 N49 50.5						
01	215 00.6	174 49.2 29.9	216 31.2 49.0	354 58.6 06.9	234 19.8 47.9	Nunki	76 16.0 S26 18.1						
02	230 03.0	189 48.6 31.0	231 31.9 48.2	10 01.3 06.8	249 22.0 47.8	Peacock	53 41.9 S56 44.9						
03	245 05.5	204 48.1 .. 32.0	246 32.6 .. 47.4	25 04.0 .. 06.7	264 24.3 .. 47.8	Pollux	243 45.3 N28 02.3						
04	260 08.0	219 47.5 33.0	261 33.2 46.6	40 06.8 06.6	279 26.5 47.7	Procyon	245 14.7 N 5 14.2						
05	275 10.4	234 47.0 34.1	276 33.9 45.9	55 09.5 06.6	294 28.7 47.6								
06	290 12.9	249 46.5 N15 35.1	291 34.6 S 1 45.1	70 12.3 S14 06.5	309 30.9 S 9 47.5	Rasalhague	96 19.6 N12 33.7						
07	305 15.4	264 45.9 36.1	306 35.3 44.3	85 15.0 06.4	324 33.2 47.4	Regulus	207 58.6 N11 59.5						
08	320 17.8	279 45.4 37.2	321 36.0 43.5	100 17.7 06.3	339 35.4 47.3	Rigel	281 26.0 S 8 12.7						
M 09	335 20.3	294 44.8 .. 38.2	336 36.6 .. 42.7	115 20.5 .. 06.2	354 37.6 .. 47.2	Rigil Kent.	140 10.7 S60 48.7						
A 10	350 22.8	309 44.3 39.2	351 37.3 42.0	130 23.2 06.1	9 39.9 47.1	Sabik	102 28.8 S15 43.1						
R 11	5 25.2	324 43.8 40.2	6 38.0 41.2	145 26.0 06.0	24 42.1 47.1								
T 12	20 27.7	339 43.2 N15 41.3	21 38.7 S 1 40.4	160 28.7 S14 05.9	39 44.3 S 9 47.0	Schedar	349 57.5 N56 30.3						
E 13	35 30.1	354 42.7 42.3	36 39.4 39.6	175 31.5 05.9	54 46.5 46.9	Shaula	96 41.2 S37 05.9						
S 14	50 32.6	9 42.1 43.3	51 40.1 38.8	190 34.2 05.8	69 48.8 46.8	Sirius	258 46.4 S16 42.8						
15	65 35.1	24 41.6 .. 44.4	66 40.7 .. 38.0	205 36.9 .. 05.7	84 51.0 .. 46.7	Spica	158 46.1 S11 08.1						
16	80 37.5	39 41.1 45.4	81 41.4 37.3	220 39.7 05.6	99 53.2 46.6	Suhail	223 02.8 S43 25.0						
17	95 40.0	54 40.5 46.4	96 42.1 36.5	235 42.4 05.5	114 55.5 46.5								
18	110 42.5	69 40.0 N15 47.4	111 42.8 S 1 35.7	250 45.2 S14 05.4	129 57.7 S 9 46.5	Vega	80 48.6 N38 46.5						
19	125 44.9	84 39.4 48.5	126 43.5 34.9	265 47.9 05.3	144 59.9 46.4	Zuben'ubi	137 21.0 S16 01.2						
20	140 47.4	99 38.9 49.5	141 44.1 34.1	280 50.6 05.2	160 02.1 46.3								
21	155 49.9	114 38.3 .. 50.5	156 44.8 .. 33.4	295 53.4 .. 05.2	175 04.4 .. 46.2								
22	170 52.3	129 37.8 51.5	171 45.5 32.6	310 56.1 05.1	190 06.6 46.1	Venus	321 03.5 13 20						
23	185 54.8	144 37.2 52.6	186 46.2 31.8	325 58.9 05.0	205 08.8 46.0	Marte	2 15.2 10 35						
												A. H. S. Pas. Mer.	
												o / h m	
Pas. Mer. 10 42.3												v -0.5 d 1.0	
												v 0.7 d 0.8	
												v 2.7 d 0.1	
												v 2.2 d 0.1	
												Júpiter 139 51.1 1 24	
												Saturno 19 25.1 9 25	

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	10	11	12	13
												h m	h m	h m	h m
DOMINGO	10 00	179 37.8 N 7 46.8	191 18.0 15.2 N 6 54.8	10.0	54.1	N 72	///	02 34	04 03	03 46	03 33	03 14	02 40		
	01	194 37.9 47.7	205 52.2 15.2 7 04.8	10.0	54.1	N 70	///	03 02	04 17	03 57	03 51	03 44	03 35		
	02	209 38.1 48.7	220 26.4 15.2 7 14.8	9.9	54.1	68	01 36	03 22	04 28	04 06	04 05	04 06	04 08		
	03	224 38.3 49.6	235 00.6 15.2 7 24.7	9.9	54.1	66	02 13	03 38	04 37	04 13	04 17	04 23	04 33		
	04	239 38.4 50.5	249 34.8 15.2 7 34.6	9.9	54.1	64	02 38	03 51	04 44	04 19	04 27	04 38	04 52		
	05	254 38.6 51.4	264 09.0 15.1 7 44.5	9.8	54.1	62	02 58	04 02	04 51	04 25	04 36	04 50	05 08		
	06	269 38.8 N 7 52.4	278 43.1 15.2 N 7 54.3	9.8	54.1	60	03 13	04 11	04 56	04 29	04 43	05 00	05 21		
	07	284 38.9 53.3	293 17.3 15.1 8 04.1	9.8	54.1	N 58	03 26	04 19	05 01	04 34	04 50	05 09	05 32		
	08	299 39.1 54.2	307 51.4 15.1 8 13.9	9.7	54.1	56	03 37	04 26	05 05	04 37	04 56	05 17	05 42		
	09	314 39.3 55.1	322 25.5 15.1 8 23.6	9.7	54.1	54	03 46	04 32	05 09	04 41	05 01	05 24	05 51		
	10	329 39.4 56.1	336 59.6 15.0 8 33.3	9.7	54.1	52	03 54	04 38	05 13	04 44	05 05	05 30	05 59		
	11	344 39.6 57.0	351 33.6 15.1 8 43.0	9.6	54.0	50	04 01	04 43	05 16	04 46	05 10	05 36	06 06		
	12	359 39.8 N 7 57.9	6 07.7 15.0 N 8 52.6	9.6	54.0	45	04 16	04 53	05 23	04 53	05 19	05 48	06 21		
	13	14 39.9 58.8	20 41.7 15.0 9 02.2	9.6	54.0	N 40	04 28	05 01	05 29	04 58	05 27	05 58	06 33		
	14	29 40.1 59.8	35 15.7 15.0 9 11.8	9.5	54.0	35	04 37	05 08	05 34	05 02	05 34	06 07	06 44		
	15	44 40.3 8 00.7	49 49.7 15.0 9 21.3	9.5	54.0	30	04 45	05 14	05 38	05 06	05 39	06 15	06 54		
	16	59 40.4 01.6	64 23.7 14.9 9 30.8	9.4	54.0	20	04 57	05 23	05 45	05 13	05 50	06 29	07 10		
	17	74 40.6 02.5	78 57.6 14.9 9 40.2	9.4	54.0	N 10	05 06	05 31	05 52	05 19	05 59	06 40	07 24		
	18	89 40.8 N 8 03.4	93 31.5 14.9 N 9 49.6	9.3	54.0	0	05 13	05 37	05 58	05 24	06 07	06 52	07 37		
	19	104 40.9 04.4	108 05.4 14.9 9 58.9	9.3	54.0	S 10	05 18	05 42	06 04	05 30	06 16	07 03	07 51		
	20	119 41.1 05.3	122 39.3 14.8 10 08.2	9.3	54.0	20	05 22	05 47	06 10	05 36	06 25	07 15	08 05		
	21	134 41.3 06.2	137 13.1 14.9 10 17.5	9.2	54.0	30	05 25	05 52	06 16	05 43	06 36	07 29	08 21		
	22	149 41.4 07.1	151 47.0 14.8 10 26.7	9.2	54.0	35	05 25	05 55	06 20	05 47	06 42	07 37	08 31		
23	164 41.6 08.1	166 20.8 14.7 10 35.9	9.1	54.0	40	05 26	05 57	06 25	05 52	06 49	07 46	08 42			
LUNES	11 00	179 41.8 N 8 09.0	180 54.5 14.8 N10 45.0	9.1	54.0	45	05 26	06 00	06 30	05 57	06 57	07 57	08 55		
	01	194 41.9 09.9	195 28.3 14.7 10 54.1	9.0	54.0	S 50	05 26	06 03	06 36	06 04	07 07	08 10	09 11		
	02	209 42.1 10.8	210 02.0 14.7 11 03.1	9.0	54.0	52	05 25	06 04	06 38	06 07	07 12	08 16	09 18		
	03	224 42.3 11.7	224 35.7 14.7 11 12.1	9.0	54.0	54	05 25	06 06	06 41	06 10	07 17	08 23	09 27		
	04	239 42.4 12.7	239 09.4 14.6 11 21.1	8.9	54.0	56	05 24	06 07	06 45	06 14	07 22	08 30	09 36		
	05	254 42.6 13.6	253 43.0 14.7 11 30.0	8.8	54.0	58	05 23	06 09	06 48	06 18	07 29	08 39	09 46		
	06	269 42.8 N 8 14.5	268 16.7 14.5 N11 38.8	8.8	54.0	S 60	05 22	06 10	06 52	06 23	07 36	08 48	09 59		
	07	284 42.9 15.4	282 50.2 14.6 11 47.6	8.8	54.0	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna					
	08	299 43.1 16.3	297 23.8 14.5 11 56.4	8.7	54.0	10	11	12	13	h m	h m	h m	h m		
	09	314 43.3 17.3	311 57.3 14.6 12 05.1	8.6	54.0	N 72	20 02	21 34	///	20 02	21 51	23 59	□		
	10	329 43.4 18.2	326 30.9 14.4 12 13.7	8.6	54.0	N 70	19 48	21 05	///	19 45	21 23	23 05	24 57		
	11	344 43.6 19.1	341 04.3 14.5 12 22.3	8.6	54.0	68	19 37	20 43	22 35	19 32	21 02	22 32	24 02		
	12	359 43.7 N 8 20.0	355 37.8 14.4 N12 30.9	8.5	54.0	66	19 28	20 27	21 55	19 21	20 45	22 09	23 29		
	13	14 43.9 20.9	10 11.2 14.4 12 39.4	8.4	54.0	64	19 20	20 13	21 28	19 12	20 32	21 50	23 05		
	14	29 44.1 21.9	24 44.6 14.4 12 47.8	8.4	54.0	62	19 13	20 02	21 08	19 04	20 20	21 35	22 46		
	15	44 44.2 22.8	39 18.0 14.3 12 56.2	8.3	54.0	60	19 08	19 53	20 52	18 58	20 11	21 22	22 30		
	16	59 44.4 23.7	53 51.3 14.3 13 04.5	8.3	54.0	N 58	19 03	19 45	20 39	18 52	20 02	21 11	22 17		
	17	74 44.6 24.6	68 24.6 14.2 13 12.8	8.2	53.9	56	18 58	19 38	20 27	18 47	19 55	21 02	22 06		
	18	89 44.7 N 8 25.5	82 57.8 14.3 N13 21.0	8.2	53.9	54	18 54	19 31	20 18	18 42	19 48	20 53	21 56		
	19	104 44.9 26.4	97 31.1 14.2 13 29.2	8.1	53.9	52	18 50	19 26	20 09	18 38	19 43	20 46	21 47		
	20	119 45.1 27.4	112 04.3 14.2 13 37.3	8.0	53.9	50	18 47	19 21	20 02	18 34	19 37	20 39	21 39		
	21	134 45.2 28.3	126 37.5 14.1 13 45.3	8.0	53.9	45	18 40	19 10	19 47	18 26	19 26	20 25	21 22		
	22	149 45.4 29.2	141 10.6 14.1 13 53.3	8.0	53.9	N 40	18 34	19 02	19 35	18 20	19 17	20 13	21 09		
23	164 45.5 30.1	155 43.7 14.1 14 01.3	7.8	53.9	35	18 29	18 55	19 26	18 14	19 08	20 03	20 57			
MARTES	12 00	179 45.7 N 8 31.0	170 16.8 14.0 N14 09.1	7.8	53.9	30	18 25	18 49	19 18	18 09	19 01	19 54	20 47		
	01	194 45.9 31.9	184 49.8 14.0 14 16.9	7.8	53.9	20	18 17	18 39	19 06	18 00	18 49	19 39	20 29		
	02	209 46.0 32.9	199 22.8 14.0 14 24.7	7.7	53.9	N 10	18 10	18 32	18 56	17 52	18 39	19 26	20 14		
	03	224 46.2 33.8	213 55.8 13.9 14 32.4	7.6	53.9	0	18 04	18 25	18 50	17 45	18 29	19 13	20 00		
	04	239 46.4 34.7	228 28.7 14.0 14 40.0	7.6	53.9	S 10	17 58	18 20	18 44	17 38	18 19	19 01	19 46		
	05	254 46.5 35.6	243 01.7 13.8 14 47.6	7.5	53.9	20	17 52	18 14	18 40	17 30	18 08	18 48	19 30		
	06	269 46.7 N 8 36.5	257 34.5 13.9 N14 55.1	7.4	53.9	30	17 45	18 09	18 37	17 22	17 56	18 33	19 13		
	07	284 46.8 37.4	272 07.4 13.8 15 02.5	7.4	54.0	35	17 41	18 07	18 36	17 17	17 49	18 24	19 03		
	08	299 47.0 38.3	286 40.2 13.7 15 09.9	7.3	54.0	40	17 37	18 04	18 36	17 11	17 41	18 14	18 51		
	09	314 47.2 39.3	301 12.9 13.8 15 17.2	7.2	54.0	45	17 32	18 01	18 35	17 04	17 32	18 03	18 38		
	10	329 47.3 40.2	315 45.7 13.7 15 24.4	7.2	54.0	S 50	17 26	17 58	18 36	16 57	17 21	17 49	18 21		
	11	344 47.5 41.1	330 18.4 13.6 15 31.6	7.1	54.0	52	17 23	17 57	18 36	16 53	17 16	17 42	18 14		
	12	359 47.7 N 8 42.0	344 51.0 13.7 N15 38.7	7.1	54.0	54	17 20	17 56	18 36	16 49	17 10	17 35	18 05		
	13	14 47.8 42.9	359 23.7 13.6 15 45.8	6.9	54.0	56	17 17	17 54	18 37	16 45	17 04	17 27	17 55		
	14	29 48.0 43.8	13 56.3 13.5 15 52.7	7.0	54.0	58	17 13	17 52	18 38	16 40	16 57	17 18	17 45		
	15	44 48.1 44.7	28 28.8 13.5 15 59.7	6.8	54.0	S 60	17 09	17 51	18 39	16 35	16 49	17 08	17 32		
	16	59 48.3 45.6	43 01.3 13.5 16 06.5	6.8	54.0	Día	SOL		LUNA						
	17	74 48.5 46.6	57 33.8 13.5 16 13.3	6.7	54.0	10	E.T. (-)	Pas. Mer.	Pas. Mer.		Edad.	Fase			
	18	89 48.6 N 8 47.5	72 06.3 13.4 N16 20.0	6.6	54.0	11	00 h	12 h	Sup.	Inf.	d				
	19	104 48.8 48.4	86 38.7 13.4 16 26.6	6.5	54.0	12	m s	m s	h m	h m	h m				
	20	119 48.9 49.3	101 11.1 13.3 16 33.1	6.5	54.0	01 29	01 21	12 01	11 35	23 56	29				
	21	134 49.1 50.2	115 43.4 13.3 16 39.6	6.4	54.0	01 13	01 05	12 01	12 18	24 40	00				
	22	149 49.3 51.1	130 15.7 13.3 16 46.0	6.4	54.0	00 57	00 50	12 01	13 02	00 40	01				
23	164 49.4 52.0	144 48.0 13.2 16 52.4	6.3	54.0	S.D.	16.0	d	0.9	S.D.	14.7	14.7	14.7			

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.0			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.			
M I E R C O L E S	13 00	200 57.3	159 36.7 N15	53.6	201 46.9 S 1	31.0	341 01.6 S14	04.9	220 11.1 S 9	45.9	Acamar	315 29.6 S40	19.8					
	01	215 59.7	174 36.1	54.6	216 47.6	30.2	356 04.4	04.8	235 13.3	45.8	Achernar	335 38.0 S57	16.0					
	02	231 02.2	189 35.6	55.6	231 48.2	29.4	11 07.1	04.7	250 15.5	45.8	Acrux	173 24.7 S63	04.3					
	03	246 04.6	204 35.1	56.6	246 48.9	28.7	26 09.9	04.6	265 17.8	45.7	Adhara	255 23.9 S28	58.2					
	04	261 07.1	219 34.5	57.7	261 49.6	27.9	41 12.6	04.5	280 20.0	45.6	Aldebaran	291 06.1 N16	29.8					
	05	276 09.6	234 34.0	58.7	276 50.3	27.1	56 15.3	04.4	295 22.2	45.5								
	06	291 12.0	249 33.4 N15	59.7	291 51.0 S 1	26.3	71 18.1 S14	04.4	310 24.5 S 9	45.4	Alioth	166 32.7 N55	59.4					
	07	306 14.5	264 32.9	16 00.7	306 51.7	25.5	86 20.8	04.3	325 26.7	45.3	Alkaid	153 09.7 N49	20.4					
	08	321 17.0	279 32.3	01.7	321 52.3	24.7	101 23.6	04.2	340 28.9	45.2	Al Na'ir	28 02.0 S46	59.1					
	09	336 19.4	294 31.8	02.7	336 53.0	24.0	116 26.3	04.1	355 31.1	45.2	Alnilam	276 01.1 S 1	12.5					
	10	351 21.9	309 31.2	03.7	351 53.7	23.2	131 29.1	04.0	10 33.4	45.1	Alphard	218 10.1 S 8	38.3					
	11	6 24.4	324 30.7	04.8	6 54.4	22.4	146 31.8	03.9	25 35.6	45.0								
	12	21 26.8	339 30.1 N16	05.8	21 55.1 S 1	21.6	161 34.6 S14	03.8	40 37.8 S 9	44.9	Alphecca	126 22.9 N26	43.9					
	13	36 29.3	354 29.5	06.8	36 55.7	20.8	176 37.3	03.7	55 40.1	44.8	Alpheratz	357 58.7 N29	03.5					
	14	51 31.8	9 29.0	07.8	51 56.4	20.1	191 40.0	03.6	70 42.3	44.7	Altair	62 22.2 N 8	51.1					
	15	66 34.2	24 28.4	08.8	66 57.1	19.3	206 42.8	03.5	85 44.5	44.6	Ankaa	353 30.2 S42	20.2					
	16	81 36.7	39 27.9	09.8	81 57.8	18.5	221 45.5	03.5	100 46.8	44.6	Antares	112 43.6 S26	25.2					
	17	96 39.1	54 27.3	10.8	96 58.5	17.7	236 48.3	03.4	115 49.0	44.5								
	18	111 41.6	69 26.8 N16	11.8	111 59.2 S 1	16.9	251 51.0 S14	03.3	130 51.2 S 9	44.4	Arcturus	146 08.5 N19	12.6					
	19	126 44.1	84 26.2	12.8	126 59.8	16.1	266 53.8	03.2	145 53.5	44.3	Atria	107 58.0 S69	00.8					
	20	141 46.5	99 25.7	13.9	142 00.5	15.4	281 56.5	03.1	160 55.7	44.2	Avior	234 23.8 S59	29.9					
	21	156 49.0	114 25.1	14.9	157 01.2	14.6	296 59.3	03.0	175 57.9	44.1	Bellatrix	278 47.6 N 6	20.5					
	22	171 51.5	129 24.6	15.9	172 01.9	13.8	312 02.0	02.9	191 00.2	44.0	Betelgeuse	271 17.0 N 7	24.2					
23	186 53.9	144 24.0	16.9	187 02.6	13.0	327 04.8	02.8	206 02.4	44.0									
J U E V E S	14 00	201 56.4	159 23.4 N16	17.9	202 03.3 S 1	12.2	342 07.5 S14	02.7	221 04.6 S 9	43.9	Canopus	264 02.7 S52	41.9					
	01	216 58.9	174 22.9	18.9	217 04.0	11.5	357 10.3	02.7	236 06.9	43.8	Capella	280 56.0 N45	59.6					
	02	232 01.3	189 22.3	19.9	232 04.6	10.7	12 13.0	02.6	251 09.1	43.7	Deneb	49 41.4 N45	15.4					
	03	247 03.8	204 21.8	20.9	247 05.3	09.9	27 15.7	02.5	266 11.3	43.6	Denebola	182 48.0 N14	36.1					
	04	262 06.2	219 21.2	21.9	262 06.0	09.1	42 18.5	02.4	281 13.6	43.5	Diphda	349 10.6 S18	01.1					
	05	277 08.7	234 20.7	22.9	277 06.7	08.3	57 21.2	02.3	296 15.8	43.4								
	06	292 11.2	249 20.1 N16	23.9	292 07.4 S 1	07.5	72 24.0 S14	02.2	311 18.0 S 9	43.4	Dubhe	194 08.7 N61	46.9					
	07	307 13.6	264 19.5	24.9	307 08.1	06.8	87 26.7	02.1	326 20.3	43.3	Elnath	278 31.0 N28	36.1					
	08	322 16.1	279 19.0	25.9	322 08.7	06.0	102 29.5	02.0	341 22.5	43.2	Eltanin	90 52.6 N51	29.1					
	09	337 18.6	294 18.4	26.9	337 09.4	05.2	117 32.2	01.9	356 24.7	43.1	Enif	34 01.4 N 9	50.9					
	10	352 21.0	309 17.8	27.9	352 10.1	04.4	132 35.0	01.8	11 27.0	43.0	Fomalhaut	15 40.1 S29	39.1					
	11	7 23.5	324 17.3	28.9	7 10.8	03.6	147 37.7	01.8	26 29.2	42.9								
	12	22 26.0	339 16.7 N16	29.9	22 11.5 S 1	02.9	162 40.5 S14	01.7	41 31.4 S 9	42.8	Gacrux	172 16.4 S57	05.1					
	13	37 28.4	354 16.2	30.9	37 12.2	02.1	177 43.2	01.6	56 33.7	42.8	Gienah	176 06.8 S17	30.9					
	14	52 30.9	9 15.6	31.9	52 12.8	01.3	192 46.0	01.5	71 35.9	42.7	Hadar	149 07.7 S60	20.8					
	15	67 33.4	24 15.0	32.9	67 13.5	00.5	207 48.7	01.4	86 38.1	42.6	Hamal	328 17.3 N23	26.1					
	16	82 35.8	39 14.5	33.8	82 14.2	0 59.7	222 51.5	01.3	101 40.4	42.5	Kaus Aust.	84 02.7 S34	23.1					
	17	97 38.3	54 13.9	34.8	97 14.9	58.9	237 54.2	01.2	116 42.6	42.4								
	18	112 40.7	69 13.3 N16	35.8	112 15.6 S 0	58.2	252 57.0 S14	01.1	131 44.8 S 9	42.3	Kochab	137 18.3 N74	10.6					
	19	127 43.2	84 12.8	36.8	127 16.3	57.4	267 59.7	01.0	146 47.1	42.3	Markab	13 52.9 N15	10.4					
	20	142 45.7	99 12.2	37.8	142 17.0	56.6	283 02.5	00.9	161 49.3	42.2	Menkar	314 30.4 N 4	03.9					
	21	157 48.1	114 11.6	38.8	157 17.6	55.8	298 05.2	00.9	176 51.5	42.1	Menkent	148 24.2 S36	20.6					
	22	172 50.6	129 11.1	39.8	172 18.3	55.0	313 08.0	00.8	191 53.8	42.0	Miaplacidus	221 42.3 S69	42.1					
23	187 53.1	144 10.5	40.8	187 19.0	54.3	328 10.7	00.7	206 56.0	41.9									
V I E R N E S	15 00	202 55.5	159 09.9 N16	41.8	202 19.7 S 0	53.5	343 13.5 S14	00.6	221 58.2 S 9	41.8	Mirfak	309 01.4 N49	50.5					
	01	217 58.0	174 09.4	42.8	217 20.4	52.7	358 16.2	00.5	237 00.5	41.7	Nunki	76 16.0 S26	18.1					
	02	233 00.5	189 08.8	43.7	232 21.1	51.9	13 19.0	00.4	252 02.7	41.7	Peacock	53 41.9 S56	44.9					
	03	248 02.9	204 08.2	44.7	247 21.8	51.1	28 21.7	00.3	267 04.9	41.6	Pollux	243 45.3 N28	02.3					
	04	263 05.4	219 07.7	45.7	262 22.4	50.3	43 24.5	00.2	282 07.2	41.5	Procyon	245 14.8 N 5	14.2					
	05	278 07.9	234 07.1	46.7	277 23.1	49.6	58 27.2	00.1	297 09.4	41.4								
	06	293 10.3	249 06.5 N16	47.7	292 23.8 S 0	48.8	73 30.0 S14	00.0	312 11.6 S 9	41.3	Rasalhague	96 19.6 N12	33.7					
	07	308 12.8	264 06.0	48.7	307 24.5	48.0	88 32.7	13 59.9	327 13.9	41.2	Regulus	207 58.6 N11	59.5					
	08	323 15.2	279 05.4	49.6	322 25.2	47.2	103 35.5	59.9	342 16.1	41.2	Rigel	281 26.1 S 8	12.7					
	09	338 17.7	294 04.8	50.6	337 25.9	46.4	118 38.2	59.8	357 18.3	41.1	Rigel Kent.	140 10.7 S60	48.7					
	10	353 20.2	309 04.2	51.6	352 26.6	45.7	133 41.0	59.7	12 20.6	41.0	Sabik	102 28.8 S15	43.1					
	11	8 22.6	324 03.7	52.6	7 27.2	44.9	148 43.7	59.6	27 22.8	40.9								
	12	23 25.1	339 03.1 N16	53.6	22 27.9 S 0	44.1	163 46.5 S13	59.5	42 25.0 S 9	40.8	Schedar	349 57.5 N56	30.3					
	13	38 27.6	354 02.5	54.5	37 28.6	43.3	178 49.2	59.4	57 27.3	40.7	Shaula	96 41.2 S37	05.9					
	14	53 30.0	9 01.9	55.5	52 29.3	42.5	193 52.0	59.3	72 29.5	40.7	Sirius	258 46.4 S16	42.8					
	15	68 32.5	24 01.4	56.5	67 30.0	41.8	208 54.7	59.2	87 31.8	40.6	Spica	158 46.1 S11	08.1					
	16	83 35.0	39 00.8	57.5	82 30.7	41.0	223 57.5	59.1	102 34.0	40.5	Suhail	223 02.8 S43	25.0					
	17	98 37.4	54 00.2	58.4	97 31.4	40.2	239 00.2	59.0	117 36.2	40.4								
	18	113 39.9	68 59.6 N16	59.4	112 32.0 S 0	39.4	254 03.0 S13	58.9	132 38.5 S 9	40.3	Vega	80 48.6 N38	46.5					
	19	128 42.3	83 59.1	17 00.4	127 32.7	38.6	269 05.8	58.8	147 40.7	40.2	Zuben'ubi	137 21.0 S16	01.2					
	20	143 44.8	98 58.5	01.4	142 33.4	37.8	284 08.5	58.8	162 42.9	40.1								
	21	158 47.3	113 57.9	02.3	157 34.1	37.1	299 11.3	58.7	177 45.2	40.1								
	22	173 49.7	128 57.3	03.3	172 34.8	36.3	314 14.0	58.6	192 47.4	40.0								
23	188 52.2	143 56.8	04.3	187 35.5	35.5	329 16.8	58.5	207 49.6	39.9									
Pas. Mer. 10 30.5		v -0.6 d 1.0			v 0.7 d 0.8			v 2.7 d 0.1			v 2.2 d 0.1			A. H. S. Pas. Mer. o / h m				
											Venus			317 27.1 13 23				
											Marte			0 06.9 10 31				
											Júpiter			140 11.1 1 11				
											Saturno			19 08.2 9 14				

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d'</i>		P.H.	Ndut.		Civil	13	14	15	16	
	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "		o / ' / "	h m	h m	h m	h m	h m	h m	h m	
M I E R C O L E S	13 00	179 49.6	N 8 52.9	159 20.2	13.2	N16 58.7	6.1	54.0	N 72	///	02 10	03 46	02 40	□	□	□
	01	194 49.7	53.8	173 52.4	13.2	17 04.8	6.2	54.0	N 70	///	02 43	04 02	03 35	03 20	□	□
	02	209 49.9	54.7	188 24.6	13.1	17 11.0	6.0	54.0	68	01 00	03 07	04 15	04 08	04 16	04 34	05 18
	03	224 50.1	55.7	202 56.7	13.1	17 17.0	6.0	54.0	66	01 52	03 25	04 25	04 33	04 49	05 17	06 03
	04	239 50.2	56.6	217 28.8	13.1	17 23.0	5.9	54.0	64	02 22	03 39	04 34	04 52	05 14	05 46	06 33
	05	254 50.4	57.5	232 00.9	13.0	17 28.9	5.8	54.0	62	02 44	03 51	04 41	05 08	05 33	06 08	06 56
	06	269 50.5	N 8 58.4	246 32.9	13.0	N17 34.7	5.7	54.0	60	03 01	04 02	04 47	05 21	05 49	06 26	07 14
	07	284 50.7	8 59.3	261 04.9	12.9	17 40.4	5.7	54.0	N 58	03 15	04 10	04 53	05 32	06 02	06 41	07 29
	08	299 50.9	9 00.2	275 36.8	13.0	17 46.1	5.6	54.0	56	03 27	04 18	04 58	05 42	06 14	06 53	07 42
	09	314 51.0	01.1	290 08.8	12.8	17 51.7	5.5	54.0	54	03 38	04 25	05 02	05 51	06 24	07 04	07 53
	10	329 51.2	02.0	304 40.6	12.9	17 57.2	5.4	54.0	52	03 46	04 31	05 06	05 59	06 33	07 14	08 03
	11	344 51.3	02.9	319 12.5	12.8	18 02.6	5.3	54.0	50	03 54	04 36	05 10	06 06	06 41	07 23	08 12
	12	359 51.5	N 9 03.8	333 44.3	12.7	N18 07.9	5.3	54.1	45	04 10	04 47	05 18	06 21	06 59	07 42	08 31
	13	14 51.6	04.7	348 16.0	12.8	18 13.2	5.2	54.1	N 40	04 23	04 56	05 24	06 33	07 13	07 57	08 46
	14	29 51.8	05.6	2 47.8	12.7	18 18.4	5.1	54.1	35	04 33	05 04	05 30	06 44	07 25	08 10	08 59
	15	44 52.0	06.5	17 19.5	12.6	18 23.5	5.0	54.1	30	04 41	05 10	05 35	06 54	07 35	08 21	09 10
	16	59 52.1	07.4	31 51.1	12.7	18 28.5	4.9	54.1	20	04 54	05 21	05 43	07 10	07 54	08 40	09 30
	17	74 52.3	08.3	46 22.8	12.6	18 33.4	4.9	54.1	N 10	05 04	05 29	05 50	07 24	08 09	08 57	09 46
	18	89 52.4	N 9 09.3	60 54.4	12.5	N18 38.3	4.7	54.1	0	05 12	05 36	05 57	07 37	08 24	09 13	10 02
	19	104 52.6	10.2	75 25.9	12.5	18 43.0	4.7	54.1	S 10	05 18	05 42	06 04	07 51	08 39	09 28	10 18
	20	119 52.7	11.1	89 57.4	12.5	18 47.7	4.6	54.1	20	05 23	05 48	06 11	08 05	08 55	09 45	10 35
	21	134 52.9	12.0	104 28.9	12.5	18 52.3	4.6	54.1	30	05 26	05 54	06 18	08 21	09 14	10 05	10 54
	22	149 53.1	12.9	119 00.4	12.4	18 56.9	4.4	54.1	35	05 28	05 57	06 23	08 31	09 24	10 16	11 05
23	164 53.2	13.8	133 31.8	12.4	19 01.3	4.3	54.1	40	05 29	06 00	06 28	08 42	09 37	10 29	11 18	
14 00	179 53.4	N 9 14.7	148 03.2	12.3	N19 05.6	4.3	54.1	45	05 30	06 04	06 33	08 55	09 51	10 45	11 34	
01	194 53.5	15.6	162 34.5	12.3	19 09.9	4.2	54.1	S 50	05 30	06 08	06 40	09 11	10 09	11 04	11 53	
02	209 53.7	16.5	177 05.8	12.3	19 14.1	4.1	54.2	52	05 30	06 09	06 43	09 18	10 18	11 13	12 01	
03	224 53.8	17.4	191 37.1	12.3	19 18.2	3.9	54.2	54	05 30	06 11	06 47	09 27	10 27	11 23	12 11	
04	239 54.0	18.3	206 08.4	12.2	19 22.1	4.0	54.2	56	05 30	06 13	06 51	09 36	10 38	11 34	12 23	
05	254 54.2	19.2	220 39.6	12.2	19 26.1	3.8	54.2	58	05 29	06 15	06 55	09 46	10 50	11 47	12 36	
06	269 54.3	N 9 20.1	235 10.8	12.1	N19 29.9	3.7	54.2	S 60	05 29	06 17	07 00	09 59	11 04	12 02	12 51	
07	284 54.5	21.0	249 41.9	12.1	19 33.6	3.7	54.2	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
08	299 54.6	21.9	264 13.0	12.1	19 37.3	3.5	54.2		Sol	Civil	Náut.	13	14	15	16	
09	314 54.8	22.8	278 44.1	12.1	19 40.8	3.5	54.2									
10	329 54.9	23.7	293 15.2	12.0	19 44.3	3.4	54.2									
11	344 55.1	24.6	307 46.2	12.0	19 47.7	3.2	54.2									
12	359 55.2	N 9 25.5	322 17.2	11.9	N19 50.9	3.2	54.3	N 72	20 18	21 58	///	□	□	□	□	
13	14 55.4	26.4	336 48.1	12.0	19 54.1	3.1	54.3	N 70	20 02	21 23	///	24 57	00 57	□	□	
14	29 55.5	27.3	351 19.1	11.9	19 57.2	3.0	54.3	68	19 49	20 58	23 16	24 02	00 02	01 23	02 22	
15	44 55.7	28.2	5 50.0	11.8	20 00.2	2.9	54.3	66	19 38	20 39	22 16	23 29	00 41	01 36	02 36	
16	59 55.9	29.1	20 20.8	11.9	20 03.1	2.9	54.3	64	19 29	20 24	21 43	23 05	00 12	01 06	02 06	
17	74 56.0	30.0	34 51.7	11.8	20 06.0	2.7	54.3	62	19 22	20 12	21 20	22 46	00 44	01 39	02 36	
18	89 56.2	N 9 30.9	49 22.5	11.7	N20 08.7	2.6	54.3	60	19 15	20 01	21 02	22 30	01 26	02 21	03 18	
19	104 56.3	31.8	63 53.2	11.8	20 11.3	2.6	54.3	N 58	19 09	19 52	20 48	22 17	23 18	24 10	00 10	
20	119 56.5	32.7	78 24.0	11.7	20 13.9	2.4	54.3	56	19 04	19 44	20 35	22 06	23 05	23 57	24 42	
21	134 56.6	33.6	92 54.7	11.7	20 16.3	2.4	54.4	54	19 00	19 37	20 25	21 56	22 54	23 46	24 31	
22	149 56.8	34.5	107 25.4	11.7	20 18.7	2.2	54.4	52	18 56	19 31	20 16	21 47	22 44	23 36	24 22	
23	164 56.9	35.4	121 56.1	11.6	20 20.9	2.2	54.4	50	18 52	19 26	20 08	21 39	22 36	23 27	24 13	
15 00	179 57.1	N 9 36.3	136 26.7	11.6	N20 23.1	2.1	54.4	45	18 44	19 14	19 51	21 22	22 17	23 08	23 55	
01	194 57.2	37.2	150 57.3	11.6	20 25.2	1.9	54.4	N 40	18 37	19 05	19 39	21 09	22 02	22 53	23 40	
02	209 57.4	38.1	165 27.9	11.6	20 27.1	1.9	54.4	35	18 31	18 57	19 28	20 57	21 50	22 40	23 28	
03	224 57.5	39.0	179 58.5	11.5	20 29.0	1.8	54.4	30	18 26	18 51	19 20	20 47	21 38	22 29	23 17	
04	239 57.7	39.9	194 29.0	11.5	20 30.8	1.7	54.5	20	18 18	18 40	19 07	20 29	21 19	22 09	22 58	
05	254 57.9	40.8	208 59.5	11.5	20 32.5	1.6	54.5	N 10	18 10	18 32	18 57	20 14	21 03	21 52	22 42	
06	269 58.0	N 9 41.6	223 30.0	11.4	N20 34.1	1.4	54.5	0	18 04	18 25	18 49	20 00	20 48	21 37	22 26	
07	284 58.2	42.5	238 00.4	11.5	20 35.5	1.4	54.5	S 10	17 57	18 18	18 43	19 46	20 32	21 21	22 11	
08	299 58.3	43.4	252 30.9	11.4	20 36.9	1.3	54.5	20	17 50	18 12	18 38	19 30	20 16	21 04	21 54	
09	314 58.5	44.3	267 01.3	11.3	20 38.2	1.2	54.5	30	17 42	18 06	18 34	19 13	19 57	20 44	21 35	
10	329 58.6	45.2	281 31.6	11.4	20 39.4	1.1	54.5	35	17 37	18 03	18 32	19 03	19 46	20 33	21 24	
11	344 58.8	46.1	296 02.0	11.3	20 40.5	1.0	54.6	40	17 32	18 00	18 31	18 51	19 33	20 20	21 11	
12	359 58.9	N 9 47.0	310 32.3	11.4	N20 41.5	0.9	54.6	45	17 27	17 56	18 30	18 38	19 18	20 04	20 56	
13	14 59.1	47.9	325 02.7	11.3	20 42.4	0.8	54.6	S 50	17 20	17 52	18 30	18 21	19 00	19 45	20 38	
14	29 59.2	48.8	339 33.0	11.2	20 43.2	0.7	54.6	52	17 16	17 51	18 30	18 14	18 51	19 36	20 29	
15	44 59.4	49.7	354 03.2	11.3	20 43.9	0.6	54.6	54	17 13	17 49	18 30	18 05	18 42	19 26	20 19	
16	59 59.5	50.6	8 33.5	11.2	20 44.5	0.5	54.6	56	17 09	17 47	18 30	17 55	18 31	19 15	20 08	
17	74 59.7	51.5	23 03.7	11.2	20 45.0	0.4	54.7	58	17 05	17 45	18 30	17 45	18 18	19 01	19 55	
18	89 59.8	N 9 52.4	37 33.9	11.2	N20 45.4	0.3	54.7	S 60	17 00	17 42	18 30	17 32	18 04	18 46	19 40	
19	105 00.0	53.3	52 0													

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.1			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.		
16 00	203 54.7	158 56.2	N17 05.2	202 36.2	S 0 34.7	344 19.5	S13 58.4	222 51.9	S 9 39.8	Acomar	315 29.6	S40 19.8						
01	218 57.1	173 55.6	06.2	217 36.8	33.9	359 22.3	58.3	237 54.1	39.7	Achernar	335 38.0	S57 15.9						
02	233 59.6	188 55.0	07.2	232 37.5	33.2	14 25.0	58.2	252 56.4	39.6	Acrux	173 24.7	S63 04.3						
03	249 02.1	203 54.4	08.1	247 38.2	32.4	29 27.8	58.1	267 58.6	39.6	Adhara	255 23.9	S28 58.2						
04	264 04.5	218 53.9	09.1	262 38.9	31.6	44 30.5	58.0	283 00.8	39.5	Aldebaran	291 06.1	N16 29.8						
05	279 07.0	233 53.3	10.1	277 39.6	30.8	59 33.3	57.9	298 03.1	39.4									
06	294 09.5	248 52.7	N17 11.0	292 40.3	S 0 30.0	74 36.0	S13 57.8	313 05.3	S 9 39.3	Alioth	166 32.7	N55 59.4						
07	309 11.9	263 52.1	12.0	307 41.0	29.2	89 38.8	57.7	328 07.5	39.2	Alkaid	153 09.7	N49 20.4						
08	324 14.4	278 51.5	13.0	322 41.7	28.5	104 41.5	57.7	343 09.8	39.1	Al Na'ir	28 01.9	S46 59.1						
S 09	339 16.8	293 50.9	13.9	337 42.3	27.7	119 44.3	57.6	358 12.0	39.1	Alnilam	276 01.1	S 1 12.5						
A 10	354 19.3	308 50.4	14.9	352 43.0	26.9	134 47.1	57.5	13 14.3	39.0	Alphard	218 10.1	S 8 38.3						
B 11	9 21.8	323 49.8	15.8	7 43.7	26.1	149 49.8	57.4	28 16.5	38.9									
A 12	24 24.2	338 49.2	N17 16.8	22 44.4	S 0 25.3	164 52.6	S13 57.3	43 18.7	S 9 38.8	Alphecca	126 22.8	N26 43.9						
D 13	39 26.7	353 48.6	17.8	37 45.1	24.6	179 55.3	57.2	58 21.0	38.7	Alpheratz	357 58.7	N29 03.4						
O 14	54 29.2	8 48.0	18.7	52 45.8	23.8	194 58.1	57.1	73 23.2	38.6	Altair	62 22.2	N 8 51.1						
15	69 31.6	23 47.4	19.7	67 46.5	23.0	210 00.8	57.0	88 25.4	38.6	Ankaa	353 30.2	S42 20.1						
16	84 34.1	38 46.9	20.6	82 47.2	22.2	225 03.6	56.9	103 27.7	38.5	Antares	112 43.6	S26 25.2						
17	99 36.6	53 46.3	21.6	97 47.8	21.4	240 06.3	56.8	118 29.9	38.4									
18	114 39.0	68 45.7	N17 22.6	112 48.5	S 0 20.7	255 09.1	S13 56.7	133 32.2	S 9 38.3	Arcturus	146 08.5	N19 12.6						
19	129 41.5	83 45.1	23.5	127 49.2	19.9	270 11.9	56.6	148 34.4	38.2	Atria	107 58.0	S69 00.9						
20	144 44.0	98 44.5	24.5	142 49.9	19.1	285 14.6	56.5	163 36.6	38.1	Avior	234 23.8	S59 29.9						
21	159 46.4	113 43.9	25.4	157 50.6	18.3	300 17.4	56.5	178 38.9	38.1	Bellatrix	278 47.6	N 6 20.5						
22	174 48.9	128 43.3	26.4	172 51.3	17.5	315 20.1	56.4	193 41.1	38.0	Betelgeuse	271 17.0	N 7 24.2						
23	189 51.3	143 42.7	27.3	187 52.0	16.8	330 22.9	56.3	208 43.4	37.9									
17 00	204 53.8	158 42.2	N17 28.3	202 52.7	S 0 16.0	345 25.6	S13 56.2	223 45.6	S 9 37.8	Canopus	264 02.7	S52 41.9						
01	219 56.3	173 41.6	29.2	217 53.3	15.2	0 28.4	56.1	238 47.8	37.7	Capella	280 56.0	N45 59.6						
02	234 58.7	188 41.0	30.2	232 54.0	14.4	15 31.2	56.0	253 50.1	37.7	Deneb	49 41.3	N45 15.4						
03	250 01.2	203 40.4	31.1	247 54.7	13.6	30 33.9	55.9	268 52.3	37.6	Denebola	182 48.0	N14 36.1						
04	265 03.7	218 39.8	32.1	262 55.4	12.8	45 36.7	55.8	283 54.6	37.5	Diphda	349 10.6	S18 01.1						
05	280 06.1	233 39.2	33.0	277 56.1	12.1	60 39.4	55.7	298 56.8	37.4									
06	295 08.6	248 38.6	N17 34.0	292 56.8	S 0 11.3	75 42.2	S13 55.6	313 59.0	S 9 37.3	Dubhe	194 08.7	N61 46.9						
07	310 11.1	263 38.0	34.9	307 57.5	10.5	90 44.9	55.5	329 01.3	37.2	Elnath	278 31.0	N28 36.1						
D 08	325 13.5	278 37.4	35.9	322 58.2	09.7	105 47.7	55.4	344 03.5	37.2	Eltanin	90 52.6	N51 29.2						
O 09	340 16.0	293 36.8	36.8	337 58.8	08.9	120 50.5	55.3	359 05.8	37.1	Enif	34 01.4	N 9 50.9						
M 10	355 18.4	308 36.2	37.7	352 59.5	08.2	135 53.2	55.3	14 08.0	37.0	Fomalhaut	15 40.0	S29 39.0						
I 11	10 20.9	323 35.6	38.7	8 00.2	07.4	150 56.0	55.2	29 10.2	36.9									
N 12	25 23.4	338 35.0	N17 39.6	23 00.9	S 0 06.6	165 58.7	S13 55.1	44 12.5	S 9 36.8	Gacrux	172 16.4	S57 05.1						
G 13	40 25.8	353 34.4	40.6	38 01.6	05.8	181 01.5	55.0	59 14.7	36.7	Gienah	176 06.8	S17 30.9						
O 14	55 28.3	8 33.9	41.5	53 02.3	05.0	196 04.2	54.9	74 17.0	36.7	Hadar	149 07.7	S60 20.8						
15	70 30.8	23 33.3	42.4	68 03.0	04.3	211 07.0	54.8	89 19.2	36.6	Hamal	328 17.3	N23 26.1						
16	85 33.2	38 32.7	43.4	83 03.7	03.5	226 09.8	54.7	104 21.4	36.5	Kaus Aust.	84 02.7	S34 23.1						
17	100 35.7	53 32.1	44.3	98 04.4	02.7	241 12.5	54.6	119 23.7	36.4									
18	115 38.2	68 31.5	N17 45.3	113 05.0	S 0 01.9	256 15.3	S13 54.5	134 25.9	S 9 36.3	Kochab	137 18.3	N74 10.6						
19	130 40.6	83 30.9	46.2	128 05.7	01.1	271 18.0	54.4	149 28.2	36.3	Markab	13 52.9	N15 10.4						
20	145 43.1	98 30.3	47.1	143 06.4	S 0 00.4	286 20.8	54.3	164 30.4	36.2	Menkar	314 30.4	N 4 03.9						
21	160 45.6	113 29.7	48.1	158 07.1	N 0 00.4	301 23.5	54.2	179 32.6	36.1	Menkent	148 24.1	S36 20.7						
22	175 48.0	128 29.1	49.0	173 07.8	01.2	316 26.3	54.1	194 34.9	36.0	Miaplacidus	221 42.3	S69 42.1						
23	190 50.5	143 28.5	49.9	188 08.5	02.0	331 29.1	54.0	209 37.1	35.9									
18 00	205 52.9	158 27.9	N17 50.9	203 09.2	N 0 02.8	346 31.8	S13 53.9	224 39.4	S 9 35.8	Mirfak	309 01.4	N49 50.5						
01	220 55.4	173 27.3	51.8	218 09.9	03.5	1 34.6	53.9	239 41.6	35.8	Nunki	76 16.0	S26 18.1						
02	235 57.9	188 26.7	52.7	233 10.6	04.3	16 37.3	53.8	254 43.8	35.7	Peacock	53 41.8	S56 44.9						
03	251 00.3	203 26.1	53.7	248 11.2	05.1	31 40.1	53.7	269 46.1	35.6	Pollux	243 45.3	N28 02.3						
04	266 02.8	218 25.5	54.6	263 11.9	05.9	46 42.9	53.6	284 48.3	35.5	Procyon	245 14.8	N 5 14.2						
05	281 05.3	233 24.9	55.5	278 12.6	06.7	61 45.6	53.5	299 50.6	35.4									
06	296 07.7	248 24.3	N17 56.4	293 13.3	N 0 07.4	76 48.4	S13 53.4	314 52.8	S 9 35.4	Rasalhague	96 19.6	N12 33.7						
07	311 10.2	263 23.7	57.4	308 14.0	08.2	91 51.1	53.3	329 55.1	35.3	Regulus	207 58.6	N11 59.5						
08	326 12.7	278 23.0	58.3	323 14.7	09.0	106 53.9	53.2	344 57.3	35.2	Rigel	281 26.1	S 8 12.7						
L 09	341 15.1	293 22.4	17 59.2	338 15.4	09.8	121 56.7	53.1	359 59.5	35.1	Rigil Kent.	140 10.7	S60 48.7						
U 10	356 17.6	308 21.8	18 00.1	353 16.1	10.6	136 59.4	53.0	15 01.8	35.0	Sabik	102 28.8	S15 43.1						
N 11	11 20.1	323 21.2	01.1	8 16.8	11.3	152 02.2	52.9	30 04.0	34.9									
E 12	26 22.5	338 20.6	N18 02.0	23 17.4	N 0 12.1	167 04.9	S13 52.8	45 06.3	S 9 34.9	Schedar	349 57.5	N56 30.3						
S 13	41 25.0	353 20.0	02.9	38 18.1	12.9	182 07.7	52.7	60 08.5	34.8	Shaula	96 41.2	S37 05.9						
14	56 27.4	8 19.4	03.8	53 18.8	13.7	197 10.5	52.6	75 10.8	34.7	Sirius	258 46.5	S16 42.8						
15	71 29.9	23 18.8	04.8	68 19.5	14.5	212 13.2	52.5	90 13.0	34.6	Spica	158 46.1	S11 08.1						
16	86 32.4	38 18.2	05.7	83 20.2	15.2	227 16.0	52.5	105 15.2	34.5	Suhail	223 02.9	S43 25.0						
17	101 34.8	53 17.6	06.6	98 20.9	16.0	242 18.7	52.4	120 17.5	34.5									
18	116 37.3	68 17.0	N18 07.5	113 21.6	N 0 16.8	257 21.5	S13 52.3	135 19.7	S 9 34.4	Vega	80 48.5	N38 46.5						
19	131 39.8	83 16.4	08.4	128 22.3	17.6	272 24.3	52.2											

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna			
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Náut.		Civil	16	17	18
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m
16 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	180 00.7	N 9 57.7	124 34.8	11.0	N20 45.7	0.3	54.8	///	01 40	03 29	□	□	05 47	08 47
	195 00.9	58.6	139 04.8	11.1	20 45.4	0.5	54.8	///	02 22	03 47	□	□	05 14	07 26
	210 01.0	9 59.5	153 34.9	11.0	20 44.9	0.5	54.8	///	02 50	04 02	05 18	06 33	08 05	09 45
	225 01.2	10 00.4	168 04.9	11.1	20 44.4	0.6	54.8	66	01 26	03 11	04 13	06 03	07 10	08 33
	240 01.3	01.3	182 35.0	11.0	20 43.8	0.7	54.8	64	02 04	03 27	04 23	06 33	07 37	08 53
	255 01.5	02.2	197 05.0	11.0	20 43.1	0.8	54.9	62	02 30	03 41	04 31	06 56	07 57	09 10
	270 01.6	N10 03.0	211 35.0	11.0	N20 42.3	0.9	54.9	60	02 49	03 52	04 38	07 14	08 14	09 24
	285 01.8	03.9	226 05.0	10.9	20 41.4	1.0	54.9	N 58	03 05	04 01	04 45	07 29	08 28	09 36
	300 01.9	04.8	240 34.9	11.0	20 40.4	1.2	54.9	56	03 18	04 10	04 50	07 42	08 40	09 46
	315 02.1	.. 05.7	255 04.9	10.9	20 39.2	1.2	54.9	54	03 29	04 17	04 55	07 53	08 50	09 55
	330 02.2	06.6	269 34.8	10.9	20 38.0	1.3	55.0	52	03 39	04 24	05 00	08 03	09 00	10 03
	345 02.4	07.5	284 04.7	11.0	20 36.7	1.5	55.0	50	03 47	04 29	05 04	08 12	09 08	10 11
	0 02.5	N10 08.4	298 34.7	10.9	N20 35.2	1.5	55.0	45	04 04	04 42	05 13	08 31	09 26	10 26
	15 02.7	09.3	313 04.6	10.9	20 33.7	1.6	55.0	N 40	04 18	04 52	05 20	08 46	09 40	10 39
	30 02.8	10.1	327 34.5	10.8	20 32.1	1.8	55.1	35	04 29	05 00	05 26	08 59	09 52	10 49
	45 03.0	.. 11.0	342 04.3	10.9	20 30.3	1.8	55.1	30	04 38	05 07	05 31	09 10	10 03	10 59
	60 03.1	11.9	356 34.2	10.9	20 28.5	2.0	55.1	20	04 52	05 18	05 41	09 30	10 21	11 15
	75 03.2	12.8	11 04.1	10.8	20 26.5	2.0	55.1	N 10	05 02	05 27	05 49	09 46	10 37	11 29
	90 03.4	N10 13.7	25 33.9	10.9	N20 24.5	2.1	55.1	0	05 11	05 35	05 56	10 02	10 52	11 42
	105 03.5	14.6	40 03.8	10.8	20 22.4	2.3	55.2	S 10	05 18	05 42	06 04	10 18	11 07	11 56
	120 03.7	15.4	54 33.6	10.8	20 20.1	2.4	55.2	20	05 23	05 49	06 11	10 35	11 23	12 10
	135 03.8	.. 16.3	69 03.4	10.8	20 17.7	2.4	55.2	30	05 28	05 56	06 20	10 54	11 41	12 26
	150 04.0	17.2	83 33.2	10.8	20 15.3	2.6	55.2	35	05 30	05 59	06 25	11 05	11 52	12 35
165 04.1	18.1	98 03.0	10.8	20 12.7	2.6	55.3	40	05 32	06 03	06 31	11 18	12 04	12 45	
1700	180 04.3	N10 19.0	112 32.8	10.8	N20 10.1	2.8	55.3	45	05 33	06 07	06 37	11 34	12 18	12 58
01	195 04.4	19.9	127 02.6	10.8	20 07.3	2.9	55.3	S 50	05 34	06 12	06 45	11 53	12 36	13 13
02	210 04.6	20.7	141 32.4	10.8	20 04.4	3.0	55.3	52	05 35	06 14	06 48	12 01	12 44	13 20
03	225 04.7	.. 21.6	156 02.2	10.7	20 01.4	3.0	55.4	54	05 35	06 16	06 52	12 11	12 53	13 28
04	240 04.9	22.5	170 31.9	10.8	19 58.4	3.2	55.4	56	05 35	06 19	06 57	12 23	13 03	13 36
05	255 05.0	23.4	185 01.7	10.8	19 55.2	3.3	55.4	58	05 36	06 21	07 01	12 36	13 15	13 46
06	270 05.1	N10 24.3	199 31.5	10.7	N19 51.9	3.4	55.4	S 60	05 36	06 24	07 07	12 51	13 29	13 58
07	285 05.3	25.2	214 01.2	10.8	19 48.5	3.5	55.5	Lat.	Ocaso Sol	Crepúsculo	Ocaso Luna			
08	300 05.4	26.0	228 31.0	10.7	19 45.0	3.5	55.5	Civil	Náut.	16	17	18	19	
09	315 05.6	.. 26.9	243 00.7	10.8	19 41.5	3.7	55.5	h m	h m	h m	h m	h m	h m	h m
10	330 05.7	27.8	257 30.5	10.7	19 37.8	3.8	55.5	N 72	20 34	22 29	///	□	□	05 24
11	345 05.9	28.7	272 00.2	10.7	19 34.0	3.9	55.6	N 70	20 15	21 43	///	□	□	04 10
12	0 06.0	N10 29.6	286 29.9	10.8	N19 30.1	4.0	55.6	68	20 00	21 13	///	02 22	02 51	03 02
13	15 06.2	30.4	300 59.7	10.7	19 26.1	4.1	55.6	66	19 48	20 52	22 41	01 36	02 13	02 35
14	30 06.3	31.3	315 29.4	10.7	19 22.0	4.2	55.6	64	19 38	20 35	22 00	01 06	01 46	02 13
15	45 06.4	.. 32.2	329 59.1	10.7	19 17.8	4.3	55.7	62	19 30	20 21	21 33	00 44	01 25	01 56
16	60 06.6	33.1	344 28.8	10.7	19 13.5	4.4	55.7	60	19 22	20 10	21 13	00 26	01 08	01 42
17	75 06.7	33.9	358 58.5	10.8	19 09.1	4.5	55.7	N 58	19 16	20 00	20 57	00 10	00 54	01 29
18	90 06.9	N10 34.8	13 28.3	10.7	N19 04.6	4.6	55.8	56	19 10	19 51	20 44	24 42	00 42	01 19
19	105 07.0	35.7	27 58.0	10.7	19 00.0	4.7	55.8	54	19 05	19 44	20 32	24 31	00 31	01 09
20	120 07.2	36.6	42 27.7	10.7	18 55.3	4.8	55.8	52	19 01	19 37	20 22	24 22	00 22	01 01
21	135 07.3	.. 37.5	56 57.4	10.7	18 50.5	4.9	55.8	50	18 56	19 31	20 14	24 13	00 13	00 53
22	150 07.5	38.3	71 27.1	10.7	18 45.6	5.0	55.9	45	18 48	19 18	19 56	23 55	24 37	00 37
23	165 07.6	39.2	85 56.8	10.7	18 40.6	5.1	55.9	N 40	18 40	19 08	19 42	23 40	24 24	00 24
00	180 07.7	N10 40.1	100 26.5	10.8	N18 35.5	5.2	55.9	35	18 34	19 00	19 31	23 28	24 12	00 12
01	195 07.9	41.0	114 56.3	10.7	18 30.3	5.3	56.0	30	18 28	18 53	19 22	23 17	24 03	00 03
02	210 08.0	41.8	129 26.0	10.7	18 25.0	5.4	56.0	20	18 19	18 41	19 08	22 58	23 45	24 31
03	225 08.2	.. 42.7	143 55.7	10.7	18 19.6	5.5	56.0	N 10	18 11	18 32	18 57	22 42	23 30	24 18
04	240 08.3	43.6	158 25.4	10.7	18 14.1	5.6	56.0	0	18 03	18 24	18 48	22 26	23 16	24 06
05	255 08.4	44.5	172 55.1	10.7	18 08.5	5.7	56.1	S 10	17 55	18 17	18 41	22 11	23 02	23 54
06	270 08.6	N10 45.3	187 24.8	10.7	N18 02.8	5.8	56.1	20	17 48	18 10	18 36	21 54	22 47	23 41
07	285 08.7	46.2	201 54.5	10.7	17 57.0	5.9	56.1	30	17 39	18 03	18 31	21 35	22 30	23 27
08	300 08.9	47.1	216 24.2	10.7	17 51.1	6.0	56.2	35	17 34	17 59	18 29	21 24	22 19	23 18
09	315 09.0	.. 47.9	230 53.9	10.8	17 45.1	6.1	56.2	40	17 28	17 55	18 27	21 11	22 08	23 08
10	330 09.2	48.8	245 23.7	10.7	17 39.0	6.2	56.2	45	17 21	17 51	18 25	20 56	21 54	22 56
11	345 09.3	49.7	259 53.4	10.7	17 32.8	6.3	56.3	S 50	17 14	17 46	18 24	20 38	21 37	22 42
12	0 09.4	N10 50.6	274 23.1	10.7	N17 26.5	6.3	56.3	52	17 10	17 44	18 23	20 29	21 29	22 35
13	15 09.6	51.4	288 52.8	10.7	17 20.2	6.5	56.3	54	17 06	17 42	18 23	20 19	21 20	22 28
14	30 09.7	52.3	303 22.5	10.8	17 13.7	6.6	56.4	56	17 02	17 40	18 23	20 08	21 10	22 20
15	45 09.9	.. 53.2	317 52.3	10.7	17 07.1	6.6	56.4	58	16 57	17 37	18 23	19 55	20 59	22 10
16	60 10.0	54.0	332 22.0	10.7	17 00.5	6.8	56.4	S 60	16 51	17 34	18 22	19 40	20 45	22 00
17	75 10.1	54.9	346 51.7	10.7	16 53.7	6.9	56.5	Día	SOL		LUNA			
18	90 10.3	N10 55.8	1 21.4	10.7	N16 46.8	6.9	56.5	E.T. (+)	Pas. Mer.	Pas. Mer.	Edad	Fase		
19	105 10.4	56.7	15 51.1	10.8	16 39.9	7.0	56.5	00 h	12 h	Sup. Inf.				
20	120 10.6	57.5	30 20.9	10.7	16 32.9	7.2	56.6	h m	h m	h m	h m	d		
21	135 10.7	.. 58.4	44 50.6	10.7	16 25.7	7.2	56.6	16	00 03	00 10	12 00	16 14	03 49	05
22	150 10.8	10 59.3	59 20.3	10.8	16 18.5	7.3	56.6	17	00 17	00 24	12 00	17 04	04 39	06
23	165 11.0	11 00.1	73 50.1	10.7	16 11.2	7.4	56.7	18	00 31	00 37	11 59	17 54	05 29	07
	S.D. 16.0	<i>d</i> 0.9	S.D. 15.0</											

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.1			ESTRELLAS		
d h	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		Nombre	A. H. S.	Dec.
19 00	206 52.1	158 13.3	N18 13.0	203 25.7	N 0 21.5		347 38.1	S13 51.7		225 33.2	S 9 33.9		225 33.2	S 9 33.9		Acamar	315 29.6	S40 19.8
01	221 54.5	173 12.7	13.9	218 26.4	22.3		2 40.8	51.6		240 35.4	33.8		240 35.4	33.8		Achernar	335 38.0	S57 15.9
02	236 57.0	188 12.1	14.8	233 27.1	23.0		17 43.6	51.5		255 37.7	33.7		255 37.7	33.7		Acrux	173 24.7	S63 04.3
03	251 59.5	203 11.5	15.7	248 27.8	23.8		32 46.4	51.4		270 39.9	33.7		270 39.9	33.7		Adhara	255 23.9	S28 58.2
04	267 01.9	218 10.9	16.6	263 28.5	24.6		47 49.1	51.3		285 42.2	33.6		285 42.2	33.6		Aldebaran	291 06.1	N16 29.8
05	282 04.4	233 10.3	17.6	278 29.2	25.4		62 51.9	51.2		300 44.4	33.5		300 44.4	33.5				
06	297 06.9	248 09.6	N18 18.5	293 29.9	N 0 26.2		77 54.7	S13 51.1		315 46.7	S 9 33.4		315 46.7	S 9 33.4		Alioth	166 32.7	N55 59.4
07	312 09.3	263 09.0	19.4	308 30.6	26.9		92 57.4	51.0		330 48.9	33.3		330 48.9	33.3		Alkaid	153 09.7	N49 20.4
08	327 11.8	278 08.4	20.3	323 31.2	27.7		108 00.2	50.9		345 51.1	33.2		345 51.1	33.2		Al Na'ir	28 01.9	S46 59.1
M 09	342 14.3	293 07.8	21.2	338 31.9	28.5		123 02.9	50.9		0 53.4	33.2		0 53.4	33.2		Alnilam	276 01.1	S 1 12.5
10	357 16.7	308 07.2	22.1	353 32.6	29.3		138 05.7	50.8		15 55.6	33.1		15 55.6	33.1		Alphard	218 10.1	S 8 38.3
A 11	12 19.2	323 06.6	23.0	8 33.3	30.1		153 08.5	50.7		30 57.9	33.0		30 57.9	33.0				
12	27 21.7	338 05.9	N18 23.9	23 34.0	N 0 30.8		168 11.2	S13 50.6		46 00.1	S 9 32.9		46 00.1	S 9 32.9		Alphecca	126 22.8	N26 43.9
13	42 24.1	353 05.3	24.8	38 34.7	31.6		183 14.0	50.5		61 02.4	32.8		61 02.4	32.8		Alpheratz	357 58.7	N29 03.4
14	57 26.6	8 04.7	25.7	53 35.4	32.4		198 16.8	50.4		76 04.6	32.8		76 04.6	32.8		Altair	62 22.2	N 8 51.1
15	72 29.0	23 04.1	26.6	68 36.1	33.2		213 19.5	50.3		91 06.9	32.7		91 06.9	32.7		Ankaa	353 30.2	S42 20.1
16	87 31.5	38 03.5	27.5	83 36.8	33.9		228 22.3	50.2		106 09.1	32.6		106 09.1	32.6		Antares	112 43.6	S26 25.2
17	102 34.0	53 02.9	28.4	98 37.5	34.7		243 25.0	50.1		121 11.3	32.5		121 11.3	32.5				
18	117 36.4	68 02.2	N18 29.3	113 38.2	N 0 35.5		258 27.8	S13 50.0		136 13.6	S 9 32.4		136 13.6	S 9 32.4		Arcturus	146 08.5	N19 12.6
19	132 38.9	83 01.6	30.2	128 38.8	36.3		273 30.6	49.9		151 15.8	32.4		151 15.8	32.4		Atria	107 57.9	S69 00.9
20	147 41.4	98 01.0	31.1	143 39.5	37.1		288 33.3	49.8		166 18.1	32.3		166 18.1	32.3		Avior	234 23.8	S59 29.9
21	162 43.8	113 00.4	32.0	158 40.2	37.8		303 36.1	49.7		181 20.3	32.2		181 20.3	32.2		Bellatrix	278 47.6	N 6 20.5
22	177 46.3	127 59.7	32.9	173 40.9	38.6		318 38.9	49.6		196 22.6	32.1		196 22.6	32.1		Betelgeuse	271 17.0	N 7 24.2
23	192 48.8	142 59.1	33.8	188 41.6	39.4		333 41.6	49.5		211 24.8	32.0		211 24.8	32.0				
20 00	207 51.2	157 58.5	N18 34.7	203 42.3	N 0 40.2		348 44.4	S13 49.4		226 27.1	S 9 32.0		226 27.1	S 9 32.0		Canopus	264 02.7	S52 41.9
01	222 53.7	172 57.9	35.6	218 43.0	41.0		3 47.2	49.3		241 29.3	31.9		241 29.3	31.9		Capella	280 56.0	N45 59.6
02	237 56.2	187 57.3	36.4	233 43.7	41.7		18 49.9	49.2		256 31.6	31.8		256 31.6	31.8		Deneb	49 41.3	N45 15.4
03	252 58.6	202 56.6	37.3	248 44.4	42.5		33 52.7	49.1		271 33.8	31.7		271 33.8	31.7		Denebola	182 48.0	N14 36.1
04	268 01.1	217 56.0	38.2	263 45.1	43.3		48 55.4	49.1		286 36.1	31.6		286 36.1	31.6		Diphda	349 10.6	S18 01.1
05	283 03.5	232 55.4	39.1	278 45.8	44.1		63 58.2	49.0		301 38.3	31.6		301 38.3	31.6				
06	298 06.0	247 54.8	N18 40.0	293 46.4	N 0 44.8		79 01.0	S13 48.9		316 40.5	S 9 31.5		316 40.5	S 9 31.5		Dubhe	194 08.7	N61 46.9
07	313 08.5	262 54.1	40.9	308 47.1	45.6		94 03.7	48.8		331 42.8	31.4		331 42.8	31.4		Elnath	278 31.0	N28 36.1
08	328 10.9	277 53.5	41.8	323 47.8	46.4		109 06.5	48.7		346 45.0	31.3		346 45.0	31.3		Eltanin	90 52.5	N51 29.2
09	343 13.4	292 52.9	42.7	338 48.5	47.2		124 09.3	48.6		1 47.3	31.2		1 47.3	31.2		Enif	34 01.3	N 9 50.9
10	358 15.9	307 52.3	43.6	353 49.2	48.0		139 12.0	48.5		16 49.5	31.2		16 49.5	31.2		Fomalhaut	15 40.0	S29 39.0
M 11	13 18.3	322 51.6	44.4	8 49.9	48.7		154 14.8	48.4		31 51.8	31.1		31 51.8	31.1				
12	28 20.8	337 51.0	N18 45.3	23 50.6	N 0 49.5		169 17.6	S13 48.3		46 54.0	S 9 31.0		46 54.0	S 9 31.0		Gacrux	172 16.4	S57 05.1
13	43 23.3	352 50.4	46.2	38 51.3	50.3		184 20.3	48.2		61 56.3	30.9		61 56.3	30.9		Gienah	176 06.8	S17 30.9
14	58 25.7	7 49.7	47.1	53 52.0	51.1		199 23.1	48.1		76 58.5	30.9		76 58.5	30.9		Hadar	149 07.7	S60 20.8
15	73 28.2	22 49.1	48.0	68 52.7	51.9		214 25.9	48.0		92 00.8	30.8		92 00.8	30.8		Hamal	328 17.3	N23 26.1
16	88 30.6	37 48.5	48.8	83 53.4	52.6		229 28.6	47.9		107 03.0	30.7		107 03.0	30.7		Kaus Aust.	84 02.7	S34 23.1
17	103 33.1	52 47.8	49.7	98 54.1	53.4		244 31.4	47.8		122 05.3	30.6		122 05.3	30.6				
18	118 35.6	67 47.2	N18 50.6	113 54.7	N 0 54.2		259 34.2	S13 47.7		137 07.5	S 9 30.5		137 07.5	S 9 30.5		Kochab	137 18.3	N74 10.6
19	133 38.0	82 46.6	51.5	128 55.4	55.0		274 36.9	47.6		152 09.8	30.5		152 09.8	30.5		Markab	13 52.9	N15 10.4
20	148 40.5	97 46.0	52.4	143 56.1	55.7		289 39.7	47.5		167 12.0	30.4		167 12.0	30.4		Menkar	314 30.4	N 4 03.9
21	163 43.0	112 45.3	53.2	158 56.8	56.5		304 42.5	47.4		182 14.3	30.3		182 14.3	30.3		Menkent	148 24.1	S36 20.7
22	178 45.4	127 44.7	54.1	173 57.5	57.3		319 45.2	47.3		197 16.5	30.2		197 16.5	30.2		Miaplacidus	221 42.4	S69 42.1
23	193 47.9	142 44.1	55.0	188 58.2	58.1		334 48.0	47.2		212 18.8	30.1		212 18.8	30.1				
21 00	208 50.4	157 43.4	N18 55.8	203 58.9	N 0 58.9		349 50.8	S13 47.1		227 21.0	S 9 30.1		227 21.0	S 9 30.1		Mirfak	309 01.4	N49 50.5
01	223 52.8	172 42.8	56.7	218 59.6	0 59.6		4 53.5	47.1		242 23.3	30.0		242 23.3	30.0		Nunki	76 16.0	S26 18.1
02	238 55.3	187 42.2	57.6	234 00.3	1 00.4		19 56.3	47.0		257 25.5	29.9		257 25.5	29.9		Peacock	53 41.8	S56 44.9
03	253 57.8	202 41.5	58.5	249 01.0	01.2		34 59.1	46.9		272 27.8	29.8		272 27.8	29.8		Pollux	243 45.3	N28 02.4
04	269 00.2	217 40.9	18 59.3	264 01.7	02.0		50 01.8	46.8		287 30.0	29.7		287 30.0	29.7		Procyon	245 14.8	N 5 14.2
05	284 02.7	232 40.2	19 00.2	279 02.4	02.7		65 04.6	46.7		302 32.3	29.7		302 32.3	29.7				
06	299 05.1	247 39.6	N19 01.1	294 03.1	N 1 03.5		80 07.4	S13 46.6		317 34.5	S 9 29.6		317 34.5	S 9 29.6		Rasalhague	96 19.6	N12 33.7
07	314 07.6	262 39.0	01.9	309 03.7	04.3		95 10.1	46.5		332 36.8	29.5		332 36.8	29.5		Regulus	207 58.6	N11 59.5
08	329 10.1	277 38.3	02.8	324 04.4	05.1		110 12.9	46.4		347 39.0	29.4		347 39.0	29.4		Rigel	281 26.1	S 8 12.7
J 09	344 12.5	292 37.7	03.7	339 05.1	05.8		125 15.7	46.3		2 41.3	29.4		2 41.3	29.4		Rigel Kent.	140 10.7	S60 48.7
U 10	359 15.0	307 37.1	04.5	354 05.8	06.6		140 18.4	46.2		17 43.5	29.3		17 43.5	29.3		Sabik	102 28.8	S15 43.1
E 11	14 17.5	322 36.4	05.4	9 06.5	07													

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.		Dec.		A.H.G.		Dec.			Náut.	Civil		19	20	21	22					
d h	o	'	o	'	o	'	o	'	o	'	h m	h m	h m	h m	h m	h m	h m				
M A R T E S	19 00	180	11.1	N11	01.0	88	19.8	10.7	N16	03.8	7.5	56.7	N 72	///	01 00	03 11	08 47	10 55	12 57	14 59	
	01	195	11.2		01.9	102	49.5	10.8	15	56.3	7.6	56.7	N 70	///	01 59	03 32	09 21	11 13	13 06	15 00	
	02	210	11.4		02.7	117	19.3	10.7	15	48.7	7.7	56.8	68	///	02 33	03 48	09 45	11 28	13 13	15 00	
	03	225	11.5		03.6	131	49.0	10.7	15	41.0	7.8	56.8	66	00 52	02 56	04 02	10 04	11 40	13 19	15 01	
	04	240	11.7		04.5	146	18.7	10.8	15	33.2	7.9	56.8	64	01 44	03 15	04 13	10 19	11 49	13 23	15 01	
	05	255	11.8		05.3	160	48.5	10.7	15	25.3	7.9	56.9	62	02 14	03 30	04 22	10 31	11 58	13 28	15 01	
	06	270	11.9	N11	06.2	175	18.2	10.8	N15	17.4	8.1	56.9	60	02 36	03 42	04 30	10 42	12 05	13 31	15 01	
	07	285	12.1		07.1	189	48.0	10.7	15	09.3	8.1	56.9	N 58	02 54	03 52	04 37	10 51	12 11	13 35	15 02	
	08	300	12.2		07.9	204	17.7	10.7	15	01.2	8.3	57.0	56	03 08	04 02	04 43	10 59	12 16	13 38	15 02	
	09	315	12.3		08.8	218	47.4	10.8	14	52.9	8.3	57.0	54	03 20	04 10	04 48	11 06	12 21	13 40	15 02	
	10	330	12.5		09.7	233	17.2	10.7	14	44.6	8.4	57.0	52	03 31	04 17	04 53	11 12	12 26	13 43	15 02	
	11	345	12.6		10.5	247	46.9	10.8	14	36.2	8.5	57.1	50	03 40	04 23	04 58	11 18	12 30	13 45	15 02	
	12	0	12.8	N11	11.4	262	16.7	10.7	N14	27.7	8.5	57.1	45	03 58	04 36	05 07	11 31	12 39	13 49	15 03	
	13	15	12.9		12.3	276	46.4	10.8	14	19.2	8.7	57.2	N 40	04 13	04 47	05 15	11 41	12 46	13 53	15 03	
	14	30	13.0		13.1	291	16.2	10.7	14	10.5	8.7	57.2	35	04 25	04 56	05 22	11 49	12 52	13 57	15 03	
	15	45	13.2		14.0	305	45.9	10.7	14	01.8	8.9	57.2	30	04 34	05 03	05 28	11 57	12 57	14 00	15 04	
	16	60	13.3		14.9	320	15.6	10.8	13	52.9	8.9	57.3	20	04 49	05 16	05 38	12 10	13 07	14 05	15 04	
	17	75	13.4		15.7	334	45.4	10.7	13	44.0	9.0	57.3	N 10	05 01	05 26	05 47	12 22	13 15	14 09	15 04	
	18	90	13.6	N11	16.6	349	15.1	10.7	N13	35.0	9.0	57.3	0	05 10	05 35	05 56	12 33	13 23	14 13	15 05	
	19	105	13.7		17.4	3	44.8	10.8	13	26.0	9.2	57.4	S 10	05 18	05 42	06 04	12 43	13 30	14 17	15 05	
	20	120	13.8		18.3	18	14.6	10.7	13	16.8	9.3	57.4	20	05 24	05 50	06 12	12 55	13 39	14 22	15 06	
	21	135	14.0		19.2	32	44.3	10.7	13	07.5	9.3	57.5	30	05 30	05 58	06 22	13 08	13 48	14 27	15 06	
	22	150	14.1		20.0	47	14.0	10.8	12	58.2	9.4	57.5	35	05 32	06 02	06 27	13 15	13 53	14 30	15 07	
23	165	14.2		20.9	61	43.8	10.7	12	48.8	9.5	57.5	40	05 34	06 06	06 34	13 24	13 59	14 33	15 07		
23	165	14.2		20.9	61	43.8	10.7	12	48.8	9.5	57.5	45	05 37	06 11	06 41	13 34	14 06	14 37	15 07		
M I E R C O L E S	20 00	180	14.4	N11	21.7	76	13.5	10.7	N12	39.3	9.5	57.6	S 50	05 39	06 16	06 49	13 46	14 15	14 42	15 08	
	01	195	14.5		22.6	90	43.2	10.7	12	29.8	9.7	57.6	52	05 39	06 19	06 53	13 51	14 19	14 44	15 08	
	02	210	14.6		23.5	105	12.9	10.7	12	20.1	9.7	57.6	54	05 40	06 21	06 58	13 57	14 23	14 46	15 08	
	03	225	14.8		24.3	119	42.6	10.7	12	10.4	9.8	57.7	56	05 41	06 24	07 03	14 04	14 27	14 48	15 09	
	04	240	14.9		25.2	134	12.3	10.7	12	00.6	9.9	57.7	58	05 41	06 27	07 08	14 12	14 33	14 51	15 09	
	05	255	15.0		26.0	148	42.0	10.7	11	50.7	9.9	57.8	S 60	05 42	06 31	07 14	14 20	14 38	14 54	15 09	
	06	270	15.2	N11	26.9	163	11.7	10.7	N11	40.8	10.1	57.8									
	07	235	15.3		27.8	177	41.4	10.7	11	30.7	10.1	57.8									
	08	300	15.4		28.6	192	11.1	10.7	11	20.6	10.2	57.9									
	09	315	15.6		29.5	206	40.8	10.7	11	10.4	10.2	57.9									
	10	330	15.7		30.3	221	10.5	10.6	11	00.2	10.3	58.0									
11	345	15.8		31.2	235	40.1	10.7	10	49.9	10.4	58.0										
12	0	16.0	N11	32.0	250	09.8	10.6	N10	39.5	10.5	58.0										
13	15	16.1		32.9	264	39.4	10.7	10	29.0	10.5	58.1	N 72	20 51	23 16	///	04 07	03 45	03 29	03 15		
14	30	16.2		33.8	279	09.1	10.6	10	18.5	10.6	58.1	N 70	20 29	22 05	///	03 32	03 24	03 18	03 11		
15	45	16.4		34.6	293	38.7	10.6	10	07.9	10.7	58.1	68	20 12	21 30	///	03 07	03 09	03 09	03 08		
16	60	16.5		35.5	308	08.3	10.6	9	57.2	10.8	58.2	66	19 59	21 05	23 22	02 47	02 56	03 01	03 06		
17	75	16.6		36.3	322	37.9	10.6	9	46.4	10.8	58.2	64	19 47	20 46	22 20	02 32	02 45	02 55	03 03		
18	90	16.8	N11	37.2	337	07.5	10.6	N 9	35.6	10.9	58.3	62	19 38	20 31	21 48	02 18	02 35	02 49	03 01		
19	105	16.9		38.0	351	37.1	10.6	9	24.7	10.9	58.3	60	19 30	20 18	21 25	02 07	02 27	02 44	02 59		
20	120	17.0		38.9	6	06.7	10.6	9	13.8	11.0	58.3	N 58	19 23	20 07	21 07	01 57	02 20	02 40	02 58		
21	135	17.2		39.7	20	36.3	10.5	9	02.8	11.1	58.4	56	19 16	19 58	20 52	01 49	02 14	02 36	02 56		
22	150	17.3		40.6	35	05.8	10.6	8	51.7	11.1	58.4	54	19 11	19 50	20 40	01 41	02 08	02 33	02 55		
23	165	17.4		41.4	49	35.4	10.5	8	40.6	11.2	58.5	52	19 06	19 43	20 29	01 34	02 03	02 29	02 54		
23	165	17.4		41.4	49	35.4	10.5	8	40.6	11.2	58.5	50	19 01	19 36	20 20	01 28	01 59	02 26	02 53		
23	165	17.4		41.4	49	35.4	10.5	8	40.6	11.2	58.5	45	18 51	19 23	20 01	01 15	01 49	02 20	02 50		
J U E V E S	21 00	180	17.5	N11	42.3	64	04.9	10.5	N 8	29.4	11.3	58.5	N 40	18 43	19 12	19 46	01 04	01 40	02 15	02 48	
	01	195	17.7		43.2	78	34.4	10.5	8	18.1	11.3	58.5	35	18 36	19 03	19 34	00 54	01 33	02 10	02 47	
	02	210	17.8		44.0	93	03.9	10.5	8	06.8	11.4	58.6	30	18 30	18 55	19 24	00 46	01 27	02 06	02 45	
	03	225	17.9		44.9	107	33.4	10.4	7	55.4	11.5	58.6	20	18 20	18 42	19 09	00 31	01 16	01 59	02 42	
	04	240	18.1		45.7	122	02.8	10.5	7	43.9	11.5	58.7	N 10	18 11	18 32	18 57	00 18	01 06	01 53	02 40	
	05	255	18.2		46.6	136	32.3	10.4	7	32.4	11.5	58.7	0	18 02	18 23	18 48	00 06	00 56	01 47	02 38	
	06	270	18.3	N11	47.4	151	01.7	10.4	N 7	20.9	11.6	58.7	S 10	17 54	18 15	18 40	24 47	00 47	01 41	02 35	
	07	285	18.5		48.3	165	31.1	10.4	7	09.3	11.7	58.8	20	17 45	18 08	18 34	24 37	00 37	01 34	02 33	
	08	300	18.6		49.1	180	00.5	10.4	6	57.6	11.7	58.8	30	17 36	18 00	18 28	24 26	00 26	01 27	02 30	
	09	315	18.7		50.0	194	29.9	10.4	6	45.9	11.8</										

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.1			ESTRELLAS			
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		Nombre	A. H. S.	Dec.	
V I E R N E S	22 00	209 49.5	157 28.1 N19	16.5	204 15.5 N 1	17.5	350 57.2 S13	44.9	228 15.0 S 9	28.2			Acomar	315 29.6 S40	19.8				
	01	224 52.0	172 27.4	17.4	219 16.2	18.3	5 59.9	44.8	243 17.3	28.1			Achernar	335 38.0 S57	15.9				
	02	239 54.4	187 26.8	18.2	234 16.9	19.1	21 02.7	44.7	258 19.5	28.0			Acrux	173 24.7 S63	04.3				
	03	254 56.9	202 26.1	19.1	249 17.6	19.8	36 05.5	44.6	273 21.8	27.9			Adhara	255 23.9 S28	58.2				
	04	269 59.4	217 25.5	19.9	264 18.3	20.6	51 08.2	44.5	288 24.0	27.9			Aldebaran	291 06.1 N16	29.8				
	05	285 01.8	232 24.8	20.8	279 19.0	21.4	66 11.0	44.4	303 26.3	27.8									
	06	300 04.3	247 24.2 N19	21.6	294 19.7 N 1	22.2	81 13.8 S13	44.3	318 28.5 S 9	27.7			Alioth	166 32.7 N55	59.4				
	07	315 06.7	262 23.6	22.5	309 20.4	22.9	96 16.6	44.2	333 30.8	27.6			Alkaid	153 09.7 N49	20.4				
	08	330 09.2	277 22.9	23.3	324 21.1	23.7	111 19.3	44.1	348 33.0	27.6			Al Na'ir	28 01.9 S46	59.1				
	09	345 11.7	292 22.3	24.2	339 21.8	24.5	126 22.1	44.0	3 35.3	27.5			Alnilam	276 01.1 S 1	12.5				
	10	0 14.1	307 21.6	25.0	354 22.4	25.3	141 24.9	43.9	18 37.5	27.4			Alphard	218 10.1 S 8	38.3				
	11	15 16.6	322 21.0	25.9	9 23.1	26.0	156 27.6	43.8	33 39.8	27.3									
	12	30 19.1	337 20.3 N19	26.7	24 23.8 N 1	26.8	171 30.4 S13	43.7	48 42.0 S 9	27.3			Alphecca	126 22.8 N26	43.9				
	13	45 21.5	352 19.7	27.5	39 24.5	27.6	186 33.2	43.6	63 44.3	27.2			Alpheratz	357 58.7 N29	03.4				
	14	60 24.0	7 19.0	28.4	54 25.2	28.4	201 35.9	43.5	78 46.5	27.1			Altair	62 22.2 N 8	51.1				
	15	75 26.5	22 18.4	29.2	69 25.9	29.1	216 38.7	43.4	93 48.8	27.0			Ankaa	353 30.2 S42	20.1				
	16	90 28.9	37 17.7	30.0	84 26.6	29.9	231 41.5	43.3	108 51.0	26.9			Antares	112 43.6 S26	25.2				
	17	105 31.4	52 17.0	30.9	99 27.3	30.7	246 44.2	43.2	123 53.3	26.9									
	18	120 33.9	67 16.4 N19	31.7	114 28.0 N 1	31.5	261 47.0 S13	43.1	138 55.5 S 9	26.8			Arcturus	146 08.5 N19	12.6				
	19	135 36.3	82 15.7	32.6	129 28.7	32.2	276 49.8	43.0	153 57.8	26.7			Atria	107 57.9 S69	00.9				
	20	150 38.8	97 15.1	33.4	144 29.4	33.0	291 52.6	42.9	169 00.0	26.6			Avior	234 23.9 S59	29.9				
	21	165 41.2	112 14.4	34.2	159 30.1	33.8	306 55.3	42.8	184 02.3	26.6			Bellatrix	278 47.6 N 6	20.5				
	22	180 43.7	127 13.8	35.1	174 30.8	34.6	321 58.1	42.7	199 04.6	26.5			Betelgeuse	271 17.0 N 7	24.2				
23	195 46.2	142 13.1	35.9	189 31.5	35.3	337 00.9	42.6	214 06.8	26.4										
S A B A D O	23 00	210 48.6	157 12.5 N19	36.7	204 32.2 N 1	36.1	352 03.6 S13	42.5	229 09.1 S 9	26.3			Canopus	264 02.8 S52	41.9				
	01	225 51.1	172 11.8	37.5	219 32.8	36.9	7 06.4	42.4	244 11.3	26.3			Capella	280 56.0 N45	59.6				
	02	240 53.6	187 11.2	38.4	234 33.5	37.7	22 09.2	42.3	259 13.6	26.2			Deneb	49 41.3 N45	15.4				
	03	255 56.0	202 10.5	39.2	249 34.2	38.5	37 11.9	42.3	274 15.8	26.1			Denebola	182 48.0 N14	36.1				
	04	270 58.5	217 09.8	40.0	264 34.9	39.2	52 14.7	42.2	289 18.1	26.0			Diphda	349 10.6 S18	01.1				
	05	286 01.0	232 09.2	40.9	279 35.6	40.0	67 17.5	42.1	304 20.3	25.9									
	06	301 03.4	247 08.5 N19	41.7	294 36.3 N 1	40.8	82 20.3 S13	42.0	319 22.6 S 9	25.9			Dubhe	194 08.8 N61	47.0				
	07	316 05.9	262 07.9	42.5	309 37.0	41.6	97 23.0	41.9	334 24.8	25.8			Elnath	278 31.0 N28	36.1				
	08	331 08.4	277 07.2	43.3	324 37.7	42.3	112 25.8	41.8	349 27.1	25.7			Eltanin	90 52.5 N51	29.2				
	09	346 10.8	292 06.5	44.2	339 38.4	43.1	127 28.6	41.7	4 29.3	25.6			Enif	34 01.3 N 9	50.9				
	10	1 13.3	307 05.9	45.0	354 39.1	43.9	142 31.3	41.6	19 31.6	25.6			Fomalhaut	15 40.0 S29	39.0				
	11	16 15.7	322 05.2	45.8	9 39.8	44.6	157 34.1	41.5	34 33.9	25.5									
	12	31 18.2	337 04.6 N19	46.6	24 40.5 N 1	45.4	172 36.9 S13	41.4	49 36.1 S 9	25.4			Gacrux	172 16.4 S57	05.1				
13	46 20.7	352 03.9	47.4	39 41.2	46.2	187 39.7	41.3	64 38.4	25.3			Gienah	176 06.8 S17	30.9					
14	61 23.1	7 03.2	48.3	54 41.9	47.0	202 42.4	41.2	79 40.6	25.3			Hadar	149 07.7 S60	20.9					
15	76 25.6	22 02.6	49.1	69 42.6	47.7	217 45.2	41.1	94 42.9	25.2			Hamal	328 17.3 N23	26.1					
16	91 28.1	37 01.9	49.9	84 43.3	48.5	232 48.0	41.0	109 45.1	25.1			Kaus Aust.	84 02.6 S34	23.1					
17	106 30.5	52 01.2	50.7	99 43.9	49.3	247 50.7	40.9	124 47.4	25.0										
18	121 33.0	67 00.6 N19	51.5	114 44.6 N 1	50.1	262 53.5 S13	40.8	139 49.6 S 9	25.0			Kochab	137 18.3 N74	10.6					
19	136 35.5	81 59.9	52.3	129 45.3	50.8	277 56.3	40.7	154 51.9	24.9			Markab	13 52.8 N15	10.4					
20	151 37.9	96 59.3	53.1	144 46.0	51.6	292 59.1	40.6	169 54.2	24.8			Menkar	314 30.4 N 4	04.0					
21	166 40.4	111 58.6	54.0	159 46.7	52.4	308 01.8	40.5	184 56.4	24.7			Menkent	148 24.1 S36	20.7					
22	181 42.9	126 57.9	54.8	174 47.4	53.2	323 04.6	40.4	199 58.7	24.6			Miaplacidus	221 42.4 S69	42.1					
23	196 45.3	141 57.3	55.6	189 48.1	53.9	338 07.4	40.3	215 00.9	24.6										
D O M I N G O	24 00	211 47.8	156 56.6 N19	56.4	204 48.8 N 1	54.7	353 10.1 S13	40.2	230 03.2 S 9	24.5			Mirfak	309 01.4 N49	50.5				
	01	226 50.2	171 55.9	57.2	219 49.5	55.5	8 12.9	40.1	245 05.4	24.4			Nunki	76 15.9 S26	18.1				
	02	241 52.7	186 55.3	58.0	234 50.2	56.3	23 15.7	40.0	260 07.7	24.3			Peacock	53 41.8 S56	44.9				
	03	256 55.2	201 54.6	58.8	249 50.9	57.0	38 18.5	39.9	275 09.9	24.3			Pollux	243 45.3 N28	02.4				
	04	271 57.6	216 53.9	59.6	264 51.6	57.8	53 21.2	39.8	290 12.2	24.2			Procyon	245 14.8 N 5	14.2				
	05	287 00.1	231 53.3	60.4	279 52.3	58.6	68 24.0	39.7	305 14.5	24.1									
	06	302 02.6	246 52.6 N20	61.2	294 53.0 N 1	59.4	83 26.8 S13	39.6	320 16.7 S 9	24.0			Rasalhague	96 19.6 N12	33.7				
	07	317 05.0	261 51.9	62.0	309 53.7	60.1	98 29.5	39.5	335 19.0	24.0			Regulus	207 58.6 N11	59.5				
	08	332 07.5	276 51.2	62.8	324 54.4	60.9	113 32.3	39.4	350 21.2	23.9			Rigel	281 26.1 S 8	12.7				
	09	347 10.0	291 50.6	63.6	339 55.1	61.7	128 35.1	39.3	5 23.5	23.8			Rigil Kent.	140 10.7 S60	48.7				
	10	2 12.4	306 49.9	64.4	354 55.7	62.5	143 37.9	39.2	20 25.7	23.7			Sabik	102 28.8 S15	43.1				
	11	17 14.9	321 49.2	65.2	9 56.4	63.2	158 40.6	39.2	35 28.0	23.7									
	12	32 17.3	336 48.6 N20	66.0	24 57.1 N 2	64.0	173 43.4 S13	39.1	50 30.3 S 9	23.6			Schedar	349 57.5 N56	30.3				
13	47 19.8	351 47.9	66.8	39 57.8	64.8	188 46.2	39.0	65 32.5	23.5			Shaula	96 41.1 S37	05.9					
14	62 22.3	6 47.2	67.6	54 58.5	65.5	203 48.9	38.9	80 34.8	23.4			Sirius	258 46.5 S16	42.8					
15	77 24.7	21 46.5	68.4	69 59.2	66.3	218 51.7	38.8	95 37.0	23.4			Spica	158 46.1 S11	08.1					
16	92 27.2	36 45.9	69.2	84 59.9	67.1	233 54.5	38.7	110 39.3	23.3			Suhail	223 02.9 S43	25.0					
17																			

