

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 32.7 +00.2	S	03 06.6 +00.9	156 09.5 +02.3	S	20 58.3 +00.3	308 54.6 -36.5	N	25 59.1 +06.5	00			
01	197 32.9 +00.2	S	03 07.5 +01.0	171 11.8 +02.3	S	20 58.6 +00.3	323 18.1 -36.5	N	26 05.6 +06.4	01			
02	212 33.1 +00.2	S	03 08.5 +01.0	186 14.1 +02.3	S	20 58.9 +00.3	337 41.6 -36.6	N	26 12.0 +06.3	02			
03	227 33.3 +00.2	S	03 09.5 +01.0	201 16.4 +02.4	S	20 59.2 +00.2	352 05.0 -36.6	N	26 18.3 +06.0	03			
04	242 33.5 +00.2	S	03 10.5 +00.9	216 18.8 +02.3	S	20 59.4 +00.3	6 28.4 -36.7	N	26 24.3 +05.9	04			
05	257 33.7 +00.3	S	03 11.4 +01.0	231 21.1 +02.4	S	20 59.7 +00.3	20 51.7 -36.8	N	26 30.2 +05.7	05			
06	272 34.0 +00.2	S	03 12.4 +01.0	246 23.5 +02.3	S	20 60.0 +00.2	35 14.9 -36.9	N	26 35.9 +05.5	06			
07	287 34.2 +00.2	S	03 13.4 +00.9	261 25.8 +02.4	S	21 00.2 +00.3	49 38.0 -36.9	N	26 41.4 +05.3	07			
08	302 34.4 +00.2	S	03 14.3 +01.0	276 28.2 +02.3	S	21 00.5 +00.3	64 01.1 -37.0	N	26 46.7 +05.2	08			
09	317 34.6 +00.2	S	03 15.3 +01.0	291 30.5 +02.4	S	21 00.8 +00.2	78 24.1 -37.0	N	26 51.9 +04.9	09			
10	332 34.8 +00.2	S	03 16.3 +00.9	306 32.9 +02.3	S	21 01.0 +00.3	92 47.1 -37.1	N	26 56.8 +04.8	10			
11	347 35.0 +00.2	S	03 17.2 +01.0	321 35.2 +02.4	S	21 01.3 +00.3	107 10.0 -37.1	N	27 01.6 +04.6	11			
12	2 35.2 +00.2	S	03 18.2 +01.0	336 37.6 +02.4	S	21 01.6 +00.2	121 32.9 -37.2	N	27 06.2 +04.4	12			
13	17 35.4 +00.2	S	03 19.2 +00.9	351 40.0 +02.4	S	21 01.8 +00.3	135 55.7 -37.3	N	27 10.6 +04.3	13			
14	32 35.6 +00.2	S	03 20.1 +01.0	6 42.4 +02.3	S	21 02.1 +00.2	150 18.4 -37.3	N	27 14.9 +04.0	14			
15	47 35.8 +00.2	S	03 21.1 +01.0	21 44.7 +02.4	S	21 02.3 +00.3	164 41.1 -37.3	N	27 18.9 +03.8	15			
16	62 36.0 +00.2	S	03 22.1 +00.9	36 47.1 +02.4	S	21 02.6 +00.2	179 03.8 -37.4	N	27 22.7 +03.7	16			
17	77 36.2 +00.2	S	03 23.0 +01.0	51 49.5 +02.4	S	21 02.8 +00.3	193 26.4 -37.5	N	27 26.4 +03.5	17			
18	92 36.4 +00.2	S	03 24.0 +01.0	66 51.9 +02.4	S	21 03.1 +00.2	207 48.9 -37.4	N	27 29.9 +03.3	18			
19	107 36.6 +00.2	S	03 25.0 +01.0	81 54.3 +02.4	S	21 03.3 +00.3	222 11.5 -37.6	N	27 33.2 +03.1	19			
20	122 36.8 +00.2	S	03 26.0 +00.9	96 56.7 +02.4	S	21 03.6 +00.2	236 33.9 -37.5	N	27 36.3 +02.9	20			
21	137 37.0 +00.2	S	03 26.9 +01.0	111 59.1 +02.4	S	21 03.8 +00.2	250 56.4 -37.6	N	27 39.2 +02.7	21			
22	152 37.2 +00.2	S	03 27.9 +01.0	127 01.5 +02.4	S	21 04.0 +00.3	265 18.8 -37.6	N	27 41.9 +02.5	22			
23	167 37.4 +00.2	S	03 28.9 +00.9	142 03.9 +02.4	S	21 04.3 +00.2	279 41.2 -37.6	N	27 44.4 +02.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'2 16'2 16'2 16'2 16'2 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 59'3 59'3 59'3 59'3 59'3 59'3						