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna						
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	22	23	24	25		
										h m		h m	h m	h m	h m	h m	h m
V I E R N E S	22 00	180 20.6	N12 02.7	51 48.0	10.0	N 3	44.1	12.4	59.4	N 72	///	///	02 52	14 59	17 06	19 20	21 53
	01	195 20.7	03.5	66 17.0	9.9	3	31.7	12.5	59.5	N 70	///	01 32	03 17	15 00	16 58	19 02	21 14
	02	210 20.9	04.4	80 45.9	10.0	3	19.2	12.6	59.5	68	///	02 14	03 35	15 00	16 51	18 47	20 48
	03	225 21.0	05.2	95 14.9	9.9	3	06.6	12.5	59.5	66	///	02 41	03 50	15 01	16 46	18 36	20 28
	04	240 21.1	06.0	109 43.8	9.8	2	54.1	12.6	59.6	64	01 21	03 02	04 02	15 01	16 42	18 26	20 12
	05	255 21.2	06.9	124 12.6	9.9	2	41.5	12.7	59.6	62	01 58	03 19	04 12	15 01	16 38	18 18	19 58
	06	270 21.4	N12 07.7	138 41.5	9.8	N 2	28.8	12.6	59.7	60	02 23	03 32	04 21	15 01	16 35	18 11	19 47
	07	285 21.5	08.6	153 10.3	9.8	2	16.2	12.7	59.7	N 58	02 43	03 44	04 29	15 02	16 32	18 04	19 37
	08	300 21.6	09.4	167 39.1	9.7	2	03.5	12.7	59.7	56	02 58	03 54	04 36	15 02	16 29	17 59	19 29
	09	315 21.7	10.2	182 07.8	9.7	1	50.8	12.8	59.8	54	03 12	04 02	04 42	15 02	16 27	17 54	19 21
	10	330 21.9	11.1	196 36.5	9.7	1	38.0	12.7	59.8	52	03 23	04 10	04 47	15 02	16 25	17 49	19 15
	11	345 22.0	11.9	211 05.2	9.6	1	25.3	12.8	59.8	50	03 33	04 17	04 52	15 02	16 23	17 45	19 09
	12	0 22.1	N12 12.8	225 33.8	9.6	N 1	12.5	12.9	59.9	45	03 53	04 31	05 02	15 03	16 19	17 37	18 56
	13	15 22.2	13.6	240 02.4	9.6	0	59.6	12.8	59.9	N 40	04 08	04 43	05 11	15 03	16 15	17 30	18 45
	14	30 22.4	14.4	254 31.0	9.5	0	46.8	12.9	59.9	35	04 20	04 52	05 19	15 03	16 12	17 24	18 36
	15	45 22.5	15.3	268 59.5	9.5	0	33.9	12.8	60.0	30	04 31	05 00	05 25	15 04	16 10	17 18	18 28
	16	60 22.6	16.1	283 28.0	9.4	0	21.1	12.9	60.0	20	04 47	05 14	05 36	15 04	16 05	17 09	18 15
	17	75 22.7	17.0	297 56.4	9.4	N 0	08.2	12.9	60.0	N 10	04 59	05 24	05 46	15 04	16 02	17 01	18 03
	18	90 22.8	N12 17.8	312 24.8	9.4	S 0	04.7	13.0	60.1	0	05 09	05 34	05 55	15 05	15 58	16 54	17 52
	19	105 23.0	18.6	326 53.2	9.3	0	17.7	12.9	60.1	S 10	05 18	05 42	06 04	15 05	15 55	16 46	17 41
	20	120 23.1	19.5	341 21.5	9.2	0	30.6	13.0	60.1	20	05 25	05 51	06 13	15 06	15 51	16 38	17 29
	21	135 23.2	20.3	355 49.7	9.3	0	43.6	12.9	60.2	30	05 31	05 59	06 24	15 06	15 47	16 30	17 16
	22	150 23.3	21.2	10 18.0	9.2	0	56.5	13.0	60.2	35	05 34	06 04	06 30	15 07	15 44	16 25	17 09
23	165 23.5	22.0	24 46.2	9.1	1	09.5	13.0	60.2	40	05 37	06 09	06 37	15 07	15 42	16 19	17 00	
23 00	180 23.6	N12 22.8	39 14.3	9.1	S 1	22.5	13.0	60.3	45	05 40	06 14	06 45	15 07	15 39	16 12	16 50	
01	195 23.7	23.7	53 42.4	9.0	1	35.5	13.0	60.3	S 50	05 43	06 21	06 54	15 08	15 35	16 04	16 38	
02	210 23.8	24.5	68 10.4	9.0	1	48.5	13.0	60.3	52	05 44	06 23	06 58	15 08	15 33	16 01	16 33	
03	225 23.9	25.3	82 38.4	9.0	2	01.5	13.0	60.4	54	05 45	06 26	07 03	15 08	15 31	15 57	16 27	
04	240 24.1	26.2	97 06.4	8.9	2	14.5	13.0	60.4	56	05 46	06 30	07 09	15 09	15 29	15 52	16 20	
05	255 24.2	27.0	111 34.3	8.9	2	27.5	13.0	60.4	58	05 47	06 33	07 15	15 09	15 27	15 48	16 12	
06	270 24.3	N12 27.8	126 02.2	8.8	S 2	40.5	12.9	60.5	S 60	05 49	06 37	07 21	15 09	15 25	15 42	16 04	
07	285 24.4	28.7	140 30.0	8.7	2	53.4	13.0	60.5									
08	300 24.5	29.5	154 57.7	8.7	3	06.4	13.0	60.5	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
09	315 24.7	30.3	169 25.4	8.7	3	19.4	13.0	60.6			Civil	Náut.	22	23	24	25	
10	330 24.8	31.2	183 53.1	8.6	3	32.4	13.0	60.6					h m	h m	h m	h m	
11	345 24.9	32.0	198 20.7	8.6	3	45.4	12.9	60.6	N 72	21 09	///	///	03 15	03 02	02 48	02 31	
12	0 25.0	N12 32.8	212 48.3	8.5	S 3	58.3	13.0	60.6	N 70	20 44	22 33	///	03 11	03 05	02 59	02 51	
13	15 25.1	33.7	227 15.8	8.4	4	11.3	12.9	60.7	68	20 25	21 48	///	03 08	03 08	03 07	03 07	
14	30 25.2	34.5	241 43.2	8.4	4	24.2	12.9	60.7	66	20 09	21 19	///	03 06	03 10	03 14	03 21	
15	45 25.4	35.3	256 10.6	8.4	4	37.1	12.9	60.7	64	20 57	20 58	22 44	03 03	03 11	03 20	03 32	
16	60 25.5	36.2	270 38.0	8.2	4	50.0	12.9	60.8	62	19 46	20 41	22 04	03 01	03 13	03 26	03 41	
17	75 25.6	37.0	285 05.2	8.3	5	02.9	12.9	60.8	60	19 37	20 27	21 37	02 59	03 14	03 30	03 49	
18	90 25.7	N12 37.8	299 32.5	8.1	S 5	15.8	12.8	60.8	N 58	19 29	20 15	21 17	02 58	03 15	03 34	03 56	
19	105 25.8	38.6	313 59.6	8.2	5	28.6	12.8	60.8	56	19 23	20 05	21 01	02 56	03 16	03 38	04 03	
20	120 26.0	39.5	328 26.8	8.0	5	41.4	12.8	60.9	54	19 16	19 56	20 47	02 55	03 17	03 41	04 08	
21	135 26.1	40.3	342 53.8	8.0	5	54.2	12.8	60.9	52	19 11	19 48	20 36	02 54	03 18	03 44	04 14	
22	150 26.2	41.1	357 20.8	8.0	6	07.0	12.7	60.9	50	19 06	19 41	20 26	02 53	03 19	03 47	04 18	
23	165 26.3	42.0	11 47.8	7.9	6	19.7	12.7	60.9	45	18 55	19 27	20 05	02 50	03 21	03 53	04 28	
24 00	180 26.4	N12 42.8	26 14.7	7.8	S 6	32.4	12.7	60.9	N 40	18 46	19 15	19 50	02 48	03 22	03 58	04 37	
01	195 26.5	43.6	40 41.5	7.8	6	45.1	12.7	61.0	35	18 39	19 05	19 37	02 47	03 24	04 02	04 44	
02	210 26.6	44.4	55 08.3	7.7	6	57.8	12.6	61.0	30	18 32	18 57	19 27	02 45	03 25	04 06	04 51	
03	225 26.8	45.3	69 35.0	7.6	7	10.4	12.5	61.0	20	18 21	18 43	19 10	02 42	03 27	04 13	05 02	
04	240 26.9	46.1	84 01.6	7.6	7	22.9	12.6	61.0	N 10	18 11	18 32	18 58	02 40	03 28	04 19	05 12	
05	255 27.0	46.9	98 28.2	7.5	7	35.5	12.5	61.1	0	18 02	18 23	18 47	02 38	03 30	04 24	05 21	
06	270 27.1	N12 47.7	112 54.7	7.5	S 7	48.0	12.4	61.1	S 10	17 53	18 14	18 39	02 35	03 31	04 30	05 30	
07	285 27.2	48.6	127 21.2	7.4	8	00.4	12.4	61.1	20	17 43	18 06	18 32	02 33	03 33	04 35	05 40	
08	300 27.3	49.4	141 47.6	7.4	8	12.8	12.4	61.1	30	17 33	17 57	18 25	02 30	03 35	04 42	05 51	
09	315 27.5	50.2	156 14.0	7.3	8	25.2	12.3	61.1	35	17 26	17 52	18 22	02 28	03 36	04 46	05 58	
10	330 27.6	51.0	170 40.3	7.2	8	37.5	12.3	61.1	40	17 20	17 47	18 19	02 26	03 37	04 50	06 05	
11	345 27.7	51.9	185 06.5	7.1	8	49.8	12.2	61.2	45	17 11	17 42	18 16	02 24	03 39	04 56	06 14	
12	0 27.8	N12 52.7	199 32.6	7.1	S 9	02.0	12.1	61.2	S 50	17 02	17 35	18 13	02 21	03 40	05 02	06 25	
13	15 27.9	53.5	213 58.7	7.1	9	14.1	12.1	61.2	52	16 57	17 32	18 12	02 20	03 41	05 04	06 30	
14	30 28.0	54.3	228 24.8	6.9	9	26.2	12.1	61.2	54	16 53	17 29	18 11	02 19	03 42	05 08	06 35	
15	45 28.1	55.2	242 50.7	7.0	9	38.3	12.0	61.2	56	16 47	17 26	18 09	02 17	03 43	05 11	06 41	
16	60 28.2	56.0	257 16.7	6.8	9	50.3	11.9	61.2	58	16 41	17 22	18 08	02 15	03 44	05 15	06 48	
17	75 28.4	56.8	271 42.5	6.8	10	02.1	11.9	61.3	S 60								

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.1			ESTRELLAS			
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.	
LUNES	25 00	212 46.9	156 40.5 N20	15.5	205 05.5 N 2	13.3	354 16.7 S13	37.9	230 57.4 S 9	22.7	Acomar	315 29.6 S40	19.7						
	01	227 49.4	171 39.8	16.3	220 06.2	14.0	9 19.4	37.8	245 59.6	22.6	Achernar	335 38.0 S57	15.9						
	02	242 51.8	186 39.1	17.1	235 06.9	14.8	24 22.2	37.7	261 01.9	22.5	Acrux	173 24.8 S63	04.3						
	03	257 54.3	201 38.4	17.9	250 07.6	15.6	39 25.0	37.6	276 04.1	22.5	Adhara	255 23.9 S28	58.2						
	04	272 56.8	216 37.7	18.7	265 08.3	16.4	54 27.8	37.5	291 06.4	22.4	Aldebaran	291 06.1 N16	29.8						
	05	287 59.2	231 37.1	19.4	280 08.9	17.1	69 30.5	37.4	306 08.6	22.3									
	06	303 01.7	246 36.4 N20	20.2	295 09.6 N 2	17.9	84 33.3 S13	37.3	321 10.9 S 9	22.2	Alioth	166 32.7 N55	59.4						
	07	318 04.2	261 35.7	21.0	310 10.3	18.7	99 36.1	37.2	336 13.2	22.2	Alkaid	153 09.7 N49	20.4						
	08	333 06.6	276 35.0	21.8	325 11.0	19.4	114 38.9	37.1	351 15.4	22.1	Al Na'ir	28 01.9 S46	59.1						
	09	348 09.1	291 34.3	22.6	340 11.7	20.2	129 41.6	37.0	6 17.7	22.0	Alnilam	276 01.2 S 1	12.5						
	10	3 11.6	306 33.7	23.3	355 12.4	21.0	144 44.4	36.9	21 19.9	21.9	Alphard	218 10.1 S 8	38.3						
	11	18 14.0	321 33.0	24.1	10 13.1	21.8	159 47.2	36.8	36 22.2	21.9									
	12	33 16.5	336 32.3 N20	24.9	25 13.8 N 2	22.5	174 49.9 S13	36.7	51 24.5 S 9	21.8	Alphecca	126 22.8 N26	43.9						
	13	48 19.0	351 31.6	25.7	40 14.5	23.3	189 52.7	36.6	66 26.7	21.7	Alpheratz	357 58.7 N29	03.4						
	14	63 21.4	6 30.9	26.4	55 15.2	24.1	204 55.5	36.5	81 29.0	21.7	Altair	62 22.2 N 8	51.1						
	15	78 23.9	21 30.2	27.2	70 15.9	24.9	219 58.3	36.4	96 31.2	21.6	Ankaa	353 30.2 S42	20.1						
	16	93 26.3	36 29.5	28.0	85 16.6	25.6	235 01.0	36.3	111 33.5	21.5	Antares	112 43.6 S26	25.2						
	17	108 28.8	51 28.9	28.8	100 17.3	26.4	250 03.8	36.2	126 35.8	21.4									
	18	123 31.3	66 28.2 N20	29.5	115 18.0 N 2	27.2	265 06.6 S13	36.1	141 38.0 S 9	21.4	Arcturus	146 08.5 N19	12.6						
	19	138 33.7	81 27.5	30.3	130 18.7	27.9	280 09.4	36.0	156 40.3	21.3	Atria	107 57.9 S69	00.9						
	20	153 36.2	96 26.8	31.1	145 19.4	28.7	295 12.1	35.9	171 42.5	21.2	Avior	234 23.9 S59	29.9						
	21	168 38.7	111 26.1	31.8	160 20.1	29.5	310 14.9	35.8	186 44.8	21.1	Bellatrix	278 47.6 N 6	20.5						
	22	183 41.1	126 25.4	32.6	175 20.8	30.2	325 17.7	35.7	201 47.1	21.1	Betelgeuse	271 17.0 N 7	24.2						
23	198 43.6	141 24.7	33.4	190 21.5	31.0	340 20.5	35.6	216 49.3	21.0										
MARTES	26 00	213 46.1	156 24.1 N20	34.1	205 22.1 N 2	31.8	355 23.2 S13	35.6	231 51.6 S 9	20.9	Canopus	264 02.8 S52	41.9						
	01	228 48.5	171 23.4	34.9	220 22.8	32.6	10 26.0	35.5	246 53.9	20.8	Capella	280 56.0 N45	59.6						
	02	243 51.0	186 22.7	35.6	235 23.5	33.3	25 28.8	35.4	261 56.1	20.8	Deneb	49 41.3 N45	15.4						
	03	258 53.4	201 22.0	36.4	250 24.2	34.1	40 31.6	35.3	276 58.4	20.7	Denebola	182 48.0 N14	36.1						
	04	273 55.9	216 21.3	37.2	265 24.9	34.9	55 34.3	35.2	292 00.6	20.6	Diphda	349 10.6 S18	01.1						
	05	288 58.4	231 20.6	37.9	280 25.6	35.6	70 37.1	35.1	307 02.9	20.5									
	06	304 00.8	246 19.9 N20	38.7	295 26.3 N 2	36.4	85 39.9 S13	35.0	322 05.2 S 9	20.5	Dubhe	194 08.8 N61	47.0						
	07	319 03.3	261 19.2	39.4	310 27.0	37.2	100 42.7	34.9	337 07.4	20.4	Elnath	278 31.0 N28	36.1						
	08	334 05.8	276 18.5	40.2	325 27.7	38.0	115 45.4	34.8	352 09.7	20.3	Eltanin	90 52.5 N51	29.2						
	09	349 08.2	291 17.8	41.0	340 28.4	38.7	130 48.2	34.7	7 11.9	20.3	Enif	34 01.3 N 9	50.9						
	10	4 10.7	306 17.1	41.7	355 29.1	39.5	145 51.0	34.6	22 14.2	20.2	Fomalhaut	15 40.0 S29	39.0						
	11	19 13.2	321 16.5	42.5	10 29.8	40.3	160 53.8	34.5	37 16.5	20.1									
	12	34 15.6	336 15.8 N20	43.2	25 30.5 N 2	41.0	175 56.5 S13	34.4	52 18.7 S 9	20.0	Gacrux	172 16.4 S57	05.2						
13	49 18.1	351 15.1	44.0	40 31.2	41.8	190 59.3	34.3	67 21.0	20.0	Gienah	176 06.8 S17	30.9							
14	64 20.6	6 14.4	44.7	55 31.9	42.6	206 02.1	34.2	82 23.3	19.9	Hadar	149 07.7 S60	20.9							
15	79 23.0	21 13.7	45.5	70 32.6	43.3	221 04.8	34.1	97 25.5	19.8	Hamal	328 17.3 N23	26.1							
16	94 25.5	36 13.0	46.2	85 33.3	44.1	236 07.6	34.0	112 27.8	19.7	Kaus Aust.	84 02.6 S34	23.1							
17	109 27.9	51 12.3	47.0	100 34.0	44.9	251 10.4	33.9	127 30.1	19.7										
18	124 30.4	66 11.6 N20	47.7	115 34.7 N 2	45.7	266 13.2 S13	33.8	142 32.3 S 9	19.6	Kochab	137 18.3 N74	10.7							
19	139 32.9	81 10.9	48.5	130 35.4	46.4	281 15.9	33.7	157 34.6	19.5	Markab	13 52.8 N15	10.4							
20	154 35.3	96 10.2	49.2	145 36.1	47.2	296 18.7	33.6	172 36.8	19.5	Menkar	314 30.4 N 4	04.0							
21	169 37.8	111 09.5	49.9	160 36.8	48.0	311 21.5	33.5	187 39.1	19.4	Menkent	148 24.1 S36	20.7							
22	184 40.3	126 08.8	50.7	175 37.4	48.7	326 24.3	33.4	202 41.4	19.3	Miaplacidus	221 42.5 S69	42.1							
23	199 42.7	141 08.1	51.4	190 38.1	49.5	341 27.0	33.3	217 43.6	19.2										
MIÉRCOLES	27 00	214 45.2	156 07.4 N20	52.2	205 38.8 N 2	50.3	356 29.8 S13	33.2	232 45.9 S 9	19.2	Mirfak	309 01.4 N49	50.5						
	01	229 47.7	171 06.7	52.9	220 39.5	51.0	11 32.6	33.1	247 48.2	19.1	Nunki	76 15.9 S26	18.1						
	02	244 50.1	186 06.0	53.6	235 40.2	51.8	26 35.4	33.0	262 50.4	19.0	Peacock	53 41.7 S56	44.9						
	03	259 52.6	201 05.3	54.4	250 40.9	52.6	41 38.1	32.9	277 52.7	18.9	Pollux	243 45.3 N28	02.4						
	04	274 55.1	216 04.6	55.1	265 41.6	53.3	56 40.9	32.8	292 55.0	18.9	Procyon	245 14.8 N 5	14.2						
	05	289 57.5	231 03.9	55.9	280 42.3	54.1	71 43.7	32.7	307 57.2	18.8									
	06	305 00.0	246 03.2 N20	56.6	295 43.0 N 2	54.9	86 46.5 S13	32.6	322 59.5 S 9	18.7	Rasalhague	96 19.5 N12	33.8						
	07	320 02.4	261 02.5	57.3	310 43.7	55.7	101 49.2	32.5	338 01.7	18.7	Regulus	207 58.6 N11	59.5						
	08	335 04.9	276 01.8	58.1	325 44.4	56.4	116 52.0	32.4	353 04.0	18.6	Rigel	281 26.1 S 8	12.7						
	09	350 07.4	291 01.1	58.8	340 45.1	57.2	131 54.8	32.3	8 06.3	18.5	Rigil Kent.	140 10.6 S60	48.7						
	10	5 09.8	306 00.4	59.5	355 45.8	58.0	146 57.6	32.2	23 08.5	18.4	Sabik	102 28.7 S15	43.1						
	11	20 12.3	320 59.7	60.3	10 46.5	58.7	162 00.3	32.1	38 10.8	18.4									
	12	35 14.8	335 59.0 N21	61.0	25 47.2 N 2	59.5	177 03.1 S13	32.0	53 13.1 S 9	18.3	Schedar	349 57.4 N56	30.3						
13	50 17.2	350 58.3	61.7	40 47.9	60.3	192 05.9	31.9	68 15.3	18.2	Shaula	96 41.1 S37	05.9							
14	65 19.7	5 57.6	62.4	55 48.6	61.0	207 08.7	31.8	83 17.6	18.1	Sirius	258 46.5 S16	42.8							
15	80 22.2	20 56.9	63.2	70 49.3	61.8	222 11.4	31.7	98 19.9	18.1	Spica	158 46.1 S11	08.1							
16	95 24.6	35 56.2	63.9	85 50.0	62.6	237 14.2	31.6	113 22.1	18.0	Suhail	223 02.9 S43	25.0							
17	110 27.1	5																	

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Náut.		Civil	25	26	27	28
<i>d h</i>	° / ' "	° / ' "	° / ' "	° / ' "	° / ' "	° / ' "	° / ' "	h m	h m	h m	h m	h m	h m	h m	
LUNES	25 00	180 29.1	N13 02.5	12 41.7	6.3	S11 23.9	11.4 61.3	N 72	///	///	02 32	21 53	■	■	
	01	195 29.3	03.4	27 07.0	6.3	11 35.3	11.4 61.4	N 70	///	00 56	03 01	21 14	23 40	■	
	02	210 29.4	04.2	41 32.3	6.2	11 46.7	11.2 61.4	68	///	01 53	03 22	20 48	22 49	24 38	00 38
	03	225 29.5	05.0	55 57.5	6.1	11 57.9	11.2 61.4	66	///	02 26	03 38	20 28	22 17	23 53	25 00
	04	240 29.6	05.8	70 22.6	6.1	12 09.1	11.0 61.4	64	00 49	02 49	03 52	20 12	21 54	23 23	24 29
	05	255 29.7	06.6	84 47.7	6.1	12 20.1	11.0 61.4	62	01 40	03 07	04 03	19 58	21 35	23 00	24 06
	06	270 29.8	N13 07.4	99 12.8	5.9	S12 31.1	11.0 61.4	60	02 09	03 22	04 13	19 47	21 20	22 42	23 47
	07	285 29.9	08.3	113 37.7	5.9	12 42.1	10.8 61.4	N 58	02 31	03 35	04 21	19 37	21 07	22 27	23 32
	08	300 30.0	09.1	128 02.6	5.9	12 52.9	10.7 61.4	56	02 48	03 46	04 28	19 29	20 56	22 14	23 18
	09	315 30.1	09.9	142 27.5	5.8	13 03.6	10.7 61.4	54	03 03	03 55	04 35	19 21	20 46	22 03	23 07
	10	330 30.2	10.7	156 52.3	5.7	13 14.3	10.6 61.4	52	03 15	04 03	04 41	19 15	20 37	21 53	22 57
	11	345 30.4	11.5	171 17.0	5.6	13 24.9	10.4 61.4	50	03 26	04 10	04 46	19 09	20 30	21 44	22 48
	12	0 30.5	N13 12.3	185 41.6	5.6	S13 35.3	10.4 61.4	45	03 47	04 26	04 58	18 56	20 13	21 25	22 29
	13	15 30.6	13.1	200 06.2	5.6	13 45.7	10.3 61.4	N 40	04 03	04 38	05 07	18 45	20 00	21 10	22 13
	14	30 30.7	14.0	214 30.8	5.5	13 56.0	10.2 61.4	35	04 16	04 48	05 15	18 36	19 48	20 57	22 00
	15	45 30.8	14.8	228 55.3	5.4	14 06.2	10.1 61.4	30	04 27	04 57	05 22	18 28	19 38	20 46	21 48
	16	60 30.9	15.6	243 19.7	5.4	14 16.3	9.9 61.4	20	04 45	05 11	05 34	18 15	19 21	20 26	21 29
	17	75 31.0	16.4	257 44.1	5.3	14 26.2	9.9 61.4	N 10	04 58	05 23	05 45	18 03	19 06	20 10	21 12
	18	90 31.1	N13 17.2	272 08.4	5.2	S14 36.1	9.8 61.4	0	05 08	05 33	05 54	17 52	18 52	19 54	20 56
	19	105 31.2	18.0	286 32.6	5.2	14 45.9	9.7 61.4	S 10	05 18	05 42	06 04	17 41	18 39	19 39	20 40
	20	120 31.3	18.8	300 56.8	5.2	14 55.6	9.5 61.4	20	05 26	05 52	06 14	17 29	18 24	19 22	20 23
	21	135 31.4	19.6	315 21.0	5.1	15 05.1	9.5 61.4	30	05 33	06 01	06 26	17 16	18 07	19 03	20 03
	22	150 31.5	20.5	329 45.1	5.0	15 14.6	9.3 61.4	35	05 36	06 06	06 32	17 09	17 58	18 52	19 52
23	165 31.6	21.3	344 09.1	5.0	15 23.9	9.3 61.4	40	05 40	06 12	06 40	17 00	17 47	18 40	19 39	
							45	05 43	06 18	06 48	16 50	17 34	18 25	19 23	
MARTES	26 00	180 31.8	N13 22.1	358 33.1	4.9	S15 33.2	9.1 61.4	S 50	05 47	06 25	06 59	16 38	17 19	18 07	19 04
	01	195 31.9	22.9	12 57.0	4.9	15 42.3	9.0 61.4	52	05 48	06 28	07 03	16 33	17 11	17 59	18 55
	02	210 32.0	23.7	27 20.9	4.8	15 51.3	8.9 61.4	54	05 50	06 32	07 09	16 27	17 03	17 49	18 45
	03	225 32.1	24.5	41 44.7	4.8	16 00.2	8.8 61.4	56	05 51	06 35	07 14	16 20	16 54	17 38	18 34
	04	240 32.2	25.3	56 08.5	4.7	16 09.0	8.6 61.4	58	05 53	06 39	07 21	16 12	16 44	17 26	18 21
	05	255 32.3	26.1	70 32.2	4.7	16 17.6	8.6 61.4	S 60	05 55	06 44	07 28	16 04	16 33	17 12	18 06
	06	270 32.4	N13 26.9	84 55.9	4.6	S16 26.2	8.4 61.4								
	07	285 32.5	27.7	99 19.5	4.6	16 34.6	8.3 61.4	Lat.	Ocaso Sol	Crepúsculo	Ocaso Luna	25	26	27	28
	08	300 32.6	28.5	113 43.1	4.6	16 42.9	8.2 61.4			Civil	Náut.				
	09	315 32.7	29.3	128 06.7	4.5	16 51.1	8.0 61.4								
	10	330 32.8	30.1	142 30.2	4.4	16 59.1	7.9 61.4								
	11	345 32.9	31.0	156 53.6	4.5	17 07.0	7.8 61.3	N 72	21 29	///	///	02 31	02 02	■	■
	12	0 33.0	N13 31.8	171 17.1	4.3	S17 14.8	7.7 61.3	N 70	20 59	23 16	///	02 51	02 42	02 24	■
	13	15 33.1	32.6	185 40.4	4.4	17 22.5	7.5 61.3	68	20 37	22 09	///	03 07	03 09	03 16	03 36
	14	30 33.2	33.4	200 03.8	4.3	17 30.0	7.4 61.3	66	20 20	21 34	///	03 21	03 30	03 48	04 22
	15	45 33.3	34.2	214 27.1	4.3	17 37.4	7.3 61.3	64	20 06	21 10	23 21	03 32	03 47	04 12	04 52
	16	60 33.4	35.0	228 50.4	4.2	17 44.7	7.1 61.3	62	19 55	20 51	22 21	03 41	04 02	04 31	05 15
	17	75 33.5	35.8	243 13.6	4.2	17 51.8	7.0 61.3	60	19 45	20 36	21 50	03 49	04 14	04 47	05 33
	18	90 33.6	N13 36.6	257 36.8	4.2	S17 58.8	6.9 61.3	N 58	19 36	20 23	21 27	03 56	04 24	05 00	05 49
	19	105 33.7	37.4	272 00.0	4.1	18 05.7	6.7 61.2	56	19 29	20 12	21 10	04 03	04 33	05 12	06 02
	20	120 33.8	38.2	286 23.1	4.1	18 12.4	6.6 61.2	54	19 22	20 02	20 55	04 08	04 41	05 22	06 13
	21	135 33.9	39.0	300 46.2	4.1	18 19.0	6.5 61.2	52	19 16	19 54	20 42	04 14	04 48	05 31	06 23
	22	150 34.0	39.8	315 09.3	4.1	18 25.5	6.3 61.2	50	19 11	19 46	20 32	04 18	04 55	05 39	06 32
23	165 34.1	40.6	329 32.4	4.0	18 31.8	6.2 61.2	45	18 59	19 31	20 10	04 28	05 09	05 56	06 51	
MIÉRCOLES	27 00	180 34.2	N13 41.4	343 55.4	4.0	S18 38.0	6.0 61.2	N 40	18 49	19 18	19 53	04 37	05 21	06 11	07 07
	01	195 34.3	42.2	358 18.4	4.0	18 44.0	5.9 61.1	35	18 41	19 08	19 40	04 44	05 31	06 23	07 20
	02	210 34.4	43.0	12 41.4	4.0	18 49.9	5.8 61.1	30	18 34	18 59	19 29	04 51	05 39	06 33	07 31
	03	225 34.5	43.8	27 04.4	3.9	18 55.7	5.6 61.1	20	18 22	18 45	19 11	05 02	05 55	06 51	07 51
	04	240 34.6	44.6	41 27.3	3.9	19 01.3	5.4 61.1	N 10	18 11	18 33	18 58	05 12	06 08	07 07	08 08
	05	255 34.7	45.4	55 50.2	4.0	19 06.7	5.3 61.1	0	18 01	18 22	18 47	05 21	06 20	07 22	08 24
	06	270 34.8	N13 46.2	70 13.2	3.9	S19 12.0	5.2 61.0	S 10	17 51	18 13	18 38	05 30	06 33	07 37	08 40
	07	285 34.9	47.0	84 36.1	3.9	19 17.2	5.0 61.0	20	17 41	18 04	18 30	05 40	06 46	07 52	08 56
	08	300 35.0	47.8	98 59.0	3.8	19 22.2	4.9 61.0	30	17 30	17 54	18 22	05 51	07 01	08 11	09 16
	09	315 35.1	48.6	113 21.8	3.9	19 27.1	4.8 61.0	35	17 23	17 49	18 19	05 58	07 10	08 21	09 27
	10	330 35.2	49.4	127 44.7	3.9	19 31.9	4.5 61.0	40	17 15	17 43	18 15	06 05	07 21	08 33	09 40
	11	345 35.3	50.2	142 07.6	3.8	19 36.4	4.5 60.9	45	17 07	17 37	18 12	06 14	07 33	08 48	09 56
	12	0 35.4	N13 51.0	156 30.4	3.9	S19 40.9	4.3 60.9	S 50	16 56	17 30	18 08	06 25	07 47	09 05	10 15
	13	15 35.5	51.8	170 53.3	3.9	19 45.2	4.1 60.9	52	16 51	17 27	18 06	06 30	07 54	09 13	10 24
	14	30 35.6	52.6	185 16.2	3.8	19 49.3	4.0 60.9	54	16 46	17 23	18 05	06 35	08 01	09 23	10 34
	15	45 35.7	53.3	199 39.0	3.9	19 53.3	3.9 60.8	56	16 40	17 19	18 03	06 41	08 10	09 33	10 45
	16	60 35.8	54.1	214 01.9	3.8	19 57.2	3.6 60.8	58	16 34	17 15	18 01	06 48	08 20	09 45	10 58
	17	75 35.9	54.9	228 24.7	3.9	20 00.8	3.6 60.8	S 60	16 26	17 11	18 00	06 56	08 31	09 59	11 13
	18	90 36.0	N13 55.7	242 47.6	3.9	S20 04.4	3.4 60.8								
	19	105 36.1	56.5	257 10.5	3.9	20 07.8	3.2 60.7								
	20	120 36.2	57.3	271 33.4	3.9	20 11.0	3.1 60.7								
	21	135 36.3	58.1	285 56.3	3.9	20 14.1	3.0 60.7								

T.M.G. (TU)	ARIES	VENUS -3.9	MARTE +1.2	JUPITER -2.5	SATURNO +1.1	ESTRELLAS		
d h	A.H.G.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	Nombre	A. H. S.	Dec.
28 00	215 44.3	155 50.5 N21 09.7	205 55.5 N 3 08.7	357 36.4 S13 30.9	233 40.3 S 9 17.4	Acamar	315 29.6 S40 19.7	
01	230 46.8	170 49.8 10.4	220 56.2 09.5	12 39.2 30.8	248 42.5 17.4	Achernar	335 38.0 S57 15.9	
02	245 49.3	185 49.1 11.1	235 56.9 10.2	27 42.0 30.7	263 44.8 17.3	Acrux	173 24.8 S63 04.4	
03	260 51.7	200 48.4 11.8	250 57.6 11.0	42 44.8 30.6	278 47.1 17.2	Adhara	255 24.0 S28 58.2	
04	275 54.2	215 47.6 12.5	265 58.3 11.8	57 47.5 30.5	293 49.3 17.1	Aldebaran	291 06.1 N16 29.8	
05	290 56.7	230 46.9 13.2	280 59.0 12.5	72 50.3 30.4	308 51.6 17.1			
06	305 59.1	245 46.2 N21 13.9	295 59.7 N 3 13.3	87 53.1 S13 30.3	323 53.9 S 9 17.0	Alioth	166 32.7 N55 59.4	
07	321 01.6	260 45.5 14.6	311 00.4 14.1	102 55.9 30.2	338 56.1 16.9	Alkaid	153 09.7 N49 20.4	
08	336 04.0	275 44.8 15.4	326 01.1 14.8	117 58.6 30.1	353 58.4 16.9	Al Na'ir	28 01.8 S46 59.1	
J 09	351 06.5	290 44.1 16.1	341 01.8 15.6	133 01.4 30.0	9 00.7 16.8	Alnilam	276 01.2 S 1 12.5	
U 10	6 09.0	305 43.4 16.8	356 02.5 16.4	148 04.2 29.9	24 02.9 16.7	Alphard	218 10.1 S 8 38.3	
E 11	21 11.4	320 42.7 17.5	11 03.2 17.1	163 07.0 29.8	39 05.2 16.7			
V 12	36 13.9	335 41.9 N21 18.2	26 03.9 N 3 17.9	178 09.7 S13 29.7	54 07.5 S 9 16.6	Alphecca	126 22.8 N26 43.9	
E 13	51 16.4	350 41.2 18.9	41 04.6 18.7	193 12.5 29.6	69 09.7 16.5	Alpheratz	357 58.6 N29 03.4	
S 14	66 18.8	5 40.5 19.6	56 05.3 19.4	208 15.3 29.5	84 12.0 16.4	Altair	62 22.1 N 8 51.2	
15	81 21.3	20 39.8 20.3	71 06.0 20.2	223 18.1 29.4	99 14.3 16.4	Ankaa	353 30.2 S42 20.1	
16	96 23.8	35 39.1 21.0	86 06.7 21.0	238 20.8 29.3	114 16.5 16.3	Antares	112 43.5 S26 25.2	
17	111 26.2	50 38.4 21.7	101 07.4 21.7	253 23.6 29.2	129 18.8 16.2			
18	126 28.7	65 37.6 N21 22.4	116 08.1 N 3 22.5	268 26.4 S13 29.1	144 21.1 S 9 16.2	Arcturus	146 08.5 N19 12.6	
19	141 31.2	80 36.9 23.1	131 08.8 23.3	283 29.2 29.0	159 23.3 16.1	Atria	107 57.8 S69 00.9	
20	156 33.6	95 36.2 23.8	146 09.4 24.0	298 31.9 28.9	174 25.6 16.0	Avior	234 23.9 S59 29.9	
21	171 36.1	110 35.5 24.5	161 10.1 24.8	313 34.7 28.8	189 27.9 15.9	Bellatrix	278 47.6 N 6 20.5	
22	186 38.5	125 34.8 25.2	176 10.8 25.6	328 37.5 28.7	204 30.2 15.9	Betelgeuse	271 17.0 N 7 24.2	
23	201 41.0	140 34.0 25.9	191 11.5 26.3	343 40.3 28.6	219 32.4 15.8			
29 00	216 43.5	155 33.3 N21 26.6	206 12.2 N 3 27.1	358 43.0 S13 28.5	234 34.7 S 9 15.7	Canopus	264 02.8 S52 41.9	
01	231 45.9	170 32.6 27.3	221 12.9 27.9	13 45.8 28.4	249 37.0 15.7	Capella	280 56.0 N45 59.6	
02	246 48.4	185 31.9 27.9	236 13.6 28.6	28 48.6 28.3	264 39.2 15.6	Deneb	49 41.2 N45 15.4	
03	261 50.9	200 31.2 28.6	251 14.3 29.4	43 51.4 28.2	279 41.5 15.5	Denebola	182 48.0 N14 36.1	
04	276 53.3	215 30.4 29.3	266 15.0 30.2	58 54.2 28.1	294 43.8 15.5	Diphda	349 10.6 S18 01.0	
05	291 55.8	230 29.7 30.0	281 15.7 30.9	73 56.9 28.0	309 46.0 15.4			
06	306 58.3	245 29.0 N21 30.7	296 16.4 N 3 31.7	88 59.7 S13 27.9	324 48.3 S 9 15.3	Dubhe	194 08.8 N61 47.0	
07	322 00.7	260 28.3 31.4	311 17.1 32.4	104 02.5 27.8	339 50.6 15.2	Elnath	278 31.0 N28 36.1	
08	337 03.2	275 27.5 32.1	326 17.8 33.2	119 05.3 27.7	354 52.8 15.2	Eltanin	90 52.5 N51 29.2	
V 09	352 05.6	290 26.8 32.8	341 18.5 34.0	134 08.0 27.6	9 55.1 15.1	Enif	34 01.3 N 9 50.9	
E 10	7 08.1	305 26.1 33.4	356 19.2 34.7	149 10.8 27.5	24 57.4 15.0	Fomalhaut	15 40.0 S29 39.0	
E 11	22 10.6	320 25.4 34.1	11 19.9 35.5	164 13.6 27.4	39 59.7 15.0			
R 12	37 13.0	335 24.6 N21 34.8	26 20.6 N 3 36.3	179 16.4 S13 27.3	55 01.9 S 9 14.9	Gacrux	172 16.4 S57 05.2	
N 13	52 15.5	350 23.9 35.5	41 21.3 37.0	194 19.1 27.2	70 04.2 14.8	Gienah	176 06.8 S17 30.9	
E 14	67 18.0	5 23.2 36.2	56 22.0 37.8	209 21.9 27.1	85 06.5 14.8	Hadar	149 07.6 S60 20.9	
S 15	82 20.4	20 22.5 36.8	71 22.7 38.6	224 24.7 27.0	100 08.7 14.7	Hamal	328 17.3 N23 26.1	
16	97 22.9	35 21.7 37.5	86 23.4 39.3	239 27.5 26.9	115 11.0 14.6	Kaus Aust.	84 02.6 S34 23.1	
17	112 25.4	50 21.0 38.2	101 24.1 40.1	254 30.2 26.8	130 13.3 14.5			
18	127 27.8	65 20.3 N21 38.9	116 24.8 N 3 40.9	269 33.0 S13 26.7	145 15.6 S 9 14.5	Kochab	137 18.3 N74 10.7	
19	142 30.3	80 19.6 39.5	131 25.5 41.6	284 35.8 26.6	160 17.8 14.4	Markab	13 52.8 N15 10.4	
20	157 32.8	95 18.8 40.2	146 26.2 42.4	299 38.6 26.5	175 20.1 14.3	Menkar	314 30.4 N 4 04.0	
21	172 35.2	110 18.1 40.9	161 26.8 43.1	314 41.3 26.4	190 22.4 14.3	Menkent	148 24.1 S36 20.7	
22	187 37.7	125 17.4 41.6	176 27.5 43.9	329 44.1 26.3	205 24.6 14.2	Miaplacidus	221 42.5 S69 42.1	
23	202 40.1	140 16.6 42.2	191 28.2 44.7	344 46.9 26.3	220 26.9 14.1			
30 00	217 42.6	155 15.9 N21 42.9	206 28.9 N 3 45.4	359 49.7 S13 26.2	235 29.2 S 9 14.1	Mirfak	309 01.4 N49 50.4	
01	232 45.1	170 15.2 43.6	221 29.6 46.2	14 52.5 26.1	250 31.5 14.0	Nunki	76 15.9 S26 18.1	
02	247 47.5	185 14.5 44.2	236 30.3 47.0	29 55.2 26.0	265 33.7 13.9	Peacock	53 41.7 S56 44.9	
03	262 50.0	200 13.7 44.9	251 31.0 47.7	44 58.0 25.9	280 36.0 13.9	Pollux	243 45.3 N28 02.4	
04	277 52.5	215 13.0 45.6	266 31.7 48.5	60 00.8 25.8	295 38.3 13.8	Procyon	245 14.8 N 5 14.2	
05	292 54.9	230 12.3 46.2	281 32.4 49.2	75 03.6 25.7	310 40.5 13.7			
06	307 57.4	245 11.5 N21 46.9	296 33.1 N 3 50.0	90 06.3 S13 25.6	325 42.8 S 9 13.6	Rasalhague	96 19.5 N12 33.8	
07	322 59.9	260 10.8 47.5	311 33.8 50.8	105 09.1 25.5	340 45.1 13.6	Regulus	207 58.6 N11 59.5	
08	338 02.3	275 10.1 48.2	326 34.5 51.5	120 11.9 25.4	355 47.4 13.5	Rigel	281 26.1 S 8 12.7	
S 09	353 04.8	290 09.3 48.9	341 35.2 52.3	135 14.7 25.3	10 49.6 13.4	Rigil Kent.	140 10.6 S60 48.8	
A 10	8 07.3	305 08.6 49.5	356 35.9 53.1	150 17.4 25.2	25 51.9 13.4	Sabik	102 28.7 S15 43.1	
B 11	23 09.7	320 07.9 50.2	11 36.6 53.8	165 20.2 25.1	40 54.2 13.3			
A 12	38 12.2	335 07.1 N21 50.8	26 37.3 N 3 54.6	180 23.0 S13 25.0	55 56.5 S 9 13.2	Schedar	349 57.4 N56 30.3	
D 13	53 14.6	350 06.4 51.5	41 38.0 55.3	195 25.8 24.9	70 58.7 13.2	Shaula	96 41.1 S37 05.9	
O 14	68 17.1	5 05.6 52.1	56 38.7 56.1	210 28.5 24.8	86 01.0 13.1	Sirius	258 46.5 S16 42.8	
15	83 19.6	20 04.9 52.8	71 39.4 56.9	225 31.3 24.7	101 03.3 13.0	Spica	158 46.1 S11 08.1	
16	98 22.0	35 04.2 53.5	86 40.1 57.6	240 34.1 24.6	116 05.6 13.0	Suhail	223 02.9 S43 25.0	
17	113 24.5	50 03.4 54.1	101 40.8 58.4	255 36.9 24.5	131 07.8 12.9			
18	128 27.0	65 02.7 N21 54.8	116 41.5 N 3 59.2	270 39.6 S13 24.4	146 10.1 S 9 12.8	Vega	80 48.4 N38 46.5	
19	143 29.4	80 02.0 55.4	131 42.2 59.9	285 42.4 24.3	161 12.4 12.8	Zuben'ubi	137 21.0 S16 01.2	
20	158 31.9	95 01.2 56.0	146 42.9 60.7	300 45.2 24.2	176 14.6 12.7			
21	173 34.4	110 00.5 56.7	161 43.6 61.4	315 48.0 24.1	191 16.9 12.6			
22	188 36.8	124 59.7 57.3	176 44.3 62.2	330 50.8 24.0	206 19.2 12.6			
23	203 39.3	139 59.0 58.0	191 44.9 63.0	345 53.5 23.9	221 21.5 12.5			
Pas. Mer.	h m 9 31.5	v -0.7 d 0.7	v 0.7 d 0.8	v 2.8 d 0.1	v 2.3 d 0.1			
							A. H. S.	Pos. Mer.
								h m
							Venus	298 49.9 13 38
							Marte	349 29.8 10 15
							Júpiter	141 59.6 0 05
							Saturno	17 51.2 8 20

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna							
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.			Civil		28	29	30	1		
d h	o	'	o	'	o	'	o	'	o	'	h m	h m	h m	h m	h m	h m	h m			
28	00	180	36.6	N14	00.5	329	05.0	4.0	S20	22.5	2.5	60.6	N 72	///	///	02 11	■	■	■	03 48
	01	195	36.7		01.3	343	28.0	4.0	20	25.0	2.3	60.6	N 70	///	///	02 44	■	■		03 16
	02	210	36.8		02.1	357	51.0	3.9	20	27.3	2.2	60.5	68	///	01 29	03 08	00 38	01 47	02 12	02 19
	03	225	36.9	..	02.9	12	13.9	4.1	20	29.5	2.0	60.5	66	///	02 09	03 26	25 00	01 00	01 36	01 55
	04	240	37.0		03.6	26	37.0	4.0	20	31.5	1.9	60.5	64	///	02 36	03 41	24 29	00 29	01 11	01 36
	05	255	37.1		04.4	41	00.0	4.1	20	33.4	1.8	60.4	62	01 19	02 56	03 54	24 06	00 06	00 51	01 20
	06	270	37.2	N14	05.2	55	23.1	4.1	S20	35.2	1.5	60.4	60	01 55	03 12	04 04	23 47	24 34	00 34	01 07
	07	285	37.3		06.0	69	46.2	4.1	20	36.7	1.5	60.4	N 58	02 19	03 26	04 13	23 32	24 20	00 20	00 55
	08	300	37.3		06.8	84	09.3	4.2	20	38.2	1.3	60.4	56	02 38	03 38	04 21	23 18	24 08	00 08	00 45
	09	315	37.4	..	07.6	98	32.5	4.2	20	39.5	1.1	60.3	54	02 54	03 48	04 28	23 07	23 58	24 37	00 37
	10	330	37.5		08.4	112	55.7	4.2	20	40.6	1.0	60.3	52	03 07	03 57	04 35	22 57	23 48	24 29	00 29
	11	345	37.6		09.2	127	18.9	4.3	20	41.6	0.8	60.3	50	03 18	04 04	04 41	22 48	23 40	24 22	00 22
	12	0	37.7	N14	09.9	141	42.2	4.3	S20	42.4	0.7	60.2	45	03 41	04 21	04 53	22 29	23 22	24 07	00 07
	13	15	37.8		10.7	156	05.5	4.3	20	43.1	0.5	60.2	N 40	03 59	04 34	05 03	22 13	23 08	23 54	24 33
	14	30	37.9		11.5	170	28.8	4.4	20	43.6	0.4	60.2	35	04 13	04 45	05 12	22 00	22 55	23 43	24 25
	15	45	38.0	..	12.3	184	52.2	4.5	20	44.0	0.3	60.1	30	04 24	04 54	05 19	21 48	22 44	23 34	24 17
	16	60	38.1		13.1	199	15.7	4.5	20	44.3	0.1	60.1	20	04 42	05 09	05 32	21 29	22 26	23 18	24 04
	17	75	38.2		13.9	213	39.2	4.5	20	44.4	0.1	60.1	N 10	04 56	05 22	05 44	21 12	22 10	23 04	23 53
	18	90	38.3	N14	14.6	228	02.7	4.6	S20	44.3	0.2	60.0	0	05 08	05 33	05 54	20 56	21 55	22 50	23 42
	19	105	38.4		15.4	242	26.3	4.6	20	44.1	0.3	60.0	S 10	05 18	05 43	06 04	20 40	21 40	22 37	23 31
	20	120	38.5		16.2	256	49.9	4.7	20	43.8	0.5	60.0	20	05 26	05 52	06 15	20 23	21 23	22 23	23 20
	21	135	38.5	..	17.0	271	13.6	4.7	20	43.3	0.6	59.9	30	05 35	06 03	06 27	20 03	21 05	22 06	23 06
	22	150	38.6		17.8	285	37.3	4.8	20	42.7	0.8	59.9	35	05 38	06 08	06 35	19 52	20 54	21 57	22 59
23	165	38.7		18.6	300	01.1	4.8	20	41.9	0.9	59.8	40	05 43	06 14	06 43	19 39	20 42	21 46	22 50	
												45	05 47	06 21	06 52	19 23	20 27	21 33	22 40	
29	00	180	38.8	N14	19.3	314	24.9	5.0	S20	41.0	1.1	59.8	S 50	05 51	06 29	07 03	19 04	20 09	21 18	22 27
	01	195	38.9		20.1	328	48.9	4.9	20	39.9	1.2	59.8	52	05 53	06 33	07 08	18 55	20 00	21 10	22 22
	02	210	39.0		20.9	343	12.8	5.0	20	38.7	1.3	59.7	54	05 55	06 37	07 14	18 45	19 51	21 02	22 15
	03	225	39.1	..	21.7	357	36.8	5.1	20	37.4	1.5	59.7	56	05 57	06 41	07 20	18 34	19 40	20 53	22 08
	04	240	39.2		22.5	12	00.9	5.2	20	35.9	1.6	59.7	58	05 59	06 45	07 27	18 21	19 28	20 43	22 00
	05	255	39.3		23.2	26	25.1	5.2	20	34.3	1.8	59.6	S 60	06 01	06 50	07 36	18 06	19 14	20 31	21 51
	06	270	39.4	N14	24.0	40	49.3	5.3	S20	32.5	1.9	59.6								
	07	285	39.4		24.8	55	13.6	5.3	20	30.6	2.0	59.5	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna			
	08	300	39.5		25.6	69	37.9	5.4	20	28.6	2.1	59.5	28				28	29	30	1
	09	315	39.6	..	26.4	84	02.3	5.5	20	26.5	2.3	59.5	N 72	21 50	///	///	■	■	■	06 32
	10	330	39.7		27.1	98	26.8	5.6	20	24.2	2.5	59.4	N 70	21 15	///	///	■	■		05 09
	11	345	39.8		27.9	112	51.4	5.6	20	21.7	2.5	59.4	68	20 50	22 33	///	03 36	04 35	06 12	07 58
	12	0	39.9	N14	28.7	127	16.0	5.7	S20	19.2	2.7	59.4	66	20 31	21 50	///	04 22	05 23	06 47	08 22
	13	15	40.0		29.5	141	40.7	5.8	20	16.5	2.9	59.3	64	20 16	21 22	///	04 52	05 53	07 12	08 40
	14	30	40.1	..	30.2	156	05.5	5.8	20	13.6	2.9	59.3	62	20 03	21 01	22 43	05 15	06 16	07 32	08 55
	15	45	40.1		31.0	170	30.3	5.9	20	10.7	3.1	59.2	60	19 52	20 45	22 04	05 33	06 35	07 48	09 08
	16	60	40.2		31.8	184	55.2	6.0	20	07.6	3.2	59.2	N 58	19 43	20 31	21 39	05 49	06 50	08 02	09 19
	17	75	40.3		32.6	199	20.2	6.1	20	04.4	3.4	59.2	56	19 35	20 19	21 19	06 02	07 03	08 13	09 28
	18	90	40.4	N14	33.3	213	45.3	6.2	S20	01.0	3.4	59.1	54	19 27	20 09	21 03	06 13	07 14	08 24	09 36
	19	105	40.5		34.1	228	10.5	6.2	19	57.6	3.6	59.1	52	19 21	20 00	20 49	06 23	07 24	08 33	09 44
	20	120	40.6		34.9	242	35.7	6.3	19	54.0	3.7	59.0	50	19 15	19 52	20 38	06 32	07 33	08 41	09 51
	21	135	40.7	..	35.7	257	01.0	6.4	19	50.3	3.9	59.0	45	19 03	19 35	20 15	06 51	07 52	08 58	10 05
	22	150	40.7		36.4	271	26.4	6.5	19	46.4	3.9	59.0	N 40	18 52	19 21	19 57	07 07	08 08	09 12	10 17
23	165	40.8		37.2	285	51.9	6.6	19	42.5	4.1	58.9	35	18 44	19 10	19 43	07 20	08 21	09 24	10 27	
30	00	180	40.9	N14	38.0	300	17.5	6.7	S19	38.4	4.2	58.9	30	18 36	19 01	19 31	07 31	08 32	09 34	10 35
	01	195	41.0		38.7	314	43.2	6.7	19	34.2	4.3	58.9	20	18 23	18 46	19 13	07 51	08 52	09 52	10 50
	02	210	41.1		39.5	329	08.9	6.8	19	29.9	4.5	58.8	N 10	18 11	18 33	18 59	08 08	09 08	10 07	11 03
	03	225	41.2	..	40.3	343	34.7	6.9	19	25.4	4.5	58.8	0	18 01	18 22	18 47	08 24	09 24	10 22	11 15
	04	240	41.2		41.0	358	00.6	7.0	19	20.9	4.7	58.7	S 10	17 50	18 12	18 37	08 40	09 40	10 36	11 28
	05	255	41.3		41.8	12	26.6	7.1	19	16.2	4.8	58.7	20	17 39	18 02	18 28	08 56	09 56	10 51	11 40
	06	270	41.4	N14	42.6	26	52.7	7.2	S19	11.4	4.9	58.7	30	17 27	17 52	18 20	09 16	10 16	11 09	11 55
	07	285	41.5		43.4	41	18.9	7.2	19	06.5	5.0	58.6	35	17 20	17 46	18 16	09 27	10 27	11 19	12 03
	08	300	41.6		44.1	55	45.1	7.4	19	01.5	5.1	58.6	40	17 12	17 40	18 12	09 40	10 40	11 30	12 13
	09	315	41.7	..	44.9	70	11.5	7.4	18	56.4	5.2	58.5	45	17 02	17 33	18 07	09 56	10 55	11 44	12 24
	10	330	41.7		45.7	84	37.9	7.5	18	51.2	5.3	58.5	S 50	16 51	17 25	18 03	10 15	11 13	12 00	12 38
	11	345	41.8		46.4	99	04.4	7.6	18	45.9	5.5	58.5	52	16 46	17 21	18 01	10 24	11 22		

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.1			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.			
d h																		
1 00	218 41.7	154 58.3	N21 58.6	206 45.6	N 4 03.7		0 56.3	S13 23.8	236 23.7	S 9 12.4			Acamar	315 29.6	S40 19.7			
01	233 44.2	169 57.5	59.3	221 46.3	04.5		15 59.1	23.7	251 26.0	12.3			Achernar	335 38.0	S57 15.8			
02	248 46.7	184 56.8	21 59.9	236 47.0	05.2		31 01.9	23.6	266 28.3	12.3			Acrux	173 24.8	S63 04.4			
03	263 49.1	199 56.0	22 00.6	251 47.7	06.0		46 04.6	23.5	281 30.6	12.2			Adhara	255 24.0	S28 58.2			
04	278 51.6	214 55.3	01.2	266 48.4	06.8		61 07.4	23.4	296 32.8	12.1			Aldebaran	291 06.1	N16 29.8			
05	293 54.1	229 54.6	01.8	281 49.1	07.5		76 10.2	23.3	311 35.1	12.1								
06	308 56.5	244 53.8	N22 02.5	296 49.8	N 4 08.3		91 13.0	S13 23.2	326 37.4	S 9 12.0			Alioth	166 32.7	N55 59.4			
07	323 59.0	259 53.1	03.1	311 50.5	09.0		106 15.7	23.1	341 39.7	11.9			Alkaid	153 09.7	N49 20.5			
D 08	339 01.5	274 52.3	03.7	326 51.2	09.8		121 18.5	23.0	356 41.9	11.9			Al Na'ir	28 01.8	S46 59.0			
O 09	354 03.9	289 51.6	04.4	341 51.9	10.6		136 21.3	22.9	11 44.2	11.8			Alnilam	276 01.2	S 1 12.5			
M 10	9 06.4	304 50.8	05.0	356 52.6	11.3		151 24.1	22.8	26 46.5	11.7			Alphard	218 10.1	S 8 38.3			
I 11	24 08.9	319 50.1	05.6	11 53.3	12.1		166 26.8	22.7	41 48.8	11.7								
N 12	39 11.3	334 49.4	N22 06.3	26 54.0	N 4 12.8		181 29.6	S13 22.6	56 51.1	S 9 11.6			Alphecca	126 22.8	N26 43.9			
G 13	54 13.8	349 48.6	06.9	41 54.7	13.6		196 32.4	22.5	71 53.3	11.5			Alpheratz	357 58.6	N29 03.4			
O 14	69 16.2	4 47.9	07.5	56 55.4	14.4		211 35.2	22.4	86 55.6	11.5			Altair	62 22.1	N 8 51.2			
15	84 18.7	19 47.1	08.2	71 56.1	15.1		226 37.9	22.3	101 57.9	11.4			Ankaa	353 30.2	S42 20.1			
16	99 21.2	34 46.4	08.8	86 56.8	15.9		241 40.7	22.2	117 00.2	11.3			Antares	112 43.5	S26 25.2			
17	114 23.6	49 45.6	09.4	101 57.5	16.6		256 43.5	22.1	132 02.4	11.3								
18	129 26.1	64 44.9	N22 10.0	116 58.2	N 4 17.4		271 46.3	S13 22.0	147 04.7	S 9 11.2			Arcturus	146 08.5	N19 12.6			
19	144 28.6	79 44.1	10.7	131 58.9	18.2		286 49.1	21.9	162 07.0	11.1			Atria	107 57.8	S69 00.9			
20	159 31.0	94 43.4	11.3	146 59.6	18.9		301 51.8	21.8	177 09.3	11.1			Avior	234 23.9	S59 29.9			
21	174 33.5	109 42.6	11.9	162 00.3	19.7		316 54.6	21.7	192 11.5	11.0			Bellatrix	278 47.6	N 6 20.5			
22	189 36.0	124 41.9	12.5	177 01.0	20.4		331 57.4	21.6	207 13.8	10.9			Betelgeuse	271 17.0	N 7 24.2			
23	204 38.4	139 41.1	13.1	192 01.7	21.2		347 00.2	21.5	222 16.1	10.9								
2 00	219 40.9	154 40.4	N22 13.8	207 02.4	N 4 22.0		2 02.9	S13 21.4	237 18.4	S 9 10.8			Canopus	264 02.8	S52 41.9			
01	234 43.4	169 39.6	14.4	222 03.0	22.7		17 05.7	21.4	252 20.7	10.7			Capella	280 56.0	N45 59.6			
02	249 45.8	184 38.9	15.0	237 03.7	23.5		32 08.5	21.3	267 22.9	10.7			Deneb	49 41.2	N45 15.4			
03	264 48.3	199 38.1	15.6	252 04.4	24.2		47 11.3	21.2	282 25.2	10.6			Denebola	182 48.0	N14 36.1			
04	279 50.7	214 37.4	16.2	267 05.1	25.0		62 14.0	21.1	297 27.5	10.5			Diphda	349 10.5	S18 01.0			
05	294 53.2	229 36.6	16.8	282 05.8	25.7		77 16.8	21.0	312 29.8	10.5								
06	309 55.7	244 35.9	N22 17.5	297 06.5	N 4 26.5		92 19.6	S13 20.9	327 32.0	S 9 10.4			Dubhe	194 08.8	N61 47.0			
07	324 58.1	259 35.1	18.1	312 07.2	27.3		107 22.4	20.8	342 34.3	10.3			Elnath	278 31.0	N28 36.1			
08	340 00.6	274 34.4	18.7	327 07.9	28.0		122 25.1	20.7	357 36.6	10.3			Eltanin	90 52.4	N51 29.2			
09	355 03.1	289 33.6	19.3	342 08.6	28.8		137 27.9	20.6	12 38.9	10.2			Enif	34 01.2	N 9 50.9			
L 10	10 05.5	304 32.9	19.9	357 09.3	29.5		152 30.7	20.5	27 41.2	10.1			Fomalhaut	15 39.9	S29 39.0			
11	25 08.0	319 32.1	20.5	12 10.0	30.3		167 33.5	20.4	42 43.4	10.1								
12	40 10.5	334 31.4	N22 21.1	27 10.7	N 4 31.0		182 36.2	S13 20.3	57 45.7	S 9 10.0			Gacrux	172 16.4	S57 05.2			
13	55 12.9	349 30.6	21.7	42 11.4	31.8		197 39.0	20.2	72 48.0	09.9			Gienah	176 06.8	S17 30.9			
14	70 15.4	4 29.8	22.3	57 12.1	32.6		212 41.8	20.1	87 50.3	09.9			Hadar	149 07.6	S60 20.9			
15	85 17.8	19 29.1	22.9	72 12.8	33.3		227 44.6	20.0	102 52.6	09.8			Hamal	328 17.3	N23 26.1			
16	100 20.3	34 28.3	23.5	87 13.5	34.1		242 47.3	19.9	117 54.8	09.7			Kaus Aust.	84 02.6	S34 23.1			
17	115 22.8	49 27.6	24.1	102 14.2	34.8		257 50.1	19.8	132 57.1	09.7								
18	130 25.2	64 26.8	N22 24.7	117 14.9	N 4 35.6		272 52.9	S13 19.7	147 59.4	S 9 09.6			Kochab	137 18.3	N74 10.7			
19	145 27.7	79 26.1	25.3	132 15.6	36.3		287 55.7	19.6	163 01.7	09.5			Markab	13 52.8	N15 10.4			
20	160 30.2	94 25.3	25.9	147 16.3	37.1		302 58.4	19.5	178 04.0	09.5			Menkar	314 30.4	N 4 04.0			
21	175 32.6	109 24.5	26.5	162 17.0	37.9		318 01.2	19.4	193 06.2	09.4			Menkent	148 24.1	S36 20.7			
22	190 35.1	124 23.8	27.1	177 17.7	38.6		333 04.0	19.3	208 08.5	09.3			Miaplacidus	221 42.6	S69 42.1			
23	205 37.6	139 23.0	27.7	192 18.4	39.4		348 06.8	19.2	223 10.8	09.3								
3 00	220 40.0	154 22.3	N22 28.3	207 19.1	N 4 40.1		3 09.6	S13 19.1	238 13.1	S 9 09.2			Mirfak	309 01.4	N49 50.4			
01	235 42.5	169 21.5	28.9	222 19.8	40.9		18 12.3	19.0	253 15.4	09.1			Nunki	76 15.9	S26 18.1			
02	250 45.0	184 20.7	29.5	237 20.5	41.6		33 15.1	18.9	268 17.6	09.1			Peacock	53 41.6	S56 44.9			
03	265 47.4	199 20.0	30.1	252 21.1	42.4		48 17.9	18.8	283 19.9	09.0			Pollux	243 45.3	N28 02.4			
04	280 49.9	214 19.2	30.6	267 21.8	43.2		63 20.7	18.7	298 22.2	08.9			Procyon	245 14.8	N 5 14.2			
05	295 52.3	229 18.5	31.2	282 22.5	43.9		78 23.4	18.6	313 24.5	08.9								
06	310 54.8	244 17.7	N22 31.8	297 23.2	N 4 44.7		93 26.2	S13 18.5	328 26.8	S 9 08.8			Rasalhague	96 19.5	N12 33.8			
07	325 57.3	259 16.9	32.4	312 23.9	45.4		108 29.0	18.4	343 29.0	08.7			Regulus	207 58.6	N11 59.6			
08	340 59.7	274 16.2	33.0	327 24.6	46.2		123 31.8	18.3	358 31.3	08.7			Rigel	281 26.1	S 8 12.7			
09	356 02.2	289 15.4	33.6	342 25.3	46.9		138 34.5	18.2	13 33.6	08.6			Rigil Kent.	140 10.6	S60 48.8			
M 10	11 04.7	304 14.7	34.2	357 26.0	47.7		153 37.3	18.1	28 35.9	08.6			Sabik	102 28.7	S15 43.1			
11	26 07.1	319 13.9	34.7	12 26.7	48.4		168 40.1	18.0	43 38.2	08.5								
12	41 09.6	334 13.1	N22 35.3	27 27.4	N 4 49.2		183 42.9	S13 17.9	58 40.4	S 9 08.4			Schedar	349 57.4	N56 30.2			
13	56 12.1	349 12.4	35.9	42 28.1	49.9		198 45.6	17.8	73 42.7	08.4			Shaula	96 41.1	S37 05.9			
14	71 14.5	4 11.6	36.5	57 28.8	50.7		213 48.4	17.7	88 45.0	08.3			Sirius	258 46.5	S16 42.8			
15	86 17.0	19 10.8	37.1	72 29.5	51.5		228 51.2	17.6	103 47.3	08.2			Spica	158 46.1	S11 08.1			
16	101 19.5	34 10.1	37.6	87 30.2	52.2		243 54.0	17.5	118 49.6	08.2			Suhail	223 03.0	S43 25.0			
17	116 21.9	49 09.3	38.2	102 30.9	53.0		258 56.7	17.4	133 51.9	08.1								
18	131 24.4	64 08.5	N22 38.8	117 31.6	N 4 53.7		273 59.5	S13 17.3	148 54.1	S 9 08.0			Vega	80 48.4	N38 46.5			
19	146 26.8	79 07.8	39.3	132 32.3	54.5		289 02.3	17.3	163 56.4	08.0			Zuben'ubi	137 21.0	S16 01.2			
20	161 29.3	94 07.0	39.9	147 33.0	55.2		304 05.1	17.2	178 58.7	07.9								
21	176 3																	

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna						
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Náut.		Civil	1	2	3	4		
	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m			
DOMINGO	1 00	180 42.9	N14 56.4	286 57.4	8.8	S17 27.3	6.7	57.9	N 72	///	///	01 46	03 48	03 10	02 51	02 37	
	01	195 42.9	57.1	301 25.2	8.9	17 20.6	6.8	57.9	N 70	///	///	02 27	02 53	02 43	02 35	02 29	
	02	210 43.0	57.9	315 53.1	9.0	17 13.8	6.9	57.9	68	///	00 59	02 54	02 19	02 22	02 22	02 21	
	03	225 43.1	58.6	330 21.1	9.0	17 06.9	7.0	57.8	66	///	01 51	03 15	01 55	02 05	02 05	02 11	02 15
	04	240 43.2	14 59.4	344 49.1	9.2	16 59.9	7.0	57.8	64	///	02 22	03 31	01 36	01 51	02 02	02 02	02 10
	05	255 43.3	15 00.2	359 17.3	9.3	16 52.9	7.2	57.7	62	00 52	02 45	03 45	01 20	01 40	01 54	02 06	02 06
	06	270 43.3	N15 00.9	13 45.6	9.3	S16 45.7	7.2	57.7	60	01 38	03 03	03 56	01 07	01 30	01 47	02 02	02 02
	07	285 43.4	01.7	28 13.9	9.4	16 38.5	7.3	57.7	N 58	02 07	03 17	04 06	00 55	01 21	01 42	01 58	01 58
	08	300 43.5	02.4	42 42.3	9.6	16 31.2	7.4	57.6	56	02 28	03 30	04 15	00 45	01 14	01 36	01 55	01 55
	09	315 43.6	03.2	57 10.9	9.6	16 23.8	7.5	57.6	54	02 45	03 41	04 22	00 37	01 07	01 31	01 52	01 52
	10	330 43.6	03.9	71 39.5	9.7	16 16.3	7.5	57.5	52	02 59	03 50	04 29	00 29	01 01	01 27	01 50	01 50
	11	345 43.7	04.7	86 08.2	9.8	16 08.8	7.7	57.5	50	03 12	03 58	04 35	00 22	00 55	01 23	01 47	01 47
	12	0 43.8	N15 05.5	100 37.0	9.8	S16 01.1	7.7	57.5	45	03 36	04 16	04 48	00 07	00 43	01 15	01 42	01 42
	13	15 43.9	06.2	115 05.8	10.0	15 53.4	7.8	57.4	N 40	03 54	04 30	04 59	24 33	00 33	01 07	01 38	01 38
	14	30 43.9	07.0	129 34.8	10.1	15 45.6	7.8	57.4	35	04 09	04 41	05 09	24 25	00 25	01 01	01 34	01 34
	15	45 44.0	07.7	144 03.9	10.1	15 37.8	8.0	57.3	30	04 21	04 51	05 17	24 17	00 17	00 56	01 31	01 31
	16	60 44.1	08.5	158 33.0	10.3	15 29.8	8.0	57.3	20	04 40	05 07	05 30	24 04	00 04	00 46	01 25	01 25
	17	75 44.2	09.2	173 02.3	10.3	15 21.8	8.1	57.3	N 10	04 55	05 21	05 42	23 53	24 38	00 38	01 20	01 20
	18	90 44.2	N15 10.0	187 31.6	10.4	S15 13.7	8.1	57.2	0	05 07	05 32	05 54	23 42	24 30	00 30	01 15	01 15
	19	105 44.3	10.7	202 01.0	10.5	15 05.6	8.2	57.2	S 10	05 18	05 43	06 05	23 31	24 22	00 22	01 11	01 11
	20	120 44.4	11.5	216 30.5	10.6	14 57.4	8.3	57.2	20	05 27	05 53	06 16	23 20	24 14	00 14	01 06	01 06
	21	135 44.5	12.2	231 00.1	10.6	14 49.1	8.3	57.1	30	05 36	06 05	06 29	23 06	24 04	00 04	01 00	01 00
	22	150 44.5	13.0	245 29.7	10.8	14 40.8	8.5	57.1	35	05 41	06 11	06 37	22 59	23 59	24 57	00 57	00 57
23	165 44.6	13.7	259 59.5	10.8	14 32.3	8.4	57.0	40	05 45	06 17	06 46	22 50	23 52	24 53	00 53	00 53	
23	165 44.6	13.7	259 59.5	10.8	14 32.3	8.4	57.0	45	05 50	06 25	06 56	22 40	23 45	24 49	00 49	00 49	
LUNES	2 00	180 44.7	N15 14.5	274 29.3	10.9	S14 23.9	8.6	57.0	S 50	05 55	06 33	07 08	22 27	23 36	24 43	00 43	
	01	195 44.8	15.2	288 59.2	11.0	14 15.3	8.6	57.0	52	05 57	06 37	07 13	22 22	23 32	24 41	00 41	
	02	210 44.8	16.0	303 29.2	11.1	14 06.7	8.7	56.9	54	05 59	06 41	07 19	22 15	23 28	24 38	00 38	
	03	225 44.9	16.7	317 59.3	11.2	13 58.0	8.7	56.9	56	06 02	06 46	07 26	22 08	23 22	24 35	00 35	
	04	240 45.0	17.5	332 29.5	11.3	13 49.3	8.8	56.9	58	06 04	06 51	07 34	22 00	23 17	24 32	00 32	
	05	255 45.0	18.2	346 59.8	11.3	13 40.5	8.8	56.8	S 60	06 07	06 57	07 43	21 51	23 10	24 28	00 28	
	06	270 45.1	N15 19.0	1 30.1	11.4	S13 31.7	8.9	56.8									
	07	285 45.2	19.7	16 00.5	11.5	13 22.8	9.0	56.8	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
	08	300 45.3	20.5	30 31.0	11.6	13 13.8	9.0	56.7			Civil	Náut.	1	2	3	4	
	09	315 45.3	21.2	45 01.6	11.6	13 04.8	9.0	56.7									
	10	330 45.4	22.0	59 32.2	11.8	12 55.8	9.1	56.7									
	11	345 45.5	22.7	74 03.0	11.8	12 46.7	9.2	56.6	N 72	22 15	///	///	06 32	08 55	10 52	12 38	12 38
	12	0 45.5	N15 23.5	88 33.8	11.9	S12 37.5	9.2	56.6	N 70	21 32	///	///	07 25	09 21	11 06	12 45	12 45
	13	15 45.6	24.2	103 04.7	11.9	12 28.3	9.3	56.5	68	21 03	23 08	///	07 58	09 40	11 18	12 50	12 50
	14	30 45.7	25.0	117 35.6	12.1	12 19.0	9.3	56.5	66	20 42	22 09	///	08 22	09 56	11 27	12 55	12 55
	15	45 45.8	25.7	132 06.7	12.1	12 09.7	9.4	56.5	64	20 25	21 36	///	08 40	10 09	11 35	12 59	12 59
	16	60 45.8	26.4	146 37.8	12.1	12 00.3	9.4	56.4	62	20 11	21 12	23 14	08 55	10 19	11 42	13 02	13 02
	17	75 45.9	27.2	161 08.9	12.3	11 50.9	9.5	56.4	60	20 00	20 54	22 20	09 08	10 29	11 48	13 05	13 05
	18	90 46.0	N15 27.9	175 40.2	12.3	S11 41.4	9.5	56.4	N 58	19 50	20 39	21 50	09 19	10 36	11 53	13 07	13 07
	19	105 46.0	28.7	190 11.5	12.4	11 31.9	9.5	56.3	56	19 41	20 26	21 28	09 28	10 43	11 57	13 09	13 09
	20	120 46.1	29.4	204 42.9	12.5	11 22.4	9.6	56.3	54	19 33	20 15	21 11	09 36	10 50	12 01	13 11	13 11
	21	135 46.2	30.2	219 14.4	12.6	11 12.8	9.6	56.3	52	19 26	20 05	20 56	09 44	10 55	12 05	13 13	13 13
	22	150 46.2	30.9	233 46.0	12.6	11 03.2	9.7	56.2	50	19 20	19 57	20 44	09 51	11 00	12 08	13 15	13 15
23	165 46.3	31.6	248 17.6	12.6	10 53.5	9.7	56.2	45	19 06	19 39	20 19	10 05	11 11	12 16	13 18	13 18	
MARTES	3 00	180 46.4	N15 32.4	262 49.2	12.8	S10 43.8	9.8	56.2	N 40	18 55	19 25	20 01	10 17	11 20	12 22	13 21	
	01	195 46.4	33.1	277 21.0	12.8	10 34.0	9.8	56.1	35	18 46	19 13	19 46	10 27	11 28	12 27	13 24	
	02	210 46.5	33.9	291 52.8	12.9	10 24.2	9.8	56.1	30	18 38	19 03	19 34	10 35	11 34	12 31	13 26	
	03	225 46.6	34.6	306 24.7	12.9	10 14.4	9.8	56.1	20	18 24	18 47	19 14	10 50	11 46	12 39	13 30	
	04	240 46.6	35.3	320 56.6	13.1	10 04.6	9.9	56.1	N 10	18 12	18 34	18 59	11 03	11 56	12 46	13 33	
	05	255 46.7	36.1	335 28.7	13.0	9 54.7	10.0	56.0	0	18 00	18 22	18 47	11 15	12 05	12 52	13 37	
	06	270 46.8	N15 36.8	350 00.7	13.2	S 9 44.7	9.9	56.0	S 10	17 49	18 11	18 36	11 28	12 15	12 58	13 40	
	07	285 46.8	37.5	4 32.9	13.2	9 34.8	10.0	56.0	20	17 38	18 00	18 27	11 40	12 25	13 05	13 43	
	08	300 46.9	38.3	19 05.1	13.2	9 24.8	10.1	55.9	30	17 24	17 49	18 17	11 55	12 36	13 13	13 47	
	09	315 47.0	39.0	33 37.3	13.4	9 14.7	10.0	55.9	35	17 17	17 43	18 13	12 03	12 42	13 17	13 49	
	10	330 47.0	39.7	48 09.7	13.3	9 04.7	10.1	55.9	40	17 08	17 36	18 08	12 13	12 50	13 22	13 51	
	11	345 47.1	40.5	62 42.0	13.5	8 54.6	10.2	55.8	45	16 58	17 29	18 03	12 24	12 58	13 27	13 54	
	12	0 47.2	N15 41.2	77 14.5	13.5	S 8 44.4	10.1	55.8	S 50	16 46	17 20	17 58	12 38	13 08	13 34	13 57	
	13	15 47.2	42.0	91 47.0	13.5	8 34.3	10.2	55.8	52	16 40	17 16	17 56	12 44	13 13	13 37	13 59	
	14	30 47.3	42.7	106 19.5	13.7	8 24.1	10.2	55.8	54	16 34	17 12	17 54	12 51	13 18	13 41	14 00	
	15	45 47.3	43.4	120 52.2	13.6	8 13.9	10.3	55.7	56	16 27	17 07	17 51	12 58	13 24	13 44	14 02	
	16	60 47.4	44.2														

T.M.G. (TU)	ARIES	VENUS -3.9	MARTE +1.2	JUPITER -2.5	SATURNO +1.1	ESTRELLAS		
d h	A.H.G.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	Nombre	A. H. S.	Dec.
M I E R C O L E S	4 00	221 39.2	154 03.9 N22 42.2	207 35.8 N 4 58.2	4 16.2 S13 16.8	239 07.8 S 9 07.6	Acamar	315 29.6 S40 19.7
	01	236 41.6	169 03.2 42.8	222 36.5 59.0	19 18.9 16.7	254 10.1 07.6	Achernar	335 37.9 S57 15.8
	02	251 44.1	184 02.4 43.3	237 37.2 4 59.7	34 21.7 16.6	269 12.4 07.5	Acruux	173 24.8 S63 04.4
	03	266 46.6	199 01.6 43.9	252 37.9 5 00.5	49 24.5 16.5	284 14.7 07.5	Adhara	255 24.0 S28 58.2
	04	281 49.0	214 00.9 44.4	267 38.5 01.3	64 27.3 16.4	299 17.0 07.4	Aldebaran	291 06.1 N16 29.8
	05	296 51.5	229 00.1 45.0	282 39.2 02.0	79 30.0 16.3	314 19.3 07.3		
	06	311 53.9	243 59.3 N22 45.6	297 39.9 N 5 02.8	94 32.8 S13 16.2	329 21.5 S 9 07.3	Alioth	166 32.7 N55 59.5
	07	326 56.4	258 58.5 46.1	312 40.6 03.5	109 35.6 16.1	344 23.8 07.2	Alkaid	153 09.7 N49 20.5
	08	341 58.9	273 57.8 46.7	327 41.3 04.3	124 38.4 16.0	359 26.1 07.1	Al Na'ir	28 01.8 S46 59.0
	09	357 01.3	288 57.0 47.2	342 42.0 05.0	139 41.1 15.9	14 28.4 07.1	Alnilam	276 01.2 S 1 12.5
	10	12 03.8	303 56.2 47.8	357 42.7 05.8	154 43.9 15.8	29 30.7 07.0	Alphard	218 10.1 S 8 38.3
	11	27 06.3	318 55.5 48.4	12 43.4 06.5	169 46.7 15.7	44 33.0 06.9		
	12	42 08.7	333 54.7 N22 48.9	27 44.1 N 5 07.3	184 49.5 S13 15.6	59 35.2 S 9 06.9	Alphecca	126 22.8 N26 43.9
	13	57 11.2	348 53.9 49.5	42 44.8 08.0	199 52.2 15.5	74 37.5 06.8	Alpheratz	357 58.6 N29 03.4
	14	72 13.7	3 53.1 50.0	57 45.5 08.8	214 55.0 15.4	89 39.8 06.7	Altair	62 22.1 N 8 51.2
	15	87 16.1	18 52.4 50.6	72 46.2 09.5	229 57.8 15.3	104 42.1 06.7	Ankaa	353 30.1 S42 20.1
	16	102 18.6	33 51.6 51.1	87 46.9 10.3	245 00.6 15.2	119 44.4 06.6	Antares	112 43.5 S26 25.2
	17	117 21.1	48 50.8 51.7	102 47.6 11.0	260 03.3 15.1	134 46.7 06.6		
	18	132 23.5	63 50.0 N22 52.2	117 48.3 N 5 11.8	275 06.1 S13 15.0	149 49.0 S 9 06.5	Arcturus	146 08.5 N19 12.6
	19	147 26.0	78 49.3 52.8	132 49.0 12.5	290 08.9 14.9	164 51.2 06.4	Atria	107 57.7 S69 00.9
	20	162 28.4	93 48.5 53.3	147 49.7 13.3	305 11.7 14.8	179 53.5 06.4	Avior	234 24.0 S59 29.9
	21	177 30.9	108 47.7 53.8	162 50.4 14.0	320 14.4 14.7	194 55.8 06.3	Bellatrix	278 47.7 N 6 20.5
	22	192 33.4	123 46.9 54.4	177 51.1 14.8	335 17.2 14.6	209 58.1 06.2	Betelgeuse	271 17.0 N 7 24.2
23	207 35.8	138 46.2 54.9	192 51.8 15.5	350 20.0 14.5	225 00.4 06.2			
J U E V E S	5 00	222 38.3	153 45.4 N22 55.5	207 52.5 N 5 16.3	5 22.7 S13 14.4	240 02.7 S 9 06.1	Canopus	264 02.8 S52 41.9
	01	237 40.8	168 44.6 56.0	222 53.2 17.0	20 25.5 14.3	255 05.0 06.1	Capella	280 56.0 N45 59.6
	02	252 43.2	183 43.8 56.5	237 53.9 17.8	35 28.3 14.2	270 07.2 06.0	Deneb	49 41.2 N45 15.4
	03	267 45.7	198 43.1 57.1	252 54.6 18.5	50 31.1 14.1	285 09.5 05.9	Denebola	182 48.0 N14 36.1
	04	282 48.2	213 42.3 57.6	267 55.2 19.3	65 33.8 14.0	300 11.8 05.9	Diphda	349 10.5 S18 01.0
	05	297 50.6	228 41.5 58.2	282 55.9 20.0	80 36.6 13.9	315 14.1 05.8		
	06	312 53.1	243 40.7 N22 58.7	297 56.6 N 5 20.8	95 39.4 S13 13.8	330 16.4 S 9 05.7	Dubhe	194 08.8 N61 47.0
	07	327 55.6	258 39.9 59.2	312 57.3 21.5	110 42.2 13.8	345 18.7 05.7	Elnath	278 31.0 N28 36.1
	08	342 58.0	273 39.2 59.7	327 58.0 22.3	125 44.9 13.7	0 21.0 05.6	Eltanin	90 52.4 N51 29.2
	09	358 00.5	288 38.4 23 00.3	342 58.7 23.0	140 47.7 13.6	15 23.3 05.5	Enif	34 01.2 N 9 50.9
	10	13 02.9	303 37.6 00.8	357 59.4 23.8	155 50.5 13.5	30 25.5 05.5	Fomalhaut	15 39.9 S29 39.0
	11	28 05.4	318 36.8 01.3	13 00.1 24.5	170 53.3 13.4	45 27.8 05.4		
	12	43 07.9	333 36.0 N23 01.9	28 00.8 N 5 25.3	185 56.0 S13 13.3	60 30.1 S 9 05.4	Gacrux	172 16.4 S57 05.2
	13	58 10.3	348 35.3 02.4	43 01.5 26.0	200 58.8 13.2	75 32.4 05.3	Gienah	176 06.8 S17 30.9
	14	73 12.8	3 34.5 02.9	58 02.2 26.8	216 01.6 13.1	90 34.7 05.2	Hadar	149 07.6 S60 20.9
	15	88 15.3	18 33.7 03.4	73 02.9 27.5	231 04.4 13.0	105 37.0 05.2	Hamal	328 17.3 N23 26.1
	16	103 17.7	33 32.9 04.0	88 03.6 28.3	246 07.1 12.9	120 39.3 05.1	Kaus Aust.	84 02.5 S34 23.1
	17	118 20.2	48 32.1 04.5	103 04.3 29.0	261 09.9 12.8	135 41.6 05.0		
	18	133 22.7	63 31.4 N23 05.0	118 05.0 N 5 29.8	276 12.7 S13 12.7	150 43.8 S 9 05.0	Kochab	137 18.3 N74 10.7
	19	148 25.1	78 30.6 05.5	133 05.7 30.5	291 15.4 12.6	165 46.1 04.9	Markab	13 52.8 N15 10.4
	20	163 27.6	93 29.8 06.0	148 06.4 31.3	306 18.2 12.5	180 48.4 04.9	Menkar	314 30.4 N 4 04.0
	21	178 30.0	108 29.0 06.6	163 07.1 32.0	321 21.0 12.4	195 50.7 04.8	Menkent	148 24.1 S36 20.7
	22	193 32.5	123 28.2 07.1	178 07.8 32.8	336 23.8 12.3	210 53.0 04.7	Miaplacidus	221 42.6 S69 42.1
23	208 35.0	138 27.4 07.6	193 08.5 33.5	351 26.5 12.2	225 55.3 04.7			
V I E R N E S	6 00	223 37.4	153 26.6 N23 08.1	208 09.2 N 5 34.3	6 29.3 S13 12.1	240 57.6 S 9 04.6	Mirfak	309 01.4 N49 50.4
	01	238 39.9	168 25.9 08.6	223 09.9 35.0	21 32.1 12.0	255 59.9 04.6	Nunki	76 15.9 S26 18.1
	02	253 42.4	183 25.1 09.1	238 10.5 35.8	36 34.9 11.9	271 02.2 04.5	Peacock	53 41.6 S56 44.8
	03	268 44.8	198 24.3 09.6	253 11.2 36.5	51 37.6 11.8	286 04.4 04.4	Pollux	243 45.4 N28 02.4
	04	283 47.3	213 23.5 10.1	268 11.9 37.3	66 40.4 11.7	301 06.7 04.4	Procyon	245 14.8 N 5 14.2
	05	298 49.8	228 22.7 10.7	283 12.6 38.0	81 43.2 11.6	316 09.0 04.3		
	06	313 52.2	243 21.9 N23 11.2	298 13.3 N 5 38.8	96 46.0 S13 11.5	331 11.3 S 9 04.2	Rasalhague	96 19.5 N12 33.8
	07	328 54.7	258 21.1 11.7	313 14.0 39.5	111 48.7 11.4	346 13.6 04.2	Regulus	207 58.7 N11 59.6
	08	343 57.2	273 20.4 12.2	328 14.7 40.3	126 51.5 11.3	1 15.9 04.1	Rigel	281 26.1 S 8 12.7
	09	358 59.6	288 19.6 12.7	343 15.4 41.0	141 54.3 11.2	16 18.2 04.1	Rigil Kent.	140 10.6 S60 48.8
	10	14 02.1	303 18.8 13.2	358 16.1 41.7	156 57.0 11.1	31 20.5 04.0	Sabik	102 28.7 S15 43.1
	11	29 04.5	318 18.0 13.7	13 16.8 42.5	171 59.8 11.0	46 22.8 03.9		
	12	44 07.0	333 17.2 N23 14.2	28 17.5 N 5 43.2	187 02.6 S13 10.9	61 25.1 S 9 03.9	Schedar	349 57.4 N56 30.2
	13	59 09.5	348 16.4 14.7	43 18.2 44.0	202 05.4 10.9	76 27.3 03.8	Shaula	96 41.0 S37 05.9
	14	74 11.9	3 15.6 15.2	58 18.9 44.7	217 08.1 10.8	91 29.6 03.8	Sirius	258 46.5 S16 42.7
	15	89 14.4	18 14.8 15.7	73 19.6 45.5	232 10.9 10.7	106 31.9 03.7	Spica	158 46.1 S11 08.1
	16	104 16.9	33 14.0 16.2	88 20.3 46.2	247 13.7 10.6	121 34.2 03.6	Suhail	223 03.0 S43 25.0
	17	119 19.3	48 13.3 16.7	103 21.0 47.0	262 16.4 10.5	136 36.5 03.6		
	18	134 21.8	63 12.5 N23 17.2	118 21.7 N 5 47.7	277 19.2 S13 10.4	151 38.8 S 9 03.5	Vega	80 48.4 N38 46.6
	19	149 24.3	78 11.7 17.6	133 22.4 48.5	292 22.0 10.3	166 41.1 03.4	Zuben'ubi	137 21.0 S16 01.2
	20	164 26.7	93 10.9 18.1	148 23.1 49.2	307 24.8 10.2	181 43.4 03.4		
	21	179 29.2	108 10.1 18.6	163 23.8 50.0	322 27.5 10.1	196 45.7 03.3		
	22	194 31.7	123 09.3 19.1	178 24.5 50.7	337 30.3 10.0	211 48.0 03.3		
23	209 34.1	138 08.5 19.6	193 25.2 51.4	352 33.1 09.9	226 50.3 03.2			
Pas. Mer. 9 07.9		v -0.8 d 0.5	v 0.7 d 0.7	v 2.8 d 0.1	v 2.3 d 0.1			
							A. H. S.	Pas. Mer.
							o / h m	h m
							Venus	291 07.1 13 46
							Marte	345 14.2 10 08
							Júpiter	142 44.4 23 34
							Saturno	17 24.4 7 59

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna						
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	4	5	6	7		
																h	m
M I E R C O L E S	4 00	180 47.9	N15 50.0	251 48.1	14.1	S 6	40.9	10.4	55.5	N 72	///	///	01 17	02 37	02 25	02 14	02 02
	01	195 48.0	50.7	266 21.2	14.2	6	30.5	10.5	55.4	N 70	///	///	02 08	02 29	02 23	02 17	02 11
	02	210 48.0	51.5	280 54.4	14.2	6	20.0	10.5	55.4	68	///	///	02 40	02 21	02 20	02 19	02 18
	03	225 48.1	52.2	295 27.6	14.3	6	09.5	10.5	55.4	66	///	01 30	03 03	02 15	02 18	02 21	02 24
	04	240 48.2	52.9	310 00.9	14.3	5	59.0	10.5	55.4	64	///	02 07	03 21	02 10	02 17	02 23	02 29
	05	255 48.2	53.6	324 34.2	14.4	5	48.5	10.5	55.3	62	///	02 33	03 36	02 06	02 15	02 24	02 34
	06	270 48.3	N15 54.4	339 07.6	14.3	S 5	38.0	10.5	55.3	60	01 20	02 53	03 48	02 02	02 14	02 26	02 38
	07	285 48.3	55.1	353 40.9	14.5	5	27.5	10.6	55.3	N 58	01 54	03 09	03 59	01 58	02 13	02 27	02 41
	08	300 48.4	55.8	8 14.4	14.5	5	16.9	10.6	55.3	56	02 18	03 22	04 08	01 55	02 12	02 28	02 44
	09	315 48.4	56.5	22 47.9	14.5	5	06.3	10.5	55.2	54	02 36	03 34	04 16	01 52	02 11	02 29	02 47
	10	330 48.5	57.3	37 21.4	14.6	4	55.8	10.6	55.2	52	02 52	03 44	04 23	01 50	02 10	02 30	02 49
	11	345 48.6	58.0	51 55.0	14.6	4	45.2	10.6	55.2	50	03 05	03 53	04 30	01 47	02 09	02 30	02 52
	12	0 48.6	N15 58.7	66 28.6	14.6	S 4	34.6	10.6	55.2	45	03 30	04 11	04 44	01 42	02 08	02 32	02 57
	13	15 48.7	15 59.4	81 02.2	14.7	4	24.0	10.7	55.1	N 40	03 50	04 26	04 56	01 38	02 06	02 33	03 01
	14	30 48.7	16 00.2	95 35.9	14.7	4	13.3	10.6	55.1	35	04 05	04 38	05 05	01 34	02 05	02 35	03 05
	15	45 48.8	00.9	110 09.6	14.7	4	02.7	10.6	55.1	30	04 18	04 48	05 14	01 31	02 04	02 36	03 08
	16	60 48.9	01.6	124 43.3	14.8	3	52.1	10.7	55.1	20	04 38	05 06	05 29	01 25	02 02	02 38	03 14
	17	75 48.9	02.3	139 17.1	14.8	3	41.4	10.7	55.1	N 10	04 54	05 19	05 41	01 20	02 00	02 40	03 19
	18	90 49.0	N16 03.1	153 50.9	14.8	S 3	30.7	10.6	55.0	0	05 07	05 32	05 53	01 15	01 59	02 41	03 23
	19	105 49.0	03.8	168 24.7	14.9	3	20.1	10.7	55.0	S 10	05 18	05 43	06 05	01 11	01 57	02 43	03 28
	20	120 49.1	04.5	182 58.6	14.9	3	09.4	10.7	55.0	20	05 28	05 54	06 17	01 06	01 56	02 45	03 33
	21	135 49.1	05.2	197 32.5	14.9	2	58.7	10.6	55.0	30	05 38	06 06	06 31	01 00	01 54	02 47	03 39
	22	150 49.2	05.9	212 06.4	15.0	2	48.1	10.7	54.9	35	05 43	06 13	06 39	00 57	01 53	02 48	03 42
23	165 49.3	06.6	226 40.4	15.0	2	37.4	10.7	54.9	40	05 48	06 20	06 48	00 53	01 52	02 49	03 46	
5 00	180 49.3	N16 07.4	241 14.4	15.0	S 2	26.7	10.7	54.9	45	05 53	06 28	06 59	00 49	01 50	02 51	03 51	
01	195 49.4	08.1	255 48.4	15.1	2	16.0	10.7	54.9	S 50	05 59	06 37	07 12	00 43	01 49	02 53	03 56	
02	210 49.4	08.8	270 22.5	15.0	2	05.3	10.7	54.9	52	06 01	06 42	07 18	00 41	01 48	02 54	03 59	
03	225 49.5	09.5	284 56.5	15.1	1	54.6	10.7	54.8	54	06 04	06 46	07 25	00 38	01 47	02 55	04 02	
04	240 49.5	10.2	299 30.6	15.1	1	43.9	10.7	54.8	56	06 07	06 51	07 32	00 35	01 46	02 56	04 05	
05	255 49.6	11.0	314 04.7	15.2	1	33.2	10.7	54.8	58	06 10	06 57	07 40	00 32	01 45	02 57	04 08	
06	270 49.6	N16 11.7	328 38.9	15.1	S 1	22.5	10.7	54.8	S 60	06 13	07 03	07 50	00 28	01 44	02 58	04 12	
07	285 49.7	12.4	343 13.0	15.2	1	11.8	10.7	54.8									
08	300 49.7	13.1	357 47.2	15.2	1	01.1	10.6	54.7	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna				
09	315 49.8	13.8	12 21.4	15.2	0	50.5	10.7	54.7					4	5	6	7	
10	330 49.8	14.5	26 55.6	15.3	0	39.8	10.7	54.7									
11	345 49.9	15.2	41 29.9	15.2	0	29.1	10.7	54.7									
12	0 50.0	N16 16.0	56 04.1	15.3	S 0	18.4	10.7	54.7	N 72	22 47	///	///	12 38	14 20	16 00	17 41	
13	15 50.0	16.7	70 38.4	15.3	S 0	07.7	10.6	54.7	N 70	21 50	///	///	12 45	14 20	15 53	17 27	
14	30 50.1	17.4	85 12.7	15.3	N 0	02.9	10.7	54.6	68	21 17	///	///	12 50	14 20	15 48	17 16	
15	45 50.1	18.1	99 47.0	15.3	0	13.6	10.6	54.6	66	20 53	22 29	///	12 55	14 20	15 43	17 07	
16	60 50.2	18.8	114 21.3	15.4	0	24.2	10.7	54.6	64	20 35	21 50	///	12 59	14 20	15 40	16 59	
17	75 50.2	19.5	128 55.7	15.3	0	34.9	10.6	54.6	62	20 20	21 23	///	13 02	14 20	15 36	16 52	
18	90 50.3	N16 20.2	143 30.0	15.4	N 0	45.5	10.7	54.6	60	20 07	21 03	22 39	13 05	14 20	15 34	16 47	
19	105 50.3	20.9	158 04.4	15.4	0	56.2	10.6	54.6	N 58	19 56	20 47	22 03	13 07	14 20	15 31	16 42	
20	120 50.4	21.6	172 38.8	15.3	1	06.8	10.6	54.5	56	19 47	20 33	21 38	13 09	14 20	15 29	16 37	
21	135 50.4	22.3	187 13.1	15.4	1	17.4	10.6	54.5	54	19 38	20 21	21 19	13 11	14 20	15 27	16 33	
22	150 50.5	23.1	201 47.5	15.4	1	28.0	10.6	54.5	52	19 31	20 11	21 04	13 13	14 20	15 25	16 30	
23	165 50.5	23.8	216 21.9	15.5	1	38.6	10.6	54.5	50	19 24	20 02	20 50	13 15	14 20	15 23	16 27	
6 00	180 50.6	N16 24.5	230 56.4	15.4	N 1	49.2	10.5	54.5	45	19 10	19 43	20 24	13 18	14 20	15 20	16 20	
01	195 50.6	25.2	245 30.8	15.4	1	59.7	10.6	54.5	N 40	18 58	19 28	20 04	13 21	14 20	15 17	16 14	
02	210 50.7	25.9	260 05.2	15.4	2	10.3	10.5	54.4	35	18 48	19 16	19 49	13 24	14 20	15 14	16 09	
03	225 50.7	26.6	274 39.6	15.5	2	20.8	10.5	54.4	30	18 40	19 05	19 36	13 26	14 20	15 12	16 04	
04	240 50.8	27.3	289 14.1	15.4	2	31.3	10.5	54.4	20	18 25	18 48	19 16	13 30	14 19	15 08	15 57	
05	255 50.8	28.0	303 48.5	15.5	2	41.8	10.5	54.4	N 10	18 12	18 34	19 00	13 33	14 19	15 05	15 50	
06	270 50.9	N16 28.7	318 23.0	15.4	N 2	52.3	10.5	54.4	0	18 00	18 22	18 47	13 37	14 19	15 01	15 44	
07	285 50.9	29.4	332 57.4	15.4	3	02.8	10.5	54.4	S 10	17 48	18 10	18 35	13 40	14 19	14 58	15 38	
08	300 51.0	30.1	347 31.8	15.5	3	13.3	10.4	54.4	20	17 36	17 59	18 25	13 43	14 19	14 55	15 31	
09	315 51.0	30.8	2 06.3	15.5	3	23.7	10.5	54.4	30	17 22	17 47	18 15	13 47	14 19	14 51	15 23	
10	330 51.0	31.5	16 40.8	15.4	3	34.2	10.4	54.3	35	17 14	17 40	18 10	13 49	14 19	14 49	15 19	
11	345 51.1	32.2	31 15.2	15.5	3	44.6	10.4	54.3	40	17 04	17 33	18 05	13 51	14 19	14 46	15 14	
12	0 51.1	N16 32.9	45 49.7	15.4	N 3	55.0	10.3	54.3	45	16 54	17 25	18 00	13 54	14 19	14 43	15 08	
13	15 51.2	33.6	60 24.1	15.5	4	05.3	10.4	54.3	S 50	16 41	17 15	17 54	13 57	14 19	14 40	15 02	
14	30 51.2	34.3	74 58.6	15.4	4	15.7	10.3	54.3	52	16 35	17 11	17 51	13 59	14 19	14 38	14 58	
15	45 51.3	35.0	89 33.0	15.4	4	26.0	10.3	54.3	54	16 28	17 06	17 49	14 00	14 18	14 36	14 55	
16	60 51.3	35.7	104 07.4	15.5	4	36.3	10.3	54.3	56	16 21	17 01	17 46	14 02	14 18	14 34	14 51	
17	75 51.4	36.4	118 41.9	15.4	4	46.6	10.3	54.3	58	16 12	16 56	17 43	1				