	SHA 173° 173° 172° 172° 172° 172°			SHA 146° 146° 146° 146° 146° 146°			SHA 298° 295° 293° 290° 287° 285°						
	Greenwich Culmination Time: 11:49			Greenwich Culmination Time: 13:33			Greenwich Culmination Time: 03:33						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	245 34.1 +01.0	N	20 46.4 -00.3	227 32.6 +02.0	N	15 30.5 -00.1	358 02.3 +02.6	N	02 04.9 -00.1	00			
01	260 35.1 +00.9	N	20 46.1 -00.3	242 34.6 +02.0	N	15 30.4 -00.1	13 04.9 +02.7	N	02 04.8 +00.0	01			
02	275 36.0 +01.0	N	20 45.8 -00.3	257 36.6 +02.1	N	15 30.3 -00.2	28 07.6 +02.6	N	02 04.8 -00.1	02			
03	290 37.0 +00.9	N	20 45.5 -00.3	272 38.7 +02.0	N	15 30.1 -00.1	43 10.2 +02.7	N	02 04.7 -00.1	03			
04	305 37.9 +00.9	N	20 45.2 -00.2	287 40.7 +02.0	N	15 30.0 -00.1	58 12.9 +02.6	N	02 04.6 -00.1	04			
05	320 38.8 +01.0	N	20 45.0 -00.3	302 42.7 +02.0	N	15 29.9 -00.2	73 15.5 +02.7	N	02 04.5 +00.0	05			
06	335 39.8 +00.9	N	20 44.7 -00.3	317 44.7 +02.0	N	15 29.7 -00.1	88 18.2 +02.6	N	02 04.5 -00.1	06			
07	350 40.7 +00.9	N	20 44.4 -00.3	332 46.7 +02.1	N	15 29.6 -00.1	103 20.8 +02.6	N	02 04.4 -00.1	07			
08	5 41.6 +01.0	N	20 44.1 -00.3	347 48.8 +02.0	N	15 29.5 -00.2	118 23.4 +02.7	N	02 04.3 -00.1	08			
09	20 42.6 +00.9	N	20 43.8 -00.3	2 50.8 +02.0	N	15 29.3 -00.1	133 26.1 +02.6	N	02 04.2 +00.0	09			
10	35 43.5 +00.9	N	20 43.5 -00.3	17 52.8 +02.0	N	15 29.2 -00.1	148 28.7 +02.7	N	02 04.2 -00.1	10			
11	50 44.4 +01.0	N	20 43.2 -00.2	32 54.8 +02.1	N	15 29.1 -00.2	163 31.4 +02.6	N	02 04.1 -00.1	11			
12	65 45.4 +00.9	N	20 43.0 -00.3	47 56.9 +02.0	N	15 28.9 -00.1	178 34.0 +02.7	N	02 04.0 -00.1	12			
13	80 46.3 +01.0	N	20 42.7 -00.3	62 58.9 +02.0	N	15 28.8 -00.1	193 36.7 +02.6	N	02 03.9 -00.1	13			
14	95 47.3 +00.9	N	20 42.4 -00.3	78 00.9 +02.0	N	15 28.7 -00.2	208 39.3 +02.7	N	02 03.8 +00.0	14			
15	110 48.2 +00.9	N	20 42.1 -00.3	93 02.9 +02.1	N	15 28.5 -00.1	223 42.0 +02.6	N	02 03.8 -00.1	15			
16	125 49.1 +01.0	N	20 41.8 -00.3	108 05.0 +02.0	N	15 28.4 -00.1	238 44.6 +02.6	N	02 03.7 -00.1	16			
17	140 50.1 +00.9	N	20 41.5 -00.3	123 07.0 +02.0	N	15 28.3 -00.2	253 47.2 +02.7	N	02 03.6 -00.1	17			
18	155 51.0 +01.0	N	20 41.2 -00.2	138 09.0 +02.0	N	15 28.1 -00.1	268 49.9 +02.6	N	02 03.5 +00.0	18			
19	170 52.0 +00.9	N	20 41.0 -00.3	153 11.0 +02.0	N	15 28.0 -00.1	283 52.5 +02.7	N	02 03.5 -00.1	19			
20	185 52.9 +00.9	N	20 40.7 -00.3	168 13.0 +02.1	N	15 27.9 -00.2	298 55.2 +02.6	N	02 03.4 -00.1	20			