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.1			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.
d h																		
7 00	224 36.6	153 07.7	N23 20.1	208 25.8	N 5 52.2		7 35.9	S13 09.8		241 52.5	S 9 03.1		241 52.5	S 9 03.1	Acamar	315 29.6	S40 19.7	
01	239 39.0	168 06.9	20.6	223 26.5	52.9		22 38.6	09.7		256 54.8	03.1		256 54.8	03.1	Achernar	335 37.9	S57 15.8	
02	254 41.5	183 06.1	21.1	238 27.2	53.7		37 41.4	09.6		271 57.1	03.0		271 57.1	03.0	Acrux	173 24.8	S63 04.4	
03	269 44.0	198 05.3	21.5	253 27.9	54.4		52 44.2	09.5		286 59.4	03.0		286 59.4	03.0	Adhara	255 24.0	S28 58.2	
04	284 46.4	213 04.5	22.0	268 28.6	55.2		67 46.9	09.4		302 01.7	02.9		302 01.7	02.9	Aldebaran	291 06.2	N16 29.8	
05	299 48.9	228 03.7	22.5	283 29.3	55.9		82 49.7	09.3		317 04.0	02.8		317 04.0	02.8				
06	314 51.4	243 02.9	N23 23.0	298 30.0	N 5 56.7		97 52.5	S13 09.2		332 06.3	S 9 02.8		332 06.3	S 9 02.8	Alioth	166 32.8	N55 59.5	
07	329 53.8	258 02.1	23.5	313 30.7	57.4		112 55.3	09.1		347 08.6	02.7		347 08.6	02.7	Alkaid	153 09.7	N49 20.5	
08	344 56.3	273 01.4	23.9	328 31.4	58.1		127 58.0	09.0		2 10.9	02.7		2 10.9	02.7	Al Na'ir	28 01.8	S46 59.0	
S 09	359 58.8	288 00.6	24.4	343 32.1	58.9		143 00.8	08.9		17 13.2	02.6		17 13.2	02.6	Alnilam	276 01.2	S 1 12.5	
A 10	15 01.2	302 59.8	24.9	358 32.8	5 59.6		158 03.6	08.8		32 15.5	02.5		32 15.5	02.5	Alphard	218 10.1	S 8 38.3	
B 11	30 03.7	317 59.0	25.4	13 33.5	6 00.4		173 06.3	08.7		47 17.8	02.5		47 17.8	02.5				
A 12	45 06.1	332 58.2	N23 25.8	28 34.2	N 6 01.1		188 09.1	S13 08.6		62 20.1	S 9 02.4		62 20.1	S 9 02.4	Alphecca	126 22.8	N26 43.9	
D 13	60 08.6	347 57.4	26.3	43 34.9	01.9		203 11.9	08.5		77 22.4	02.4		77 22.4	02.4	Alpheratz	357 58.6	N29 03.4	
O 14	75 11.1	2 56.6	26.8	58 35.6	02.6		218 14.6	08.4		92 24.7	02.3		92 24.7	02.3	Altair	62 22.1	N 8 51.2	
15	90 13.5	17 55.8	27.3	73 36.3	03.3		233 17.4	08.4		107 26.9	02.2		107 26.9	02.2	Ankaa	353 30.1	S42 20.0	
16	105 16.0	32 55.0	27.7	88 37.0	04.1		248 20.2	08.3		122 29.2	02.2		122 29.2	02.2	Antares	112 43.5	S26 25.2	
17	120 18.5	47 54.2	28.2	103 37.7	04.8		263 23.0	08.2		137 31.5	02.1		137 31.5	02.1				
18	135 20.9	62 53.4	N23 28.7	118 38.4	N 6 05.6		278 25.7	S13 08.1		152 33.8	S 9 02.1		152 33.8	S 9 02.1	Arcturus	146 08.5	N19 12.6	
19	150 23.4	77 52.6	29.1	133 39.1	06.3		293 28.5	08.0		167 36.1	02.0		167 36.1	02.0	Atria	107 57.7	S69 00.9	
20	165 25.9	92 51.8	29.6	148 39.7	07.1		308 31.3	07.9		182 38.4	01.9		182 38.4	01.9	Avior	234 24.0	S59 29.9	
21	180 28.3	107 51.0	30.0	163 40.4	07.8		323 34.0	07.8		197 40.7	01.9		197 40.7	01.9	Bellatrix	278 47.7	N 6 20.5	
22	195 30.8	122 50.2	30.5	178 41.1	08.5		338 36.8	07.7		212 43.0	01.8		212 43.0	01.8	Betelgeuse	271 17.1	N 7 24.2	
23	210 33.3	137 49.4	31.0	193 41.8	09.3		353 39.6	07.6		227 45.3	01.8		227 45.3	01.8				
8 00	225 35.7	152 48.6	N23 31.4	208 42.5	N 6 10.0		8 42.4	S13 07.5		242 47.6	S 9 01.7		242 47.6	S 9 01.7	Canopus	264 02.9	S52 41.9	
01	240 38.2	167 47.8	31.9	223 43.2	10.8		23 45.1	07.4		257 49.9	01.6		257 49.9	01.6	Capella	280 56.0	N45 59.5	
02	255 40.6	182 47.0	32.3	238 43.9	11.5		38 47.9	07.3		272 52.2	01.6		272 52.2	01.6	Deneb	49 41.1	N45 15.4	
03	270 43.1	197 46.2	32.8	253 44.6	12.3		53 50.7	07.2		287 54.5	01.5		287 54.5	01.5	Denebola	182 48.0	N14 36.1	
04	285 45.6	212 45.4	33.3	268 45.3	13.0		68 53.4	07.1		302 56.8	01.5		302 56.8	01.5	Diphda	349 10.5	S18 01.0	
05	300 48.0	227 44.6	33.7	283 46.0	13.7		83 56.2	07.0		317 59.1	01.4		317 59.1	01.4				
06	315 50.5	242 43.8	N23 34.2	298 46.7	N 6 14.5		98 59.0	S13 06.9		333 01.4	S 9 01.3		333 01.4	S 9 01.3	Dubhe	194 08.9	N61 47.0	
07	330 53.0	257 43.0	34.6	313 47.4	15.2		114 01.7	06.8		348 03.7	01.3		348 03.7	01.3	Elnath	278 31.0	N28 36.1	
08	345 55.4	272 42.2	35.1	328 48.1	16.0		129 04.5	06.7		3 06.0	01.2		3 06.0	01.2	Eltanin	90 52.4	N51 29.2	
09	0 57.9	287 41.4	35.5	343 48.8	16.7		144 07.3	06.6		18 08.3	01.2		18 08.3	01.2	Enif	34 01.2	N 9 50.9	
10	16 00.4	302 40.6	36.0	358 49.5	17.4		159 10.1	06.5		33 10.6	01.1		33 10.6	01.1	Fomalhaut	15 39.9	S29 39.0	
11	31 02.8	317 39.8	36.4	13 50.2	18.2		174 12.8	06.4		48 12.9	01.0		48 12.9	01.0				
12	46 05.3	332 39.0	N23 36.8	28 50.9	N 6 18.9		189 15.6	S13 06.3		63 15.1	S 9 01.0		63 15.1	S 9 01.0	Gacrux	172 16.4	S57 05.2	
13	61 07.8	347 38.2	37.3	43 51.6	19.7		204 18.4	06.3		78 17.4	00.9		78 17.4	00.9	Gienah	176 06.8	S17 30.9	
14	76 10.2	2 37.4	37.7	58 52.3	20.4		219 21.1	06.2		93 19.7	00.9		93 19.7	00.9	Hadar	149 07.6	S60 20.9	
15	91 12.7	17 36.5	38.2	73 52.9	21.1		234 23.9	06.1		108 22.0	00.8		108 22.0	00.8	Hamal	328 17.3	N23 26.1	
16	106 15.1	32 35.7	38.6	88 53.6	21.9		249 26.7	06.0		123 24.3	00.8		123 24.3	00.8	Kaus Aust.	84 02.5	S34 23.1	
17	121 17.6	47 34.9	39.1	103 54.3	22.6		264 29.4	05.9		138 26.6	00.7		138 26.6	00.7				
18	136 20.1	62 34.1	N23 39.5	118 55.0	N 6 23.4		279 32.2	S13 05.8		153 28.9	S 9 00.6		153 28.9	S 9 00.6	Kochab	137 18.3	N74 10.7	
19	151 22.5	77 33.3	39.9	133 55.7	24.1		294 35.0	05.7		168 31.2	00.6		168 31.2	00.6	Markab	13 52.7	N15 10.4	
20	166 25.0	92 32.5	40.4	148 56.4	24.8		309 37.7	05.6		183 33.5	00.5		183 33.5	00.5	Menkar	314 30.4	N 4 04.0	
21	181 27.5	107 31.7	40.8	163 57.1	25.6		324 40.5	05.5		198 35.8	00.5		198 35.8	00.5	Menkent	148 24.1	S36 20.7	
22	196 29.9	122 30.9	41.2	178 57.8	26.3		339 43.3	05.4		213 38.1	00.4		213 38.1	00.4	Miaplacidus	221 42.7	S69 42.1	
23	211 32.4	137 30.1	41.7	193 58.5	27.1		354 46.1	05.3		228 40.4	00.3		228 40.4	00.3				
9 00	226 34.9	152 29.3	N23 42.1	208 59.2	N 6 27.8		9 48.8	S13 05.2		243 42.7	S 9 00.3		243 42.7	S 9 00.3	Mirfak	309 01.4	N49 50.4	
01	241 37.3	167 28.5	42.5	223 59.9	28.5		24 51.6	05.1		258 45.0	00.2		258 45.0	00.2	Nunki	76 15.8	S26 18.1	
02	256 39.8	182 27.7	43.0	239 00.6	29.3		39 54.4	05.0		273 47.3	00.2		273 47.3	00.2	Peacock	53 41.6	S56 44.9	
03	271 42.2	197 26.9	43.4	254 01.3	30.0		54 57.1	04.9		288 49.6	00.1		288 49.6	00.1	Pollux	243 45.4	N28 02.4	
04	286 44.7	212 26.1	43.8	269 02.0	30.7		69 59.9	04.8		303 51.9	00.1		303 51.9	00.1	Procyon	245 14.8	N 5 14.2	
05	301 47.2	227 25.3	44.2	284 02.7	31.5		85 02.7	04.7		318 54.2	9 00.0		318 54.2	9 00.0				
06	316 49.6	242 24.4	N23 44.7	299 03.4	N 6 32.2		100 05.4	S13 04.6		333 56.5	S 8 59.9		333 56.5	S 8 59.9	Rasalhague	96 19.5	N12 33.8	
07	331 52.1	257 23.6	45.1	314 04.1	33.0		115 08.2	04.5		348 58.8	59.9		348 58.8	59.9	Regulus	207 58.7	N11 59.6	
08	346 54.6	272 22.8	45.5	329 04.8	33.7		130 11.0	04.4		4 01.1	59.8		4 01.1	59.8	Rigel	281 26.1	S 8 12.7	
L 09	1 57.0	287 22.0	45.9	344 05.4	34.4		145 13.7	04.4		19 03.4	59.8		19 03.4	59.8	Rigil Kent.	140 10.6	S60 48.8	
U 10	16 59.5	302 21.2	46.4	359 06.1	35.2		160 16.5	04.3		34 05.7	59.7		34 05.7	59.7	Sabik	102 28.7	S15 43.1	
N 11	32 02.0	317 20.4	46.8	14 06.8	35.9		175 19.3	04.2		49 08.0	59.6		49 08.0	59.6				
E 12	47 04.4	332 19.6	N23 47.2	29 07.5	N 6 36.6													

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.	Civil		7	8	9	10					
	o	'	o	'	o	'	o	'									h	m	h	m	h
7 00	180	51.7	N16	41.3	220	42.8	15.3	N 5	58.0	10.1	54.2	00	31	02	02	01	49	01	33	01	08
01	195	51.7		42.0	235	17.1	15.4	6	08.1	10.0	54.2	01	48	02	11	02	05	01	58	01	51
02	210	51.8		42.7	249	51.5	15.4	6	18.1	10.1	54.2	02	51	02	18	02	18	02	18	02	20
03	225	51.8		43.4	264	25.9	15.3	6	28.2	10.0	54.2	03	11	02	29	02	37	02	46	02	59
04	240	51.9		44.1	279	00.2	15.3	6	38.2	10.0	54.1	04	21	03	27	02	34	02	44	02	57
05	255	51.9		44.8	293	34.5	15.4	6	48.2	9.9	54.1	05	29	03	40	02	38	02	51	03	06
06	270	51.9	N16	45.5	308	08.9	15.3	N 6	58.1	10.0	54.1	06	40	03	43	03	52	02	41	02	57
07	285	52.0		46.1	322	43.2	15.3	7	08.1	9.9	54.1	07	49	04	02	02	44	03	02	03	22
08	300	52.0		46.8	337	17.5	15.2	7	18.0	9.8	54.1	08	58	04	10	02	47	03	06	03	28
S 09	315	52.1		47.5	351	51.7	15.3	7	27.8	9.8	54.1	09	07	04	18	02	49	03	10	03	34
A 10	330	52.1		48.2	6	26.0	15.2	7	37.6	9.8	54.1	10	16	04	25	02	52	03	14	03	39
B 11	345	52.1		48.9	21	00.2	15.3	7	47.4	9.8	54.1	11	25	04	07	04	40	02	57	03	23
A 12	0	52.2	N16	49.6	35	34.5	15.2	N 7	57.2	9.7	54.1	12	34	04	22	04	52	03	01	03	30
D 13	15	52.2		50.3	50	08.7	15.2	8	06.9	9.7	54.1	13	43	05	03	03	05	03	36	04	08
O 14	30	52.3		51.0	64	42.9	15.2	8	16.6	9.7	54.1	14	52	05	12	03	08	03	41	04	16
15	45	52.3		51.7	79	17.1	15.1	8	26.3	9.6	54.1	15	01	05	04	05	27	03	14	03	50
16	60	52.3		52.4	93	51.2	15.1	8	35.9	9.6	54.1	16	10	05	18	05	41	03	19	03	58
17	75	52.4		53.0	108	25.3	15.2	8	45.5	9.6	54.1	17	19	05	31	05	53	03	23	04	06
18	90	52.4	N16	53.7	122	59.5	15.1	N 8	55.1	9.5	54.0	18	28	06	05	03	28	04	14	05	00
19	105	52.5		54.4	137	33.6	15.0	9	04.6	9.5	54.0	19	37	06	18	03	33	04	22	05	11
20	120	52.5		55.1	152	07.6	15.1	9	14.1	9.4	54.0	20	46	06	33	03	39	04	31	05	24
21	135	52.5		55.8	166	41.7	15.0	9	23.5	9.4	54.0	21	55	06	45	03	42	04	37	05	31
22	150	52.6		56.5	181	15.7	15.0	9	32.9	9.4	54.0	22	04	07	03	04	46	04	43	05	40
23	165	52.6		57.2	195	49.7	15.0	9	42.3	9.3	54.0	23	13	07	03	03	51	04	51	05	50
8 00	180	52.7	N16	57.8	210	23.7	15.0	N 9	51.6	9.3	54.0	24	22	07	16	03	56	04	59	06	02
01	195	52.7		58.5	224	57.7	14.9	10	00.9	9.2	54.0	25	31	07	23	03	59	05	03	06	08
02	210	52.7		59.2	239	31.6	14.9	10	10.1	9.2	54.0	26	40	07	30	04	02	05	08	06	14
03	225	52.8	16	59.9	254	05.5	14.9	10	19.3	9.1	54.0	27	49	07	38	04	05	05	13	06	21
04	240	52.8	17	00.6	268	39.4	14.8	10	28.4	9.2	54.0	28	58	07	47	04	08	05	19	06	29
05	255	52.8		01.3	283	13.2	14.9	10	37.6	9.0	54.0	29	07	07	57	04	12	05	25	06	38
06	270	52.9	N17	01.9	297	47.1	14.8	N10	46.6	9.0	54.0	30	16	08	05	03	56	04	59	06	02
07	285	52.9		02.6	312	20.9	14.8	10	55.6	9.0	54.0	31	25	08	12	03	59	05	03	06	08
08	300	52.9		03.3	326	54.7	14.7	11	04.6	9.0	54.0	32	34	08	19	04	02	05	08	06	14
09	315	53.0		04.0	341	28.4	14.7	11	13.6	8.8	54.0	33	43	08	26	04	05	05	13	06	21
10	330	53.0		04.7	356	02.1	14.7	11	22.4	8.9	54.0	34	52	08	33	04	08	05	19	06	29
11	345	53.0		05.3	10	35.8	14.7	11	31.3	8.8	54.0	35	01	09	04	07	07	09	07	07	07
12	0	53.1	N17	06.0	25	09.5	14.6	N11	40.1	8.7	54.0	36	10	09	11	03	56	04	59	06	02
13	15	53.1		06.7	39	43.1	14.6	11	48.8	8.7	54.0	37	19	09	18	03	59	05	03	06	08
14	30	53.2		07.4	54	16.7	14.6	11	57.5	8.7	54.0	38	28	09	25	04	02	05	08	06	14
15	45	53.2		08.0	68	50.3	14.5	12	06.2	8.5	54.0	39	37	09	32	04	02	05	08	06	14
16	60	53.2		08.7	83	23.8	14.5	12	14.7	8.6	54.0	40	46	09	39	04	05	05	13	06	21
17	75	53.3		09.4	97	57.3	14.5	12	23.3	8.5	54.0	41	55	09	46	04	08	05	19	06	29
18	90	53.3	N17	10.1	112	30.8	14.5	N12	31.8	8.4	54.0	42	04	10	01	04	08	05	19	06	29
19	105	53.3		10.7	127	04.3	14.4	12	40.2	8.4	54.0	43	13	10	08	04	07	07	07	07	
20	120	53.4		11.4	141	37.7	14.4	12	48.6	8.4	54.0	44	22	10	15	04	07	07	07		
21	135	53.4		12.1	156	11.1	14.3	12	57.0	8.2	54.0	45	31	10	22	04	07	07			
22	150	53.4		12.8	170	44.4	14.3	13	05.2	8.3	54.0	46	40	10	29	04	07	07			
23	165	53.4		13.4	185	17.7	14.3	13	13.5	8.1	54.0	47	49	10	36	04	07	07			
9 00	180	53.5	N17	14.1	199	51.0	14.3	N13	21.6	8.2	54.0	48	58	10	43	04	07	07			
01	195	53.5		14.8	214	24.3	14.2	13	29.8	8.0	54.0	49	07	11	01	04	07				
02	210	53.5		15.4	228	57.5	14.2	13	37.8	8.0	54.0	50	16	11	08	04	07				
03	225	53.6		16.1	243	30.7	14.1	13	45.8	8.0	54.0	51	25	11	15	04	07				
04	240	53.6		16.8	258	03.8	14.1	13	53.8	7.9	54.0	52	34	11	22	04	07				
05	255	53.6		17.5	272	36.9	14.1	14	01.7	7.8	54.0	53	43	11	29	04	07				
06	270	53.7	N17	18.1	287	10.0	14.0	N14	09.5	7.8	54.0	54	52	11	36	04	07				
07	285	53.7		18.8	301	43.0	14.0	14	17.3	7.7	54.0	55	01	12	04	07					
08	300	53.7		19.5	316	16.0	14.0	14	25.0	7.6	54.0	56	10	12	11	04	07				
09	315	53.8		20.1	330	49.0	13.9	14	32.6	7.6	54.0	57	19	12	18	04	07				
10	330	53.8		20.8	345	21.9	13.9	14	40.2	7.5	54.0	58	28	12	25	04	07				
11	345	53.8		21.5	359	54.8	13.9	14	47.7	7.5	54.0	59	37	12	32	04	07				
12	0	53.8	N17	22.1	14	27.7	13.8	N14	55.2	7.4	54.0	60	46	12	39	04	07				
13	15	53.9		22.8	29	00.5	13.8	15	02.6	7.4	54.0	61	55	12	46	04	07				
14	30	53.9		23.5	43	33.3	13.7	15	10.0	7.2	54.0	62	04	13	01	04	07				
15	45	53.9		24.1	58	06.0	13.7	15	17.2	7.2	54.0	63	13	13	08	04	07				
16	60	54.0		24.8	72																

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.1			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		Nombre	A. H. S.	Dec.
M A R T E S	10 00	227 34.0	152 09.8	N23 52.1	209 15.9	N 6 45.5	10 55.2	S13 02.9		244 37.9	S 8 58.9		Acomar	315 29.6	S40 19.7			
	01	242 36.5	167 09.0	52.5	224 16.6	46.2	25 58.0	02.8		259 40.2	58.8		Achernar	335 37.9	S57 15.8			
	02	257 38.9	182 08.2	52.9	239 17.2	47.0	41 00.8	02.7		274 42.5	58.8		Acrux	173 24.8	S63 04.4			
	03	272 41.4	197 07.4	53.3	254 17.9	47.7	56 03.5	02.7		289 44.8	58.7		Adhara	255 24.0	S28 58.2			
	04	287 43.9	212 06.6	53.7	269 18.6	48.4	71 06.3	02.6		304 47.1	58.7		Aldebaran	291 06.2	N16 29.8			
	05	302 46.3	227 05.8	54.1	284 19.3	49.2	86 09.1	02.5		319 49.4	58.6							
	06	317 48.8	242 05.0	N23 54.5	299 20.0	N 6 49.9	101 11.8	S13 02.4		334 51.7	S 8 58.6		Alioth	166 32.8	N55 59.5			
	07	332 51.2	257 04.1	54.9	314 20.7	50.6	116 14.6	02.3		349 54.0	58.5		Alkaid	153 09.7	N49 20.5			
	08	347 53.7	272 03.3	55.3	329 21.4	51.4	131 17.4	02.2		4 56.3	58.4		Al Na'ir	28 01.7	S46 59.0			
	09	2 56.2	287 02.5	55.7	344 22.1	52.1	146 20.1	02.1		19 58.6	58.4		Alnilam	276 01.2	S 1 12.5			
	10	17 58.6	302 01.7	56.1	359 22.8	52.8	161 22.9	02.0		35 00.9	58.3		Alphard	218 10.2	S 8 38.3			
	11	33 01.1	317 00.9	56.5	14 23.5	53.6	176 25.7	01.9		50 03.2	58.3							
	12	48 03.6	332 00.1	N23 56.9	29 24.2	N 6 54.3	191 28.4	S13 01.8		65 05.5	S 8 58.2		Alphecca	126 22.8	N26 44.0			
	13	63 06.0	346 59.2	57.2	44 24.9	55.0	206 31.2	01.7		80 07.8	58.2		Alpheratz	357 58.6	N29 03.4			
	14	78 08.5	1 58.4	57.6	59 25.6	55.8	221 34.0	01.6		95 10.1	58.1		Altair	62 22.0	N 8 51.2			
	15	93 11.0	16 57.6	58.0	74 26.3	56.5	236 36.7	01.5		110 12.4	58.1		Ankaa	353 30.1	S42 20.0			
	16	108 13.4	31 56.8	58.4	89 27.0	57.2	251 39.5	01.4		125 14.7	58.0		Antares	112 43.5	S26 25.2			
	17	123 15.9	46 56.0	58.8	104 27.7	58.0	266 42.3	01.3		140 17.1	57.9							
	18	138 18.3	61 55.2	N23 59.2	119 28.3	N 6 58.7	281 45.0	S13 01.2		155 19.4	S 8 57.9		Arcturus	146 08.5	N19 12.6			
	19	153 20.8	76 54.3	59.6	134 29.0	6 59.4	296 47.8	01.1		170 21.7	57.8		Atria	107 57.7	S69 00.9			
	20	168 23.3	91 53.5	23 59.9	149 29.7	7 00.2	311 50.6	01.1		185 24.0	57.8		Avior	234 24.0	S59 29.9			
	21	183 25.7	106 52.7	24 00.3	164 30.4	00.9	326 53.3	01.0		200 26.3	57.7		Bellatrix	278 47.7	N 6 20.5			
	22	198 28.2	121 51.9	00.7	179 31.1	01.6	341 56.1	00.9		215 28.6	57.7		Betelgeuse	271 17.1	N 7 24.2			
23	213 30.7	136 51.1	01.1	194 31.8	02.4	356 58.8	00.8		230 30.9	57.6								
M I E R C O L E S	11 00	228 33.1	151 50.2	N24 01.4	209 32.5	N 7 03.1	12 01.6	S13 00.7		245 33.2	S 8 57.6		Canopus	264 02.9	S52 41.9			
	01	243 35.6	166 49.4	01.8	224 33.2	03.8	27 04.4	00.6		260 35.5	57.5		Capella	280 56.0	N45 59.5			
	02	258 38.1	181 48.6	02.2	239 33.9	04.6	42 07.1	00.5		275 37.8	57.4		Deneb	49 41.1	N45 15.4			
	03	273 40.5	196 47.8	02.6	254 34.6	05.3	57 09.9	00.4		290 40.1	57.4		Denebola	182 48.1	N14 36.1			
	04	288 43.0	211 47.0	02.9	269 35.3	06.0	72 12.7	00.3		305 42.4	57.3		Diphda	349 10.5	S18 01.0			
	05	303 45.5	226 46.1	03.3	284 36.0	06.7	87 15.4	00.2		320 44.7	57.3							
	06	318 47.9	241 45.3	N24 03.7	299 36.7	N 7 07.5	102 18.2	S13 00.1		335 47.0	S 8 57.2		Dubhe	194 08.9	N61 47.0			
	07	333 50.4	256 44.5	04.0	314 37.4	08.2	117 21.0	13 00.0		350 49.3	57.2		Elnath	278 31.1	N28 36.1			
	08	348 52.8	271 43.7	04.4	329 38.1	08.9	132 23.7	12 59.9		5 51.6	57.1		Eltanin	90 52.4	N51 29.3			
	09	3 55.3	286 42.9	04.8	344 38.7	09.7	147 26.5	59.8		20 53.9	57.1		Enif	34 01.2	N 9 50.9			
	10	18 57.8	301 42.0	05.1	359 39.4	10.4	162 29.3	59.7		35 56.2	57.0		Fomalhaut	15 39.9	S29 39.0			
	11	34 00.2	316 41.2	05.5	14 40.1	11.1	177 32.0	59.7		50 58.5	56.9							
	12	49 02.7	331 40.4	N24 05.9	29 40.8	N 7 11.9	192 34.8	S12 59.6		66 00.8	S 8 56.9		Gacrux	172 16.5	S57 05.2			
	13	64 05.2	346 39.6	06.2	44 41.5	12.6	207 37.5	59.5		81 03.1	56.8		Gienah	176 06.8	S17 30.9			
	14	79 07.6	1 38.7	06.6	59 42.2	13.3	222 40.3	59.4		96 05.5	56.8		Hadar	149 07.6	S60 20.9			
	15	94 10.1	16 37.9	06.9	74 42.9	14.1	237 43.1	59.3		111 07.8	56.7		Hamal	328 17.3	N23 26.1			
	16	109 12.6	31 37.1	07.3	89 43.6	14.8	252 45.8	59.2		126 10.1	56.7		Kaus Aust.	84 02.5	S34 23.1			
	17	124 15.0	46 36.3	07.6	104 44.3	15.5	267 48.6	59.1		141 12.4	56.6							
	18	139 17.5	61 35.5	N24 08.0	119 45.0	N 7 16.2	282 51.4	S12 59.0		156 14.7	S 8 56.6		Kochab	137 18.3	N74 10.7			
	19	154 20.0	76 34.6	08.4	134 45.7	17.0	297 54.1	58.9		171 17.0	56.5		Markab	13 52.7	N15 10.4			
	20	169 22.4	91 33.8	08.7	149 46.4	17.7	312 56.9	58.8		186 19.3	56.5		Menkar	314 30.4	N 4 04.0			
	21	184 24.9	106 33.0	09.1	164 47.1	18.4	327 59.6	58.7		201 21.6	56.4		Menkent	148 24.1	S36 20.7			
	22	199 27.3	121 32.2	09.4	179 47.8	19.2	343 02.4	58.6		216 23.9	56.3		Miaplacidus	221 42.7	S69 42.1			
23	214 29.8	136 31.3	09.8	194 48.4	19.9	358 05.2	58.5		231 26.2	56.3								
J U E V E S	12 00	229 32.3	151 30.5	N24 10.1	209 49.1	N 7 20.6	13 07.9	S12 58.4		246 28.5	S 8 56.2		Mirfak	309 01.4	N49 50.4			
	01	244 34.7	166 29.7	10.4	224 49.8	21.3	28 10.7	58.4		261 30.8	56.2		Nunki	76 15.8	S26 18.1			
	02	259 37.2	181 28.9	10.8	239 50.5	22.1	43 13.5	58.3		276 33.1	56.1		Peacock	53 41.5	S56 44.9			
	03	274 39.7	196 28.0	11.1	254 51.2	22.8	58 16.2	58.2		291 35.4	56.1		Pollux	243 45.4	N28 02.4			
	04	289 42.1	211 27.2	11.5	269 51.9	23.5	73 19.0	58.1		306 37.8	56.0		Procyon	245 14.9	N 5 14.2			
	05	304 44.6	226 26.4	11.8	284 52.6	24.3	88 21.7	58.0		321 40.1	56.0							
	06	319 47.1	241 25.6	N24 12.2	299 53.3	N 7 25.0	103 24.5	S12 57.9		336 42.4	S 8 55.9		Rasalhague	96 19.5	N12 33.8			
	07	334 49.5	256 24.7	12.5	314 54.0	25.7	118 27.3	57.8		351 44.7	55.9		Regulus	207 58.7	N11 59.6			
	08	349 52.0	271 23.9	12.8	329 54.7	26.4	133 30.0	57.7		6 47.0	55.8		Rigel	281 26.1	S 8 12.7			
	09	4 54.4	286 23.1	13.2	344 55.4	27.2	148 32.8	57.6		21 49.3	55.7		Rigil Kent.	140 10.6	S60 48.8			
	10	19 56.9	301 22.3	13.5	359 56.1	27.9	163 35.6	57.5		36 51.6	55.7		Sabik	102 28.7	S15 43.1			
	11	34 59.4	316 21.4	13.8	14 56.8	28.6	178 38.3	57.4		51 53.9	55.6							
	12	50 01.8	331 20.6	N24 14.2	29 57.5	N 7 29.3	193 41.1	S12 57.3		66 56.2	S 8 55.6		Schedar	349 57.3	N56 30.2			
	13	65 04.3	346 19.8	14.5	44 58.1	30.1	208 43.8	57.2		81 58.5	55.5		Shaula	96 41.0	S37 05.9			
	14	80 06.8	1 18.9	14.8	59 58.8	30.8	223 46.6	57.2		97 00.8	55.5		Sirius	258 46.5	S16 42.7			
	15	95 09.2	16 18.1	15.2	74 59.5	31.5	238 49.4	57.1		112 03.1	55.4		Spica	158 46.1	S11 08.1			
	16	110 11.7	31 17.3	15.5	90 00.2	32.3	253 52.1	57.0		127 05.5	55.4		Suhail	223 03.0	S43 25.0			
	17	125 14.2																

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.		Dec.		A.H.G.		Dec.			Náut.			Civil		10	11	12
d h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m
M A R T E S	10 00	180 54.2	N17 30.1	188 59.0	13.4	N16 19.7	6.6	54.0	N 72	□	□	□	01 08	□	□	□	□
	01	195 54.2	30.7	203 31.4	13.3	16 26.3	6.6	54.0	N 70	///	///	01 25	01 51	01 40	□	□	
	02	210 54.2	31.4	218 03.7	13.3	16 32.9	6.4	54.0	68	///	///	02 10	02 20	02 26	02 40	03 14	
	03	225 54.2	32.1	232 36.0	13.2	16 39.3	6.4	54.0	66	///	00 29	02 39	02 42	02 56	03 20	04 00	
	04	240 54.3	32.7	247 08.2	13.2	16 45.7	6.3	54.0	64	///	01 35	03 01	02 59	03 18	03 47	04 30	
	05	255 54.3	33.4	261 40.4	13.2	16 52.0	6.3	54.0	62	///	02 09	03 18	03 14	03 37	04 08	04 52	
	06	270 54.3	N17 34.0	276 12.6	13.1	N16 58.3	6.2	54.0	60	00 26	02 33	03 33	03 26	03 52	04 26	05 10	
	07	285 54.3	34.7	290 44.7	13.1	17 04.5	6.1	54.0	N 58	01 26	02 52	03 45	03 37	04 04	04 40	05 26	
	08	300 54.4	35.3	305 16.8	13.1	17 10.6	6.0	54.0	56	01 56	03 07	03 55	03 46	04 15	04 53	05 38	
	09	315 54.4	36.0	319 48.9	13.0	17 16.6	5.9	54.0	54	02 19	03 21	04 05	03 54	04 25	05 03	05 50	
	10	330 54.4	36.7	334 20.9	13.0	17 22.5	5.9	54.0	52	02 37	03 32	04 13	04 01	04 34	05 13	06 00	
	11	345 54.4	37.3	348 52.9	12.9	N17 28.4	5.8	54.0	50	02 51	03 42	04 20	04 08	04 42	05 22	06 09	
	12	0 54.5	N17 38.0	Un Eclipse Anular de Sol ocurre en este día. Ver Página 5						45	03 20	04 03	04 36	04 22	04 58	05 40	06 27
	13	15 54.5	38.6							N 40	03 42	04 19	04 49	04 34	05 12	05 55	06 43
	14	30 54.5	39.3							35	03 59	04 32	05 00	04 44	05 24	06 08	06 56
	15	45 54.5	39.9							30	04 13	04 44	05 09	04 53	05 34	06 19	07 07
	16	60 54.5	40.6							20	04 35	05 02	05 26	05 09	05 52	06 38	07 26
	17	75 54.6	41.2	N 10	04 52	05 18	05 40	05 22	06 07	06 54	07 43						
	18	90 54.6	N17 41.9	0	05 06	05 31	05 53	05 35	06 22	07 10	07 59						
	19	105 54.6	42.5	S 10	05 18	05 44	06 06	05 47	06 36	07 25	08 15						
	20	120 54.6	43.2	20	05 30	05 56	06 19	06 01	06 52	07 42	08 32						
	21	135 54.6	43.8	30	05 41	06 10	06 35	06 17	07 09	08 01	08 51						
	22	150 54.7	44.5	35	05 47	06 17	06 44	06 26	07 20	08 12	09 03						
23	165 54.7	45.1	40	05 53	06 25	06 54	06 36	07 32	08 25	09 16							
11 00	180 54.7	N17 45.8	45	05 59	06 35	07 06	06 49	07 46	08 41	09 31							
01	195 54.7	46.4	S 50	06 06	06 45	07 21	07 04	08 03	08 59	09 50							
02	210 54.7	47.1	52	06 09	06 50	07 27	07 11	08 11	09 08	09 59							
03	225 54.8	47.7	54	06 13	06 56	07 35	07 19	08 21	09 18	10 09							
04	240 54.8	48.4	56	06 16	07 02	07 43	07 27	08 31	09 29	10 20							
05	255 54.8	49.0	58	06 20	07 08	07 53	07 37	08 43	09 42	10 33							
06	270 54.8	N17 49.6	S 60	06 24	07 15	08 04	07 49	08 56	09 57	10 49							
07	285 54.8	50.3	Lat.	Ocaso Sol		Crepúsculo		Ocaso Luna									
08	300 54.9	50.9	Lat.	Civil		Náut.		10	11	12	13						
09	315 54.9	51.6	°	h m	h m	h m	h m	h m	h m	h m	h m						
10	330 54.9	52.2	N 72	□	□	□	□	□	□	□	□						
11	345 54.9	52.9	N 70	22 35	///	///	22 31	□	□	□	□						
12	0 54.9	N17 53.5	68	21 47	///	///	21 45	23 11	24 18	00 18							
13	15 54.9	54.1	66	21 17	///	///	21 16	22 31	23 33	24 15							
14	30 55.0	54.8	64	20 54	22 22	///	20 54	22 04	23 03	23 47							
15	45 55.0	55.4	62	20 36	21 47	///	20 36	21 43	22 40	23 26							
16	60 55.0	56.1	60	20 22	21 22	///	20 21	21 26	22 22	23 08							
17	75 55.0	56.7	N 58	20 09	21 03	22 32	20 09	21 11	22 07	22 54							
18	90 55.0	N17 57.3	56	19 59	20 47	21 59	19 58	20 59	21 54	22 41							
19	105 55.0	58.0	54	19 49	20 34	21 36	19 48	20 48	21 43	22 30							
20	120 55.0	58.6	52	19 41	20 22	21 18	19 40	20 39	21 33	22 20							
21	135 55.1	59.3	50	19 33	20 12	21 03	19 32	20 30	21 24	22 12							
22	150 55.1	17 59.9	45	19 17	19 51	20 34	19 16	20 12	21 05	21 53							
23	165 55.1	18 00.5	N 40	19 04	19 35	20 12	19 03	19 58	20 50	21 38							
12 00	180 55.1	N18 01.2	35	18 53	19 21	19 55	18 52	19 45	20 37	21 26							
01	195 55.1	01.8	30	18 44	19 10	19 41	18 42	19 35	20 26	21 14							
02	210 55.1	02.4	20	18 27	18 51	19 18	18 25	19 16	20 06	20 55							
03	225 55.1	03.1	N 10	18 13	18 35	19 01	18 11	19 00	19 49	20 39							
04	240 55.2	03.7	0	18 00	18 22	18 47	17 57	18 45	19 34	20 23							
05	255 55.2	04.3	S 10	17 47	18 09	18 34	17 44	18 30	19 18	20 07							
06	270 55.2	N18 05.0	20	17 33	17 56	18 23	17 29	18 13	19 01	19 51							
07	285 55.2	05.6	30	17 17	17 43	18 11	17 12	17 55	18 41	19 31							
08	300 55.2	06.2	35	17 08	17 35	18 05	17 03	17 44	18 30	19 20							
09	315 55.2	06.9	40	16 58	17 27	17 59	16 52	17 32	18 17	19 07							
10	330 55.2	07.5	45	16 46	17 18	17 53	16 39	17 17	18 02	18 52							
11	345 55.2	08.1	S 50	16 31	17 07	17 46	16 23	17 00	17 43	18 33							
12	0 55.3	N18 08.7	52	16 25	17 02	17 43	16 16	16 51	17 34	18 24							
13	15 55.3	09.4	54	16 17	16 56	17 39	16 07	16 42	17 24	18 14							
14	30 55.3	10.0	56	16 09	16 50	17 36	15 58	16 31	17 13	18 03							
15	45 55.3	10.6	58	15 59	16 44	17 32	15 48	16 19	17 00	17 50							
16	60 55.3	11.3	S 60	15 48	16 37	17 28	15 36	16 05	16 44	17 35							
17	75 55.3	11.9	Lat.	SOL		LUNA											
18	90 55.3	N18 12.5	Día	E.T. (+)		Pas. Mer.		Pas. Mer.		Edad.	Fase						
19	105 55.3	13.1	10	00 h	12 h	Sup.	Inf.										
20	120 55.3	13.8	11	m s	m s	h m	h m	h m	d								
21	135 55.3	14.4	12	03 37	03 38	11 56	11 46	24 09	29								
22	150 55.3	15.0	11	03 39	03 40	11 56	12 33	00 09	01								
23	165 55.4	15.6	12	03 40	03 41	11 56	13 22	00 57	02								
	S.D. 15.9	d 0.6	S.D.	14.7	14.8	14.8											

T.M.G. (TU)	ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.1			ESTRELLAS				
	d	h	m	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.		
13	00	230	31.4	151	10.7	N24 18.1	210	05.8	N 7 38.1	14	14.2	S12 56.2	247	23.9	S 8 54.9	Acamar	315	29.6	S40 19.7	
	01	245	33.9	166	09.8	18.4	225	06.5	38.8	29	17.0	56.1	262	26.2	54.9	Achernar	335	37.9	S57 15.8	
	02	260	36.3	181	09.0	18.7	240	07.1	39.5	44	19.7	56.0	277	28.6	54.8	Acrux	173	24.8	S63 04.4	
	03	275	38.8	196	08.2	19.0	255	07.8	40.2	59	22.5	56.0	292	30.9	54.8	Adhara	255	24.0	S28 58.2	
	04	290	41.3	211	07.3	19.3	270	08.5	41.0	74	25.2	55.9	307	33.2	54.7	Aldebaran	291	06.1	N16 29.8	
	05	305	43.7	226	06.5	19.6	285	09.2	41.7	89	28.0	55.8	322	35.5	54.7					
	06	320	46.2	241	05.7	N24 20.0	300	09.9	N 7 42.4	104	30.8	S12 55.7	337	37.8	S 8 54.6	Alioth	166	32.8	N55 59.5	
	07	335	48.7	256	04.8	20.3	315	10.6	43.1	119	33.5	55.6	352	40.1	54.6	Alkaid	153	09.7	N49 20.5	
	08	350	51.1	271	04.0	20.6	330	11.3	43.8	134	36.3	55.5	7	42.4	54.5	Al Na'ir	28	01.7	S46 59.0	
	V	09	5	53.6	286	03.2	20.9	345	12.0	44.6	149	39.0	55.4	22	44.7	54.5	Alnilam	276	01.2	S 1 12.5
		10	20	56.1	301	02.4	21.2	0	12.7	45.3	164	41.8	55.3	37	47.1	54.4	Alphard	218	10.2	S 8 38.3
	I	11	35	58.5	316	01.5	21.5	15	13.4	46.0	179	44.5	55.2	52	49.4	54.4				
		12	51	01.0	331	00.7	N24 21.8	30	14.1	N 7 46.7	194	47.3	S12 55.1	67	51.7	S 8 54.3	Alphecca	126	22.8	N26 44.0
	N	13	66	03.4	345	59.9	22.1	45	14.8	47.5	209	50.1	55.0	82	54.0	54.3	Alpheratz	357	58.5	N29 03.4
		14	81	05.9	0	59.0	22.4	60	15.5	48.2	224	52.8	54.9	97	56.3	54.2	Altair	62	22.0	N 8 51.2
	S	15	96	08.4	15	58.2	22.7	75	16.1	48.9	239	55.6	54.9	112	58.6	54.2	Ankaa	353	30.1	S42 20.0
		16	111	10.8	30	57.4	23.0	90	16.8	49.6	254	58.3	54.8	128	00.9	54.1	Antares	112	43.5	S26 25.2
	17	126	13.3	45	56.5	23.3	105	17.5	50.4	270	01.1	54.7	143	03.2	54.1					
	18	141	15.8	60	55.7	N24 23.6	120	18.2	N 7 51.1	285	03.9	S12 54.6	158	05.6	S 8 54.0	Arcturus	146	08.5	N19 12.6	
	19	156	18.2	75	54.9	23.9	135	18.9	51.8	300	06.6	54.5	173	07.9	53.9	Atria	107	57.6	S69 01.0	
	20	171	20.7	90	54.0	24.2	150	19.6	52.5	315	09.4	54.4	188	10.2	53.9	Avior	234	24.1	S59 29.9	
	21	186	23.2	105	53.2	24.5	165	20.3	53.2	330	12.1	54.3	203	12.5	53.8	Bellatrix	278	47.7	N 6 20.5	
	22	201	25.6	120	52.4	24.8	180	21.0	54.0	345	14.9	54.2	218	14.8	53.8	Betelgeuse	271	17.1	N 7 24.2	
23	216	28.1	135	51.5	25.1	195	21.7	54.7	0	17.6	54.1	233	17.1	53.7						
14	00	231	30.6	150	50.7	N24 25.3	210	22.4	N 7 55.4	15	20.4	S12 54.0	248	19.4	S 8 53.7	Canopus	264	02.9	S52 41.9	
	01	246	33.0	165	49.9	25.6	225	23.1	56.1	30	23.2	53.9	263	21.7	53.6	Capella	280	56.0	N45 59.5	
	02	261	35.5	180	49.0	25.9	240	23.8	56.8	45	25.9	53.9	278	24.1	53.6	Deneb	49	41.1	N45 15.4	
	03	276	37.9	195	48.2	26.2	255	24.4	57.6	60	28.7	53.8	293	26.4	53.5	Denebola	182	48.1	N14 36.1	
	04	291	40.4	210	47.4	26.5	270	25.1	58.3	75	31.4	53.7	308	28.7	53.5	Diphda	349	10.5	S18 01.0	
	05	306	42.9	225	46.5	26.8	285	25.8	59.0	90	34.2	53.6	323	31.0	53.4					
	06	321	45.3	240	45.7	N24 27.1	300	26.5	N 7 59.7	105	36.9	S12 53.5	338	33.3	S 8 53.4	Dubhe	194	08.9	N61 47.0	
	07	336	47.8	255	44.9	27.3	315	27.2	8 00.4	120	39.7	53.4	353	35.6	53.3	Elnath	278	31.1	N28 36.1	
	08	351	50.3	270	44.0	27.6	330	27.9	01.2	135	42.4	53.3	8	37.9	53.3	Eltanin	90	52.3	N51 29.3	
	S	09	6	52.7	285	43.2	27.9	345	28.6	01.9	150	45.2	53.2	23	40.3	53.2	Enif	34	01.2	N 9 50.9
		10	21	55.2	300	42.4	28.2	0	29.3	02.6	165	48.0	53.1	38	42.6	53.2	Fomalhaut	15	39.8	S29 38.9
	A	11	36	57.7	315	41.5	28.4	15	30.0	03.3	180	50.7	53.0	53	44.9	53.1				
		12	52	00.1	330	40.7	N24 28.7	30	30.7	N 8 04.0	195	53.5	S12 53.0	68	47.2	S 8 53.1	Gacrux	172	16.5	S57 05.2
	D	13	67	02.6	345	39.9	29.0	45	31.4	04.8	210	56.2	52.9	83	49.5	53.0	Gienah	176	06.8	S17 30.9
		14	82	05.0	0	39.0	29.3	60	32.0	05.5	225	59.0	52.8	98	51.8	53.0	Hadar	149	07.6	S60 20.9
	O	15	97	07.5	15	38.2	29.5	75	32.7	06.2	241	01.7	52.7	113	54.2	52.9	Ha'ial	328	17.3	N23 26.1
		16	112	10.0	30	37.3	29.8	90	33.4	06.9	256	04.5	52.6	128	56.5	52.9	Kaus Aust.	84	02.5	S34 23.1
	17	127	12.4	45	36.5	30.1	105	34.1	07.6	271	07.2	52.5	143	58.8	52.8					
	18	142	14.9	60	35.7	N24 30.3	120	34.8	N 8 08.4	286	10.0	S12 52.4	159	01.1	S 8 52.8	Kochab	137	18.3	N74 10.8	
	19	157	17.4	75	34.8	30.6	135	35.5	09.1	301	12.8	52.3	174	03.4	52.7	Markab	13	52.7	N15 10.4	
	20	172	19.8	90	34.0	30.9	150	36.2	09.8	316	15.5	52.2	189	05.7	52.7	Menkar	314	30.4	N 4 04.0	
	21	187	22.3	105	33.2	31.1	165	36.9	10.5	331	18.3	52.1	204	08.1	52.6	Menkent	148	24.1	S36 20.7	
	22	202	24.8	120	32.3	31.4	180	37.6	11.2	346	21.0	52.1	219	10.4	52.6	Miaplacidus	221	42.7	S69 42.1	
23	217	27.2	135	31.5	31.7	195	38.3	11.9	1	23.8	52.0	234	12.7	52.5						
15	00	232	29.7	150	30.7	N24 31.9	210	39.0	N 8 12.7	16	26.5	S12 51.9	249	15.0	S 8 52.5	Mirfak	309	01.4	N49 50.4	
	01	247	32.2	165	29.8	32.2	225	39.6	13.4	31	29.3	51.8	264	17.3	52.4	Nunki	76	15.8	S26 18.1	
	02	262	34.6	180	29.0	32.4	240	40.3	14.1	46	32.0	51.7	279	19.6	52.4	Peacock	53	41.5	S56 44.9	
	03	277	37.1	195	28.1	32.7	255	41.0	14.8	61	34.8	51.6	294	22.0	52.3	Pollux	243	45.4	N28 02.4	
	04	292	39.5	210	27.3	33.0	270	41.7	15.5	76	37.5	51.5	309	24.3	52.3	Procyon	245	14.9	N 5 14.2	
	05	307	42.0	225	26.5	33.2	285	42.4	16.2	91	40.3	51.4	324	26.6	52.2					
	06	322	44.5	240	25.6	N24 33.5	300	43.1	N 8 17.0	106	43.0	S12 51.3	339	28.9	S 8 52.2	Rasalhague	96	19.4	N12 33.8	
	07	337	46.9	255	24.8	33.7	315	43.8	17.7	121	45.8	51.2	354	31.2	52.1	Regulus	207	58.7	N11 59.6	
	D	08	352	49.4	270	24.0	34.0	330	44.5	18.4	136	48.6	51.2	9	33.5	52.1	Rigel	281	26.1	S 8 12.6
		09	7	51.9	285	23.1	34.2	345	45.2	19.1	151	51.3	51.1	24	35.9	52.0	Rigil Kent.	140	10.6	S60 48.8
	O	10	22	54.3	300	22.3	34.5	0	45.9	19.8	166	54.1	51.0	39	38.2	52.0	Sabik	102	28.6	S15 43.1
		11	37	56.8	315	21.4	34.7	15	46.6	20.5	181	56.8	50.9	54	40.5	51.9				
	12	52	59.3	330	20.6	N24 35.0	30	47.2	N 8 21.3	196	59.6	S12 50.8	69	42.8	S 8 51.9	Schedar	349	57.3	N56 30.2	
	13	68	01.7	345	19.8	35.2	45	47.9	22.0	212	02.3	50.7	84	45.1	51.8	Shaula	96	41.0	S37 05.9	
	14	83	04.2	0	18.9	35.4	60	48.6	22.7	227	05.1	50.6	99	47.5	51.8	Sirius	258	46.5	S16 42.7	
	15	98	06.7	15	18.1	35.														

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	13	14	15	16	
									h m	h m	h m	h m	h m	h m	h m	
V I E R N E S	13 00	180 55.4	N18 16.2	154 18.7	11.1	N20 43.3	0.2	54.6	N 72	00 57				06 15		
	01	195 55.4	16.9	168 48.8	11.1	20 43.5	0.2	54.6	N 70	01 54	03 14	04 20	05 48	07 25		
	02	210 55.4	17.5	183 18.9	11.1	20 43.7	0.0	54.7	68	02 27	04 00	05 01	06 18	07 46		
	03	225 55.4	18.1	197 49.0	11.0	20 43.7	0.0	54.7	66	01 17	02 51	04 30	05 28	06 41	08 03	
	04	240 55.4	18.7	212 19.0	11.1	20 43.7	0.1	54.7	64	01 57	03 10	04 52	05 50	06 59	08 16	
	05	255 55.4	19.3	226 49.1	11.0	20 43.6	0.3	54.7	62	02 23	03 25	05 10	06 07	07 14	08 28	
	06	270 55.4	N18 20.0	241 19.1	11.0	N20 43.3	0.3	54.7	60	01 09	02 44	03 38	05 26	06 21	07 26	08 38
	07	285 55.4	20.6	255 49.1	11.0	20 43.0	0.5	54.7	N 58	01 45	03 00	03 50	05 38	06 34	07 37	08 47
	08	300 55.4	21.2	270 19.1	11.0	20 42.5	0.6	54.7	56	02 10	03 14	03 59	05 50	06 44	07 47	08 55
	09	315 55.4	21.8	284 49.1	10.9	20 41.9	0.6	54.8	54	02 29	03 26	04 08	06 00	06 54	07 55	09 02
	10	330 55.4	22.4	299 19.0	11.0	20 41.3	0.8	54.8	52	02 45	03 37	04 16	06 09	07 03	08 03	09 08
	11	345 55.4	23.1	313 49.0	11.0	20 40.5	0.8	54.8	50	03 15	03 59	04 33	06 27	07 21	08 19	09 21
	12	0 55.4	N18 23.7	328 19.0	10.9	N20 39.7	1.0	54.8	45	03 38	04 16	04 46	06 43	07 35	08 32	09 32
	13	15 55.4	24.3	342 48.9	10.9	20 38.7	1.1	54.8	N 40	03 56	04 30	04 57	06 56	07 48	08 44	09 42
	14	30 55.4	24.9	357 18.8	11.0	20 37.6	1.1	54.8	35	04 10	04 41	05 07	07 07	07 59	08 53	09 50
	15	45 55.5	25.5	11 48.8	10.9	20 36.5	1.3	54.8	30	04 33	05 01	05 24	07 26	08 17	09 10	10 04
	16	60 55.5	26.1	26 18.7	10.9	20 35.2	1.4	54.9	20	04 51	05 17	05 39	07 43	08 34	09 25	10 17
	17	75 55.5	26.7	40 48.6	10.9	20 33.8	1.4	54.9	N 10	05 06	05 31	05 53	07 59	08 49	09 39	10 28
	18	90 55.5	N18 27.4	55 18.5	10.9	N20 32.4	1.6	54.9	0	05 19	05 44	06 06	08 15	09 04	09 53	10 40
	19	105 55.5	28.0	69 48.4	10.9	20 30.8	1.7	54.9	S 10	05 31	05 57	06 21	08 32	09 20	10 07	10 52
	20	120 55.5	28.6	84 18.3	10.9	20 29.1	1.8	54.9	20	05 43	06 12	06 37	08 51	09 39	10 24	11 06
	21	135 55.5	29.2	98 48.2	10.8	20 27.3	1.8	54.9	30	05 49	06 19	06 46	09 03	09 50	10 34	11 14
	22	150 55.5	29.8	113 18.0	10.9	20 25.5	2.0	55.0	35	05 55	06 28	06 57	09 16	10 02	10 45	11 23
23	165 55.5	30.4	127 47.9	10.9	20 23.5	2.1	55.0	40	06 02	06 38	07 10	09 31	10 17	10 58	11 34	
S A B D O	14 00	180 55.5	N18 31.0	142 17.8	10.8	N20 21.4	2.2	55.0	S 50	06 10	06 49	07 25	09 50	10 35	11 14	11 47
	01	195 55.5	31.6	156 47.6	10.9	20 19.2	2.3	55.0	52	06 13	06 55	07 32	09 59	10 43	11 21	11 53
	02	210 55.5	32.2	171 17.5	10.9	20 16.9	2.4	55.0	54	06 17	07 00	07 40	10 09	10 53	11 29	12 00
	03	225 55.5	32.8	185 47.4	10.8	20 14.5	2.5	55.1	56	06 21	07 06	07 49	10 20	11 03	11 39	12 07
	04	240 55.5	33.5	200 17.2	10.9	20 12.0	2.6	55.1	58	06 25	07 13	07 59	10 33	11 16	11 49	12 16
	05	255 55.5	34.1	214 47.1	10.8	20 09.4	2.7	55.1	S 60	06 29	07 21	08 10	10 49	11 30	12 01	12 25
	06	270 55.5	N18 34.7	229 16.9	10.9	N20 06.7	2.8	55.1								
	07	285 55.5	35.3	243 46.8	10.9	20 03.9	2.9	55.1								
	08	300 55.5	35.9	258 16.7	10.8	20 01.0	3.0	55.1								
	09	315 55.5	36.5	272 46.5	10.9	19 58.0	3.1	55.2								
	10	330 55.5	37.1	287 16.4	10.8	19 54.9	3.2	55.2								
	11	345 55.5	37.7	301 46.2	10.9	19 51.7	3.3	55.2								
	12	0 55.5	N18 38.3	316 16.1	10.9	N19 48.4	3.4	55.2	N 72	23 08	///	///	00 18	00 56	01 59	01 47
	13	15 55.5	38.9	330 46.0	10.8	19 45.0	3.5	55.2	N 70	22 03	///	///	00 18	00 56	01 11	01 18
	14	30 55.5	39.5	345 15.8	10.9	19 41.5	3.6	55.3	68	21 29	///	///	24 15	00 15	00 41	00 56
	15	45 55.5	40.1	359 45.7	10.9	19 37.9	3.7	55.3	66	21 04	22 42	///	23 47	24 18	00 18	00 38
	16	60 55.5	40.7	14 15.6	10.9	19 34.2	3.8	55.3	64	20 45	22 00	///	23 26	23 59	24 24	00 24
	17	75 55.5	41.3	28 45.5	10.9	19 30.4	3.9	55.3	62	20 29	21 32	///	23 08	23 44	24 12	00 12
	18	90 55.5	N18 41.9	43 15.4	10.8	N19 26.5	4.0	55.3	60	20 16	21 11	22 49	22 54	23 31	24 01	00 01
	19	105 55.5	42.5	57 45.2	10.9	19 22.5	4.1	55.4	N 58	20 04	20 54	22 11	22 41	23 20	23 52	24 18
	20	120 55.5	43.1	72 15.1	10.9	19 18.4	4.2	55.4	56	19 54	20 40	21 45	22 30	23 10	23 44	24 12
	21	135 55.5	43.7	86 45.0	10.9	19 14.2	4.3	55.4	54	19 45	20 28	21 25	22 20	23 01	23 36	24 06
	22	150 55.5	44.3	101 14.9	11.0	19 09.9	4.4	55.4	52	19 38	20 17	21 09	22 12	22 54	23 30	24 01
23	165 55.5	44.9	115 44.9	10.9	19 05.5	4.5	55.5	50	19 21	19 55	20 38	21 53	22 37	23 15	23 50	
D O M I N G O	15 00	180 55.5	N18 45.5	130 14.8	10.9	N19 01.0	4.6	55.5	45	19 21	19 55	20 38	21 53	22 37	23 15	23 50
	01	195 55.5	46.1	144 44.7	10.9	18 56.4	4.7	55.5	N 40	19 07	19 38	20 16	21 38	22 23	23 03	23 40
	02	210 55.4	46.7	159 14.6	11.0	18 51.7	4.8	55.5	35	18 56	19 24	19 58	21 26	22 11	22 53	23 32
	03	225 55.4	47.3	173 44.6	10.9	18 46.9	4.9	55.5	30	18 46	19 12	19 43	21 14	22 01	22 44	23 25
	04	240 55.4	47.9	188 14.5	11.0	18 42.0	4.9	55.6	20	18 28	18 52	19 20	20 55	21 43	22 29	23 13
	05	255 55.4	48.5	202 44.5	11.0	18 37.1	5.1	55.6	N 10	18 14	18 36	19 02	20 39	21 28	22 15	23 02
	06	270 55.4	N18 49.1	217 14.5	10.9	N18 32.0	5.2	55.6	0	18 00	18 22	18 47	20 23	21 13	22 03	22 52
	07	285 55.4	49.6	231 44.4	11.0	18 26.8	5.3	55.6	S 10	17 46	18 08	18 34	20 07	20 58	21 50	22 41
	08	300 55.4	50.2	246 14.4	11.0	18 21.5	5.3	55.6	20	17 32	17 55	18 22	19 51	20 43	21 36	22 30
	09	315 55.4	50.8	260 44.4	11.0	18 16.2	5.5	55.7	30	17 15	17 41	18 10	19 31	20 25	21 20	22 18
	10	330 55.4	51.4	275 14.4	11.0	18 10.7	5.6	55.7	35	17 06	17 33	18 03	19 20	20 14	21 11	22 10
	11	345 55.4	52.0	289 44.4	11.1	18 05.1	5.6	55.7	40	16 55	17 24	17 57	19 07	20 02	21 01	22 02
	12	0 55.4	N18 52.6	304 14.5	11.0	N17 59.5	5.8	55.7	45	16 42	17 14	17 50	18 52	19 48	20 48	21 52
	13	15 55.4	53.2	318 44.5	11.0	17 53.7	5.8	55.8	S 50	16 27	17 03	17 42	18 33	19 30	20 33	21 40
	14	30 55.4	53.8	333 14.5	11.1	17 47.9	6.0	55.8	52	16 20	16 58	17 39	18 24	19 22	20 26	21 35
	15	45 55.4	54.4	347 44.6	11.1	17 41.9	6.0	55.8	54	16 12	16 52	17 35	18 14	19 13	20 18	21 29
	16	60 55.4	55.0	2 14.7	11.0	17 35.9	6.1	55.8	56	16 03	16 45	17 31	18 03	19 02	20 09	21 22
	17	75 55.4	55.5	16 44.7	11.1	17 29.8	6.2	55.9	58	15 53	16 39	17 27	17 50	18 51	19 59	21 14
	18	90 55.3	N18 56.1	31 14.8	11.1	N17 23.6	6.3	55.9	S 60	15 42	16 31	17 22	17 35	18 37	19 48	21 05
	19	105 55.3	56.7	45 44.9	11.1	17 17.3	6.4	55.9								
	20	120 55.3	57.3	60 15.0	11.1	17 10.9	6.5									

T.M.G. (TL)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Naut.		Civil	16	17	18	19	
d h	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	h m	h m	h m	h m	h m	h m	h m		
L U N E S	16 00	180 55.3	N18 59.6	118 15.6	11.1	N16 44.4	6.9	56.0	N 72	□	□	□	06 15	08 24	10 23	12 21
	01	195 55.3	19 00.2	132 45.7	11.2	16 37.5	6.9	56.1	N 70	□	□	□	06 57	08 47	10 35	12 24
	02	210 55.3	00.8	147 15.9	11.2	16 30.6	7.0	56.1	68	///	///	01 37	07 25	09 04	10 45	12 28
	03	225 55.3	01.4	161 46.1	11.2	16 23.6	7.2	56.1	66	///	///	02 15	07 46	09 18	10 53	12 30
	04	240 55.3	02.0	176 16.3	11.2	16 16.4	7.2	56.1	64	///	00 55	02 42	08 03	09 30	11 00	12 32
	05	255 55.2	02.5	190 46.5	11.2	16 09.2	7.3	56.2	62	///	01 44	03 02	08 16	09 39	11 05	12 34
	06	270 55.2	N19 03.1	205 16.7	11.3	N16 01.9	7.3	56.2	60	///	02 14	03 18	08 28	09 48	11 10	12 36
	07	285 55.2	03.7	219 47.0	11.2	15 54.6	7.5	56.2	N 58	00 49	02 36	03 32	08 38	09 55	11 15	12 38
	08	300 55.2	04.3	234 17.2	11.3	15 47.1	7.5	56.2	56	01 34	02 54	03 44	08 47	10 01	11 19	12 39
	09	315 55.2	04.9	248 47.5	11.2	15 39.6	7.7	56.3	54	02 01	03 08	03 54	08 55	10 07	11 22	12 40
	10	330 55.2	05.4	263 17.7	11.3	15 31.9	7.7	56.3	52	02 22	03 21	04 04	09 02	10 12	11 25	12 41
	11	345 55.2	06.0	277 48.0	11.3	15 24.2	7.8	56.3	50	02 39	03 32	04 12	09 08	10 17	11 28	12 42
	12	0 55.2	N19 06.6	292 18.3	11.3	N15 16.4	7.9	56.4	45	03 11	03 55	04 29	09 21	10 27	11 34	12 44
	13	15 55.1	07.2	306 48.6	11.3	15 08.5	7.9	56.4	N 40	03 34	04 12	04 43	09 32	10 35	11 40	12 46
	14	30 55.1	07.7	321 18.9	11.3	15 00.6	8.1	56.4	35	03 53	04 27	04 55	09 42	10 42	11 44	12 48
	15	45 55.1	08.3	335 49.2	11.4	14 52.5	8.1	56.4	30	04 08	04 39	05 06	09 50	10 48	11 48	12 49
	16	60 55.1	08.9	350 19.6	11.3	14 44.4	8.2	56.5	20	04 32	05 00	05 23	10 04	10 59	11 55	12 51
	17	75 55.1	09.5	4 49.9	11.4	14 36.2	8.3	56.5	N 10	04 50	05 16	05 39	10 17	11 08	12 01	12 53
	18	90 55.1	N19 10.0	9 20.3	11.3	N14 27.9	8.4	56.5	0	05 05	05 31	05 53	10 28	11 17	12 06	12 55
	19	105 55.1	10.6	33 50.6	11.4	14 19.5	8.5	56.5	S 10	05 19	05 45	06 07	10 40	11 26	12 12	12 57
	20	120 55.0	11.2	48 21.0	11.4	14 11.0	8.5	56.6	20	05 32	05 59	06 22	10 52	11 35	12 18	12 59
	21	135 55.0	11.8	62 51.4	11.4	14 02.5	8.6	56.6	30	05 44	06 13	06 39	11 06	11 46	12 24	13 02
	22	150 55.0	12.3	77 21.8	11.4	13 53.9	8.7	56.6	35	05 51	06 22	06 49	11 14	11 52	12 28	13 03
23	165 55.0	12.9	91 52.2	11.4	13 45.2	8.8	56.7	40	05 58	06 31	07 00	11 23	11 59	12 32	13 05	
M A R T E S	17 00	180 55.0	N19 13.5	106 22.6	11.4	N13 36.4	8.8	56.7	45	06 05	06 41	07 13	11 34	12 07	12 37	13 07
	01	195 55.0	14.0	120 53.0	11.4	13 27.6	9.0	56.7	S 50	06 13	06 53	07 29	11 47	12 17	12 43	13 09
	02	210 55.0	14.6	135 23.4	11.4	13 18.6	9.0	56.8	52	06 17	06 59	07 36	11 53	12 21	12 46	13 10
	03	225 54.9	15.2	149 53.8	11.5	13 09.6	9.0	56.8	54	06 21	07 05	07 45	12 00	12 26	12 49	13 11
	04	240 54.9	15.7	164 24.3	11.4	13 00.6	9.2	56.8	56	06 25	07 11	07 54	12 07	12 31	12 53	13 12
	05	255 54.9	16.3	178 54.7	11.5	12 51.4	9.2	56.8	58	06 30	07 19	08 05	12 16	12 37	12 56	13 13
	06	270 54.9	N19 16.9	193 25.2	11.4	N12 42.2	9.3	56.9	S 60	06 34	07 27	08 17	12 25	12 44	13 00	13 15
	07	285 54.9	17.4	207 55.6	11.5	12 32.9	9.4	56.9	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna			
	08	300 54.9	18.0	222 26.1	11.5	12 23.5	9.4	56.9			Civil	Naut.	16	17	18	19
	09	315 54.8	18.6	236 56.6	11.4	12 14.1	9.5	57.0	N 72	□	□	□	02 30	02 03	01 46	01 33
	10	330 54.8	19.1	251 27.0	11.5	12 04.6	9.6	57.0	N 70	□	□	□	01 47	01 39	01 32	01 26
	11	345 54.8	19.7	265 57.5	11.5	11 55.0	9.7	57.0	68	22 21	///	///	01 18	01 20	01 21	01 20
	12	0 54.8	N19 20.3	280 28.0	11.5	N11 45.3	9.7	57.1	66	21 41	///	///	00 56	01 05	01 11	01 16
	13	15 54.8	20.8	294 58.5	11.5	11 35.6	9.8	57.1	64	21 14	23 07	///	00 38	00 53	01 03	01 12
	14	30 54.8	21.4	309 29.0	11.5	11 25.8	9.8	57.1	62	20 53	22 13	///	00 24	00 42	00 56	01 08
	15	45 54.7	21.9	323 59.5	11.5	11 16.0	10.0	57.1	60	20 36	21 42	///	00 12	00 33	00 50	01 05
	16	60 54.7	22.5	338 30.0	11.5	11 06.0	10.0	57.2	N 58	20 22	21 19	23 12	00 01	00 25	00 45	01 03
	17	75 54.7	23.1	353 00.5	11.5	10 56.0	10.0	57.2	56	20 10	21 01	22 23	24 18	00 18	00 40	01 00
	18	90 54.7	N19 23.6	7 31.0	11.5	N10 46.0	10.1	57.2	54	19 59	20 46	21 54	24 12	00 12	00 36	00 58
	19	105 54.7	24.2	22 01.5	11.5	10 35.9	10.2	57.3	52	19 50	20 33	21 33	24 06	00 06	00 32	00 56
	20	120 54.6	24.7	36 32.0	11.5	10 25.7	10.3	57.3	50	19 42	20 22	21 15	24 01	00 01	00 29	00 54
	21	135 54.6	25.3	51 02.5	11.5	10 15.4	10.3	57.3	45	19 24	19 59	20 43	23 50	24 21	00 21	00 51
	22	150 54.6	25.9	65 33.0	11.5	10 05.1	10.4	57.4	N 40	19 10	19 41	20 19	23 40	24 14	00 14	00 47
23	165 54.6	26.4	80 03.5	11.5	9 54.7	10.4	57.4	35	18 58	19 26	20 01	23 32	24 09	00 09	00 44	
M I E R C O L E S	18 00	180 54.6	N19 27.0	94 34.0	11.5	N 9 44.3	10.5	57.4	30	18 47	19 14	19 45	23 25	24 04	00 04	00 42
	01	195 54.5	27.5	109 04.5	11.5	9 33.8	10.6	57.5	20	18 30	18 53	19 21	23 13	23 55	24 37	00 37
	02	210 54.5	28.1	123 35.0	11.5	9 23.2	10.6	57.5	N 10	18 14	18 37	19 03	23 02	23 48	24 33	00 33
	03	225 54.5	28.6	138 05.5	11.4	9 12.6	10.7	57.5	0	18 00	18 22	18 47	22 52	23 41	24 29	00 29
	04	240 54.5	29.2	152 35.9	11.5	9 01.9	10.8	57.6	S 10	17 46	18 08	18 34	22 41	23 33	24 26	00 26
	05	255 54.4	29.7	167 06.4	11.5	8 51.1	10.7	57.6	20	17 31	17 54	18 21	22 30	23 26	24 22	00 22
	06	270 54.4	N19 30.3	181 36.9	11.5	N 8 40.4	10.9	57.6	30	17 14	17 39	18 08	22 18	23 17	24 17	00 17
	07	285 54.4	30.8	196 07.4	11.5	8 29.5	10.9	57.7	35	17 04	17 31	18 02	22 10	23 11	24 14	00 14
	08	300 54.4	31.4	210 37.9	11.4	8 18.6	11.0	57.7	40	16 52	17 22	17 55	22 02	23 06	24 11	00 11
	09	315 54.4	31.9	225 08.3	11.5	8 07.6	11.0	57.7	45	16 39	17 11	17 47	21 52	22 59	24 07	00 07
	10	330 54.3	32.5	239 38.8	11.4	7 56.6	11.1	57.8	S 50	16 23	16 59	17 39	21 40	22 50	24 03	00 03
	11	345 54.3	33.0	254 09.2	11.5	7 45.5	11.1	57.8	52	16 16	16 54	17 35	21 35	22 47	24 01	00 01
	12	0 54.3	N19 33.6	268 39.7	11.4	N 7 34.4	11.2	57.8	54	16 07	16 48	17 31	21 29	22 42	23 59	25 18
	13	15 54.3	34.1	283 10.1	11.4	7 23.2	11.2	57.9	56	15 58	16 41	17 27	21 22	22 38	23 56	25 18
	14	30 54.2	34.7	297 40.5	11.4	7 12.0	11.3	57.9	58	15 47	16 33	17 22	21 14	22 32	23 54	25 17
	15	45 54.2	35.2	312 10.9	11.4	7 00.7	11.3	57.9	S 60	15 35	16 25	17 18	21 05	22 26	23 51	25 17
	16	60 54.2	35.8	326 41.3	11.4	6 49.4	11.4	58.0	Lat.	SOL		LUNA				
	17	75 54.2	36.3	341 11.7	11.4	6 38.0	11.4	58.0		E.T. (+)	Pas. Mer.	Pas. Mer.	Sup. Inf.	Edad.	Fase	
	18	90 54.1	N19 36.9	355 42.1	11.3	N 6 26.6	11.5	58.0	Día	00 h	12 h					
	19	10														

T.M.G. (TU)		ARIES			VENUS -3.9			MARTE +1.2			JUPITER -2.5			SATURNO +1.0			ESTRELLAS										
d h		A.H.G.		A.H.G.	Dec.	A.H.G.		A.H.G.	Dec.	A.H.G.		A.H.G.	Dec.	A.H.G.		A.H.G.	Dec.	Nombre	A. H. S.	Dec.							
19	00	236	26.2	149	09.9	N24	51.2	211	45.1	N	9	20.7	20	50.3	S12	43.5	252	58.1	S	8	47.9	Acamar	315	29.6	S40	19.6	
	01	251	28.7	164	09.0		51.4	226	45.8			21.4	35	53.0		43.4	268	00.4			47.9	Achernar	335	37.9	S57	15.7	
	02	266	31.2	179	08.2		51.5	241	46.5		22.1		50	55.8		43.3	283	02.7			47.8	Acrux	173	24.9	S63	04.4	
	03	281	33.6	194	07.3	·	51.7	256	47.2	·	22.8		65	58.5	·	43.2	298	05.1	·		47.8	Adhara	255	24.0	S28	58.1	
	04	296	36.1	209	06.5		51.8	271	47.9		23.5		81	01.2		43.1	313	07.4			47.7	Aldebaran	291	06.1	N16	29.8	
	05	311	38.6	224	05.6		51.9	286	48.6		24.2		96	04.0		43.0	328	09.7			47.7						
	06	326	41.0	239	04.8	N24	52.1	301	49.2	N	9	24.9	111	06.7	S12	43.0	343	12.1	S	8	47.6	Alioth	166	32.8	N55	59.5	
	07	341	43.5	254	03.9		52.2	316	49.9		25.6		126	09.5		42.9	358	14.4			47.6	Alkaid	153	09.7	N49	20.5	
	08	356	46.0	269	03.1		52.3	331	50.6		26.3		141	12.2		42.8	13	16.7			47.5	Al Na'ir	28	01.6	S46	59.0	
	J	09	11	48.4	284	02.3	·	52.5	346	51.3	·	27.0	156	14.9	·	42.7	28	19.1	·		47.5	Alnilam	276	01.2	S	1	12.5
	U	10	26	50.9	299	01.4		52.6	1	52.0		27.7	171	17.7		42.6	43	21.4			47.5	Alphard	218	10.2	S	8	38.3
	E	11	41	53.3	314	00.6		52.7	16	52.7		28.4	186	20.4		42.5	58	23.7			47.4						
	V	12	56	55.8	328	59.7	N24	52.9	31	53.4	N	9	29.1	201	23.2	S12	42.4	73	26.0	S	8	47.4	Alphecca	126	22.7	N26	44.0
	E	13	71	58.3	343	58.9		53.0	46	54.1		29.8	216	25.9		42.4	88	28.4			47.3	Alpheratz	357	58.5	N29	03.5	
	S	14	87	00.7	358	58.0		53.1	61	54.7		30.5	231	28.6		42.3	103	30.7			47.3	Altair	62	22.0	N	8	51.2
		15	102	03.2	13	57.2	·	53.2	76	55.4	·	31.2	246	31.4	·	42.2	118	33.0	·		47.2	Ankaa	353	30.0	S42	20.0	
		16	117	05.7	28	56.3		53.4	91	56.1		31.9	261	34.1		42.1	133	35.4			47.2	Antares	112	43.4	S26	25.2	
		17	132	08.1	43	55.5		53.5	106	56.8		32.6	276	36.9		42.0	148	37.7			47.1						
		18	147	10.6	58	54.6	N24	53.6	121	57.5	N	9	33.3	291	39.6	S12	41.9	163	40.0	S	8	47.1	Arcturus	146	08.5	N19	12.7
		19	162	13.1	73	53.8		53.7	136	58.2		34.0	306	42.3		41.9	178	42.4			47.1	Atria	107	57.6	S69	01.0	
		20	177	15.5	88	53.0		53.8	151	58.9		34.7	321	45.1		41.8	193	44.7			47.0	Avior	234	24.1	S59	29.9	
		21	192	18.0	103	52.1	·	53.9	166	59.5	·	35.4	336	47.8	·	41.7	208	47.0	·		47.0	Bellatrix	278	47.7	N	6	20.6
		22	207	20.5	118	51.3		54.1	182	00.2		36.1	351	50.5		41.6	223	49.4			46.9	Betelgeuse	271	17.1	N	7	24.2
	23	222	22.9	133	50.4		54.2	197	00.9		36.8	6	53.3		41.5	238	51.7			46.9							
20	00	237	25.4	148	49.6	N24	54.3	212	01.6	N	9	37.5	21	56.0	S12	41.4	253	54.0	S	8	46.8	Canopus	264	02.9	S52	41.8	
	01	252	27.8	163	48.7		54.4	227	02.3		38.2	36	58.7		41.4	268	56.4			46.8	Capella	280	56.0	N45	59.5		
	02	267	30.3	178	47.9		54.5	242	03.0		38.9	52	01.5		41.3	283	58.7			46.8	Deneb	49	41.0	N45	15.5		
	03	282	32.8	193	47.0	·	54.6	257	03.7	·	39.6	67	04.2	·	41.2	299	01.0	·		46.7	Denebola	182	48.1	N14	36.1		
	04	297	35.2	208	46.2		54.7	272	04.4		40.3	82	07.0		41.1	314	03.4			46.7	Diphda	349	10.4	S18	01.0		
	05	312	37.7	223	45.4		54.8	287	05.0		41.0		97	09.7		41.0	329	05.7			46.6						
	06	327	40.2	238	44.5	N24	54.9	302	05.7	N	9	41.7	112	12.4	S12	40.9	344	08.0	S	8	46.6	Dubhe	194	09.0	N61	47.0	
	07	342	42.6	253	43.7		55.0	317	06.4		42.4		127	15.2		40.9	359	10.4			46.5	Elnath	278	31.1	N28	36.1	
	08	357	45.1	268	42.8		55.2	332	07.1		43.0		142	17.9		40.8	14	12.7			46.5	Eltanin	90	52.3	N51	29.3	
	V	09	12	47.6	283	42.0	·	55.3	347	07.8	·	43.7	157	20.6	·	40.7	29	15.1	·		46.5	Enif	34	01.1	N	9	50.9
	I	10	27	50.0	298	41.1		55.4	2	08.5		44.4	172	23.4		40.6	44	17.4			46.4	Fomalhaut	15	39.8	S29	38.9	
	E	11	42	52.5	313	40.3		55.5	17	09.2		45.1	187	26.1		40.5	59	19.7			46.4						
	R	12	57	55.0	328	39.4	N24	55.6	32	09.8	N	9	45.8	202	28.8	S12	40.4	74	22.1	S	8	46.3	Gacrux	172	16.5	S57	05.2
N	13	72	57.4	343	38.6		55.6	47	10.5		46.5	217	31.6		40.4	89	24.4			46.3	Gienah	176	06.8	S17	30.9		
E	14	87	59.9	358	37.8		55.7	62	11.2		47.2	232	34.3		40.3	104	26.7			46.2	Hadar	149	07.6	S60	21.0		
S	15	103	02.3	13	36.9	·	55.8	77	11.9	·	47.9	247	37.0	·	40.2	119	29.1	·		46.2	Hamal	328	17.2	N23	26.1		
	16	118	04.8	28	36.1		55.9	92	12.6		48.6	262	39.8		40.1	134	31.4			46.2	Kaus Aust.	84	02.4	S34	23.1		
	17	133	07.3	43	35.2		56.0	107	13.3		49.3	277	42.5		40.0	149	33.7			46.1							
	18	148	09.7	58	34.4	N24	56.1	122	14.0	N	9	50.0	292	45.2	S12	39.9	164	36.1	S	8	46.1	Kochab	137	18.3	N74	10.8	
	19	163	12.2	73	33.5		56.2	137	14.6		50.7	307	48.0		39.9	179	38.4			46.0	Markab	13	52.7	N15	10.5		
	20	178	14.7	88	32.7		56.3	152	15.3		51.4	322	50.7		39.8	194	40.7			46.0	Menkar	314	30.3	N	4	04.0	
	21	193	17.1	103	31.8	·	56.4	167	16.0	·	52.1	337	53.4	·	39.7	209	43.1	·		45.9	Menkent	148	24.1	S36	20.7		
	22	208	19.6	118	31.0		56.5	182	16.7		52.8	352	56.2		39.6	224	45.4			45.9	Miaplacidus	221	42.8	S69	42.1		
	23	223	22.1	133	30.2		56.5	197	17.4		53.4	7	58.9		39.5	239	47.8			45.9							
21	00	238	24.5	148	29.3	N24	56.6	212	18.1	N	9	54.1	23	01.6	S12	39.4	254	50.1	S	8	45.8	Mirfak	309	01.4	N49	50.4	
	01	253	27.0	163	28.5		56.7	227	18.8		54.8	38	04.4		39.4	269	52.4			45.8	Nunki	76	15.7	S26	18.1		
	02	268	29.4	178	27.6		56.8	242	19.4		55.5	53	07.1		39.3	284	54.8			45.7	Peacock	53	41.4	S56	44.9		
	03	283	31.9	193	26.8	·	56.9	257	20.1	·	56.2	68	09.8	·	39.2	299	57.1	·		45.7	Pollux	243	45.4	N28	02.4		
	04	298	34.4	208	25.9		57.0	272	20.8		56.9	83	12.6		39.1	314	59.4			45.7	Procyon	245	14.9	N	5	14.2	
	05	31																									

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna						
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	19	20	21	22		
d h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	°	h m	h m	h m	h m	h m	h m	h m			
19	00	180 54.0	N19 40.1	82 44.0	11.3	N 5 17.1	11.7	58.2	N 72	□	□	□	12 21	14 20	16 26	18 43	
	01	195 54.0	40.7	97 14.3	11.2	5 05.4	11.8	58.3	N 70	□	□	□	12 24	14 16	16 13	18 17	
	02	210 53.9	41.2	111 44.5	11.2	4 53.6	11.8	58.3	68	///	///	01 18	12 28	14 13	16 03	17 58	
	03	225 53.9	41.8	126 14.7	11.2	4 41.8	11.9	58.3	66	///	///	02 03	12 30	14 10	15 54	17 42	
	04	240 53.9	42.3	140 44.9	11.2	4 29.9	11.9	58.4	64	///	00 19	02 32	12 32	14 08	15 47	17 29	
	05	255 53.8	42.8	155 15.1	11.2	4 18.0	11.9	58.4	62	///	01 30	02 54	12 34	14 06	15 41	17 19	
	06	270 53.8	N19 43.4	169 45.3	11.1	N 4 06.1	12.0	58.4	60	///	02 04	03 12	12 36	14 04	15 36	17 10	
	07	285 53.8	43.9	184 15.4	11.2	3 54.1	12.0	58.5	N 58	00 17	02 28	03 26	12 38	14 03	15 31	17 02	
	08	300 53.8	44.5	198 45.6	11.0	3 42.1	12.0	58.5	56	01 21	02 47	03 39	12 39	14 02	15 27	16 55	
	J U E V E S	09	315 53.7	45.0	213 15.6	11.1	3 30.1	12.1	58.5	54	01 53	03 03	03 50	12 40	14 00	15 24	16 49
		10	330 53.7	45.5	227 45.7	11.1	3 18.0	12.1	58.6	52	02 15	03 16	03 59	12 41	13 59	15 20	16 43
		11	345 53.7	46.1	242 15.8	11.0	3 05.9	12.1	58.6	50	02 33	03 28	04 08	12 42	13 58	15 17	16 38
		12	0 53.6	N19 46.6	256 45.8	11.0	N 2 53.8	12.1	58.6	45	03 07	03 51	04 26	12 44	13 56	15 11	16 27
		13	15 53.6	47.1	271 15.8	10.9	2 41.7	12.2	58.7	N 40	03 31	04 10	04 41	12 46	13 55	15 06	16 19
		14	30 53.6	47.7	285 45.7	11.0	2 29.5	12.2	58.7	35	03 50	04 25	04 53	12 48	13 53	15 01	16 11
		15	45 53.5	48.2	300 15.7	10.9	2 17.3	12.3	58.7	30	04 06	04 38	05 04	12 49	13 52	14 57	16 04
		16	60 53.5	48.7	314 45.6	10.8	2 05.0	12.2	58.8	20	04 30	04 58	05 22	12 51	13 50	14 50	15 53
		17	75 53.5	49.3	329 15.4	10.9	1 52.8	12.3	58.8	N 10	04 49	05 16	05 38	12 53	13 48	14 44	15 43
		18	90 53.5	N19 49.8	343 45.3	10.8	N 1 40.5	12.4	58.8	0	05 05	05 31	05 53	12 55	13 46	14 38	15 34
		19	105 53.4	50.3	358 15.1	10.8	1 28.1	12.3	58.9	S 10	05 19	05 45	06 08	12 57	13 44	14 33	15 24
	20	120 53.4	50.9	12 44.9	10.7	1 15.8	12.4	58.9	20	05 33	06 00	06 23	12 59	13 42	14 27	15 15	
	21	135 53.4	51.4	27 14.6	10.7	1 03.4	12.3	58.9	30	05 46	06 15	06 41	13 02	13 40	14 20	15 04	
	22	150 53.3	51.9	41 44.3	10.7	0 51.1	12.4	59.0	35	05 53	06 24	06 51	13 03	13 39	14 17	14 57	
23	165 53.3	52.5	56 14.0	10.6	0 38.7	12.5	59.0	40	06 00	06 33	07 03	13 05	13 38	14 12	14 50		
20	00	180 53.3	N19 53.0	70 43.6	10.6	N 0 26.2	12.4	59.0	45	06 08	06 44	07 16	13 07	13 36	14 07	14 42	
01	195 53.2	53.5	85 13.2	10.6	0 13.8	12.4	59.1	S 50	06 17	06 57	07 33	13 09	13 34	14 02	14 32		
02	210 53.2	54.0	99 42.8	10.5	N 0 01.4	12.5	59.1	52	06 21	07 02	07 41	13 10	13 34	13 59	14 28		
03	225 53.2	54.6	114 12.3	10.5	S 0 11.1	12.5	59.1	54	06 25	07 09	07 49	13 11	13 33	13 56	14 23		
04	240 53.1	55.1	128 41.8	10.5	0 23.6	12.5	59.2	56	06 29	07 16	07 59	13 12	13 32	13 53	14 17		
05	255 53.1	55.6	143 11.3	10.4	0 36.1	12.5	59.2	58	06 34	07 24	08 10	13 13	13 31	13 49	14 11		
06	270 53.1	N19 56.1	157 40.7	10.3	S 0 48.6	12.5	59.2	S 60	06 39	07 32	08 23	13 15	13 29	13 45	14 04		
07	285 53.0	56.7	172 10.0	10.4	1 01.1	12.5	59.3	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna					
08	300 53.0	57.2	186 39.4	10.2	1 13.6	12.5	59.3	19	06 43	07 36	08 27	13 16	13 30	13 45	14 00		
Y I E R N E S	09	315 53.0	57.7	201 08.6	10.3	1 26.1	12.6	59.3	N 72	□	□	□	01 33	01 20	01 07	00 52	
	10	330 52.9	58.2	215 37.9	10.2	1 38.7	12.5	59.4	N 70	□	□	□	01 26	01 20	01 14	01 07	
	11	345 52.9	58.8	230 07.1	10.1	1 51.2	12.6	59.4	68	22 41	///	///	01 20	01 20	01 19	01 19	
	12	0 52.9	N19 59.3	244 36.2	10.1	S 2 03.8	12.5	59.4	66	21 53	///	///	01 16	01 20	01 24	01 29	
	13	15 52.8	19 59.8	259 05.3	10.0	2 16.3	12.6	59.5	64	21 23	///	///	01 12	01 20	01 28	01 37	
	14	30 52.8	20 00.3	273 34.3	10.0	2 28.9	12.5	59.5	62	21 01	22 27	///	01 08	01 20	01 31	01 45	
	15	45 52.8	20 00.8	288 03.3	10.0	2 41.4	12.6	59.5	60	20 43	21 52	///	01 05	01 20	01 34	01 51	
	16	60 52.7	01.3	302 32.3	9.9	2 54.0	12.5	59.6	N 58	20 28	21 27	///	01 03	01 20	01 37	01 57	
	17	75 52.7	01.9	317 01.2	9.8	3 06.5	12.5	59.6	56	20 15	21 08	22 35	01 00	01 20	01 40	02 02	
	18	90 52.6	N20 02.4	331 30.0	9.8	S 3 19.0	12.6	59.6	54	20 04	20 52	22 03	00 58	01 20	01 42	02 06	
	19	105 52.6	02.9	345 58.8	9.8	3 31.6	12.5	59.7	52	19 54	20 38	21 40	00 56	01 20	01 44	02 10	
	20	120 52.6	03.4	0 27.6	9.7	3 44.1	12.5	59.7	50	19 46	20 26	21 21	00 54	01 20	01 46	02 14	
	21	135 52.5	03.9	14 56.3	9.6	3 56.6	12.5	59.7	45	19 28	20 02	20 47	00 51	01 20	01 50	02 22	
	22	150 52.5	04.4	29 24.9	9.6	4 09.1	12.5	59.8	N 40	19 13	19 44	20 23	00 47	01 20	01 53	02 29	
	23	165 52.5	05.0	43 53.5	9.5	4 21.6	12.5	59.8	35	19 00	19 29	20 03	00 44	01 19	01 56	02 35	
21	00	180 52.4	N20 05.5	58 22.0	9.5	S 4 34.1	12.5	59.8	30	18 49	19 16	19 48	00 42	01 19	01 58	02 40	
	01	195 52.4	06.0	72 50.5	9.4	4 46.6	12.5	59.8	20	18 31	18 55	19 23	00 37	01 19	02 03	02 49	
	02	210 52.4	06.5	87 18.9	9.4	4 59.1	12.4	59.9	N 10	18 15	18 37	19 04	00 33	01 19	02 07	02 57	
	03	225 52.3	07.0	101 47.3	9.3	5 11.5	12.5	59.9	0	18 00	18 22	18 48	00 29	01 19	02 10	03 04	
	04	240 52.3	07.5	116 15.6	9.2	5 24.0	12.4	59.9	S 10	17 45	18 08	18 33	00 26	01 19	02 14	03 12	
	05	255 52.2	08.0	130 43.8	9.2	5 36.4	12.4	60.0	20	17 30	17 53	18 20	00 22	01 19	02 18	03 20	
	06	270 52.2	N20 08.5	145 12.0	9.1	S 5 48.8	12.3	60.0	30	17 12	17 38	18 07	00 17	01 19	02 23	03 29	
	07	285 52.2	09.1	159 40.1	9.1	6 01.1	12.4	60.0	35	17 02	17 29	18 00	00 14	01 19	02 25	03 34	
	08	300 52.1	09.6	174 08.2	8.9	6 13.5	12.3	60.1	40	16 50	17 19	17 53	00 11	01 18	02 28	03 40	
	S A B	09	315 52.1	10.1	188 36.1	9.0	6 25.8	12.3	60.1	45	16 36	17 09	17 45	00 07	01 18	02 31	03 47
		10	330 52.0	10.6	203 04.1	8.9	6 38.1	12.3	60.1	S 50	16 20	16 56	17 36	00 03	01 18	02 35	03 55
		11	345 52.0	11.1	217 32.0	8.8	6 50.4	12.2	60.1	52	16 12	16 50	17 32	00 01	01 18	02 37	03 59
		12	0 52.0	N20 11.6	231 59.8	8.7	S 7 02.6	12.2	60.2	54	16 03	16 44	17 28	25 18	01 18	02 39	04 03
		13	15 51.9	12.1	246 27.5	8.7	7 14.8	12.2	60.2	56	15 53	16 37	17 23	25 18	01 18	02 42	04 08
		14	30 51.9	12.6	260 55.2	8.6	7 27.0	12.1	60.2	58	15 42	16 29	17 18	25 17	01 17	02 44	04 13
15		45 51.8	13.1	275 22.8	8.5	7 39.1	12.1	60.2	S 60	15 29	16 20	17 13	25 17	01 17	02 47	04 20	
16		60 51.8	13.6	289 50.3	8.5	7 51.2	12.1	60.3	Día	SOL		LUNA					
17		75 51.8	14.1	304 17.8	8.4	8 03.3	12.0	60.3	19	E.T. (+)	Pas. Mer.	Pas. Mer.	Sup.	Inf.	Edad.	Fase	
18		90 51.7	N20 14.6	318 45.2	8.4	S 8 15.3	12.0	60.3	20	00 h	12 h	h m	h m	h m			