21	200 53.8 +01.0	N	20 40.4 -00.3	183 15.1 +02.0	N	15 27.7 -00.1	313 57.8 +02.7	N	02 03.3 -00.1	21			
22	215 54.8 +00.9	N	20 40.1 -00.3	198 17.1 +02.0	N	15 27.6 -00.1	329 00.5 +02.6	N	02 03.2 -00.1	22			
23	230 55.7 +01.0	N	20 39.8 -00.3	213 19.1 +02.0	N	15 27.5 -00.2	344 03.1 +02.7	N	02 03.1 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 236° 236° 236° 235° 235° 235°			SHA 218° 218° 218° 218° 218° 218°			SHA 348° 348° 348° 348° 348° 348°						
	Greenwich Culmination Time: 07:37			Greenwich Culmination Time: 08:48			Greenwich Culmination Time: 00:07						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 37.6 +00.2	S	03 29.8 +01.0	157 06.3 +02.4	S	21 04.5 +00.3	294 03.6 -37.7	N	27 46.7 +02.1	00			
01	197 37.8 +00.2	S	03 30.8 +01.0	172 08.7 +02.4	S	21 04.8 +00.2	308 25.9 -37.6	N	27 48.8 +02.0	01			
02	212 38.0 +00.2	S	03 31.8 +00.9	187 11.1 +02.5	S	21 05.0 +00.2	322 48.3 -37.7	N	27 50.8 +01.7	02			
03	227 38.2 +00.2	S	03 32.7 +01.0	202 13.6 +02.4	S	21 05.2 +00.3	337 10.6 -37.8	N	27 52.5 +01.6	03			
04	242 38.4 +00.2	S	03 33.7 +01.0	217 16.0 +02.4	S	21 05.5 +00.2	351 32.8 -37.7	N	27 54.1 +01.3	04			
05	257 38.6 +00.2	S	03 34.7 +00.9	232 18.4 +02.4	S	21 05.7 +00.2	5 55.1 -37.7	N	27 55.4 +01.2	05			
06	272 38.8 +00.2	S	03 35.6 +01.0	247 20.8 +02.5	S	21 05.9 +00.2	20 17.4 -37.8	N	27 56.6 +01.0	06			
07	287 39.0 +00.2	S	03 36.6 +01.0	262 23.3 +02.4	S	21 06.1 +00.3	34 39.6 -37.7	N	27 57.6 +00.7	07			
08	302 39.2 +00.2	S	03 37.6 +00.9	277 25.7 +02.5	S	21 06.4 +00.2	49 01.9 -37.8	N	27 58.3 +00.6	08			
09	317 39.4 +00.2	S	03 38.5 +01.0	292 28.2 +02.4	S	21 06.6 +00.2	63 24.1 -37.8	N	27 58.9 +00.4	09			
10	332 39.6 +00.2	S	03 39.5 +01.0	307 30.6 +02.5	S	21 06.8 +00.2	77 46.3 -37.7	N	27 59.3 +00.2	10			
11	347 39.8 +00.2	S	03 40.5 +00.9	322 33.1 +02.4	S	21 07.0 +00.2	92 08.6 -37.8	N	27 59.5 +00.0	11			
12	2 40.0 +00.2	S	03 41.4 +01.0	337 35.5 +02.5	S	21 07.2 +00.2	106 30.8 -37.8	N	27 59.5 -00.3	12			
13	17 40.2 +00.2	S	03 42.4 +01.0	352 38.0 +02.4	S	21 07.4 +00.2	120 53.0 -37.7	N	27 59.2 -00.4	13			
14	32 40.4 +00.2	S	03 43.4 +00.9	7 40.4 +02.5	S	21 07.6 +00.3	135 15.3 -37.7	N	27 58.8 -00.6	14			
15	47 40.6 +00.2	S	03 44.3 +01.0	22 42.9 +02.5	S	21 07.9 +00.2	149 37.6 -37.8	N	27 58.2 -00.7	15			
16	62 40.8 +00.2	S	03 45.3 +01.0	37 45.4 +02.5	S	21 08.1 +00.2	163 59.8 -37.7	N	27 57.5 -01.0	16			
17	77 41.0 +00.2	S	03 46.3 +00.9	52 47.9 +02.4	S	21 08.3 +00.2	178 22.1 -37.6	N	27 56.5 -01.2	17			
18	92 41.2 +00.2	S	03 47.2 +01.0	67 50.3 +02.5	S	21 08.5 +00.2	192 44.5 -37.7	N	27 55.3 -01.4	18			