T.M.G. (TU)	ARIES			VENUS -4.0			MARTE +1.2			JUPITER -2.4			SATURNO +1.0			ESTRELLAS		
	d	h	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.		
DOMINGO	22	00	239 23.7	148 09.1	N24 58.3	212 34.5	N10 10.7	24 07.2	S12 37.5	255 46.2	S 8 44.8	270 48.6	44.8	Acamar	315 29.6	S40 19.6		
	01	01	254 26.1	163 08.2	58.3	227 35.2	11.4	39 09.9	37.4	270 48.6	44.8	285 50.9	44.8	Achernar	335 37.9	S57 15.7		
	02	02	269 28.6	178 07.4	58.4	242 35.9	12.1	54 12.6	37.3	285 50.9	44.8	300 53.2	44.7	Acrux	173 24.9	S63 04.4		
	03	03	284 31.1	193 06.5	58.4	257 36.6	12.7	69 15.4	37.2	300 53.2	44.7	315 55.6	44.7	Adhara	255 24.0	S28 58.1		
	04	04	299 33.5	208 05.7	58.5	272 37.2	13.4	84 18.1	37.2	315 55.6	44.7	330 57.9	44.6	Aldebaran	291 06.1	N16 29.8		
	05	05	314 36.0	223 04.8	58.5	287 37.9	14.1	99 20.8	37.1	330 57.9	44.6	346 00.3	S 8 44.6	Alioth	166 32.8	N55 59.5		
	06	06	329 38.4	238 04.0	N24 58.6	302 38.6	N10 14.8	114 23.5	S12 37.0	346 00.3	S 8 44.6	1 02.6	44.6	Alkaid	153 09.7	N49 20.5		
	07	07	344 40.9	253 03.2	58.6	317 39.3	15.5	129 26.3	36.9	1 02.6	44.6	16 04.9	44.5	Al Na'ir	28 01.6	S46 59.0		
	08	08	359 43.4	268 02.3	58.6	332 40.0	16.2	144 29.0	36.8	16 04.9	44.5	31 07.3	44.5	Alnilam	276 01.2	S 1 12.5		
	09	09	14 45.8	283 01.5	58.7	347 40.7	16.9	159 31.7	36.8	31 07.3	44.5	46 09.6	44.4	Alphard	218 10.2	S 8 38.3		
	10	10	29 48.3	298 00.6	58.7	2 41.3	17.5	174 34.5	36.7	46 09.6	44.4	76 14.3	S 8 44.4	Alphecca	126 22.7	N26 44.0		
	11	11	44 50.8	312 59.8	58.8	17 42.0	18.2	189 37.2	36.6	76 14.3	S 8 44.4	91 16.7	44.3	Alpheratz	357 58.5	N29 03.5		
	12	12	59 53.2	327 58.9	N24 58.8	32 42.7	N10 18.9	204 39.9	S12 36.5	91 16.7	44.3	106 19.0	44.3	Altair	62 22.0	N 8 51.2		
	13	13	74 55.7	342 58.1	58.8	47 43.4	19.6	219 42.6	36.4	106 19.0	44.3	121 21.3	44.2	Ankaa	353 30.0	S42 20.0		
	14	14	89 58.2	357 57.3	58.9	62 44.1	20.3	234 45.4	36.4	121 21.3	44.2	136 23.7	44.2	Antares	112 43.4	S26 25.2		
	15	15	105 00.6	12 56.4	58.9	77 44.8	21.0	249 48.1	36.3	136 23.7	44.2	151 26.0	44.2	Arcturus	146 08.5	N19 12.7		
	16	16	120 03.1	27 55.6	59.0	92 45.4	21.6	264 50.8	36.2	151 26.0	44.2	166 28.4	S 8 44.1	Atria	107 57.6	S69 01.0		
	17	17	135 05.5	42 54.7	59.0	107 46.1	22.3	279 53.5	36.1	166 28.4	S 8 44.1	181 30.7	44.1	Avior	234 24.1	S59 29.9		
	18	18	150 08.0	57 53.9	N24 59.0	122 46.8	N10 23.0	294 56.3	S12 36.0	181 30.7	44.1	196 33.1	44.0	Bellatrix	278 47.7	N 6 20.6		
	19	19	165 10.5	72 53.0	59.0	137 47.5	23.7	309 59.0	36.0	196 33.1	44.0	211 35.4	44.0	Betelgeuse	271 17.1	N 7 24.2		
	20	20	180 12.9	87 52.2	59.1	152 48.2	24.4	325 01.7	35.9	211 35.4	44.0	226 37.7	44.0	Canopus	264 02.9	S52 41.8		
	21	21	195 15.4	102 51.4	59.1	167 48.9	25.1	340 04.4	35.8	226 37.7	44.0	241 40.1	43.9	Capella	280 56.0	N45 59.5		
	22	22	210 17.9	117 50.5	59.1	182 49.5	25.7	355 07.2	35.7	241 40.1	43.9	256 42.4	S 8 43.9	Deneb	49 41.0	N45 15.5		
23	23	225 20.3	132 49.7	59.2	197 50.2	26.4	10 09.9	35.6	256 42.4	S 8 43.9	271 44.8	43.8	Denebola	182 48.1	N14 36.1			
LUNES	23	00	240 22.8	147 48.8	N24 59.2	212 50.9	N10 27.1	25 12.6	S12 35.6	271 44.8	43.8	286 47.1	43.8	Diphda	349 10.4	S18 01.0		
	01	01	255 25.3	162 48.0	59.2	227 51.6	27.8	40 15.3	35.5	286 47.1	43.8	301 49.5	43.8	Dubhe	194 09.0	N61 47.0		
	02	02	270 27.7	177 47.2	59.2	242 52.3	28.5	55 18.1	35.4	301 49.5	43.8	316 51.8	43.7	Elnath	278 31.1	N28 36.1		
	03	03	285 30.2	192 46.3	59.2	257 53.0	29.2	70 20.8	35.3	316 51.8	43.7	331 54.2	43.7	Eltanin	90 52.3	N51 29.3		
	04	04	300 32.7	207 45.5	59.3	272 53.6	29.8	85 23.5	35.2	331 54.2	43.7	346 56.5	S 8 43.6	Enif	34 01.1	N 9 51.0		
	05	05	315 35.1	222 44.6	59.3	287 54.3	30.5	100 26.2	35.2	346 56.5	S 8 43.6	1 58.8	43.6	Fomalhaut	15 39.8	S29 38.9		
	06	06	330 37.6	237 43.8	N24 59.3	302 55.0	N10 31.2	115 29.0	S12 35.1	1 58.8	43.6	17 01.2	43.6	Gacrux	172 16.5	S57 05.2		
	07	07	345 40.0	252 42.9	59.3	317 55.7	31.9	130 31.7	35.0	17 01.2	43.6	32 03.5	43.5	Gienah	176 06.8	S17 30.9		
	08	08	0 42.5	267 42.1	59.3	332 56.4	32.6	145 34.4	34.9	32 03.5	43.5	37 05.9	43.5	Hadar	149 07.6	S60 21.0		
	09	09	15 45.0	282 41.3	59.3	347 57.1	33.2	160 37.1	34.8	37 05.9	43.5	42 12.7	43.3	Hamal	328 17.2	N23 26.1		
	10	10	30 47.4	297 40.4	59.3	2 57.7	33.9	175 39.8	34.8	42 12.7	43.3	47 05.9	43.5	Kaus Aust.	84 02.4	S34 23.1		
11	11	45 49.9	312 39.6	59.4	17 58.4	34.6	190 42.6	34.7	47 05.9	43.5	62 08.2	43.5	Kochab	137 18.4	N74 10.8			
MARTES	12	12	60 52.4	327 38.7	N24 59.4	32 59.1	N10 35.3	205 45.3	S12 34.6	62 08.2	43.5	77 10.6	S 8 43.4	Markab	13 52.6	N15 10.5		
	13	13	75 54.8	342 37.9	59.4	47 59.8	36.0	220 48.0	34.5	77 10.6	S 8 43.4	92 12.9	43.4	Menkar	314 30.3	N 4 04.0		
	14	14	90 57.3	357 37.1	59.4	63 00.5	36.6	235 50.7	34.5	92 12.9	43.4	107 15.3	43.3	Menkent	148 24.1	S36 20.7		
	15	15	105 59.8	12 36.2	59.4	78 01.2	37.3	250 53.5	34.4	107 15.3	43.3	122 17.6	43.3	Miaplacidus	221 42.9	S69 42.1		
	16	16	121 02.2	27 35.4	59.4	93 01.8	38.0	265 56.2	34.3	122 17.6	43.3	137 20.0	43.3	Mirfak	309 01.4	N49 50.4		
	17	17	136 04.7	42 34.5	59.4	108 02.5	38.7	280 58.9	34.2	137 20.0	43.3	152 22.3	43.2	Nunki	76 15.7	S26 18.1		
	18	18	151 07.2	57 33.7	N24 59.4	123 03.2	N10 39.4	296 01.6	S12 34.1	152 22.3	43.2	167 24.6	S 8 43.2	Peacock	53 41.4	S56 44.9		
	19	19	166 09.6	72 32.9	59.4	138 03.9	40.0	311 04.3	34.1	167 24.6	S 8 43.2	182 27.0	43.1	Pollux	243 45.4	N28 02.3		
	20	20	181 12.1	87 32.0	59.4	153 04.6	40.7	326 07.1	34.0	182 27.0	43.1	197 29.3	43.1	Procyon	245 14.9	N 5 14.2		
	21	21	196 14.5	102 31.2	59.4	168 05.3	41.4	341 09.8	33.9	197 29.3	43.1	212 31.7	43.1	Rasalhague	96 19.4	N12 33.8		
	22	22	211 17.0	117 30.3	59.4	183 05.9	42.1	356 12.5	33.8	212 31.7	43.1	227 34.0	43.0	Regulus	207 58.7	N11 59.6		
23	23	226 19.5	132 29.5	59.4	198 06.6	42.8	11 15.2	33.7	227 34.0	43.0	242 36.4	43.0	Rigel	281 26.1	S 8 12.6			
VIERNES	24	00	241 21.9	147 28.7	N24 59.4	213 07.3	N10 43.4	26 17.9	S12 33.7	242 36.4	43.0	257 38.7	S 8 43.0	Rigil Kent.	140 10.6	S60 48.9		
	01	01	256 24.4	162 27.8	59.4	228 08.0	44.1	41 20.7	33.6	257 38.7	S 8 43.0	272 41.1	42.9	Sabik	102 28.6	S15 43.1		
	02	02	271 26.9	177 27.0	59.4	243 08.7	44.8	56 23.4	33.5	272 41.1	42.9	287 43.4	42.9	Schedar	349 57.2	N56 30.2		
	03	03	286 29.3	192 26.2	59.4	258 09.3	45.5	71 26.1	33.4	287 43.4	42.9	302 45.8	42.8	Shaula	96 40.9	S37 05.9		
	04	04	301 31.8	207 25.3	59.3	273 10.0	46.1	86 28.8	33.4	302 45.8	42.8	317 48.1	42.8	Sirius	258 46.6	S16 42.7		
	05	05	316 34.3	222 24.5	59.3	288 10.7	46.8	101 31.5	33.3	317 48.1	42.8	332 50.5	42.8	Spica	158 46.1	S11 08.1		
	06	06	331 36.7	237 23.6	N24 59.3	303 11.4	N10 47.5	116 34.3	S12 33.2	332 50.5	42.8	347 52.8	S 8 42.7	Suhail	223 03.1	S43 25.0		
	07	07	346 39.2	252 22.8	59.3	318 12.1	48.2	131 37.0	33.1	347 52.8	S 8 42.7	2 55.2	42.7	Vega	80 48.3	N38 46.6		
	08	08	1 41.6	267 22.0	59.3	333 12.8	48.8	146 39.7	33.1	2 55.2	42.7	17 57.5	42.7	Zuben'ubi	137 20.9	S16 01.2		
	09	09	16 44.1	282 21.1	59.3	348 13.4	49.5	161 42.4	33.0	17 57.5	42.7	32 59.9	42.6	A.H.S.		Pas. Mer.		
	10	10	31 46.6	297 20.3	59.3	3 14.1	50.2	176 45.1	32.9	32 59.9	42.6	48 02.2	42.6	o	h	m		
11	11	46 49.0	312 19.4	59.2	18 14.8	50.9	191 47.8	32.8	48 02.2	42.6	63 04.6	42.5	/					
SABADO	12	12	61 51.5	327 18.6	N24 59.2	33 15.5	N10 51.5	206 50.6	S12 32.7	63 04.6	42.5	78 06.9	S 8 42.5	Venus	267 26.0	14 10		
	13	13	76 54.0	342 17.8	59.2	48 16.2	52.2	221 53.3	32.7	78 06.9	S 8 42.5	93 09.3	42.5	Marte	332 28.1	9 48		
	14	14	91 56.4	357 16.9														

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.		Dec.		A.H.G.		Dec.			Náut.			Civil		22	23	24	25			
a h	°	'	°	'	°	'	°	'	°	'	h m	h m	h m	h m	h m	h m	h m				
22 D O M I N G O	00	180	51.5	N20	17.6	45	28.3	7.9	S	9	26.6	11.7	60.5	N 72	□	□	□	18 43	21 35	■	■
	01	195	51.4		18.1	59	55.2	7.8		9	38.3	11.7	60.5	N 70	□	□	□	18 17	20 32	23 21	■
	02	210	51.4		18.6	74	22.0	7.8		9	50.0	11.6	60.5	68	///	///	00 56	17 58	19 57	21 55	23 30
	03	225	51.3	..	19.1	68	48.8	7.7	10	01.6	11.6	60.5	66	///	///	01 51	17 42	19 32	21 16	22 41	
	04	240	51.3		19.6	103	15.5	7.7	10	13.2	11.5	60.6	64	///	///	02 23	17 29	19 13	20 50	22 09	
	05	255	51.2		20.1	117	42.2	7.6	10	24.7	11.4	60.6	62	///	01 16	02 47	17 19	18 57	20 29	21 46	
	06	270	51.2	N20	20.6	132	08.8	7.5	S10	36.1	11.4	60.6	60	///	01 54	03 06	17 10	18 44	20 12	21 27	
	07	285	51.1		21.1	146	35.3	7.4	10	47.5	11.4	60.6	N 58	///	02 21	03 21	17 02	18 32	19 58	21 12	
	08	300	51.1		21.6	161	01.7	7.3	10	58.9	11.2	60.6	56	01 09	02 41	03 34	16 55	18 23	19 46	20 58	
	09	315	51.1	..	22.1	175	28.0	7.3	11	10.1	11.2	60.7	54	01 44	02 57	03 45	16 49	18 14	19 35	20 47	
	10	330	51.0		22.6	189	54.3	7.2	11	21.3	11.2	60.7	52	02 08	03 11	03 56	16 43	18 06	19 26	20 37	
	11	345	51.0		23.1	204	20.5	7.2	11	32.5	11.0	60.7	50	02 27	03 23	04 04	16 38	17 59	19 17	20 28	
	12	0	50.9	N20	23.6	218	46.7	7.0	S11	43.5	11.0	60.7	45	03 03	03 48	04 23	16 27	17 45	18 59	20 08	
	13	15	50.9		24.1	233	12.7	7.0	11	54.5	11.0	60.7	N 40	03 28	04 07	04 38	16 19	17 32	18 45	19 53	
	14	30	50.8		24.6	247	38.7	6.9	12	05.5	10.8	60.8	35	03 48	04 23	04 51	16 11	17 22	18 33	19 40	
	15	45	50.8	..	25.1	262	04.6	6.9	12	16.3	10.8	60.8	30	04 04	04 36	05 02	16 04	17 13	18 22	19 28	
	16	60	50.7		25.5	276	30.5	6.7	12	27.1	10.7	60.8	20	04 29	04 58	05 21	15 53	16 58	18 04	19 09	
	17	75	50.7		26.0	290	56.2	6.7	12	37.8	10.7	60.8	N 10	04 49	05 15	05 38	15 43	16 45	17 48	18 51	
	18	90	50.6	N20	26.5	305	21.9	6.6	S12	48.5	10.5	60.8	0	05 05	05 31	05 53	15 34	16 32	17 33	18 36	
	19	105	50.6		27.0	319	47.5	6.6	12	59.0	10.5	60.8	S 10	05 20	05 46	06 08	15 24	16 20	17 18	18 20	
	20	120	50.5		27.5	334	13.1	6.4	13	09.5	10.4	60.9	20	05 34	06 01	06 24	15 15	16 07	17 03	18 03	
	21	135	50.5	..	28.0	348	38.5	6.4	13	19.9	10.3	60.9	30	05 47	06 17	06 42	15 04	15 52	16 45	17 43	
	22	150	50.4		28.5	3	03.9	6.4	13	30.2	10.2	60.9	35	05 55	06 26	06 53	14 57	15 43	16 35	17 32	
23	165	50.4		29.0	17	29.3	6.2	13	40.4	10.1	60.9	40	06 02	06 36	07 05	14 50	15 33	16 23	17 19		
23	00	180	50.3	N20	29.4	31	54.5	6.2	S13	50.5	10.1	60.9	45	06 11	06 47	07 19	14 42	15 22	16 09	17 04	
01	195	50.3		29.9	46	19.7	6.1	14	00.6	9.9	60.9	S 50	06 20	07 00	07 37	14 32	15 08	15 52	16 45		
02	210	50.3		30.4	60	44.8	6.0	14	10.5	9.9	60.9	52	06 24	07 06	07 45	14 28	15 02	15 44	16 36		
03	225	50.2	..	30.9	75	09.8	6.0	14	20.4	9.8	61.0	54	06 28	07 13	07 54	14 23	14 55	15 35	16 26		
04	240	50.2		31.4	89	34.8	5.9	14	30.2	9.7	61.0	56	06 33	07 20	08 04	14 17	14 47	15 25	16 15		
05	255	50.1		31.9	103	59.7	5.8	14	39.9	9.5	61.0	58	06 38	07 28	08 16	14 11	14 38	15 14	16 03		
06	270	50.1	N20	32.3	118	24.5	5.7	S14	49.4	9.5	61.0	S 60	06 44	07 38	08 30	14 04	14 28	15 01	15 48		
07	285	50.0		32.8	132	49.2	5.7	14	58.9	9.4	61.0	Lat.	Ocaso Sol	Crepúsculo Civil	Ocaso Luna	22	23	24	25		
08	300	50.0		33.3	147	13.9	5.6	15	08.3	9.3	61.0	h m	h m	h m	h m	h m	h m	h m	h m		
09	315	49.9	..	33.8	161	38.5	5.5	15	17.6	9.2	61.0	N 72	□	□	□	00 52	{ ₂₃ ³¹	■	■		
10	330	49.9		34.3	176	03.0	5.5	15	26.8	9.0	61.0	N 70	□	□	□	01 07	00 59	00 47	00 07		
11	345	49.8		34.7	190	27.5	5.4	15	35.8	9.0	61.0	68	23 06	///	///	01 19	01 20	01 23	01 34		
12	0	49.8	N20	35.2	204	51.9	5.3	S15	44.8	8.8	61.1	66	22 06	///	///	01 29	01 36	01 49	02 13		
13	15	49.7		35.7	219	16.2	5.3	15	53.6	8.8	61.1	64	21 33	///	///	01 37	01 50	02 09	02 40		
14	30	49.6		36.2	233	40.5	5.2	16	02.4	8.6	61.1	62	21 08	22 42	///	01 45	02 02	02 26	03 02		
15	45	49.6	..	36.6	248	04.7	5.1	16	11.0	8.6	61.1	60	20 49	22 02	///	01 51	02 12	02 40	03 19		
16	60	49.5		37.1	262	28.8	5.1	16	19.6	8.4	61.1	N 58	20 34	21 35	///	01 57	02 21	02 51	03 33		
17	75	49.5		37.6	276	52.9	5.0	16	28.0	8.3	61.1	56	20 20	21 14	22 49	02 02	02 28	03 02	03 46		
18	90	49.4	N20	38.1	291	16.9	5.0	S16	36.3	8.2	61.1	54	20 09	20 57	22 12	02 06	02 35	03 11	03 56		
19	105	49.4		38.5	305	40.9	4.8	16	44.5	8.0	61.1	52	19 59	20 43	21 47	02 10	02 41	03 19	04 06		
20	120	49.3		39.0	320	04.7	4.9	16	52.5	8.0	61.1	50	19 50	20 31	21 27	02 14	02 47	03 26	04 15		
21	135	49.3	..	39.5	334	28.6	4.7	17	00.5	7.8	61.1	45	19 31	20 06	20 52	02 22	02 59	03 42	04 33		
22	150	49.2		40.0	348	52.3	4.7	17	08.3	7.7	61.1	N 40	19 15	19 47	20 26	02 29	03 09	03 55	04 48		
23	165	49.2		40.4	3	16.0	4.7	17	16.0	7.6	61.1	35	19 02	19 31	20 06	02 35	03 18	04 06	05 01		
24	00	180	49.1	N20	40.9	17	39.7	4.6	S17	23.6	7.4	61.1	30	18 51	19 18	19 50	02 40	03 25	04 16	05 12	
01	195	49.1		41.4	32	03.3	4.5	17	31.0	7.4	61.1	20	18 32	18 56	19 24	02 49	03 39	04 33	05 31		
02	210	49.0		41.8	46	26.8	4.5	17	38.4	7.2	61.1	N 10	18 16	18 38	19 05	02 57	03 50	04 47	05 47		
03	225	49.0	..	42.3	60	50.3	4.4	17	45.6	7.0	61.1	0	18 00	18 22	18 48	03 04	04 01	05 01	06 03		
04	240	48.9		42.8	75	13.7	4.4	17	52.6	7.0	61.1	S 10	17 45	18 07	18 33	03 12	04 12	05 15	06 18		
05	255	48.8		43.2	89	37.1	4.3	17	59.6	6.8	61.1	20	17 29	17 53	18 20	03 20	04 24	05 29	06 35		
06	270	48.8	N20	43.7	104	00.4	4.3	S18	06.4	6.7	61.1	30	17 11	17 36	18 06	03 29	04 37	05 46	06 54		
07	285	48.7		44.2	118	23.7	4.2	18	13.1	6.5	61.1	35	17 00	17 27	17 58	03 34	04 45	05 56	07 05		
08	300	48.7		44.6	132	46.9	4.2	18	19.6	6.5	61.1	40	16 48	17 18	17 51	03 40	04 53	06 07	07 18		
09	315	48.6	..	45.1	147	10.1	4.1	18	26.1	6.2	61.1	45	16 34	17 06	17 42	03 47	05 04	06 20	07 33		
10	330	48.6		45.6	161	33.2	4.1	18	32.3	6.2	61.1	S 50	16 16	16 53	17 33	03 55	05 16	06 36	07 51		
11	345	48.5		46.0	175	56.3	4.1	18	38.5	6.0	61.1	52	16 08	16 47	17 29	03 59	05 22	06 44	08 00		
12	0																				

T.M.G. (T.U.)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna												
	A.H.G.		Dec.		A.H.G.		Dec.			d	P.H.		Naut.	Civil	25		26		27		28				
	°	'	°	'	°	'	°	'							h	m	h	m	h	m	h	m	h	m	h
M I E R C O L E S	25 00	180	47.8	N20	52.0	2	53.2	3.7	S19	45.5	4.2	61.0	N 72	□	□	□	■	■	■	■					
	01	195	47.7		52.5	17	15.9	3.6	19	49.7	3.9	61.0	N 70	□	□	□	■	■	■	■	01	12			
	02	210	47.6		52.9	31	38.5	3.6	19	53.6	3.9	61.0	68	///	///	00	22	23	30	24	15	00	15	00	29
	03	225	47.6	..	53.4	46	01.1	3.6	19	57.5	3.7	61.0	66	///	///	01	39	22	41	23	33	24	00	00	00
	04	240	47.5		53.8	60	23.7	3.6	20	01.2	3.5	60.9	64	///	///	02	15	22	09	23	04	23	38	23	58
	05	255	47.5		54.3	74	46.3	3.6	20	04.7	3.4	60.9	62	///	01 00	02	40	21	46	22	42	23	20	23	44
	06	270	47.4	N20	54.7	89	08.9	3.6	S20	08.1	3.2	60.9	60	///	01 45	03	00	21	27	22	25	23	05	23	33
	07	285	47.3		55.2	103	31.5	3.5	20	11.3	3.1	60.9	N 58	///	02 13	03	16	21	12	22	10	22	52	23	23
	08	300	47.3		55.6	117	54.0	3.6	20	14.4	3.0	60.9	56	00 54	02 35	03	30	20	58	21	57	22	41	22	41
	09	315	47.2	..	56.1	132	16.6	3.5	20	17.4	2.8	60.9	54	01 35	02 52	03	42	20	47	21	46	22	32	23	07
	10	330	47.2		56.5	146	39.1	3.6	20	20.2	2.6	60.9	52	02 02	03 07	03	52	20	37	21	36	22	23	23	00
	11	345	47.1		57.0	161	01.7	3.5	20	22.8	2.5	60.8	50	02 22	03 20	04	01	20	28	21	27	22	15	22	53
	12	0	47.0	N20	57.4	175	24.2	3.6	S20	25.3	2.3	60.8	45	02 59	03 45	04	21	20	08	21	08	21	59	22	40
	13	15	47.0		57.9	189	46.8	3.5	20	27.6	2.2	60.8	N 40	03 25	04 05	04	37	19	53	20	53	21	45	22	29
	14	30	46.9		58.3	204	09.3	3.6	20	29.8	2.0	60.8	35	03 46	04 21	04	50	19	40	20	40	21	33	22	19
	15	45	46.8	..	58.8	218	31.9	3.5	20	31.8	1.9	60.8	30	04 02	04 35	05	01	19	28	20	29	21	23	22	11
	16	60	46.8		59.2	232	54.4	3.6	20	33.7	1.7	60.7	20	04 28	04 57	05	21	19	09	20	10	21	06	21	56
	17	75	46.7	20	59.6	247	17.0	3.6	20	35.4	1.5	60.7	N 10	04 48	05 15	05	38	18	51	19	53	20	51	21	44
	18	90	46.7	N21	00.1	261	39.6	3.6	S20	36.9	1.4	60.7	0	05 05	05 31	05	53	18	36	19	37	20	36	21	32
	19	105	46.6		00.5	276	02.2	3.7	20	38.3	1.3	60.7	S 10	05 21	05 46	06	09	18	20	19	22	20	22	21	20
	20	120	46.5		01.0	290	24.9	3.6	20	39.6	1.1	60.7	20	05 35	06 02	06	25	18	03	19	05	20	07	21	07
	21	135	46.5	..	01.4	304	47.5	3.7	20	40.7	0.9	60.6	30	05 49	06 18	06	44	17	43	18	46	19	49	20	52
	22	150	46.4		01.9	319	10.2	3.7	20	41.6	0.8	60.6	35	05 56	06 28	06	55	17	32	18	34	19	39	20	44
23	165	46.3		02.3	333	32.9	3.7	20	42.4	0.7	60.6	40	06 04	06 38	07	08	17	19	18	21	19	27	20	34	
26 00	180	46.3	N21	02.7	347	55.6	3.7	S20	43.1	0.5	60.6	45	06 13	06 50	07	22	17	04	18	06	19	13	20	22	
01	195	46.2		03.2	2	18.3	3.8	20	43.6	0.3	60.6	S 50	06 23	07 03	07	40	16	45	17	48	18	57	20	08	
02	210	46.1		03.6	16	41.1	3.8	20	43.9	0.2	60.5	52	06 27	07 10	07	49	16	36	17	39	18	49	20	02	
03	225	46.1	..	04.1	31	03.9	3.8	20	44.1	0.0	60.5	54	06 32	07 17	07	58	16	26	17	29	18	40	19	55	
04	240	46.0		04.5	45	26.7	3.9	20	44.1	0.1	60.5	56	06 37	07 24	08	09	16	15	17	18	18	30	19	47	
05	255	46.0		04.9	59	49.6	3.9	20	44.0	0.3	60.5	58	06 42	07 33	08	21	16	03	17	05	18	18	19	37	
06	270	45.9	N21	05.4	74	12.5	3.9	S20	43.7	0.4	60.4	S 60	06 48	07 42	08	35	15	48	16	50	18	05	19	27	
07	285	45.8		05.8	88	35.4	4.0	20	43.3	0.5	60.4	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna									
08	300	45.8		06.2	102	58.4	4.0	20	42.8	0.8	60.4	25	26	27	28										
09	315	45.7	..	06.7	117	21.4	4.1	20	42.0	0.8	60.3	N 72	□	□	□	■	■	■	■						
10	330	45.6		07.1	131	44.5	4.1	20	41.2	1.0	60.3	N 70	□	□	□	00	07	■	■						
11	345	45.6		07.5	146	07.6	4.1	20	40.2	1.2	60.3	68	□	□	□	01	34	02	10	03	33	05	21		
12	0	45.5	N21	08.0	160	30.7	4.2	S20	39.0	1.3	60.3	66	22 19	///	///	02	13	02	59	04	15	05	49		
13	15	45.4		08.4	174	53.9	4.3	20	37.7	1.5	60.2	64	21 42	///	///	02	40	03	31	04	43	06	11		
14	30	45.4		08.8	189	17.2	4.3	20	36.2	1.6	60.2	62	21 16	23 00	///	03	02	03	54	05	05	06	28		
15	45	45.3	..	09.3	203	40.5	4.3	20	34.6	1.7	60.2	60	20 56	22 12	///	03	19	04	13	05	23	06	43		
16	60	45.2		09.7	218	03.8	4.5	20	32.9	1.9	60.2	N 58	20 39	21 42	///	03	33	04	29	05	37	06	55		
17	75	45.2		10.1	232	27.3	4.4	20	31.0	2.0	60.1	56	20 25	21 20	23 05	03	46	04	42	05	50	07	05		
18	90	45.1	N21	10.6	246	50.7	4.6	S20	29.0	2.2	60.1	54	20 13	21 03	22 21	03	56	04	53	06	01	07	15		
19	105	45.0		11.0	261	14.3	4.6	20	26.8	2.3	60.1	52	20 03	20 48	21 54	04	06	05	04	06	10	07	23		
20	120	45.0		11.4	275	37.9	4.6	20	24.5	2.5	60.0	50	19 53	20 35	21 33	04	15	05	13	06	19	07	30		
21	135	44.9	..	11.8	290	01.5	4.7	20	22.0	2.6	60.0	45	19 34	20 09	20 56	04	33	05	32	06	37	07	46		
22	150	44.8		12.3	304	25.2	4.8	20	19.4	2.7	60.0	N 40	19 18	19 50	20 29	04	48	05	48	06	52	07	59		
23	165	44.7		12.7	318	49.0	4.9	20	16.7	2.9	59.9	35	19 05	19 33	20 09	05	01	06	01	07	05	08	10		
27 00	180	44.7	N21	13.1	333	12.9	4.9	S20	13.8	3.0	59.9	30	18 53	19 20	19 52	05	12	06	12	07	16	08	19		
01	195	44.6		13.5	347	36.8	5.0	20	10.8	3.1	59.9	20	18 33	18 57	19 26	05	31	06	32	07	34	08	36		
02	210	44.5		14.0	2	00.8	5.0	20	07.7	3.3	59.8	N 10	18 16	18 39	19 06	05	47	06	49	07	51	08	50		
03	225	44.5	..	14.4	16	24.8	5.2	20	04.4	3.4	59.8	0	18 01	18 23	18 49	06	03	07	05	08	06	09	03		
04	240	44.4		14.8	30	49.0	5.2	20	01.0	3.6	59.8	S 10	17 45	18 07	18 33	06	18	07	21	08	21	09	16		
05	255	44.3		15.2	45	13.2	5.2	19	57.4	3.6	59.7	20	17 28	17 52	18 19	06	35	07	38	08	37	09	30		

T.M.G. (TU)	ARIES	VENUS -4.0	MARTE +1.2	JUPITER -2.4	SATURNO +1.0	ESTRELLAS		
d h	A.H.G.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	Nombre	A. H. S.	Dec.
28 00	245 18.5	146 08.8 N24 53.0	214 12.5 N11 47.5	30 38.1 S12 26.5	261 24.8 S 8 39.6	Acamar	315 29.6 S40	19.6
01	260 21.0	161 08.0 52.9	229 13.2 48.2	45 40.8 26.4	276 27.1 39.6	Achernar	335 37.8 S57	15.7
02	275 23.4	176 07.2 52.8	244 13.9 48.8	60 43.5 26.4	291 29.5 39.6	Acrux	173 24.9 S63	04.5
03	290 25.9	191 06.4 ·· 52.7	259 14.6 ·· 49.5	75 46.2 ·· 26.3	306 31.8 ·· 39.5	Adhara	255 24.0 S28	58.1
04	305 28.3	206 05.5 52.5	274 15.2 50.1	90 48.9 26.2	321 34.2 39.5	Aldebaran	291 06.1 N16	29.8
05	320 30.8	221 04.7 52.4	289 15.9 50.8	105 51.6 26.2	336 36.6 39.5			
06	335 33.3	236 03.9 N24 52.3	304 16.6 N11 51.4	120 54.3 S12 26.1	351 38.9 S 8 39.4	Alioth	166 32.9 N55	59.5
07	350 35.7	251 03.1 52.1	319 17.3 52.1	135 57.0 26.0	6 41.3 39.4	Alkaid	153 09.8 N49	20.6
08	5 38.2	266 02.3 52.0	334 17.9 52.7	150 59.7 25.9	21 43.7 39.4	Al Na'ir	28 01.5 S46	59.0
S 09	20 40.7	281 01.4 ·· 51.9	349 18.6 ·· 53.4	166 02.4 ·· 25.9	36 46.0 ·· 39.3	Alnilam	276 01.2 S 1	12.5
A 10	35 43.1	296 00.6 51.7	4 19.3 54.1	181 05.1 25.8	51 48.4 39.3	Alphard	218 10.2 S 8	38.3
B 11	50 45.6	310 59.8 51.6	19 20.0 54.7	196 07.8 25.7	66 50.7 39.3			
A 12	65 48.1	325 59.0 N24 51.5	34 20.6 N11 55.4	211 10.5 S12 25.7	81 53.1 S 8 39.3	Alphecca	126 22.7 N26	44.0
D 13	80 50.5	340 58.2 51.3	49 21.3 56.0	226 13.2 25.6	96 55.5 39.2	Alpheratz	357 58.4 N29	03.5
O 14	95 53.0	355 57.3 51.2	64 22.0 56.7	241 15.9 25.5	111 57.8 39.2	Altair	62 21.9 N 8	51.2
15	110 55.5	10 56.5 ·· 51.0	79 22.7 ·· 57.3	256 18.6 ·· 25.5	127 00.2 ·· 39.2	Ankaa	353 30.0 S42	19.9
16	125 57.9	25 55.7 50.9	94 23.3 58.0	271 21.3 25.4	142 02.6 39.1	Antares	112 43.4 S26	25.2
17	141 00.4	40 54.9 50.7	109 24.0 58.6	286 24.0 25.3	157 04.9 39.1			
18	156 02.8	55 54.1 N24 50.6	124 24.7 N11 59.3	301 26.7 S12 25.2	172 07.3 S 8 39.1	Arcturus	146 08.5 N19	12.7
19	171 05.3	70 53.2 50.4	139 25.4 11 59.9	316 29.4 25.2	187 09.7 39.0	Atria	107 57.5 S69	01.0
20	186 07.8	85 52.4 50.3	154 26.0 12 00.6	331 32.1 25.1	202 12.0 39.0	Avior	234 24.2 S59	29.9
21	201 10.2	100 51.6 ·· 50.2	169 26.7 ·· 01.2	346 34.8 ·· 25.0	217 14.4 ·· 39.0	Bellatrix	278 47.7 N 6	20.6
22	216 12.7	115 50.8 50.0	184 27.4 01.9	1 37.5 25.0	232 16.7 39.0	Betelgeuse	271 17.1 N 7	24.2
23	231 15.2	130 50.0 49.8	199 28.1 02.5	16 40.2 24.9	247 19.1 38.9			
29 00	246 17.6	145 49.2 N24 49.7	214 28.7 N12 03.2	31 42.9 S12 24.8	262 21.5 S 8 38.9	Canopus	264 03.0 S52	41.8
01	261 20.1	160 48.3 49.5	229 29.4 03.9	46 45.6 24.8	277 23.8 38.9	Capella	280 56.0 N45	59.5
02	276 22.6	175 47.5 49.4	244 30.1 04.5	61 48.3 24.7	292 26.2 38.8	Deneb	49 41.0 N45	15.5
03	291 25.0	190 46.7 ·· 49.2	259 30.8 ·· 05.2	76 51.0 ·· 24.6	307 28.6 ·· 38.8	Denebola	182 48.1 N14	36.1
04	306 27.5	205 45.9 49.1	274 31.4 05.8	91 53.6 24.6	322 30.9 38.8	Diphda	349 10.4 S18	00.9
05	321 29.9	220 45.1 48.9	289 32.1 06.5	106 56.3 24.5	337 33.3 38.7			
06	336 32.4	235 44.3 N24 48.7	304 32.8 N12 07.1	121 59.0 S12 24.4	352 35.7 S 8 38.7	Dubhe	194 09.1 N61	47.0
07	351 34.9	250 43.4 48.6	319 33.5 07.8	137 01.7 24.3	7 38.0 38.7	Elnath	278 31.0 N28	36.1
D 08	6 37.3	265 42.6 48.4	334 34.1 08.4	152 04.4 24.3	22 40.4 38.7	Eltanin	90 52.3 N51	29.3
O 09	21 39.8	280 41.8 ·· 48.3	349 34.8 ·· 09.1	167 07.1 ·· 24.2	37 42.8 ·· 38.6	Enif	34 01.0 N 9	51.0
M 10	36 42.3	295 41.0 48.1	4 35.5 09.7	182 09.8 24.1	52 45.1 38.6	Fomalhaut	15 39.7 S29	38.9
I 11	51 44.7	310 40.2 47.9	19 36.2 10.4	197 12.5 24.1	67 47.5 38.6			
N 12	66 47.2	325 39.4 N24 47.7	34 36.8 N12 11.0	212 15.2 S12 24.0	82 49.9 S 8 38.5	Gacrux	172 16.5 S57	05.3
G 13	81 49.7	340 38.6 47.6	49 37.5 11.7	227 17.9 23.9	97 52.2 38.5	Gienah	176 06.8 S17	30.9
O 14	96 52.1	355 37.7 47.4	64 38.2 12.3	242 20.6 23.9	112 54.6 38.5	Hadar	149 07.6 S60	21.0
15	111 54.6	10 36.9 ·· 47.2	79 38.9 ·· 13.0	257 23.3 ·· 23.8	127 57.0 ·· 38.4	Hamal	328 17.2 N23	26.1
16	126 57.1	25 36.1 47.1	94 39.5 13.6	272 26.0 23.7	142 59.3 38.4	Kaus Aust.	84 02.4 S34	23.1
17	141 59.5	40 35.3 46.9	109 40.2 14.2	287 28.7 23.7	158 01.7 38.4			
18	157 02.0	55 34.5 N24 46.7	124 40.9 N12 14.9	302 31.3 S12 23.6	173 04.1 S 8 38.4	Kochab	137 18.4 N74	10.8
19	172 04.4	70 33.7 46.5	139 41.6 15.5	317 34.0 23.5	188 06.4 38.3	Markab	13 52.6 N15	10.5
20	187 06.9	85 32.9 46.4	154 42.2 16.2	332 36.7 23.5	203 08.8 38.3	Menkar	314 30.3 N 4	04.0
21	202 09.4	100 32.1 ·· 46.2	169 42.9 ·· 16.8	347 39.4 ·· 23.4	218 11.2 ·· 38.3	Menkent	148 24.1 S36	20.7
22	217 11.8	115 31.2 46.0	184 43.6 17.5	2 42.1 23.3	233 13.5 38.2	Miaplacidus	221 42.9 S69	42.1
23	232 14.3	130 30.4 45.8	199 44.3 18.1	17 44.8 23.3	248 15.9 38.2			
30 00	247 16.8	145 29.6 N24 45.6	214 44.9 N12 18.8	32 47.5 S12 23.2	263 18.3 S 8 38.2	Mirfak	309 01.3 N49	50.4
01	262 19.2	160 28.8 45.4	229 45.6 19.4	47 50.2 23.1	278 20.7 38.2	Nunki	76 15.7 S26	18.1
02	277 21.7	175 28.0 45.3	244 46.3 20.1	62 52.9 23.1	293 23.0 38.1	Peacock	53 41.3 S56	44.9
03	292 24.2	190 27.2 ·· 45.1	259 47.0 ·· 20.7	77 55.6 ·· 23.0	308 25.4 ·· 38.1	Pollux	243 45.4 N28	02.3
04	307 26.6	205 26.4 44.9	274 47.6 21.4	92 58.2 22.9	323 27.8 38.1	Procyon	245 14.9 N 5	14.2
05	322 29.1	220 25.6 44.7	289 48.3 22.0	108 00.9 22.9	338 30.1 38.0			
06	337 31.6	235 24.8 N24 44.5	304 49.0 N12 22.7	123 03.6 S12 22.8	353 32.5 S 8 38.0	Rasalhague	96 19.4 N12	33.8
07	352 34.0	250 24.0 44.3	319 49.7 23.3	138 06.3 22.7	8 34.9 38.0	Regulus	207 58.7 N11	59.6
08	7 36.5	265 23.2 44.1	334 50.3 23.9	153 09.0 22.7	23 37.2 38.0	Rigel	281 26.1 S 8	12.6
L 09	22 38.9	280 22.3 ·· 43.9	349 51.0 ·· 24.6	168 11.7 ·· 22.6	38 39.6 ·· 37.9	Rigil Kent.	140 10.6 S60	48.9
10	37 41.4	295 21.5 43.7	4 51.7 25.2	183 14.4 22.5	53 42.0 37.9	Sabik	102 28.6 S15	43.1
11	52 43.9	310 20.7 43.5	19 52.3 25.9	198 17.1 22.5	68 44.3 37.9			
S 12	67 46.3	325 19.9 N24 43.3	34 53.0 N12 26.5	213 19.7 S12 22.4	83 46.7 S 8 37.8	Schedar	349 57.1 N56	30.2
13	82 48.8	340 19.1 43.1	49 53.7 27.2	228 22.4 22.3	98 49.1 37.8	Shaula	96 40.9 S37	05.9
14	97 51.3	355 18.3 42.9	64 54.4 27.8	243 25.1 22.3	113 51.5 37.8	Sirius	258 46.6 S16	42.7
15	112 53.7	10 17.5 ·· 42.7	79 55.0 ·· 28.4	258 27.8 ·· 22.2	128 53.8 ·· 37.8	Spica	158 46.1 S11	08.1
16	127 56.2	25 16.7 42.5	94 55.7 29.1	273 30.5 22.1	143 56.2 37.7	Suhail	223 03.1 S43	25.0
17	142 58.7	40 15.9 42.3	109 56.4 29.7	288 33.2 22.1	158 58.6 37.7			
18	158 01.1	55 15.1 N24 42.1	124 57.1 N12 30.4	303 35.9 S12 22.0	174 00.9 S 8 37.7	Vega	80 48.2 N38	46.7
19	173 03.6	70 14.3 41.9	139 57.7 31.0	318 38.6 21.9	189 03.3 37.7	Zuben'ubi	137 20.9 S16	01.2
20	188 06.0	85 13.5 41.7	154 58.4 31.7	333 41.2 21.9	204 05.7 37.6			
21	203 08.5	100 12.7 ·· 41.5	169 59.1 ·· 32.3	348 43.9 ·· 21.8	219 08.1 ·· 37.6			
22	218 11.0	115 11.9 41.3	184 59.7 32.9	3 46.6 21.7	234 10.4 37.6	Venus	259 31.5 14	18
23	233 13.4	130 11.1 41.1	200 00.4 33.6	18 49.3 21.7	249 12.8 37.5	Marte	328 11.1 9	42
						Jupiter	145 25.2 21	49
						Saturno	16 03.8 6	30
Pas. Mer. 7	33.6	v -0.8 d 0.2	v 0.7 d 0.6	v 2.7 d 0.1	v 2.4 d 0.0			

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	28	29	30	31
												h m	h m	h m	h m
28	00	180 43.0	N21 23.1	319 08.4	6.9	S18 26.3	6.0	59.1	0	0	0	0	01 35	01 11	00 55
	01	195 42.9	23.5	333 34.3	6.9	18 20.3	6.1	59.0	0	0	0	0	01 12	00 59	00 50
	02	210 42.8	23.9	348 00.2	7.1	18 14.2	6.2	59.0	0	0	0	0	00 29	00 33	00 34
	03	225 42.7	24.4	2 26.3	7.2	18 08.0	6.3	58.9	0	0	0	0	00 00	00 14	00 21
	04	240 42.7	24.8	16 52.5	7.2	18 01.7	6.3	58.9	0	0	0	0	02 06	23 58	24 10
	05	255 42.6	25.2	31 18.7	7.4	17 55.4	6.5	58.9	0	0	0	0	00 00	00 14	00 21
	06	270 42.5	N21 25.6	45 45.1	7.4	S17 48.9	6.6	58.8	0	0	0	0	02 33	23 44	24 01
	07	285 42.4	26.0	60 11.5	7.5	17 42.3	6.7	58.8	0	0	0	0	01 36	02 54	23 33
	08	300 42.4	26.4	74 38.0	7.7	17 35.6	6.8	58.8	0	0	0	0	02 07	03 11	23 23
	09	315 42.3	26.8	89 04.7	7.7	17 28.8	6.9	58.7	0	0	0	0	02 30	03 38	23 07
	10	330 42.2	27.2	103 31.4	7.8	17 21.9	7.0	58.7	0	0	0	0	03 03	03 49	23 07
	11	345 42.1	27.6	117 58.2	7.9	17 14.9	7.1	58.6	0	0	0	0	03 16	03 58	22 53
	12	0 42.0	N21 28.0	132 25.1	8.0	S17 07.8	7.1	58.6	0	0	0	0	03 43	04 19	22 40
	13	15 42.0	28.4	146 52.1	8.1	17 00.7	7.3	58.6	0	0	0	0	04 03	04 35	22 29
	14	30 41.9	28.8	161 19.2	8.2	16 53.4	7.3	58.5	0	0	0	0	04 19	04 48	22 19
	15	45 41.8	29.2	175 46.4	8.3	16 46.1	7.5	58.5	0	0	0	0	04 33	05 00	22 11
	16	60 41.7	29.6	190 13.7	8.4	16 38.6	7.5	58.4	0	0	0	0	04 48	05 15	21 56
	17	75 41.7	30.0	204 41.1	8.5	16 31.1	7.6	58.4	0	0	0	0	05 01	05 31	21 44
	18	90 41.6	N21 30.4	219 08.6	8.6	S16 23.5	7.7	58.4	0	0	0	0	05 15	05 46	21 32
	19	105 41.5	30.8	233 36.2	8.7	16 15.8	7.8	58.3	0	0	0	0	05 29	06 03	21 20
	20	120 41.4	31.2	248 03.9	8.7	16 08.0	7.9	58.3	0	0	0	0	06 03	06 27	21 07
	21	135 41.3	31.6	262 31.6	8.9	16 00.1	7.9	58.2	0	0	0	0	06 20	06 46	20 52
	22	150 41.3	32.0	276 59.5	9.0	15 52.2	8.1	58.2	0	0	0	0	06 29	06 57	20 44
23	165 41.2	32.4	291 27.5	9.0	15 44.1	8.1	58.2	0	0	0	0	06 40	07 10	20 34	
29	00	180 41.1	N21 32.8	305 55.5	9.2	S15 36.0	8.2	58.1	0	0	0	0	20 22	21 30	22 37
	01	195 41.0	33.2	320 23.7	9.2	15 27.8	8.2	58.1	0	0	0	0	21 02	21 15	22 27
	02	210 41.0	33.6	334 51.9	9.3	15 19.6	8.4	58.0	0	0	0	0	21 07	22 04	22 58
	03	225 40.9	33.9	349 20.2	9.5	15 11.2	8.4	58.0	0	0	0	0	21 10	22 10	23 04
	04	240 40.8	34.3	3 48.7	9.5	15 02.8	8.4	58.0	0	0	0	0	21 23	22 23	23 11
	05	255 40.7	34.7	18 17.2	9.6	14 54.4	8.6	57.9	0	0	0	0	21 37	20 57	22 15
	06	270 40.6	N21 35.1	32 45.8	9.7	S14 45.8	8.6	57.9	0	0	0	0	22 02	21 15	22 27
	07	285 40.6	35.5	47 14.5	9.8	14 37.2	8.7	57.8	0	0	0	0	22 23	21 10	22 23
	08	300 40.5	35.9	61 43.3	9.9	14 28.5	8.8	57.8	0	0	0	0	22 30	21 04	22 20
	09	315 40.4	36.3	76 12.2	10.0	14 19.7	8.8	57.8	0	0	0	0	22 42	20 57	22 15
	10	330 40.3	36.7	90 41.2	10.1	14 10.9	8.9	57.7	0	0	0	0	22 56	20 50	22 11
	11	345 40.2	37.1	105 10.3	10.2	14 02.0	8.9	57.7	0	0	0	0	23 08	21 20	22 30
	12	0 40.1	N21 37.4	119 39.5	10.2	S13 53.1	9.0	57.7	0	0	0	0	23 17	21 32	23 03
	13	15 40.1	37.8	134 08.7	10.4	13 44.1	9.1	57.6	0	0	0	0	23 27	21 42	23 13
	14	30 40.0	38.2	148 38.1	10.4	13 35.0	9.1	57.6	0	0	0	0	23 38	21 52	23 23
	15	45 39.9	38.6	163 07.5	10.6	13 25.9	9.2	57.5	0	0	0	0	23 49	22 02	23 33
	16	60 39.8	39.0	177 37.1	10.6	13 16.7	9.3	57.5	0	0	0	0	23 59	22 12	23 43
	17	75 39.7	39.4	192 06.7	10.7	13 07.4	9.3	57.5	0	0	0	0	24 10	22 22	23 53
	18	90 39.7	N21 39.8	206 36.4	10.8	S12 58.1	9.3	57.4	0	0	0	0	24 21	22 32	24 03
	19	105 39.6	40.1	221 06.2	10.9	12 48.8	9.5	57.4	0	0	0	0	24 32	22 42	24 13
	20	120 39.5	40.5	235 36.1	10.9	12 39.3	9.4	57.3	0	0	0	0	24 43	22 52	24 23
	21	135 39.4	40.9	250 06.0	11.1	12 29.9	9.5	57.3	0	0	0	0	24 54	23 02	24 33
	22	150 39.3	41.3	264 36.1	11.1	12 20.4	9.6	57.3	0	0	0	0	25 05	23 12	24 43
23	165 39.2	41.7	279 06.2	11.2	12 10.8	9.6	57.2	0	0	0	0	25 16	23 22	24 53	
30	00	180 39.2	N21 42.0	293 36.4	11.3	S12 01.2	9.7	57.2	0	0	0	0	25 27	23 32	25 03
	01	195 39.1	42.4	308 06.7	11.4	11 51.5	9.7	57.1	0	0	0	0	25 38	23 42	25 13
	02	210 39.0	42.8	322 37.1	11.5	11 41.8	9.7	57.1	0	0	0	0	25 49	23 52	25 23
	03	225 38.9	43.2	337 07.6	11.5	11 32.1	9.8	57.1	0	0	0	0	25 59	24 02	25 33
	04	240 38.8	43.5	351 38.1	11.6	11 22.3	9.9	57.0	0	0	0	0	26 10	24 12	25 43
	05	255 38.7	43.9	6 08.7	11.8	11 12.4	9.9	57.0	0	0	0	0	26 21	24 22	25 53
	06	270 38.6	N21 44.3	20 39.5	11.7	S11 02.5	9.9	57.0	0	0	0	0	26 31	24 32	26 03
	07	285 38.6	44.7	35 10.2	11.9	10 52.6	10.0	56.9	0	0	0	0	26 42	24 42	26 13
	08	300 38.5	45.0	49 41.1	11.9	10 42.6	10.0	56.9	0	0	0	0	26 52	24 52	26 23
	09	315 38.4	45.4	64 12.0	12.1	10 32.6	10.0	56.9	0	0	0	0	27 03	25 02	26 33
	10	330 38.3	45.8	78 43.1	12.1	10 22.6	10.1	56.8	0	0	0	0	27 13	25 12	26 43
	11	345 38.2	46.2	93 14.2	12.1	10 12.5	10.1	56.8	0	0	0	0	27 24	25 22	26 53
	12	0 38.1	N21 46.5	107 45.3	12.3	S10 02.4	10.2	56.7	0	0	0	0	27 34	25 32	27 03
	13	15 38.0	46.9	122 16.6	12.3	9 52.2	10.2	56.7	0	0	0	0	27 45	25 42	27 13
	14	30 38.0	47.3	136 47.9	12.4	9 42.0	10.2	56.7	0	0	0	0	27 55	25 52	27 23
	15	45 37.9	47.6	151 19.3	12.4	9 31.8	10.3	56.6	0	0	0	0	28 06	26 02	27 33
	16	60 37.8	48.0	165 50.7	12.6	9 21.5	10.3	56.6	0	0	0	0	28 16	26 12	27 43
	17	75 37.7	48.4	180 22.3	12.6	9 11.2	10.3	56.6	0	0	0	0	28 27	26 22	27 53
	18	90 37.6	N21 48.7	194 53.9	12.6	S 9 00.9	10.3	56.5	0	0	0	0	28 37	26 32	28 03
	19	105 37.5	49.1	209 25.5	12.8	8 50.6	10.4	56.5	0	0	0	0	28 48	26 42	28 13
	20	120 37.4	49.5	223 57.3	12.8	8 40.2	10.4	56.5	0	0	0	0	28 58	26 52	28 23
	21	135 37.4	49.8	238 29.1	12.9	8 29.8	10.4	56.4	0	0	0	0	29 09	27 02	28 33
	22	150 37.3	50.2	253 01.0	12.9	8 19.4	10.5	56.4	0	0	0	0	29 19	27 12	28 43
23	165 37.2	50.6	267 32.9	13.0	8 08.9	10.5	56.4	0	0	0	0	29 30	27 22	28 53	
	S.D.	15.8	d 0.4	S.D.	16.0	15.7	15.5								

Día	SOL			LUNA			
	E.T. (+)		Pas. Mer.	Pas. Mer.		Edad.	Fase
	00 ^h	12 ^h		Sup.	Inf.		
28	02 52	02 48	11 57	02 50	15 18	18	
29	02 45	02 41	11 57	03 44	16 10	19	
30	02 37	02 33	11 57	04 35	16 58	20	



T.M.G. (TU)	ARIES	VENUS -4.0	MARTE +1.2	JUPITER -2.4	SATURNO +1.0	ESTRELLAS		
d h	A.H.G.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	Nombre	A. H. S.	Dec.
31 00	248 15.9	145 10.3 N24 40.9	215 01.1 N12 34.2	33 52.0 S12 21.6	264 15.2 S 8 37.5	Acamar	315 29.6 S40	19.6
01	263 18.4	160 09.5 40.7	230 01.8 34.9	48 54.7 21.5	279 17.5 37.5	Achernar	335 37.8 S57	15.7
02	278 20.8	175 08.7 40.4	245 02.4 35.5	63 57.3 21.5	294 19.9 37.5	Acruz	173 24.9 S63	04.5
03	293 23.3	190 07.8 40.2	260 03.1 36.1	79 00.0 21.4	309 22.3 37.4	Adhara	255 24.1 S28	58.1
04	308 25.8	205 07.0 40.0	275 03.8 36.8	94 02.7 21.3	324 24.7 37.4	Aldebaran	291 06.1 N16	29.8
05	323 28.2	220 06.2 39.8	290 04.5 37.4	109 05.4 21.3	339 27.0 37.4			
06	338 30.7	235 05.4 N24 39.6	305 05.1 N12 38.1	124 08.1 S12 21.2	354 29.4 S 8 37.4	Alioth	166 32.9 N55	59.6
07	353 33.2	250 04.6 39.3	320 05.8 38.7	139 10.8 21.1	9 31.8 37.3	Alkaid	153 09.8 N49	20.6
08	8 35.6	265 03.8 39.1	335 06.5 39.3	154 13.4 21.1	24 34.2 37.3	Al Na'ir	28 01.5 S46	59.0
M 09	23 38.1	280 03.0 38.9	350 07.1 40.0	169 16.1 21.0	39 36.5 37.3	Alnilam	276 01.2 S 1	12.4
10	38 40.5	295 02.2 38.7	5 07.8 40.6	184 18.8 20.9	54 38.9 37.2	Alphard	218 10.2 S 8	38.3
11	53 43.0	310 01.4 38.5	20 08.5 41.3	199 21.5 20.9	69 41.3 37.2			
12	68 45.5	325 00.6 N24 38.2	35 09.2 N12 41.9	214 24.2 S12 20.8	84 43.7 S 8 37.2	Alphecca	126 22.7 N26	44.0
13	83 47.9	339 59.8 38.0	50 09.8 42.5	229 26.9 20.8	99 46.0 37.2	Alpheratz	357 58.4 N29	03.5
14	98 50.4	354 59.0 37.8	65 10.5 43.2	244 29.5 20.7	114 48.4 37.1	Altair	62 21.9 N 8	51.2
15	113 52.9	9 58.2 37.5	80 11.2 43.8	259 32.2 20.6	129 50.8 37.1	Ankaa	353 29.9 S42	19.9
16	128 55.3	24 57.4 37.3	95 11.8 44.4	274 34.9 20.6	144 53.2 37.1	Antares	112 43.4 S26	25.2
17	143 57.8	39 56.6 37.1	110 12.5 45.1	289 37.6 20.5	159 55.5 37.1			
18	159 00.3	54 55.8 N24 36.8	125 13.2 N12 45.7	304 40.3 S12 20.4	174 57.9 S 8 37.0	Arcturus	146 08.5 N19	12.7
19	174 02.7	69 55.0 36.6	140 13.9 46.4	319 42.9 20.4	190 00.3 37.0	Atria	107 57.5 S69	01.0
20	189 05.2	84 54.2 36.4	155 14.5 47.0	334 45.6 20.3	205 02.7 37.0	Avior	234 24.2 S59	29.9
21	204 07.7	99 53.5 36.1	170 15.2 47.6	349 48.3 20.2	220 05.0 37.0	Bellatrix	278 47.7 N 6	20.6
22	219 10.1	114 52.7 35.9	185 15.9 48.3	4 51.0 20.2	235 07.4 36.9	Betelgeuse	271 17.1 N 7	24.3
23	234 12.6	129 51.9 35.7	200 16.5 48.9	19 53.7 20.1	250 09.8 36.9			
1 00	249 15.0	144 51.1 N24 35.4	215 17.2 N12 49.5	34 56.3 S12 20.0	265 12.2 S 8 36.9	Canopus	264 03.0 S52	41.8
01	264 17.5	159 50.3 35.2	230 17.9 50.2	49 59.0 20.0	280 14.5 36.9	Capella	280 56.0 N45	59.5
02	279 20.0	174 49.5 34.9	245 18.6 50.8	65 01.7 19.9	295 16.9 36.8	Deneb	49 40.9 N45	15.5
03	294 22.4	189 48.7 34.7	260 19.2 51.4	80 04.4 19.9	310 19.3 36.8	Denebola	182 48.1 N14	36.1
04	309 24.9	204 47.9 34.4	275 19.9 52.1	95 07.0 19.8	325 21.7 36.8	Diphda	349 10.4 S18	00.9
05	324 27.4	219 47.1 34.2	290 20.6 52.7	110 09.7 19.7	340 24.0 36.8			
06	339 29.8	234 46.3 N24 33.9	305 21.2 N12 53.3	125 12.4 S12 19.7	355 26.4 S 8 36.7	Dubhe	194 09.1 N61	47.0
07	354 32.3	249 45.5 33.7	320 21.9 54.0	140 15.1 19.6	10 28.8 36.7	Elnath	278 31.0 N28	36.1
08	9 34.8	264 44.7 33.4	335 22.6 54.6	155 17.8 19.5	25 31.2 36.7	Eltanin	90 52.3 N51	29.4
09	24 37.2	279 43.9 33.2	350 23.2 55.2	170 20.4 19.5	40 33.5 36.7	Enif	34 01.0 N 9	51.0
10	39 39.7	294 43.1 32.9	5 23.9 55.9	185 23.1 19.4	55 35.9 36.6	Fomalhaut	15 39.7 S29	38.9
11	54 42.1	309 42.3 32.7	20 24.6 56.5	200 25.8 19.4	70 38.3 36.6			
12	69 44.6	324 41.5 N24 32.4	35 25.3 N12 57.1	215 28.5 S12 19.3	85 40.7 S 8 36.6	Gacrux	172 16.6 S57	05.3
13	84 47.1	339 40.7 32.2	50 25.9 57.8	230 31.1 19.2	100 43.1 36.6	Gienah	176 06.9 S17	30.9
14	99 49.5	354 40.0 31.9	65 26.6 58.4	245 33.8 19.2	115 45.4 36.5	Hadar	149 07.7 S60	21.0
15	114 52.0	9 39.2 31.6	80 27.3 59.0	260 36.5 19.1	130 47.8 36.5	Hamal	328 17.2 N23	26.1
16	129 54.5	24 38.4 31.4	95 27.9 59.7	275 39.2 19.0	145 50.2 36.5	Kaus Aust.	84 02.3 S34	23.1
17	144 56.9	39 37.6 31.1	110 28.6 13 00.3	290 41.8 19.0	160 52.6 36.5			
18	159 59.4	54 36.8 N24 30.9	125 29.3 N13 00.9	305 44.5 S12 18.9	175 54.9 S 8 36.4	Kochab	137 18.4 N74	10.8
19	175 01.9	69 36.0 30.6	140 30.0 01.6	320 47.2 18.9	190 57.3 36.4	Markab	13 52.6 N15	10.5
20	190 04.3	84 35.2 30.3	155 30.6 02.2	335 49.9 18.8	205 59.7 36.4	Menkar	314 30.3 N 4	04.0
21	205 06.8	99 34.4 30.1	170 31.3 02.8	350 52.5 18.7	221 02.1 36.4	Menkent	148 24.1 S36	20.8
22	220 09.3	114 33.6 29.8	185 32.0 03.4	5 55.2 18.7	236 04.5 36.3	Miaplacidus	221 43.0 S69	42.1
23	235 11.7	129 32.8 29.5	200 32.6 04.1	20 57.9 18.6	251 06.8 36.3			
2 00	250 14.2	144 32.1 N24 29.3	215 33.3 N13 04.7	36 00.6 S12 18.5	266 09.2 S 8 36.3	Mirfak	309 01.3 N49	50.4
01	265 16.6	159 31.3 29.0	230 34.0 05.3	51 03.2 18.5	281 11.6 36.3	Nunki	76 15.7 S26	18.1
02	280 19.1	174 30.5 28.7	245 34.6 06.0	66 05.9 18.4	296 14.0 36.2	Peacock	53 41.3 S56	44.9
03	295 21.6	189 29.7 28.4	260 35.3 06.6	81 08.6 18.4	311 16.4 36.2	Pollux	243 45.4 N28	02.3
04	310 24.0	204 28.9 28.2	275 36.0 07.2	96 11.2 18.3	326 18.7 36.2	Procyon	245 14.9 N 5	14.2
05	325 26.5	219 28.1 27.9	290 36.6 07.9	111 13.9 18.2	341 21.1 36.2			
06	340 29.0	234 27.3 N24 27.6	305 37.3 N13 08.5	126 16.6 S12 18.2	356 23.5 S 8 36.1	Rasalhague	96 19.4 N12	33.9
07	355 31.4	249 26.6 27.3	320 38.0 09.1	141 19.3 18.1	11 25.9 36.1	Regulus	207 58.7 N11	59.6
08	10 33.9	264 25.8 27.1	335 38.7 09.7	156 21.9 18.1	26 28.3 36.1	Rigel	281 26.1 S 8	12.6
J 09	25 36.4	279 25.0 26.8	350 39.3 10.4	171 24.6 18.0	41 30.6 36.1	Rigel Kent.	140 10.6 S60	48.9
10	40 38.8	294 24.2 26.5	5 40.0 11.0	186 27.3 17.9	56 33.0 36.0	Sabik	102 28.6 S15	43.1
11	55 41.3	309 23.4 26.2	20 40.7 11.6	201 29.9 17.9	71 35.4 36.0			
12	70 43.8	324 22.6 N24 25.9	35 41.3 N13 12.2	216 32.6 S12 17.8	86 37.8 S 8 36.0	Schedar	349 57.1 N56	30.2
13	85 46.2	339 21.8 25.6	50 42.0 12.9	231 35.3 17.8	101 40.2 36.0	Shaula	96 40.9 S37	05.9
14	100 48.7	354 21.1 25.4	65 42.7 13.5	246 38.0 17.7	116 42.6 36.0	Sirius	258 46.6 S16	42.7
15	115 51.1	9 20.3 25.1	80 43.3 14.1	261 40.6 17.6	131 44.9 35.9	Spica	158 46.1 S11	08.1
16	130 53.6	24 19.5 24.8	95 44.0 14.7	276 43.3 17.6	146 47.3 35.9	Suhail	223 03.1 S43	25.0
17	145 56.1	39 18.7 24.5	110 44.7 15.4	291 46.0 17.5	161 49.7 35.9			
18	160 58.5	54 17.9 N24 24.2	125 45.3 N13 16.0	306 48.6 S12 17.5	176 52.1 S 8 35.9	Vega	80 48.2 N38	46.7
19	176 01.0	69 17.2 23.9	140 46.0 16.6	321 51.3 17.4	191 54.5 35.8	Zuben'ubi	137 20.9 S16	01.2
20	191 03.5	84 16.4 23.6	155 46.7 17.2	336 54.0 17.3	206 56.8 35.8			
21	206 05.9	99 15.6 23.3	170 47.3 17.9	351 56.6 17.3	221 59.2 35.8			
22	221 08.4	114 14.8 23.0	185 48.0 18.5	6 59.3 17.2	237 01.6 35.8	Venus	255 36.0 14	21
23	236 10.9	129 14.0 22.7	200 48.7 19.1	22 02.0 17.2	252 04.0 35.7	Marte	326 02.2 9	38
						Júpiter	145 41.3 21	36
						Saturno	15 57.1 6	18
Pas. Mer.	h m 7 21.8	v -0.8 d 0.3	v 0.7 d 0.6	v 2.7 d 0.1	v 2.4 d 0.0		A. H. S.	Pas. Mer.
							o / h m	h m

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna											
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Naut.		Civil	31		1		2		3				
												h	m	h	m	h	m	h	m	h	m	h
31	180	37.1	N21	50.9	282	04.9	13.1	S	7	58.4	10.5	56.3	N	72	00	55	00	42	00	31	00	19
01	195	37.0		51.3	296	37.0	13.1		7	47.9	10.5	56.3	N	70	00	44	00	37	00	31	00	26
02	210	36.9		51.7	311	09.1	13.2		7	37.4	10.5	56.3		68	00	34	00	33	00	32	00	31
03	225	36.8		52.0	325	41.3	13.2		7	26.9	10.6	56.2		66	01	13	00	26	00	30	00	33
04	240	36.7		52.4	340	13.5	13.4		7	16.3	10.6	56.2		64	01	58	00	20	00	27	00	33
05	255	36.6		52.7	354	45.9	13.3		7	05.7	10.6	56.1		62	00	04	00	14	00	24	00	34
06	270	36.6	N21	53.1	9	18.2	13.5	S	6	55.1	10.6	56.1	N	60	01	27	02	50	00	09	00	22
07	285	36.5		53.4	23	50.7	13.5		6	44.5	10.7	56.1		58	02	01	03	07	00	04	00	20
08	300	36.4		53.8	38	23.2	13.5		6	33.8	10.6	56.1		56	00	03	02	25	03	22	00	00
M	315	36.3		54.2	52	55.7	13.6		6	23.2	10.7	56.0		54	01	19	02	44	03	35	24	17
A	330	36.2		54.5	67	28.3	13.7		6	12.5	10.7	56.0		52	01	50	03	00	03	46	24	15
R	345	36.1		54.9	82	01.0	13.7		6	01.8	10.7	56.0		50	02	13	03	13	03	56	24	14
T	0	36.0	N21	55.2	96	33.7	13.7	S	5	51.1	10.8	55.9	N	45	02	53	03	40	04	17	24	11
E	15	35.9		55.6	111	06.4	13.9		5	40.3	10.7	55.9		40	03	21	04	01	04	33	24	08
S	30	35.8		55.9	125	39.3	13.8		5	29.6	10.7	55.9		35	03	42	04	18	04	47	24	06
14	45	35.7		56.3	140	12.1	13.9		5	18.9	10.8	55.8		30	04	00	04	32	04	59	24	04
15	60	35.7		56.6	154	45.0	14.0		5	08.1	10.8	55.8		20	04	27	04	56	05	20	24	01
16	75	35.6		57.0	169	18.0	14.0		4	57.3	10.7	55.8	N	10	04	48	05	15	05	38	23	58
17	90	35.5	N21	57.3	183	51.0	14.1	S	4	46.6	10.8	55.7		0	05	06	05	32	05	54	23	56
18	105	35.4		57.7	198	24.1	14.1		4	35.8	10.8	55.7	S	10	05	22	05	48	06	10	23	53
19	120	35.3		58.0	212	57.2	14.2		4	25.0	10.8	55.7		20	05	37	06	04	06	28	23	50
20	135	35.2		58.4	227	30.4	14.2		4	14.2	10.9	55.6		30	05	52	06	21	06	47	23	47
21	150	35.1		58.7	242	03.6	14.2		4	03.3	10.8	55.6		35	06	00	06	31	06	59	23	45
22	165	35.0		59.1	256	36.8	14.3		3	52.5	10.8	55.6		40	06	08	06	42	07	12	23	43
23									3	52.5	10.8	55.6		45	06	18	06	54	07	28	23	40
1	180	34.9	N21	59.4	271	10.1	14.3	S	3	41.7	10.8	55.6	S	50	06	28	07	09	07	47	23	37
01	195	34.8	21	59.8	285	43.4	14.4		3	30.9	10.9	55.5		52	06	33	07	16	07	56	23	36
02	210	34.7	22	00.1	300	16.8	14.4		3	20.0	10.8	55.5		54	06	38	07	23	08	06	23	34
03	225	34.6		00.5	314	50.2	14.5		3	09.2	10.8	55.5		56	06	44	07	32	08	17	23	33
04	240	34.5		00.8	329	23.7	14.4		2	58.4	10.9	55.5		58	06	50	07	41	08	30	23	31
05	255	34.4		01.2	343	57.1	14.6		2	47.5	10.8	55.4	S	60	06	56	07	51	08	46	23	29
06	270	34.4	N22	01.5	358	30.7	14.5	S	2	36.7	10.9	55.4										
07	285	34.3		01.8	13	04.2	14.6		2	25.8	10.8	55.4										
08	300	34.2		02.2	27	37.8	14.7		2	15.0	10.8	55.3										
09	315	34.1		02.5	42	11.5	14.6		2	04.2	10.9	55.3										
10	330	34.0		02.9	56	45.1	14.7		1	53.3	10.8	55.3										
11	345	33.9		03.2	71	18.8	14.8		1	42.5	10.8	55.3										
12	0	33.8	N22	03.6	85	52.6	14.7	S	1	31.7	10.9	55.2										
13	15	33.7		03.9	100	26.3	14.8		1	20.8	10.8	55.2										
14	30	33.6		04.2	115	00.1	14.8		1	10.0	10.8	55.2										
15	45	33.5		04.6	129	33.9	14.9		0	59.2	10.8	55.2										
16	60	33.4		04.9	144	07.8	14.9		0	48.4	10.9	55.1										
17	75	33.3		05.2	158	41.7	14.9		0	37.5	10.8	55.1										
18	90	33.2	N22	05.6	173	15.6	14.9	S	0	26.7	10.8	55.1	N	58	20	49	21	57	22	39	10	52
19	105	33.1		05.9	187	49.5	15.0		0	15.9	10.7	55.1		56	20	34	21	32	23	07	10	55
20	120	33.0		06.2	202	23.5	14.9	S	0	05.2	10.8	55.0		54	20	21	21	13	22	39	10	58
21	135	32.9		06.6	216	57.4	15.0	N	0	05.6	10.8	55.0		52	20	10	20	57	22	07	11	00
22	150	32.8		06.9	231	31.4	15.1		0	16.4	10.8	55.0		50	20	00	20	43	21	44	11	02
23	165	32.7		07.2	246	05.5	15.0		0	27.2	10.7	55.0		45	19	39	20	16	21	03	11	07
2	180	32.6	N22	07.6	260	39.5	15.1	N	0	37.9	10.7	55.0	N	40	19	22	19	55	20	35	11	11
01	195	32.5		07.9	275	13.6	15.1		0	48.6	10.8	54.9		35	19	08	19	38	20	14	11	15
02	210	32.4		08.2	289	47.7	15.1		0	59.4	10.7	54.9		30	18	56	19	23	19	56	11	18
03	225	32.3		08.6	304	21.8	15.1		1	10.1	10.7	54.9		20	18	36	19	00	19	29	11	23
04	240	32.2		08.9	318	55.9	15.1		1	20.8	10.7	54.9	N	10	18	18	18	41	19	07	11	28
05	255	32.1		09.2	333	30.0	15.2		1	31.5	10.7	54.8		0	18	01	18	24	18	50	11	32
06	270	32.0	N22	09.5	348	04.2	15.1	N	1	42.2	10.6	54.8	S	10	17	45	18	08	18	34	11	37
07	285	32.0		09.9	2	38.3	15.2		1	52.8	10.7	54.8		20	17	28	17	51	18	19	11	41
08	300	31.9		10.2	17	12.5	15.2		2	03.5	10.6	54.8		30	17	08	17	34	18	03	11	46
09	315	31.8		10.5	31	46.7	15.2		2	14.1	10.6	54.8		35	16	56	17	24	17	55	11	49
J	330	31.7		10.8	46	20.9	15.2		2	24.7	10.6	54.7		40	16	43	17	13	17	47	11	53
U	345	31.6		11.2	60	55.1	15.3		2	35.3	10.6	54.7		45	16	28	17	01	17	37	11	57
E	0	31.5	N22	11.5	75	29.4	15.2	N	2	45.9	10.6	54.7	S	50	16	08	16	46	17	27	12	01
S	15	31.4		11.8	90</																	

T.M.G. (TU)	ARIES			VENUS -4.0			MARTE +1.2			JUPITER -2.4			SATURNO +1.0			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		A.H.G.	Dec.		Nombre	A. H. S.	Dec.
3 00	251 13.3	144 13.3	N24 22.4	215 49.3	N13 19.7		37 04.6	S12 17.1		267 06.4	S 8 35.7		267 06.4	S 8 35.7		Acamar	315 29.5	S40 19.5
01	266 15.8	159 12.5	22.1	230 50.0	20.4		52 07.3	17.0		282 08.8	35.7		282 08.8	35.7		Achernar	335 37.8	S57 15.7
02	281 18.2	174 11.7	21.8	245 50.7	21.0		67 10.0	17.0		297 11.1	35.7		297 11.1	35.7		Acrux	173 25.0	S63 04.5
03	296 20.7	189 10.9	21.5	260 51.3	21.6		82 12.6	16.9		312 13.5	35.7		312 13.5	35.7		Adhara	255 24.1	S28 58.1
04	311 23.2	204 10.1	21.2	275 52.0	22.2		97 15.3	16.9		327 15.9	35.6		327 15.9	35.6		Aldebaran	291 06.1	N16 29.8
05	326 25.6	219 09.4	20.9	290 52.7	22.9		112 18.0	16.8		342 18.3	35.6		342 18.3	35.6				
06	341 28.1	234 08.6	N24 20.6	305 53.4	N13 23.5		127 20.6	S12 16.7		357 20.7	S 8 35.6		357 20.7	S 8 35.6		Alioth	166 32.9	N55 59.6
07	356 30.6	249 07.8	20.3	320 54.0	24.1		142 23.3	16.7		12 23.1	35.6		12 23.1	35.6		Alkaid	153 09.8	N49 20.6
08	11 33.0	264 07.0	20.0	335 54.7	24.7		157 26.0	16.6		27 25.5	35.5		27 25.5	35.5		Al Na'ir	28 01.5	S46 59.0
Y 09	26 35.5	279 06.3	19.7	350 55.4	25.3		172 28.6	16.6		42 27.8	35.5		42 27.8	35.5		Alnilam	276 01.2	S 1 12.4
I 10	41 38.0	294 05.5	19.4	5 56.0	26.0		187 31.3	16.5		57 30.2	35.5		57 30.2	35.5		Alphard	218 10.2	S 8 38.3
E 11	56 40.4	309 04.7	19.1	20 56.7	26.6		202 34.0	16.4		72 32.6	35.5		72 32.6	35.5				
R 12	71 42.9	324 03.9	N24 18.7	35 57.4	N13 27.2		217 36.6	S12 16.4		87 35.0	S 8 35.5		87 35.0	S 8 35.5		Alphecca	126 22.7	N26 44.0
N 13	86 45.4	339 03.2	18.4	50 58.0	27.8		232 39.3	16.3		102 37.4	35.4		102 37.4	35.4		Alpheratz	357 58.4	N29 03.5
E 14	101 47.8	354 02.4	18.1	65 58.7	28.4		247 42.0	16.3		117 39.8	35.4		117 39.8	35.4		Altair	62 21.9	N 8 51.3
S 15	116 50.3	9 01.6	17.8	80 59.4	29.1		262 44.6	16.2		132 42.1	35.4		132 42.1	35.4		Ankaa	353 29.9	S42 19.9
16	131 52.7	24 00.8	17.5	96 00.0	29.7		277 47.3	16.2		147 44.5	35.4		147 44.5	35.4		Antares	112 43.4	S26 25.2
17	146 55.2	39 00.1	17.2	111 00.7	30.3		292 49.9	16.1		162 46.9	35.4		162 46.9	35.4				
18	161 57.7	53 59.3	N24 16.8	126 01.4	N13 30.9		307 52.6	S12 16.0		177 49.3	S 8 35.3		177 49.3	S 8 35.3		Arcturus	146 08.5	N19 12.7
19	177 00.1	68 58.5	16.5	141 02.0	31.5		322 55.3	16.0		192 51.7	35.3		192 51.7	35.3		Atria	107 57.5	S69 01.0
20	192 02.6	83 57.7	16.2	156 02.7	32.2		337 57.9	15.9		207 54.1	35.3		207 54.1	35.3		Avior	234 24.2	S59 29.9
21	207 05.1	98 57.0	15.9	171 03.4	32.8		353 00.6	15.9		222 56.5	35.3		222 56.5	35.3		Bellatrix	278 47.6	N 6 20.6
22	222 07.5	113 56.2	15.5	186 04.0	33.4		8 03.3	15.8		237 58.9	35.2		237 58.9	35.2		Betelgeuse	271 17.1	N 7 24.3
23	237 10.0	128 55.4	15.2	201 04.7	34.0		23 05.9	15.8		253 01.2	35.2		253 01.2	35.2				
4 00	252 12.5	143 54.7	N24 14.9	216 05.4	N13 34.6		38 08.6	S12 15.7		268 03.6	S 8 35.2		268 03.6	S 8 35.2		Canopus	264 03.0	S52 41.8
01	267 14.9	158 53.9	14.6	231 06.0	35.3		53 11.2	15.6		283 06.0	35.2		283 06.0	35.2		Capella	280 56.0	N45 59.5
02	282 17.4	173 53.1	14.2	246 06.7	35.9		68 13.9	15.6		298 08.4	35.2		298 08.4	35.2		Deneb	49 40.9	N45 15.5
03	297 19.9	188 52.4	13.9	261 07.4	36.5		83 16.6	15.5		313 10.8	35.1		313 10.8	35.1		Denebola	182 48.1	N14 36.1
04	312 22.3	203 51.6	13.6	276 08.0	37.1		98 19.2	15.5		328 13.2	35.1		328 13.2	35.1		Diphda	349 10.3	S18 00.9
05	327 24.8	218 50.8	13.2	291 08.7	37.7		113 21.9	15.4		343 15.6	35.1		343 15.6	35.1				
06	342 27.2	233 50.1	N24 12.9	306 09.4	N13 38.3		128 24.5	S12 15.4		358 18.0	S 8 35.1		358 18.0	S 8 35.1		Dubhe	194 09.1	N61 47.0
07	357 29.7	248 49.3	12.6	321 10.0	39.0		143 27.2	15.3		13 20.3	35.1		13 20.3	35.1		Elnath	278 31.0	N28 36.1
08	12 32.2	263 48.5	12.2	336 10.7	39.6		158 29.9	15.2		28 22.7	35.0		28 22.7	35.0		Eltanin	90 52.2	N51 29.4
S 09	27 34.6	278 47.8	11.9	351 11.3	40.2		173 32.5	15.2		43 25.1	35.0		43 25.1	35.0		Enif	34 01.0	N 9 51.0
A 10	42 37.1	293 47.0	11.6	6 12.0	40.8		188 35.2	15.1		58 27.5	35.0		58 27.5	35.0		Fomalhaut	15 39.7	S29 38.9
B 11	57 39.6	308 46.2	11.2	21 12.7	41.4		203 37.8	15.1		73 29.9	35.0		73 29.9	35.0				
A 12	72 42.0	323 45.5	N24 10.9	36 13.3	N13 42.0		218 40.5	S12 15.0		88 32.3	S 8 35.0		88 32.3	S 8 35.0		Gacrux	172 16.6	S57 05.3
D 13	87 44.5	338 44.7	10.5	51 14.0	42.6		233 43.2	15.0		103 34.7	34.9		103 34.7	34.9		Gienah	176 06.9	S17 30.9
O 14	102 47.0	353 43.9	10.2	66 14.7	43.3		248 45.8	14.9		118 37.1	34.9		118 37.1	34.9		Hadar	149 07.7	S60 21.0
15	117 49.4	8 43.2	09.9	81 15.3	43.9		263 48.5	14.8		133 39.4	34.9		133 39.4	34.9		Hamal	328 17.1	N23 26.1
16	132 51.9	23 42.4	09.5	96 16.0	44.5		278 51.1	14.8		148 41.8	34.9		148 41.8	34.9		Kaus Aust.	84 02.3	S34 23.1
17	147 54.4	38 41.6	09.2	111 16.7	45.1		293 53.8	14.7		163 44.2	34.9		163 44.2	34.9				
18	162 56.8	53 40.9	N24 08.8	126 17.3	N13 45.7		308 56.4	S12 14.7		178 46.6	S 8 34.8		178 46.6	S 8 34.8		Kochab	137 18.5	N74 10.9
19	177 59.3	68 40.1	08.5	141 18.0	46.3		323 59.1	14.6		193 49.0	34.8		193 49.0	34.8		Markab	13 52.5	N15 10.5
20	193 01.7	83 39.3	08.1	156 18.7	46.9		339 01.8	14.6		208 51.4	34.8		208 51.4	34.8		Menkar	314 30.3	N 4 04.0
21	208 04.2	98 38.6	07.8	171 19.3	47.6		354 04.4	14.5		223 53.8	34.8		223 53.8	34.8		Menkent	148 24.1	S36 20.8
22	223 06.7	113 37.8	07.4	186 20.0	48.2		9 07.1	14.5		238 56.2	34.8		238 56.2	34.8		Miaplacidus	221 43.0	S69 42.1
23	238 09.1	128 37.1	07.1	201 20.7	48.8		24 09.7	14.4		253 58.6	34.7		253 58.6	34.7				
5 00	253 11.6	143 36.3	N24 06.7	216 21.3	N13 49.4		39 12.4	S12 14.3		269 01.0	S 8 34.7		269 01.0	S 8 34.7		Mirfak	309 01.3	N49 50.4
01	268 14.1	158 35.5	06.3	231 22.0	50.0		54 15.0	14.3		284 03.4	34.7		284 03.4	34.7		Nunki	76 15.6	S26 18.1
02	283 16.5	173 34.8	06.0	246 22.7	50.6		69 17.7	14.2		299 05.7	34.7		299 05.7	34.7		Peacock	53 41.3	S56 44.9
03	298 19.0	188 34.0	05.6	261 23.3	51.2		84 20.3	14.2		314 08.1	34.7		314 08.1	34.7		Pollux	243 45.4	N28 02.3
04	313 21.5	203 33.3	05.3	276 24.0	51.8		99 23.0	14.1		329 10.5	34.6		329 10.5	34.6		Procyon	245 14.9	N 5 14.2
05	328 23.9	218 32.5	04.9	291 24.6	52.4		114 25.7	14.1		344 12.9	34.6		344 12.9	34.6				
06	343 26.4	233 31.8	N24 04.5	306 25.3	N13 53.1		129 28.3	S12 14.0		359 15.3	S 8 34.6		359 15.3	S 8 34.6		Rasalhague	96 19.3	N12 33.9
07	358 28.8	248 31.0	04.2	321 26.0	53.7		144 31.0	14.0		14 17.7	34.6		14 17.7	34.6		Regulus	207 58.8	N11 59.6
D 08	13 31.3	263 30.2	03.8	336 26.6	54.3		159 33.6	13.9		29 20.1	34.6		29 20.1	34.6		Rigel	281 26.1	S 8 12.6
O 09	28 33.8	278 29.5	03.4	351 27.3	54.9		174 36.3	13.9		44 22.5	34.5		44 22.5	34.5		Rigil Kent.	140 10.6	S60 48.9
M 10	43 36.2	293 28.7	03.1	6 28.0	55.5		189 38.9	13.8		59 24.9	34.5		59 24.9	34.5		Sabik	102 28.6	S15 43.1
I 11	58 38.7	308 28.0	02.7	21 28.6	56.													

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna						
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	3	4	5	6		
V I E R N E S	3 00	180 30.3	N22 15.3	250 20.7	15.2	N 4	51.3	10.3	54.5	N 72	□	□	□	00 19	{ ⁰⁰ ₂₃ { ⁰⁷ ₅₂ }	23 31	22 35
	01	195 30.2	15.6	264 54.9	15.3	5	01.6	10.3	54.5	N 70	□	□	□	00 26	00 20	00 13	{ ⁰⁰ ₂₃ { ⁰⁶ ₅₇ }
	02	210 30.1	15.9	279 29.2	15.3	5	11.9	10.2	54.5	68	□	□	□	00 31	00 30	00 30	00 32
	03	225 30.0	16.2	294 03.5	15.3	5	22.1	10.3	54.5	66	///	///	01 00	00 36	00 39	00 44	00 51
	04	240 29.8	16.6	308 37.8	15.3	5	32.4	10.2	54.4	64	///	///	01 51	00 40	00 47	00 55	01 07
	05	255 29.7	16.9	323 12.1	15.3	5	42.6	10.1	54.4	62	///	///	02 22	00 43	00 53	01 05	01 20
	06	270 29.6	N22 17.2	337 46.4	15.3	N 5	52.7	10.2	54.4	60	///	01 18	02 46	00 46	00 59	01 13	01 31
	07	285 29.5	17.5	352 20.7	15.2	6	02.9	10.1	54.4	N 58	///	01 55	03 04	00 49	01 04	01 21	01 41
	08	300 29.4	17.8	6 54.9	15.3	6	13.0	10.1	54.4	56	///	02 21	03 19	00 51	01 08	01 27	01 50
	09	315 29.3	18.1	21 29.2	15.3	6	23.1	10.0	54.4	54	01 11	02 41	03 32	00 53	01 12	01 33	01 57
	10	330 29.2	18.4	36 03.5	15.2	6	33.1	10.1	54.4	52	01 45	02 57	03 44	00 55	01 16	01 38	02 04
	11	345 29.1	18.7	50 37.7	15.3	6	43.2	10.0	54.3	50	02 09	03 11	03 54	00 57	01 19	01 43	02 10
	12	0 29.0	N22 19.0	65 12.0	15.2	N 6	53.2	9.9	54.3	45	02 51	03 39	04 15	01 01	01 26	01 53	02 24
	13	15 28.9	19.3	79 46.2	15.2	7	03.1	9.9	54.3	N 40	03 19	04 00	04 32	01 04	01 32	02 02	02 35
	14	30 28.8	19.6	94 20.4	15.2	7	13.0	9.9	54.3	35	03 41	04 17	04 46	01 07	01 37	02 10	02 44
	15	45 28.7	19.9	108 54.6	15.2	7	22.9	9.9	54.3	30	03 59	04 32	04 59	01 09	01 42	02 16	02 53
	16	60 28.6	20.3	123 28.8	15.2	7	32.8	9.8	54.3	20	04 27	04 55	05 20	01 14	01 50	02 28	03 07
	17	75 28.5	20.6	138 03.0	15.2	7	42.6	9.8	54.3	N 10	04 48	05 15	05 38	01 18	01 57	02 38	03 20
	18	90 28.4	N22 20.9	152 37.2	15.2	N 7	52.4	9.8	54.3	0	05 06	05 32	05 55	01 21	02 04	02 47	03 32
	19	105 28.3	21.2	167 11.4	15.1	8	02.2	9.7	54.3	S 10	05 22	05 49	06 11	01 25	02 11	02 57	03 44
	20	120 28.2	21.5	181 45.5	15.2	8	11.9	9.7	54.2	20	05 38	06 05	06 29	01 29	02 18	03 07	03 56
	21	135 28.1	21.8	196 19.7	15.1	8	21.6	9.7	54.2	30	05 53	06 23	06 49	01 34	02 26	03 19	04 11
	22	150 28.0	22.1	210 53.8	15.1	8	31.3	9.6	54.2	35	06 01	06 33	07 01	01 36	02 31	03 25	04 20
23	165 27.9	22.4	225 27.9	15.1	8	40.9	9.6	54.2	40	06 10	06 44	07 14	01 39	02 36	03 33	04 30	
4 00	180 27.8	N22 22.7	240 02.0	15.0	N 8	50.5	9.5	54.2	45	06 20	06 57	07 30	01 43	02 43	03 42	04 41	
01	195 27.7	23.0	254 36.0	15.1	9	00.0	9.5	54.2	S 50	06 31	07 12	07 50	01 47	02 50	03 53	04 55	
02	210 27.6	23.3	269 10.1	15.0	9	09.5	9.5	54.2	52	06 36	07 19	07 59	01 49	02 54	03 58	05 02	
03	225 27.5	23.6	283 44.1	15.1	9	19.0	9.4	54.2	54	06 41	07 26	08 09	01 51	02 58	04 04	05 09	
04	240 27.4	23.8	298 18.2	14.9	9	28.4	9.4	54.2	56	06 46	07 35	08 21	01 53	03 02	04 10	05 17	
05	255 27.3	24.1	312 52.1	15.0	9	37.8	9.4	54.2	58	06 53	07 44	08 35	01 56	03 07	04 17	05 27	
06	270 27.1	N22 24.4	327 26.1	15.0	N 9	47.2	9.3	54.2	S 60	07 00	07 55	08 51	01 59	03 12	04 25	05 37	
07	285 27.0	24.7	342 00.1	14.9	9	56.5	9.2	54.2	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
08	300 26.9	25.0	356 34.0	14.9	10	05.7	9.3	54.1			Civil	Náut.	3	4	5	6	
09	315 26.8	25.3	11 07.9	14.9	10	15.0	9.1	54.1	N 72	□	□	□	15 18	17 02	18 55	21 26	
10	330 26.7	25.6	25 41.8	14.9	10	24.1	9.2	54.1	N 70	□	□	□	15 07	16 42	18 21	20 06	
11	345 26.6	25.9	40 15.7	14.8	10	33.3	9.1	54.1	68	□	□	□	14 58	16 27	17 57	19 27	
12	0 26.5	N22 26.2	54 49.5	14.8	N10	42.4	9.0	54.1	66	23 01	///	///	14 51	16 14	17 38	19 01	
13	15 26.4	26.5	69 23.3	14.8	10	51.4	9.0	54.1	64	22 07	///	///	14 44	16 04	17 23	18 40	
14	30 26.3	26.8	83 57.1	14.8	11	00.4	9.0	54.1	62	21 35	///	///	14 39	15 55	17 10	18 24	
15	45 26.2	27.1	98 30.9	14.7	11	09.4	8.9	54.1	60	21 12	22 41	///	14 34	15 47	17 00	18 10	
16	60 26.1	27.3	113 04.6	14.7	11	18.3	8.8	54.1	N 58	20 53	22 03	///	14 30	15 41	16 51	17 59	
17	75 26.0	27.6	127 38.3	14.7	11	27.1	8.8	54.1	56	20 38	21 37	///	14 26	15 35	16 42	17 49	
18	90 25.9	N22 27.9	142 12.0	14.7	N11	35.9	8.8	54.1	54	20 25	21 17	22 47	14 23	15 30	16 35	17 40	
19	105 25.8	28.2	156 45.7	14.6	11	44.7	8.7	54.1	52	20 13	21 00	22 12	14 20	15 25	16 29	17 32	
20	120 25.6	28.5	171 19.3	14.6	11	53.4	8.7	54.1	50	20 03	20 46	21 48	14 18	15 21	16 23	17 24	
21	135 25.5	28.8	185 52.9	14.6	12	02.1	8.6	54.1	45	19 42	20 18	21 07	14 12	15 11	16 11	17 09	
22	150 25.4	29.1	200 26.5	14.5	12	10.7	8.6	54.1	N 40	19 25	19 57	20 38	14 07	15 04	16 00	16 57	
23	165 25.3	29.3	215 00.0	14.5	12	19.3	8.5	54.1	35	19 10	19 40	20 16	14 03	14 57	15 52	16 46	
5 00	180 25.2	N22 29.6	229 33.5	14.5	N12	27.8	8.5	54.1	30	18 58	19 25	19 58	13 59	14 51	15 44	16 37	
01	195 25.1	29.9	244 07.0	14.4	12	36.3	8.4	54.1	20	18 37	19 01	19 30	13 53	14 41	15 31	16 21	
02	210 25.0	30.2	258 40.4	14.4	12	44.7	8.3	54.1	N 10	18 19	18 42	19 08	13 47	14 33	15 19	16 07	
03	225 24.9	30.5	273 13.8	14.4	12	53.0	8.3	54.1	0	18 02	18 24	18 50	13 42	14 25	15 08	15 54	
04	240 24.8	30.7	287 47.2	14.4	13	01.3	8.3	54.1	S 10	17 45	18 08	18 34	13 37	14 16	14 58	15 41	
05	255 24.7	31.0	302 20.6	14.3	13	09.6	8.2	54.1	20	17 28	17 51	18 19	13 31	14 08	14 46	15 27	
06	270 24.6	N22 31.3	316 53.9	14.3	N13	17.8	8.1	54.1	30	17 07	17 33	18 03	13 25	13 58	14 33	15 11	
07	285 24.4	31.6	331 27.2	14.2	13	25.9	8.1	54.1	35	16 56	17 23	17 55	13 21	13 52	14 26	15 02	
08	300 24.3	31.9	346 00.4	14.2	13	34.0	8.1	54.1	40	16 42	17 12	17 46	13 17	13 46	14 17	14 51	
09	315 24.2	32.1	0 33.6	14.2	13	42.1	7.9	54.1	45	16 26	17 00	17 36	13 12	13 38	14 07	14 39	
10	330 24.1	32.4	15 06.8	14.1	13	50.0	8.0	54.0	S 50	16 07	16 44	17 25	13 07	13 29	13 55	14 24	
11	345 24.0	32.7	29 39.9	14.1	13	58.0	7.8	54.0	52	15 57	16 37	17 21	13 04	13 25	13 49	14 17	
12	0 23.9	N22 33.0	44 13.0	14.1	N14	05.8	7.8	54.0	54	15 47	16 30	17 15	13 01	13 21	13 43	14 10	
13	15 23.8	33.2	58 46.1	14.1	14	13.6	7.8	54.0	56	15 35	16 21	17 10	12 58	13 16	13 36	14 01	
14	30 23.7	33.5	73 19.2	14.0	14	21.4	7.6	54.0	58	15 22	16 12	17 03	12 54	13 10	13 29	13 51	
15	45 23.6	33.8	87 52.2	13.9	14	29.0	7.7	54.0	S 60	15 06	16 01	16 57	12 51	13 04	13 20	13 40	
16	60 23.4	34.0	102 25.1	13.9	14	36.7	7.5	54.1	Lat.	SOL		LUNA					
17	75 23.3	34.3	116 58.0	13.9	14	44.2	7.5	54.1		E.T. (+)	Pas. Mer.	Pas. Mer.		Edad	Fase		
18	90 23.2	N22 34.6	131 30.9	13.9	N14	51.											

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.		Dec.		A.H.G.		Dec.			Naut. Civil			6		7		8	
d h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
LUNES	00	180 22.6	N22 36.2	218 47.4	13.7	N15 35.4	7.1	54.1	N 72	□	□	□	22 35	□	□	□	□	□
	01	195 22.4	36.5	233 20.1	13.5	15 42.5	6.9	54.1	N 70	□	□	□	{00 23}	23 36	□	□	□	□
	02	210 22.3	36.7	247 52.6	13.6	15 49.4	7.0	54.1	68	□	□	□	00 32	00 36	00 46	01 12	01 56	02 26
	03	225 22.2	37.0	262 25.2	13.5	15 56.4	6.8	54.1	66	///	///	00 46	00 51	01 03	01 22	01 56	02 26	03 07
	04	240 22.1	37.2	276 57.7	13.4	16 03.2	6.8	54.1	64	///	///	01 45	01 07	01 24	01 49	02 26	03 07	03 56
	05	255 22.0	37.5	291 30.1	13.4	16 10.0	6.7	54.1	62	///	///	02 18	01 20	01 40	02 09	02 49	03 29	04 09
	06	270 21.9	N22 37.8	306 02.5	13.4	N16 16.7	6.7	54.1	60	///	01 10	02 42	01 31	01 55	02 25	03 07	03 56	04 36
	07	285 21.8	38.0	320 34.9	13.3	16 23.4	6.5	54.1	N 58	///	01 50	03 01	01 41	02 07	02 40	03 22	04 04	04 46
	08	300 21.6	38.3	335 07.2	13.3	16 29.9	6.5	54.1	56	///	02 17	03 17	01 50	02 17	02 52	03 35	04 17	04 59
	09	315 21.5	38.6	349 39.5	13.3	16 36.4	6.5	54.1	54	01 04	02 38	03 30	01 57	02 26	03 02	03 46	04 28	05 10
	10	330 21.4	38.8	4 11.8	13.2	16 42.9	6.3	54.1	52	01 41	02 54	03 42	02 04	02 35	03 12	03 56	04 38	05 20
	11	345 21.3	39.1	18 44.0	13.2	16 49.2	6.3	54.1	50	02 06	03 09	03 52	02 10	02 42	03 20	04 05	04 47	05 29
	12	0 21.2	N22 39.3	33 16.2	13.1	N16 55.5	6.3	54.1	45	02 49	03 37	04 14	02 24	02 58	03 38	04 23	05 05	05 47
	13	15 21.1	39.6	47 48.3	13.1	17 01.8	6.1	54.1	N 40	03 18	03 59	04 31	02 35	03 11	03 52	04 39	05 21	06 03
	14	30 21.0	39.8	62 20.4	13.0	17 07.9	6.1	54.1	35	03 40	04 16	04 46	02 44	03 22	04 05	04 52	05 34	06 16
	15	45 20.9	40.1	76 52.4	13.0	17 14.0	6.0	54.1	30	03 58	04 31	04 58	02 53	03 32	04 16	05 03	05 45	06 27
	16	60 20.7	40.3	91 24.4	13.0	17 20.0	5.9	54.1	20	04 26	04 55	05 20	03 07	03 49	04 34	05 23	06 05	06 47
	17	75 20.6	40.6	105 56.4	12.9	17 25.9	5.8	54.1	N 10	04 48	05 15	05 38	03 20	04 04	04 51	05 39	06 21	07 03
	18	90 20.5	N22 40.9	120 28.3	12.9	N17 31.7	5.8	54.1	0	05 07	05 33	05 55	03 32	04 18	05 06	05 55	06 37	07 19
	19	105 20.4	41.1	135 00.2	12.8	17 37.5	5.7	54.1	S 10	05 23	05 49	06 12	03 44	04 32	05 21	06 11	06 53	07 35
	20	120 20.3	41.4	149 32.0	12.8	17 43.2	5.6	54.2	20	05 39	06 06	06 30	03 56	04 47	05 38	06 28	07 10	07 52
	21	135 20.2	41.6	164 03.8	12.8	17 48.8	5.6	54.2	30	05 54	06 24	06 50	04 11	05 04	05 56	06 48	07 30	08 12
	22	150 20.0	41.9	178 35.6	12.7	17 54.4	5.4	54.2	35	06 03	06 34	07 02	04 20	05 14	06 08	06 59	07 41	08 23
23	165 19.9	42.1	193 07.3	12.7	17 59.8	5.4	54.2	40	06 12	06 46	07 16	04 30	05 26	06 20	07 12	07 54	08 36	
00	180 19.8	N22 42.4	207 39.0	12.6	N18 05.2	5.3	54.2	45	06 22	06 59	07 32	04 41	05 39	06 35	07 28	08 10	08 52	
01	195 19.7	42.6	222 10.6	12.6	18 10.5	5.2	54.2	S 50	06 33	07 14	07 52	04 55	05 56	06 54	07 47	08 29	09 11	
02	210 19.6	42.9	236 42.2	12.6	18 15.7	5.2	54.2	52	06 38	07 21	08 02	05 02	06 04	07 02	07 56	08 38	09 20	
03	225 19.5	43.1	251 13.8	12.5	18 20.9	5.0	54.2	54	06 43	07 29	08 12	05 09	06 12	07 12	08 06	08 48	09 30	
04	240 19.4	43.4	265 45.3	12.4	18 25.9	5.0	54.2	56	06 49	07 38	08 24	05 17	06 22	07 23	08 17	09 09	09 51	
05	255 19.2	43.6	280 16.7	12.5	18 30.9	4.9	54.2	58	06 55	07 47	08 38	05 27	06 33	07 36	08 30	09 22	10 04	
06	270 19.1	N22 43.8	294 48.2	12.3	N18 35.8	4.8	54.2	S 60	07 03	07 59	08 55	05 37	06 46	07 50	08 46	09 38	10 30	
07	285 19.0	44.1	309 19.5	12.4	18 40.6	4.7	54.2	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna						
08	300 18.9	44.3	323 50.9	12.3	18 45.3	4.7	54.2	6	7	8	9	6	7	8	9	6	7	
09	315 18.8	44.6	338 22.2	12.3	18 50.0	4.5	54.2	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
10	330 18.7	44.8	352 53.5	12.2	18 54.5	4.5	54.3	N 72	□	□	□	21 26	□	□	□	□	□	□
11	345 18.5	45.1	7 24.7	12.2	18 59.0	4.4	54.3	N 70	□	□	□	20 06	22 05	□	□	□	□	□
12	0 18.4	N22 45.3	21 55.9	12.1	N19 03.4	4.3	54.3	68	□	□	□	19 27	20 56	22 12	23 00	□	□	□
13	15 18.3	45.5	36 27.0	12.1	19 07.7	4.2	54.3	66	23 16	///	///	19 01	20 19	21 27	22 16	23 00	□	□
14	30 18.2	45.8	50 58.1	12.1	19 11.9	4.2	54.3	64	22 14	///	///	18 40	19 54	20 57	21 47	22 36	23 25	□
15	45 18.1	46.0	65 29.2	12.0	19 16.1	4.0	54.3	62	21 41	///	///	18 24	19 34	20 35	21 25	22 14	23 03	□
16	60 17.9	46.3	80 00.2	12.0	19 20.1	4.0	54.3	60	21 16	22 50	///	18 10	19 17	20 17	21 07	21 96	22 05	22 94
17	75 17.8	46.5	94 31.2	12.0	19 24.1	3.8	54.3	N 58	20 57	22 09	///	17 59	19 03	20 02	20 52	21 41	22 30	23 19
18	90 17.7	N22 46.7	109 02.2	11.9	N19 27.9	3.8	54.3	56	20 41	21 42	///	17 49	18 52	19 49	20 39	21 28	22 17	23 06
19	105 17.6	47.0	123 33.1	11.9	19 31.7	3.7	54.3	54	20 28	21 21	22 56	17 40	18 41	19 38	20 28	21 17	22 06	22 95
20	120 17.5	47.2	138 04.0	11.8	19 35.4	3.6	54.4	52	20 16	21 04	22 18	17 32	18 32	19 28	20 18	21 07	21 96	22 85
21	135 17.4	47.4	152 34.8	11.8	19 39.0	3.5	54.4	50	20 06	20 49	21 52	17 24	18 24	19 19	20 10	20 99	21 88	22 77
22	150 17.2	47.7	167 05.6	11.8	19 42.5	3.4	54.4	45	19 44	20 21	21 09	17 09	18 06	19 01	19 51	20 40	21 29	22 18
23	165 17.1	47.9	181 36.4	11.7	19 45.9	3.3	54.4	N 40	19 26	19 59	20 40	16 57	17 52	18 45	19 36	20 25	21 14	22 03
00	180 17.0	N22 48.1	196 07.1	11.7	N19 49.2	3.3	54.4	35	19 12	19 41	20 18	16 46	17 40	18 32	19 23	20 12	21 01	21 90
01	195 16.9	48.4	210 37.8	11.7	19 52.5	3.1	54.4	30	18 59	19 27	20 00	16 37	17 29	18 21	19 11	20 00	20 89	21 78
02	210 16.8	48.6	225 08.5	11.6	19 55.6	3.0	54.4	20	18 38	19 02	19 31	16 21	17 11	18 02	18 52	19 41	20 30	21 19
03	225 16.6	48.8	239 39.1	11.6	19 58.6	3.0	54.4	N 10	18 19	18 42	19 09	16 07	16 56	17 45	18 35	19 24	20 13	21 02
04	240 16.5	49.1	254 09.7	11.5	20 01.6	2.9	54.4	0	18 02	18 25	18 51	15 54	16 41	17 30	18 19	19 08	19 97	20 86
05	255 16.4	49.3	268 40.2	11.6	20 04.5	2.7	54.4	S 10	17 46	18 08	18 34	15 41	16 26	17 14	18 04	18 93	19 82	20 71
06	270 16.3	N22 49.5	283 10.8	11.5	N20 07.2	2.7	54.5	20	17 28	17 51	18 19	15 27	16 11	16 57	17 47	18 36	19 25	20 14
07	285 16.2	49.7	297 41.3	11.4	20 09.9	2.6	54.5	30	17 07	17 33	18 03	15 11	15 53	16 38	17 27	18 16	19 05	19 94
08	300 16.0	50.0	312 11.7	11.4	20 12.5	2.4	54.5	35	16 55	17 23	17 55	15 02	15 42	16 27	17 16	18 05	18 94	19 83
09	315 15.9	50.2	326 42.1	11.4	20 14.9	2.4	54.5	40	16 41	17 12	17 46	14 51	15 30	16 14	17 03	17 92	18 81	19 70
10	330 15.8	50.4	341 12.5	11.4	20 17.3	2.3	54.5	45	16 25	16 59	17 36	14 39	15 16	15 59	16 47	17 36	18 25	19 14
11	345 15.7																	

T.M.G. (TU)	ARIES			VENUS -4.0			MARTE +1.2			JUPITER -2.4			SATURNO +1.0			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.			
d h	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "	° ' "		° ' "	° ' "			
9 00	257 08.2	142 25.4 N23 27.3	217 24.8 N14 46.9	43 26.1 S12 09.5	272 51.2 S 8 33.1	Acomar	315 29.5 S40 19.5											
01	272 10.6	157 24.7 26.8	232 25.5 47.5	58 28.7 09.4	287 53.6 33.1	Achernar	335 37.7 S57 15.6											
02	287 13.1	172 24.0 26.3	247 26.2 48.1	73 31.3 09.4	302 56.0 33.1	Acrux	173 25.0 S63 04.5											
03	302 15.5	187 23.3 .. 25.9	262 26.8 .. 48.7	88 34.0 .. 09.3	317 58.4 .. 33.1	Adhara	255 24.1 S28 58.1											
04	317 18.0	202 22.6 25.4	277 27.5 49.3	103 36.6 09.3	333 00.8 33.1	Aldebaran	291 06.1 N16 29.8											
05	332 20.5	217 21.8 24.9	292 28.1 49.9	118 39.2 09.2	348 03.2 33.1													
06	347 22.9	232 21.1 N23 24.5	307 28.8 N14 50.4	133 41.9 S12 09.2	3 05.6 S 8 33.1	Alioth	166 32.9 N55 59.6											
07	2 25.4	247 20.4 24.0	322 29.4 51.0	148 44.5 09.1	18 08.0 33.1	Alkaid	153 09.8 N49 20.6											
08	17 27.9	262 19.7 23.5	337 30.1 51.6	163 47.1 09.1	33 10.4 33.0	Al Na'ir	28 01.4 S46 58.9											
J 09	32 30.3	277 19.0 .. 23.0	352 30.8 .. 52.2	178 49.7 .. 09.0	48 12.9 .. 33.0	Alnilam	276 01.2 S 1 12.4											
U 10	47 32.8	292 18.3 22.6	7 31.4 52.8	193 52.4 09.0	63 15.3 33.0	Alphard	218 10.2 S 8 38.3											
E 11	62 35.3	307 17.6 22.1	22 32.1 53.4	208 55.0 09.0	78 17.7 33.0													
Y 12	77 37.7	322 16.9 N23 21.6	37 32.7 N14 53.9	223 57.6 S12 08.9	93 20.1 S 8 33.0	Alphecca	126 22.7 N26 44.1											
E 13	92 40.2	337 16.2 21.1	52 33.4 54.5	239 00.3 08.9	108 22.5 33.0	Alpheratz	357 58.3 N29 03.5											
S 14	107 42.7	352 15.5 20.7	67 34.1 55.1	254 02.9 08.8	123 24.9 33.0	Altair	62 21.8 N 8 51.3											
15	122 45.1	7 14.7 .. 20.2	82 34.7 .. 55.7	269 05.5 .. 08.8	138 27.3 .. 33.0	Ankaa	353 29.9 S42 19.9											
16	137 47.6	22 14.0 19.7	97 35.4 56.3	284 08.1 08.7	153 29.7 32.9	Antares	112 43.4 S26 25.2											
17	152 50.0	37 13.3 19.2	112 36.0 56.9	299 10.8 08.7	168 32.1 32.9													
18	167 52.5	52 12.6 N23 18.7	127 36.7 N14 57.4	314 13.4 S12 08.6	183 34.5 S 8 32.9	Arcturus	146 08.5 N19 12.7											
19	182 55.0	67 11.9 18.2	142 37.3 58.0	329 16.0 08.6	198 36.9 32.9	Atria	107 57.4 S69 01.1											
20	197 57.4	82 11.2 17.8	157 38.0 58.6	344 18.6 08.6	213 39.3 32.9	Avior	234 24.3 S59 29.8											
21	212 59.9	97 10.5 .. 17.3	172 38.7 .. 59.2	359 21.3 .. 08.5	228 41.8 .. 32.9	Bellatrix	278 47.6 N 6 20.6											
22	228 02.4	112 09.8 16.8	187 39.3 14 59.8	14 23.9 08.5	243 44.2 32.9	Betelgeuse	271 17.1 N 7 24.3											
23	243 04.8	127 09.1 16.3	202 40.0 15 00.4	29 26.5 08.4	258 46.6 32.9													
10 00	258 07.3	142 08.4 N23 15.8	217 40.6 N15 00.9	44 29.1 S12 08.4	273 49.0 S 8 32.9	Canopus	264 03.0 S52 41.7											
01	273 09.8	157 07.7 15.3	232 41.3 01.5	59 31.8 08.3	288 51.4 32.8	Capella	280 56.0 N45 59.5											
02	288 12.2	172 07.0 14.8	247 41.9 02.1	74 34.4 08.3	303 53.8 32.8	Deneb	49 40.9 N45 15.6											
03	303 14.7	187 06.3 .. 14.3	262 42.6 .. 02.7	89 37.0 .. 08.2	318 56.2 .. 32.8	Denebola	182 48.1 N14 36.2											
04	318 17.1	202 05.6 13.8	277 43.2 03.3	104 39.6 08.2	333 58.6 32.8	Diphda	349 10.3 S18 00.9											
05	333 19.6	217 04.9 13.3	292 43.9 03.8	119 42.2 08.2	349 01.0 32.8													
06	348 22.1	232 04.2 N23 12.8	307 44.6 N15 04.4	134 44.9 S12 08.1	4 03.4 S 8 32.8	Dubhe	194 09.2 N61 47.0											
07	3 24.5	247 03.5 12.3	322 45.2 05.0	149 47.5 08.1	19 05.9 32.8	Elnath	278 31.0 N28 36.1											
08	18 27.0	262 02.8 11.8	337 45.9 05.6	164 50.1 08.0	34 08.3 32.8	Eltanin	90 52.2 N51 29.4											
V 09	33 29.5	277 02.1 .. 11.3	352 46.5 .. 06.1	179 52.7 .. 08.0	49 10.7 .. 32.7	Enif	34 01.0 N 9 51.0											
I 10	48 31.9	292 01.4 10.8	7 47.2 06.7	194 55.4 07.9	64 13.1 32.7	Fomalhaut	15 39.6 S29 38.9											
E 11	63 34.4	307 00.7 10.3	22 47.8 07.3	209 58.0 07.9	79 15.5 32.7													
R 12	78 36.9	322 00.0 N23 09.8	37 48.5 N15 07.9	225 00.6 S12 07.9	94 17.9 S 8 32.7	Gacrux	172 16.6 S57 05.3											
N 13	93 39.3	336 59.3 09.3	52 49.2 08.5	240 03.2 07.8	109 20.3 32.7	Gienah	176 06.9 S17 30.9											
E 14	108 41.8	351 58.6 08.8	67 49.8 09.0	255 05.8 07.8	124 22.7 32.7	Hadar	149 07.7 S60 21.0											
S 15	123 44.3	6 57.9 .. 08.3	82 50.5 .. 09.6	270 08.5 .. 07.7	139 25.1 .. 32.7	Hamal	328 17.1 N23 26.1											
16	138 46.7	21 57.2 07.8	97 51.1 10.2	285 11.1 07.7	154 27.6 32.7	Kaus Aust.	84 02.3 S34 23.1											
17	153 49.2	36 56.5 07.3	112 51.8 10.8	300 13.7 07.6	169 30.0 32.7													
18	168 51.6	51 55.8 N23 06.8	127 52.4 N15 11.3	315 16.3 S12 07.6	184 32.4 S 8 32.7	Kochab	137 18.5 N74 10.9											
19	183 54.1	66 55.1 06.3	142 53.1 11.9	330 18.9 07.6	199 34.8 32.6	Markab	13 52.5 N15 10.5											
20	198 56.6	81 54.4 05.8	157 53.7 12.5	345 21.6 07.5	214 37.2 32.6	Menkar	314 30.2 N 4 04.0											
21	213 59.0	96 53.7 .. 05.2	172 54.4 .. 13.1	0 24.2 .. 07.5	229 39.6 .. 32.6	Menkent	148 24.1 S36 20.8											
22	229 01.5	111 53.1 04.7	187 55.1 13.6	15 26.8 07.4	244 42.0 32.6	Miaplacidus	221 43.1 S69 42.1											
23	244 04.0	126 52.4 04.2	202 55.7 14.2	30 29.4 07.4	259 44.4 32.6													
11 00	259 06.4	141 51.7 N23 03.7	217 56.4 N15 14.8	45 32.0 S12 07.3	274 46.9 S 8 32.6	Mirfak	309 01.2 N49 50.3											
01	274 08.9	156 51.0 03.2	232 57.0 15.4	60 34.6 07.3	289 49.3 32.6	Nunki	76 15.6 S26 18.1											
02	289 11.4	171 50.3 02.7	247 57.7 15.9	75 37.3 07.3	304 51.7 32.6	Peacock	53 41.2 S56 44.9											
03	304 13.8	186 49.6 .. 02.1	262 58.3 .. 16.5	90 39.9 .. 07.2	319 54.1 .. 32.6	Pollux	243 45.4 N28 02.3											
04	319 16.3	201 48.9 01.6	277 59.0 17.1	105 42.5 07.2	334 56.5 32.6	Procyon	245 14.9 N 5 14.2											
05	334 18.8	216 48.2 01.1	292 59.6 17.6	120 45.1 07.1	349 58.9 32.5													
06	349 21.2	231 47.5 N23 00.6	308 00.3 N15 18.2	135 47.7 S12 07.1	5 01.3 S 8 32.5	Rasalhague	96 19.3 N12 33.9											
07	4 23.7	246 46.8 23 00.0	323 01.0 18.8	150 50.3 07.1	20 03.8 32.5	Regulus	207 58.8 N11 59.6											
08	19 26.1	261 46.2 22 59.5	338 01.6 19.4	165 53.0 07.0	35 06.2 32.5	Rigel	281 26.1 S 8 12.6											
S 09	34 28.6	276 45.5 .. 59.0	353 02.3 .. 19.9	180 55.6 .. 07.0	50 08.6 .. 32.5	Rigil Kent.	140 10.6 S60 48.9											
A 10	49 31.1	291 44.8 58.5	8 02.9 20.5	195 58.2 06.9	65 11.0 32.5	Sabik	102 28.5 S15 43.0											
B 11	64 33.5	306 44.1 57.9	23 03.6 21.1	211 00.8 06.9	80 13.4 32.5													
A 12	79 36.0	321 43.4 N22 57.4	38 04.2 N15 21.6	226 03.4 S12 06.8	95 15.8 S 8 32.5	Schedar	349 57.0 N56 30.2											
D 13	94 38.5	336 42.7 56.9	53 04.9 22.2	241 06.0 06.8	110 18.2 32.5	Shaula	96 40.8 S37 05.9											
O 14	109 40.9	351 42.1 56.3	68 05.5 22.8	256 08.6 06.8	125 20.7 32.5	Sirius	258 46.6 S16 42.7											
15	124 43.4	6 41.4 .. 55.8	83 06.2 .. 23.4	271 11.2 .. 06.7	140 23.1 .. 32.4	Spica	158 46.1 S11 08.1											
16	139 45.9	21 40.7 55.3	98 06.8 23.9	286 13.9 06.7	155 25.5 32.4	Suhail	223 03.2 S43 24.9											
17	154 48.3	36 40.0 54.7	113 07.5 24.5	301 16.5 06.6	170 27.9 32.4													
18	169 50.8	51 39.3 N22 54.2	128 08.2 N15 25.1	316 19.1 S12 06.6	185 30.3 S 8 32.4	Vega	80 48.2 N38 46.7											
19	184 53.2	66 38.6 53.7	143 08.8 25.6	331 21.7 06.6	200 32.7 32.4	Zuben'ubi	137 20.9 S16 01.2											
20	199 55.7	81 38.0 53.1	158 09.5 26.2	346 24.3 06.														

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna						
	A.H.G.		Dec.		A.H.G.		v Dec.			Naut.	Civil		9	10	11	12			
	o	'	o	'	o	'	o	'									h	m	h
9 00	180	14.1	N22	53.5	184	15.0	10.9	N20	40.5	0.9	54.7	N 72	□	□	□	□	□	□	03 39
01	195	14.0		53.7	198	44.9	11.0	20	41.4	0.8	54.7	N 70	□	□	□	□	□	□	02 34
02	210	13.9		53.9	213	14.9	10.9	20	42.2	0.7	54.7	68	□	□	□	01 12	02 08	03 31	05 07
03	225	13.7	..	54.2	227	44.8	10.9	20	42.9	0.6	54.7	66	///	///	00 30	01 56	02 51	04 05	05 30
04	240	13.6		54.4	242	14.7	10.9	20	43.5	0.5	54.7	64	///	///	01 40	02 26	03 20	04 29	05 49
05	255	13.5		54.6	256	44.6	10.9	20	44.0	0.4	54.8	62	///	///	02 14	02 49	03 42	04 48	06 04
06	270	13.4	N22	54.8	271	14.5	10.8	N20	44.4	0.3	54.8	60	///	01 03	02 39	03 07	04 00	05 04	06 17
07	285	13.3		55.0	285	44.3	10.9	20	44.7	0.2	54.8	N 58	///	01 46	02 59	03 22	04 14	05 17	06 28
08	300	13.1		55.2	300	14.2	10.8	20	44.9	0.1	54.8	56	///	02 14	03 15	03 35	04 27	05 29	06 37
J 09	315	13.0	..	55.4	314	44.0	10.8	20	45.0	0.0	54.8	54	00 58	02 35	03 29	03 46	04 38	05 39	06 46
U 10	330	12.9		55.6	329	13.8	10.7	20	45.0	0.1	54.8	52	01 37	02 53	03 41	03 56	04 48	05 48	06 53
E 11	345	12.8		55.8	343	43.5	10.8	20	44.9	0.2	54.9	50	02 03	03 07	03 51	04 05	04 57	05 56	07 00
V 12	0	12.6	N22	56.0	358	13.3	10.7	N20	44.7	0.4	54.9	45	02 47	03 36	04 13	04 23	05 15	06 13	07 14
S 13	15	12.5		56.3	12	43.0	10.8	20	44.3	0.4	54.9	N 40	03 17	03 58	04 31	04 39	05 30	06 27	07 26
14	30	12.4		56.5	27	12.8	10.7	20	43.9	0.5	54.9	35	03 40	04 16	04 46	04 52	05 43	06 38	07 36
15	45	12.3	..	56.7	41	42.5	10.7	20	43.4	0.6	54.9	30	03 58	04 31	04 58	05 03	05 54	06 49	07 45
16	60	12.2		56.9	56	12.2	10.7	20	42.8	0.8	54.9	20	04 26	04 55	05 20	05 23	06 13	07 06	08 00
17	75	12.0		57.1	70	41.9	10.6	20	42.0	0.8	54.9	N 10	04 48	05 15	05 38	05 39	06 30	07 22	08 14
18	90	11.9	N22	57.3	85	11.5	10.7	N20	41.2	0.9	55.0	0	05 07	05 33	05 56	05 55	06 46	07 36	08 26
19	105	11.8		57.5	99	41.2	10.7	20	40.3	1.1	55.0	S 10	05 24	05 50	06 13	06 11	07 01	07 50	08 38
20	120	11.7		57.7	114	10.9	10.6	20	39.2	1.1	55.0	20	05 40	06 07	06 31	06 28	07 18	08 06	08 51
21	135	11.5	..	57.9	128	40.5	10.6	20	38.1	1.3	55.0	30	05 56	06 25	06 52	06 48	07 37	08 23	09 06
22	150	11.4		58.1	143	10.1	10.6	20	36.8	1.3	55.0	35	06 04	06 36	07 04	06 59	07 48	08 33	09 15
23	165	11.3		58.3	157	39.7	10.7	20	35.5	1.5	55.0	40	06 13	06 47	07 18	07 12	08 01	08 45	09 25
10 00	180	11.2	N22	58.5	172	09.4	10.6	N20	34.0	1.6	55.1	45	06 23	07 01	07 34	07 28	08 16	08 59	09 37
01	195	11.0		58.7	186	39.0	10.6	20	32.4	1.6	55.1	S 50	06 35	07 16	07 54	07 47	08 34	09 15	09 51
02	210	10.9		58.9	201	08.6	10.5	20	30.8	1.8	55.1	52	06 40	07 23	08 04	07 56	08 43	09 23	09 57
03	225	10.8	..	59.1	215	38.1	10.6	20	29.0	1.9	55.1	54	06 45	07 31	08 15	08 06	08 52	09 32	10 04
04	240	10.7		59.3	230	07.7	10.6	20	27.1	1.9	55.1	56	06 51	07 40	08 27	08 17	09 03	09 41	10 12
05	255	10.5		59.5	244	37.3	10.6	20	25.2	2.1	55.1	58	06 58	07 50	08 41	08 30	09 16	09 53	10 21
06	270	10.4	N22	59.7	259	06.9	10.5	N20	23.1	2.2	55.2	S 60	07 05	08 01	08 58	08 46	09 31	10 05	10 32
07	285	10.3	22	59.9	273	36.4	10.6	20	20.9	2.3	55.2	Lat.	Ocaso Sol	Crepúsculo Civil	Ocaso Luna				
08	300	10.2	23	00.0	288	06.0	10.6	20	18.6	2.4	55.2	Naut.	9	10	11	12			
09	315	10.0	..	00.2	302	35.6	10.5	20	16.2	2.5	55.2	N 72	h m	h m	h m	h m	h m	h m	h m
U 10	330	09.9		00.4	317	05.1	10.6	20	13.7	2.6	55.2	N 70	□	□	□	□	□	□	00 19
E 11	345	09.8		00.6	331	34.7	10.5	20	11.1	2.7	55.2	68	□	□	□	23 00	23 21	23 30	23 33
V 12	0	09.7	N23	00.8	346	04.2	10.6	N20	08.4	2.8	55.3	66	23 35	///	///	22 16	22 47	23 05	23 16
S 13	15	09.5		01.0	0	33.8	10.6	20	05.6	2.9	55.3	64	22 21	///	///	21 47	22 22	22 46	23 02
14	30	09.4		01.2	15	03.4	10.5	20	02.7	3.0	55.3	62	21 45	///	///	21 25	22 03	22 30	22 50
15	45	09.3	..	01.4	29	32.9	10.6	19	59.7	3.1	55.3	60	21 20	22 58	///	21 07	21 47	22 17	22 40
16	60	09.2		01.6	44	02.5	10.5	19	56.6	3.2	55.3	N 58	21 01	22 14	///	20 52	21 33	22 06	22 31
17	75	09.0		01.8	58	32.0	10.6	19	53.4	3.4	55.3	56	20 44	21 45	///	20 39	21 21	21 56	22 24
18	90	08.9	N23	01.9	73	01.6	10.6	N19	50.0	3.4	55.4	54	20 30	21 24	23 03	20 28	21 11	21 47	22 17
19	105	08.8		02.1	87	31.2	10.5	19	46.6	3.5	55.4	52	20 18	21 07	22 22	20 18	21 02	21 39	22 10
20	120	08.7		02.3	102	00.7	10.6	19	43.1	3.6	55.4	50	20 08	20 52	21 56	20 10	20 54	21 32	22 05
21	135	08.5	..	02.5	116	30.3	10.6	19	39.5	3.8	55.4	45	19 46	20 23	21 12	19 51	20 36	21 17	21 52
22	150	08.4		02.7	130	59.9	10.6	19	35.7	3.8	55.4	N 40	19 28	20 01	20 42	19 36	20 22	21 04	21 42
23	165	08.3		02.9	145	29.5	10.6	19	31.9	3.9	55.5	35	19 13	19 43	20 19	19 23	20 10	20 53	21 34
11 00	180	08.1	N23	03.0	159	59.1	10.6	N19	28.0	4.1	55.5	30	19 01	19 28	20 01	19 11	19 59	20 44	21 26
01	195	08.0		03.2	174	28.7	10.6	19	23.9	4.1	55.5	20	18 39	19 03	19 33	18 52	19 41	20 28	21 12
02	210	07.9		03.4	188	58.3	10.6	19	19.8	4.2	55.5	N 10	18 20	18 43	19 10	18 35	19 25	20 13	21 01
03	225	07.8	..	03.6	203	27.9	10.6	19	15.6	4.4	55.5	0	18 03	18 25	18 52	18 19	19 10	20 00	20 50
04	240	07.6		03.8	217	57.5	10.6	19	11.2	4.4	55.5	S 10	17 46	18 09	18 35	18 04	18 55	19 47	20 38
05	255	07.5		03.9	232	27.1	10.7	19	06.8	4.5	55.6	20	17 28	17 52	18 19	17 47	18 39	19 32	20 27
06	270	07.4	N23	04.1	246	56.8	10.6	N19	02.3	4.7	55.6	30	17 07	17 33	18 03	17 27	18 20	19 15	20 13
07	285	07.3		04.3	261	26.4	10.7	18	57.6	4.7	55.6	35	16 55	17 23	17 54	17 16	18 09	19 06	20 05
08	300	07.1		04.5	275	56.1	10.7	18	52.9	4.8	55.6	40	16 41	17 11	17 45	17 03	17 57	18 55	19 56
S 09	315	07.0	..	04.7	290	25.8	10.6	18	48.1	5.0	55.6	45	16 24	16 58	17 35	16 47	17 42	18 42	19 45
A 10	330	06.9		04.8	304	55.4	10.7	18	43.1	5.0	55.7	S 50	16 04	16 42	17 24	16 28	17 24	18 26	19 32
B 11	345	06.8		05.0	319	25.1	10.7	18	38.1	5.1	55.7	52	15 55	16 35	17 19	16 19	17 15	18 18	19 26
A 12	0	06.6	N23	05.2	333	54.8	10.8	N18	33.0	5.2	55.7	54	15 44	16 27	17 13	16 09	17 06	18 10	19 19
D 13	15	06.5																	

T.M.G. (TU)	ARIES			VENUS -4.0			MARTE +1.2			JUPITER -2.3			SATURNO +1.0			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.	A. H. S.	Dec.	
DOMINGO	12 00	260 05.6	141 35.3	N22 51.0	218 12.1	N15 28.5	46 34.8	S12 06.4	275 44.8	S 8 32.4	290 47.2	32.4	Acamar	315 29.5	S40 19.5			
	01	275 08.0	156 34.6	50.4	233 12.7	29.0	61 37.4	06.3	290 47.2	32.4	305 49.7	32.4	Achernar	335 37.7	S57 15.6			
	02	290 10.5	171 33.9	49.9	248 13.4	29.6	76 40.0	06.3	305 49.7	32.4	320 52.1	32.3	Acrux	173 25.0	S63 04.5			
	03	305 13.0	186 33.2	49.3	263 14.0	30.2	91 42.6	06.3	320 52.1	32.3	335 54.5	32.3	Adhara	255 24.1	S28 58.1			
	04	320 15.4	201 32.6	48.8	278 14.7	30.7	106 45.2	06.2	335 54.5	32.3	350 56.9	32.3	Aldebaran	291 06.1	N16 29.8			
	05	335 17.9	216 31.9	48.2	293 15.4	31.3	121 47.8	06.2	350 56.9	32.3	5 59.3	S 8 32.3	Alioth	166 33.0	N55 59.6			
	06	350 20.4	231 31.2	N22 47.7	308 16.0	N15 31.9	136 50.4	S12 06.1	5 59.3	S 8 32.3	21 01.8	32.3	Alkaid	153 09.8	N49 20.6			
	07	5 22.8	246 30.5	47.1	323 16.7	32.4	151 53.0	06.1	21 01.8	32.3	36 04.2	32.3	Al Na'ir	28 01.4	S46 58.9			
	08	20 25.3	261 29.9	46.6	338 17.3	33.0	166 55.6	06.1	36 04.2	32.3	51 06.6	32.3	Alnilam	276 01.2	S 1 12.4			
	09	35 27.7	276 29.2	46.0	353 18.0	33.6	181 58.2	06.0	51 06.6	32.3	66 09.0	32.3	Alphard	218 10.2	S 8 38.3			
	10	50 30.2	291 28.5	45.5	8 18.6	34.1	197 00.8	06.0	66 09.0	32.3	81 11.4	32.3						
	11	65 32.7	306 27.8	44.9	23 19.3	34.7	212 03.5	05.9	81 11.4	32.3	96 13.8	S 8 32.3	Alphecca	126 22.7	N26 44.1			
	12	80 35.1	321 27.2	N22 44.4	38 19.9	N15 35.3	227 06.1	S12 05.9	96 13.8	S 8 32.3	111 16.3	32.3	Alpheratz	357 58.3	N29 03.5			
	13	95 37.6	336 26.5	43.8	53 20.6	35.8	242 08.7	05.9	111 16.3	32.3	126 18.7	32.3	Altair	62 21.8	N 8 51.3			
	14	110 40.1	351 25.8	43.3	68 21.2	36.4	257 11.3	05.8	126 18.7	32.3	141 21.1	32.2	Ankaa	353 29.8	S42 19.9			
	15	125 42.5	6 25.2	42.7	83 21.9	37.0	272 13.9	05.8	141 21.1	32.2	156 23.5	32.2	Antares	112 43.4	S26 25.2			
	16	140 45.0	21 24.5	42.1	98 22.5	37.5	287 16.5	05.8	156 23.5	32.2	302 19.1	05.7						
	17	155 47.5	36 23.8	41.6	113 23.2	38.1	307 19.1	05.7	302 19.1	05.7	186 28.4	S 8 32.2	Arcturus	146 08.5	N19 12.7			
	18	170 49.9	51 23.2	N22 41.0	128 23.8	N15 38.6	317 21.7	S12 05.7	186 28.4	S 8 32.2	201 30.8	32.2	Atria	107 57.4	S69 01.1			
	19	185 52.4	66 22.5	40.4	143 24.5	39.2	332 24.3	05.6	201 30.8	32.2	216 33.2	32.2	Avior	234 24.3	S59 29.8			
	20	200 54.9	81 21.8	39.9	158 25.1	39.8	347 26.9	05.6	216 33.2	32.2	231 35.6	32.2	Bellatrix	278 47.6	N 6 20.6			
	21	215 57.3	96 21.2	39.3	173 25.8	40.3	2 29.5	05.6	231 35.6	32.2	246 38.0	32.2	Betelgeuse	271 17.0	N 7 24.3			
	22	230 59.8	111 20.5	38.8	188 26.5	40.9	17 32.1	05.5	246 38.0	32.2	261 40.5	32.2						
23	246 02.2	126 19.8	38.2	203 27.1	41.4	32 34.7	05.5	261 40.5	32.2									
LUNES	13 00	261 04.7	141 19.2	N22 37.6	218 27.8	N15 42.0	47 37.3	S12 05.5	276 42.9	S 8 32.2	291 45.3	32.2	Canopus	264 03.0	S52 41.7			
	01	276 07.2	156 18.5	37.1	233 28.4	42.6	62 39.9	05.4	291 45.3	32.2	306 47.7	32.2	Capella	280 56.0	N45 59.5			
	02	291 09.6	171 17.8	36.5	248 29.1	43.1	77 42.5	05.4	306 47.7	32.2	92 45.1	05.3	Deneb	49 40.8	N45 15.6			
	03	306 12.1	186 17.2	35.9	263 29.7	43.7	92 45.1	05.3	321 50.2	32.2	107 47.7	05.3	Denebola	182 48.1	N14 36.2			
	04	321 14.6	201 16.5	35.3	278 30.4	44.2	107 47.7	05.3	321 50.2	32.2	122 50.3	05.3	Diphda	349 10.3	S18 00.9			
	05	336 17.0	216 15.9	34.8	293 31.0	44.8	122 50.3	05.3	336 52.6	32.2	6 57.4	S 8 32.1	Dubhe	194 09.2	N61 47.0			
	06	351 19.5	231 15.2	N22 34.2	308 31.7	N15 45.4	137 52.9	S12 05.2	6 57.4	S 8 32.1	21 59.8	32.1	Elnath	278 31.0	N28 36.1			
	07	6 22.0	246 14.5	33.6	323 32.3	45.9	152 55.5	05.2	21 59.8	32.1	37 02.3	32.1	Eltanin	90 52.2	N51 29.4			
	08	21 24.4	261 13.9	33.0	338 33.0	46.5	167 58.1	05.2	37 02.3	32.1	52 04.7	32.1	Enif	34 00.9	N 9 51.0			
	09	36 26.9	276 13.2	32.5	353 33.6	47.0	183 00.7	05.1	52 04.7	32.1	67 07.1	32.1	Fomalhaut	15 39.6	S29 38.8			
	10	51 29.3	291 12.6	31.9	8 34.3	47.6	198 03.3	05.1	67 07.1	32.1	82 09.5	32.1						
	11	66 31.8	306 11.9	31.3	23 34.9	48.2	213 05.9	05.0	82 09.5	32.1	97 12.0	S 8 32.1	Gacrux	172 16.6	S57 05.3			
	12	81 34.3	321 11.2	N22 30.7	38 35.6	N15 48.7	228 08.5	S12 05.0	97 12.0	S 8 32.1	112 14.4	32.1	Gienah	176 06.9	S17 30.9			
	13	96 36.7	336 10.6	30.1	53 36.2	49.3	243 11.1	05.0	112 14.4	32.1	127 16.8	32.1	Hadar	149 07.7	S60 21.1			
	14	111 39.2	351 09.9	29.6	68 36.9	49.8	258 13.7	04.9	127 16.8	32.1	142 19.2	32.1	Hamal	328 17.1	N23 26.1			
	15	126 41.7	6 09.3	29.0	83 37.5	50.4	273 16.3	04.9	142 19.2	32.1	157 21.6	32.1	Kaus Aust.	84 02.3	S34 23.1			
	16	141 44.1	21 08.6	28.4	98 38.2	50.9	288 18.9	04.9	157 21.6	32.1	302 21.5	04.8						
	17	156 46.6	36 08.0	27.8	113 38.8	51.5	302 21.5	04.8	302 21.5	04.8	187 26.5	S 8 32.1	Kochab	137 18.6	N74 10.9			
	18	171 49.1	51 07.3	N22 27.2	128 39.5	N15 52.1	318 24.1	S12 04.8	187 26.5	S 8 32.1	202 28.9	32.1	Markab	13 52.5	N15 10.5			
	19	186 51.5	66 06.7	26.6	143 40.1	52.6	333 26.7	04.8	202 28.9	32.1	217 31.3	32.1	Menkar	314 30.2	N 4 04.0			
	20	201 54.0	81 06.0	26.0	158 40.8	53.2	348 29.3	04.7	217 31.3	32.1	232 33.8	32.1	Menkent	148 24.1	S36 20.8			
	21	216 56.5	96 05.4	25.4	173 41.4	53.7	3 31.9	04.7	232 33.8	32.1	247 36.2	32.0	Miaplacidus	221 43.1	S69 42.1			
	22	231 58.9	111 04.7	24.9	188 42.1	54.3	18 34.5	04.7	247 36.2	32.0	262 38.6	32.0						
23	247 01.4	126 04.1	24.3	203 42.7	54.8	33 37.1	04.6	262 38.6	32.0									
MARTES	14 00	262 03.8	141 03.4	N22 23.7	218 43.4	N15 55.4	48 39.7	S12 04.6	277 41.0	S 8 32.0	292 43.5	32.0	Mirfak	309 01.2	N49 50.3			
	01	277 06.3	156 02.8	23.1	233 44.0	55.9	63 42.3	04.6	292 43.5	32.0	307 45.9	32.0	Nunki	76 15.6	S26 18.1			
	02	292 08.8	171 02.1	22.5	248 44.7	56.5	78 44.9	04.5	307 45.9	32.0	93 47.5	04.5	Peacock	53 41.1	S56 44.9			
	03	307 11.2	186 01.5	21.9	263 45.3	57.0	93 47.5	04.5	322 48.3	32.0	108 50.1	04.5	Pollux	243 45.4	N28 02.3			
	04	322 13.7	201 00.8	21.3	278 46.0	57.6	108 50.1	04.5	337 50.7	32.0	123 52.7	04.4	Procyon	245 14.9	N 5 14.2			
	05	337 16.2	216 00.2	20.7	293 46.7	58.1	123 52.7	04.4	352 53.2	32.0	7 55.6	S 8 32.0	Rasalhague	96 19.3	N12 33.9			
	06	352 18.6	230 59.5	N22 20.1	308 47.3	N15 58.7	138 55.3	S12 04.4	7 55.6	S 8 32.0	22 58.0	32.0	Regulus	207 58.8	N11 59.6			
	07	7 21.1	245 58.9	19.5	323 48.0	59.2	153 57.9	04.4	22 58.0	32.0	38 00.4	32.0	Rigel	281 26.1	S 8 12.6			
	08	22 23.6	260 58.2	18.9	338 48.6	59.8	169 00.5	04.3	38 00.4	32.0	53 02.9	32.0	Rigil Kent.	140 10.6	S60 48.9			
	09	37 26.0	275 57.6	18.3	353 49.3	60.4	184 03.1	04.3	53 02.9	32.0	68 05.3	32.0	Sabik	102 28.5	S15 43.0			
	10	52 28.5	290 56.9	17.7	8 49.9	60.9	199 05.7	04.2	68 05.3	32.0	83 07.7	32.0						
	11	67 31.0	305 56.3	17.1	23 50.6	61.5	214 08.3	04.2	83 07.7	32.0	98 10.2	S 8 32.0	Schedar	349 57.0	N56 30.2			
	12	82 33.4	320 55.7	N22 16.5	38 51.2	N16 02.0	229 10.9	S12 04.2	98 10.2	S 8 32.0	113 12.6	32.0	Shaula	96 40.8	S37 05.9			
	13	97 35.9	335 55.0	15.9	53 51.9	02.6	244 13.5	04.1	113 12.6	32.0	128 15.0	32.0	Sirius	258 46.6	S16 42.7			
	14	112 38.3	350 54.4	15.3	68 52.5	03.1	259 16.1</											

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna						
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	12	13	14	15		
d h	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	° / ' / "	h m	h m	h m	h m	h m	h m	h m			
DOMINGO	12 00	180 05.1	N23 07.2	147 52.4	10.8	N17 24.0	6.3	55.9	N 72	□	□	□	03 39	05 58	07 59	09 54	
	01	195 05.0	07.4	162 22.2	10.9	17 17.7	6.5	56.0	N 70	□	□	□	04 34	06 25	08 14	10 01	
	02	210 04.8	07.5	176 52.1	11.0	17 11.2	6.5	56.0	68	□	□	□	05 07	06 46	08 26	10 06	
	03	225 04.7	07.7	191 22.1	10.9	17 04.7	6.6	56.0	66	□	□	□	05 30	07 02	08 36	10 11	
	04	240 04.6	07.9	205 52.0	11.0	16 58.1	6.8	56.0	64	////	////	01 35	05 49	07 15	08 44	10 14	
	05	255 04.4	08.0	220 22.0	10.9	16 51.3	6.8	56.0	62	////	////	02 12	06 04	07 26	08 51	10 18	
	06	270 04.3	N23 08.2	234 51.9	11.0	N16 44.5	6.9	56.1	60	////	00 57	02 37	06 17	07 35	08 57	10 20	
	07	285 04.2	08.3	249 21.9	11.0	16 37.6	7.0	56.1	N 58	////	01 43	02 57	06 28	07 43	09 02	10 23	
	08	300 04.1	08.5	263 51.9	11.1	16 30.6	7.0	56.1	56	////	02 12	03 14	06 37	07 51	09 07	10 25	
	09	315 03.9	08.7	278 22.0	11.0	16 23.6	7.2	56.1	54	00 52	02 34	03 28	06 46	07 57	09 11	10 27	
	10	330 03.8	08.8	292 52.0	11.1	16 16.4	7.2	56.1	52	01 35	02 51	03 40	06 53	08 03	09 15	10 29	
	11	345 03.7	09.0	307 22.1	11.0	16 09.2	7.4	56.2	50	02 02	03 06	03 50	07 00	08 08	09 18	10 30	
	LUNES	12	0 03.5	N23 09.1	321 52.1	11.1	N16 01.8	7.4	56.2	45	02 46	03 35	04 13	07 14	08 19	09 26	10 34
		13	15 03.4	09.3	336 22.2	11.2	15 54.4	7.5	56.2	N 40	03 16	03 58	04 31	07 26	08 28	09 32	10 37
		14	30 03.3	09.4	350 52.4	11.1	15 46.9	7.6	56.2	35	03 39	04 16	04 45	07 36	08 36	09 37	10 39
		15	45 03.1	09.6	5 22.5	11.1	15 39.3	7.7	56.3	30	03 58	04 31	04 58	07 45	08 43	09 42	10 42
		16	60 03.0	09.8	19 52.6	11.2	15 31.6	7.7	56.3	20	04 26	04 56	05 20	08 00	08 55	09 50	10 45
		17	75 02.9	09.9	34 22.8	11.2	15 23.9	7.9	56.3	N 10	04 49	05 16	05 39	08 14	09 05	09 57	10 49
		18	90 02.8	N23 10.1	48 53.0	11.2	N15 16.0	7.9	56.3	0	05 08	05 34	05 56	08 26	09 15	10 04	10 52
		19	105 02.6	10.2	63 23.2	11.2	15 08.1	8.0	56.3	S 10	05 24	05 51	06 14	08 38	09 25	10 10	10 55
		20	120 02.5	10.4	77 53.4	11.3	15 00.1	8.1	56.4	20	05 40	06 08	06 32	08 51	09 35	10 17	10 59
		21	135 02.4	10.5	92 23.7	11.2	14 52.0	8.1	56.4	30	05 57	06 27	06 53	09 06	09 47	10 25	11 03
		22	150 02.2	10.7	106 53.9	11.3	14 43.9	8.3	56.4	35	06 05	06 37	07 05	09 15	09 54	10 30	11 05
23	165 02.1	10.8	121 24.2	11.3	14 35.6	8.3	56.4	40	06 15	06 49	07 19	09 25	10 01	10 35	11 07		
MARTES	13 00	180 02.0	N23 11.0	135 54.5	11.3	N14 27.3	8.4	56.5	45	06 25	07 02	07 36	09 37	10 10	10 41	11 10	
	01	195 01.8	11.1	150 24.8	11.3	14 18.9	8.5	56.5	S 50	06 36	07 18	07 56	09 51	10 21	10 48	11 14	
	02	210 01.7	11.3	164 55.1	11.4	14 10.4	8.6	56.5	52	06 42	07 25	08 06	09 57	10 26	10 52	11 15	
	03	225 01.6	11.4	179 25.5	11.3	14 01.8	8.6	56.5	54	06 47	07 33	08 17	10 04	10 32	10 55	11 17	
	04	240 01.4	11.5	193 55.8	11.4	13 53.2	8.7	56.5	56	06 53	07 42	08 29	10 12	10 38	10 59	11 19	
	05	255 01.3	11.7	208 26.2	11.4	13 44.5	8.8	56.6	58	07 00	07 52	08 44	10 21	10 44	11 04	11 21	
	06	270 01.2	N23 11.8	222 56.6	11.4	N13 35.7	8.9	56.6	S 60	07 07	08 04	09 01	10 32	10 52	11 09	11 24	
	07	285 01.1	12.0	237 27.0	11.5	13 26.8	8.9	56.6	Lat.	Ocaso Sol	Crepúsculo Civil	Náut.	Ocaso Luna				
	08	300 00.9	12.1	251 57.5	11.4	13 17.9	9.0	56.6	h m	h m	h m	h m	h m	h m	h m	h m	
	09	315 00.8	12.3	266 27.9	11.5	13 08.9	9.1	56.7	N 72	□	□	□	00 59	00 23	{00 23}	23 38	
	LUNES	10	330 00.7	12.4	280 58.4	11.4	12 59.8	9.1	56.7	N 70	□	□	□	{00 23}	23 48	23 41	23 35
11		345 00.5	12.5	295 28.8	11.5	12 50.7	9.3	56.7	68	□	□	□	23 33	23 34	23 34	23 34	
12		0 00.4	N23 12.7	309 59.3	11.6	N12 41.4	9.2	56.7	66	□	□	□	23 16	23 23	23 28	23 32	
13		15 00.3	12.8	324 29.9	11.5	12 32.2	9.4	56.7	64	22 26	////	////	23 02	23 14	23 23	23 31	
14		30 00.1	13.0	339 00.4	11.5	12 22.8	9.4	56.8	62	21 49	////	////	22 50	23 06	23 18	23 29	
15		45 00.0	13.1	353 30.9	11.6	12 13.4	9.5	56.8	60	21 23	23 05	////	22 40	22 59	23 14	23 28	
16		59 59.9	13.2	8 01.5	11.5	12 03.9	9.6	56.8	N 58	21 03	22 18	////	22 31	22 52	23 11	23 27	
17		74 59.7	13.4	22 32.0	11.6	11 54.3	9.6	56.8	56	20 47	21 49	////	22 24	22 47	23 07	23 26	
18		89 59.6	N23 13.5	37 02.6	11.6	N11 44.7	9.7	56.9	54	20 33	21 27	23 10	22 17	22 42	23 05	23 26	
19		104 59.5	13.6	51 33.2	11.6	11 35.0	9.8	56.9	52	20 20	21 09	22 26	22 10	22 38	23 02	23 25	
20		119 59.3	13.8	66 03.8	11.7	11 25.2	9.8	56.9	50	20 10	20 54	21 59	22 05	22 34	23 00	23 24	
21		134 59.2	13.9	80 34.5	11.6	11 15.4	9.9	56.9	45	19 47	20 25	21 14	21 52	22 25	22 54	23 23	
22		149 59.1	14.0	95 05.1	11.6	11 05.5	10.0	57.0	N 40	19 30	20 02	20 44	21 42	22 17	22 50	23 22	
23		164 59.0	14.2	109 35.7	11.7	10 55.5	10.0	57.0	35	19 15	19 44	20 21	21 34	22 11	22 46	23 21	
MARTES	14 00	179 58.8	N23 14.3	124 06.4	11.7	N10 45.5	10.1	57.0	30	19 02	19 29	20 02	21 26	22 05	22 43	23 20	
	01	194 58.7	14.4	138 37.1	11.6	10 35.4	10.1	57.0	20	18 40	19 04	19 34	21 12	21 55	22 37	23 18	
	02	209 58.6	14.6	153 07.7	11.7	10 25.3	10.2	57.0	N 10	18 21	18 44	19 11	21 01	21 47	22 32	23 17	
	03	224 58.4	14.7	167 38.4	11.7	10 15.1	10.3	57.1	0	18 04	18 26	18 52	20 50	21 38	22 27	23 15	
	04	239 58.3	14.8	182 09.1	11.7	10 04.8	10.3	57.1	S 10	17 46	18 09	18 35	20 38	21 30	22 22	23 14	
	05	254 58.2	15.0	196 39.8	11.8	9 54.5	10.4	57.1	20	17 28	17 52	18 19	20 27	21 21	22 17	23 12	
	06	269 58.0	N23 15.1	211 10.6	11.7	N 9 44.1	10.4	57.1	30	17 07	17 33	18 03	20 13	21 11	22 10	23 10	
	07	284 57.9	15.2	225 41.3	11.7	9 33.7	10.5	57.2	35	16 55	17 23	17 54	20 05	21 05	22 07	23 09	
	08	299 57.8	15.3	240 12.0	11.8	9 23.2	10.5	57.2	40	16 41	17 11	17 45	19 56	20 59	22 03	23 08	
	09	314 57.6	15.5	254 42.8	11.7	9 12.7	10.6	57.2	45	16 24	16 58	17 35	19 45	20 51	21 58	23 07	
	10	329 57.5	15.6	269 13.5	11.8	9 02.1	10.7	57.2	S 50	16 04	16 42	17 23	19 32	20 41	21 52	23 05	
	11	344 57.4	15.7	283 44.3	11.7	8 51.4	10.7	57.3	52	15 54	16 35	17 18	19 26	20 37	21 50	23 04	
	12	359 57.2	N23 15.8	298 15.0	11.8	N 8 40.7	10.7	57.3	54	15 43	16 26	17 13	19 19	20 32	21 47	23 04	
	13	14 57.1	15.9	312 45.8	11.8	8 30.0	10.9	57.3	56	15 30	16 17	17 06	19 12	20 26	21 44	23 03	
14	29 57.0	16.1	327 16.6	11.8	8 19.1	10.8	57.3	58	15 16	16 07	17 00	19 03	20 20	21 40	23 02		
15	44 56.8	16.2	341 47.4	11.7	8 08.3	10.9	57.4	S 60	14 59	15 56	16 52	18 53	20 13	21 36	23 00		
16	59 56.7	16.3	356 18.1	11.8	7 57.4	11.0	57.4	Día	SOL		LUNA						
17	74 56.6	16.4	10 48.9	11.8	7 46.4	11.0	57.4	E.T. (+) (-)	Pas. Mer.	Pas. Mer. Sup.	Pas. Mer. Inf.	Edad.	Fase				
18	89 56.4	N23 16.5	25 19.7	11.8	N 7 35.4	11.0	57.4	00 h	12 h	h m	h m	h m	d				
19	104 56.3	16.7	39 50.5	11.8	7 24.4	11.1</											

T.M.G. (TU)	ARIES			VENUS -4.0			MARTE +1.2			JUPITER -2.3			SATURNO +1.0			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.			
M I E R C O L E S	15 00	263 03.0	140 48.0	N22 09.1	218 59.0	N16 08.6	49 42.0	S12 03.8	278 39.3	S 8 31.9	278 39.3	S 8 31.9	Acamar	315 29.5	S40 19.5			
	01	278 05.4	155 47.4	08.5	233 59.7	09.1	64 44.6	03.8	293 41.7	31.9	293 41.7	31.9	Achernar	335 37.6	S57 15.6			
	02	293 07.9	170 46.7	07.9	249 00.3	09.7	79 47.2	03.7	308 44.1	31.9	308 44.1	31.9	Acrux	173 25.1	S63 04.5			
	03	308 10.4	185 46.1	07.3	264 01.0	10.2	94 49.7	03.7	323 46.6	31.9	323 46.6	31.9	Adhara	255 24.1	S28 58.0			
	04	323 12.8	200 45.5	06.7	279 01.6	10.8	109 52.3	03.7	338 49.0	31.9	338 49.0	31.9	Aldebaran	291 06.1	N16 29.8			
	05	338 15.3	215 44.8	06.0	294 02.2	11.3	124 54.9	03.6	353 51.4	31.9	353 51.4	31.9						
	06	353 17.8	230 44.2	N22 05.4	309 02.9	N16 11.9	139 57.5	S12 03.6	8 53.9	S 8 31.9	8 53.9	S 8 31.9	Alioth	166 33.0	N55 59.6			
	07	8 20.2	245 43.6	04.8	324 03.5	12.4	155 00.1	03.6	23 56.3	31.9	23 56.3	31.9	Alkaid	153 09.8	N49 20.6			
	08	23 22.7	260 42.9	04.2	339 04.2	13.0	170 02.7	03.5	38 58.7	31.9	38 58.7	31.9	Al Na'ir	28 01.4	S46 58.9			
	09	38 25.2	275 42.3	03.5	354 04.8	13.5	185 05.3	03.5	54 01.1	31.9	54 01.1	31.9	Alnilam	276 01.2	S 1 12.4			
	10	53 27.6	290 41.7	02.9	9 05.5	14.0	200 07.9	03.5	69 03.6	31.9	69 03.6	31.9	Alphard	218 10.3	S 8 38.3			
	11	68 30.1	305 41.0	02.3	24 06.1	14.6	215 10.4	03.4	84 06.0	31.9	84 06.0	31.9						
	12	83 32.6	320 40.4	N22 01.6	39 06.8	N16 15.1	230 13.0	S12 03.4	99 08.4	S 8 31.9	99 08.4	S 8 31.9	Alphecca	126 22.7	N26 44.1			
	13	98 35.0	335 39.8	01.0	54 07.4	15.7	245 15.6	03.4	114 10.9	31.9	114 10.9	31.9	Alpheratz	357 58.3	N29 03.5			
	14	113 37.5	350 39.2	22 00.4	69 08.1	16.2	260 18.2	03.3	129 13.3	31.9	129 13.3	31.9	Altair	62 21.8	N 8 51.3			
	15	128 39.9	5 38.5	21 59.7	84 08.7	16.8	275 20.8	03.3	144 15.7	31.9	144 15.7	31.9	Ankaa	353 29.8	S42 19.9			
	16	143 42.4	20 37.9	59.1	99 09.4	17.3	290 23.4	03.3	159 18.2	31.9	159 18.2	31.9	Antares	112 43.4	S26 25.2			
	17	158 44.9	35 37.3	58.5	114 10.0	17.8	305 26.0	03.3	174 20.6	31.9	174 20.6	31.9						
	18	173 47.3	50 36.7	N21 57.8	129 10.7	N16 18.4	320 28.5	S12 03.2	189 23.0	S 8 31.9	189 23.0	S 8 31.9	Arcturus	146 08.5	N19 12.7			
	19	188 49.8	65 36.0	57.2	144 11.3	18.9	335 31.1	03.2	204 25.5	31.9	204 25.5	31.9	Atria	107 57.4	S69 01.1			
	20	203 52.3	80 35.4	56.6	159 12.0	19.5	350 33.7	03.2	219 27.9	31.9	219 27.9	31.9	Avior	234 24.3	S59 29.8			
	21	218 54.7	95 34.8	55.9	174 12.6	20.0	5 36.3	03.1	234 30.3	31.9	234 30.3	31.9	Bellatrix	278 47.6	N 6 20.6			
	22	233 57.2	110 34.2	55.3	189 13.3	20.6	20 38.9	03.1	249 32.8	31.9	249 32.8	31.9	Betelgeuse	271 17.0	N 7 24.3			
23	248 59.7	125 33.5	54.6	204 13.9	21.1	35 41.5	03.1	264 35.2	31.9	264 35.2	31.9							
J U E V E S	16 00	264 02.1	140 32.9	N21 54.0	219 14.6	N16 21.6	50 44.1	S12 03.0	279 37.6	S 8 31.9	279 37.6	S 8 31.9	Canopus	264 03.0	S52 41.7			
	01	279 04.6	155 32.3	53.4	234 15.2	22.2	65 46.6	03.0	294 40.1	31.9	294 40.1	31.9	Capella	280 56.0	N45 59.5			
	02	294 07.1	170 31.7	52.7	249 15.9	22.7	80 49.2	03.0	309 42.5	31.9	309 42.5	31.9	Deneb	49 40.8	N45 15.6			
	03	309 09.5	185 31.1	52.1	264 16.5	23.2	95 51.8	03.0	324 44.9	31.9	324 44.9	31.9	Denebola	182 48.1	N14 36.2			
	04	324 12.0	200 30.4	51.4	279 17.2	23.8	110 54.4	02.9	339 47.4	31.9	339 47.4	31.9	Diphda	349 10.3	S18 00.9			
	05	339 14.4	215 29.8	50.8	294 17.8	24.3	125 57.0	02.9	354 49.8	31.8	354 49.8	31.8						
	06	354 16.9	230 29.2	N21 50.1	309 18.5	N16 24.9	140 59.5	S12 02.9	9 52.2	S 8 31.8	9 52.2	S 8 31.8	Dubhe	194 09.2	N61 47.0			
	07	9 19.4	245 28.6	49.5	324 19.1	25.4	156 02.1	02.8	24 54.7	31.8	24 54.7	31.8	Elnath	278 31.0	N28 36.1			
	08	24 21.8	260 28.0	48.8	339 19.8	25.9	171 04.7	02.8	39 57.1	31.8	39 57.1	31.8	Eltanin	90 52.2	N51 29.4			
	09	39 24.3	275 27.4	48.2	354 20.4	26.5	186 07.3	02.8	54 59.5	31.8	54 59.5	31.8	Enif	34 00.9	N 9 51.0			
	10	54 26.8	290 26.8	47.5	9 21.1	27.0	201 09.9	02.7	70 02.0	31.8	70 02.0	31.8	Fomalhaut	15 39.6	S29 38.8			
	11	69 29.2	305 26.1	46.9	24 21.7	27.6	216 12.5	02.7	85 04.4	31.8	85 04.4	31.8						
	12	84 31.7	320 25.5	N21 46.2	39 22.3	N16 28.1	231 15.0	S12 02.7	100 06.8	S 8 31.8	100 06.8	S 8 31.8	Gacrux	172 16.6	S57 05.3			
	13	99 34.2	335 24.9	45.6	54 23.0	28.6	246 17.6	02.7	115 09.3	31.8	115 09.3	31.8	Gienah	176 06.9	S17 30.9			
	14	114 36.6	350 24.3	44.9	69 23.6	29.2	261 20.2	02.6	130 11.7	31.8	130 11.7	31.8	Hadar	149 07.7	S60 21.1			
	15	129 39.1	5 23.7	44.3	84 24.3	29.7	276 22.8	02.6	145 14.1	31.8	145 14.1	31.8	Hamal	328 17.1	N23 26.1			
	16	144 41.5	20 23.1	43.6	99 24.9	30.2	291 25.3	02.6	160 16.6	31.8	160 16.6	31.8	Kaus Aust.	84 02.3	S34 23.1			
	17	159 44.0	35 22.5	42.9	114 25.6	30.8	306 27.9	02.5	175 19.0	31.8	175 19.0	31.8						
	18	174 46.5	50 21.9	N21 42.3	129 26.2	N16 31.3	321 30.5	S12 02.5	190 21.4	S 8 31.8	190 21.4	S 8 31.8	Kochab	137 18.6	N74 10.9			
	19	189 48.9	65 21.3	41.6	144 26.9	31.8	336 33.1	02.5	205 23.9	31.8	205 23.9	31.8	Markab	13 52.4	N15 10.5			
	20	204 51.4	80 20.6	41.0	159 27.5	32.4	351 35.7	02.5	220 26.3	31.8	220 26.3	31.8	Menkar	314 30.2	N 4 04.1			
	21	219 53.9	95 20.0	40.3	174 28.2	32.9	6 38.2	02.4	235 28.7	31.8	235 28.7	31.8	Menkent	148 24.1	S36 20.8			
	22	234 56.3	110 19.4	39.6	189 28.8	33.4	21 40.8	02.4	250 31.2	31.8	250 31.2	31.8	Miaplacidus	221 43.2	S69 42.1			
23	249 58.8	125 18.8	39.0	204 29.5	34.0	36 43.4	02.4	265 33.6	31.8	265 33.6	31.8							
V I E R N E S	17 00	265 01.3	140 18.2	N21 38.3	219 30.1	N16 34.5	51 46.0	S12 02.4	280 36.0	S 8 31.8	280 36.0	S 8 31.8	Mirfak	309 01.2	N49 50.3			
	01	280 03.7	155 17.6	37.6	234 30.8	35.0	66 48.5	02.3	295 38.5	31.8	295 38.5	31.8	Nunki	76 15.6	S26 18.1			
	02	295 06.2	170 17.0	37.0	249 31.4	35.6	81 51.1	02.3	310 40.9	31.8	310 40.9	31.8	Peacock	53 41.1	S56 44.9			
	03	310 08.7	185 16.4	36.3	264 32.1	36.1	96 53.7	02.3	325 43.4	31.8	325 43.4	31.8	Pollux	243 45.4	N28 02.3			
	04	325 11.1	200 15.8	35.6	279 32.7	36.6	111 56.3	02.2	340 45.8	31.8	340 45.8	31.8	Procyon	245 14.9	N 5 14.2			
	05	340 13.6	215 15.2	35.0	294 33.3	37.2	126 58.8	02.2	355 48.2	31.8	355 48.2	31.8						
	06	355 16.0	230 14.6	N21 34.3	309 34.0	N16 37.7	142 01.4	S12 02.2	10 50.7	S 8 31.8	10 50.7	S 8 31.8	Rasalhague	96 19.3	N12 33.9			
	07	10 18.5	245 14.0	33.6	324 34.6	38.2	157 04.0	02.2	25 53.1	31.8	25 53.1	31.8	Regulus	207 58.8	N11 59.6			
	08	25 21.0	260 13.4	32.9	339 35.3	38.8	172 06.6	02.1	40 55.5	31.8	40 55.5	31.8	Rigel	281 26.1	S 8 12.6			
	09	40 23.4	275 12.8	32.3	354 35.9	39.3	187 09.1	02.1	55 58.0	31.8	55 58.0	31.8	Rigel Kent.	140 10.7	S60 48.9			
	10	55 25.9	290 12.2	31.6	9 36.6	39.8	202 11.7	02.1	71 00.4	31.8	71 00.4	31.8	Sabik	102 28.5	S15 43.0			
	11	70 28.4	305 11.6	30.9	24 37.2	40.4	217 14.3	02.1	86 02.9	31.8	86 02.9	31.8						
	12	85 30.8	320 11.0	N21 30.2	39 37.9	N16 40.9	232 16.9	S12 02.0	101 05.3	S 8 31.8	101 05.3	S 8 31.8	Schedar	349 56.9	N56 30.2			
	13	100 33.3	335 10.4	29.6	54 38.5	41.4	247 19.4	02.0	116 07.7	31.8	116 07.7	31.8	Shaula	96 40.8	S37 05.9			
	14	115 35.8	350 09.8	28.9	69 39.2	41.9	262 22.0	02.0	131 10.2	31.8	131 10.2	31.8	Sirius	258 46.6	S16 42.6			
	15	130 38.2	5 09.2	28.2	84 39.8	42.5	277 24.6	02.0	146 12.6	31.8	146 12.6	31.8	Spica	158 46.1	S11 08.1			
	16	145 40.7	20 08.6	27.5	99 40.5	43.0	292 27.1	01.9	161 15.1	31.8	161 15.1	31.8	Suhail	223 03.2	S43 24.9			
	17	160 43.2	35 08.0	26.8	114 41.1	43.5	307 29.7	01.9	1									

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.			Civil		15	16	17	18			
d h	o	'	o	'	o	'	o	'	o	'	h m	h m	h m	h m	h m	h m	h m				
M I E R C O L E S	15 00	179	55.6	N23	17.2	112	24.4	11.8	N	6	28.5	11.4	57.6	N 72	□	□	□	09 54	11 50	13 49	15 56
	01	194	55.5		17.4	126	55.2	11.8		6	17.1	11.3	57.6	N 70	□	□	□	10 01	11 49	13 40	15 36
	02	209	55.4		17.5	141	26.0	11.8		6	05.8	11.4	57.6	68	□	□	□	10 06	11 48	13 33	15 21
	03	224	55.2	..	17.6	155	56.8	11.7		5	54.4	11.4	57.7	66	□	□	□	10 11	11 47	13 26	15 09
	04	239	55.1		17.7	170	27.5	11.8		5	43.0	11.5	57.7	64	///	///	01 33	10 14	11 47	13 21	14 59
	05	254	55.0		17.8	184	58.3	11.8		5	31.5	11.5	57.7	62	///	///	02 10	10 18	11 46	13 17	14 50
	06	269	54.8	N23	17.9	199	29.1	11.7	N	5	20.0	11.6	57.7	60	///	00 52	02 36	10 20	11 46	13 13	14 43
	07	284	54.7		18.0	213	59.8	11.8		5	08.4	11.5	57.8	N 58	///	01 41	02 56	10 23	11 45	13 10	14 37
	08	299	54.6		18.1	228	30.6	11.7		4	56.9	11.7	57.8	56	///	02 11	03 13	10 25	11 45	13 07	14 31
	09	314	54.4	..	18.2	243	01.3	11.8		4	45.2	11.6	57.8	54	00 48	02 33	03 27	10 27	11 45	13 04	14 26
	10	329	54.3		18.3	257	32.1	11.7		4	33.6	11.7	57.8	52	01 33	02 51	03 39	10 29	11 44	13 02	14 21
	11	344	54.2		18.5	272	02.8	11.7		4	21.9	11.7	57.9	50	02 00	03 06	03 50	10 30	11 44	13 00	14 17
	12	359	54.0	N23	18.6	286	33.5	11.7	N	4	10.2	11.8	57.9	45	02 46	03 35	04 13	10 34	11 44	12 55	14 08
	13	14	53.9		18.7	301	04.2	11.7		3	58.4	11.7	57.9	N 40	03 16	03 58	04 31	10 37	11 43	12 51	14 01
	14	29	53.8		18.8	315	34.9	11.7		3	46.7	11.8	57.9	35	03 39	04 16	04 46	10 39	11 43	12 48	13 54
	15	44	53.6	..	18.9	330	05.6	11.7		3	34.9	11.9	58.0	30	03 58	04 31	04 59	10 42	11 42	12 45	13 49
	16	59	53.5		19.0	344	36.3	11.6		3	23.0	11.8	58.0	20	04 27	04 56	05 20	10 45	11 42	12 40	13 39
	17	74	53.4		19.1	359	06.9	11.6		3	11.2	11.9	58.0	N 10	04 49	05 16	05 39	10 49	11 41	12 35	13 31
	18	89	53.2	N23	19.2	13	37.5	11.7	N	2	59.3	11.9	58.0	0	05 08	05 34	05 57	10 52	11 41	12 31	13 23
	19	104	53.1		19.3	28	08.2	11.6		2	47.4	12.0	58.1	S 10	05 25	05 51	06 14	10 55	11 40	12 27	13 16
	20	119	53.0		19.4	42	38.8	11.6		2	35.4	11.9	58.1	20	05 41	06 09	06 33	10 59	11 40	12 23	13 07
	21	134	52.8	..	19.5	57	09.4	11.5		2	23.5	12.0	58.1	30	05 58	06 28	06 54	11 03	11 40	12 18	12 58
	22	149	52.7		19.6	71	39.9	11.6		2	11.5	12.0	58.1	35	06 06	06 38	07 06	11 05	11 39	12 15	12 53
23	164	52.6		19.7	86	10.5	11.5		1	59.5	12.0	58.2	40	06 16	06 50	07 20	11 07	11 39	12 12	12 47	
16 00	179	52.4	N23	19.8	100	41.0	11.5	N	1	47.5	12.1	58.2	45	06 26	07 03	07 37	11 10	11 39	12 08	12 40	
01	194	52.3		19.9	115	11.5	11.5		1	35.4	12.0	58.2	S 50	06 38	07 19	07 58	11 14	11 38	12 04	12 32	
02	209	52.2		20.0	129	42.0	11.5		1	23.4	12.1	58.2	52	06 43	07 27	08 08	11 15	11 38	12 02	12 28	
03	224	52.0	..	20.1	144	12.5	11.5		1	11.3	12.1	58.3	54	06 49	07 35	08 19	11 17	11 38	12 00	12 24	
04	239	51.9		20.1	158	43.0	11.4		0	59.2	12.1	58.3	56	06 55	07 44	08 31	11 19	11 38	11 58	12 19	
05	254	51.7		20.2	173	13.4	11.4		0	47.1	12.1	58.3	58	07 02	07 54	08 46	11 21	11 38	11 55	12 14	
06	269	51.6	N23	20.3	187	43.8	11.4	N	0	35.0	12.2	58.3	S 60	07 09	08 06	09 03	11 24	11 37	11 52	12 09	
07	284	51.5		20.4	202	14.2	11.3		0	22.8	12.1	58.4	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna				
08	299	51.3		20.5	216	44.5	11.3	N	0	10.7	12.2	58.4	15	h m	h m	h m	15	16	17	18	
09	314	51.2	..	20.6	231	14.8	11.3	S	0	01.5	12.2	58.4	N 72	□	□	□	23 38	23 25	23 12	22 54	
10	329	51.1		20.7	245	45.1	11.3		0	13.7	12.1	58.4	N 70	□	□	□	23 35	23 29	23 23	23 16	
11	344	50.9		20.8	260	15.4	11.2		0	25.8	12.2	58.5	68	□	□	□	23 34	23 33	23 32	23 32	
12	359	50.8	N23	20.9	274	45.6	11.3	S	0	38.0	12.2	58.5	66	□	□	□	23 32	23 36	23 40	23 46	
13	14	50.7		21.0	289	15.9	11.1		0	50.2	12.2	58.5	64	22 29	///	///	23 31	23 38	23 47	23 57	
14	29	50.5		21.1	303	46.0	11.2		1	02.4	12.2	58.5	62	21 52	///	///	23 29	23 40	23 52	24 07	
15	44	50.4	..	21.1	318	16.2	11.1		1	14.6	12.2	58.6	60	21 26	23 10	///	23 28	23 42	23 57	24 15	
16	59	50.3		21.2	332	46.3	11.1		1	26.8	12.3	58.6	N 58	21 05	22 21	///	23 27	23 44	24 02	00 02	
17	74	50.1		21.3	347	16.4	11.0		1	39.1	12.2	58.6	56	20 49	21 51	///	23 26	23 45	24 06	00 06	
18	89	50.0	N23	21.4	1	46.4	11.0	S	1	51.3	12.2	58.6	54	20 34	21 29	23 15	23 26	23 47	24 09	00 09	
19	104	49.9		21.5	16	16.4	11.0		2	03.5	12.2	58.7	52	20 22	21 11	22 29	23 25	23 48	24 13	00 13	
20	119	49.7		21.6	30	46.4	10.9		2	15.7	12.2	58.7	50	20 11	20 56	22 01	23 24	23 49	24 15	00 15	
21	134	49.6	..	21.6	45	16.3	10.9		2	27.9	12.2	58.7	45	19 49	20 26	21 16	23 23	23 52	24 22	00 22	
22	149	49.5		21.7	59	46.2	10.9		2	40.1	12.2	58.7	N 40	19 31	20 04	20 45	23 22	23 54	24 27	00 27	
23	164	49.3		21.8	74	16.1	10.8		2	52.3	12.2	58.8	35	19 16	19 45	20 22	23 21	23 55	24 32	00 32	
17 00	179	49.2	N23	21.9	88	45.9	10.8	S	3	04.5	12.2	58.8	30	19 03	19 30	20 04	23 20	23 57	24 36	00 36	
01	194	49.1		22.0	103	15.7	10.7		3	16.7	12.2	58.8	20	18 41	19 05	19 35	23 18	24 00	00 00	00 43	
02	209	48.9		22.0	117	45.4	10.7		3	28.9	12.2	58.8	N 10	18 22	18 45	19 12	23 17	24 02	00 02	00 50	
03	224	48.8	..	22.1	132	15.1	10.7		3	41.1	12.2	58.9	0	18 04	18 27	18 53	23 15	24 05	00 05	00 55	
04	239	48.6		22.2	146	44.8	10.6		3	53.3	12.1	58.9	S 10	17 47	18 10	18 36	23 14	24 07	00 07	01 01	
05	254	48.5		22.3	161	14.4	10.6		4	05.4	12.2	58.9	20	17 28	17 52	18 20	23 12	24 09	00 09	01 08	
06	269	48.4	N23	22.3	175	44.0	10.5	S	4	17.6	12.1	58.9	30	17 07	17 34	18 03	23 10	24 12	00 12	01 15	
07	284	48.2		22.4	190	13.5	10.5		4	29.7	12.1	59.0	35	16 55	17 23	17 55	23 09	24 13	00 13	01 19	
08	299	48.1		22.5	204	43.0	10.4		4	41.8	12.1	59.0	40	16 41	17 11	17 45	23 08	24 15	00 15	01 24	
09	314	48.0	..	22.6	219	12.4	10.4		4	53.9	12.1	59.0	45	16 24	16 58	17 35	23 07	24 17	00 17	01 29	
10	329	47.8		22.6	233	41.8	10.3		5	06.0	12.1	59.0	S 50	16 03							

T.M.G. (TU)	ARIES			VENUS -4.0			MARTE +1.2			JUPITER -2.3			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.	A. H. S.	Dec.	
18 00	266 00.4	140 03.9	N21 22.0	219 45.6	N16 47.2		52 47.7	S12 01.7		281 34.6	S 8 31.8		Acamar	315 29.5	S40 19.5			
01	281 02.9	155 03.3	21.4	234 46.3	47.7		67 50.3	01.7		296 37.0	31.8		Achernar	335 37.6	S57 15.6			
02	296 05.3	170 02.7	20.7	249 46.9	48.3		82 52.9	01.7		311 39.5	31.8		Acrux	173 25.1	S63 04.5			
03	311 07.8	185 02.1	.. 20.0	264 47.6	.. 48.8		97 55.4	.. 01.7		326 41.9	.. 31.8		Adhara	255 24.1	S28 58.0			
04	326 10.3	200 01.5	19.3	279 48.2	49.3		112 58.0	01.6		341 44.3	31.8		Aldebaran	291 06.1	N16 29.8			
05	341 12.7	215 00.9	18.6	294 48.8	49.8		128 00.6	01.6		356 46.8	31.8							
06	356 15.2	230 00.3	N21 17.9	309 49.5	N16 50.4		143 03.1	S12 01.6		11 49.2	S 8 31.8		Alioth	166 33.0	N55 59.6			
07	11 17.6	244 59.8	17.2	324 50.1	50.9		158 05.7	01.6		26 51.7	31.8		Alkaid	153 09.9	N49 20.6			
08	26 20.1	259 59.2	16.5	339 50.8	51.4		173 08.3	01.5		41 54.1	31.8		Al Na'ir	28 01.3	S46 58.9			
S 09	41 22.6	274 58.6	.. 15.8	354 51.4	.. 51.9		188 10.8	.. 01.5		56 56.5	.. 31.8		Alnilam	276 01.1	S 1 12.4			
A 10	56 25.0	289 58.0	15.1	9 52.1	52.5		203 13.4	01.5		71 59.0	31.8		Alphard	218 10.3	S 8 38.2			
B 11	71 27.5	304 57.4	14.4	24 52.7	53.0		218 16.0	01.5		87 01.4	31.8							
A 12	86 30.0	319 56.8	N21 13.7	39 53.4	N16 53.5		233 18.5	S12 01.4		102 03.9	S 8 31.9		Alphecca	126 22.7	N26 44.1			
D 13	101 32.4	334 56.3	13.0	54 54.0	54.0		248 21.1	01.4		117 06.3	31.9		Alpheratz	357 58.3	N29 03.5			
O 14	116 34.9	349 55.7	12.3	69 54.6	54.5		263 23.7	01.4		132 08.8	31.9		Altair	62 21.8	N 8 51.3			
15	131 37.4	4 55.1	.. 11.6	84 55.3	.. 55.1		278 26.2	.. 01.4		147 11.2	.. 31.9		Ankaa	353 29.8	S42 19.9			
16	146 39.8	19 54.5	10.9	99 55.9	55.6		293 28.8	01.3		162 13.6	31.9		Antares	112 43.4	S26 25.2			
17	161 42.3	34 53.9	10.2	114 56.6	56.1		308 31.3	01.3		177 16.1	31.9							
18	176 44.8	49 53.4	N21 09.5	129 57.2	N16 56.6		323 33.9	S12 01.3		192 18.5	S 8 31.9		Arcturus	146 08.5	N19 12.7			
19	191 47.2	64 52.8	08.8	144 57.9	57.2		338 36.5	01.3		207 21.0	31.9		Atria	107 57.4	S69 01.1			
20	206 49.7	79 52.2	08.1	159 58.5	57.7		353 39.0	01.3		222 23.4	31.9		Avior	234 24.3	S59 29.8			
21	221 52.1	94 51.6	.. 07.4	174 59.2	.. 58.2		8 41.6	.. 01.2		237 25.9	.. 31.9		Bellatrix	278 47.6	N 6 20.6			
22	236 54.6	109 51.0	06.7	189 59.8	58.7		23 44.2	01.2		252 28.3	31.9		Betelgeuse	271 17.0	N 7 24.3			
23	251 57.1	124 50.5	05.9	205 00.4	59.2		38 46.7	01.2		267 30.7	31.9							
19 00	266 59.5	139 49.9	N21 05.2	220 01.1	N16 59.8		53 49.3	S12 01.2		282 33.2	S 8 31.9		Canopus	264 03.0	S52 41.7			
01	282 02.0	154 49.3	04.5	235 01.7	17 00.3		68 51.9	01.1		297 35.6	31.9		Capella	280 56.0	N45 59.4			
02	297 04.5	169 48.8	03.8	250 02.4	00.8		83 54.4	01.1		312 38.1	31.9		Deneb	49 40.8	N45 15.6			
03	312 06.9	184 48.2	.. 03.1	265 03.0	.. 01.3		98 57.0	.. 01.1		327 40.5	.. 31.9		Denebola	182 48.2	N14 36.2			
04	327 09.4	199 47.6	02.4	280 03.7	01.8		113 59.5	01.1		342 43.0	31.9		Diphda	349 10.2	S18 00.9			
05	342 11.9	214 47.0	01.7	295 04.3	02.3		129 02.1	01.0		357 45.4	31.9							
06	357 14.3	229 46.5	N21 00.9	310 04.9	N17 02.9		144 04.7	S12 01.0		12 47.9	S 8 31.9		Dubhe	194 09.2	N61 47.0			
07	12 16.8	244 45.9	21 00.2	325 05.6	03.4		159 07.2	01.0		27 50.3	31.9		Elnath	278 31.0	N28 36.1			
O 08	27 19.3	259 45.3	20 59.5	340 06.2	03.9		174 09.8	01.0		42 52.7	31.9		Eltanin	90 52.2	N51 29.5			
09	42 21.7	274 44.8	.. 58.8	355 06.9	.. 04.4		189 12.3	.. 01.0		57 55.2	.. 31.9		Enif	34 00.9	N 9 51.0			
10	57 24.2	289 44.2	58.1	10 07.5	04.9		204 14.9	00.9		72 57.6	31.9		Fomalhaut	15 39.5	S29 38.8			
11	72 26.6	304 43.6	57.3	25 08.2	05.4		219 17.5	00.9		88 00.1	31.9							
N 12	87 29.1	319 43.1	N20 56.6	40 08.8	N17 06.0		234 20.0	S12 00.9		103 02.5	S 8 31.9		Gacrux	172 16.7	S57 05.3			
13	102 31.6	334 42.5	55.9	55 09.5	06.5		249 22.6	00.9		118 05.0	31.9		Gienah	176 06.9	S17 30.9			
O 14	117 34.0	349 41.9	55.2	70 10.1	07.0		264 25.1	00.9		133 07.4	31.9		Hadar	149 07.7	S60 21.1			
15	132 36.5	4 41.4	.. 54.4	85 10.7	.. 07.5		279 27.7	.. 00.8		148 09.9	.. 31.9		Hamal	328 17.0	N23 26.1			
16	147 39.0	19 40.8	53.7	100 11.4	08.0		294 30.2	00.8		163 12.3	31.9		Kaus Aust.	84 02.3	S34 23.1			
17	162 41.4	34 40.2	53.0	115 12.0	08.5		309 32.8	00.8		178 14.8	31.9							
18	177 43.9	49 39.7	N20 52.3	130 12.7	N17 09.0		324 35.4	S12 00.8		193 17.2	S 8 31.9		Kochab	137 18.6	N74 10.9			
19	192 46.4	64 39.1	51.5	145 13.3	09.6		339 37.9	00.8		208 19.7	31.9		Markab	13 52.4	N15 10.5			
20	207 48.8	79 38.5	50.8	160 14.0	10.1		354 40.5	00.7		223 22.1	31.9		Menkar	314 30.2	N 4 04.1			
21	222 51.3	94 38.0	.. 50.1	175 14.6	.. 10.6		9 43.0	.. 00.7		238 24.5	.. 31.9		Menkent	148 24.1	S36 20.8			
22	237 53.7	109 37.4	49.3	190 15.2	11.1		24 45.6	00.7		253 27.0	32.0		Miaplacidus	221 43.2	S69 42.0			
23	252 56.2	124 36.9	48.6	205 15.9	11.6		39 48.1	00.7		268 29.4	32.0							
20 00	267 58.7	139 36.3	N20 47.9	220 16.5	N17 12.1		54 50.7	S12 00.7		283 31.9	S 8 32.0		Mirfak	309 01.2	N49 50.3			
01	283 01.1	154 35.7	47.1	235 17.2	12.6		69 53.3	00.6		298 34.3	32.0		Nunki	76 15.6	S26 18.1			
02	298 03.6	169 35.2	46.4	250 17.8	13.1		84 55.8	00.6		313 36.8	32.0		Peachcock	53 41.1	S56 44.9			
03	313 06.1	184 34.6	.. 45.7	265 18.5	.. 13.6		99 58.4	.. 00.6		328 39.2	.. 32.0		Pollux	243 45.4	N28 02.3			
04	328 08.5	199 34.1	44.9	280 19.1	14.2		115 00.9	00.6		343 41.7	32.0		Procyon	245 14.9	N 5 14.2			
05	343 11.0	214 33.5	44.2	295 19.7	14.7		130 03.5	00.6		358 44.1	32.0							
06	358 13.5	229 33.0	N20 43.5	310 20.4	N17 15.2		145 06.0	S12 00.5		13 46.6	S 8 32.0		Rasalhague	96 19.3	N12 33.9			
07	13 15.9	244 32.4	42.7	325 21.0	15.7		160 08.6	00.5		28 49.0	32.0		Regulus	207 58.8	N11 59.6			
08	28 18.4	259 31.9	42.0	340 21.7	16.2		175 11.1	00.5		43 51.5	32.0		Rigel	281 26.1	S 8 12.5			
L 09	43 20.9	274 31.3	.. 41.2	355 22.3	.. 16.7		190 13.7	.. 00.5		58 53.9	.. 32.0		Rigil Kent.	140 10.7	S60 48.9			
10	58 23.3	289 30.8	40.5	10 22.9	17.2		205 16.2	00.5		73 56.4	32.0		Sabik	102 28.5	S15 43.0			
N 11	73 25.8	304 30.2	39.7	25 23.6	17.7		220 18.8	00.4		88 58.8	32.0							
12	88 28.2	319 29.6	N20 39.0	40 24.2	N17 18.2		235 21.3	S12 00.4		104 01.3	S 8 32.0		Schedar	349 56.9	N56 30.2			
S 13	103 30.7	334 29.1	38.3	55 24.9	18.7		250 23.9	00.4		119 03.7	32.0		Shaula	96 40.8	S37 05.9			
14	118 33.2	349 28.5	37.5	70 25.5	19.2		265 26.4	00.4		134 06.2	32.0		Sirius	258 46.6	S16 42.6			
15	133 35.6	4 28.0	.. 36.8	85 26.2	.. 19.8		280 29.0	.. 00.4		149 08.6	.. 32.0		Spica	158 46.1	S11 08.1			
16	148 38.1	19 27.5	36.0	100 26.8	20.3		295 31.5	00.3		164 11.1	32.0		Suhail	223 03.2	S43 24.9			

T.M.G. (TU)	ARIES	VENUS -4.0	MARTE +1.2	JUPITER -2.3	SATURNO +0.9	ESTRELLAS	
d h	A.H.G.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	Nombre A. H. S. Dec.
21 00	268 57.8	139 23.1 N20 30.0	220 31.9 N17 24.3	55 51.9 S12 00.2	284 30.7 S 8 32.1		Acamar 315 29.4 S40 19.5
01	284 00.3	154 22.5 29.2	235 32.6 24.8	70 54.5 00.2	299 33.1 32.1		Achernar 335 37.6 S57 15.6
02	299 02.7	169 22.0 28.5	250 33.2 25.3	85 57.0 00.2	314 35.6 32.1		Acrux 173 25.1 S63 04.5
03	314 05.2	184 21.5 27.7	265 33.9 25.8	100 59.6 00.2	329 38.0 32.1		Adhara 255 24.1 S28 58.0
04	329 07.7	199 20.9 27.0	280 34.5 26.3	116 02.1 00.1	344 40.5 32.1		Aldebaran 291 06.0 N16 29.8
05	344 10.1	214 20.4 26.2	295 35.1 26.8	131 04.7 00.1	359 43.0 32.1		
06	359 12.6	229 19.8 N20 25.4	310 35.8 N17 27.3	146 07.2 S12 00.1	14 45.4 S 8 32.1		Alioth 166 33.0 N55 59.6
07	14 15.1	244 19.3 24.7	325 36.4 27.8	161 09.8 00.1	29 47.9 32.1		Alkaid 153 09.9 N49 20.6
08	29 17.5	259 18.8 23.9	340 37.1 28.3	176 12.3 00.1	44 50.3 32.1		Al Na'ir 28 01.3 S46 58.9
M 09	44 20.0	274 18.2 23.2	355 37.7 28.8	191 14.9 00.1	59 52.8 32.1		Alnilam 276 01.1 S 1 12.4
A 10	59 22.5	289 17.7 22.4	10 38.3 29.3	206 17.4 00.0	74 55.2 32.1		Alphard 218 10.3 S 8 38.2
R 11	74 24.9	304 17.2 21.6	25 39.0 29.8	221 19.9 00.0	89 57.7 32.1		
T 12	89 27.4	319 16.6 N20 20.9	40 39.6 N17 30.3	236 22.5 S12 00.0	105 00.1 S 8 32.2		Alphecca 126 22.7 N26 44.1
E 13	104 29.8	334 16.1 20.1	55 40.3 30.8	251 25.0 00.0	120 02.6 32.2		Alpheratz 357 58.2 N29 03.5
S 14	119 32.3	349 15.6 19.3	70 40.9 31.3	266 27.6 00.0	135 05.0 32.2		Altair 62 21.8 N 8 51.3
15	134 34.8	4 15.0 18.6	85 41.5 31.8	281 30.1 12 00.0	150 07.5 32.2		Ankaa 353 29.8 S42 19.9
16	149 37.2	19 14.5 17.8	100 42.2 32.3	296 32.7 11 59.9	165 09.9 32.2		Antares 112 43.4 S26 25.2
17	164 39.7	34 14.0 17.0	115 42.8 32.8	311 35.2 59.9	180 12.4 32.2		
18	179 42.2	49 13.4 N20 16.2	130 43.5 N17 33.3	326 37.8 S11 59.9	195 14.9 S 8 32.2		Arcturus 146 08.5 N19 12.7
19	194 44.6	64 12.9 15.5	145 44.1 33.8	341 40.3 59.9	210 17.3 32.2		Atria 107 57.4 S69 01.1
20	209 47.1	79 12.4 14.7	160 44.7 34.3	356 42.8 59.9	225 19.8 32.2		Avior 234 24.3 S59 29.8
21	224 49.6	94 11.8 13.9	175 45.4 34.8	11 45.4 59.9	240 22.2 32.2		Bellatrix 278 47.6 N 6 20.6
22	239 52.0	109 11.3 13.1	190 46.0 35.3	26 47.9 59.8	255 24.7 32.2		Betelgeuse 271 17.0 N 7 24.3
23	254 54.5	124 10.8 12.4	205 46.7 35.8	41 50.5 59.8	270 27.1 32.2		
22 00	269 57.0	139 10.3 N20 11.6	220 47.3 N17 36.3	56 53.0 S11 59.8	285 29.6 S 8 32.2		Canopus 264 03.0 S52 41.7
01	284 59.4	154 09.7 10.8	235 47.9 36.8	71 55.5 59.8	300 32.0 32.2		Capella 280 55.9 N45 59.4
02	300 01.9	169 09.2 10.0	250 48.6 37.3	86 58.1 59.8	315 34.5 32.3		Deneb 49 40.8 N45 15.6
03	315 04.3	184 08.7 09.3	265 49.2 37.8	102 00.6 59.8	330 37.0 32.3		Denebola 182 48.2 N14 36.2
04	330 06.8	199 08.2 08.5	280 49.9 38.3	117 03.2 59.8	345 39.4 32.3		Diphda 349 10.2 S18 00.8
05	345 09.3	214 07.6 07.7	295 50.5 38.8	132 05.7 59.7	0 41.9 32.3		
06	0 11.7	229 07.1 N20 06.9	310 51.1 N17 39.3	147 08.2 S11 59.7	15 44.3 S 8 32.3		Dubhe 194 09.3 N61 47.0
07	15 14.2	244 06.6 06.1	325 51.8 39.8	162 10.8 59.7	30 46.8 32.3		Elnath 278 31.0 N28 36.1
08	30 16.7	259 06.1 05.3	340 52.4 40.3	177 13.3 59.7	45 49.2 32.3		Eltanin 90 52.2 N51 29.5
09	45 19.1	274 05.6 04.6	355 53.1 40.8	192 15.9 59.7	60 51.7 32.3		Enif 34 00.9 N 9 51.1
10	60 21.6	289 05.0 03.8	10 53.7 41.3	207 18.4 59.7	75 54.2 32.3		Fomalhaut 15 39.5 S29 38.8
11	75 24.1	304 04.5 03.0	25 54.3 41.8	222 20.9 59.7	90 56.6 32.3		
12	90 26.5	319 04.0 N20 02.2	40 55.0 N17 42.3	237 23.5 S11 59.6	105 59.1 S 8 32.3		Gacrux 172 16.7 S57 05.3
13	105 29.0	334 03.5 01.4	55 55.6 42.8	252 26.0 59.6	121 01.5 32.3		Gienah 176 06.9 S17 30.9
14	120 31.5	349 03.0 20 00.6	70 56.3 43.2	267 28.5 59.6	136 04.0 32.3		Hadar 149 07.7 S60 21.1
15	135 33.9	4 02.4 19 59.8	85 56.9 43.7	282 31.1 59.6	151 06.4 32.4		Hamal 328 17.0 N23 26.1
16	150 36.4	19 01.9 59.0	100 57.5 44.2	297 33.6 59.6	166 08.9 32.4		Kaus Aust. 84 02.2 S34 23.1
17	165 38.8	34 01.4 58.3	115 58.2 44.7	312 36.2 59.6	181 11.4 32.4		
18	180 41.3	49 00.9 N19 57.5	130 58.8 N17 45.2	327 38.7 S11 59.6	196 13.8 S 8 32.4		Kochab 137 18.7 N74 10.9
19	195 43.8	64 00.4 56.7	145 59.5 45.7	342 41.2 59.6	211 16.3 32.4		Markab 13 52.4 N15 10.6
20	210 46.2	78 59.9 55.9	161 00.1 46.2	357 43.8 59.5	226 18.7 32.4		Menkar 314 30.2 N 4 04.1
21	225 48.7	93 59.4 55.1	176 00.7 46.7	12 46.3 59.5	241 21.2 32.4		Menkent 148 24.1 S36 20.8
22	240 51.2	108 58.9 54.3	191 01.4 47.2	27 48.8 59.5	256 23.7 32.4		Miaplacidus 221 43.2 S69 42.0
23	255 53.6	123 58.3 53.5	206 02.0 47.7	42 51.4 59.5	271 26.1 32.4		
23 00	270 56.1	138 57.8 N19 52.7	221 02.6 N17 48.2	57 53.9 S11 59.5	286 28.6 S 8 32.4		Mirfak 309 01.1 N49 50.3
01	285 58.6	153 57.3 51.9	236 03.3 48.6	72 56.4 59.5	301 31.0 32.4		Nunki 76 15.5 S26 18.1
02	301 01.0	168 56.8 51.1	251 03.9 49.1	87 59.0 59.5	316 33.5 32.5		Pecock 53 41.1 S56 44.9
03	316 03.5	183 56.3 50.3	266 04.6 49.6	103 01.5 59.5	331 36.0 32.5		Pollux 243 45.4 N28 02.3
04	331 05.9	198 55.8 49.5	281 05.2 50.1	118 04.0 59.4	346 38.4 32.5		Procyon 245 14.9 N 5 14.2
05	346 08.4	213 55.3 48.7	296 05.8 50.6	133 06.6 59.4	1 40.9 32.5		
06	1 10.9	228 54.8 N19 47.9	311 06.5 N17 51.1	148 09.1 S11 59.4	16 43.3 S 8 32.5		Rasalhague 96 19.3 N12 33.9
07	16 13.3	243 54.3 47.1	326 07.1 51.6	163 11.6 59.4	31 45.8 32.5		Regulus 207 58.8 N11 59.6
08	31 15.8	258 53.8 46.3	341 07.8 52.1	178 14.2 59.4	46 48.3 32.5		Rigel 281 26.1 S 8 12.5
J 09	46 18.3	273 53.3 45.5	356 08.4 52.6	193 16.7 59.4	61 50.7 32.5		Rigil Kent. 140 10.7 S60 48.9
U 10	61 20.7	288 52.8 44.7	11 09.0 53.0	208 19.2 59.4	76 53.2 32.5		Sabik 102 28.5 S15 43.0
V 11	76 23.2	303 52.3 43.9	26 09.7 53.5	223 21.8 59.4	91 55.6 32.5		
E 12	91 25.7	318 51.8 N19 43.0	41 10.3 N17 54.0	238 24.3 S11 59.3	106 58.1 S 8 32.5		Schedar 349 56.8 N56 30.2
S 13	106 28.1	333 51.3 42.2	56 10.9 54.5	253 26.8 59.3	122 00.6 32.6		Shaula 96 40.8 S37 05.9
14	121 30.6	348 50.8 41.4	71 11.6 55.0	268 29.3 59.3	137 03.0 32.6		Sirius 258 46.6 S16 42.6
15	136 33.1	3 50.3 40.6	86 12.2 55.5	283 31.9 59.3	152 05.5 32.6		Spica 158 46.1 S11 08.1
16	151 35.5	18 49.8 39.8	101 12.9 55.9	298 34.4 59.3	167 07.9 32.6		Suhail 223 03.2 S43 24.9
17	166 38.0	33 49.3 39.0	116 13.5 56.4	313 36.9 59.3	182 10.4 32.6		
18	181 40.4	48 48.8 N19 38.2	131 14.1 N17 56.9	328 39.5 S11 59.3	197 12.9 S 8 32.6		Vega 80 48.1 N38 46.8
19	196 42.9	63 48.3 37.4	146 14.8 57.4	343 42.0 59.3	212 15.3 32.6		Zuben'ubi 137 20.9 S16 01.2
20	211 45.4	78 47.8 36.5	161 15.4 57.9	358 44.5 59.3	227 17.8 32.6		
21	226 47.8	93 47.3 35.7	176 16.0 58.4	13 47.0 59.2	242 20.3 32.6		
22	241 50.3	108 46.8 34.9	191 16.7 58.9	28 49.6 59.2	257 22.7 32.6		
23	256 52.8	123 46.3 34.1	206 17.3 59.3	43 52.1 59.2	272 25.2 32.7		
Pas. Mer. 5 59.2		v -0.5 d 0.8	v 0.6 d 0.5	v 2.5 d 0.0	v 2.5 d 0.0		
							A. H. S. Pas. Mer. h m
							Venus 229 13.3 14 44
							Marte 310 50.3 9 16
							Júpiter 146 56.0 20 09
							Saturno 15 32.6 4 57