19	107 41.4 +00.2	S	03 48.2 +01.0	82 52.8 +02.5	S	21 08.7 +00.2	207 06.8 -37.7	N	27 53.9 -01.5	19			
20	122 41.6 +00.2	S	03 49.2 +00.9	97 55.3 +02.5	S	21 08.9 +00.2	221 29.1 -37.6	N	27 52.4 -01.8	20			
21	137 41.8 +00.2	S	03 50.1 +01.0	112 57.8 +02.5	S	21 09.1 +00.2	235 51.5 -37.6	N	27 50.6 -02.0	21			
22	152 42.0 +00.1	S	03 51.1 +01.0	128 00.3 +02.5	S	21 09.3 +00.1	250 13.9 -37.5	N	27 48.6 -02.1	22			
23	167 42.1 +00.2	S	03 52.1 +00.9	143 02.8 +02.5	S	21 09.4 +00.2	264 36.4 -37.5	N	27 46.5 -02.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'2 16'2 16'2 16'2 16'2 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 59'3 59'3 59'3 59'3 59'3 59'3						
	SHA 172° 172° 172° 171° 171° 171°			SHA 146° 146° 146° 146° 146° 146°			SHA 282° 279° 277° 274° 271° 269°						
	Greenwich Culmination Time: 11:49			Greenwich Culmination Time: 13:29			Greenwich Culmination Time: 04:35						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	245 56.7 +00.9	N	20 39.5 -00.3	228 21.1 +02.1	N	15 27.3 -00.1	359 05.8 +02.6	N	02 03.1 -00.1	00			
01	260 57.6 +01.0	N	20 39.2 -00.3	243 23.2 +02.0	N	15 27.2 -00.2	14 08.4 +02.6	N	02 03.0 -00.1	01			
02	275 58.6 +00.9	N	20 38.9 -00.2	258 25.2 +02.0	N	15 27.0 -00.1	29 11.0 +02.7	N	02 02.9 -00.1	02			
03	290 59.5 +00.9	N	20 38.7 -00.3	273 27.2 +02.0	N	15 26.9 -00.1	44 13.7 +02.6	N	02 02.8 +00.0	03			
04	306 00.4 +01.0	N	20 38.4 -00.3	288 29.2 +02.1	N	15 26.8 -00.2	59 16.3 +02.7	N	02 02.8 -00.1	04			
05	321 01.4 +00.9	N	20 38.1 -00.3	303 31.3 +02.0	N	15 26.6 -00.1	74 19.0 +02.6	N	02 02.7 -00.1	05			
06	336 02.3 +01.0	N	20 37.8 -00.3	318 33.3 +02.0	N	15 26.5 -00.1	89 21.6 +02.7	N	02 02.6 -00.1	06			
07	351 03.3 +00.9	N	20 37.5 -00.3	333 35.3 +02.0	N	15 26.4 -00.2	104 24.3 +02.6	N	02 02.5 -00.1	07			
08	6 04.2 +01.0	N	20 37.2 -00.3	348 37.3 +02.1	N	15 26.2 -00.1	119 26.9 +02.6	N	02 02.4 +00.0	08			
09	21 05.2 +00.9	N	20 36.9 -00.3	3 39.4 +02.0	N	15 26.1 -00.1	134 29.5 +02.7	N	02 02.4 -00.1	09			
10	36 06.1 +01.0	N	20 36.6 -00.3	18 41.4 +02.0	N	15 26.0 -00.2	149 32.2 +02.6	N	02 02.3 -00.1	10			
11	51 07.1 +00.9	N	20 36.3 -00.2	33 43.4 +02.1	N	15 25.8 -00.1	164 34.8 +02.7	N	02 02.2 -00.1	11			
12	66 08.0 +01.0	N	20 36.1 -00.3	48 45.5 +02.0	N	15 25.7 -00.1	179 37.5 +02.6	N	02 02.1 +00.0	12			
13	81 09.0 +00.9	N	20 35.8 -00.3	63 47.5 +02.0	N	15 25.6 -00.2	194 40.1 +02.7	N	02 02.1 -00.1	13			
14	96 09.9 +00.9	N	20 35.5 -00.3	78 49.5 +02.0	N	15 25.4 -00.1	209 42.8 +02.6	N	02 02.0 -00.1	14			