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Naut.		Civil	21	22	23	24
M A R T E S	d h	o /	o /	o /	o /	o /	o /	h m	h m	h m	h m	h m	h m	h m	
	00	179 36.2	N23 26.2	35 52.8	4.8	S18 56.1	5.5 60.4	N 72	□	□	□	■	■	■	■
	01	194 36.0	26.2	50 16.6	4.8	19 01.6	5.3 60.4	N 70	□	□	□	■	■	23 42	23 18
	02	209 35.9	26.2	64 40.4	4.7	19 06.9	5.2 60.4	68	□	□	□	20 59	22 11	22 37	22 45
	03	224 35.8	26.2	79 04.1	4.7	19 12.1	5.1 60.4	66	□	□	□	20 14	21 23	22 01	22 21
	04	239 35.6	26.2	93 27.8	4.7	19 17.2	4.9 60.4	64	///	///	01 31	19 44	20 52	21 35	22 02
	05	254 35.5	26.3	107 51.5	4.6	19 22.1	4.8 60.4	62	///	///	02 09	19 22	20 29	21 15	21 46
	06	269 35.4	N23 26.3	122 15.1	4.6	S19 26.9	4.6 60.4	60	///	00 49	02 36	19 04	20 10	20 59	21 33
	07	284 35.2	26.3	136 38.7	4.5	19 31.5	4.6 60.4	N 58	///	01 40	02 56	18 49	19 54	20 45	21 21
	08	299 35.1	26.3	151 02.2	4.5	19 36.1	4.3 60.4	56	///	02 11	03 13	18 36	19 41	20 33	21 12
	09	314 35.0	26.3	165 25.7	4.5	19 40.4	4.3 60.4	54	00 45	02 33	03 27	18 25	19 30	20 22	21 03
	10	329 34.8	26.3	179 49.2	4.4	19 44.7	4.1 60.4	52	01 32	02 51	03 40	18 15	19 20	20 13	20 55
	11	344 34.7	26.3	194 12.6	4.4	19 48.8	3.9 60.4	50	02 00	03 06	03 51	18 06	19 10	20 04	20 48
	12	359 34.6	N23 26.3	208 36.0	4.4	S19 52.7	3.9 60.4	45	02 46	03 36	04 13	17 47	18 51	19 47	20 33
	13	14 34.4	26.3	222 59.4	4.3	19 56.6	3.6 60.4	N 40	03 17	03 59	04 31	17 32	18 36	19 32	20 20
	14	29 34.3	26.3	237 22.7	4.3	20 00.2	3.6 60.4	35	03 40	04 17	04 46	17 19	18 22	19 20	20 10
	15	44 34.1	26.3	251 46.0	4.3	20 03.8	3.4 60.4	30	03 59	04 32	05 00	17 08	18 11	19 09	20 00
	16	59 34.0	26.3	266 09.3	4.2	20 07.2	3.2 60.4	20	04 28	04 57	05 22	16 49	17 51	18 50	19 44
	17	74 33.9	26.3	280 32.5	4.3	20 10.4	3.1 60.4	N 10	04 50	05 18	05 41	16 32	17 34	18 34	19 30
	18	89 33.7	N23 26.3	294 55.8	4.2	S20 13.5	3.0 60.4	0	05 09	05 36	05 58	16 17	17 18	18 19	19 17
	19	104 33.6	26.3	309 19.0	4.2	20 16.5	2.8 60.4	S 10	05 26	05 53	06 16	16 01	17 02	18 04	19 03
	20	119 33.5	26.3	323 42.2	4.2	20 19.3	2.6 60.4	20	05 43	06 10	06 34	15 45	16 45	17 47	18 49
	21	134 33.3	26.3	338 05.4	4.1	20 21.9	2.5 60.4	30	05 59	06 29	06 56	15 26	16 26	17 29	18 33
22	149 33.2	26.3	352 28.5	4.2	20 24.4	2.4 60.4	35	06 08	06 40	07 08	15 15	16 14	17 18	18 23	
23	164 33.1	26.3	6 51.7	4.1	20 26.8	2.2 60.4	40	06 17	06 52	07 22	15 03	16 01	17 05	18 13	
M I E R C O L E S	00	179 32.9	N23 26.3	21 14.8	4.1	S20 29.0	2.1 60.4	45	06 28	07 05	07 39	14 48	15 46	16 51	18 00
	01	194 32.8	26.3	35 37.9	4.1	20 31.1	1.9 60.3	S 50	06 40	07 21	08 00	14 30	15 27	16 33	17 44
	02	209 32.7	26.2	50 01.0	4.1	20 33.0	1.8 60.3	52	06 45	07 29	08 10	14 21	15 18	16 24	17 37
	03	224 32.5	26.2	64 24.1	4.1	20 34.8	1.6 60.3	54	06 51	07 37	08 21	14 12	15 08	16 15	17 29
	04	239 32.4	26.2	78 47.2	4.1	20 36.4	1.5 60.3	56	06 57	07 46	08 33	14 01	14 57	16 04	17 20
	05	254 32.3	26.2	93 10.3	4.1	20 37.9	1.3 60.3	58	07 04	07 56	08 48	13 49	14 44	15 52	17 09
	06	269 32.1	N23 26.2	107 33.4	4.1	S20 39.2	1.2 60.3	S 60	07 11	08 08	09 06	13 35	14 28	15 37	16 57
	07	284 32.0	26.2	121 56.5	4.1	20 40.4	1.1 60.3	Lat.	Ocaso Sol	Crepúsculo	Ocaso Luna	21	22	23	24
	08	299 31.9	26.2	136 19.6	4.1	20 41.5	0.8 60.3	h m	h m	h m	h m	h m	h m	h m	h m
	09	314 31.7	26.2	150 42.7	4.1	20 42.3	0.8 60.3	N 72	□	□	□	■	■	■	■
	10	329 31.6	26.2	165 05.8	4.1	20 43.1	0.6 60.3	N 70	□	□	□	■	■	■	01 32
	11	344 31.5	26.1	179 28.9	4.2	20 43.7	0.4 60.2	68	□	□	□	23 59	24 57	00 57	02 36
	12	359 31.3	N23 26.1	193 52.1	4.1	S20 44.1	0.3 60.2	66	□	□	□	00 12	00 45	01 45	03 12
	13	14 31.2	26.1	208 15.2	4.2	20 44.4	0.1 60.2	64	22 33	///	///	00 36	01 15	02 16	03 37
	14	29 31.0	26.1	222 38.4	4.1	20 44.5	0.2 60.2	62	21 54	///	///	00 55	01 38	02 39	03 57
	15	44 30.9	26.1	237 01.5	4.2	20 44.3	0.3 60.2	60	21 28	23 14	///	01 11	01 56	02 57	04 13
	16	59 30.8	26.0	265 47.9	4.2	20 44.0	0.4 60.2	N 58	21 07	22 23	///	01 24	02 11	03 13	04 27
	17	74 30.6	26.0	280 11.1	4.3	S20 43.6	0.6 60.2	56	20 51	21 53	///	01 35	02 24	03 26	04 38
	18	89 30.5	N23 26.0	294 34.4	4.3	20 43.0	0.8 60.1	54	20 36	21 31	23 19	01 46	02 36	03 37	04 48
	19	104 30.4	26.0	308 57.7	4.3	20 42.2	0.9 60.1	52	20 24	21 13	22 31	01 55	02 46	03 47	04 58
	20	119 30.2	26.0	323 21.0	4.3	20 41.3	1.0 60.1	50	20 13	20 58	22 03	02 03	02 55	03 56	05 06
	21	134 30.1	26.0	337 44.3	4.3	20 40.3	1.2 60.1	45	19 50	20 28	21 18	02 20	03 14	04 15	05 23
	22	149 30.0	25.9	352 07.6	4.4	20 39.1	1.3 60.1	N 40	19 32	20 05	20 47	02 34	03 29	04 31	05 37
23	164 29.8	25.9	6 31.0	4.5	S20 37.8	1.5 60.1	35	19 17	19 47	20 24	02 46	03 42	04 44	05 49	
J U E V E S	01	194 29.6	25.9	20 54.5	4.4	20 36.3	1.6 60.0	30	19 04	19 32	20 05	02 56	03 54	04 55	05 59
	02	209 29.4	25.9	35 17.9	4.5	20 34.7	1.8 60.0	20	18 42	19 07	19 36	03 14	04 13	05 15	06 17
	03	224 29.3	25.8	49 41.4	4.6	20 32.9	1.9 60.0	N 10	18 23	18 46	19 13	03 30	04 30	05 32	06 32
	04	239 29.2	25.8	64 05.0	4.5	20 31.0	2.1 60.0	0	18 06	18 28	18 54	03 45	04 46	05 47	06 47
	05	254 29.0	25.8	78 28.5	4.6	20 28.9	2.2 60.0	S 10	17 48	18 11	18 37	04 00	05 02	06 03	07 01
	06	269 28.9	N23 25.7	92 52.1	4.7	S20 26.7	2.3 59.9	20	17 30	17 54	18 21	04 15	05 19	06 20	07 16
	07	284 28.8	25.7	107 15.8	4.7	20 24.4	2.5 59.9	30	17 08	17 35	18 05	04 33	05 33	06 39	07 34
	08	299 28.6	25.7	121 39.5	4.8	20 21.9	2.6 59.9	35	16 56	17 24	17 56	04 44	05 50	06 50	07 44
	09	314 28.5	25.7	136 03.3	4.8	20 19.3	2.8 59.9	40	16 42	17 12	17 46	04 56	06 03	07 03	07 55
	10	329 28.4	25.6	150 27.1	4.8	20 16.5	2.9 59.9	45	16 25	16 59	17 36	05 10	06 18	07 18	08 09
	11	344 28.2	25.6	164 50.9	4.9	20 13.6	3.0 59.8	S 50	16 04	16 43	17 24	05 28	06 37	07 36	08 25
	12	359 28.1	N23 25.6	179 14.8	5.0	S20 10.6	3.2 59.8	52	15 54	16 35	17 19	05 36	06 46	07 45	08 33
	13	14 28.0	25.5	193 38.8	5.0	20 07.4	3.3 59.8	54	15 43	16 27	17 13	05 45	06 56	07 55	08 41
	14	29 27.8	25.5	208 02.8	5.1	20 04.1	3.4 59.8	56	15 30	16 18	17 07	05 56	07 07	08 06	08 51
	15	44 27.7	25.5	222 26.9	5.1	20 00.7	3.6 59.8	58	15 16	16 08	17 00	06 07	07 20	08 18	09 02
	16	59 27.6	25.4	236 51.0	5.2	19 57.1	3.7 59.7	S 60	14 58	15 56	16 53	06 21	07 35	08 33	09 14
	17	74 27.4	25.4	251 15.2	5.3	19 53.4	3.9 59.7	Día	SOL		LUNA				
	18	89 27.3	N23 25.4	265 39.5	5.3	S19 49.5	4.0 59.7	E.T. (-)	Pas. Mer.	Pas. Mer.		Eclad.	Fase		
	19	104 27.2	25.3	280 03.8	5.4	19 45.5	4.1 59.7	00 h	12 h	Sup.	Inf.				
	20	119 27.0	25.3	294 28.2	5.4	19 41.4	4.2 59.6	m s	m s	h m	h m	d			
	21	134 26.9	25.2	308 52.6	5.5	19 37.2	4.4 59.6	21	01 35	01 42	12 02	22 31	10 01	12	
	22	149 26.8	25.2	323 17.1	5.6	19 32.8	4.5 59.6	22	01 48	01 54	12 02	23 33	11 02	13	
	23	164 26.6	25.2	337 41.7	5.6	19 28.3	4.6 59.6	23							

T.M.G. (TU)	ARIES			VENUS -4.0			MARTE +1.2			JUPITER -2.3			SATURNO +0.9			ESTRELLAS																																																																									
	A.H.G.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.																																																																											
24 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	271 55.2	138 45.8	N19 33.3	221 18.0	N17 59.8	58 54.6	S11 59.2	287 27.6	S 8 32.7	Acamar	315 29.4	S40 19.4																																																																													
	286 57.7	153 45.3	32.5	236 18.6	18 00.3	73 57.2	59.2	302 30.1	32.7	Achernar	335 37.6	S57 15.6																																																																													
	302 00.2	168 44.8	31.6	251 19.2	00.8	88 59.7	59.2	317 32.6	32.7	Acrux	173 25.1	S63 04.5																																																																													
	317 02.6	183 44.3	30.8	266 19.9	01.3	104 02.2	59.2	332 35.0	32.7	Adhara	255 24.1	S28 58.0																																																																													
	332 05.1	198 43.8	30.0	281 20.5	01.7	119 04.7	59.2	347 37.5	32.7	Aldebaran	291 06.0	N16 29.8																																																																													
	347 07.6	213 43.3	29.2	296 21.1	02.2	134 07.3	59.2	2 40.0	32.7																																																																																
	2 10.0	228 42.8	N19 28.4	311 21.8	N18 02.7	149 09.8	S11 59.2	17 42.4	S 8 32.7	Alioth	166 33.0	N55 59.6																																																																													
	17 12.5	243 42.4	27.5	326 22.4	03.2	164 12.3	59.2	32 44.9	32.7	Alkaid	153 09.9	N49 20.6																																																																													
	32 14.9	258 41.9	26.7	341 23.1	03.7	179 14.8	59.1	47 47.4	32.8	Al Na'ir	28 01.3	S46 58.9																																																																													
	47 17.4	273 41.4	25.9	356 23.7	04.1	194 17.4	59.1	62 49.8	32.8	Alnilam	276 01.1	S 1 12.4																																																																													
	62 19.9	288 40.9	25.1	11 24.3	04.6	209 19.9	59.1	77 52.3	32.8	Alphard	218 10.3	S 8 38.2																																																																													
	77 22.3	303 40.4	24.2	26 25.0	05.1	224 22.4	59.1	92 54.8	32.8																																																																																
	92 24.8	318 39.9	N19 23.4	41 25.6	N18 05.6	239 24.9	S11 59.1	107 57.2	S 8 32.8	Alphecca	126 22.7	N26 44.1																																																																													
	107 27.3	333 39.4	22.6	56 26.2	06.1	254 27.4	59.1	122 59.7	32.8	Alpheratz	357 58.2	N29 03.5																																																																													
	122 29.7	348 38.9	21.7	71 26.9	06.5	269 30.0	59.1	138 02.2	32.8	Altair	62 21.8	N 8 51.3																																																																													
	137 32.2	3 38.5	20.9	86 27.5	07.0	284 32.5	59.1	153 04.6	32.8	Ankaa	353 29.7	S42 19.8																																																																													
	152 34.7	18 38.0	20.1	101 28.1	07.5	299 35.0	59.1	168 07.1	32.8	Antares	112 43.4	S26 25.2																																																																													
	167 37.1	33 37.5	19.2	116 28.8	08.0	314 37.5	59.1	183 09.6	32.9																																																																																
	182 39.6	48 37.0	N19 18.4	131 29.4	N18 08.4	329 40.1	S11 59.1	198 12.0	S 8 32.9	Arcturus	146 08.5	N19 12.7																																																																													
	197 42.0	63 36.5	17.6	146 30.1	08.9	344 42.6	59.1	213 14.5	32.9	Atria	107 57.4	S69 01.1																																																																													
	212 44.5	78 36.1	16.7	161 30.7	09.4	359 45.1	59.0	228 17.0	32.9	Avior	234 24.3	S59 29.8																																																																													
	227 47.0	93 35.6	15.9	176 31.3	09.9	14 47.6	59.0	243 19.4	32.9	Bellatrix	278 47.6	N 6 20.6																																																																													
	242 49.4	108 35.1	15.1	191 32.0	10.3	29 50.1	59.0	258 21.9	32.9	Betelgeuse	271 17.0	N 7 24.3																																																																													
257 51.9	123 34.6	14.2	206 32.6	10.8	44 52.7	59.0	273 24.4	32.9																																																																																	
25 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	272 54.4	138 34.1	N19 13.4	221 33.2	N18 11.3	59 55.2	S11 59.0	288 26.8	S 8 32.9	Canopus	264 03.0	S52 41.7																																																																													
	287 56.8	153 33.7	12.6	236 33.9	11.8	74 57.7	59.0	303 29.3	33.0	Capella	280 55.9	N45 59.4																																																																													
	302 59.3	168 33.2	11.7	251 34.5	12.2	90 00.2	59.0	318 31.8	33.0	Deneb	49 40.7	N45 15.6																																																																													
	318 01.8	183 32.7	10.9	266 35.1	12.7	105 02.7	59.0	333 34.2	33.0	Denebola	182 48.2	N14 36.2																																																																													
	333 04.2	198 32.2	10.0	281 35.8	13.2	120 05.3	59.0	348 36.7	33.0	Diphda	349 10.2	S18 00.8																																																																													
	348 06.7	213 31.8	09.2	296 36.4	13.7	135 07.8	59.0	3 39.2	33.0																																																																																
	3 09.2	228 31.3	N19 08.3	311 37.0	N18 14.1	150 10.3	S11 59.0	18 41.6	S 8 33.0	Dubhe	194 09.3	N61 47.0																																																																													
	18 11.6	243 30.8	07.5	326 37.7	14.6	165 12.8	59.0	33 44.1	33.0	Elnath	278 31.0	N28 36.1																																																																													
	33 14.1	258 30.3	06.7	341 38.3	15.1	180 15.3	59.0	48 46.6	33.0	Eltanin	90 52.2	N51 29.5																																																																													
	48 16.5	273 29.9	05.8	356 39.0	15.6	195 17.8	59.0	63 49.0	33.1	Enif	34 00.8	N 9 51.1																																																																													
	63 19.0	288 29.4	05.0	11 39.6	16.0	210 20.4	58.9	78 51.5	33.1	Fomalhaut	15 39.5	S29 38.8																																																																													
	78 21.5	303 28.9	04.1	26 40.2	16.5	225 22.9	58.9	93 54.0	33.1																																																																																
	93 23.9	318 28.5	N19 03.3	41 40.9	N18 17.0	240 25.4	S11 58.9	108 56.4	S 8 33.1	Gacrux	172 16.7	S57 05.3																																																																													
	108 26.4	333 28.0	02.4	56 41.5	17.4	255 27.9	58.9	123 58.9	33.1	Gienah	176 06.9	S17 30.9																																																																													
	123 28.9	348 27.5	01.6	71 42.1	17.9	270 30.4	58.9	139 01.4	33.1	Hadar	149 07.8	S60 21.1																																																																													
	138 31.3	3 27.1	19 00.7	86 42.8	18.4	285 32.9	58.9	154 03.8	33.1	Hamal	328 17.0	N23 26.1																																																																													
	153 33.8	18 26.6	18 59.9	101 43.4	18.8	300 35.4	58.9	169 06.3	33.1	Kaus Aust.	84 02.2	S34 23.1																																																																													
	168 36.3	33 26.1	59.0	116 44.0	19.3	315 38.0	58.9	184 08.8	33.2																																																																																
	183 38.7	48 25.7	N18 58.2	131 44.7	N18 19.8	330 40.5	S11 58.9	199 11.3	S 8 33.2	Kochab	137 18.7	N74 10.9																																																																													
	198 41.2	63 25.2	57.3	146 45.3	20.3	345 43.0	58.9	214 13.7	33.2	Markab	13 52.4	N15 10.6																																																																													
	213 43.7	78 24.7	56.5	161 45.9	20.7	0 45.5	58.9	229 16.2	33.2	Menkar	314 30.1	N 4 04.1																																																																													
	228 46.1	93 24.3	55.6	176 46.6	21.2	15 48.0	58.9	244 18.7	33.2	Menkent	148 24.1	S36 20.8																																																																													
	243 48.6	108 23.8	54.7	191 47.2	21.7	30 50.5	58.9	259 21.1	33.2	Miaplacidus	221 43.3	S69 42.0																																																																													
258 51.0	123 23.4	53.9	206 47.8	22.1	45 53.0	58.9	274 23.6	33.2																																																																																	
26 00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23	273 53.5	138 22.9	N18 53.0	221 48.5	N18 22.6	60 55.6	S11 58.9	289 26.1	S 8 33.3	Mirfak	309 01.1	N49 50.3																																																																													
	288 56.0	153 22.4	52.2	236 49.1	23.1	75 58.1	58.9	304 28.6	33.3	Nunki	76 15.5	S26 18.1																																																																													
	303 58.4	168 22.0	51.3	251 49.7	23.5	91 00.6	58.9	319 31.0	33.3	Peacock	53 41.0	S56 44.9																																																																													
	319 00.9	183 21.5	50.5	266 50.4	24.0	106 03.1	58.9	334 33.5	33.3	Pollux	243 45.4	N28 02.3																																																																													
	334 03.4	198 21.1	49.6	281 51.0	24.5	121 05.6	58.8	349 36.0	33.3	Procyon	245 14.9	N 5 14.3																																																																													
	349 05.8	213 20.6	48.7	296 51.7	24.9	136 08.1	58.8	4 38.4	33.3																																																																																
	4 08.3	228 20.1	N18 47.9	311 52.3	N18 25.4	151 10.6	S11 58.8	19 40.9	S 8 33.3	Rasalhague	96 19.3	N12 33.9																																																																													
	19 10.8	243 19.7	47.0	326 52.9	25.8	166 13.1	58.8	34 43.4	33.3	Regulus	207 58.8	N11 59.6																																																																													
	34 13.2	258 19.2	46.1	341 53.6	26.3	181 15.6	58.8	49 45.9	33.4	Rigel	281 26.0	S 8 12.5																																																																													
	49 15.7	273 18.8	45.3	356 54.2	26.8	196 18.2	58.8	64 48.3	33.4	Rigil Kent.	140 10.7	S60 49.0																																																																													
	64 18.1	288 18.3	44.4	11 54.8	27.2	211 20.7	58.8	79 50.8	33.4	Sabik	102 28.5	S15 43.0																																																																													
	79 20.6	303 17.9	43.5	26 55.5	27.7	226 23.2	58.8	94 53.3	33.4																																																																																
	94 23.1	318 17.4	N18 42.7	41 56.1	N18 28.2	241 25.7	S11 58.8	109 55.8	S 8 33.4	Schedar	349 56.8	N56 30.2																																																																													
	109 25.5	333 17.0	41.8	56 56.7	28.6	256 28.2	58.8	124 58.2	33.4	Shiula	96 40.8	S37 05.9																																																																													
	124 28.0	348 16.5	40.9	71 57.4	29.1	271 30.7	58.8	140 00.7	33.4	Sirius	258 46.6	S16 42.6																																																																													
	139 30.5	3 16.1	40.1	86 58.0	29.6	286 33.2	58.8	155 03.2	33.5	Spica	158 46.1	S11 08.1																																																																													
	154 32.9	18 15.6	39.2	101 58.6	30.0	301 35.7	58.8	170 05.6	33.5	Suhail	223 03.2	S43 24.9																																																																													
	169 35.4	33 15.2	38.3	116 59.3	30.5	316 38.2	58.8	185 08.1	33.5																																																																																
	184 37.9	48 14.7	N18 37.5	131 59.9	N18 30.9	331 40.7	S11 58.8	200 10.6	S 8 33.5	Vega	80 48.1	N38 46.8																																																																													
	199 40.3	63 14.3	36.6	147 00.5	31.4	346 43.2	58.8	215 13.1	33.5	Zuben'ubi	137 20.9	S16 01.2																																																																													
	214 42.8	78 13.8	35.7	162 01.2	31.9	1 45.7	58.8	230 15.5	33.5																																																																																
	229 45.3	93 13.4	34.8	177 01.8	32.3	16 48.2	58.8	245 18.0	33.6																																																																																
	244 47.7	108 12.9	34.0	192 02.4	32.8	31 50.8	58.8	260 20.5	33.6																																																																																
259 50.2	123 12.5	33.1	207 03.1	33.2	46 53.3	58.8	275 23.0	33.6																																																																																	
<table border="0" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%; text-align: center;">h</td> <td style="width:10%; text-align: center;">m</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td>Pas. Mer.</td> <td>5</td> <td>47.4</td> <td>v -0.5</td> <td>d 0.8</td> <td>v 0.6</td> <td>d 0.5</td> <td>v 2.5</td> <td>d 0.0</td> <td>v 2.5</td> <td>d 0.0</td> <td>v 2.5</td> <td>d 0.0</td> <td></td> <td></td> </tr> </table>																h	m													Pas. Mer.	5	47.4	v -0.5	d 0.8	v 0.6	d 0.5	v 2.5	d 0.0	v 2.5	d 0.0	v 2.5	d 0.0																																															
	h	m																																																																																							
Pas. Mer.	5	47.4	v -0.5	d 0.8	v 0.6	d 0.5	v 2.5	d 0.0	v 2.5	d 0.0	v 2.5	d 0.0																																																																													
<table border="0" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">A. H. S.</td> <td style="text-align: center;">Pas. Mer.</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td style="text-align: center;">o</td> <td style="text-align: center;">h</td> <td style="text-align: center;">m</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>Venus</td> <td>225</td> <td>39.8</td> <td>14</td> <td>46</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td>Marte</td> <td>308</td> <td>38.9</td> <td>9</td> <td>13</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr></table>																																	A. H. S.	Pas. Mer.														o	h	m													Venus	225	39.8	14	46											Marte	308	38.9	9	13							
			A. H. S.	Pas. Mer.																																																																																					
			o	h	m																																																																																				
			Venus	225	39.8	14	46																																																																																		
			Marte	308	38.9	9	13																																																																																		

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna							
	A.H.G.		Dec.		A.H.G.		v Dec.			Naut.	Civil		24	25	26	27				
	o	'	o	'	o	'	o	'									h	m	h	m
V I E R N E S	24 00	179	26.5	N23	25.1	352	06.3	5.8	S19	23.7	4.8	59.5	N 72	□	□	□	■	{ ⁰⁰ ₂₃ ¹¹ ₃₄ }	23 15	23 01
	01	194	26.4		25.1	6	31.1	5.7	19	18.9	4.8	59.5	N 70	□	□	□	23 18	23 08	23 00	22 54
	02	209	26.2		25.0	20	55.8	5.9	19	14.1	5.0	59.5	68	□	□	□	22 45	22 47	22 48	22 47
	03	224	26.1		25.0	35	20.7	5.9	19	09.1	5.2	59.5	66	□	□	□	22 21	22 31	22 38	22 42
	04	239	26.0		25.0	49	45.6	6.0	19	03.9	5.2	59.4	64	////	////	01 33	22 02	22 18	22 29	22 37
	05	254	25.8		24.9	64	10.6	6.1	18	58.7	5.4	59.4	62	////	////	02 11	21 46	22 07	22 22	22 33
	06	269	25.7	N23	24.9	78	35.7	6.2	S18	53.3	5.4	59.4	60	////	00 51	02 37	21 33	21 57	22 15	22 30
	07	284	25.6		24.8	93	00.9	6.2	18	47.9	5.6	59.3	N 58	////	01 42	02 57	21 21	21 49	22 10	22 27
	08	299	25.4		24.8	107	26.1	6.3	18	42.3	5.7	59.3	56	////	02 12	03 14	21 12	21 41	22 04	22 24
	09	314	25.3		24.7	121	51.4	6.4	18	36.6	5.9	59.3	54	00 47	02 34	03 28	21 03	21 34	22 00	22 21
	10	329	25.2		24.7	136	16.8	6.4	18	30.7	5.9	59.3	52	01 34	02 52	03 41	20 55	21 28	21 56	22 19
	11	344	25.0		24.6	150	42.2	6.6	18	24.8	6.1	59.2	50	02 02	03 07	03 52	20 48	21 23	21 52	22 17
	12	359	24.9	N23	24.6	165	07.8	6.6	S18	18.7	6.1	59.2	45	02 47	03 37	04 14	20 33	21 11	21 44	22 13
	13	14	24.8		24.5	179	33.4	6.7	18	12.6	6.3	59.2	N 40	03 18	03 59	04 32	20 20	21 01	21 37	22 09
	14	29	24.6		24.5	193	59.1	6.8	18	06.3	6.4	59.1	35	03 41	04 18	04 47	20 10	20 53	21 31	22 05
	15	44	24.5		24.4	208	24.9	6.9	17	59.9	6.5	59.1	30	03 59	04 33	05 00	20 00	20 46	21 26	22 03
	16	59	24.4		24.4	222	50.8	7.0	17	53.4	6.6	59.1	20	04 29	04 58	05 22	19 44	20 33	21 17	21 57
	17	74	24.2		24.3	237	16.8	7.0	17	46.8	6.7	59.1	N 10	04 51	05 18	05 41	19 30	20 22	21 09	21 53
	18	89	24.1	N23	24.3	251	42.8	7.1	S17	40.1	6.8	59.0	0	05 10	05 36	05 59	19 17	20 11	21 01	21 49
	19	104	24.0		24.2	266	08.9	7.2	17	33.3	6.9	59.0	S 10	05 27	05 53	06 16	19 03	20 00	20 54	21 45
	20	119	23.8		24.2	280	35.1	7.3	17	26.4	7.0	59.0	20	05 43	06 11	06 35	18 49	19 49	20 46	21 40
	21	134	23.7		24.1	295	01.4	7.4	17	19.4	7.2	58.9	30	06 00	06 30	06 56	18 33	19 36	20 37	21 35
	22	149	23.6		24.1	309	27.8	7.5	17	12.2	7.2	58.9	35	06 09	06 40	07 08	18 23	19 28	20 32	21 32
23	164	23.4		24.0	323	54.3	7.6	17	05.0	7.3	58.9	40	06 18	06 52	07 23	18 13	19 20	20 25	21 29	
24												45	06 28	07 06	07 39	18 00	19 10	20 18	21 25	
25 00	179	23.3	N23	23.9	338	20.9	7.6	S16	57.7	7.4	58.8	S 50	06 40	07 22	08 00	17 44	18 58	20 10	21 20	
01	194	23.2		23.9	352	47.5	7.7	16	50.3	7.5	58.8	52	06 45	07 29	08 10	17 37	18 52	20 06	21 18	
02	209	23.0		23.8	7	14.2	7.9	16	42.8	7.6	58.8	54	06 51	07 37	08 21	17 29	18 46	20 02	21 16	
03	224	22.9		23.8	21	41.1	7.9	16	35.2	7.7	58.7	56	06 57	07 46	08 34	17 20	18 39	19 57	21 13	
04	239	22.8		23.7	36	08.0	8.0	16	27.5	7.7	58.7	58	07 04	07 57	08 48	17 09	18 31	19 52	21 10	
05	254	22.6		23.6	50	35.0	8.0	16	19.8	7.9	58.7	S 60	07 11	08 08	09 06	16 57	18 22	19 46	21 07	
06	269	22.5	N23	23.6	65	02.0	8.2	S16	11.9	8.0	58.6									
07	284	22.4		23.5	79	29.2	8.3	16	03.9	8.0	58.6									
08	299	22.3		23.4	93	56.5	8.3	15	55.9	8.1	58.6									
09	314	22.1		23.4	108	23.8	8.5	15	47.8	8.2	58.5									
10	329	22.0		23.3	122	51.3	8.5	15	39.6	8.3	58.5									
11	344	21.9		23.3	137	18.8	8.6	15	31.3	8.4	58.5									
12	359	21.7	N23	23.2	151	46.4	8.7	S15	22.9	8.4	58.4									
13	14	21.6		23.1	166	14.1	8.8	15	14.5	8.6	58.4									
14	29	21.5		23.1	180	41.9	8.9	15	05.9	8.6	58.4									
15	44	21.3		23.0	195	09.8	9.0	14	57.3	8.6	58.3									
16	59	21.2		22.9	209	37.8	9.1	14	48.7	8.8	58.3									
17	74	21.1		22.8	224	05.9	9.1	14	39.9	8.8	58.3									
18	89	20.9	N23	22.8	238	34.0	9.3	S14	31.1	8.9	58.2									
19	104	20.8		22.7	253	02.3	9.3	14	22.2	9.0	58.2									
20	119	20.7		22.6	267	30.6	9.4	14	13.2	9.0	58.2									
21	134	20.5		22.6	281	59.0	9.5	14	04.2	9.1	58.1									
22	149	20.4		22.5	296	27.5	9.6	13	55.1	9.2	58.1									
23	164	20.3		22.4	310	56.1	9.7	13	45.9	9.2	58.1									
26 00	179	20.2	N23	22.3	325	24.8	9.8	S13	36.7	9.3	58.0									
01	194	20.0		22.3	339	53.6	9.8	13	27.4	9.4	58.0									
02	209	19.9		22.2	354	22.4	10.0	13	18.0	9.4	58.0									
03	224	19.8		22.1	8	51.4	10.0	13	08.6	9.5	57.9									
04	239	19.6		22.0	23	20.4	10.1	12	59.1	9.5	57.9									
05	254	19.5		22.0	37	49.5	10.2	12	49.6	9.6	57.9									
06	269	19.4	N23	21.9	52	18.7	10.3	S12	40.0	9.7	57.8									
07	284	19.2		21.8	66	48.0	10.4	12	30.3	9.7	57.8									
08	299	19.1		21.7	81	17.4	10.4	12	20.6	9.8	57.7									
09	314	19.0		21.6	95	46.8	10.5	12	10.8	9.8	57.7									
10	329	18.8		21.5	110	16.3	10.7	12	01.0	9.9	57.7									
11	344	18.7		21.5	124	46.0	10.7	11	51.1	9.9	57.6									
12	359	18.6	N23	21.4	139	15.7	10.7	S11	41.2	9.9	57.6									
13	14	18.5		21.3	153	45.4	10.9	11	31.3	10.1	57.6									
14	29	18.3		21.2	168	15.3	10.9	11	21.2	10.0	57.5									
15	44	18.2		21.1	182	45.2	11.1	11	11.2	10.1	57.5									
16	59	18.1		21.0	197	15.3	11.1	11	01.1	10.2	57.5									
17	74	17.9		21.0	211	45.4	11.2	10	50.9	10.2	57.4									
18	89	17.8	N23	20.9	226	15.6	11.2	S10	40.7	10.2	57.4									
19	104	17.7		20.8	240	45.8	11.4	10	30											

T.M.G. (TU)		ARIES			VENUS -4.0			MARTE +1.2			JUPITER -2.2			SATURNO +0.9			ESTRELLAS									
d	h	A.H.G.		A.H.G.	Dec.	A.H.G.		A.H.G.	Dec.	A.H.G.		A.H.G.	Dec.	A.H.G.		A.H.G.	Dec.	Nombre	A. H. S.	Dec.						
LUNES	27 00	274	52.6	138	12.0	N18	32.2	222	03.7	N18	33.7	61	55.8	S11	58.8	290	25.4	S	8	33.6	Acamar	315	29.4	S40	19.4	
	01	289	55.1	153	11.6		31.3	237	04.3		34.2	76	58.3		58.8	305	27.9			33.6	Achernar	335	37.5	S57	15.6	
	02	304	57.6	168	11.2		30.5	252	05.0		34.6	92	00.8		58.8	320	30.4			33.6	Acrux	173	25.1	S63	04.5	
	03	320	00.0	183	10.7		29.6	267	05.6		35.1	107	03.3		58.8	335	32.9			33.6	Adhara	255	24.1	S28	58.0	
	04	335	02.5	198	10.3		28.7	282	06.2		35.5	122	05.8		58.8	350	35.3			33.7	Aldebaran	291	06.0	N16	29.8	
	05	350	05.0	213	09.8		27.8	297	06.9		36.0	137	08.3		58.8	5	37.8			33.7						
	06	5	07.4	228	09.4	N18	26.9	312	07.5	N18	36.5	152	10.8	S11	58.8	20	40.3	S	8	33.7	Alioth	166	33.1	N55	59.6	
	07	20	09.9	243	08.9		26.1	327	08.1		36.9	167	13.3		58.8	35	42.8			33.7	Alkaid	153	09.9	N49	20.7	
	08	35	12.4	258	08.5		25.2	342	08.8		37.4	182	15.8		58.8	50	45.2			33.7	Al Na'ir	28	01.2	S46	58.9	
	09	50	14.8	273	08.1		24.3	357	09.4		37.8	197	18.3		58.8	65	47.7			33.7	Alnilam	276	01.1	S	1	12.4
	10	65	17.3	288	07.6		23.4	12	10.0		38.3	212	20.8		58.8	80	50.2			33.8	Alphard	218	10.3	S	8	38.2
	11	80	19.8	303	07.2		22.5	27	10.7		38.7	227	23.3		58.8	95	52.7			33.8						
	12	95	22.2	318	06.8	N18	21.6	42	11.3	N18	39.2	242	25.8	S11	58.8	110	55.2	S	8	33.8	Alphecca	126	22.8	N26	44.1	
	13	110	24.7	333	06.3		20.7	57	11.9		39.6	257	28.3		58.8	125	57.6			33.8	Alpheratz	357	58.2	N29	03.5	
	14	125	27.1	348	05.9		19.9	72	12.6		40.1	272	30.8		58.8	141	00.1			33.8	Altair	62	21.8	N	8	51.3
	15	140	29.6	3	05.5		19.0	87	13.2		40.6	287	33.3		58.8	156	02.6			33.8	Ankaa	353	29.7	S42	19.8	
	16	155	32.1	18	05.0		18.1	102	13.8		41.0	302	35.8		58.8	171	05.1			33.9	Antares	112	43.4	S26	25.2	
	17	170	34.5	33	04.6		17.2	117	14.5		41.5	317	38.3		58.8	186	07.5			33.9						
	18	185	37.0	48	04.2	N18	16.3	132	15.1	N18	41.9	332	40.8	S11	58.8	201	10.0	S	8	33.9	Arcturus	146	08.5	N19	12.7	
	19	200	39.5	63	03.7		15.4	147	15.7		42.4	347	43.3		58.8	216	12.5			33.9	Atria	107	57.4	S69	01.1	
	20	215	41.9	78	03.3		14.5	162	16.3		42.8	2	45.8		58.8	231	15.0			33.9	Avior	234	24.4	S59	29.8	
	21	230	44.4	93	02.9		13.6	177	17.0		43.3	17	48.3		58.8	246	17.5			33.9	Bellatrix	278	47.6	N	6	20.6
	22	245	46.9	108	02.4		12.7	192	17.6		43.7	32	50.8		58.8	261	19.9			34.0	Betelgeuse	271	17.0	N	7	24.3
23	260	49.3	123	02.0		11.8	207	18.2		44.2	47	53.3		58.8	276	22.4			34.0							
MARTES	28 00	275	51.8	138	01.6	N18	10.9	222	18.9	N18	44.6	62	55.8	S11	58.8	291	24.9	S	8	34.0	Canopus	264	03.0	S52	41.7	
	01	290	54.3	153	01.2		10.0	237	19.5		45.1	77	58.3		58.8	306	27.4			34.0	Capella	280	55.9	N45	59.4	
	02	305	56.7	168	00.7		09.1	252	20.1		45.5	93	00.8		58.8	321	29.8			34.0	Deneb	49	40.7	N45	15.6	
	03	320	59.2	183	00.3		08.2	267	20.8		46.0	108	03.3		58.8	336	32.3			34.0	Denebola	182	48.2	N14	36.2	
	04	336	01.6	197	59.9		07.3	282	21.4		46.4	123	05.8		58.8	351	34.8			34.1	Diphda	349	10.2	S18	00.8	
	05	351	04.1	212	59.4		06.5	297	22.0		46.9	138	08.3		58.8	6	37.3			34.1						
	06	6	06.6	227	59.0	N18	05.6	312	22.7	N18	47.3	153	10.8	S11	58.8	21	39.8	S	8	34.1	Dubhe	194	09.3	N61	47.0	
	07	21	09.0	242	58.6		04.7	327	23.3		47.8	168	13.3		58.8	36	42.2			34.1	Elnath	278	30.9	N28	36.1	
	08	36	11.5	257	58.2		03.7	342	23.9		48.2	183	15.8		58.8	51	44.7			34.1	Eltanin	90	52.2	N51	29.5	
	09	51	14.0	272	57.8		02.8	357	24.6		48.7	198	18.3		58.8	66	47.2			34.1	Enif	34	00.8	N	9	51.1
	10	66	16.4	287	57.3		01.9	12	25.2		49.1	213	20.8		58.8	81	49.7			34.2	Fomalhaut	15	39.5	S29	38.8	
	11	81	18.9	302	56.9		01.0	27	25.8		49.6	228	23.3		58.8	96	52.2			34.2						
	12	96	21.4	317	56.5	N18	00.1	42	26.5	N18	50.0	243	25.7	S11	58.8	111	54.7	S	8	34.2	Gacrux	172	16.7	S57	05.3	
13	111	23.8	332	56.1		17	59.2	57	27.1		50.5	258	28.2		58.8	126	57.1			34.2	Gienah	176	06.9	S17	30.9	
14	126	26.3	347	55.7		58.3	72	27.7		50.9	273	30.7		58.8	141	59.6			34.2	Hadar	149	07.8	S60	21.1		
15	141	28.7	2	55.2		57.4	87	28.3		51.4	288	33.2		58.8	157	02.1			34.2	Hamal	328	17.0	N23	26.1		
16	156	31.2	17	54.8		56.5	102	29.0		51.8	303	35.7		58.8	172	04.6			34.3	Kaus Aust.	84	02.2	S34	23.1		
17	171	33.7	32	54.4		55.6	117	29.6		52.3	318	38.2		58.8	187	07.1			34.3							
18	186	36.1	47	54.0	N17	54.7	132	30.2	N18	52.7	333	40.7	S11	58.8	202	09.5	S	8	34.3	Kochab	137	18.8	N74	10.9		
19	201	38.6	62	53.6		53.8	147	30.9		53.1	348	43.2		58.8	217	12.0			34.3	Markab	13	52.4	N15	10.6		
20	216	41.1	77	53.2		52.9	162	31.5		53.6	3	45.7		58.8	232	14.5			34.3	Menkar	314	30.1	N	4	04.1	
21	231	43.5	92	52.7		52.0	177	32.1		54.0	18	48.2		58.8	247	17.0			34.4	Menkent	148	24.2	S36	20.8		
22	246	46.0	107	52.3		51.1	192	32.8		54.5	33	50.7		58.8	262	19.5			34.4	Miaplacidus	221	43.3	S69	42.0		
23	261	48.5	122	51.9		50.1	207	33.4		54.9	48	53.2		58.8	277	22.0			34.4							
MIÉRCOLES	29 00	276	50.9	137	51.5	N17	49.2	222	34.0	N18	55.4	63	55.7	S11	58.8	292	24.4	S	8	34.4	Mirfak	309	01.1	N49	50.3	
	01	291	53.4	152	51.1		48.3	237	34.7		55.8	78	58.1		58.8	307	26.9			34.4	Nunki	76	15.5	S26	18.1	
	02	306	55.9	167	50.7		47.4	252	35.3		56.3	94	00.6		58.8	322	29.4			34.4	Peacock	53	41.0	S56	44.9	
	03	321	58.3	182	50.3		46.5	267	35.9		56.7	109	03.1		58.8	337	31.9			34.5	Pollux	243	45.4	N28	02.3	
	04	337	00.8	197	49.9		45.6	282	36.5		57.1	124	05.6		58.8	352	34.4			34.5	Procyon	245	14.9	N	5	14.3
	05	352	03.2	212	49.5		44.6	297	37.2		57.6	139	08.1		58.8	7	36.8			34.5						
	06	7	05.7	227	49.1	N17	43.7	312	37.8	N18	58.0	154	10.6	S11												

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.	Civil		27	28	29	30					
	°	'	°	'	°	'	°	'					h	m	h	m	h	m	h	m	
L U N E S	27 00	179	17.0	N23	20.3	313	18.3	11.7	S	9	38.8	10.5	57.2	N 72	□	□	□	23 01	22 49	22 38	22 26
	01	194	16.9		20.2	327	49.0	11.8		9	28.3	10.5	57.1	N 70	□	□	□	22 54	22 48	22 42	22 36
	02	209	16.8		20.1	342	19.8	11.8		9	17.8	10.5	57.1	68	□	□	□	22 47	22 46	22 45	22 44
	03	224	16.6		20.0	356	50.6	12.0		9	07.3	10.6	57.1	66	□	□	□	22 42	22 45	22 48	22 51
	04	239	16.5		20.0	11	21.6	12.0		8	56.7	10.5	57.0	64	////	////	01 36	22 37	22 44	22 51	22 57
	05	254	16.4		19.9	25	52.6	12.0		8	46.2	10.7	57.0	62	////	////	02 13	22 33	22 43	22 53	23 03
	06	269	16.3	N23	19.8	40	23.6	12.2	S	8	35.5	10.6	57.0	60	////	00 56	02 39	22 30	22 43	22 55	23 07
	07	284	16.1		19.7	54	54.8	12.2		8	24.9	10.7	56.9	N 58	////	01 44	02 59	22 27	22 42	22 56	23 11
	08	299	16.0		19.6	69	26.0	12.3		8	14.2	10.7	56.9	56	////	02 14	03 16	22 24	22 41	22 58	23 15
	09	314	15.9		19.5	83	57.3	12.3		8	03.5	10.7	56.9	54	00 51	02 36	03 30	22 21	22 41	22 59	23 18
	10	329	15.7		19.4	98	28.6	12.5		7	52.8	10.7	56.8	52	01 36	02 54	03 42	22 19	22 40	23 00	23 21
	11	344	15.6		19.3	113	00.1	12.4		7	42.1	10.8	56.8	50	02 03	03 09	03 53	22 17	22 40	23 02	23 24
	12	359	15.5	N23	19.2	127	31.5	12.6	S	7	31.3	10.8	56.8	45	02 49	03 38	04 15	22 13	22 39	23 04	23 29
	13	14	15.3		19.1	142	03.1	12.6		7	20.5	10.8	56.7	N 40	03 19	04 01	04 33	22 09	22 38	23 06	23 34
	14	29	15.2		19.0	156	34.7	12.7		7	09.7	10.8	56.7	35	03 42	04 19	04 48	22 05	22 37	23 08	23 39
	15	44	15.1		18.9	171	06.4	12.7		6	58.9	10.9	56.7	30	04 00	04 34	05 01	22 03	22 37	23 10	23 42
	16	59	15.0		18.8	185	38.1	12.8		6	48.0	10.9	56.6	20	04 29	04 59	05 23	21 57	22 36	23 12	23 49
	17	74	14.8		18.7	200	09.9	12.9		6	37.1	10.8	56.6	N 10	04 52	05 19	05 42	21 53	22 35	23 15	23 55
	18	89	14.7	N23	18.5	214	41.8	12.9	S	6	26.3	10.9	56.6	0	05 11	05 37	05 59	21 49	22 34	23 17	24 00
	19	104	14.6		18.4	229	13.7	13.0		6	15.4	11.0	56.5	S 10	05 28	05 54	06 17	21 45	22 33	23 20	24 06
	20	119	14.4		18.3	243	45.7	13.0		6	04.4	10.9	56.5	20	05 44	06 11	06 35	21 40	22 32	23 22	24 12
	21	134	14.3		18.2	258	17.7	13.1		5	53.5	10.9	56.5	30	06 00	06 30	06 56	21 35	22 31	23 25	24 18
	22	149	14.2		18.1	272	49.8	13.2		5	42.6	11.0	56.4	35	06 19	06 41	07 09	21 32	22 30	23 27	24 22
23	164	14.1		18.0	287	22.0	13.2		5	31.6	11.0	56.4	40	06 08	06 52	07 23	21 29	22 30	23 29	24 27	
28 00	179	13.9	N23	17.9	301	54.2	13.3	S	5	20.6	11.0	56.4	45	06 28	07 06	07 39	21 25	22 29	23 31	24 32	
01	194	13.8		17.8	316	26.5	13.3		5	09.6	11.0	56.3	S 50	06 40	07 22	08 00	21 20	22 28	23 34	24 38	
02	209	13.7		17.7	330	58.8	13.4		4	58.6	11.0	56.3	52	06 45	07 29	08 10	21 18	22 28	23 35	24 41	
03	224	13.6		17.6	345	31.2	13.4		4	47.6	11.0	56.3	54	06 51	07 37	08 21	21 16	22 27	23 37	24 44	
04	239	13.4		17.5	0	03.6	13.5		4	36.6	11.0	56.2	56	06 57	07 46	08 33	21 13	22 27	23 38	24 48	
05	254	13.3		17.3	14	36.1	13.5		4	25.6	11.0	56.2	58	07 04	07 56	08 48	21 10	22 26	23 40	24 52	
06	269	13.2	N23	17.2	29	08.6	13.6	S	4	14.6	11.0	56.2	S 60	07 11	08 08	09 05	21 07	22 25	23 42	24 56	
07	284	13.0		17.1	43	41.2	13.6		4	03.6	11.1	56.1	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna	27	28	29	30
08	299	12.9		17.0	58	13.8	13.7		3	52.5	11.0	56.1	N 72	□	□	□	07 33	09 23	11 08	12 50	
09	314	12.8		16.9	72	46.5	13.7		3	41.5	11.1	56.1	N 70	□	□	□	07 46	09 29	11 06	12 42	
10	329	12.7		16.8	87	19.2	13.8		3	30.4	11.0	56.0	68	□	□	□	07 57	09 33	11 05	12 35	
11	344	12.5		16.7	101	52.0	13.8		3	19.4	11.1	56.0	66	□	□	□	08 05	09 37	11 04	12 30	
12	359	12.4	N23	16.5	116	24.8	13.8	S	3	08.3	11.0	56.0	64	22 29	////	////	08 13	09 40	11 03	12 25	
13	14	12.3		16.4	130	57.6	13.9		2	57.3	11.1	56.0	62	21 53	////	////	08 19	09 42	11 03	12 21	
14	29	12.2		16.3	145	30.5	14.0		2	46.2	11.0	55.9	60	21 27	23 09	////	08 24	09 45	11 02	12 17	
15	44	12.0		16.2	160	03.5	14.0		2	35.2	11.1	55.9	N 58	21 07	22 21	////	08 29	09 47	11 02	12 14	
16	59	11.9		16.1	174	36.5	14.0		2	24.1	11.0	55.9	56	20 50	21 52	////	08 33	09 49	11 01	12 12	
17	74	11.8		15.9	189	09.5	14.1		2	13.1	11.0	55.8	54	20 36	21 30	23 13	08 37	09 50	11 01	12 09	
18	89	11.6	N23	15.8	203	42.6	14.1	S	2	02.1	11.1	55.8	52	20 24	21 12	22 30	08 41	09 52	11 00	12 07	
19	104	11.5		15.7	218	15.7	14.1		1	51.0	11.0	55.8	50	20 13	20 58	22 02	08 44	09 53	11 00	12 05	
20	119	11.4		15.6	232	48.8	14.2		1	40.0	11.0	55.7	45	19 51	20 28	21 18	08 50	09 56	10 59	12 01	
21	134	11.3		15.4	247	22.0	14.2		1	29.0	11.1	55.7	N 40	19 33	20 06	20 47	08 56	09 58	10 58	11 57	
22	149	11.1		15.3	261	55.2	14.3		1	17.9	11.0	55.7	35	19 18	19 48	20 24	09 01	10 00	10 58	11 54	
23	164	11.0		15.2	276	28.5	14.3		1	06.9	11.0	55.7	30	19 05	19 32	20 06	09 05	10 02	10 57	11 51	
29 00	179	10.9	N23	15.1	291	01.8	14.3	S	0	55.9	11.0	55.6	20	18 43	19 08	19 37	09 12	10 05	10 56	11 46	
01	194	10.8		14.9	305	35.1	14.3		0	44.9	11.0	55.6	N 10	18 24	18 47	19 14	09 19	10 08	10 56	11 42	
02	209	10.6		14.8	320	08.4	14.4		0	33.9	11.0	55.6	0	18 07	18 29	18 56	09 24	10 11	10 55	11 38	
03	224	10.5		14.7	334	41.8	14.5		0	22.9	11.0	55.5	S 10	17 50	18 12	18 39	09 30	10 13	10 54	11 34	
04	239	10.4		14.6	349	15.3	14.4		0	11.9	10.9	55.5	20	17 31	17 55	18 23	09 36	10 16	10 53	11 30	
05	254	10.3		14.4	3	48.7	14.5	S	0	01.0	11.0	55.5	30	17 10	17 36	18 06	09 43	10 19	10 52	11 25	
06	269	10.1	N23	14.3	18	22.2	14.5	N	0	10.0	10.9	55.5	35	16 58	17 26	17 58	09 47	10 20	10 52	11 22	
07	284	10.0		14.2	32	55.7	14.5		0	20.9	11.0	55.4	40	16 44	17 14	17 48	09 52	10 22	10 51	11 19	
08	299	09.9		14.0	47	29.2	14.6		0	31.9	10.9	55.4	45	16 27	17 01	17 38	09 57	10 25	10 50	11 15	
09	314	09.8		13.9	62	02.8	14.6		0	42.8	10.9	55.4	S 50	16 06	16 45	17 26	10 03	10 27	10 49	11 11	
10	329	09.6		13.8	76	36.4	14.6		0	53.7	10.9	55.4	52	15 57	16 37						

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Náut.		Civil	30	1	2	3				
d h	° / ' / "	° / ' / "	° / ' / "	' / "	° / ' / "	' / "	' / "	h m	h m	h m	h m	h m	h m	h m					
30 J U E V E S	179	07.9	N23	11.8	280	28.9	14.8	N 3	24.5	10.7	55.0	N 72	□	□	□	22 26	22 12	21 55	21 24
	194	07.8		11.7	295	02.7	14.9	3	35.2	10.6	55.0	N 70	□	□	□	22 36	22 30	22 23	22 15
	209	07.6		11.5	309	36.6	14.9	3	45.8	10.5	55.0	68	□	□	□	22 44	22 44	22 45	22 48
	224	07.5		11.4	324	10.5	14.9	3	56.3	10.6	55.0	66	///	///	00 16	22 51	22 56	23 02	23 11
	239	07.4		11.3	338	44.4	15.0	4	06.9	10.5	54.9	64	///	///	01 41	22 57	23 05	23 16	23 30
	254	07.3		11.1	353	18.4	14.9	4	17.4	10.5	54.9	62	///	///	02 16	23 03	23 14	23 28	23 46
	269	07.1	N23	11.0	7	52.3	14.9	N 4	27.9	10.5	54.9	60	///	01 02	02 42	23 07	23 21	23 38	23 59
	284	07.0		10.8	22	26.2	15.0	4	38.4	10.4	54.9	N 58	///	01 48	03 02	23 11	23 27	23 46	24 10
	299	06.9		10.7	37	00.2	14.9	4	48.8	10.5	54.9	56	///	02 17	03 18	23 15	23 33	23 54	24 19
	314	06.8		10.5	51	34.1	15.0	4	59.3	10.3	54.8	54	00 57	02 38	03 32	23 18	23 38	24 01	00 01
	329	06.6		10.4	66	08.1	14.9	5	09.6	10.4	54.8	52	01 39	02 56	03 44	23 21	23 43	24 07	00 07
	344	06.5		10.2	80	42.0	15.0	5	20.0	10.3	54.8	50	02 06	03 10	03 55	23 24	23 47	24 13	00 13
	359	06.4	N23	10.1	95	16.0	15.0	N 5	30.3	10.3	54.8	45	02 50	03 40	04 17	23 29	23 56	24 25	00 25
	14	06.3		09.9	109	50.0	14.9	5	40.6	10.3	54.8	N 40	03 20	04 02	04 35	23 34	24 04	00 04	00 35
	29	06.1		09.8	124	23.9	15.0	5	50.9	10.3	54.7	35	03 43	04 20	04 49	23 39	24 10	00 10	00 44
	44	06.0		09.6	138	57.9	15.0	6	01.2	10.2	54.7	30	04 02	04 35	05 02	23 42	24 16	00 16	00 52
	59	05.9		09.4	153	31.9	14.9	6	11.4	10.1	54.7	20	04 30	05 00	05 24	23 49	24 26	00 26	01 05
	74	05.8		09.3	168	05.8	15.0	6	21.5	10.2	54.7	N 10	04 53	05 20	05 43	23 55	24 35	00 35	01 16
	89	05.7	N23	09.1	182	39.8	15.0	N 6	31.7	10.1	54.7	0	05 11	05 38	06 00	24 00	00 00	00 43	01 27
	104	05.5		09.0	197	13.8	15.0	6	41.8	10.1	54.7	S 10	05 28	05 55	06 17	24 06	00 06	00 52	01 38
	119	05.4		08.8	211	47.8	14.9	6	51.9	10.0	54.6	20	05 44	06 12	06 36	24 12	00 12	01 01	01 50
	134	05.3		08.7	226	21.7	15.0	7	01.9	10.0	54.6	30	06 00	06 30	06 56	24 18	00 18	01 11	02 04
	149	05.2		08.5	240	55.7	14.9	7	11.9	10.0	54.6	35	06 09	06 41	07 09	24 22	00 22	01 17	02 12
164	05.0		08.3	255	29.6	15.0	7	21.9	10.0	54.6	40	06 18	06 52	07 23	24 27	00 27	01 24	02 21	
179	04.9	N23	08.2	270	03.6	14.9	N 7	31.9	9.9	54.6	45	06 28	07 05	07 39	24 32	00 32	01 32	02 31	
194	04.8		08.0	284	37.5	15.0	7	41.8	9.8	54.6	S 50	06 40	07 21	08 00	24 38	00 38	01 42	02 44	
209	04.7		07.9	299	11.5	14.9	7	51.6	9.9	54.6	52	06 45	07 29	08 09	24 41	00 41	01 46	02 50	
224	04.5		07.7	313	45.4	14.9	8	01.5	9.8	54.5	54	06 51	07 37	08 20	24 44	00 44	01 51	02 57	
239	04.4		07.5	328	19.3	14.9	8	11.3	9.7	54.5	56	06 57	07 45	08 33	24 48	00 48	01 57	03 04	
254	04.3		07.4	342	53.2	14.9	8	21.0	9.7	54.5	58	07 03	07 56	08 47	24 52	00 52	02 03	03 13	
269	04.2	N23	07.2	357	27.1	14.9	N 8	30.7	9.7	54.5	S 60	07 11	08 07	09 04	24 56	00 56	02 10	03 22	
284	04.1		07.0	12	01.0	14.9	8	40.4	9.6	54.5	Lat.	Ocaso Sol		Crepúsculo		Ocaso Luna			
299	03.9		06.9	26	34.9	14.9	8	50.0	9.6	54.5	30	07 11	07 37	08 07	11 25	11 58	12 33	13 09	
314	03.8		06.7	41	08.8	14.8	8	59.6	9.6	54.5	N 72	h m	h m	h m	h m	h m	h m	h m	
329	03.7		06.5	55	42.6	14.9	9	09.2	9.5	54.4	N 70	□	□	□	12 50	14 33	16 22	18 27	
344	03.6		06.4	70	16.5	14.8	9	18.7	9.5	54.4	68	□	□	□	12 42	14 17	15 54	17 36	
359	03.5	N23	06.2	84	50.3	14.8	N 9	28.2	9.4	54.4	66	23 42	///	///	12 30	13 54	15 18	16 41	
14	03.3		06.0	99	24.1	14.8	9	37.6	9.4	54.4	64	22 26	///	///	12 25	13 45	15 05	16 23	
29	03.2		05.9	113	57.9	14.8	9	47.0	9.3	54.4	62	21 50	///	///	12 21	13 38	14 54	16 08	
44	03.1		05.7	128	31.7	14.8	9	56.3	9.3	54.4	60	21 25	23 03	///	12 17	13 31	14 44	15 56	
59	03.0		05.5	143	05.5	14.7	10	05.6	9.3	54.4	N 58	21 05	22 18	///	12 14	13 26	14 36	15 45	
74	02.9		05.4	157	39.2	14.8	10	14.9	9.2	54.4	56	20 49	21 50	///	12 12	13 21	14 29	15 36	
89	02.7	N23	05.2	172	13.0	14.7	N10	24.1	9.1	54.4	54	20 35	21 29	23 08	12 09	13 16	14 23	15 28	
104	02.6		05.0	186	46.7	14.7	10	33.2	9.2	54.3	52	20 23	21 11	22 27	12 07	13 12	14 17	15 20	
119	02.5		04.8	201	20.4	14.7	10	42.4	9.0	54.3	50	20 13	20 57	22 01	12 05	13 09	14 12	15 14	
134	02.4		04.7	215	54.1	14.6	10	51.4	9.1	54.3	45	19 50	20 28	21 17	12 01	13 01	14 01	15 00	
149	02.2		04.5	230	27.7	14.7	11	00.5	8.9	54.3	N 40	19 33	20 05	20 47	11 57	12 54	13 51	14 48	
164	02.1		04.3	245	01.4	14.6	11	09.4	9.0	54.3	35	19 18	19 48	20 24	11 54	12 49	13 44	14 38	
179	02.0	N23	04.1	259	35.0	14.6	N11	18.4	8.8	54.3	30	19 05	19 32	20 06	11 51	12 44	13 37	14 29	
194	01.9		04.0	274	08.6	14.5	11	27.2	8.9	54.3	20	18 43	19 08	19 37	11 46	12 35	13 25	14 14	
209	01.8		03.8	288	42.1	14.6	11	36.1	8.7	54.3	N 10	18 25	18 48	19 15	11 42	12 28	13 14	14 01	
224	01.6		03.6	303	15.7	14.5	11	44.8	8.8	54.3	0	18 07	18 30	18 56	11 38	12 21	13 04	13 49	
239	01.5		03.4	317	49.2	14.5	11	53.6	8.6	54.3	S 10	17 50	18 13	18 39	11 34	12 14	12 55	13 37	
254	01.4		03.2	332	22.7	14.5	12	02.2	8.7	54.3	20	17 32	17 56	18 23	11 30	12 06	12 44	13 24	
269	01.3	N23	03.1	346	56.2	14.4	N12	10.9	8.5	54.3	30	17 11	17 37	18 07	11 25	11 58	12 33	13 09	
284	01.2		02.9	1	29.6	14.4	12	19.4	8.6	54.3	35	16 59	17 27	17 59	11 22	11 53	12 26	13 01	
299	01.1		02.7	16	03.0	14.4	12	28.0	8.4	54.2	40	16 45	17 15	17 49	11 19	11 48	12 18	12 51	
314	00.9		02.5	30	36.4	14.4	12	36.4	8.4	54.2	45	16 28	17 02	17 39	11 15	11 41	12 09	12 40	
329	00.8		02.3	45	09.8	14.3	12	44.8	8.4	54.2	S 50	16 08	16 46	17 28	11 11	11 34	11 58	12 26	
344	00.7		02.1	59	43.1	14.3	12	53.2	8.3	54.2	52	15 58	16 39	17 23	11 09	11 30	11 53	12 20	
359	00.6	N23	02.0	74	16.4	14.3	N13	01.5	8.2	54.2	54	15 48	16 31	17 17	11 07	11 26	11 48	12 12	
14	00.5		01.8	88	49.7	14.3	13	09.7	8.2	54.2	56	15 35	16 22	17 11	11 05	11 22	11 42	12 05	
29	00.3		01.6	103	23.0	14.2	13	17.9	8.2	54.2	58	15 21	16 12	17 05	11 02	11 18	11 35	11 56	
44	00.2		01.4	117	56.2	14.2	13	26.1	8.1	54.2	S 60	15 04	16 01	16 57	10 59	11 12	11 27	11 46	
59	00.1		01.2	132	29.4	14.1	13	34.2	8.0	54.2	Día	SOL		LUNA					
74	00.0		01.0	147	02.5	14.2	13	42.2	7.9	54.2	E.T. (-)	Pas. Mer.	Pas. Mer.	Mer. Inf.	Edad.	Fase			
88	59.9	N23	00.8	161	35.7	14.1	N13	50.1	8.0	54.2	00 h	12 h	Sup.	Inf.	d				
103	59.7		00.6	176	08.8	14.0	13	58.1	7.8	54.2	m s	m s	h m	h m	h m				
118	59.6		00.5	190	41.8	14.1	14	05.9	7.8	54.2	03 28	03 34	12 04	05 28	17 49	21			
133	59.5		00.3	205	14.9	13.9	14	13.7	7.7	54.2	03 40	03 46	12 04	06 10	18 32	22			
148	59.4		00.1	219	47.8	14.0	14	21.4	7.7										

T.M.G. (TU)	ARIES			VENUS -4.0			MARTE +1.2			JUPITER -2.2			SATURNO +0.9			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.			
D O M I N G O	3 00	280 47.5	137 15.1 N16 18.2	223 34.3 N19 36.4	67 53.4 S11 59.5	296 23.5 S 8 36.5	Acomar	315 29.4 S40 19.4										
	01	295 49.9	152 14.8 17.2	238 35.0 36.9	82 55.8 59.5	311 26.0 36.5	Achernar	335 37.5 S57 15.5										
	02	310 52.4	167 14.5 16.2	253 35.6 37.3	97 58.3 59.6	326 28.5 36.5	Acrux	173 25.2 S63 04.5										
	03	325 54.9	182 14.1 15.3	268 36.2 37.7	113 00.7 59.6	341 31.0 36.5	Adhara	255 24.1 S28 58.0										
	04	340 57.3	197 13.8 14.3	283 36.8 38.1	128 03.2 59.6	356 33.5 36.6	Aldebaran	291 06.0 N16 29.8										
	05	355 59.8	212 13.4 13.3	298 37.5 38.5	143 05.7 59.6	11 36.0 36.6												
	06	11 02.3	227 13.1 N16 12.3	313 38.1 N19 38.9	158 08.1 S11 59.6	26 38.5 S 8 36.6	Alioth	166 33.1 N55 59.6										
	07	26 04.7	242 12.7 11.3	328 38.7 39.3	173 10.6 59.6	41 41.0 36.6	Alkaid	153 09.9 N49 20.7										
	08	41 07.2	257 12.4 10.3	343 39.3 39.7	188 13.0 59.6	56 43.5 36.7	Al Na'ir	28 01.2 S46 58.9										
	09	56 09.7	272 12.1 09.4	358 40.0 40.1	203 15.5 59.7	71 46.0 36.7	Alnilam	276 01.1 S 1 12.4										
	10	71 12.1	287 11.7 08.4	13 40.6 40.5	218 18.0 59.7	86 48.5 36.7	Alphard	218 10.3 S 8 38.2										
	11	86 14.6	302 11.4 07.4	28 41.2 40.9	233 20.4 59.7	101 51.0 36.7												
	12	101 17.0	317 11.0 N16 06.4	43 41.8 N19 41.4	248 22.9 S11 59.7	116 53.5 S 8 36.8	Alphecca	126 22.8 N26 44.1										
	13	116 19.5	332 10.7 05.4	58 42.5 41.8	263 25.3 59.7	131 56.0 36.8	Alpheratz	357 58.1 N29 03.6										
	14	131 22.0	347 10.4 04.4	73 43.1 42.2	278 27.8 59.7	146 58.5 36.8	Altair	62 21.7 N 8 51.4										
	15	146 24.4	2 10.0 03.4	88 43.7 42.6	293 30.3 59.7	162 01.0 36.8	Ankaa	353 29.6 S42 19.8										
	16	161 26.9	17 09.7 02.4	103 44.3 43.0	308 32.7 59.8	177 03.5 36.9	Antares	112 43.4 S26 25.2										
	17	176 29.4	32 09.3 01.4	118 45.0 43.4	323 35.2 59.8	192 06.0 36.9												
	18	191 31.8	47 09.0 N16 00.4	133 45.6 N19 43.8	338 37.6 S11 59.8	207 08.5 S 8 36.9	Arcturus	146 08.5 N19 12.8										
	19	206 34.3	62 08.7 15 59.4	148 46.2 44.2	353 40.1 59.8	222 11.0 36.9	Atria	107 57.4 S69 01.2										
	20	221 36.8	77 08.3 58.4	163 46.8 44.6	8 42.5 59.8	237 13.5 37.0	Avior	234 24.4 S59 29.7										
	21	236 39.2	92 08.0 57.5	178 47.5 45.0	23 45.0 59.8	252 16.0 37.0	Bellatrix	278 47.6 N 6 20.6										
	22	251 41.7	107 07.7 56.5	193 48.1 45.4	38 47.5 59.8	267 18.5 37.0	Betelgeuse	271 17.0 N 7 24.3										
23	266 44.2	122 07.3 55.5	208 48.7 45.8	53 49.9 59.9	282 21.0 37.0													
L U N E S	4 00	281 46.6	137 07.0 N15 54.5	223 49.3 N19 46.2	68 52.4 S11 59.9	297 23.5 S 8 37.1	Canopus	264 03.0 S52 41.6										
	01	296 49.1	152 06.7 53.5	238 50.0 46.6	83 54.8 59.9	312 26.0 37.1	Capella	280 55.9 N45 59.4										
	02	311 51.5	167 06.4 52.5	253 50.6 47.0	98 57.3 59.9	327 28.5 37.1	Deneb	49 40.7 N45 15.7										
	03	326 54.0	182 06.0 51.5	268 51.2 47.4	113 59.7 59.9	342 31.0 37.1	Denebola	182 48.2 N14 36.2										
	04	341 56.5	197 05.7 50.5	283 51.8 47.8	129 02.2 59.9	357 33.5 37.2	Diphda	349 10.1 S18 00.8										
	05	356 58.9	212 05.4 49.5	298 52.5 48.2	144 04.6 11 59.9	12 36.0 37.2												
	06	12 01.4	227 05.0 N15 48.5	313 53.1 N19 48.6	159 07.1 S12 00.0	27 38.5 S 8 37.2	Dubhe	194 09.4 N61 47.0										
	07	27 03.9	242 04.7 47.5	328 53.7 49.0	174 09.5 00.0	42 41.0 37.3	Elnath	278 30.9 N28 36.1										
	08	42 06.3	257 04.4 46.5	343 54.3 49.4	189 12.0 00.0	57 43.5 37.3	Eltanin	90 52.2 N51 29.5										
	09	57 08.8	272 04.1 45.5	358 55.0 49.8	204 14.4 00.0	72 46.0 37.3	Enif	34 00.8 N 9 51.1										
	10	72 11.3	287 03.7 44.5	13 55.6 50.2	219 16.9 00.0	87 48.5 37.3	Fomalhaut	15 39.4 S29 38.8										
	11	87 13.7	302 03.4 43.5	28 56.2 50.6	234 19.3 00.0	102 51.1 37.4												
	12	102 16.2	317 03.1 N15 42.4	43 56.8 N19 51.0	249 21.8 S12 00.1	117 53.6 S 8 37.4	Gacrux	172 16.8 S57 05.3										
	13	117 18.7	332 02.8 41.4	58 57.5 51.4	264 24.2 00.1	132 56.1 37.4	Gienah	176 07.0 S17 30.8										
	14	132 21.1	347 02.5 40.4	73 58.1 51.8	279 26.7 00.1	147 58.6 37.4	Hadar	149 07.8 S60 21.1										
	15	147 23.6	2 02.1 39.4	88 58.7 52.2	294 29.1 00.1	163 01.1 37.5	Hamal	328 16.9 N23 26.1										
	16	162 26.0	17 01.8 38.4	103 59.3 52.6	309 31.6 00.1	178 03.6 37.5	Kaus Aust.	84 02.2 S34 23.1										
	17	177 28.5	32 01.5 37.4	119 00.0 53.0	324 34.0 00.1	193 06.1 37.5												
	18	192 31.0	47 01.2 N15 36.4	134 00.6 N19 53.4	339 36.5 S12 00.2	208 08.6 S 8 37.5	Kochab	137 18.9 N74 11.0										
	19	207 33.4	62 00.9 35.4	149 01.2 53.8	354 38.9 00.2	223 11.1 37.6	Markab	13 52.3 N15 10.6										
	20	222 35.9	77 00.5 34.4	164 01.3 54.2	9 41.4 00.2	238 13.6 37.6	Menkar	314 30.1 N 4 04.1										
	21	237 38.4	92 00.2 33.4	179 02.5 54.6	24 43.8 00.2	253 16.1 37.6	Menkent	148 24.2 S36 20.8										
	22	252 40.8	106 59.9 32.4	194 03.1 55.0	39 46.3 00.2	268 18.6 37.7	Miaplacidus	221 43.3 S69 42.0										
23	267 43.3	121 59.6 31.4	209 03.7 55.4	54 48.7 00.2	283 21.1 37.7													
M A R T E	5 00	282 45.8	136 59.3 N15 30.3	224 04.3 N19 55.8	69 51.2 S12 00.3	298 23.6 S 8 37.7	Mirfak	309 01.0 N49 50.3										
	01	297 48.2	151 59.0 29.3	239 05.0 56.2	84 53.6 00.3	313 26.1 37.7	Nunki	76 15.5 S26 18.1										
	02	312 50.7	166 58.7 28.3	254 05.6 56.6	99 56.1 00.3	328 28.6 37.8	Peacock	53 41.0 S56 44.9										
	03	327 53.1	181 58.3 27.3	269 06.2 57.0	114 58.5 00.3	343 31.1 37.8	Pollux	243 45.4 N28 02.3										
	04	342 55.6	196 58.0 26.3	284 06.8 57.4	130 01.0 00.3	358 33.6 37.8	Procyon	245 14.9 N 5 14.3										
	05	357 58.1	211 57.7 25.3	299 07.5 57.8	145 03.4 00.4	13 36.1 37.9												
	06	13 00.5	226 57.4 N15 24.3	314 08.1 N19 58.2	160 05.9 S12 00.4	28 38.6 S 8 37.9	Rasalhague	96 19.3 N12 34.0										
	07	28 03.0	241 57.1 23.2	329 08.7 58.6	175 08.3 00.4	43 41.2 37.9	Regulus	207 58.8 N11 59.6										
	08	43 05.5	256 56.8 22.2	344 09.3 59.0	190 10.8 00.4	58 43.7 37.9	Rigel	281 26.0 S 8 12.5										
	09	58 07.9	271 56.5 21.2	359 10.0 59.4	205 13.2 00.4	73 46.2 38.0	Rigil Kent.	140 10.8 S60 49.0										
	10	73 10.4	286 56.2 20.2	14 10.6 19 59.8	220 15.6 00.4	88 48.7 38.0	Sabik	102 28.5 S15 43.0										
	11	88 12.9	301 55.9 19.2	29 11.2 20 00.2	235 18.1 00.5	103 51.2 38.0												
	12	103 15.3	316 55.6 N15 18.1	44 11.8 N20 00.5	250 20.5 S12 00.5	118 53.7 S 8 38.0	Schedar	349 56.7 N56 30.2										
	13	118 17.8	331 55.3 17.1	59 12.5 00.9	265 23.0 00.5	133 56.2 38.1	Shaula	96 40.8 S37 06.0										
	14	133 20.3	346 54.9 16.1	74 13.1 01.3	280 25.4 00.5	148 58.7 38.1	Sirius	258 46.5 S16 42.6										
	15	148 22.7	1 54.6 15.1	89 13.7 01.7	295 27.9 00.5	164 01.2 38.1	Spica	158 46.2 S11 08.0										
	16	163 25.2	16 54.3 14.1	104 14.3 02.1	310 30.3 00.6	179 03.7 38.2	Suhail	223 03.2 S43 24.9										
	17	178 27.6	31 54.0 13.0	119 15.0 02.5	325 32.7 00.6	194 06.2 38.2												
	18	193 30.1	46 53.7 N15 12.0	134 15.6 N20 02.9	340 35.2 S12 00.6	209 08.7 S 8 38.2	Vega	80 48.1 N38 46.8										
	19	208 32.6	61 53.4 11.0	149 16.2 03.3	355 37.6 00.6	224 11.2 38.												

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	<i>v</i>	Dec.	<i>d</i>		P.H.	Náut.		Civil	3	4	5	6
<i>d</i> <i>h</i>	<i>o</i> / <i>'</i>	<i>o</i> / <i>'</i>	<i>o</i> / <i>'</i>	<i>o</i> / <i>'</i>	<i>o</i> / <i>'</i>	<i>o</i> / <i>'</i>	<i>o</i> / <i>'</i>	<i>h</i> <i>m</i>	<i>h</i> <i>m</i>	<i>h</i> <i>m</i>	<i>h</i> <i>m</i>	<i>h</i> <i>m</i>	<i>h</i> <i>m</i>	<i>h</i> <i>m</i>	<i>h</i> <i>m</i>
DOMINGO	3 00	178 59.2	N22 59.7	248 53.7	13.9	N14 36.7	7.5 54.2	N 72	□	□	□	21 24	□	□	□
	01	193 59.0	59.5	263 26.6	13.9	14 44.2	7.5 54.2	N 70	□	□	□	22 15	22 02	□	□
	02	208 58.9	59.3	277 59.5	13.8	14 51.7	7.4 54.2	68	□	□	□	22 48	22 55	23 13	23 56
	03	223 58.8	59.1	292 32.3	13.8	14 59.1	7.4 54.2	66	///	///	00 40	23 11	23 27	23 55	24 41
	04	238 58.7	58.9	307 05.1	13.8	15 06.5	7.3 54.2	64	///	///	01 46	23 30	23 51	24 24	00 24
	05	253 58.6	58.7	321 37.9	13.7	15 13.8	7.2 54.2	62	///	///	02 21	23 46	24 10	00 10	00 45
	06	268 58.5	N22 58.5	336 10.6	13.7	N15 21.0	7.2 54.2	60	///	01 10	02 45	23 59	24 26	00 26	01 03
	07	283 58.3	58.3	350 43.3	13.6	15 28.2	7.1 54.2	N 58	///	01 53	03 05	24 10	00 10	00 39	01 18
	08	298 58.2	58.1	5 15.9	13.6	15 35.3	7.0 54.2	56	///	02 20	03 21	24 19	00 19	00 51	01 30
	09	313 58.1	57.9	19 48.5	13.6	15 42.3	7.0 54.2	54	01 04	02 41	03 34	00 01	00 28	01 01	01 41
	10	328 58.0	57.7	34 21.1	13.5	15 49.3	6.9 54.2	52	01 44	02 58	03 46	00 07	00 36	01 10	01 51
	11	343 57.9	57.5	48 53.6	13.5	15 56.2	6.8 54.2	50	02 09	03 13	03 57	00 13	00 43	01 18	02 00
	12	358 57.8	N22 57.3	63 26.1	13.5	N16 03.0	6.7 54.2	45	02 53	03 42	04 19	00 25	00 58	01 35	02 18
	13	13 57.6	57.1	77 58.6	13.4	16 09.7	6.7 54.2	N 40	03 22	04 04	04 36	00 35	01 10	01 49	02 34
	14	28 57.5	56.9	92 31.0	13.4	16 16.4	6.7 54.2	35	03 45	04 21	04 51	00 44	01 21	02 01	02 46
	15	43 57.4	56.7	107 03.4	13.3	16 23.1	6.5 54.2	30	04 03	04 36	05 04	00 52	01 30	02 12	02 58
	16	58 57.3	56.5	121 35.7	13.3	16 29.6	6.5 54.2	20	04 31	05 01	05 25	01 05	01 46	02 30	03 17
	17	73 57.2	56.3	136 08.0	13.3	16 36.1	6.4 54.2	N 10	04 54	05 21	05 44	01 16	02 00	02 45	03 34
	18	88 57.1	N22 56.1	150 40.3	13.2	N16 42.5	6.3 54.2	0	05 12	05 38	06 01	01 27	02 13	03 00	03 49
	19	103 57.0	55.9	165 12.5	13.2	16 48.8	6.3 54.2	S 10	05 29	05 55	06 18	01 38	02 26	03 15	04 05
	20	118 56.8	55.7	179 44.7	13.1	16 55.1	6.2 54.2	20	05 44	06 12	06 36	01 50	02 40	03 31	04 22
	21	133 56.7	55.5	194 16.8	13.1	17 01.3	6.1 54.2	30	06 00	06 30	06 56	02 04	02 57	03 49	04 41
	22	148 56.6	55.2	208 48.9	13.1	17 07.4	6.1 54.2	35	06 09	06 40	07 08	02 12	03 06	04 00	04 52
23	163 56.5	55.0	223 21.0	13.0	17 13.5	5.9 54.2	40	06 18	06 52	07 22	02 21	03 17	04 12	05 05	
			223 21.0	13.0	17 13.5	5.9 54.2	45	06 28	07 05	07 39	02 31	03 30	04 27	05 21	
LUNES	4 00	178 56.4	N22 54.8	237 53.0	13.0	N17 19.4	5.9 54.2	S 50	06 39	07 21	07 59	02 44	03 45	04 44	05 40
	01	193 56.3	54.6	252 25.0	12.9	17 25.3	5.8 54.2	52	06 44	07 28	08 08	02 50	03 53	04 53	05 49
	02	208 56.1	54.4	266 56.9	12.9	17 31.1	5.8 54.2	54	06 50	07 36	08 19	02 57	04 01	05 02	05 59
	03	223 56.0	54.2	281 28.8	12.9	17 36.9	5.7 54.3	56	06 56	07 44	08 31	03 04	04 10	05 13	06 10
	04	238 55.9	54.0	296 00.7	12.8	17 42.6	5.6 54.3	58	07 02	07 54	08 45	03 13	04 21	05 25	06 23
	05	253 55.8	53.8	310 32.5	12.7	17 48.2	5.5 54.3	S 60	07 09	08 05	09 02	03 22	04 33	05 39	06 38
	06	268 55.7	N22 53.5	325 04.2	12.8	N17 53.7	5.4 54.3								
	07	283 55.6	53.3	339 36.0	12.7	17 59.1	5.4 54.3	Lat.	Ocaso Sol	Crepúsculo Civil	Náut.	Ocaso Luna			
	08	298 55.5	53.1	354 07.7	12.6	18 04.5	5.2 54.3					3	4	5	6
	09	313 55.4	52.9	8 39.3	12.6	18 09.7	5.2 54.3	N 72	□	□	□	18 27	□	□	□
	10	328 55.2	52.7	23 10.9	12.6	18 14.9	5.1 54.3	N 70	□	□	□	17 36	19 26	□	□
	11	343 55.1	52.5	37 42.5	12.5	18 20.0	5.1 54.3	68	□	□	□	17 04	18 34	19 57	20 58
	12	358 55.0	N22 52.2	52 14.0	12.5	N18 25.1	4.9 54.3	66	23 24	///	///	16 41	18 02	19 15	20 12
	13	13 54.9	52.0	66 45.5	12.4	18 30.0	4.9 54.3	64	22 21	///	///	16 23	17 38	18 47	19 43
	14	28 54.8	51.8	81 16.9	12.4	18 34.9	4.8 54.3	62	21 47	///	///	16 08	17 20	18 25	19 20
	15	43 54.7	51.6	95 48.3	12.4	18 39.7	4.7 54.3	60	21 23	22 56	///	15 56	17 05	18 08	19 02
	16	58 54.6	51.4	110 19.7	12.3	18 44.4	4.6 54.3	N 58	21 03	22 15	///	15 45	16 52	17 53	18 47
	17	73 54.5	51.1	124 51.0	12.2	18 49.0	4.6 54.4	56	20 47	21 48	///	15 36	16 40	17 40	18 34
	18	88 54.3	N22 50.9	139 22.2	12.3	N18 53.6	4.4 54.4	54	20 34	21 27	23 02	15 28	16 31	17 30	18 23
	19	103 54.2	50.7	153 53.5	12.2	18 58.0	4.4 54.4	52	20 22	21 10	22 24	15 20	16 22	17 20	18 13
	20	118 54.1	50.5	168 24.7	12.1	19 02.4	4.3 54.4	50	20 11	20 55	21 58	15 14	16 14	17 11	18 04
	21	133 54.0	50.2	182 55.8	12.1	19 06.7	4.2 54.4	45	19 50	20 27	21 15	15 00	15 57	16 53	17 45
	22	148 53.9	50.0	197 26.9	12.1	19 10.9	4.1 54.4	N 40	19 32	20 05	20 46	14 48	15 44	16 38	17 30
23	163 53.8	49.8	211 58.0	12.0	19 15.0	4.0 54.4	35	19 18	19 47	20 23	14 38	15 32	16 25	17 17	
MARTES	5 00	178 53.7	N22 49.6	226 29.0	12.0	N19 19.0	3.9 54.4	30	19 05	19 32	20 05	14 29	15 22	16 14	17 05
	01	193 53.6	49.3	241 00.0	12.0	19 22.9	3.9 54.4	20	18 44	19 08	19 37	14 14	15 05	15 55	16 46
	02	208 53.5	49.1	255 31.0	11.9	19 26.8	3.7 54.4	N 10	18 25	18 48	19 15	14 01	14 50	15 39	16 29
	03	223 53.3	48.9	270 01.9	11.8	19 30.5	3.7 54.5	0	18 08	18 30	18 57	13 49	14 36	15 24	16 13
	04	238 53.2	48.6	284 32.7	11.9	19 34.2	3.6 54.5	S 10	17 51	18 14	18 40	13 37	14 22	15 08	15 58
	05	253 53.1	48.4	299 03.6	11.7	19 37.8	3.5 54.5	20	17 33	17 57	18 24	13 24	14 07	14 52	15 41
	06	268 53.0	N22 48.2	313 34.3	11.8	N19 41.3	3.4 54.5	30	17 12	17 39	18 08	13 09	13 49	14 33	15 21
	07	283 52.9	48.0	328 05.1	11.7	19 44.7	3.3 54.5	35	17 00	17 28	18 00	13 01	13 39	14 22	15 10
	08	298 52.8	47.7	342 35.8	11.7	19 48.0	3.2 54.5	40	16 47	17 17	17 51	12 51	13 28	14 10	14 57
	09	313 52.7	47.5	357 06.5	11.6	19 51.2	3.1 54.5	45	16 30	17 04	17 41	12 40	13 15	13 55	14 41
	10	328 52.6	47.3	11 37.1	11.6	19 54.3	3.1 54.5	S 50	16 10	16 48	17 30	12 26	12 58	13 37	14 22
	11	343 52.5	47.0	26 07.7	11.6	19 57.4	2.9 54.6	52	16 01	16 41	17 25	12 20	12 51	13 28	14 13
	12	358 52.4	N22 46.8	40 38.3	11.5	N20 00.3	2.8 54.6	54	15 50	16 33	17 19	12 12	12 42	13 18	14 03
	13	13 52.2	46.5	55 08.8	11.5	20 03.1	2.8 54.6	56	15 38	16 25	17 13	12 05	12 33	13 08	13 52
	14	28 52.1	46.3	69 39.3	11.4	20 05.9	2.7 54.6	58	15 24	16 15	17 07	11 56	12 22	12 55	13 39
	15	43 52.0	46.1	84 09.7	11.4	20 08.6	2.5 54.6	S 60	15 07	16 04	17 00	11 46	12 09	12 41	13 23
	16	58 51.9	45.8	98 40.1	11.4	20 11.1	2.5 54.6								
	17	73 51.8	45.6	113 10.5	11.3	20 13.6	2.4 54.6	Día	SOL		LUNA				
	18	88 51.7	N22 45.4	127 40.8	11.3	N20 16.0	2.2 54.6		E.T. (-)	Pas. Mer.	Pas. Mer.		Edad.	Fase	
	19	103 51.6	45.1	142 11.1	11.3	20 18.2	2.2 54.7		00 h	12 h	Sup.	Inf.			
	20	118 51.5	44.9	156 41.4	11.2	20 20.4	2.1 54.7	3	m s	m s	h m	h m			

T.M.G. (TU)	ARIES			VENUS -4.1			MARTE +1.2			JUPITER -2.2			SATURNO +0.8			ESTRELLAS				
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.	Nombre	A. H. S.	Dec.		
M I E R C O L E S	6 00	283 44.9	136 51.9 N15 05.8	224 19.3 N20 05.2	70 49.8 S12 00.7	299 23.8 S 8 38.4	Acamar	315 29.3 S40 19.4												
	01	298 47.4	151 51.6 04.8	239 20.0 05.6	85 52.3 00.7	314 26.3 38.4	Achernar	335 37.4 S57 15.5												
	02	313 49.8	166 51.3 03.8	254 20.6 06.0	100 54.7 00.8	329 28.8 38.4	Acrux	173 25.2 S63 04.5												
	03	328 52.3	181 51.0 02.8	269 21.2 06.4	115 57.2 00.8	344 31.3 38.5	Adhara	255 24.0 S28 58.0												
	04	343 54.8	196 50.7 01.7	284 21.8 06.8	130 59.6 00.8	359 33.8 38.5	Aldebaran	291 05.9 N16 29.8												
	05	358 57.2	211 50.5 15 00.7	299 22.4 07.2	146 02.0 00.8	14 36.3 38.5														
	06	13 59.7	226 50.2 N14 59.7	314 23.1 N20 07.5	161 04.5 S12 00.8	29 38.9 S 8 38.6	Alioth	166 33.1 N55 59.6												
	07	29 02.1	241 49.9 58.6	329 23.7 07.9	176 06.9 00.9	44 41.4 38.6	Alkaid	153 10.0 N49 20.7												
	08	44 04.6	256 49.6 57.6	344 24.3 08.3	191 09.3 00.9	59 43.9 38.6	Al Na'ir	28 01.2 S46 58.9												
	09	59 07.1	271 49.3 56.6	359 24.9 08.7	206 11.8 00.9	74 46.4 38.7	Alnilam	276 01.1 S 1 12.4												
	10	74 09.5	286 49.0 55.5	14 25.6 09.1	221 14.2 00.9	89 48.9 38.7	Alphard	218 10.3 S 8 38.2												
	11	89 12.0	301 48.7 54.5	29 26.2 09.5	236 16.7 00.9	104 51.4 38.7														
	12	104 14.5	316 48.4 N14 53.5	44 26.8 N20 09.8	251 19.1 S12 01.0	119 53.9 S 8 38.7	Alphecca	126 22.8 N26 44.2												
	13	119 16.9	331 48.1 52.4	59 27.4 10.2	266 21.5 01.0	134 56.4 38.8	Alpheratz	357 58.1 N29 03.6												
	14	134 19.4	346 47.8 51.4	74 28.1 10.6	281 24.0 01.0	149 58.9 38.8	Altair	62 21.7 N 8 51.4												
	15	149 21.9	1 47.5 50.4	89 28.7 11.0	296 26.4 01.0	165 01.5 38.8	Ankaa	353 29.6 S42 19.8												
	16	164 24.3	16 47.3 49.3	104 29.3 11.4	311 28.8 01.1	180 04.0 38.9	Antares	112 43.4 S26 25.2												
	17	179 26.8	31 47.0 48.3	119 29.9 11.8	326 31.3 01.1	195 06.5 38.9														
	18	194 29.2	46 46.7 N14 47.2	134 30.6 N20 12.1	341 33.7 S12 01.1	210 09.0 S 8 38.9	Arcturus	146 08.5 N19 12.8												
	19	209 31.7	61 46.4 46.2	149 31.2 12.5	356 36.1 01.1	225 11.5 39.0	Atria	107 57.4 S69 01.2												
	20	224 34.2	76 46.1 45.2	164 31.8 12.9	11 38.6 01.1	240 14.0 39.0	Avior	234 24.4 S59 29.7												
	21	239 36.6	91 45.8 44.1	179 32.4 13.3	26 41.0 01.2	255 16.5 39.0	Bellatrix	278 47.5 N 6 20.6												
	22	254 39.1	106 45.5 43.1	194 33.1 13.7	41 43.4 01.2	270 19.0 39.0	Betelgeuse	271 17.0 N 7 24.3												
23	269 41.6	121 45.3 42.0	209 33.7 14.0	56 45.9 01.2	285 21.6 39.1															
J U E V E S	7 00	284 44.0	136 45.0 N14 41.0	224 34.3 N20 14.4	71 48.3 S12 01.2	300 24.1 S 8 39.1	Canopus	264 03.0 S52 41.6												
	01	299 46.5	151 44.7 40.0	239 34.9 14.8	86 50.7 01.3	315 26.6 39.1	Capella	280 55.9 N45 59.4												
	02	314 49.0	166 44.4 38.9	254 35.5 15.2	101 53.2 01.3	330 29.1 39.2	Deneb	49 40.7 N45 15.7												
	03	329 51.4	181 44.1 37.9	269 36.2 15.6	116 55.6 01.3	345 31.6 39.2	Denebola	182 48.2 N14 36.2												
	04	344 53.9	196 43.9 36.9	284 36.8 16.0	131 58.0 01.3	0 34.1 39.2	Diphda	349 10.1 S18 00.8												
	05	359 56.4	211 43.6 35.8	299 37.4 16.3	147 00.5 01.4	15 36.6 39.3														
	06	14 58.8	226 43.3 N14 34.8	314 38.0 N20 16.7	162 02.9 S12 01.4	30 39.1 S 8 39.3	Dubhe	194 09.4 N61 47.0												
	07	30 01.3	241 43.0 33.7	329 38.7 17.1	177 05.3 01.4	45 41.7 39.3	Elnath	278 30.9 N28 36.1												
	08	45 03.7	256 42.7 32.7	344 39.3 17.5	192 07.8 01.4	60 44.2 39.3	Eltanin	90 52.2 N51 29.6												
	09	60 06.2	271 42.5 31.6	359 39.9 17.8	207 10.2 01.4	75 46.7 39.4	Enif	34 00.8 N 9 51.1												
	10	75 08.7	286 42.2 30.6	14 40.5 18.2	222 12.6 01.5	90 49.2 39.4	Fomalhaut	15 39.4 S29 38.8												
	11	90 11.1	301 41.9 29.5	29 41.2 18.6	237 15.1 01.5	105 51.7 39.4														
	12	105 13.6	316 41.6 N14 28.5	44 41.8 N20 19.0	252 17.5 S12 01.5	120 54.2 S 8 39.5	Gacrux	172 16.8 S57 05.3												
	13	120 16.1	331 41.4 27.4	59 42.4 19.3	267 19.9 01.5	135 56.7 39.5	Gienah	176 07.0 S17 30.8												
	14	135 18.5	346 41.1 26.4	74 43.0 19.7	282 22.3 01.6	150 59.3 39.5	Hadar	149 07.8 S60 21.1												
	15	150 21.0	1 40.8 25.3	89 43.6 20.1	297 24.8 01.6	166 01.8 39.6	Hamal	328 16.9 N23 26.1												
	16	165 23.5	16 40.5 24.3	104 44.3 20.5	312 27.2 01.6	181 04.3 39.6	Kaus Aust.	84 02.2 S34 23.1												
	17	180 25.9	31 40.3 23.2	119 44.9 20.8	327 29.6 01.6	196 06.8 39.6														
	18	195 28.4	46 40.0 N14 22.2	134 45.5 N20 21.2	342 32.1 S12 01.7	211 09.3 S 8 39.7	Kochab	137 18.9 N74 11.0												
	19	210 30.9	61 39.7 21.1	149 46.1 21.6	357 34.5 01.7	226 11.8 39.7	Markab	13 52.3 N15 10.6												
	20	225 33.3	76 39.4 20.1	164 46.8 22.0	12 36.9 01.7	241 14.4 39.7	Menkar	314 30.1 N 4 04.1												
	21	240 35.8	91 39.2 19.0	179 47.4 22.3	27 39.3 01.7	256 16.9 39.8	Menkent	148 24.2 S36 20.8												
	22	255 38.2	106 38.9 18.0	194 48.0 22.7	42 41.8 01.8	271 19.4 39.8	Miaplacidus	221 43.4 S69 42.0												
23	270 40.7	121 38.6 16.9	209 48.6 23.1	57 44.2 01.8	286 21.9 39.8															
V I E R N E S	8 00	285 43.2	136 38.4 N14 15.9	224 49.3 N20 23.4	72 46.6 S12 01.8	301 24.4 S 8 39.9	Mirfak	309 01.0 N49 50.3												
	01	300 45.6	151 38.1 14.8	239 49.9 23.8	87 49.0 01.8	316 26.9 39.9	Nunki	76 15.5 S26 18.1												
	02	315 48.1	166 37.8 13.8	254 50.5 24.2	102 51.5 01.9	331 29.5 39.9	Peacock	53 40.9 S56 44.9												
	03	330 50.6	181 37.6 12.7	269 51.1 24.6	117 53.9 01.9	346 32.0 39.9	Pollux	243 45.4 N28 02.3												
	04	345 53.0	196 37.3 11.7	284 51.7 24.9	132 56.3 01.9	1 34.5 40.0	Procyon	245 14.9 N 5 14.3												
	05	0 55.5	211 37.0 10.6	299 52.4 25.3	147 58.7 01.9	16 37.0 40.0														
	06	15 58.0	226 36.8 N14 09.5	314 53.0 N20 25.7	163 01.2 S12 02.0	31 39.5 S 8 40.0	Rasalhague	96 19.3 N12 34.0												
	07	31 00.4	241 36.5 08.5	329 53.6 26.0	178 03.6 02.0	46 42.0 40.1	Regulus	207 58.8 N11 59.6												
	08	46 02.9	256 36.3 07.4	344 54.2 26.4	193 06.0 02.0	61 44.6 40.1	Rigel	281 26.0 S 8 12.5												
	09	61 05.3	271 36.0 06.4	359 54.9 26.8	208 08.4 02.0	76 47.1 40.1	Rigil Kent.	140 10.8 S60 49.0												
	10	76 07.8	286 35.7 05.3	14 55.5 27.1	223 10.8 02.1	91 49.6 40.2	Sabik	102 28.5 S15 43.0												
	11	91 10.3	301 35.5 04.2	29 56.1 27.5	238 13.3 02.1	106 52.1 40.2														
	12	106 12.7	316 35.2 N14 03.2	44 56.7 N20 27.9	253 15.7 S12 02.1	121 54.6 S 8 40.2	Schedar	349 56.7 N56 30.3												
	13	121 15.2	331 35.0 02.1	59 57.4 28.2	268 18.1 02.2	136 57.2 40.3	Shaula	96 40.8 S37 06.0												
	14	136 17.7	346 34.7 01.1	74 58.0 28.6	283 20.5 02.2	151 59.7 40.3	Sirius	258 46.5 S16 42.6			</									

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.			Civil		6	7	8
d h	° /	° /	° /	° /	° /	° /	° /	° /	° /	h m	h m	h m	h m	h m	h m	h m	h m
M I E R C O L E S	6 00	178 51.1	N22 43.9	214 42.2	11.1	N20 28.1	1.7	54.7	N 72	□	□	□	□	□	□	□	00 27
	01	193 51.0	43.7	229 12.3	11.0	20 29.8	1.6	54.8	N 70	□	□	□	□	23 53	26 05	02 05	
	02	208 50.8	43.4	243 42.3	11.1	20 31.4	1.5	54.8	68	□	□	□	23 56	25 11	01 11	02 44	
	03	223 50.7	43.2	258 12.4	11.0	20 32.9	1.4	54.8	66	///	///	00 56	24 41	00 41	01 49	03 12	
	04	238 50.6	42.9	272 42.4	10.9	20 34.3	1.3	54.8	64	///	///	01 53	00 24	01 11	02 15	03 32	
	05	253 50.5	42.7	287 12.3	11.0	20 35.6	1.2	54.8	62	///	///	02 26	00 45	01 33	02 35	03 49	
	06	268 50.4	N22 42.4	301 42.3	10.9	N20 36.8	1.1	54.8	60	///	01 19	02 49	01 03	01 51	02 52	04 03	
	07	283 50.3	42.2	316 12.2	10.9	20 37.9	1.0	54.8	N 58	///	01 58	03 08	01 18	02 06	03 06	04 15	
	08	298 50.2	41.9	330 42.1	10.9	20 38.9	0.9	54.9	56	///	02 24	03 24	01 30	02 19	03 18	04 25	
	09	313 50.1	41.7	345 12.0	10.8	20 39.8	0.8	54.9	54	01 12	02 45	03 37	01 41	02 31	03 29	04 34	
	10	328 50.0	41.4	359 41.8	10.8	20 40.6	0.7	54.9	52	01 49	03 01	03 49	01 51	02 40	03 38	04 42	
	11	343 49.9	41.2	14 11.6	10.8	20 41.3	0.6	54.9	50	02 13	03 16	03 59	02 00	02 49	03 46	04 49	
	12	358 49.8	N22 40.9	28 41.4	10.7	N20 41.9	0.4	54.9	45	02 55	03 44	04 21	02 18	03 08	04 04	05 05	
	13	13 49.7	40.7	43 11.1	10.7	20 42.3	0.4	54.9	N 40	03 25	04 05	04 38	02 34	03 23	04 18	05 18	
	14	28 49.6	40.4	57 40.8	10.7	20 42.7	0.3	55.0	35	03 47	04 23	04 52	02 46	03 36	04 31	05 28	
	15	43 49.5	40.2	72 10.5	10.7	20 43.0	0.2	55.0	30	04 05	04 38	05 05	02 58	03 48	04 41	05 38	
	16	58 49.4	39.9	86 40.2	10.7	20 43.2	0.1	55.0	20	04 33	05 02	05 26	03 17	04 07	05 00	05 54	
	17	73 49.3	39.7	101 09.9	10.6	20 43.3	0.1	55.0	N 10	04 54	05 21	05 44	03 34	04 24	05 15	06 08	
	18	88 49.2	N22 39.4	115 39.5	10.6	N20 43.2	0.1	55.0	0	05 13	05 39	06 01	03 49	04 39	05 30	06 21	
	19	103 49.1	39.1	130 09.1	10.6	20 43.1	0.2	55.1	S 10	05 29	05 55	06 18	04 05	04 55	05 45	06 34	
	20	118 49.0	38.9	144 38.7	10.6	20 42.9	0.4	55.1	20	05 45	06 12	06 36	04 22	05 12	06 01	06 48	
	21	133 48.9	38.6	159 08.3	10.5	20 42.5	0.4	55.1	30	06 00	06 30	06 56	04 41	05 31	06 19	07 04	
	22	148 48.8	38.4	173 37.8	10.5	20 42.1	0.6	55.1	35	06 09	06 40	07 08	04 52	05 43	06 30	07 14	
23	163 48.6	38.1	188 07.3	10.5	20 41.5	0.6	55.1	40	06 17	06 51	07 22	05 05	05 56	06 42	07 24		
								45	06 27	07 04	07 38	05 21	06 11	06 56	07 37		
J U L I O	7 00	178 48.5	N22 37.9	202 36.8	10.5	N20 40.9	0.8	55.1	S 50	06 38	07 19	07 57	05 40	06 30	07 14	07 52	
	01	193 48.4	37.6	217 06.3	10.5	20 40.1	0.9	55.2	52	06 43	07 26	08 07	05 49	06 39	07 22	07 59	
	02	208 48.3	37.3	231 35.8	10.4	20 39.2	0.9	55.2	54	06 49	07 34	08 17	05 59	06 49	07 31	08 07	
	03	223 48.2	37.1	246 05.2	10.5	20 38.3	1.1	55.2	56	06 54	07 43	08 29	06 10	07 00	07 41	08 15	
	04	238 48.1	36.8	260 34.7	10.4	20 37.2	1.2	55.2	58	07 01	07 52	08 43	06 23	07 13	07 53	08 25	
	05	253 48.0	36.5	275 04.1	10.4	20 36.0	1.3	55.2	S 60	07 08	08 03	08 59	06 38	07 28	08 07	08 36	
	06	268 47.9	N22 36.3	289 33.5	10.4	N20 34.7	1.3	55.3									
	07	283 47.8	36.0	304 02.9	10.3	20 33.4	1.5	55.3	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna				
	08	298 47.7	35.8	318 32.2	10.4	20 31.9	1.6	55.3	6	6	6	6	6	6	6	6	
	09	313 47.6	35.5	333 01.6	10.3	20 30.3	1.7	55.3	N 72	□	□	□	□	□	□	□	{ ₂₂ ³⁰ ∞}
	10	328 47.5	35.2	347 30.9	10.4	20 28.6	1.9	55.3	N 70	□	□	□	□	22 47	22 21	22 11	
	11	343 47.4	35.0	2 00.3	10.3	20 26.7	1.9	55.4	68	□	□	□	20 58	21 28	21 41	21 46	
	12	358 47.3	N22 34.7	16 29.6	10.3	N20 24.8	2.0	55.4	66	23 09	///	///	20 12	20 51	21 13	21 27	
	13	13 47.2	34.4	30 58.9	10.3	20 22.8	2.1	55.4	64	22 15	///	///	19 43	20 24	20 52	21 11	
	14	28 47.1	34.1	45 28.2	10.3	20 20.7	2.3	55.4	62	21 43	///	///	19 20	20 03	20 35	20 58	
	15	43 47.0	33.9	59 57.5	10.3	20 18.4	2.3	55.4	60	21 19	22 48	///	19 02	19 46	20 20	20 46	
	16	58 46.9	33.6	74 26.8	10.2	20 16.1	2.4	55.4	N 58	21 01	22 10	///	18 47	19 32	20 08	20 37	
	17	73 46.8	33.3	88 56.0	10.3	20 13.7	2.6	55.5	56	20 45	21 44	///	18 34	19 20	19 57	20 28	
	18	88 46.7	N22 33.1	103 25.3	10.3	N20 11.1	2.6	55.5	54	20 32	21 24	22 55	18 23	19 09	19 48	20 20	
	19	103 46.6	32.8	117 54.6	10.2	20 08.5	2.8	55.5	52	20 20	21 07	22 20	18 13	19 00	19 39	20 13	
	20	118 46.5	32.5	132 23.8	10.3	20 05.7	2.9	55.5	50	20 10	20 53	21 55	18 04	18 51	19 32	20 07	
	21	133 46.4	32.2	146 53.1	10.2	20 02.8	2.9	55.6	45	19 49	20 25	21 14	17 45	18 33	19 16	19 54	
	22	148 46.3	32.0	161 22.3	10.2	19 59.9	3.1	55.6	N 40	19 31	20 04	20 45	17 30	18 18	19 02	19 43	
23	163 46.2	31.7	175 51.5	10.3	19 56.8	3.2	55.6	35	19 17	19 46	20 23	17 17	18 06	18 51	19 33		
A G O	8 00	178 46.1	N22 31.4	190 20.8	10.2	N19 53.6	3.3	55.6	30	19 05	19 32	20 05	17 05	17 55	18 41	19 25	
	01	193 46.0	31.1	204 50.0	10.2	19 50.3	3.4	55.6	20	18 44	19 08	19 37	16 46	17 36	18 24	19 10	
	02	208 45.9	30.9	219 19.2	10.3	19 46.9	3.5	55.7	N 10	18 25	18 48	19 15	16 29	17 19	18 09	18 58	
	03	223 45.8	30.6	233 48.5	10.2	19 43.4	3.6	55.7	0	18 08	18 31	18 57	16 13	17 04	17 55	18 46	
	04	238 45.7	30.3	248 17.7	10.2	19 39.8	3.7	55.7	S 10	17 52	18 14	18 41	15 58	16 49	17 41	18 33	
	05	253 45.6	30.0	262 46.9	10.2	19 36.1	3.8	55.7	20	17 34	17 58	18 25	15 41	16 32	17 26	18 21	
	06	268 45.5	N22 29.7	277 16.1	10.3	N19 32.3	3.9	55.7	30	17 14	17 40	18 10	15 21	16 13	17 08	18 06	
	07	283 45.4	29.5	291 45.4	10.2	19 28.4	4.0	55.8	35	17 02	17 30	18 01	15 10	16 02	16 58	17 57	
	08	298 45.3	29.2	306 14.6	10.2	19 24.4	4.1	55.8	40	16 48	17 19	17 52	14 57	15 49	16 46	17 47	
	09	313 45.2	28.9	320 43.8	10.3	19 20.3	4.3	55.8	45	16 32	17 06	17 43	14 41	15 34	16 32	17 35	
	10	328 45.1	28.6	335 13.1	10.2	19 16.0	4.3	55.8	S 50	16 13	16 50	17 32	14 22	15 15	16 15	17 21	
	11	343 45.0	28.3	349 42.3	10.2	19 11.7	4.4	55.8	52	16 03	16 43	17 27	14 13	15 07	16 08	17 15	
	12	358 44.9	N22 28.0	4 11.5	10.3	N19 07.3	4.6	55.9	54	15 53	16 36	17 21	14 03	14 57	15 59	17 07	
	13	13 44.8	27.8	18 40.8	10.2	19 02.7	4.6	55.9	56	15 41	16 27	17 16	13 52	14 46	15 49	16 59	
	14	28 44.7	27.5	33 10.0	10.3	18 58.1	4.7	55.9	58	15 27	16 18	17 09	13 39	14 33	15 37	16 50	
	15	43 44.6	27.2	47 39.3	10.2	18 53.4	4.9	55.9	S 60	15 11	16 07	17 02	13 23	14 18	15 24	16 39	
	16	58 44.5	26.9	62 08.5	10.3	18 48.5	4.9	55.9									
	17	73 44.4	26.6	76 37.8	10.3	18 43.6	5.0	56.0									
	18	88 44.3	N22 26.3	91 07.1	10.3	N18 38.6	5.2	56.0									
	19</																

T.M.G. (TU)	ARIES			VENUS -4.1			MARTE +1.2			JUPITER -2.2			SATURNO +0.8			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.			
9 00	286 42.3	136 32.2 N13	50.4	225 04.2 N20	32.3		73 44.7 S12	02.5	302 24.9 S	8 40.6			Acamar	315 29.3 S40	19.4			
01	301 44.8	151 31.9	49.3	240 04.8	32.6		88 47.2	02.5	317 27.4	40.7			Achernar	335 37.4 S57	15.5			
02	316 47.2	166 31.7	48.3	255 05.4	33.0		103 49.6	02.5	332 29.9	40.7			Acrux	173 25.3 S63	04.5			
03	331 49.7	181 31.4	47.2	270 06.1	33.3		118 52.0	02.5	347 32.4	40.7			Adhara	255 24.0 S28	57.9			
04	346 52.2	196 31.2	46.1	285 06.7	33.7		133 54.4	02.6	2 35.0	40.8			Aldebaran	291 05.9 N16	29.8			
05	1 54.6	211 30.9	45.1	300 07.3	34.1		148 56.8	02.6	17 37.5	40.8								
06	16 57.1	226 30.7 N13	44.0	315 07.9 N20	34.4		163 59.2 S12	02.6	32 40.0 S	8 40.8			Alioth	166 33.2 N55	59.6			
07	31 59.6	241 30.4	42.9	330 08.6	34.8		179 01.7	02.6	47 42.5	40.9			Alkaid	153 10.0 N49	20.7			
08	47 02.0	256 30.2	41.8	345 09.2	35.1		194 04.1	02.7	62 45.0	40.9			Al Na'ir	28 01.1 S46	58.9			
S 09	62 04.5	271 29.9	40.8	0 09.8	35.5		209 06.5	02.7	77 47.6	40.9			Alnilam	276 01.1 S 1	12.4			
A 10	77 07.0	286 29.7	39.7	15 10.4	35.9		224 08.9	02.7	92 50.1	41.0			Alphard	218 10.3 S 8	38.2			
B 11	92 09.4	301 29.4	38.6	30 11.0	36.2		239 11.3	02.8	107 52.6	41.0								
A 12	107 11.9	316 29.2 N13	37.5	45 11.7 N20	36.6		254 13.7 S12	02.8	122 55.1 S	8 41.0			Alphecca	126 22.8 N26	44.2			
D 13	122 14.3	331 28.9	36.5	60 12.3	36.9		269 16.1	02.8	137 57.7	41.1			Alpheratz	357 58.1 N29	03.6			
O 14	137 16.8	346 28.7	35.4	75 12.9	37.3		284 18.6	02.8	153 00.2	41.1			Altair	62 21.7 N 8	51.4			
15	152 19.3	1 28.5	34.3	90 13.5	37.7		299 21.0	02.9	168 02.7	41.1			Ankaa	353 29.6 S42	19.8			
16	167 21.7	16 28.2	33.2	105 14.1	38.0		314 23.4	02.9	183 05.2	41.2			Antares	112 43.4 S26	25.2			
17	182 24.2	31 28.0	32.2	120 14.8	38.4		329 25.8	02.9	198 07.8	41.2								
18	197 26.7	46 27.7 N13	31.1	135 15.4 N20	38.7		344 28.2 S12	03.0	213 10.3 S	8 41.3			Arcturus	146 08.6 N19	12.8			
19	212 29.1	61 27.5	30.0	150 16.0	39.1		359 30.6	03.0	228 12.8	41.3			Atria	107 57.4 S69	01.2			
20	227 31.6	76 27.3	28.9	165 16.6	39.4		14 33.0	03.0	243 15.3	41.3			Avior	234 24.4 S59	29.7			
21	242 34.1	91 27.0	27.9	180 17.3	39.8		29 35.4	03.1	258 17.8	41.4			Bellatrix	278 47.5 N 6	20.6			
22	257 36.5	106 26.8	26.8	195 17.9	40.2		44 37.9	03.1	273 20.4	41.4			Betelgeuse	271 17.0 N 7	24.3			
23	272 39.0	121 26.5	25.7	210 18.5	40.5		59 40.3	03.1	288 22.9	41.4								
10 00	287 41.4	136 26.3 N13	24.6	225 19.1 N20	40.9		74 42.7 S12	03.1	303 25.4 S	8 41.5			Canopus	264 03.0 S52	41.6			
01	302 43.9	151 26.1	23.5	240 19.7	41.2		89 45.1	03.2	318 27.9	41.5			Capella	280 55.8 N45	59.4			
02	317 46.4	166 25.8	22.5	255 20.4	41.6		104 47.5	03.2	333 30.5	41.5			Deneb	49 40.7 N45	15.7			
03	332 48.8	181 25.6	21.4	270 21.0	41.9		119 49.9	03.2	348 33.0	41.6			Denebola	182 48.2 N14	36.2			
04	347 51.3	196 25.4	20.3	285 21.6	42.3		134 52.3	03.3	3 35.5	41.6			Diphda	349 10.1 S18	00.8			
05	2 53.8	211 25.1	19.2	300 22.2	42.6		149 54.7	03.3	18 38.0	41.6								
06	17 56.2	226 24.9 N13	18.1	315 22.9 N20	43.0		164 57.1 S12	03.3	33 40.6 S	8 41.7			Dubhe	194 09.4 N61	47.0			
07	32 58.7	241 24.7	17.0	330 23.5	43.3		179 59.6	03.4	48 43.1	41.7			Elnath	278 30.9 N28	36.1			
08	48 01.2	256 24.4	16.0	345 24.1	43.7		195 02.0	03.4	63 45.6	41.7			Eltanin	90 52.2 N51	29.6			
09	63 03.6	271 24.2	14.9	0 24.7	44.0		210 04.4	03.4	78 48.1	41.8			Enif	34 00.8 N 9	51.1			
DOM 10	78 06.1	286 24.0	13.8	15 25.3	44.4		225 06.8	03.5	93 50.7	41.8			Fomalhaut	15 39.4 S29	38.8			
11	93 08.6	301 23.8	12.7	30 26.0	44.7		240 09.2	03.5	108 53.2	41.8								
12	108 11.0	316 23.5 N13	11.6	45 26.6 N20	45.1		255 11.6 S12	03.5	123 55.7 S	8 41.9			Gacrux	172 16.8 S57	05.3			
13	123 13.5	331 23.3	10.5	60 27.2	45.4		270 14.0	03.5	138 58.2	41.9			Gienah	176 07.0 S17	30.8			
14	138 15.9	346 23.1	09.4	75 27.8	45.8		285 16.4	03.6	154 00.8	42.0			Hadar	149 07.9 S60	21.1			
15	153 18.4	1 22.9	08.3	90 28.4	46.1		300 18.8	03.6	169 03.3	42.0			Hamal	328 16.9 N23	26.1			
16	168 20.9	16 22.6	07.3	105 29.1	46.5		315 21.2	03.6	184 05.8	42.0			Kaus Aust.	84 02.2 S34	23.1			
17	183 23.3	31 22.4	06.2	120 29.7	46.8		330 23.6	03.7	199 08.4	42.1								
18	198 25.8	46 22.2 N13	05.1	135 30.3 N20	47.2		345 26.0 S12	03.7	214 10.9 S	8 42.1			Kochab	137 19.0 N74	11.0			
19	213 28.3	61 22.0	04.0	150 30.9	47.5		0 28.4	03.7	229 13.4	42.1			Markab	13 52.3 N15	10.6			
20	228 30.7	76 21.7	02.9	165 31.6	47.9		15 30.8	03.8	244 15.9	42.2			Menkar	314 30.0 N 4	04.1			
21	243 33.2	91 21.5	01.8	180 32.2	48.2		30 33.3	03.8	259 18.5	42.2			Menkent	148 24.2 S36	20.8			
22	258 35.7	106 21.3	00.7	195 32.8	48.6		45 35.7	03.8	274 21.0	42.2			Miaplacidus	221 43.4 S69	42.0			
23	273 38.1	121 21.1	59.6	210 33.4	48.9		60 38.1	03.9	289 23.5	42.3								
11 00	288 40.6	136 20.8 N12	58.5	225 34.0 N20	49.3		75 40.5 S12	03.9	304 26.0 S	8 42.3			Mirfak	309 01.0 N49	50.3			
01	303 43.1	151 20.6	57.4	240 34.7	49.6		90 42.9	03.9	319 28.6	42.4			Nunki	76 15.5 S26	18.1			
02	318 45.5	166 20.4	56.3	255 35.3	50.0		105 45.3	04.0	334 31.1	42.4			Pellcock	53 40.9 S56	44.9			
03	333 48.0	181 20.2	55.2	270 35.9	50.3		120 47.7	04.0	349 33.6	42.4			Pollux	243 45.4 N28	02.3			
04	348 50.4	196 20.0	54.2	285 36.5	50.7		135 50.1	04.0	4 36.2	42.5			Procyon	245 14.9 N 5	14.3			
05	3 52.9	211 19.7	53.1	300 37.1	51.0		150 52.5	04.1	19 38.7	42.5								
06	18 55.4	226 19.5 N12	52.0	315 37.8 N20	51.3		165 54.9 S12	04.1	34 41.2 S	8 42.5			Rasalhague	96 19.3 N12	34.0			
07	33 57.8	241 19.3	50.9	330 38.4	51.7		180 57.3	04.1	49 43.7	42.6			Regulus	207 58.8 N11	59.6			
08	49 00.3	256 19.1	49.8	345 39.0	52.0		195 59.7	04.2	64 46.3	42.6			Rigel	281 26.0 S 8	12.5			
09	64 02.8	271 18.9	48.7	0 39.6	52.4		211 02.1	04.2	79 48.8	42.6			Rigel Kent.	140 10.8 S60	49.0			
10	79 05.2	286 18.7	47.6	15 40.3	52.7		226 04.5	04.2	94 51.3	42.7			Sabik	102 28.5 S15	43.0			
11	94 07.7	301 18.5	46.5	30 40.9	53.1		241 06.9	04.3	109 53.9	42.7								
12	109 10.2	316 18.2 N12	45.4	45 41.5 N20	53.4		256 09.3 S12	04.3	124 56.4 S	8 42.8			Schedar	349 56.6 N56	30.3			
13	124 12.6	331 18.0	44.3	60 42.1	53.7		271 11.7	04.3	139 58.9	42.8			Shaula	96 40.8 S37	06.0			
14	139 15.1	346 17.8	43.2	75 42.7	54.1		286 14.1	04.4	155 01.5	42.8			Sirius	258 46.5 S16	42.6			
15	154 17.5	1 17.6	42.1	90 43.4	54.4		301 16.5	04.4	170 04.0	42.9			Spica	158 46.2 S11	08.0			
16	169 20.0	16 17.4	41.0	105 44.0	54.8		316 18.9	04.4	185 06.5	42.9			Suhail	223 03.2 S43	24.8			
17	184 22.5	31 17.2	39.9	120 44.6	55.1		331 21.3	04.5	200 09.0	42.9								
18	199 24.9	46 17.0 N12	38.8	135 45.2 N20	55.5		346 23.7 S12	04.5	215 11.6 S	8 43.0			Vega	80 48.1 N38	46.9			
19	214 27.4	61 16.8	37.7	150 45.8	55.8		1 26.1	04.5	230 14.1	43.0			Zuben'ubi	137 21.0 S16	01.2			
20	229 29.9	76 16.6	36.6	165 46.5	56.1		16 28.5	04.6	245 16.6	43.1								
21	244 32.3	91 16.4	35.5	180 47.1	56.5		31 30.9	04.6	260 19.2	43.1								

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna																			
	A.H.G.		Dec.		A.H.G.		Dec.			Náut.			Civil		9	10	11	12														
d h	o	'	o	'	o	'	o	'	o	'	h	m	h	m	h	m	h	m														
9	00	178	43.8	N22	24.6	178	02.9	10.3	N18	06.2	5.7	56.1	N 72	□	□	□	00	27	03	26	05	32	07	30								
	01	193	43.7		24.3	192	32.2	10.4		18	00.5	5.9	56.1	N 70	□	□	□	02	05	04	00	05	51	07	40							
	02	208	43.6		24.0	207	01.6	10.3		17	54.6	5.9	56.2	68	□	□	□	02	44	04	24	06	06	07	47							
	03	223	43.5		23.7	221	30.9	10.4		17	48.7	6.0	56.2	66	///	///	01	11	03	12	04	43	06	17	07	53						
	04	238	43.4		23.4	236	00.3	10.4		17	42.7	6.1	56.2	64	///	///	02	01	03	32	04	58	06	27	07	58						
	05	253	43.3		23.1	250	29.7	10.4		17	36.6	6.3	56.2	62	///	///	02	31	03	49	05	10	06	35	08	03						
	06	268	43.2	N22	22.8	264	59.1	10.4	N17	30.3	6.3	56.2	60	///	01	28	02	54	04	03	05	21	06	43	08	07						
	07	283	43.1		22.5	279	28.5	10.4		17	24.0	6.4	56.3	N 58	///	02	04	03	12	04	15	05	30	06	49	08	10					
	08	298	43.0		22.2	293	57.9	10.5		17	17.6	6.5	56.3	56	///	02	29	03	27	04	25	05	38	06	55	08	13					
	S A B A D O	09	313	42.9		21.9	308	27.4	10.4		17	11.1	6.6	56.3	54	01	21	02	49	03	41	04	34	05	45	06	59	08	16			
		10	328	42.8		21.6	322	56.8	10.5		17	04.5	6.7	56.3	52	01	54	03	05	03	52	04	42	05	52	07	04	08	18			
		11	343	42.7		21.3	337	26.3	10.5		16	57.8	6.8	56.4	50	02	18	03	19	04	02	04	49	05	57	07	08	08	20			
		12	358	42.6	N22	21.0	351	55.8	10.4	N16	51.0	6.9	56.4	45	02	59	03	46	04	23	05	05	06	10	07	17	08	25				
		13	13	42.5		20.7	6	25.2	10.6		16	44.1	6.9	56.4	N 40	03	27	04	08	04	40	05	18	06	20	07	24	08	29			
		14	28	42.4		20.4	20	54.8	10.5		16	37.2	7.1	56.4	35	03	49	04	25	04	54	05	28	06	29	07	30	08	33			
		15	43	42.3		20.1	35	24.3	10.5		16	30.1	7.1	56.4	30	04	06	04	39	05	06	05	38	06	36	07	36	08	36			
		16	58	42.2		19.8	49	53.8	10.6		16	23.0	7.3	56.5	20	04	34	05	03	05	27	05	54	06	49	07	45	08	41			
		17	73	42.1		19.5	64	23.4	10.5		16	15.7	7.3	56.5	N 10	04	55	05	22	05	45	06	08	07	01	07	54	08	46			
		18	88	42.1	N22	19.2	78	52.9	10.6	N16	08.4	7.4	56.5	0	05	13	05	39	06	02	06	21	07	12	08	01	08	50				
		19	103	42.0		18.9	93	22.5	10.6		16	01.0	7.6	56.5	S 10	05	29	05	56	06	18	06	34	07	22	08	09	08	55			
		20	118	41.9		18.6	107	52.1	10.7		15	53.4	7.6	56.6	20	05	45	06	12	06	36	06	48	07	34	08	17	08	59			
		21	133	41.8		18.3	122	21.8	10.6		15	45.8	7.6	56.6	30	06	00	06	30	06	56	07	04	07	47	08	27	09	05			
		22	148	41.7		18.0	136	51.4	10.7		15	38.2	7.8	56.6	35	06	08	06	39	07	07	07	14	07	54	08	32	09	08			
23		163	41.6		17.7	151	21.1	10.6		15	30.4	7.9	56.6	40	06	17	06	50	07	21	07	24	08	03	08	38	09	11				
10		00	178	41.5	N22	17.4	165	50.7	10.7	N15	22.5	7.9	56.6	45	06	26	07	03	07	36	07	37	08	13	08	45	09	15				
		01	193	41.4		17.0	180	20.4	10.7		15	14.6	8.0	56.7	S 50	06	37	07	18	07	56	07	52	08	25	08	54	09	20			
		02	208	41.3		16.7	194	50.1	10.8		15	06.6	8.2	56.7	52	06	42	07	25	08	05	07	59	08	30	08	57	09	22			
		03	223	41.2		16.4	209	19.9	10.7		14	58.4	8.2	56.7	54	06	47	07	32	08	15	08	07	08	36	09	02	09	24			
		04	238	41.1		16.1	223	49.6	10.8		14	50.2	8.2	56.7	56	06	53	07	41	08	27	08	15	08	43	09	06	09	27			
		05	253	41.0		15.8	238	19.4	10.8		14	42.0	8.4	56.7	58	06	59	07	50	08	40	08	25	08	51	09	12	09	30			
		06	268	41.0	N22	15.5	252	49.2	10.8	N14	33.6	8.4	56.8	S 60	07	05	08	01	08	56	08	36	08	36	08	59	09	18	09	33		
		07	283	40.9		15.2	267	19.0	10.8		14	25.2	8.6	56.8																		
	D O M I N G O	08	298	40.8		14.9	281	48.8	10.8		14	16.6	8.6	56.8	Lat.	Ocaso Sol	Crepúsculo Civil	Náut.	Ocaso Luna													
		09	313	40.7		14.5	296	18.6	10.9		14	08.0	8.6	56.8					9	10	11	12										
		10	328	40.6		14.2	310	48.5	10.8		13	59.4	8.8	56.9																		
		11	343	40.5		13.9	325	18.3	10.9		13	50.6	8.8	56.9																		
		12	358	40.4	N22	13.6	339	48.2	10.9	N13	41.8	8.9	56.9	N 72	□	□	□	h m	h m	h m	{ ⁰⁰ ₂₂ ⁰⁰ ₄₆ }	22	24	22	09	21	56					
		13	13	40.3		13.3	354	18.1	11.0		13	32.9	9.0	56.9	N 70	□	□	□					22	11	22	04	21	58	21	52		
		14	28	40.2		13.0	8	48.1	10.9		13	23.9	9.1	56.9	68	□	□	□					21	46	21	48	21	48	21	48		
		15	43	40.2		12.6	23	18.0	11.0		13	14.8	9.1	57.0	66	22	55	///	///					21	27	21	35	21	41	21	45	
		16	58	40.1		12.3	37	48.0	10.9		13	05.7	9.3	57.0	64	22	08	///	///					21	11	21	24	21	34	21	42	
		17	73	40.0		12.0	52	17.9	11.0		12	56.4	9.2	57.0	62	21	38	///	///					20	58	21	15	21	28	21	40	
		18	88	39.9	N22	11.7	66	47.9	11.1	N12	47.2	9.4	57.0	60	21	15	22	40	///				20	46	21	07	21	23	21	38		
		19	103	39.8		11.4	81	18.0	11.0		12	37.8	9.4	57.0	N 58	20	57	22	05	///				20	37	21	00	21	19	21	36	
		20	118	39.7		11.0	95	48.0	11.0		12	28.4	9.5	57.1	56	20	42	21	40	///				20	28	20	53	21	15	21	35	
		21	133	39.6		10.7	110	18.0	11.1		12	18.9	9.6	57.1	54	20	29	21	21	22	47				20	20	20	48	21	11	21	33
		22	148	39.5		10.4	124	48.1	11.1		12	09.3	9.6	57.1	52	20	18	21	05	22	15				20	13	20	43	21	08	21	32
23		163	39.4		10.1	139	18.2	11.1		11	59.7	9.7	57.1	50	20	08	20	51	21	52				20	07	20	38	21	05	21	31	
11		00	178	39.4	N22	09.8	153	48.3	11.1	N11	50.0	9.8	57.1	45	19	47	20	24	21	11				19	54	20	28	20	59	21	28	
		01	193	39.3		09.4	168	18.4	11.2		11	40.2	9.9	57.2	N 40	19	30	20	03	20	43				19	43	20	19	20	53	21	26
		02	208	39.2		09.1	182	48.6	11.1		11	30.3	9.9	57.2	35	19	16	19	46	20												

T.M.G. (TU)	ARIES	VENUS -4.1	MARTE +1.2	JUPITER -2.1	SATURNO +0.8	ESTRELLAS		
d h	A.H.G.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	A.H.G. Dec.	Nombre	A. H. S.	Dec.
12 00	289 39.7	136 15.7 N12 32.2	225 49.0 N20 57.5	76 38.1 S12 04.7	305 26.8 S 8 43.2	Acamar	315 29.3 S40	19.4
01	304 42.2	151 15.5 31.1	240 49.6 57.8	91 40.5 04.7	320 29.3 43.2	Achernar	335 37.3 S57	15.5
02	319 44.7	166 15.3 29.9	255 50.2 58.2	106 42.9 04.8	335 31.8 43.3	Acrux	173 25.3 S63	04.5
03	334 47.1	181 15.1 .. 28.8	270 50.8 .. 58.5	121 45.3 .. 04.8	350 34.4 .. 43.3	Adhara	255 24.0 S28	57.9
04	349 49.6	196 14.9 27.7	285 51.4 58.8	136 47.7 04.9	5 36.9 43.4	Aldebaran	291 05.9 N16	29.8
05	4 52.0	211 14.7 26.6	300 52.1 59.2	151 50.1 04.9	20 39.4 43.4			
06	19 54.5	226 14.5 N12 25.5	315 52.7 N20 59.5	166 52.4 S12 04.9	35 42.0 S 8 43.4	Alioth	166 33.2 N55	59.6
07	34 57.0	241 14.3 24.4	330 53.3 20 59.8	181 54.8 05.0	50 44.5 43.5	Alkaid	153 10.0 N49	20.7
08	49 59.4	256 14.1 23.3	345 53.9 21 00.2	196 57.2 05.0	65 47.0 43.5	Al Na'ir	28 01.1 S46	58.9
M 09	65 01.9	271 13.9 .. 22.2	0 54.5 .. 00.5	211 59.6 .. 05.0	80 49.6 .. 43.5	Alnilam	276 01.0 S 1	12.3
A 10	80 04.4	286 13.7 21.1	15 55.2 00.8	227 02.0 05.1	95 52.1 43.6	Alphard	218 10.3 S 8	38.2
R 11	95 06.8	301 13.5 20.0	30 55.8 01.2	242 04.4 05.1	110 54.6 43.6			
T 12	110 09.3	316 13.3 N12 18.9	45 56.4 N21 01.5	257 06.8 S12 05.1	125 57.2 S 8 43.7	Alphecca	126 22.8 N26	44.2
E 13	125 11.8	331 13.1 17.8	60 57.0 01.8	272 09.2 05.2	140 59.7 43.7	Alpheratz	357 58.0 N29	03.6
S 14	140 14.2	346 12.9 16.6	75 57.7 02.2	287 11.6 05.2	156 02.2 43.7	Altair	62 21.7 N 8	51.4
15	155 16.7	1 12.7 .. 15.5	90 58.3 .. 02.5	302 14.0 .. 05.2	171 04.8 .. 43.8	Ankaa	353 29.6 S42	19.8
16	170 19.2	16 12.5 14.4	105 58.9 02.8	317 16.4 05.3	186 07.3 43.8	Antares	112 43.4 S26	25.2
17	185 21.6	31 12.3 13.3	120 59.5 03.2	332 18.8 05.3	201 09.8 43.9			
18	200 24.1	46 12.1 N12 12.2	136 00.1 N21 03.5	347 21.2 S12 05.4	216 12.4 S 8 43.9	Arcturus	146 08.6 N19	12.8
19	215 26.5	61 12.0 11.1	151 00.8 03.8	2 23.6 05.4	231 14.9 43.9	Atria	107 57.5 S69	01.2
20	230 29.0	76 11.8 10.0	166 01.4 04.2	17 26.0 05.4	246 17.4 44.0	Avior	234 24.4 S59	29.7
21	245 31.5	91 11.6 .. 08.9	181 02.0 .. 04.5	32 28.3 .. 05.5	261 20.0 .. 44.0	Bellatrix	278 47.5 N 6	20.6
22	260 33.9	106 11.4 07.7	196 02.6 04.8	47 30.7 05.5	276 22.5 44.0	Betelgeuse	271 16.9 N 7	24.3
23	275 36.4	121 11.2 06.6	211 03.2 05.2	62 33.1 05.5	291 25.0 44.1			
13 00	290 38.9	136 11.0 N12 05.5	226 03.9 N21 05.5	77 35.5 S12 05.6	306 27.6 S 8 44.1	Canopus	264 03.0 S52	41.6
01	305 41.3	151 10.8 04.4	241 04.5 05.8	92 37.9 05.6	321 30.1 44.2	Capella	280 55.8 N45	59.4
02	320 43.8	166 10.6 03.3	256 05.1 06.2	107 40.3 05.7	336 32.6 44.2	Deneb	49 40.7 N45	15.7
03	335 46.3	181 10.4 .. 02.2	271 05.7 .. 06.5	122 42.7 .. 05.7	351 35.2 .. 44.2	Denebola	182 48.2 N14	36.2
04	350 48.7	196 10.2 12 01.0	286 06.4 06.8	137 45.1 05.7	6 37.7 44.3	Diphda	349 10.0 S18	00.8
05	5 51.2	211 10.0 11 59.9	301 07.0 07.1	152 47.5 05.8	21 40.2 44.3			
06	20 53.6	226 09.9 N11 58.8	316 07.6 N21 07.5	167 49.8 S12 05.8	36 42.8 S 8 44.4	Dubhe	194 09.4 N61	47.0
07	35 56.1	241 09.7 57.7	331 08.2 07.8	182 52.2 05.8	51 45.3 44.4	Elnath	278 30.9 N28	36.1
08	50 58.6	256 09.5 56.6	346 08.8 08.1	197 54.6 05.9	66 47.8 44.4	Eltanin	90 52.2 N51	29.6
09	66 01.0	271 09.3 .. 55.5	1 09.5 .. 08.4	212 57.0 .. 05.9	81 50.4 .. 44.5	Enif	34 00.7 N 9	51.1
M 10	81 03.5	286 09.1 54.3	16 10.1 08.8	227 59.4 06.0	96 52.9 44.5	Fomalhaut	15 39.3 S29	38.8
A 11	96 06.0	301 08.9 53.2	31 10.7 09.1	243 01.8 06.0	111 55.5 44.6			
T 12	111 08.4	316 08.8 N11 52.1	46 11.3 N21 09.4	258 04.2 S12 06.0	126 58.0 S 8 44.6	Gacrux	172 16.8 S57	05.3
E 13	126 10.9	331 08.6 51.0	61 11.9 09.8	273 06.6 06.1	142 00.5 44.6	Giennah	176 07.0 S17	30.8
S 14	141 13.4	346 08.4 49.9	76 12.6 10.1	288 08.9 06.1	157 03.1 44.7	Hadar	149 07.9 S60	21.1
15	156 15.8	1 08.2 .. 48.7	91 13.2 .. 10.4	303 11.3 .. 06.2	172 05.6 .. 44.7	Hamal	328 16.8 N23	26.1
16	171 18.3	16 08.0 47.6	106 13.8 10.7	318 13.7 06.2	187 08.1 44.8	Kaus Aust.	84 02.2 S34	23.2
17	186 20.8	31 07.8 46.5	121 14.4 11.1	333 16.1 06.2	202 10.7 44.8			
18	201 23.2	46 07.7 N11 45.4	136 15.1 N21 11.4	348 18.5 S12 06.3	217 13.2 S 8 44.8	Kochab	137 19.0 N74	11.0
19	216 25.7	61 07.5 44.2	151 15.7 11.7	3 20.9 06.3	232 15.8 44.9	Markab	13 52.2 N15	10.6
20	231 28.1	76 07.3 43.1	166 16.3 12.0	18 23.3 06.4	247 18.3 44.9	Menkar	314 30.0 N 4	04.1
21	246 30.6	91 07.1 .. 42.0	181 16.9 .. 12.3	33 25.6 .. 06.4	262 20.8 .. 45.0	Menkent	148 24.2 S36	20.8
22	261 33.1	106 07.0 40.9	196 17.5 12.7	48 28.0 06.4	277 23.4 45.0	Miaplacidus	221 43.4 S69	42.0
23	276 35.5	121 06.8 39.7	211 18.2 13.0	63 30.4 06.5	292 25.9 45.0			
14 00	291 38.0	136 06.6 N11 38.6	226 18.8 N21 13.3	78 32.8 S12 06.5	307 28.4 S 8 45.1	Mirfak	309 00.9 N49	50.3
01	306 40.5	151 06.4 37.5	241 19.4 13.6	93 35.2 06.6	322 31.0 45.1	Nunki	76 15.5 S26	18.1
02	321 42.9	166 06.3 36.4	256 20.0 13.9	108 37.5 06.6	337 33.5 45.2	Pelluc	53 40.9 S56	44.9
03	336 45.4	181 06.1 .. 35.2	271 20.6 .. 14.3	123 39.9 .. 06.6	352 36.1 .. 45.2	Peacock	243 45.4 N28	02.3
04	351 47.9	196 05.9 34.1	286 21.3 14.6	138 42.3 06.7	7 38.6 45.2	Procyon	245 14.9 N 5	14.3
05	6 50.3	211 05.7 33.0	301 21.9 14.9	153 44.7 06.7	22 41.1 45.3			
06	21 52.8	226 05.6 N11 31.8	316 22.5 N21 15.2	168 47.1 S12 06.8	37 43.7 S 8 45.3	Rasalhague	96 19.3 N12	34.0
07	36 55.3	241 05.4 30.7	331 23.1 15.5	183 49.5 06.8	52 46.2 45.4	Regulus	207 58.8 N11	59.6
08	51 57.7	256 05.2 29.6	346 23.8 15.9	198 51.8 06.8	67 48.8 45.4	Rigel	281 26.0 S 8	12.5
J 09	67 00.2	271 05.0 .. 28.5	1 24.4 .. 16.2	213 54.2 .. 06.9	82 51.3 .. 45.4	Rigil Kent.	140 10.8 S60	49.0
10	82 02.6	286 04.9 27.3	16 25.0 16.5	228 56.6 06.9	97 53.8 45.5	Sabik	102 28.5 S15	43.0
11	97 05.1	301 04.7 26.2	31 25.6 16.8	243 59.0 07.0	112 56.4 45.5			
12	112 07.6	316 04.5 N11 25.1	46 26.2 N21 17.1	259 01.4 S12 07.0	127 58.9 S 8 45.6	Schedar	349 56.6 N56	30.3
13	127 10.0	331 04.4 23.9	61 26.9 17.5	274 03.7 07.0	143 01.5 45.6	Shaula	96 40.8 S37	06.0
E 14	142 12.5	346 04.2 22.8	76 27.5 17.8	289 06.1 07.1	158 04.0 45.6	Sirius	258 46.5 S16	42.6
15	157 15.0	1 04.0 .. 21.7	91 28.1 .. 18.1	304 08.5 .. 07.1	173 06.5 .. 45.7	Spica	158 46.2 S11	08.0
16	172 17.4	16 03.9 20.5	106 28.7 18.4	319 10.9 07.2	188 09.1 45.7	Suhail	223 03.3 S43	24.8
17	187 19.9	31 03.7 19.4	121 29.3 18.7	334 13.2 07.2	203 11.6 45.8			
18	202 22.4	46 03.5 N11 18.3	136 30.0 N21 19.0	349 15.6 S12 07.2	218 14.2 S 8 45.8	Vega	80 48.1 N38	46.9
19	217 24.8	61 03.4 17.1	151 30.6 19.3	4 18.0 07.3	233 16.7 45.9	Zuben'ubi	137 21.0 S16	01.2
20	232 27.3	76 03.2 16.0	166 31.2 19.7	19 20.4 07.3	248 19.2 45.9			
21	247 29.7	91 03.1 .. 14.9	181 31.8 .. 20.0	34 22.8 .. 07.4	263 21.8 .. 45.9			
22	262 32.2	106 02.9 13.7	196 32.5 20.3	49 25.1 07.4	278 24.3 46.0	Venus	205 32.1 14	55
23	277 34.7	121 02.7 12.6	211 33.1 20.6	64 27.5 07.5	293 26.9 46.0	Marte	295 25.0 8	55
						Jupiter	146 56.6 18	47
						Saturno	15 48.7 3	34
Pas. Mer.	h m 4 36.7	v -0.2 d 1.1	v 0.6 d 0.3	v 2.4 d 0.0	v 2.5 d 0.0			

T. MG. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna						
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P. H.	Naut.		Civil	12	13	14	15		
												h m	h m	h m	h m	h m	h m
M A R T E S	12 00	178 37.3	N22 01.8	141 55.1	11.4	N 7	38.8	11.2	57.6	N 72	□	□	□	07 30	09 26	11 23	13 25
	01	193 37.2	01.4	156 25.5	11.5	7	27.6	11.1	57.7	N 70	□	□	□	07 40	09 27	11 17	13 09
	02	208 37.2	01.1	170 56.0	11.4	7	16.5	11.2	57.7	68	□	□	□	07 47	09 29	11 12	12 57
	03	223 37.1	00.7	185 26.4	11.4	7	05.3	11.3	57.7	66	///	///	01 25	07 53	09 30	11 07	12 47
	04	238 37.0	00.4	199 56.8	11.5	6	54.0	11.3	57.7	64	///	///	02 09	07 58	09 30	11 04	12 39
	05	253 36.9	22 00.1	214 27.3	11.5	6	42.7	11.4	57.7	62	///	00 27	02 37	08 03	09 31	11 01	12 32
	06	268 36.8	N21 59.7	228 57.8	11.4	N 6	31.3	11.3	57.7	60	///	01 37	02 59	08 07	09 32	10 58	12 26
	07	283 36.8	59.4	243 28.2	11.5	6	20.0	11.5	57.8	N 58	///	02 11	03 17	08 10	09 32	10 56	12 21
	08	298 36.7	59.0	257 58.7	11.5	6	08.5	11.4	57.8	56	00 25	02 34	03 31	08 13	09 33	10 54	12 16
	09	313 36.6	58.7	272 29.2	11.5	5	57.1	11.5	57.8	54	01 29	02 53	03 44	08 16	09 33	10 52	12 12
	10	328 36.5	58.3	286 59.7	11.4	5	45.6	11.5	57.8	52	02 00	03 09	03 55	08 18	09 34	10 50	12 08
	11	343 36.4	58.0	301 30.1	11.5	5	34.1	11.6	57.8	50	02 22	03 22	04 05	08 20	09 34	10 49	12 04
	12	358 36.4	N21 57.6	316 00.6	11.5	N 5	22.5	11.6	57.9	45	03 02	03 49	04 25	08 25	09 35	10 45	11 57
	13	13 36.3	57.3	330 31.1	11.5	5	10.9	11.7	57.9	N 40	03 30	04 10	04 42	08 29	09 36	10 43	11 51
	14	28 36.2	56.9	345 01.6	11.5	4	59.2	11.6	57.9	35	03 51	04 27	04 56	08 33	09 36	10 40	11 46
	15	43 36.1	56.6	359 32.1	11.5	4	47.6	11.7	57.9	30	04 08	04 41	05 08	08 36	09 37	10 38	11 41
	16	58 36.0	56.2	14 02.6	11.4	4	35.9	11.7	57.9	20	04 35	05 04	05 28	08 41	09 38	10 35	11 33
	17	73 36.0	55.9	28 33.0	11.5	4	24.2	11.8	58.0	N 10	04 56	05 23	05 46	08 46	09 38	10 32	11 26
	18	88 35.9	N21 55.5	43 03.5	11.5	N 4	12.4	11.8	58.0	0	05 14	05 40	06 02	08 50	09 39	10 29	11 19
	19	103 35.8	55.2	57 34.0	11.5	4	00.6	11.8	58.0	S 10	05 30	05 56	06 18	08 55	09 40	10 26	11 13
	20	118 35.7	54.8	72 04.5	11.5	3	48.8	11.8	58.0	20	05 44	06 12	06 35	08 59	09 41	10 23	11 06
	21	133 35.7	54.5	86 35.0	11.4	3	37.0	11.9	58.0	30	05 59	06 29	06 55	09 05	09 42	10 19	10 58
	22	148 35.6	54.1	101 05.4	11.5	3	25.1	11.9	58.0	35	06 07	06 39	07 06	09 08	09 42	10 17	10 54
23	163 35.5	53.8	115 35.9	11.5	3	13.2	11.9	58.1	40	06 16	06 49	07 19	09 11	09 43	10 15	10 49	
									45	06 25	07 02	07 35	09 15	09 44	10 13	10 43	
M I E R C O L E S	13 00	178 35.4	N21 53.4	130 06.4	11.4	N 3	01.3	11.9	58.1	S 50	06 35	07 16	07 54	09 20	09 45	10 10	10 36
	01	193 35.3	53.1	144 36.8	11.5	2	49.4	12.0	58.1	52	06 40	07 23	08 02	09 22	09 45	10 08	10 33
	02	208 35.3	52.7	159 07.3	11.4	2	37.4	12.0	58.1	54	06 45	07 30	08 12	09 24	09 46	10 07	10 30
	03	223 35.2	52.3	173 37.7	11.4	2	25.4	12.0	58.1	56	06 50	07 38	08 24	09 27	09 46	10 05	10 26
	04	238 35.1	52.0	188 08.1	11.5	2	13.4	12.0	58.2	58	06 56	07 47	08 37	09 30	09 47	10 04	10 22
	05	253 35.0	51.6	202 38.6	11.4	2	01.4	12.0	58.2	S 60	07 03	07 58	08 52	09 33	09 47	10 02	10 17
	06	268 35.0	N21 51.3	217 09.0	11.4	N 1	49.4	12.1	58.2								
	07	283 34.9	50.9	231 39.4	11.4	1	37.3	12.0	58.2	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna			
	08	298 34.8	50.5	246 09.8	11.4	1	25.3	12.1	58.2			Civil	Naut.	12	13	14	15
	09	313 34.7	50.2	260 40.2	11.3	1	13.2	12.1	58.2					h m	h m	h m	h m
	10	328 34.7	49.8	275 10.5	11.4	1	01.1	12.1	58.3	N 72	□	□	□	21 56	21 44	21 31	21 16
	11	343 34.6	49.5	289 40.9	11.3	0	49.0	12.1	58.3	N 70	□	□	□	21 52	21 46	21 40	21 33
	12	358 34.5	N21 49.1	304 11.2	11.4	N 0	36.9	12.1	58.3	68	□	□	□	21 48	21 48	21 47	21 47
	13	13 34.4	48.7	318 41.6	11.3	0	24.8	12.1	58.3	66	22 42	///	///	21 45	21 49	21 53	21 59
	14	28 34.4	48.4	333 11.9	11.3	0	12.7	12.1	58.3	64	22 00	///	///	21 42	21 50	21 58	22 08
	15	43 34.3	48.0	347 42.2	11.3	N 0	00.6	12.2	58.3	62	21 32	23 33	///	21 40	21 51	22 03	22 16
	16	58 34.2	47.6	2 12.5	11.2	S 0	11.6	12.1	58.4	60	21 11	22 31	///	21 38	21 52	22 07	22 23
	17	73 34.1	47.3	16 42.7	11.3	0	23.7	12.2	58.4	N 58	20 54	21 59	///	21 36	21 53	22 10	22 30
	18	88 34.1	N21 46.9	31 13.0	11.2	S 0	35.9	12.1	58.4	56	20 39	21 36	23 36	21 35	21 54	22 13	22 35
	19	103 34.0	46.5	45 43.2	11.2	0	48.0	12.2	58.4	54	20 26	21 17	22 40	21 33	21 54	22 16	22 40
	20	118 33.9	46.2	60 13.4	11.2	1	00.2	12.1	58.4	52	20 16	21 01	22 10	21 32	21 55	22 19	22 45
	21	133 33.8	45.8	74 43.6	11.2	1	12.3	12.2	58.4	50	20 06	20 48	21 48	21 31	21 55	22 21	22 49
	22	148 33.8	45.4	89 13.8	11.1	1	24.5	12.1	58.5	45	19 45	20 22	21 09	21 28	21 57	22 26	22 58
23	163 33.7	45.1	103 43.9	11.1	1	36.6	12.2	58.5									
J U E V E S	14 00	178 33.6	N21 44.7	118 14.0	11.1	S 1	48.8	12.1	58.5	N 40	19 29	20 01	20 41	21 26	21 58	22 30	23 05
	01	193 33.6	44.3	132 44.1	11.1	2	00.9	12.2	58.5	35	19 15	19 44	20 20	21 24	21 58	22 34	23 12
	02	208 33.5	43.9	147 14.2	11.1	2	13.1	12.1	58.5	30	19 03	19 30	20 03	21 22	21 59	22 37	23 17
	03	223 33.4	43.6	161 44.3	11.0	2	25.2	12.1	58.5	20	18 43	19 07	19 36	21 19	22 00	22 43	23 27
	04	238 33.3	43.2	176 14.3	11.0	2	37.3	12.1	58.6	N 10	18 26	18 48	19 15	21 16	22 02	22 48	23 36
	05	253 33.3	42.8	190 44.3	10.9	2	49.4	12.1	58.6	0	18 09	18 32	18 57	21 14	22 03	22 53	23 44
	06	268 33.2	N21 42.4	205 14.2	11.0	S 3	01.5	12.1	58.6	S 10	17 53	18 16	18 42	21 11	22 04	22 57	23 52
	07	283 33.1	42.1	219 44.2	10.9	3	13.6	12.1	58.6	20	17 36	18 00	18 27	21 08	22 05	23 02	24 01
	08	298 33.1	41.7	234 14.1	10.9	3	25.7	12.1	58.6	30	17 17	17 43	18 12	21 05	22 06	23 08	24 11
	09	313 33.0	41.3	248 44.0	10.8	3	37.8	12.1	58.6	35	17 05	17 33	18 04	21 03	22 07	23 11	24 17
	10	328 32.9	40.9	263 13.8	10.9	3	49.9	12.0	58.7	40	16 52	17 22	17 56	21 01	22 07	23 15	24 24
	11	343 32.8	40.6	277 43.7	10.7	4	01.9	12.0	58.7	45	16 37	17 10	17 47	20 58	22 08	23 19	24 31
	12	358 32.8	N21 40.2	292 13.4	10.8	S 4	13.9	12.1	58.7	S 50	16 18	16 56	17 36	20 55	22 09	23 25	24 41
	13	13 32.7	39.8	306 43.2	10.7	4	26.0	12.0	58.7	52	16 09	16 49	17 32	20 54	22 10	23 27	24 45
14	28 32.6	39.4	321 12.9	10.7	4	38.0	11.9	58.7	54	15 59	16 42	17 27	20 52	22 10	23 30	24 50	
15	43 32.6	39.0	335 42.6	10.7	4	49.9	12.0	58.7	56	15 48	16 34	17 21	20 51	22 11	23 32	24 55	
16	58 32.5	38.7	350 12.3	10.6	5	01.9	11.9	58.7	58	15 35	16 25	17 16	20 49	22			

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	15	16	17	18
	o / m	o / m	o / m	o / m	o / m	o / m		o / m	h m	h m	h m	h m	h m	h m	
15 00	178 32.0	N21 35.6	106 08.2	10.3	S 6 36.6	11.7	58.9	N 72	h m	h m	h m	13 25	15 37	18 30	■
01	193 31.9	35.2	120 37.5	10.2	6 48.3	11.7	58.9	N 70	h m	h m	h m	13 09	15 08	17 16	19 58
02	208 31.8	34.8	135 06.7	10.3	7 00.0	11.7	58.9	68	h m	h m	h m	12 57	14 46	16 38	18 28
03	223 31.8	34.4	149 36.0	10.1	7 11.7	11.6	58.9	66	///	///	01 38	12 47	14 30	16 12	17 49
04	238 31.7	34.0	164 05.1	10.2	7 23.3	11.6	58.9	64	///	///	02 17	12 39	14 16	15 52	17 22
05	253 31.6	33.6	178 34.3	10.1	7 34.9	11.5	58.9	62	///	00 55	02 44	12 32	14 04	15 36	17 01
06	268 31.6	N21 33.2	193 03.4	10.0	S 7 46.4	11.5	59.0	60	///	01 47	03 05	12 26	13 55	15 22	16 44
07	283 31.5	32.9	207 32.4	10.0	7 57.9	11.5	59.0	N 58	///	02 18	03 22	12 21	13 46	15 11	16 30
08	298 31.4	32.5	222 01.4	10.0	8 09.4	11.4	59.0	56	00 50	02 40	03 36	12 16	13 39	15 01	16 18
09	313 31.4	32.1	236 30.4	9.9	8 20.8	11.4	59.0	54	01 38	02 58	03 48	12 12	13 32	14 52	16 07
10	328 31.3	31.7	250 59.3	9.8	8 32.2	11.3	59.0	52	02 06	03 13	03 59	12 08	13 26	14 44	15 58
11	343 31.2	31.3	265 28.1	9.9	8 43.5	11.3	59.0	50	02 28	03 26	04 08	12 04	13 21	14 37	15 50
12	358 31.2	N21 30.9	279 57.0	9.7	S 8 54.8	11.2	59.0	45	03 06	03 52	04 28	11 57	13 09	14 22	15 32
13	13 31.1	30.5	294 25.7	9.7	9 06.0	11.2	59.0	N 40	03 33	04 12	04 44	11 51	13 00	14 09	15 17
14	28 31.1	30.1	308 54.4	9.7	9 17.2	11.2	59.1	35	03 53	04 29	04 58	11 46	12 52	13 59	15 05
15	43 31.0	29.7	323 23.1	9.6	9 28.4	11.1	59.1	30	04 10	04 43	05 09	11 41	12 45	13 50	14 54
16	58 30.9	29.3	337 51.7	9.6	9 39.5	11.0	59.1	20	04 37	05 05	05 29	11 33	12 33	13 34	14 36
17	73 30.9	28.9	352 20.3	9.5	9 50.5	11.0	59.1	N 10	04 57	05 24	05 46	11 26	12 22	13 20	14 20
18	88 30.8	N21 28.5	6 48.8	9.4	S 10 01.5	11.0	59.1	0	05 14	05 40	06 02	11 19	12 12	13 08	14 05
19	103 30.7	28.1	21 17.2	9.4	10 12.5	10.9	59.1	S 10	05 30	05 56	06 18	11 13	12 02	12 55	13 51
20	118 30.7	27.7	35 45.6	9.4	10 23.4	10.8	59.1	20	05 44	06 11	06 35	11 06	11 52	12 41	13 35
21	133 30.6	27.3	50 14.0	9.3	10 34.2	10.8	59.1	30	05 59	06 28	06 54	10 58	11 40	12 26	13 17
22	148 30.6	26.9	64 42.3	9.2	10 45.0	10.7	59.2	35	06 06	06 38	07 05	10 54	11 34	12 17	13 06
23	163 30.5	26.5	79 10.5	9.2	10 55.7	10.6	59.2	40	06 15	06 48	07 18	10 49	11 26	12 07	12 55
16 00	178 30.4	N21 26.1	93 38.7	9.2	S 11 06.3	10.7	59.2	45	06 23	07 00	07 33	10 43	11 17	11 55	12 41
01	193 30.4	25.7	108 06.9	9.0	11 17.0	10.5	59.2	S 50	06 33	07 14	07 51	10 36	11 06	11 41	12 24
02	208 30.3	25.3	122 34.9	9.1	11 27.5	10.5	59.2	52	06 38	07 20	08 00	10 33	11 01	11 35	12 16
03	223 30.3	24.9	137 03.0	8.9	11 38.0	10.4	59.2	54	06 43	07 27	08 09	10 30	10 56	11 27	12 07
04	238 30.2	24.5	151 30.9	8.9	11 48.4	10.3	59.2	56	06 48	07 35	08 20	10 26	10 50	11 19	11 57
05	253 30.1	24.1	165 58.8	8.9	11 58.7	10.3	59.2	58	06 53	07 44	08 33	10 22	10 43	11 10	11 45
06	268 30.1	N21 23.7	180 26.7	8.8	S 12 09.0	10.2	59.2	S 60	07 00	07 54	08 47	10 17	10 36	11 00	11 32
07	283 30.0	23.3	194 54.5	8.7	12 19.2	10.2	59.3	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna			
08	298 30.0	22.9	209 22.2	8.7	12 29.4	10.0	59.3	Civil	Náut.	15	16	17	18		
09	313 29.9	22.5	223 49.9	8.6	12 39.4	10.0	59.3	h m	h m	h m	h m	h m	h m	h m	h m
10	328 29.8	22.1	238 17.5	8.6	12 49.4	10.0	59.3	N 72	h m	h m	h m	21 16	20 55	19 59	■
11	343 29.8	21.6	252 45.1	8.5	12 59.4	9.8	59.3	N 70	h m	h m	h m	21 33	21 26	21 14	20 34
12	358 29.7	N21 21.2	267 12.6	8.4	S 13 09.2	9.8	59.3	68	h m	h m	h m	21 47	21 49	21 53	22 05
13	13 29.7	20.8	281 40.0	8.4	13 19.0	9.7	59.3	66	22 30	///	///	21 59	22 06	22 20	22 44
14	28 29.6	20.4	296 07.4	8.3	13 28.7	9.6	59.3	64	21 52	///	///	22 08	22 21	22 40	23 11
15	43 29.5	20.0	310 34.7	8.3	13 38.3	9.6	59.3	62	21 26	23 11	///	22 16	22 33	22 57	23 32
16	58 29.5	19.6	325 02.0	8.2	13 47.9	9.4	59.4	60	21 06	22 22	///	22 23	22 44	23 11	23 50
17	73 29.4	19.2	339 29.2	8.1	13 57.3	9.4	59.4	N 58	20 49	21 53	///	22 30	22 53	23 24	24 04
18	88 29.4	N21 18.8	353 56.3	8.1	S 14 06.7	9.3	59.4	56	20 35	21 30	23 16	22 35	23 01	23 34	24 16
19	103 29.3	18.4	8 23.4	8.0	14 16.0	9.2	59.4	54	20 23	21 13	22 31	22 40	23 09	23 43	24 27
20	118 29.3	17.9	22 50.4	8.0	14 25.2	9.1	59.4	52	20 13	20 58	22 04	22 45	23 15	23 52	24 37
21	133 29.2	17.5	37 17.4	7.9	14 34.3	9.1	59.4	50	20 03	20 45	21 43	22 49	23 21	23 59	24 46
22	148 29.1	17.1	51 44.3	7.8	14 43.4	8.9	59.4	45	19 43	20 19	21 05	22 58	23 34	24 15	00 15
23	163 29.1	16.7	66 11.1	7.8	14 52.3	8.9	59.4	N 40	19 27	19 59	20 39	23 05	23 44	24 28	00 28
17 00	178 29.0	N21 16.3	80 37.9	7.7	S 15 01.2	8.8	59.4	35	19 14	19 43	20 18	23 12	23 53	24 39	00 39
01	193 29.0	15.9	95 04.6	7.7	15 10.0	8.7	59.4	30	19 02	19 29	20 02	23 17	24 01	00 01	00 49
02	208 28.9	15.4	109 31.3	7.6	15 18.7	8.6	59.4	20	18 43	19 07	19 35	23 27	24 15	00 15	01 06
03	223 28.9	15.0	123 57.9	7.5	15 27.3	8.5	59.4	N 10	18 25	18 48	19 15	23 36	24 27	00 27	01 21
04	238 28.8	14.6	138 24.4	7.5	15 35.8	8.4	59.5	0	18 10	18 32	18 58	23 44	24 38	00 38	01 35
05	253 28.8	14.2	152 50.9	7.4	15 44.2	8.3	59.5	S 10	17 54	18 16	18 42	23 52	24 50	00 50	01 49
06	268 28.7	N21 13.8	167 17.3	7.4	S 15 52.5	8.2	59.5	20	17 37	18 01	18 28	24 01	00 01	01 02	02 03
07	283 28.7	13.3	181 43.7	7.3	16 00.7	8.1	59.5	30	17 18	17 44	18 13	24 11	00 11	01 16	02 21
08	298 28.6	12.9	196 10.0	7.3	16 08.8	8.0	59.5	35	17 07	17 35	18 06	24 17	00 17	01 24	02 30
09	313 28.5	12.5	210 36.3	7.1	16 16.8	7.9	59.5	40	16 54	17 24	17 58	24 24	00 24	01 33	02 42
10	328 28.5	12.1	225 02.4	7.2	16 24.7	7.8	59.5	45	16 40	17 12	17 49	24 31	00 31	01 44	02 55
11	343 28.4	11.6	239 28.6	7.0	16 32.5	7.8	59.5	S 50	16 21	16 58	17 39	24 41	00 41	01 57	03 11
12	358 28.4	N21 11.2	253 54.6	7.0	S 16 40.3	7.6	59.5	52	16 13	16 52	17 35	24 45	00 45	02 03	03 19
13	13 28.3	10.8	268 20.6	7.0	16 47.9	7.5	59.5	54	16 03	16 45	17 30	24 50	00 50	02 10	03 28
14	28 28.3	10.4	282 46.6	6.9	16 55.4	7.4	59.5	56	15 52	16 37	17 25	24 55	00 55	02 17	03 37
15	43 28.2	9.9	297 12.5	6.8	17 02.8	7.2	59.5	58	15 40	16 28	17 19	25 01	01 01	02 26	03 48
16	58 28.2	9.5	311 38.3	6.8	17 10.0	7.2	59.5	S 60	15 25	16 19	17 13	25 08	01 08	02 36	04 01
17	73 28.1	9.1	326 04.1	6.8	17 17.2	7.1	59.5	Día	SOL		LUNA				
18	88 28.1	N21 08.7	340 29.9	6.6	S 17 24.3	6.9	59.5	E.T. (-)	Pas. Mer.	Pas. Mer.	Mer. Inf.	Edad.	Fase		
19	103 28.0	08.2	354 55.5	6.6	17 31.2	6.9	59.6	00 h	12 h	Sup.	Inf.	d			
20	118 28.0	07.8	9 21												

T.M.G. (TU)		ARIES			VENUS -4.1			MARTE +1.2			JUPITER -2.1			SATURNO +0.8			ESTRELLAS		
d h		A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	A.H.G.		Dec.	Nombre	A. H. S.	Dec.
L U N E S	18 00	295	34.6	135 52.6 N 9 48.6	227	18.5 N21 42.5	82	20.2 S12 10.8	311	32.8 S 8 49.2	Acamar	315	29.2 S40 19.3						
	01	310	37.0	150 52.4 47.5	242	19.1 42.8	97	22.5 10.8	326	35.4 49.3	Achernar	335	37.3 S57 15.5						
	02	325	39.5	165 52.3 46.3	257	19.7 43.1	112	24.9 10.9	341	37.9 49.3	Acrux	173	25.3 S63 04.5						
	03	340	41.9	180 52.2 45.1	272	20.3 43.4	127	27.3 10.9	356	40.5 49.4	Adhara	255	24.0 S28 57.9						
	04	355	44.4	195 52.1 44.0	287	21.0 43.7	142	29.6 11.0	11	43.0 49.4	Aldebaran	291	05.9 N16 29.8						
	05	10	46.9	210 52.0 42.8	302	21.6 44.0	157	32.0 11.0	26	45.6 49.4									
	06	25	49.3	225 51.9 N 9 41.6	317	22.2 N21 44.2	172	34.3 S12 11.1	41	48.1 S 8 49.5	Alioth	166	33.2 N55 59.6						
	07	40	51.8	240 51.8 40.5	332	22.8 44.5	187	36.7 11.1	56	50.7 49.5	Alkaid	153	10.0 N49 20.7						
	08	55	54.3	255 51.6 39.3	347	23.5 44.8	202	39.0 11.2	71	53.2 49.6	Al Na'ir	28	01.1 S46 58.9						
	09	70	56.7	270 51.5 38.1	2	24.1 45.1	217	41.4 11.2	86	55.8 49.6	Alnilam	276	01.0 S 1 12.3						
	10	85	59.2	285 51.4 37.0	17	24.7 45.4	232	43.7 11.3	101	58.3 49.7	Alphard	218	10.3 S 8 38.2						
	11	101	01.7	300 51.3 35.8	32	25.3 45.7	247	46.1 11.3	117	00.9 49.7									
	12	116	04.1	315 51.2 N 9 34.6	47	25.9 N21 46.0	262	48.4 S12 11.4	132	03.5 S 8 49.8	Alphecca	126	22.8 N26 44.2						
	13	131	06.6	330 51.1 33.5	62	26.6 46.2	277	50.8 11.4	147	06.0 49.8	Alpheratz	357	58.0 N29 03.6						
	14	146	09.1	345 51.0 32.3	77	27.2 46.5	292	53.1 11.5	162	08.6 49.9	Altair	62	21.7 N 8 51.4						
	15	161	11.5	0 50.9 31.1	92	27.8 46.8	307	55.5 11.6	177	11.1 49.9	Ankaa	353	29.5 S42 19.8						
	16	176	14.0	15 50.8 30.0	107	28.4 47.1	322	57.8 11.6	192	13.7 50.0	Antares	112	43.4 S26 25.2						
	17	191	16.4	30 50.6 28.8	122	29.1 47.4	338	00.2 11.7	207	16.2 50.0									
	18	206	18.9	45 50.5 N 9 27.6	137	29.7 N21 47.6	353	02.5 S12 11.7	222	18.8 S 8 50.0	Arcturus	146	08.6 N19 12.8						
	19	221	21.4	60 50.4 26.4	152	30.3 47.9	8	04.9 11.8	237	21.3 50.1	Atria	107	57.5 S69 01.2						
	20	236	23.8	75 50.3 25.3	167	30.9 48.2	23	07.2 11.8	252	23.9 50.1	Avior	234	24.4 S59 29.7						
	21	251	26.3	90 50.2 24.1	182	31.5 48.5	38	09.6 11.9	267	26.4 50.2	Bellatrix	278	47.5 N 6 20.7						
	22	266	28.8	105 50.1 22.9	197	32.2 48.8	53	11.9 11.9	282	29.0 50.2	Betelgeuse	271	16.9 N 7 24.3						
23	281	31.2	120 50.0 21.8	212	32.8 49.0	68	14.3 12.0	297	31.6 50.3										
M A R T E S	19 00	296	33.7	135 49.9 N 9 20.6	227	33.4 N21 49.3	83	16.6 S12 12.0	312	34.1 S 8 50.3	Canopus	264	02.9 S52 41.5						
	01	311	36.2	150 49.8 19.4	242	34.0 49.6	98	19.0 12.1	327	36.7 50.4	Capella	280	55.8 N45 59.4						
	02	326	38.6	165 49.7 18.2	257	34.7 49.9	113	21.3 12.1	342	39.2 50.4	Deneb	49	40.6 N45 15.8						
	03	341	41.1	180 49.6 17.1	272	35.3 50.2	128	23.7 12.2	357	41.8 50.5	Denebola	182	48.2 N14 36.2						
	04	356	43.6	195 49.5 15.9	287	35.9 50.4	143	26.0 12.2	12	44.3 50.5	Diphda	349	10.0 S18 00.8						
	05	11	46.0	210 49.4 14.7	302	36.5 50.7	158	28.4 12.3	27	46.9 50.6									
	06	26	48.5	225 49.3 N 9 13.6	317	37.2 N21 51.0	173	30.7 S12 12.3	42	49.5 S 8 50.6	Dubhe	194	09.4 N61 47.0						
	07	41	50.9	240 49.2 12.4	332	37.8 51.3	188	33.1 12.4	57	52.0 50.7	Elnath	278	30.8 N28 36.1						
	08	56	53.4	255 49.1 11.2	347	38.4 51.5	203	35.4 12.4	72	54.6 50.7	Eltanin	90	52.2 N51 29.6						
	09	71	55.9	270 49.0 10.0	2	39.0 51.8	218	37.7 12.5	87	57.1 50.8	Enif	34	00.7 N 9 51.2						
	10	86	58.3	285 48.9 08.9	17	39.6 52.1	233	40.1 12.5	102	59.7 50.8	Fomalhaut	15	39.3 S29 38.8						
	11	102	00.8	300 48.8 07.7	32	40.3 52.4	248	42.4 12.6	118	02.2 50.8									
	12	117	03.3	315 48.7 N 9 06.5	47	40.9 N21 52.6	263	44.8 S12 12.6	133	04.8 S 8 50.9	Gacrux	172	16.9 S57 05.3						
	13	132	05.7	330 48.6 05.3	62	41.5 52.9	278	47.1 12.7	148	07.4 50.9	Gienah	176	07.0 S17 30.8						
	14	147	08.2	345 48.5 04.2	77	42.1 53.2	293	49.5 12.7	163	09.9 51.0	Hadar	149	07.9 S60 21.1						
	15	162	10.7	0 48.4 03.0	92	42.8 53.5	308	51.8 12.8	178	12.5 51.0	Hamal	328	16.8 N23 26.2						
	16	177	13.1	15 48.3 01.8	107	43.4 53.7	323	54.2 12.8	193	15.0 51.1	Kaus Aust.	84	02.2 S34 23.2						
	17	192	15.6	30 48.2 9 00.6	122	44.0 54.0	338	56.5 12.9	208	17.6 51.1									
	18	207	18.1	45 48.1 N 8 59.4	137	44.6 N21 54.3	353	58.8 S12 13.0	223	20.1 S 8 51.2	Kochab	137	19.2 N74 11.0						
	19	222	20.5	60 48.1 58.3	152	45.2 54.6	9	01.2 13.0	238	22.7 51.2	Markab	13	52.2 N15 10.7						
	20	237	23.0	75 48.0 57.1	167	45.9 54.8	24	03.5 13.1	253	25.3 51.3	Menkar	314	30.0 N 4 04.1						
	21	252	25.4	90 47.9 55.9	182	46.5 55.1	39	05.9 13.1	268	27.8 51.3	Menkent	148	24.2 S36 20.8						
	22	267	27.9	105 47.8 54.7	197	47.1 55.4	54	08.2 13.2	283	30.4 51.4	Miaplacidus	221	43.4 S69 41.9						
23	282	30.4	120 47.7 53.5	212	47.7 55.6	69	10.6 13.2	298	32.9 51.4										
M I E R C O L E S	20 00	297	32.8	135 47.6 N 8 52.4	227	48.4 N21 55.9	84	12.9 S12 13.3	313	35.5 S 8 51.5	Mirfak	309	00.9 N49 50.3						
	01	312	35.3	150 47.5 51.2	242	49.0 56.2	99	15.2 13.3	328	38.1 51.5	Nunki	76	15.5 S26 18.1						
	02	327	37.8	165 47.4 50.0	257	49.6 56.5	114	17.6 13.4	343	40.6 51.6	Peacock	53	40.9 S56 44.9						
	03	342	40.2	180 47.3 48.8	272	50.2 56.7	129	19.9 13.4	358	43.2 51.6	Pollux	243	45.4 N28 02.3						
	04	357	42.7	195 47.2 47.6	287	50.9 57.0	144	22.3 13.5	13	45.7 51.7	Procyon	245	14.9 N 5 14.3						
	05	12	45.2	210 47.2 46.5	302	51.5 57.3	159	24.6 13.5	28	48.3 51.7									
	06	27	47.6	225 47.1 N 8 45.3	317	52.1 N21 57.5	174	26.9 S12 13.6	43	50.9 S 8 51.8	Rasalhague	96	19.3 N12 34.0						
	07	42	50.1	240 47.0 44.1	332	52.7 57.8	189	29.3 13.7	58	53.4 51.8	Regulus	207	58.8 N11 59.6						
	08	57	52.5	255 46.9 42.9	347	53.3 58.1	204	31.6 13.7	73	56.0 51.9	Rigel	281	25.9 S 8 12.5						
	09	72	55.0	270 46.8 41.7	2	54.0 58.3	219	34.0 13.8	88	58.5 51.9	Rigil Kent.	140	10.9 S60 49.0						
	10	87	57.5	285 46.7 40.6	17	54.6 58.6	234	36.3 13.8	104	01.1 52.0	Sabik	102	28.5 S15 43.0						
	11	102	59.9	300 46.7 39.4	32	55.2 58.9	249	38.6 13.9	119	03.7 52.0									
	12	118	02.4	315 46.6 N 8 38.2	47	55.8 N21 59.1	264	41.0 S12 13.9	134	06.2 S 8 52.1	Schedar	349	56.5 N56 30.3						
	13	133	04.9	330 46.5 37.0	62	56.5 59.4	279	43.3 14.0	149	08.8 52.1	Shaula	96	40.8 S37 06.0						
	14	148	07.3	345 46.4 35.8	77	57.1 59.7	294	45.6 14.0	164	11.3 52.2	Sirius	258	46.5 S16 42.5						
	15	163	09.8	0 46.3 34.6	92	57.7 59.9	309	48.0 14.1	179	13.9 52.2	Spica	158	46.2 S11 08.0						
	16	178	12.3	15 46.2 33.5	107	58.3 60.2	324	50.3 14.2	194	16.5 52.3	Suhail	223	03.3 S43 24.8						
	17	193	14.7	30 46.2 32.3	122	59.0 60.5	339	52.7 14.2	209	19.0 52.3									
	18	208	17.2	45 46.1 N 8 31.1	137	59.6 N22 00.7	354	55.0 S12 14.3	224	21.6 S 8 52.3	Vega	80	48.1 N38 46.9						
	19	223	19.7	60 46.0 29.9	153	00.2 01.0	9	57.3 14.3	239	24.1 52.4	Zuben'ubi	137	21.0 S16 01.2						
	20	238	22.1	75 45.9 28.7	168	00.8 01.3	24	59.7 14.4	254	26.7 52.4									
	21	253	24.6	90 45.8 27.5	183	01.5 01.5	40	02.0 14.4	269	29.3 52.5									
	22	268	27.0	105 45.8 26.3	198	02.1 01.8	55	04.3 14.5	284	31.8 52.5									
23	283	29.5	120 45.7 25.1	213	02.7 02.0	70	06.7 14.5	299	34.4 52.6										
Pas. Mer. 4 13.1		v -0.1 d 1.2			v 0.6 d 0.3			v 2.3 d 0.1			v 2.6 d 0.0			A. H. S. Pas. Mer.					
														o / h m					
														Venus 199 16.2 14 57					
														Marte 290 59.7 8 49					
														Júpiter 146 42.9 18 24					
														Saturno 16 00.4 3 09					

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	18	19	20	21	
												h m	h m	h m	h m	h m
LUNES	18 00	178 27.8	N21 06.1	67 03.1	6.3	S18 04.3	6.3	59.6	N 72	□	□	□	■	■	■	■
	01	193 27.7	05.6	81 28.4	6.3	18 10.6	6.2	59.6	N 70	□	□	□	19 58	■	■	21 38
	02	208 27.7	05.2	95 53.7	6.3	18 16.8	6.0	59.6	68	///	///	00 42	18 28	19 56	20 40	20 54
	03	223 27.6	04.8	110 19.0	6.2	18 22.8	5.9	59.6	66	///	///	01 51	17 49	19 08	19 58	20 25
	04	238 27.6	04.3	124 44.2	6.2	18 28.7	5.8	59.6	64	///	///	02 26	17 22	18 37	19 30	20 03
	05	253 27.5	03.9	139 09.4	6.1	18 34.5	5.7	59.6	62	///	01 14	02 51	17 01	18 14	19 08	19 45
	06	268 27.5	N21 03.5	153 34.5	6.0	S18 40.2	5.6	59.6	60	///	01 57	03 11	16 44	17 55	18 51	19 31
	07	283 27.4	03.0	167 59.5	6.0	18 45.8	5.4	59.6	N 58	///	02 25	03 27	16 30	17 40	18 36	19 18
	08	298 27.4	02.6	182 24.5	6.0	18 51.2	5.3	59.6	56	01 07	02 46	03 40	16 18	17 27	18 23	19 07
	09	313 27.3	02.2	196 49.5	5.9	18 56.5	5.2	59.6	54	01 47	03 03	03 52	16 07	17 15	18 12	18 57
	10	328 27.3	01.7	211 14.4	5.9	19 01.7	5.0	59.6	52	02 13	03 18	04 03	15 58	17 05	18 02	18 49
	11	343 27.2	01.3	225 39.3	5.9	19 06.7	5.0	59.6	50	02 33	03 30	04 12	15 50	16 56	17 53	18 41
	12	358 27.2	N21 00.9	240 04.2	5.8	S19 11.7	4.8	59.6	45	03 10	03 55	04 31	15 32	16 37	17 35	18 24
	13	13 27.2	00.4	254 29.0	5.7	19 16.5	4.6	59.6	N 40	03 36	04 15	04 47	15 17	16 21	17 20	18 11
	14	28 27.1	21 00.0	268 53.7	5.7	19 21.1	4.6	59.6	35	03 56	04 31	05 00	15 05	16 08	17 07	17 59
	15	43 27.1	20 59.5	283 18.4	5.7	19 25.7	4.4	59.6	30	04 12	04 44	05 11	14 54	15 57	16 56	17 49
	16	58 27.0	59.1	297 43.1	5.7	19 30.1	4.3	59.6	20	04 38	05 06	05 30	14 36	15 37	16 37	17 32
	17	73 27.0	58.6	312 07.8	5.6	19 34.4	4.1	59.6	N 10	04 58	05 25	05 47	14 20	15 20	16 20	17 17
	18	88 26.9	N20 58.2	326 32.4	5.6	S19 38.5	4.1	59.6	0	05 15	05 41	06 03	14 05	15 05	16 04	17 02
	19	103 26.9	57.8	340 57.0	5.5	19 42.6	3.9	59.6	S 10	05 30	05 56	06 18	13 51	14 49	15 49	16 48
	20	118 26.8	57.3	355 21.5	5.5	19 46.5	3.7	59.6	20	05 44	06 11	06 34	13 35	14 32	15 32	16 33
	21	133 26.8	56.9	9 46.0	5.5	19 50.2	3.6	59.6	30	05 58	06 27	06 53	13 17	14 13	15 13	16 15
	22	148 26.7	56.4	24 10.5	5.4	19 53.8	3.5	59.6	35	06 05	06 36	07 04	13 06	14 01	15 02	16 05
23	163 26.7	56.0	38 34.9	5.5	19 57.3	3.4	59.6	40	06 13	06 46	07 16	12 55	13 49	14 49	15 53	
MARTES	19 00	178 26.7	N20 55.5	52 59.4	5.4	S20 00.7	3.2	59.6	45	06 22	06 58	07 30	12 41	13 33	14 34	15 40
	01	193 26.6	55.1	67 23.8	5.3	20 03.9	3.1	59.6	S 50	06 31	07 11	07 48	12 24	13 15	14 15	15 23
	02	208 26.6	54.6	81 48.1	5.4	20 07.0	2.9	59.6	52	06 35	07 18	07 56	12 16	13 06	14 06	15 15
	03	223 26.5	54.2	96 12.5	5.3	20 09.9	2.9	59.6	54	06 40	07 24	08 06	12 07	12 56	13 56	15 06
	04	238 26.5	53.7	110 36.8	5.3	20 12.8	2.6	59.6	56	06 45	07 32	08 16	11 57	12 45	13 45	14 56
	05	253 26.4	53.3	125 01.1	5.3	20 15.4	2.6	59.6	58	06 50	07 40	08 28	11 45	12 32	13 33	14 45
	06	268 26.4	N20 52.8	139 25.4	5.2	S20 18.0	2.4	59.6	S 60	06 56	07 50	08 42	11 32	12 17	13 18	14 32
	07	283 26.4	52.4	153 49.6	5.3	20 20.4	2.2	59.6	Lat.	Ocaso Sol	Crepúsculo Civil	Náut.	18	19	20	21
	08	298 26.3	51.9	168 13.9	5.2	20 22.6	2.2	59.6	N 72	□	□	□	■	■	■	■
	09	313 26.3	51.5	182 38.1	5.2	20 24.8	1.9	59.6	N 70	□	□	□	20 34	■	■	■
	10	328 26.2	51.0	197 02.3	5.2	20 26.7	1.9	59.6	68	23 19	///	///	22 05	22 41	24 02	00 02
	11	343 26.2	50.6	211 26.5	5.2	20 28.6	1.7	59.6	66	22 18	///	///	22 44	23 29	24 43	00 43
	12	358 26.1	N20 50.1	225 50.7	5.2	S20 30.3	1.6	59.6	64	21 44	///	///	23 11	24 00	00 00	01 11
	13	13 26.1	49.7	240 14.9	5.2	20 31.9	1.4	59.6	62	21 19	22 54	///	23 32	24 24	00 24	01 32
	14	28 26.1	49.2	254 39.1	5.1	20 33.3	1.3	59.6	60	21 00	22 13	///	23 50	24 42	00 42	01 50
	15	43 26.0	48.8	269 03.2	5.2	20 34.6	1.1	59.5	N 58	20 44	21 46	///	24 04	00 04	00 58	02 04
	16	58 26.0	48.3	283 27.4	5.1	20 35.7	1.0	59.5	56	20 31	21 25	23 01	24 16	00 16	01 11	02 17
	17	73 25.9	47.8	297 51.5	5.2	20 36.7	0.9	59.5	54	20 19	21 08	22 23	24 27	00 27	01 22	02 28
	18	88 25.9	N20 47.4	312 15.7	5.1	S20 37.6	0.7	59.5	52	20 09	20 54	21 58	24 37	00 37	01 32	02 37
	19	103 25.9	46.9	326 39.8	5.2	20 38.3	0.6	59.5	50	20 00	20 41	21 38	24 46	00 46	01 41	02 46
	20	118 25.8	46.5	341 04.0	5.1	20 38.9	0.4	59.5	45	19 41	20 16	21 02	00 15	01 04	02 00	03 04
	21	133 25.8	46.0	355 28.1	5.2	20 39.3	0.3	59.5	N 40	19 25	19 57	20 36	00 28	01 19	02 16	03 19
	22	148 25.7	45.5	9 52.3	5.1	20 39.6	0.2	59.5	35	19 12	19 41	20 16	00 39	01 31	02 29	03 31
23	163 25.7	45.1	24 16.4	5.2	20 39.8	0.0	59.5	30	19 01	19 28	20 00	00 49	01 43	02 41	03 42	
MIÉRCOLES	20 00	178 25.7	N20 44.6	38 40.6	5.2	S20 39.8	0.1	59.5	20	18 42	19 06	19 34	01 06	02 01	03 00	04 01
	01	193 25.6	44.2	53 04.8	5.1	20 39.7	0.3	59.5	N 10	18 25	18 48	19 14	01 21	02 18	03 17	04 17
	02	208 25.6	43.7	67 28.9	5.2	20 39.4	0.4	59.5	0	18 10	18 32	18 58	01 35	02 33	03 33	04 32
	03	223 25.6	43.2	81 53.1	5.2	20 39.0	0.5	59.5	S 10	17 55	18 17	18 43	01 49	02 49	03 49	04 47
	04	238 25.5	42.8	96 17.3	5.3	20 38.5	0.7	59.5	20	17 38	18 02	18 29	02 03	03 05	04 06	05 03
	05	253 25.5	42.3	110 41.6	5.2	20 37.8	0.8	59.4	30	17 20	17 46	18 15	02 21	03 24	04 25	05 22
	06	268 25.4	N20 41.8	125 05.8	5.3	S20 37.0	1.0	59.4	35	17 09	17 37	18 08	02 30	03 35	04 37	05 32
	07	283 25.4	41.4	139 30.1	5.2	20 36.0	1.1	59.4	40	16 57	17 26	18 00	02 42	03 48	04 50	05 44
	08	298 25.4	40.9	153 54.3	5.3	20 34.9	1.2	59.4	45	16 42	17 15	17 51	02 55	04 03	05 05	05 59
	09	313 25.3	40.4	168 18.6	5.3	20 33.7	1.4	59.4	S 50	16 25	17 02	17 42	03 11	04 21	05 24	06 16
	10	328 25.3	40.0	182 42.9	5.4	20 32.3	1.5	59.4	52	16 16	16 55	17 38	03 19	04 30	05 32	06 24
	11	343 25.3	39.5	197 07.3	5.3	20 30.8	1.6	59.4	54	16 07	16 49	17 33	03 28	04 40	05 42	06 33
	12	358 25.2	N20 39.0	211 31.6	5.4	S20 29.2	1.8	59.4	56	15 57	16 41	17 28	03 37	04 51	05 54	06 44
	13	13 25.2	38.6	225 56.0	5.4	20 27.4	2.0	59.4	58	15 45	16 33	17 23	03 48	05 03	06 06	06 55
	14	28 25.2	38.1	240 20.4	5.5	20 25.4	2.0	59.4	S 60	15 31	16 23	17 17	04 01	05 18	06 21	07 09
	15	43 25.1	37.6	254 44.9	5.5	20 23.4	2.2	59.3	Día	SOL			LUNA			
	16	58 25.1	37.2	269 09.4	5.5	20 21.2	2.4	59.3	E.T. (-)	Pas. Mer.	Pas. Mer.	Edad.	Fase			
	17	73 25.1	36.7	283 33.9	5.5	20 18.8	2.4	59.3	00 h	12 h	Sup.	Inf.				
	18	88 25.0	N20 36.2	297 58.4	5.6	S20 16.4	2.6	59.3	m s	m s	h m	h m	h m	d		
	19	103 25.0	35.7	312 23.0	5.6	20 13.8	2.8	59.3	06 09	06 11	12 06	20 19	07 50	10	☉	
	20	118 25.0	35.3	3												

T.M.G. (TU)		ARIES			VENUS -4.1			MARTE +1.2			JUPITER -2.1			SATURNO +0.8			ESTRELLAS			
d	h	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.				
21	00	298 32.0	135 45.6	N 8 24.0	228 03.3	N22 02.3		85 09.0	S12 14.6		314 37.0	S 8 52.6		Acamar	315 29.2	S40 19.3				
	01	313 34.4	150 45.5	22.8	243 03.9	02.6		100 11.3	14.7		329 39.5	52.7		Achernar	335 37.2	S57 15.5				
	02	328 36.9	165 45.5	21.6	258 04.6	02.8		115 13.7	14.7		344 42.1	52.7		Acrux	173 25.4	S63 04.5				
	03	343 39.4	180 45.4	20.4	273 05.2	03.1		130 16.0	14.8		359 44.6	52.8		Adhara	255 24.0	S28 57.9				
	04	358 41.8	195 45.3	19.2	288 05.8	03.3		145 18.3	14.8		14 47.2	52.8		Aldebaran	291 05.8	N16 29.9				
	05	13 44.3	210 45.2	18.0	303 06.4	03.6		160 20.7	14.9		29 49.8	52.9								
	06	28 46.8	225 45.2	N 8 16.8	318 07.1	N22 03.9		175 23.0	S12 14.9		44 52.3	S 8 52.9		Alioth	166 33.2	N55 59.6				
	07	43 49.2	240 45.1	15.6	333 07.7	04.1		190 25.3	15.0		59 54.9	53.0		Alkaid	153 10.0	N49 20.7				
	08	58 51.7	255 45.0	14.5	348 08.3	04.4		205 27.7	15.1		74 57.5	53.0		Al Na'ir	28 01.0	S46 58.9				
	JUE	09	73 54.2	270 45.0	13.3	3 08.9	04.6		220 30.0	15.1		90 00.0	53.1		Alnilam	276 01.0	S 1 12.3			
		10	88 56.6	285 44.9	12.1	18 09.6	04.9		235 32.3	15.2		105 02.6	53.1		Alphard	218 10.3	S 8 38.2			
		11	103 59.1	300 44.8	10.9	33 10.2	05.2		250 34.7	15.2		120 05.1	53.2							
		VIE	12	119 01.5	315 44.8	N 8 09.7	48 10.8	N22 05.4		265 37.0	S12 15.3		135 07.7	S 8 53.2		Alphecca	126 22.8	N26 44.2		
			13	134 04.0	330 44.7	08.5	63 11.4	05.7		280 39.3	15.3		150 10.3	53.3		Alpheratz	357 58.0	N29 03.6		
			14	149 06.5	345 44.6	07.3	78 12.1	05.9		295 41.7	15.4		165 12.8	53.3		Altair	62 21.7	N 8 51.4		
			15	164 08.9	0 44.6	06.1	93 12.7	06.2		310 44.0	15.5		180 15.4	53.4		Ankaa	353 29.5	S42 19.8		
			16	179 11.4	15 44.5	04.9	108 13.3	06.4		325 46.3	15.5		195 18.0	53.4		Antares	112 43.4	S26 25.2		
			17	194 13.9	30 44.4	03.7	123 13.9	06.7		340 48.7	15.6		210 20.5	53.5						
			18	209 16.3	45 44.4	N 8 02.5	138 14.5	N22 07.0		355 51.0	S12 15.6		225 23.1	S 8 53.5		Arcturus	146 08.6	N19 12.8		
	19		224 18.8	60 44.3	01.4	153 15.2	07.2		10 53.3	15.7		240 25.7	53.6		Atria	107 57.5	S69 01.2			
	20	239 21.3	75 44.2	8 00.2	168 15.8	07.5		25 55.6	15.7		255 28.2	53.6		Avior	234 24.4	S59 29.7				
	21	254 23.7	90 44.2	7 59.0	183 16.4	07.7		40 58.0	15.8		270 30.8	53.7		Bellatrix	278 47.5	N 6 20.7				
	22	269 26.2	105 44.1	57.8	198 17.0	08.0		56 00.3	15.9		285 33.4	53.7		Betelgeuse	271 16.9	N 7 24.3				
23	284 28.6	120 44.0	56.6	213 17.7	08.2		71 02.6	15.9		300 35.9	53.8									
22	00	299 31.1	135 44.0	N 7 55.4	228 18.3	N22 08.5		86 05.0	S12 16.0		315 38.5	S 8 53.8		Canopus	264 02.9	S52 41.5				
	01	314 33.6	150 43.9	54.2	243 18.9	08.7		101 07.3	16.0		330 41.1	53.9		Capella	280 55.7	N45 59.4				
	02	329 36.0	165 43.8	53.0	258 19.5	09.0		116 09.6	16.1		345 43.6	53.9		Deneb	49 40.6	N45 15.8				
	03	344 38.5	180 43.8	51.8	273 20.2	09.2		131 11.9	16.1		0 46.2	54.0		Denebola	182 48.2	N14 36.2				
	04	359 41.0	195 43.7	50.6	288 20.8	09.5		146 14.3	16.2		15 48.8	54.1		Diphda	349 10.0	S18 00.7				
	05	14 43.4	210 43.7	49.4	303 21.4	09.7		161 16.6	16.3		30 51.3	54.1								
	06	29 45.9	225 43.6	N 7 48.2	318 22.0	N22 10.0		176 18.9	S12 16.3		45 53.9	S 8 54.2		Dubhe	194 09.4	N61 47.0				
	07	44 48.4	240 43.5	47.0	333 22.7	10.3		191 21.2	16.4		60 56.4	54.2		Elnath	278 30.8	N28 36.1				
	08	59 50.8	255 43.5	45.8	348 23.3	10.5		206 23.6	16.4		75 59.0	54.3		Eltanin	90 52.2	N51 29.6				
	VIE	09	74 53.3	270 43.4	44.6	3 23.9	10.8		221 25.9	16.5		91 01.6	54.3		Enif	34 00.7	N 9 51.2			
		10	89 55.8	285 43.4	43.4	18 24.5	11.0		236 28.2	16.6		106 04.2	54.4		Fomalhaut	15 39.3	S29 38.8			
		11	104 58.2	300 43.3	42.2	33 25.2	11.3		251 30.5	16.6		121 06.7	54.4							
		12	120 00.7	315 43.3	N 7 41.0	48 25.8	N22 11.5		266 32.9	S12 16.7		136 09.3	S 8 54.5		Gacrux	172 16.9	S57 05.3			
13		135 03.1	330 43.2	39.8	63 26.4	11.7		281 35.2	16.7		151 11.9	54.5		Gienah	176 07.0	S17 30.8				
SAB	14	150 05.6	345 43.2	38.6	78 27.0	12.0		296 37.5	16.8		166 14.4	54.6		Hadar	149 07.9	S60 21.1				
	15	165 08.1	0 43.1	37.4	93 27.7	12.2		311 39.8	16.9		181 17.0	54.6		Hamal	328 16.8	N23 26.2				
	16	180 10.5	15 43.0	36.2	108 28.3	12.5		326 42.2	16.9		196 19.6	54.7		Kaus Aust.	84 02.2	S34 23.2				
	17	195 13.0	30 43.0	35.0	123 28.9	12.7		341 44.5	17.0		211 22.1	54.7								
	18	210 15.5	45 42.9	N 7 33.8	138 29.5	N22 13.0		356 46.8	S12 17.0		226 24.7	S 8 54.8		Kochab	137 19.2	N74 11.0				
	19	225 17.9	60 42.9	32.7	153 30.1	13.2		11 49.1	17.1		241 27.3	54.8		Markab	13 52.2	N15 10.7				
	20	240 20.4	75 42.8	31.5	168 30.8	13.5		26 51.5	17.2		256 29.8	54.9		Menkar	314 30.0	N 4 04.2				
	21	255 22.9	90 42.8	30.3	183 31.4	13.7		41 53.8	17.2		271 32.4	54.9		Menkent	148 24.2	S36 20.8				
	22	270 25.3	105 42.7	29.1	198 32.0	14.0		56 56.1	17.3		286 35.0	55.0		Miaplacidus	221 43.5	S69 41.9				
	23	285 27.8	120 42.7	27.9	213 32.6	14.2		71 58.4	17.3		301 37.5	55.0								
23	00	300 30.3	135 42.6	N 7 26.7	228 33.3	N22 14.5		87 00.7	S12 17.4		316 40.1	S 8 55.1		Mirfak	309 00.8	N49 50.3				
	01	315 32.7	150 42.6	25.5	243 33.9	14.7		102 03.1	17.5		331 42.7	55.1		Nunki	76 15.5	S26 18.1				
	02	330 35.2	165 42.5	24.3	258 34.5	15.0		117 05.4	17.5		346 45.2	55.2		Peacock	53 40.8	S56 45.0				
	03	345 37.6	180 42.5	23.0	273 35.1	15.2		132 07.7	17.6		1 47.8	55.2		Pollux	243 45.4	N28 02.3				
	04	0 40.1	195 42.5	21.8	288 35.8	15.4		147 10.0	17.6		16 50.4	55.3		Procyon	245 14.8	N 5 14.3				
	05	15 42.6	210 42.4	20.6	303 36.4	15.7		162 12.3	17.7		31 52.9	55.3								
	06	30 45.0	225 42.4	N 7 19.4	318 37.0	N22 15.9		177 14.7	S12 17.8		46 55.5	S 8 55.4		Rasalhague	96 19.3	N12 34.0				
	07	45 47.5	240 42.3	18.2	333 37.6	16.2		192 17.0	17.8		61 58.1	55.4		Regulus	207 58.8	N11 59.6				
	08	60 50.0	255 42.3	17.0	348 38.3	16.4		207 19.3	17.9		77 00.7	55.5		Rigel	281 25.9	S 8 12.4				
	SAB	09	75 52.4	270 42.2	15.8	3 38.9	16.7		222 21.6	18.0		92 03.2	55.5		Rigel Kent.	140 10.9	S60 49.0			
		10	90 54.9	285 42.2	14.6	18 39.5	16.9		237 23.9	18.0		107 05.8	55.6		Sabik	102 28.5	S15 43.0			
		11	105 57.4	300 42.1	13.4	33 40.1	17.1		252 26.3	18.1		122 08.4	55.7							
		12	120 59.8	315 42.1	N 7 12.2	48 40.8	N22 17.4		267 28.6	S12 18.1		137 10.9	S 8 55.7		Schedar	349 56.5	N56 30.3			
13		136 02.3	330 42.1	11.0	63 41.4	17.6		282 30.9	18.2		152 13.5	55.8		Shaula	96 40.8	S37 06.0				
DIO	14	151 04.7	345 42.0	09.8	78 42.0	17.9		297 33.2	18.3		167 16.1	55.8		Sirius	258 46.5	S16 42.5				
	15	166 07.2	0 42.0	08.6	93 42.6	18.1		312 35.5	18.3		182 18.6	55.9		Spica	158 46.2	S11 08.0				
	16	181 09.7	15 41.9	07.4	108 43.3	18.3		327 37.8	18.4		197 21.2	55.9		Suhail	223 03.3	S43 24.8				
	17																			

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna					
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	21	22	23	24	
d h	o / ' / "	o / ' / "	o / ' / "	' / "	o / ' / "	' / "	' / "	h m	h m	h m	h m	h m	h m	h m		
J U E V E S	21 00	178 24.8	N20 33.4	24 26.4	5.9	S19 58.8	3.4	59.2	N 72	□	□	□	■	22 01	21 37	21 22
	01	193 24.8	32.9	38 51.3	5.8	19 55.4	3.6	59.2	N 70	□	□	□	■	21 38	21 25	21 17
	02	208 24.8	32.4	53 16.1	5.9	19 51.8	3.6	59.2	68	///	///	01 12	20 54	21 00	21 01	21 01
	03	223 24.7	31.9	67 41.0	6.0	19 48.2	3.8	59.2	66	///	///	02 04	20 25	20 40	20 48	20 54
	04	238 24.7	31.5	82 06.0	6.0	19 44.4	3.9	59.2	64	///	///	02 36	20 03	20 24	20 37	20 47
	05	253 24.7	31.0	96 31.0	6.0	19 40.5	4.1	59.1	62	///	01 29	02 59	19 45	20 10	20 28	20 41
	06	268 24.6	N20 30.5	110 56.0	6.1	S19 36.4	4.1	59.1	60	///	02 07	03 17	19 31	19 59	20 20	20 37
	07	283 24.6	30.0	125 21.1	6.2	19 32.3	4.3	59.1	N 58	///	02 32	03 32	19 18	19 49	20 13	20 32
	08	298 24.6	29.5	139 46.3	6.2	19 28.0	4.5	59.1	56	01 22	02 52	03 45	19 07	19 41	20 07	20 28
	09	313 24.6	29.1	154 11.5	6.2	19 23.5	4.5	59.1	54	01 56	03 09	03 57	18 57	19 33	20 01	20 25
	10	328 24.5	28.6	168 36.7	6.3	19 19.0	4.7	59.1	52	02 20	03 23	04 07	18 49	19 26	19 56	20 22
	11	343 24.5	28.1	183 02.0	6.4	19 14.3	4.7	59.0	50	02 39	03 35	04 15	18 41	19 20	19 52	20 19
	12	358 24.5	N20 27.6	197 27.4	6.4	S19 09.6	4.9	59.0	45	03 14	03 59	04 34	18 24	19 06	19 42	20 12
	13	13 24.4	27.1	211 52.8	6.5	19 04.7	5.1	59.0	N 40	03 39	04 18	04 49	18 11	18 55	19 33	20 07
	14	28 24.4	26.6	226 18.3	6.6	18 59.6	5.1	59.0	35	03 58	04 33	05 02	17 59	18 46	19 26	20 03
	15	43 24.4	26.2	240 43.9	6.6	18 54.5	5.3	59.0	30	04 14	04 46	05 13	17 49	18 37	19 20	19 59
	16	58 24.3	25.7	255 09.5	6.6	18 49.2	5.4	59.0	20	04 39	05 08	05 32	17 32	18 23	19 09	19 52
	17	73 24.3	25.2	269 35.1	6.8	18 43.8	5.5	58.9	N 10	04 59	05 25	05 48	17 17	18 10	18 59	19 45
	18	88 24.3	N20 24.7	284 00.9	6.7	S18 38.3	5.6	58.9	0	05 15	05 41	06 03	17 02	17 58	18 50	19 40
	19	103 24.3	24.2	298 26.6	6.9	18 32.7	5.7	58.9	S 10	05 30	05 55	06 18	16 48	17 46	18 41	19 34
	20	118 24.2	23.7	312 52.5	6.9	18 27.0	5.8	58.9	20	05 43	06 10	06 34	16 33	17 33	18 32	19 28
	21	133 24.2	23.2	327 18.4	7.0	18 21.2	6.0	58.9	30	05 57	06 26	06 52	16 15	17 18	18 20	19 20
	22	148 24.2	22.8	341 44.4	7.0	18 15.2	6.0	58.8	35	06 04	06 35	07 02	16 05	17 10	18 14	19 16
23	163 24.2	22.3	356 10.4	7.2	18 09.2	6.2	58.8	40	06 11	06 44	07 14	15 53	17 00	18 07	19 12	
V I E R N E S	22 00	178 24.1	N20 21.8	10 36.6	7.1	S18 03.0	6.3	58.8	45	06 19	06 55	07 28	15 40	16 49	17 58	19 06
	01	193 24.1	21.3	25 02.7	7.3	17 56.7	6.4	58.8	S 50	06 28	07 08	07 45	15 23	16 35	17 48	19 00
	02	208 24.1	20.8	39 29.0	7.3	17 50.3	6.5	58.8	52	06 32	07 14	07 53	15 15	16 28	17 43	18 57
	03	223 24.1	20.3	53 55.3	7.4	17 43.8	6.6	58.7	54	06 37	07 21	08 02	15 06	16 21	17 38	18 53
	04	238 24.0	19.8	68 21.7	7.5	17 37.2	6.7	58.7	56	06 41	07 28	08 12	14 56	16 13	17 32	18 50
	05	253 24.0	19.3	82 48.2	7.5	17 30.5	6.8	58.7	58	06 46	07 36	08 23	14 45	16 04	17 25	18 46
	06	268 24.0	N20 18.8	97 14.7	7.6	S17 23.7	6.9	58.7	S 60	06 52	07 45	08 37	14 32	15 53	17 18	18 41
	07	283 24.0	18.3	111 41.3	7.6	17 16.8	7.0	58.6	Lat.	Ocaso Sol	Crepúsculo Civil	Náut.	Ocaso Luna			
	08	298 23.9	17.8	126 07.9	7.8	17 09.8	7.1	58.6	21	h m	h m	h m	h m	h m	h m	h m
	09	313 23.9	17.3	140 34.7	7.8	17 02.7	7.2	58.6	N 72	□	□	□	■	02 37	04 48	
	10	328 23.9	16.8	155 01.5	7.9	16 55.5	7.3	58.6	N 70	□	□	□	■	01 05	03 11	05 06
	11	343 23.9	16.3	169 28.4	8.0	16 48.2	7.4	58.6	68	22 54	///	///	00 02	01 47	03 36	05 21
	12	358 23.8	N20 15.8	183 55.4	8.0	S16 40.8	7.4	58.5	66	22 05	///	///	00 43	02 16	03 55	05 32
	13	13 23.8	15.3	198 22.4	8.1	16 33.4	7.6	58.5	64	21 35	///	///	01 11	02 37	04 10	05 42
	14	28 23.8	14.9	212 49.5	8.2	16 25.8	7.7	58.5	62	21 12	22 39	///	01 32	02 55	04 22	05 50
	15	43 23.8	14.4	227 16.7	8.2	16 18.1	7.8	58.5	60	20 54	22 03	///	01 50	03 09	04 33	05 57
	16	58 23.7	13.9	241 43.9	8.4	16 10.3	7.8	58.4	N 58	20 39	21 38	///	02 04	03 21	04 42	06 04
	17	73 23.7	13.4	256 11.3	8.4	16 02.5	8.0	58.4	56	20 26	21 19	22 47	02 17	03 31	04 50	06 09
	18	88 23.7	N20 12.9	270 38.7	8.5	S15 54.5	8.0	58.4	54	20 15	21 03	22 14	02 28	03 41	04 57	06 14
	19	103 23.7	12.3	285 06.2	8.5	15 46.5	8.1	58.4	52	20 05	20 49	21 51	02 37	03 49	05 04	06 18
	20	118 23.7	11.8	299 33.7	8.7	15 38.4	8.2	58.3	50	19 57	20 37	21 32	02 46	03 56	05 09	06 22
	21	133 23.6	11.3	314 01.4	8.7	15 30.2	8.3	58.3	45	19 38	20 13	20 58	03 04	04 12	05 22	06 31
	22	148 23.6	10.8	328 29.1	8.8	15 21.9	8.3	58.3	N 40	19 23	19 54	20 33	03 19	04 25	05 32	06 38
23	163 23.6	10.3	342 56.9	8.8	15 13.6	8.5	58.3	35	19 11	19 39	20 14	03 31	04 36	05 41	06 44	
S A B A D O	23 00	178 23.6	N20 09.8	357 24.7	9.0	S15 05.1	8.5	58.2	30	19 00	19 26	19 58	03 42	04 45	05 48	06 49
	01	193 23.6	09.3	11 52.7	9.0	14 56.6	8.6	58.2	20	18 41	19 05	19 33	04 01	05 02	06 01	06 59
	02	208 23.5	08.8	26 20.7	9.1	14 48.0	8.7	58.2	N 10	18 25	18 47	19 14	04 17	05 16	06 13	07 07
	03	223 23.5	08.3	40 48.8	9.2	14 39.3	8.7	58.2	0	18 10	18 32	18 58	04 32	05 29	06 23	07 14
	04	238 23.5	07.8	55 17.0	9.2	14 30.6	8.9	58.1	S 10	17 55	18 17	18 43	04 47	05 42	06 34	07 22
	05	253 23.5	07.3	69 45.2	9.4	14 21.7	8.9	58.1	20	17 39	18 03	18 30	05 03	05 56	06 45	07 30
	06	268 23.5	N20 06.8	84 13.6	9.4	S14 12.8	8.9	58.1	30	17 21	17 47	18 16	05 22	06 12	06 58	07 38
	07	283 23.4	06.3	98 42.0	9.4	14 03.9	9.1	58.1	35	17 11	17 38	18 09	05 32	06 22	07 05	07 44
	08	298 23.4	05.8	113 10.4	9.6	13 54.8	9.1	58.0	40	16 59	17 29	18 02	05 44	06 32	07 13	07 49
	09	313 23.4	05.3	127 39.0	9.6	13 45.7	9.2	58.0	45	16 45	17 18	17 54	05 59	06 44	07 23	07 56
	10	328 23.4	04.8	142 07.6	9.7	13 36.5	9.2	58.0	S 50	16 28	17 05	17 45	06 16	06 59	07 35	08 04
	11	343 23.4	04.2	156 36.3	9.8	13 27.3	9.3	57.9	52	16 20	16 59	17 41	06 24	07 06	07 40	08 08
	12	358 23.3	N20 03.7	171 05.1	9.9	S13 18.0	9.4	57.9	54	16 11	16 52	17 37	06 33	07 14	07 46	08 12
	13	13 23.3	03.2	185 34.0	9.9	13 08.6	9.5	57.9	56	16 01	16 45	17 32	06 44	07 22	07 52	08 16
	14	28 23.3	02.7	200 02.9	10.0	12 59.1	9.5	57.9	58	15 50	16 37	17 27	06 55	07 32	08 00	08 21
	15	43 23.3	02.2	214 31.9	10.1	12 49.6	9.5	57.8	S 60	15 37	16 28	17 21	07 09	07 43	08 08	08 27
	16	58 23.3	01.7	229 01.0	10.2	12 40.1	9.6	57.8	Día	SOL		LUNA				
	17	73 23.3	01.2	243 30.2	10.2	12 30.5	9.7	57.8	E.T. (-)	Pas. Mer.	Pas. Mer.		Edad.	Fase		
	18	88 23.2	N20 00.7	257 59.4	10.3	S12 20.8	9.8	57.8	00 h	12 h	Sup.	Inf.				
	19	103 23.2	20 00.1	272 28.7	10.4	12 11.0	9.8	57.7	m s	m s	h m	h m	h m	h m		

T.M.G. (TU)	SOL		LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna								
	A.H.G.	Dec.	A.H.G.	v	Dec.	d		P.H.	Náut.		Civil	24		25		26		27	
												h	m	h	m	h	m	h	m
D O M I N G O	24 00	178 23.2	N19 57.6	344 56.3	10.8	S11 21.5	10.0	57.6	N 72	□	□	□	21 22	21 09	20 57	20 46			
	01	193 23.1	57.0	359 26.1	10.8	11 11.5	10.1	57.6	N 70	□	□	□	21 10	21 04	20 59	20 53			
	02	208 23.1	56.5	13 55.9	10.9	11 01.4	10.2	57.5	68	////	////	01 33	21 01	21 01	21 00	20 59			
	03	223 23.1	56.0	28 25.8	11.0	10 51.2	10.2	57.5	66	////	////	02 16	20 54	20 58	21 01	21 04			
	04	238 23.1	55.5	42 55.8	11.0	10 41.0	10.2	57.5	64	////	00 40	02 45	20 47	20 55	21 02	21 09			
	05	253 23.1	55.0	57 25.8	11.1	10 30.8	10.3	57.4	62	////	01 44	03 06	20 41	20 53	21 03	21 12			
	06	268 23.1	N19 54.4	71 55.9	11.2	S10 20.5	10.3	57.4	60	////	02 17	03 24	20 37	20 50	21 03	21 16			
	07	283 23.1	53.9	86 26.1	11.2	10 10.2	10.4	57.4	N 58	00 37	02 40	03 38	20 32	20 49	21 04	21 19			
	08	298 23.1	53.4	100 56.3	11.3	9 59.8	10.4	57.3	56	01 35	02 59	03 51	20 28	20 47	21 04	21 21			
	09	313 23.0	52.9	115 26.6	11.4	9 49.4	10.4	57.3	54	02 05	03 14	04 01	20 25	20 46	21 05	21 24			
	10	328 23.0	52.3	129 57.0	11.4	9 39.0	10.5	57.3	52	02 27	03 28	04 11	20 22	20 44	21 05	21 26			
	11	343 23.0	51.8	144 27.4	11.5	9 28.5	10.5	57.3	50	02 45	03 39	04 19	20 19	20 43	21 06	21 28			
	12	358 23.0	N19 51.3	158 57.9	11.6	S 9 18.0	10.6	57.2	45	03 18	04 02	04 37	20 12	20 40	21 06	21 32			
	13	13 23.0	50.8	173 28.5	11.6	9 07.4	10.6	57.2	N 40	03 42	04 21	04 52	20 07	20 38	21 07	21 36			
	14	28 23.0	50.2	187 59.1	11.8	8 56.8	10.6	57.2	35	04 01	04 36	05 04	20 03	20 36	21 08	21 39			
	15	43 23.0	49.7	202 29.9	11.7	8 46.2	10.6	57.1	30	04 16	04 48	05 15	19 59	20 34	21 08	21 42			
	16	58 23.0	49.2	217 00.6	11.9	8 35.6	10.7	57.1	20	04 41	05 09	05 33	19 52	20 31	21 09	21 46			
	17	73 23.0	48.7	231 31.5	11.9	8 24.9	10.7	57.1	N 10	05 00	05 26	05 48	19 45	20 29	21 10	21 51			
	18	88 22.9	N19 48.1	246 02.4	11.9	S 8 14.2	10.8	57.1	0	05 15	05 41	06 03	19 40	20 26	21 11	21 55			
	19	103 22.9	47.6	260 33.3	12.1	8 03.4	10.8	57.0	S 10	05 29	05 55	06 17	19 34	20 24	21 12	21 59			
	20	118 22.9	47.1	275 04.4	12.0	7 52.6	10.8	57.0	20	05 42	06 09	06 33	19 28	20 21	21 13	22 03			
	21	133 22.9	46.5	289 35.4	12.2	7 41.8	10.8	57.0	30	05 55	06 24	06 50	19 20	20 18	21 14	22 08			
	22	148 22.9	46.0	304 06.6	12.2	7 31.0	10.8	56.9	35	06 02	06 33	07 00	19 16	20 16	21 15	22 11			
23	163 22.9	45.5	318 37.8	12.3	7 20.2	10.9	56.9	40	06 09	06 42	07 12	19 12	20 14	21 15	22 15				
24	178 22.9	N19 44.9	333 09.1	12.3	S 7 09.3	10.9	56.9	45	06 17	06 53	07 25	19 06	20 12	21 16	22 18				
25 00	178 22.9	44.4	347 40.4	12.4	6 58.4	10.9	56.8	S 50	06 26	07 05	07 41	19 00	20 10	21 17	22 23				
01	193 22.9	43.9	2 11.8	12.4	6 47.5	11.0	56.8	52	06 29	07 11	07 49	18 57	20 08	21 18	22 25				
02	208 22.9	43.3	16 43.2	12.5	6 36.5	10.9	56.8	54	06 33	07 17	07 58	18 53	20 07	21 18	22 28				
03	223 22.9	42.8	31 14.7	12.6	6 25.6	11.0	56.8	56	06 38	07 24	08 07	18 50	20 05	21 19	22 30				
04	238 22.9	42.3	45 46.3	12.6	6 14.6	11.0	56.7	58	06 42	07 32	08 18	18 46	20 04	21 19	22 33				
05	253 22.9	41.7	60 17.9	12.6	S 6 03.6	11.0	56.7	S 60	06 48	07 40	08 31	18 41	20 02	21 20	22 36				
06	268 22.8	41.2	74 49.5	12.8	5 52.6	11.0	56.7												
07	283 22.8	40.7	89 21.3	12.7	5 41.6	11.1	56.6												
08	298 22.8	40.1	103 53.0	12.9	5 30.5	11.0	56.6												
09	313 22.8	39.6	118 24.9	12.8	5 19.5	11.1	56.6												
10	328 22.8	39.1	132 56.7	13.0	5 08.4	11.0	56.6												
11	343 22.8	38.5	147 28.7	12.9	S 4 57.4	11.1	56.5												
12	358 22.8	38.0	162 00.6	13.1	4 46.3	11.1	56.5	N 72	□	□	□	04 48	06 44	08 32	10 16				
13	13 22.8	37.4	176 32.7	13.1	4 35.2	11.1	56.5	N 70	□	□	□	05 06	06 53	08 34	10 12				
14	28 22.8	36.9	191 04.8	13.1	4 24.1	11.2	56.4	68	22 34	////	////	05 21	07 00	08 36	10 08				
15	43 22.8	36.4	205 36.9	13.2	4 12.9	11.1	56.4	66	21 53	////	////	05 32	07 06	08 37	10 04				
16	58 22.8	35.8	220 09.1	13.2	4 01.8	11.1	56.4	64	21 26	23 21	////	05 42	07 11	08 38	10 01				
17	73 22.8	35.3	234 41.3	13.3	3 50.7	11.1	56.3	62	21 05	22 25	////	05 50	07 16	08 39	09 59				
18	88 22.8	34.7	249 13.6	13.3	3 39.6	11.2	56.3	60	20 48	21 54	////	05 57	07 20	08 39	09 57				
19	103 22.8	34.2	263 45.9	13.3	3 28.4	11.1	56.3	N 58	20 33	21 31	23 26	06 04	07 23	08 40	09 55				
20	118 22.8	33.6	278 18.2	13.4	3 17.3	11.2	56.3	56	20 21	21 12	22 35	06 09	07 26	08 41	09 53				
21	133 22.8	33.1	292 50.6	13.5	3 06.1	11.1	56.2	54	20 11	20 57	22 06	06 14	07 29	08 41	09 52				
22	148 22.8	32.5	307 23.1	13.5	2 55.0	11.2	56.2	52	20 01	20 44	21 44	06 18	07 31	08 42	09 50				
23	163 22.8	32.0	321 55.6	13.5	S 2 43.8	11.1	56.2	50	19 53	20 33	21 27	06 22	07 33	08 42	09 49				
24 00	178 22.8	31.5	336 28.1	13.6	2 32.7	11.2	56.1	45	19 35	20 10	20 54	06 31	07 38	08 43	09 46				
01	193 22.8	30.9	351 00.7	13.6	2 21.5	11.1	56.1	N 40	19 21	19 52	20 30	06 38	07 42	08 44	09 44				
02	208 22.8	30.4	5 33.3	13.6	2 10.4	11.1	56.1	35	19 09	19 37	20 11	06 44	07 45	08 45	09 42				
03	223 22.8	29.8	20 05.9	13.7	1 59.3	11.2	56.1	30	18 58	19 24	19 56	06 49	07 48	08 45	09 40				
04	238 22.8	29.3	34 38.6	13.7	1 48.1	11.1	56.0	20	18 40	19 04	19 32	06 59	07 54	08 46	09 37				
05	253 22.8	28.7	49 11.3	13.8	S 1 37.0	11.1	56.0	N 10	18 24	18 47	19 13	07 07	07 58	08 47	09 35				
06	268 22.8	28.2	63 44.1	13.8	1 25.9	11.2	56.0	0	18 10	18 32	18 57	07 14	08 02	08 48	09 32				
07	283 22.8	27.6	78 16.9	13.8	1 14.7	11.1	56.0	S 10	17 56	18 18	18 44	07 22	08 06	08 49	09 30				
08	298 22.8	27.1	92 49.7	13.9	1 03.6	11.1	55.9	20	17 41	18 04	18 31	07 30	08 11	08 49	09 27				
09	313 22.8	26.5	107 22.6	13.9	0 52.5	11.1	55.9	30	17 23	17 49	18 18	07 38	08 16	08 50	09 24				
10	328 22.8	26.0	121 55.5	13.9	0 41.4	11.1	55.9	35	17 13	17 40	18 11	07 44	08 18	08 51	09 22				
11	343 22.8	25.4	136 28.4	14.0	S 0 30.3	11.1	55.8	40	17 02	17 31	18 04	07 49	08 22	08 51	09 20				
12	358 22.8	24.9	151 01.4	14.0	0 19.2	11.1	55.8	45	16 48	17 21	17 56	07 56	08 25	08 52	09 18				
13	13 22.8	24.3	165 34.4	14.0	S 0 08.1	11.0	55.8	S 50	16 32	17 08	17 48	08 04	08 30	08 53	09 15				
14	28 22.8	23.7	180 07.4	14.1	N 0 02.9	11.1	55.8	52	16 24	17 03	17 44	08 08	08 32	08 53	09 14				
15	43 22.8	23.2	194 40.5																

T.M.G. (TU)		ARIES			VENUS -4.2			MARTE +1.2			JUPITER -2.1			SATURNO +0.7			ESTRELLAS							
d	h	A.H.G.		A.H.G.	Dec.	A.H.G.		A.H.G.	Dec.	A.H.G.		A.H.G.	Dec.	A.H.G.		A.H.G.	Dec.	Nombre	A. H. S.	Dec.				
M I E R C U R O S	27 00	304	26.8	135	40.4 N 5	30.3	229	33.4	N22	36.3	90	42.3	S12	23.6	320	47.3	S 9	00.3	Acamar	315	29.1	S40	19.3	
	01	319	29.3	150	40.5	29.1	244	34.0		36.5	105	44.6		23.7	335	49.9		00.3	Achernar	335	37.2	S57	15.5	
	02	334	31.7	165	40.5	27.9	259	34.6		36.7	120	46.9		23.8	350	52.5		00.4	Acrux	173	25.4	S63	04.5	
	03	349	34.2	180	40.5	26.7	274	35.3		36.9	135	49.2		23.8	5	55.0		00.5	Adhara	255	24.0	S28	57.9	
	04	4	36.7	195	40.5	25.4	289	35.9		37.2	150	51.5		23.9	20	57.6		00.5	Aldebaran	291	05.8	N16	29.9	
	05	19	39.1	210	40.5	24.2	304	36.5		37.4	165	53.8		24.0	36	00.2		00.6						
	06	34	41.6	225	40.5 N 5	23.0	319	37.1	N22	37.6	180	56.1	S12	24.1	51	02.8	S 9	00.6	Alioth	166	33.3	N55	59.6	
	07	49	44.1	240	40.5	21.8	334	37.8		37.8	195	58.3		24.1	66	05.4		00.7	Alkaid	153	10.1	N49	20.7	
	08	64	46.5	255	40.5	20.5	349	38.4		38.0	211	00.6		24.2	81	08.0		00.7	Al Na'ir	28	01.0	S46	59.0	
	09	79	49.0	270	40.5	19.3	4	39.0		38.2	226	02.9		24.3	96	10.5		00.8	Alnilam	276	01.0	S 1	12.3	
	10	94	51.4	285	40.5	18.1	19	39.7		38.4	241	05.2		24.3	111	13.1		00.9	Alphard	218	10.3	S 8	38.2	
	11	109	53.9	300	40.5	16.9	34	40.3		38.6	256	07.5		24.4	126	15.7		00.9						
	12	124	56.4	315	40.5 N 5	15.7	49	40.9	N22	38.8	271	09.8	S12	24.5	141	18.3	S 9	01.0	Alphecca	126	22.8	N26	44.2	
	13	139	58.8	330	40.5	14.4	64	41.5		39.0	286	12.1		24.5	156	20.9		01.0	Alpheratz	357	57.9	N29	03.7	
	14	155	01.3	345	40.5	13.2	79	42.2		39.2	301	14.4		24.6	171	23.5		01.1	Altair	62	21.7	N 8	51.4	
	15	170	03.8	0	40.5	12.0	94	42.8		39.4	316	16.7		24.7	186	26.0		01.1	Ankaa	353	29.4	S42	19.8	
	16	185	06.2	15	40.6	10.8	109	43.4		39.6	331	19.0		24.8	201	28.6		01.2	Antares	112	43.4	S26	25.2	
	17	200	08.7	30	40.6	09.5	124	44.1		39.8	346	21.3		24.8	216	31.2		01.3						
	18	215	11.2	45	40.6 N 5	08.3	139	44.7	N22	40.0	1	23.5	S12	24.9	231	33.8	S 9	01.3	Arcturus	146	08.6	N19	12.8	
	19	230	13.6	60	40.6	07.1	154	45.3		40.2	16	25.8		25.0	246	36.4		01.4	Atria	107	57.6	S69	01.2	
	20	245	16.1	75	40.6	05.9	169	45.9		40.5	31	28.1		25.0	261	39.0		01.4	Avior	234	24.4	S59	29.6	
	21	260	18.6	90	40.6	04.6	184	46.6		40.7	46	30.4		25.1	276	41.5		01.5	Bellatrix	278	47.4	N 6	20.7	
	22	275	21.0	105	40.6	03.4	199	47.2		40.9	61	32.7		25.2	291	44.1		01.5	Betelgeuse	271	16.9	N 7	24.3	
23	290	23.5	120	40.6	02.2	214	47.8		41.1	76	35.0		25.3	306	46.7		01.6							
J U E V E S	28 00	305	25.9	135	40.6 N 5	01.0	229	48.5	N22	41.3	91	37.3	S12	25.3	321	49.3	S 9	01.7	Canopus	264	02.9	S52	41.5	
	01	320	28.4	150	40.7	4 59.7	244	49.1		41.5	106	39.6		25.4	336	51.9		01.7	Capella	280	55.7	N45	59.4	
	02	335	30.9	165	40.7	58.5	259	49.7		41.7	121	41.9		25.5	351	54.5		01.8	Deneb	49	40.6	N45	15.8	
	03	350	33.3	180	40.7	57.3	274	50.3		41.9	136	44.1		25.5	6	57.0		01.8	Denebola	182	48.3	N14	36.2	
	04	5	35.8	195	40.7	56.0	289	51.0		42.1	151	46.4		25.6	21	59.6		01.9	Diphda	349	09.9	S18	00.7	
	05	20	38.3	210	40.7	54.8	304	51.6		42.3	166	48.7		25.7	37	02.2		01.9						
	06	35	40.7	225	40.7 N 4	53.6	319	52.2	N22	42.5	181	51.0	S12	25.8	52	04.8	S 9	02.0	Dubhe	194	09.5	N61	46.9	
	07	50	43.2	240	40.8	52.4	334	52.9		42.7	196	53.3		25.8	67	07.4		02.1	Elnath	278	30.8	N28	36.1	
	08	65	45.7	255	40.8	51.1	349	53.5		42.9	211	55.6		25.9	82	10.0		02.1	Eltanin	90	52.3	N51	29.7	
	09	80	48.1	270	40.8	49.9	4	54.1		43.1	226	57.9		26.0	97	12.6		02.2	Enif	34	00.7	N 9	51.2	
	10	95	50.6	285	40.8	48.7	19	54.8		43.3	242	00.2		26.0	112	15.1		02.2	Fomalhaut	15	39.2	S29	38.8	
11	110	53.0	300	40.8	47.5	34	55.4		43.5	257	02.4		26.1	127	17.7		02.3							
S	12	125	55.5	315	40.9 N 4	46.2	49	56.0	N22	43.7	272	04.7	S12	26.2	142	20.3	S 9	02.3	Gacrux	172	16.9	S57	05.3	
	13	140	58.0	330	40.9	45.0	64	56.6		43.9	287	07.0		26.3	157	22.9		02.4	Gienah	176	07.0	S17	30.8	
	14	156	00.4	345	40.9	43.8	79	57.3		44.1	302	09.3		26.3	172	25.5		02.5	Hadar	149	08.0	S60	21.1	
	15	171	02.9	0	40.9	42.5	94	57.9		44.3	317	11.6		26.4	187	28.1		02.5	Hamal	328	16.7	N23	26.2	
	16	186	05.4	15	40.9	41.3	109	58.5		44.4	332	13.9		26.5	202	30.7		02.6	Kaus Aust.	84	02.2	S34	23.2	
	17	201	07.8	30	41.0	40.1	124	59.2		44.6	347	16.1		26.6	217	33.2		02.6						
	18	216	10.3	45	41.0 N 4	38.9	139	59.8	N22	44.8	2	18.4	S12	26.6	232	35.8	S 9	02.7	Kochab	137	19.3	N74	11.0	
	19	231	12.8	60	41.0	37.6	155	00.4		45.0	17	20.7		26.7	247	38.4		02.8	Markab	13	52.2	N15	10.7	
	20	246	15.2	75	41.0	36.4	170	01.0		45.2	32	23.0		26.8	262	41.0		02.8	Menkent	314	29.9	N 4	04.2	
	21	261	17.7	90	41.1	35.2	185	01.7		45.4	47	25.3		26.8	277	43.6		02.9	Menkent	148	24.3	S36	20.8	
	22	276	20.2	105	41.1	33.9	200	02.3		45.6	62	27.6		26.9	292	46.2		02.9	Miaplacidus	221	43.5	S69	41.9	
	23	291	22.6	120	41.1	32.7	215	02.9		45.8	77	29.8		27.0	307	48.8		03.0						
V I E R N E S	29 00	306	25.1	135	41.1 N 4	31.5	230	03.6	N22	46.0	92	32.1	S12	27.1	322	51.3	S 9	03.0	Mirfak	309	00.8	N49	50.3	
	01	321	27.5	150	41.2	30.2	245	04.2		46.2	107	34.4		27.1	337	53.9		03.1	Nunki	76	15.5	S26	18.1	
	02	336	30.0	165	41.2	29.0	260	04.8		46.4	122	36.7		27.2	352	56.5		03.2	Peacock	53	40.8	S56	45.0	
	03	351	32.5	180	41.2	27.8	275	05.5		46.6	137	39.0		27.3	7	59.1		03.2	Pollux	243	45.4	N28	02.3	
	04	6	34.9	195	41.2	26.6	290	06.1		46.8	152	41.2		27.4	23	01.7		03.3	Procyon	245	14.8	N 5	14.3	
	05	21	37.4	210	41.3	25.3	305	06.7		47.0	167	43.5		27.4	38	04.3		03.3						
	06	36	39.9	225	41.3 N 4	24.1	320	07.4	N22	47.2	182	45.8	S12	27.5	53	06.9	S 9	03.4	Rasalhague	96	19.3	N12	34.0	
	07	51	42.3	240	41.3	22.9	335	08.0		47.4	197	48.1		27.6	68	09.5		03.5	Regulus	207	58.8	N11	59.6	
	08	66	44.8	255	41.4	21.6	350	08.6		47.5	212	50.4		27.7	83	12.0		03.5	Rigel	281	25.9	S 8	12.4	

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna				
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.	Civil		27	28	29	30	
d h	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	o / ' / "	h m	h m	h m	h m	h m	h m	h m	h m	
M I E R C O L E S	27 00	178 22.8	N19 18.7	311 05.9	14.3	N 1	41.9	10.9	55.5	N 72	□	□	□	20 46	20 34	20 19	19 58
	01	193 22.8	18.2	325 39.2	14.3	1	52.8	10.9	55.5	N 70	///	///	00 28	20 53	20 48	20 42	20 35
	02	208 22.8	17.6	340 12.5	14.4	2	03.7	10.8	55.5	68	///	///	01 52	20 59	20 59	21 00	21 02
	03	223 22.8	17.1	354 45.9	14.3	2	14.5	10.9	55.5	66	///	///	02 29	21 04	21 09	21 14	21 22
	04	238 22.8	16.5	9 19.2	14.4	2	25.4	10.8	55.4	64	///	01 10	02 54	21 09	21 16	21 26	21 39
	05	253 22.8	15.9	23 52.6	14.4	2	36.2	10.8	55.4	62	///	01 57	03 14	21 12	21 23	21 36	21 52
	06	268 22.8	N19 15.4	38 26.0	14.4	N 2	47.0	10.8	55.4	60	///	02 26	03 31	21 16	21 29	21 45	22 04
	07	283 22.8	14.8	52 59.4	14.5	2	57.8	10.8	55.4	N 58	01 04	02 48	03 44	21 19	21 35	21 52	22 14
	08	298 22.8	14.2	67 32.9	14.4	3	08.6	10.7	55.3	56	01 47	03 06	03 56	21 21	21 39	21 59	22 23
	09	313 22.8	13.7	82 06.3	14.5	3	19.3	10.7	55.3	54	02 14	03 20	04 06	21 24	21 43	22 05	22 31
	10	328 22.8	13.1	96 39.8	14.4	3	30.0	10.7	55.3	52	02 34	03 33	04 15	21 26	21 47	22 11	22 38
	11	343 22.8	12.5	111 13.2	14.5	3	40.7	10.7	55.3	50	02 51	03 44	04 23	21 28	21 51	22 16	22 44
	12	358 22.8	N19 12.0	125 46.7	14.5	N 3	51.4	10.7	55.3	45	03 22	04 06	04 40	21 32	21 58	22 27	22 58
	13	13 22.9	11.4	140 20.2	14.6	4	02.1	10.6	55.2	N 40	03 46	04 24	04 54	21 36	22 05	22 36	23 09
	14	28 22.9	10.9	154 53.8	14.5	4	12.7	10.6	55.2	35	04 04	04 38	05 06	21 39	22 10	22 43	23 19
	15	43 22.9	10.3	169 27.3	14.5	4	23.3	10.5	55.2	30	04 19	04 50	05 16	21 42	22 15	22 50	23 27
	16	58 22.9	09.7	184 00.8	14.6	4	33.8	10.5	55.2	20	04 42	05 10	05 34	21 46	22 24	23 02	23 42
	17	73 22.9	09.1	198 34.4	14.6	4	44.3	10.5	55.1	N 10	05 00	05 27	05 49	21 51	22 31	23 12	23 55
	18	88 22.9	N19 08.6	213 08.0	14.5	N 4	54.8	10.5	55.1	0	05 16	05 41	06 03	21 55	22 38	23 22	24 07
	19	103 22.9	08.0	227 41.5	14.6	5	05.3	10.5	55.1	S 10	05 29	05 55	06 17	21 59	22 45	23 32	24 19
	20	118 22.9	07.4	242 15.1	14.6	5	15.8	10.4	55.1	20	05 42	06 08	06 32	22 03	22 53	23 43	24 33
	21	133 22.9	06.9	256 48.7	14.6	5	26.2	10.3	55.1	30	05 54	06 23	06 48	22 08	23 02	23 55	24 48
	22	148 22.9	06.3	271 22.3	14.6	5	36.5	10.4	55.0	35	06 00	06 31	06 58	22 11	23 07	24 02	00 02
23	163 22.9	05.7	285 55.9	14.6	5	46.9	10.3	55.0	40	06 07	06 40	07 09	22 15	23 13	24 10	00 10	
28 00	178 23.0	N19 05.2	300 29.5	14.6	N 5	57.2	10.3	55.0	45	06 14	06 50	07 22	22 18	23 19	24 19	00 19	
01	193 23.0	04.6	315 03.1	14.6	6	07.5	10.2	55.0	S 50	06 22	07 02	07 37	22 23	23 27	24 31	00 31	
02	208 23.0	04.0	329 36.7	14.7	6	17.7	10.3	55.0	52	06 26	07 07	07 45	22 25	23 31	24 36	00 36	
03	223 23.0	03.4	344 10.4	14.6	6	28.0	10.1	54.9	54	06 30	07 13	07 53	22 28	23 35	24 42	00 42	
04	238 23.0	02.9	358 44.0	14.6	6	38.1	10.2	54.9	56	06 34	07 19	08 02	22 30	23 40	24 48	00 48	
05	253 23.0	02.3	13 17.6	14.6	6	48.3	10.1	54.9	58	06 38	07 27	08 12	22 33	23 45	24 56	00 56	
06	268 23.0	N19 01.7	27 51.2	14.7	N 6	58.4	10.0	54.9	S 60	06 43	07 35	08 24	22 36	23 51	25 04	01 04	
07	283 23.0	01.1	42 24.9	14.6	7	08.4	10.1	54.9									
08	298 23.0	00.6	56 58.5	14.6	7	18.5	10.0	54.8	Lat.	Ocaso Sol	Crepúsculo		Ocaso Luna				
09	313 23.0	19 00.0	71 32.1	14.6	7	28.5	9.9	54.8			Civil	Naut.	27	28	29	30	
10	328 23.1	18 59.4	86 05.7	14.6	7	38.4	9.9	54.8					h m	h m	h m	h m	
11	343 23.1	58.8	100 39.3	14.7	7	48.3	9.9	54.8	N 72	□	□	□	10 16	12 00	13 46	15 40	
12	358 23.1	N18 58.2	115 13.0	14.6	N 7	58.2	9.9	54.8	N 70	23 25	///	///	10 12	11 48	13 24	15 03	
13	13 23.1	57.7	129 46.6	14.6	8	08.1	9.8	54.8	68	22 16	///	///	10 08	11 38	13 08	14 38	
14	28 23.1	57.1	144 20.2	14.6	8	17.9	9.7	54.7	66	21 41	///	///	10 04	11 30	12 54	14 18	
15	43 23.1	56.5	158 53.8	14.6	8	27.6	9.7	54.7	64	21 16	22 56	///	10 01	11 23	12 43	14 02	
16	58 23.1	55.9	173 27.4	14.6	8	37.3	9.7	54.7	62	20 57	22 12	///	09 59	11 17	12 34	13 49	
17	73 23.2	55.3	188 01.0	14.6	8	47.0	9.6	54.7	60	20 41	21 44	///	09 57	11 12	12 26	13 38	
18	88 23.2	N18 54.8	202 34.6	14.6	N 8	56.6	9.6	54.7	N 58	20 27	21 23	23 03	09 55	11 08	12 19	13 29	
19	103 23.2	54.2	217 08.2	14.5	9	06.2	9.5	54.7	56	20 16	21 06	22 23	09 53	11 04	12 13	13 21	
20	118 23.2	53.6	231 41.7	14.6	9	15.7	9.5	54.6	54	20 06	20 51	21 57	09 52	11 00	12 07	13 13	
21	133 23.2	53.0	246 15.3	14.5	9	25.2	9.5	54.6	52	19 57	20 39	21 37	09 50	10 57	12 02	13 07	
22	148 23.2	52.4	260 48.8	14.6	9	34.7	9.4	54.6	50	19 49	20 28	21 21	09 49	10 54	11 58	13 01	
23	163 23.2	51.8	275 22.4	14.5	9	44.1	9.4	54.6	45	19 32	20 06	20 49	09 46	10 48	11 48	12 48	
29 00	178 23.3	N18 51.3	289 55.9	14.5	N 9	53.5	9.3	54.6	N 40	19 18	19 49	20 27	09 44	10 43	11 40	12 37	
01	193 23.3	50.7	304 29.4	14.5	10	02.8	9.2	54.6	35	19 06	19 34	20 09	09 42	10 38	11 33	12 28	
02	208 23.3	50.1	319 02.9	14.5	10	12.0	9.3	54.6	30	18 56	19 22	19 54	09 40	10 34	11 27	12 20	
03	223 23.3	49.5	333 36.4	14.5	10	21.3	9.1	54.6	20	18 39	19 03	19 30	09 37	10 27	11 17	12 07	
04	238 23.3	48.9	348 09.9	14.5	10	30.4	9.2	54.5	N 10	18 24	18 46	19 12	09 35	10 21	11 08	11 55	
05	253 23.3	48.3	2 43.4	14.4	10	39.6	9.0	54.5	0	18 10	18 32	18 57	09 32	10 16	10 59	11 44	
06	268 23.4	N18 47.7	17 16.8	14.5	N10	48.6	9.1	54.5	S 10	17 56	18 18	18 44	09 30	10 10	10 51	11 33	
07	283 23.4	47.1	31 50.3	14.4	10	57.7	8.9	54.5	20	17 42	18 05	18 32	09 27	10 04	10 42	11 21	
08	298 23.4	46.5	46 23.7	14.4	11	06.6	8.9	54.5	30	17 25	17 50	18 19	09 24	09 57	10 32	11 07	
09	313 23.4	46.0	60 57.1	14.4	11	15.5	8.9	54.5	35	17 15	17 42	18 13	09 22	09 53	10 26	11 00	
10	328 23.4	45.4	75 30.5	14.3	11	24.4	8.8	54.5	40	17 04	17 33	18 06	09 20	09 49	10 19	10 51	
11	343 23.5	44.8	90 03.8	14.4	11	33.2	8.8	54.5	45	16 52	17 23	17 59	09 18	09 44	10 11	10 41	
12	358 23.5	N18 44.2	104 37.2	14.3	N11	42.0	8.7	54.4	S 50	16 36	17 12	17 51	09 15	09 38	10 02	10 28	
13	13 23.5	43.6	119 10.5	14.3	11	50.7	8.7	54.4	52	16 29	17 06	17 48	09 14	09 35	09 57	10 22	
14	28 23.5	43.0	133 43.8	14.3	11	59.4	8.6	54.4	54	16 21	17 00	17 44	09 13	09 32	09 53	10 16	
15	43 23.5	42.4	148 17.1	14.3	12	08.0	8.6	54.4	56	16 11	16 54	17 40	09 11	09 29	09 47	10 09	
16	58 23.6	41.8	162 50.4	14.3	12	16.6	8.5	54.4	58	16 01	16 47	17 36	09 10	09 25	09 42	10 01	
17	73 23.6	41.2	177 23.7	14.2</													

T.M.G. (TU)	ARIES			VENUS -4.2			MARTE +1.2			JUPITER -2.0			SATURNO +0.7			ESTRELLAS															
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	Dec.													
30	00	307 24.2	135 41.9 N 4	01.9	230 18.7 N22	50.5	93 26.8 S12	28.9	323 53.5 S 9	04.5	Acamar	315 29.1 S40	19.3																		
	01	322 26.7	150 42.0	4 00.7	245 19.3	50.7	108 29.1	28.9	338 56.1	04.5	Achernar	335 37.1 S57	15.5																		
	02	337 29.1	165 42.0	3 59.5	260 20.0	50.9	123 31.4	29.0	353 58.6	04.6	Acrux	173 25.4 S63	04.5																		
	03	352 31.6	180 42.0	58.2	275 20.6	51.1	138 33.6	29.1	9 01.2	04.6	Adhara	255 24.0 S28	57.9																		
	04	7 34.1	195 42.1	57.0	290 21.2	51.3	153 35.9	29.2	24 03.8	04.7	Aldebaran	291 05.8 N16	29.9																		
	05	22 36.5	210 42.1	55.8	305 21.9	51.5	168 38.2	29.2	39 06.4	04.8																					
	06	37 39.0	225 42.1 N 3	54.5	320 22.5 N22	51.6	183 40.5 S12	29.3	54 09.0 S 9	04.8	Alioth	166 33.3 N55	59.6																		
	07	52 41.5	240 42.2	53.3	335 23.1	51.8	198 42.7	29.4	69 11.6	04.9	Alkaid	153 10.1 N49	20.7																		
	08	67 43.9	255 42.2	52.1	350 23.8	52.0	213 45.0	29.5	84 14.2	04.9	Al Na'ir	28 01.0 S46	59.0																		
	S 09	82 46.4	270 42.3	50.8	5 24.4	52.2	228 47.3	29.5	99 16.8	05.0	Alnilam	276 01.0 S 1	12.3																		
	A 10	97 48.9	285 42.3	49.6	20 25.0	52.4	243 49.6	29.6	114 19.4	05.1	Alphard	218 10.3 S 8	38.2																		
	B 11	112 51.3	300 42.4	48.4	35 25.7	52.6	258 51.8	29.7	129 22.0	05.1																					
	A 12	127 53.8	315 42.4 N 3	47.1	50 26.3 N22	52.7	273 54.1 S12	29.8	144 24.6 S 9	05.2	Alphecca	126 22.9 N26	44.2																		
	D 13	142 56.3	330 42.4	45.9	65 26.9	52.9	288 56.4	29.8	159 27.1	05.2	Alpheratz	357 57.9 N29	03.7																		
	O 14	157 58.7	345 42.5	44.6	80 27.6	53.1	303 58.6	29.9	174 29.7	05.3	Altair	62 21.7 N 8	51.5																		
	15	173 01.2	0 42.5	43.4	95 28.2	53.3	319 00.9	30.0	189 32.3	05.4	Ankaa	353 29.4 S42	19.8																		
	16	188 03.6	15 42.6	42.2	110 28.8	53.5	334 03.2	30.1	204 34.9	05.4	Antares	112 43.4 S26	25.2																		
	17	203 06.1	30 42.6	40.9	125 29.5	53.6	349 05.5	30.1	219 37.5	05.5																					
	18	218 08.6	45 42.7 N 3	39.7	140 30.1 N22	53.8	4 07.7 S12	30.2	234 40.1 S 9	05.5	Arcturus	146 08.6 N19	12.8																		
	19	233 11.0	60 42.7	38.5	155 30.7	54.0	19 10.0	30.3	249 42.7	05.6	Atria	107 57.6 S69	01.3																		
	20	248 13.5	75 42.8	37.2	170 31.4	54.2	34 12.3	30.4	264 45.3	05.7	Avior	234 24.4 S59	29.6																		
	21	263 16.0	90 42.8	36.0	185 32.0	54.3	49 14.5	30.5	279 47.9	05.7	Bellatrix	278 47.4 N 6	20.7																		
	22	278 18.4	105 42.9	34.8	200 32.6	54.5	64 16.8	30.5	294 50.5	05.8	Betelgeuse	271 16.9 N 7	24.3																		
23	293 20.9	120 42.9	33.5	215 33.3	54.7	79 19.1	30.6	309 53.1	05.8																						
31	00	308 23.4	135 43.0 N 3	32.3	230 33.9 N22	54.9	94 21.3 S12	30.7	324 55.7 S 9	05.9	Canopus	264 02.9 S52	41.5																		
	01	323 25.8	150 43.0	31.1	245 34.5	55.1	109 23.6	30.8	339 58.2	06.0	Capella	280 55.7 N45	59.4																		
	02	338 28.3	165 43.1	29.8	260 35.2	55.2	124 25.9	30.8	355 00.8	06.0	Deneb	49 40.6 N45	15.8																		
	03	353 30.8	180 43.1	28.6	275 35.8	55.4	139 28.1	30.9	10 03.4	06.1	Denebola	182 48.3 N14	36.2																		
	04	8 33.2	195 43.2	27.3	290 36.4	55.6	154 30.4	31.0	25 06.0	06.2	Diphda	349 09.9 S18	00.7																		
	05	23 35.7	210 43.2	26.1	305 37.1	55.8	169 32.7	31.1	40 08.6	06.2																					
	06	38 38.1	225 43.3 N 3	24.9	320 37.7 N22	55.9	184 35.0 S12	31.2	55 11.2 S 9	06.3	Dubhe	194 09.5 N61	46.9																		
	07	53 40.6	240 43.3	23.6	335 38.3	56.1	199 37.2	31.2	70 13.8	06.3	Elnath	278 30.8 N28	36.1																		
	08	68 43.1	255 43.4	22.4	350 39.0	56.3	214 39.5	31.3	85 16.4	06.4	Eltanin	90 52.3 N51	29.7																		
	09	83 45.5	270 43.4	21.2	5 39.6	56.5	229 41.8	31.4	100 19.0	06.5	Enif	34 00.7 N 9	51.2																		
	10	98 48.0	285 43.5	19.9	20 40.2	56.6	244 44.0	31.5	115 21.6	06.5	Fomalhaut	15 39.2 S29	38.8																		
	11	113 50.5	300 43.5	18.7	35 40.9	56.8	259 46.3	31.5	130 24.2	06.6																					
	12	128 52.9	315 43.6 N 3	17.5	50 41.5 N22	57.0	274 48.6 S12	31.6	145 26.8 S 9	06.6	Gacrux	172 16.9 S57	05.3																		
	13	143 55.4	330 43.6	16.2	65 42.1	57.1	289 50.8	31.7	160 29.4	06.7	Gienah	176 07.0 S17	30.8																		
	14	158 57.9	345 43.7	15.0	80 42.8	57.3	304 53.1	31.8	175 32.0	06.8	Hadar	149 08.0 S60	21.1																		
	15	174 00.3	0 43.8	13.7	95 43.4	57.5	319 55.3	31.9	190 34.6	06.8	Hamal	328 16.7 N23	26.2																		
	16	189 02.8	15 43.8	12.5	110 44.0	57.7	334 57.6	31.9	205 37.2	06.9	Kaus Aust.	84 02.2 S34	23.2																		
	17	204 05.2	30 43.9	11.3	125 44.7	57.8	349 59.9	32.0	220 39.7	06.9																					
	18	219 07.7	45 43.9 N 3	10.0	140 45.3 N22	58.0	5 02.1 S12	32.1	235 42.3 S 9	07.0	Kochab	137 19.4 N74	11.0																		
	19	234 10.2	60 44.0	08.8	155 45.9	58.2	20 04.4	32.2	250 44.9	07.1	Markab	13 52.1 N15	10.7																		
	20	249 12.6	75 44.0	07.5	170 46.6	58.3	35 06.7	32.3	265 47.5	07.1	Menkar	314 29.9 N 4	04.2																		
	21	264 15.1	90 44.1	06.3	185 47.2	58.5	50 08.9	32.3	280 50.1	07.2	Menkent	148 24.3 S36	20.8																		
	22	279 17.6	105 44.2	05.1	200 47.8	58.7	65 11.2	32.4	295 52.7	07.3	Miaplacidus	221 43.5 S69	41.9																		
23	294 20.0	120 44.2	03.8	215 48.5	58.8	80 13.5	32.5	310 55.3	07.3																						
1	00	309 22.5	135 44.3 N 3	02.6	230 49.1 N22	59.0	95 15.7 S12	32.6	325 57.9 S 9	07.4	Mirfak	309 00.7 N49	50.3																		
	01	324 25.0	150 44.3	01.4	245 49.7	59.2	110 18.0	32.7	341 00.5	07.4	Nunki	76 15.5 S26	18.1																		
	02	339 27.4	165 44.4	00.1	260 50.4	59.3	125 20.2	32.7	356 03.1	07.5	Peacock	53 40.8 S56	45.0																		
	03	354 29.9	180 44.5	2 58.9	275 51.0	59.5	140 22.5	32.8	11 05.7	07.6	Pollux	243 45.4 N28	02.3																		
	04	9 32.4	195 44.5	57.6	290 51.7	59.7	155 24.8	32.9	26 08.3	07.6	Procyon	245 14.8 N 5	14.3																		
	05	24 34.8	210 44.6	56.4	305 52.3	59.8	170 27.0	33.0	41 10.9	07.7																					
	06	39 37.3	225 44.7 N 2	55.2	320 52.9 N23	00.0	185 29.3 S12	33.0	56 13.5 S 9	07.7	Rasalhague	96 19.3 N12	34.0																		
	07	54 39.7	240 44.7	53.9	335 53.6	00.2	200 31.6	33.1	71 16.1	07.8	Regulus	207 58.8 N11	59.6																		
	08	69 42.2	255 44.8	52.7	350 54.2	00.3	215 33.8	33.2	86 18.7	07.9	Rigel	281 25.9 S 8	12.4																		
	L 09	84 44.7	270 44.9	51.4	5 54.8	00.5	230 36.1	33.3	101 21.3	07.9	Rigel Kent.	140 11.0 S60	49.0																		
	10	99 47.1	285 44.9	50.2	20 55.5	00.7	245 38.3	33.4	116 23.9	08.0	Sabik	102 28.5 S15	43.0																		
	11	114 49.6	300 45.0	49.0	35 56.1	00.8	260 40.6	33.5	131 26.5	08.1																					
	12	129 52.1	315 45.1 N 2	47.7	50 56.7 N23	01.0	275 42.9 S12	33.5	146 29.1 S 9	08.1	Schedar	349 56.4 N56	30.3																		
	13	144 54.5	330 45.1	46.5	65 57.4	01.2	290 45.1	33.6	161 31.7	08.2	Shaula	96 40.8 S37	06.0																		
	14	159 57.0	345 45.2	45.2	80 58.0	01.3	305 47.4	33.7	176 34.3	08.2	Sirius	258 46.5 S16	42.5																		
	15	174 59.5	0 45.3	44.0	95 58.6	01.5	320 49.6	33.8	191 36.9	08.3	Spica	158 46.2 S11	08.0																		
	16	190 01.9	15 45.3	42.8	110 59.3	01.6	335 51.9	33.9	206 39.5	08.4	Suhail	223 03.3 S43	24.8																		
	17	205 04.4	30 45.4	41.5	125 59.9	01.8	350 54.2	33.9	221 42.0	08.4																					
	18	220 06.9	45 45.5 N 2	40.3	141 00.6 N23	02.0	5 56.4 S12	34.0	236 44.6 S 9	08.5	Vega	80 48.1 N38	47.0																		
	19	235 09.3	60 45.5	39.0	156 01.2	02.1	20 58.7	34.1	251 47.2	08.5	Zuben'ubi	137 21.0 S16	01.2																		
	20	250 11.8	75 45.6	37.8	171 01.8	02.3	36 00.9	34.2	266 49.8	08.6																					
	21	265 14.2	90 45.7	36.6	186 02.5	02.5	51 03.2	34.3	281 52.4	08.7																					
	22	280 16.7	105 45.7	35.3	201 03.1	02.6	66 05.4	34.3	296 55.0	08.7																					
23	295 19.2	120 45.8	34.1	216 03.7	02.8	81 07.7	34.4	311 57.6	08.8																						
Pas. Mer. 3 25.9		v 0.1 d 1.2			v 0.6 d 0.2			v 2.3 d 0.1			v 2.6 d 0.1			<table border="0"> <tr> <td></td> <td>A. H. S.</td> <td>Pas. Mer.</td> </tr> <tr> <td>Venus</td> <td>187 19.6</td> <td>14 57</td> </tr> <tr> <td>Marte</td> <td>282 10.5</td> <td>8 37</td> </tr> <tr> <td>Júpiter</td> <td>145 58.0</td> <td>17 40</td> </tr> <tr> <td>Saturno</td> <td>16 32.3</td> <td>2 20</td> </tr> </table>				A. H. S.	Pas. Mer.	Venus	187 19.6	14 57	Marte	282 10.5	8 37	Júpiter	145 58.0	17 40	Saturno	16 32.3	2 20
	A. H. S.	Pas. Mer.																													
Venus	187 19.6	14 57																													
Marte	282 10.5	8 37																													
Júpiter	145 58.0	17 40																													
Saturno	16 32.3	2 20																													

T.M.G. (TU)	SOL				LUNA				Lat.	Crepúsculo		Orto Sol	Orto Luna														
	A.H.G.		Dec.		A.H.G.		Dec.			Naut.	Civil		30		31		1		2								
	o	'	o	'	o	'	o	'				h	m	h	m	h	m	h	m	h	m	h	m				
30	00	178	23.7	N18	37.0	279	15.8	14.1	N13	23.0	8.0	54.3	N 72	□	□	□	19	58	□	□	□	□					
	01	193	23.7		36.4	293	48.9	14.0	13	31.0	8.0	54.3	N 70	///	///	01	14	20	35	20	27	20	09				
	02	208	23.8		35.8	308	21.9	14.0	13	39.0	7.9	54.3	68	///	///	02	08	21	02	21	08	21	21	21	51		
	03	223	23.8	..	35.2	322	54.9	14.0	13	46.9	7.9	54.3	66	///	///	02	40	21	22	21	35	21	58	22	35		
	04	238	23.8		34.6	337	27.9	14.0	13	54.8	7.8	54.3	64	///	01	32	03	04	21	39	21	57	22	24	23	04	
	05	253	23.8		34.0	352	00.9	13.9	14	02.6	7.7	54.3	62	///	02	10	03	22	21	52	22	14	22	44	23	26	
	06	268	23.9	N18	33.4	6	33.8	13.9	N14	10.3	7.7	54.3	60	///	02	36	03	38	22	04	22	28	23	01	23	44	
	07	283	23.9		32.8	21	06.7	13.9	14	18.0	7.6	54.3	N 58	01	23	02	56	03	50	22	14	22	41	23	15	23	59
	08	298	23.9		32.2	35	39.6	13.8	14	25.6	7.6	54.3	56	01	58	03	12	04	01	22	23	22	51	23	27	24	12
	S 09	313	23.9	..	31.6	50	12.4	13.9	14	33.2	7.5	54.3	54	02	22	03	26	04	11	22	31	23	01	23	38	24	23
	A 10	328	24.0		31.0	64	45.3	13.7	14	40.7	7.4	54.3	52	02	41	03	38	04	20	22	38	23	09	23	47	24	33
	B 11	343	24.0		30.4	79	18.0	13.8	14	48.1	7.4	54.3	50	02	57	03	48	04	27	22	44	23	17	23	56	24	41
	A 12	358	24.0	N18	29.8	93	50.8	13.7	N14	55.5	7.3	54.3	45	03	27	04	10	04	44	22	58	23	33	24	13	00	13
	D 13	13	24.0		29.2	108	23.5	13.7	15	02.8	7.2	54.3	N 40	03	49	04	27	04	57	23	09	23	46	24	28	00	28
	O 14	28	24.1		28.6	122	56.2	13.7	15	10.0	7.2	54.3	35	04	07	04	40	05	08	23	19	23	58	24	40	00	40
	15	43	24.1	..	28.0	137	28.9	13.7	15	17.2	7.1	54.3	30	04	21	04	52	05	18	23	27	24	07	00	07	00	51
	16	58	24.1		27.4	152	01.6	13.6	15	24.3	7.0	54.3	20	04	44	05	11	05	35	23	42	24	25	00	25	01	10
	17	73	24.1		26.8	166	34.2	13.5	15	31.3	7.0	54.3	N 10	05	01	05	27	05	49	23	55	24	40	00	40	01	26
	18	88	24.2	N18	26.2	181	06.7	13.6	N15	38.3	6.9	54.3	0	05	16	05	41	06	03	24	07	00	07	00	54	01	42
	19	103	24.2		25.6	195	39.3	13.5	15	45.2	6.8	54.3	S 10	05	29	05	54	06	16	24	19	00	19	01	08	01	57
	20	118	24.2		25.0	210	11.8	13.5	15	52.0	6.8	54.3	20	05	41	06	07	06	30	24	33	00	33	01	23	02	13
	21	133	24.2	..	24.4	224	44.3	13.4	15	58.8	6.7	54.3	30	05	52	06	21	06	46	24	48	00	48	01	40	02	32
	22	148	24.3		23.7	239	16.7	13.4	16	05.5	6.6	54.3	35	05	58	06	29	06	56	00	02	00	56	01	50	02	43
23	163	24.3		23.1	253	49.1	13.4	16	12.1	6.6	54.3	40	06	04	06	37	07	06	00	10	01	06	02	02	02	56	
31	00	178	24.3	N18	22.5	268	21.5	13.3	N16	18.7	6.4	54.3	45	06	11	06	47	07	18	00	19	01	18	02	16	03	11
01	193	24.4		21.9	282	53.8	13.4	16	25.1	6.4	54.3	S 50	06	19	06	58	07	33	00	31	01	33	02	32	03	29	
02	208	24.4		21.3	297	26.2	13.2	16	31.5	6.4	54.3	52	06	22	07	03	07	40	00	36	01	39	02	40	03	38	
03	223	24.4	..	20.7	311	58.4	13.3	16	37.9	6.3	54.3	54	06	25	07	09	07	48	00	42	01	47	02	49	03	48	
04	238	24.4		20.1	326	30.7	13.2	16	44.2	6.1	54.3	56	06	29	07	15	07	57	00	48	01	55	02	59	03	59	
05	253	24.5		19.5	341	02.9	13.1	16	50.3	6.2	54.3	58	06	33	07	21	08	06	00	56	02	05	03	10	04	11	
06	268	24.5	N18	18.8	355	35.0	13.2	N16	56.5	6.0	54.3	S 60	06	37	07	29	08	18	01	04	02	16	03	24	04	26	
07	283	24.5		18.2	10	07.2	13.1	17	02.5	6.0	54.3																
08	298	24.6		17.6	24	39.3	13.0	17	08.5	5.9	54.3	Lat.	Ocaso Sol	Crepúsculo Civil	Naut.	Ocaso Luna											
09	313	24.6	..	17.0	39	11.3	13.1	17	14.4	5.8	54.3																
10	328	24.6		16.4	53	43.4	12.9	17	20.2	5.8	54.3																
11	343	24.7		15.8	68	15.3	13.0	17	26.0	5.6	54.3																
12	358	24.7	N18	15.1	82	47.3	12.9	N17	31.6	5.6	54.3	N 72	□	□	□	15	40	□	□	□	□	□	□	□	□	□	
13	13	24.7		14.5	97	19.2	12.9	17	37.2	5.5	54.3	N 70	22	50	///	///	15	03	16	47	18	44	□	□	□	□	
14	28	24.7		13.9	111	51.1	12.8	17	42.7	5.5	54.3	68	22	00	///	///	14	38	16	07	17	33	18	44	□	□	
15	43	24.8	..	13.3	126	22.9	12.8	17	48.2	5.3	54.3	66	21	29	///	///	14	18	15	40	16	56	18	01	□	□	
16	58	24.8		12.7	140	54.7	12.8	17	53.5	5.3	54.3	64	21	06	22	36	///	///	14	02	15	19	16	30	17	31	
17	73	24.8		12.1	155	26.5	12.7	17	58.8	5.2	54.3	62	20	48	22	00	///	///	13	49	15	02	16	10	17	09	
18	88	24.9	N18	11.4	169	58.2	12.7	N18	04.0	5.1	54.3	60	20	33	21	34	///	///	13	38	14	48	15	53	16	52	
19	103	24.9		10.8	184	29.9	12.7	18	09.1	5.1	54.3	N 58	20	21	21	15	22	45	13	29	14	36	15	40	16	37	
20	118	24.9		10.2	199	01.6	12.6	18	14.2	4.9	54.3	56	20	10	20	59	22	12	13	21	14	26	15	28	16	24	
21	133	25.0	..	09.6	213	33.2	12.5	18	19.1	4.9	54.3	54	20	00	20	45	21	48	13	13	14	17	15	17	16	13	
22	148	25.0		08.9	228	04.7	12.6	18	24.0	4.8	54.3	52	19	52	20	33	21	30	13	07	14	09	15	08	16	03	
23	163	25.0		08.3	242	36.3	12.5	18	28.8	4.7	54.3	50	19	44	20	23	21	14	13	01	14	01	15	00	15	54	
1	00	178	25.1	N18	07.7	257	07.8	12.4	N18	33.5	4.7	54.4	45	19	28	20	02	20	45	12	48	13	46	14	42	15	36
01	193	25.1		07.1	271	39.2	12.5	18	38.2	4.5	54.4	N 40	19	15	19	45	20	23	12	37	13	33	14	28	15	21	
02	208	25.1		06.5	286	10.7	12.4	18	42.7	4.5	54.4	35	19	04	19	32	20	06	12	28	13	22	14	16	15	08	
03	223	25.2	..	05.8	300	42.1	12.3	18	47.2	4.4	54.4	30	18	54	19	20	19	51	12	20	13	13	14	05	14	57	
04	238	25.2		05.2	315	13.4	12.3	18	51.6	4.3	54.4	20	18	38	19	01	19	29	12	07	12	57	13	47	14	38	
05	253	25.3		04.6	329	44.7	12.3	18	55.9	4.2	54.4	N 10	18	23	18	45	19	11	11	55	12	43	13	31	14	21	
06	268	25.3	N18	04.0	344	16.0	12.2	N19	00.1	4.1	54.4	0	18	10	18	32	18	57	11	44	12	29	13	17	14	05	
07	283	25.3		03.3	358	47.2	12.2	19	04.2	4.0	54.4	S 10	17	57	18	19	18	44	11	33	12	16	13	02	13	50	
08	298	25.4		02.7	13	18.4	12.2	19	08.2	4.0	54.4	20	17	43	18	06	18	32	11	21	12	02	12	46	13	33	
09	313	25.4	..	02.1	27	49.6	12.1	19	12.2	3.9	54.4	30	17	27	17	52	18	21	11	07	11	46	12	28	13	14	
10	328	25.4		01.4	42	20.7	12.1	19	16.1	3.7	54.4	35	17	18	17	44	18										

T.M.G. (TU)	ARIES			VENUS -4.2			MARTE +1.2			JUPITER -2.0			SATURNO +0.7			ESTRELLAS		
	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	A.H.G.	A.H.G.	Dec.	Nombre	A. H. S.	A. H. S.	Dec.		
M A R T E S	d h																	
	2 00	310 21.6	135 45.9 N 2	32.8	231 04.4 N23	02.9	96 10.0 S12	34.5	327 00.2 S	9 08.9	Acamar	315 29.1 S40	19.3					
	01	325 24.1	150 46.0	31.6	246 05.0	03.1	111 12.2	34.6	342 02.8	08.9	Achernar	335 37.1 S57	15.5					
	02	340 26.6	165 46.0	30.4	261 05.6	03.3	126 14.5	34.7	357 05.4	09.0	Acrux	173 25.5 S63	04.4					
	03	355 29.0	180 46.1	29.1	276 06.3	03.4	141 16.7	34.7	12 08.0	09.0	Adhara	255 24.0 S28	57.8					
	04	10 31.5	195 46.2	27.9	291 06.9	03.6	156 19.0	34.8	27 10.6	09.1	Aldebaran	291 05.8 N16	29.9					
	05	25 34.0	210 46.2	26.6	306 07.6	03.7	171 21.2	34.9	42 13.2	09.2								
	06	40 36.4	225 46.3 N 2	25.4	321 08.2 N23	03.9	186 23.5 S12	35.0	57 15.8 S	9 09.2	Alioth	166 33.3 N55	59.6					
	07	55 38.9	240 46.4	24.2	336 08.8	04.0	201 25.7	35.1	72 18.4	09.3	Alkaid	153 10.1 N49	20.7					
	08	70 41.3	255 46.5	22.9	351 09.5	04.2	216 28.0	35.2	87 21.0	09.4	Al Na'ir	28 01.0 S46	59.0					
	09	85 43.8	270 46.5	21.7	6 10.1	04.4	231 30.3	35.2	102 23.6	09.4	Alnilam	276 00.9 S 1	12.3					
	10	100 46.3	285 46.6	20.4	21 10.7	04.5	246 32.5	35.3	117 26.2	09.5	Alphard	218 10.3 S 8	38.2					
	11	115 48.7	300 46.7	19.2	36 11.4	04.7	261 34.8	35.4	132 28.8	09.6								
	12	130 51.2	315 46.8 N 2	18.0	51 12.0 N23	04.8	276 37.0 S12	35.5	147 31.4 S	9 09.6	Alphecca	126 22.9 N26	44.2					
	13	145 53.7	330 46.9	16.7	66 12.7	05.0	291 39.3	35.6	162 34.0	09.7	Alpheratz	357 57.9 N29	03.7					
	14	160 56.1	345 46.9	15.5	81 13.3	05.1	306 41.5	35.7	177 36.6	09.7	Altair	62 21.7 N 8	51.5					
	15	175 58.6	0 47.0	14.2	96 13.9	05.3	321 43.8	35.7	192 39.2	09.8	Ankaa	353 29.4 S42	19.8					
	16	191 01.1	15 47.1	13.0	111 14.6	05.4	336 46.0	35.8	207 41.8	09.9	Antares	112 43.4 S26	25.2					
	17	206 03.5	30 47.2	11.7	126 15.2	05.6	351 48.3	35.9	222 44.4	09.9								
	18	221 06.0	45 47.3 N 2	10.5	141 15.8 N23	05.7	6 50.5 S12	36.0	237 47.0 S	9 10.0	Arcturus	146 08.6 N19	12.8					
	19	236 08.5	60 47.3	09.3	156 16.5	05.9	21 52.8	36.1	252 49.6	10.1	Atria	107 57.6 S69	01.3					
	20	251 10.9	75 47.4	08.0	171 17.1	06.0	36 55.0	36.1	267 52.2	10.1	Avior	234 24.4 S59	29.6					
	21	266 13.4	90 47.5	06.8	186 17.8	06.2	51 57.3	36.2	282 54.8	10.2	Bellatrix	278 47.4 N 6	20.7					
22	281 15.8	105 47.6	05.5	201 18.4	06.4	66 59.5	36.3	297 57.4	10.2	Betelgeuse	271 16.8 N 7	24.3						
23	296 18.3	120 47.7	04.3	216 19.0	06.5	82 01.8	36.4	313 00.0	10.3									
M I E R C O L E S	3 00	311 20.8	135 47.7 N 2	03.1	231 19.7 N23	06.7	97 04.0 S12	36.5	328 02.6 S	9 10.4	Canopus	264 02.8 S52	41.5					
	01	326 23.2	150 47.8	01.8	246 20.3	06.8	112 06.3	36.6	343 05.2	10.4	Capella	280 55.6 N45	59.4					
	02	341 25.7	165 47.9	00.6	261 20.9	07.0	127 08.5	36.6	358 07.8	10.5	Deneb	49 40.6 N45	15.8					
	03	356 28.2	180 48.0	59.3	276 21.6	07.1	142 10.8	36.7	13 10.4	10.6	Denebola	182 48.3 N14	36.2					
	04	11 30.6	195 48.1	58.1	291 22.2	07.3	157 13.0	36.8	28 13.0	10.6	Diphda	349 09.9 S18	00.7					
	05	26 33.1	210 48.2	56.8	306 22.9	07.4	172 15.3	36.9	43 15.6	10.7								
	06	41 35.6	225 48.2 N 1	55.6	321 23.5 N23	07.6	187 17.5 S12	37.0	58 18.2 S	9 10.8	Dubhe	194 09.5 N61	46.9					
	07	56 38.0	240 48.3	54.4	336 24.1	07.7	202 19.8	37.1	73 20.8	10.8	Elnath	278 30.7 N28	36.1					
	08	71 40.5	255 48.4	53.1	351 24.8	07.9	217 22.0	37.1	88 23.4	10.9	Eltanin	90 52.3 N51	29.7					
	09	86 43.0	270 48.5	51.9	6 25.4	08.0	232 24.3	37.2	103 26.0	10.9	Enif	34 00.7 N 9	51.2					
	10	101 45.4	285 48.6	50.6	21 26.1	08.1	247 26.5	37.3	118 28.6	11.0	Fomalhaut	15 39.2 S29	38.8					
	11	116 47.9	300 48.7	49.4	36 26.7	08.3	262 28.8	37.4	133 31.2	11.1								
	12	131 50.3	315 48.8 N 1	48.1	51 27.3 N23	08.4	277 31.0 S12	37.5	148 33.8 S	9 11.1	Gacrux	172 17.0 S57	05.2					
	13	146 52.8	330 48.9	46.9	66 28.0	08.6	292 33.3	37.6	163 36.4	11.2	Gienah	176 07.0 S17	30.8					
	14	161 55.3	345 48.9	45.7	81 28.6	08.7	307 35.5	37.7	178 39.0	11.3	Hadar	149 08.0 S60	21.1					
	15	176 57.7	0 49.0	44.4	96 29.3	08.9	322 37.8	37.7	193 41.6	11.3	Hamal	328 16.7 N23	26.2					
	16	192 00.2	15 49.1	43.2	111 29.9	09.0	337 40.0	37.8	208 44.2	11.4	Kaus Aust.	84 02.2 S34	23.2					
	17	207 02.7	30 49.2	41.9	126 30.5	09.2	352 42.3	37.9	223 46.8	11.5								
	18	222 05.1	45 49.3 N 1	40.7	141 31.2 N23	09.3	7 44.5 S12	38.0	238 49.4 S	9 11.5	Kochab	137 19.4 N74	11.0					
	19	237 07.6	60 49.4	39.4	156 31.8	09.5	22 46.8	38.1	253 52.0	11.6	Markab	13 52.1 N15	10.7					
	20	252 10.1	75 49.5	38.2	171 32.5	09.6	37 49.0	38.2	268 54.6	11.6	Menkar	314 29.9 N 4	04.2					
	21	267 12.5	90 49.6	37.0	186 33.1	09.7	52 51.2	38.2	283 57.3	11.7	Menkent	148 24.3 S36	20.8					
	22	282 15.0	105 49.7	35.7	201 33.7	09.9	67 53.5	38.3	298 59.9	11.8	Miaplacidus	221 43.5 S69	41.9					
23	297 17.4	120 49.8	34.5	216 34.4	10.0	82 55.7	38.4	314 02.5	11.8									
J U E V E S	4 00	312 19.9	135 49.9 N 1	33.2	231 35.0 N23	10.2	97 58.0 S12	38.5	329 05.1 S	9 11.9	Mirfak	309 00.7 N49	50.3					
	01	327 22.4	150 50.0	32.0	246 35.7	10.3	113 00.2	38.6	344 07.7	12.0	Nunki	76 15.5 S26	18.1					
	02	342 24.8	165 50.0	30.7	261 36.3	10.5	128 02.5	38.7	359 10.3	12.0	Peacock	53 40.8 S56	45.0					
	03	357 27.3	180 50.1	29.5	276 36.9	10.6	143 04.7	38.8	14 12.9	12.1	Pollux	243 45.3 N28	02.3					
	04	12 29.8	195 50.2	28.3	291 37.6	10.7	158 06.9	38.8	29 15.5	12.2	Procyon	245 14.8 N 5	14.3					
	05	27 32.2	210 50.3	27.0	306 38.2	10.9	173 09.2	38.9	44 18.1	12.2								
	06	42 34.7	225 50.4 N 1	25.8	321 38.9 N23	11.0	188 11.4 S12	39.0	59 20.7 S	9 12.3	Rasalhague	96 19.3 N12	34.0					
	07	57 37.2	240 50.5	24.5	336 39.5	11.2	203 13.7	39.1	74 23.3	12.4	Regulus	207 58.8 N11	59.6					
	08	72 39.6	255 50.6	23.3	351 40.2	11.3	218 15.9	39.2	89 25.9	12.4	Rigel	281 25.8 S 8	12.4					
	09	87 42.1	270 50.7	22.0	6 40.8	11.4	233 18.2	39.3	104 28.5	12.5	Rigil Kent.	140 11.0 S60	49.0					
	10	102 44.6	285 50.8	20.8	21 41.4	11.6	248 20.4	39.4	119 31.1	12.5	Sabik	102 28.5 S15	43.0					
	11	117 47.0	300 50.9	19.5	36 42.1	11.7	263 22.6	39.4	134 33.7	12.6								
	12	132 49.5	315 51.0 N 1	18.3	51 42.7 N23	11.9	278 24.9 S12	39.5	149 36.3 S	9 12.7	Schedar	349 56.3 N56	30.4					
	13	147 51.9	330 51.1	17.1	66 43.4	12.0	293 27.1	39.6	164 38.9	12.7	Shaula	96 40.8 S37	06.0					
	14	162 54.4	345 51.2	15.8	81 44.0	12.1	308 29.4	39.7	179 41.5	12.8	Sirius	258 46.4 S16	42.5					
	15	177 56.9	0 51.3	14.6	96 44.6	12.3	323 31.6	39.8	194 44.1	12.9	Spica	158 46.2 S11	08.0					
	16	192 59.3	15 51.4	13.3	111 45.3	12.4	338 33.8	39.9	209 46.7	12.9	Suhail	223 03.3 S43	24.7					
	17	208 01.8	30 51.5	12.1	126 45.9	12.5	353 36.1	40.0	224 49.3	13.0								
	18	223 04.3	45 51.6 N 1	10.8	141 46.6 N23	12.7	8 38.3 S12	40.1	239 51.9 S	9 13.1	Vega	80 48.1 N38	47.0					
	19	238 06.7	60 51.7	09.6	156 47.2	12.8	23 40.6	40.1	254 54.5	13.1	Zuben'ubi	137 21.0 S16	01.2					
	20	253 09.2	75 51.8	08.4	171 47.9	13.0	38 42.8	40.2	269 57.1	13.2								
	21	268 11.7	90 51.9	07.1	186 48.5	13.1	53 45.0	40.3	284 59.7	13.3								
	22	283 14.1	105 52.0	05.9	201 49.1	13.2	68 47.3	40.4	300 02.4	13.3								
23	298 16.6	120 52.1	04.6	216 49.8	13.4	83 49.5	40.5	315 05.0	13.4									
Pas. Mer. 3 14.1		v 0.1 d 1.2			v 0.6 d 0.1			v 2.2 d 0.1			v 2.6 d 0.1			A. H. S. Pas. Mer.				
		h m			o /			h m			Venus			184 27.0 14 57				
											Marte			279 58.9 8 34				
											Júpiter			145 43.3 17 29				
											Saturno			16 41.8 2 07				

TABLAS DE CORRECCION DE ALTURAS DE 10° - 90°, DEL SOL, ESTRELLAS Y PLANETAS

OCT.—MAR. SOL			ABR.—SEP.			ESTRELLAS Y PLANETAS				DEPRESION				
Alt. Ap.	Limbo Inf.	Limbo Sup.	Alt. Ap.	Limbo Inf.	Limbo Sup.	Alt. Ap.	Corr.	Alt. Ap.	Corr. Adicional	Alt. del ojo	Corr.	Alt. del ojo	Alt. del ojo	Corr.
9 34	+10.8	-21.5	9 39	+10.6	-21.2	9 56	-5.3					m		
9 45	+10.9	-21.4	9 51	+10.7	-21.1	10 08	-5.2			1994		2.4	-2.8	8.0
9 56	+11.0	-21.3	10 03	+10.8	-21.0	10 20	-5.1			VENUS		2.6	-2.9	8.6
10 08	+11.1	-21.2	10 15	+10.9	-20.9	10 33	-5.0			1 Ene.- 18 Jul.		2.8	-3.0	9.2
10 21	+11.2	-21.1	10 27	+11.0	-20.8	10 46	-4.9			0		3.0	-3.1	9.8
10 34	+11.3	-21.0	10 40	+11.1	-20.7	11 00	-4.8			60	+0.1	3.2	-3.2	10.5
10 47	+11.4	-20.9	10 54	+11.2	-20.6	11 14	-4.7			19 Jul.- 6 Sept.		3.4	-3.3	11.2
11 01	+11.5	-20.8	11 08	+11.3	-20.5	11 29	-4.6			0		3.6	-3.4	11.9
11 15	+11.6	-20.7	11 23	+11.4	-20.4	11 45	-4.5			60	+0.1	3.8	-3.5	12.6
11 30	+11.7	-20.6	11 38	+11.5	-20.3	12 01	-4.4			0		4.0	-3.6	13.3
11 46	+11.8	-20.5	11 54	+11.6	-20.2	12 18	-4.3			41	+0.2	4.3	-3.7	14.1
12 02	+11.9	-20.4	12 10	+11.7	-20.1	12 35	-4.2			76	+0.1	4.5	-3.8	14.9
12 19	+12.0	-20.3	12 28	+11.8	-20.0	12 54	-4.1			7 Sept.- 28 Sept.		4.7	-3.9	15.7
12 37	+12.1	-20.2	12 46	+11.9	-19.9	13 13	-4.0			10 Dic.- 31 Dic.		5.0	-4.0	16.5
12 55	+12.2	-20.1	13 05	+12.0	-19.8	13 33	-3.9			0		5.2	-4.1	17.4
13 14	+12.3	-20.0	13 24	+12.1	-19.7	13 54	-3.8			34	+0.3	5.5	-4.2	18.3
13 35	+12.4	-19.9	13 45	+12.2	-19.6	14 16	-3.7			60	+0.2	5.8	-4.3	19.1
13 56	+12.5	-19.8	14 07	+12.3	-19.5	14 40	-3.6			80	+0.1	6.1	-4.4	20.1
14 18	+12.6	-19.7	14 30	+12.4	-19.4	15 04	-3.5			29 Sept.-14 Oct.		6.3	-4.5	21.0
14 42	+12.7	-19.6	14 54	+12.5	-19.3	15 30	-3.4			25 Nov.- 9 Dic.		6.6	-4.6	22.0
15 06	+12.8	-19.5	15 19	+12.6	-19.2	15 57	-3.3			0		6.9	-4.7	22.9
15 32	+12.9	-19.4	15 46	+12.7	-19.1	16 26	-3.2			29	+0.4	7.2	-4.8	23.9
15 59	+13.0	-19.3	16 14	+12.8	-19.0	16 56	-3.1			51	+0.3	7.5	-4.9	24.9
16 28	+13.1	-19.2	16 44	+12.9	-18.9	17 28	-3.0			68	+0.2	7.9	-5.0	26.0
16 59	+13.2	-19.1	17 15	+13.0	-18.8	18 02	-2.9			83	+0.1	8.2	-5.1	27.1
17 32	+13.3	-19.0	17 48	+13.1	-18.7	18 38	-2.8			15 Oct.- 24 Nov.		8.5	-5.2	28.1
18 06	+13.4	-18.9	18 24	+13.2	-18.6	19 17	-2.7			0		8.8	-5.3	29.2
18 42	+13.5	-18.8	19 01	+13.3	-18.5	19 58	-2.6			26	+0.5	9.2	-5.4	30.4
19 21	+13.6	-18.7	19 42	+13.4	-18.4	20 42	-2.5			46	+0.4	9.5	-5.5	31.5
20 03	+13.7	-18.6	20 25	+13.5	-18.3	21 28	-2.4			60	+0.3	9.9	-5.6	32.7
20 48	+13.8	-18.5	21 11	+13.6	-18.2	22 19	-2.3			73	+0.2	10.3	-5.7	33.9
21 35	+13.9	-18.4	22 00	+13.7	-18.1	23 13	-2.2			84	+0.1	10.6	-5.8	35.1
22 26	+14.0	-18.3	22 54	+13.8	-18.0	24 11	-2.1			11.0		11.0	-5.8	36.3
23 22	+14.1	-18.2	23 51	+13.9	-17.9	25 14	-2.0			11.4		11.4	-5.9	37.6
24 21	+14.2	-18.1	24 53	+14.0	-17.8	26 22	-1.9			11.8		11.8	-6.0	38.9
25 26	+14.3	-18.0	26 00	+14.1	-17.7	27 36	-1.8			12.2		12.2	-6.1	40.1
26 36	+14.4	-17.9	27 13	+14.2	-17.6	28 56	-1.7			12.6		12.6	-6.2	41.5
27 52	+14.5	-17.8	28 33	+14.3	-17.5	30 24	-1.6			13.0		13.0	-6.3	42.8
29 15	+14.6	-17.7	30 00	+14.4	-17.4	32 00	-1.5			13.4		13.4	-6.4	44.2
30 46	+14.7	-17.6	31 35	+14.5	-17.3	33 45	-1.4			13.8		13.8	-6.5	45.5
32 26	+14.8	-17.5	33 20	+14.6	-17.2	35 40	-1.3			14.2		14.2	-6.6	46.9
34 17	+14.9	-17.4	35 17	+14.7	-17.1	37 48	-1.2			14.7		14.7	-6.7	48.4
36 20	+15.0	-17.3	37 26	+14.8	-17.0	40 08	-1.1			15.1		15.1	-6.8	49.8
38 36	+15.1	-17.2	39 50	+14.9	-16.9	42 44	-1.0			15.5		15.5	-6.9	51.3
41 08	+15.2	-17.1	42 31	+15.0	-16.8	45 36	-0.9			16.0		16.0	-7.0	52.8
43 59	+15.3	-17.0	45 31	+15.1	-16.7	48 47	-0.8			16.5		16.5	-7.1	54.3
47 10	+15.4	-16.9	48 55	+15.2	-16.6	52 18	-0.7			16.9		16.9	-7.2	55.8
50 46	+15.5	-16.8	52 44	+15.3	-16.5	56 11	-0.6			17.4		17.4	-7.3	57.4
54 49	+15.6	-16.7	57 02	+15.4	-16.4	60 28	-0.5			17.9		17.9	-7.4	59.0
59 23	+15.7	-16.6	61 51	+15.5	-16.3	65 08	-0.4			18.4		18.4	-7.5	60.5
64 30	+15.8	-16.5	67 17	+15.6	-16.2	70 11	-0.3			18.8		18.8	-7.6	62.1
70 12	+15.9	-16.4	73 16	+15.7	-16.1	75 34	-0.2			19.3		19.3	-7.7	63.8
76 26	+16.0	-16.3	79 43	+15.8	-16.0	81 13	-0.1			19.8		19.8	-7.8	65.4
83 C5	+16.1	-16.2	86 32	+15.9	-15.9	87 03	0.0			20.4		20.4	-7.9	67.1
90 CO			90 00			90 00	0.0			20.9		20.9	-8.0	68.8
										21.4		21.4	-8.1	70.5

Alt. Ap. = Altura aparente = Altura de sextante corregida por error de índice y depresión.