15	111 10.8 +01.0	N	20 35.2 -00.3	93 51.5 +02.1	N	15 25.3 -00.1	224 45.4 +02.7	N	02 01.9 -00.1	15			
16	126 11.8 +00.9	N	20 34.9 -00.3	108 53.6 +02.0	N	15 25.2 -00.2	239 48.1 +02.6	N	02 01.8 -00.1	16			
17	141 12.7 +01.0	N	20 34.6 -00.3	123 55.6 +02.0	N	15 25.0 -00.1	254 50.7 +02.6	N	02 01.7 +00.0	17			
18	156 13.7 +00.9	N	20 34.3 -00.3	138 57.6 +02.0	N	15 24.9 -00.1	269 53.3 +02.7	N	02 01.7 -00.1	18			
19	171 14.6 +01.0	N	20 34.0 -00.3	153 59.6 +02.1	N	15 24.8 -00.2	284 56.0 +02.6	N	02 01.6 -00.1	19			
20	186 15.6 +00.9	N	20 33.7 -00.3	169 01.7 +02.0	N	15 24.6 -00.1	299 58.6 +02.7	N	02 01.5 -00.1	20			
21	201 16.5 +01.0	N	20 33.4 -00.2	184 03.7 +02.0	N	15 24.5 -00.1	315 01.3 +02.6	N	02 01.4 +00.0	21			
22	216 17.5 +00.9	N	20 33.2 -00.3	199 05.7 +02.1	N	15 24.4 -00.1	330 03.9 +02.7	N	02 01.4 -00.1	22			
23	231 18.4 +01.0	N	20 32.9 -00.3	214 07.8 +02.0	N	15 24.3 -00.2	345 06.6 +02.6	N	02 01.3 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 235° 235° 235° 235° 235° 235°			SHA 218° 218° 218° 218° 217° 217°			SHA 348° 348° 348° 348° 348° 348°						
	Greenwich Culmination Time: 07:35			Greenwich Culmination Time: 08:45			Greenwich Culmination Time: 00:03						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 75%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 42.3 +00.2	S	03 53.0 +01.0	158 05.3 +02.5	S	21 09.6 +00.2	278 58.9 -37.5	N	27 44.2 -02.6	00			
01	197 42.5 +00.2	S	03 54.0 +01.0	173 07.8 +02.5	S	21 09.8 +00.2	293 21.4 -37.5	N	27 41.6 -02.7	01			
02	212 42.7 +00.2	S	03 55.0 +00.9	188 10.3 +02.5	S	21 10.0 +00.2	307 43.9 -37.4	N	27 38.9 -02.9	02			
03	227 42.9 +00.2	S	03 55.9 +01.0	203 12.8 +02.5	S	21 10.2 +00.2	322 06.5 -37.3	N	27 36.0 -03.1	03			
04	242 43.1 +00.2	S	03 56.9 +01.0	218 15.3 +02.6	S	21 10.4 +00.2	336 29.2 -37.3	N	27 32.9 -03.3	04			
05	257 43.3 +00.2	S	03 57.9 +00.9	233 17.9 +02.5	S	21 10.6 +00.1	350 51.9 -37.3	N	27 29.6 -03.4	05			
06	272 43.5 +00.2	S	03 58.8 +01.0	248 20.4 +02.5	S	21 10.7 +00.2	5 14.6 -37.2	N	27 26.2 -03.7	06			
07	287 43.7 +00.2	S	03 59.8 +01.0	263 22.9 +02.5	S	21 10.9 +00.2	19 37.4 -37.2	N	27 22.5 -03.8	07			
08	302 43.9 +00.2	S	04 00.8 +00.9	278 25.4 +02.6	S	21 11.1 +00.2	34 00.2 -37.1	N	27 18.7 -04.1	08			
09	317 44.1 +00.2	S	04 01.7 +01.0	293 28.0 +02.5	S	21 11.3 +00.1	48 23.1 -37.0	N	27 14.6 -04.2	09			
10	332 44.3 +00.2	S	04 02.7 +01.0	308 30.5 +02.6	S	21 11.4 +00.2	62 46.1 -37.0	N	27 10.4 -04.4	10			
11	347 44.5 +00.2	S	04 03.7 +00.9	323 33.1 +02.5	S	21 11.6 +00.2	77 09.1 -37.0	N	27 06.0 -04.6	11			
12	2 44.7 +00.2	S	04 04.6 +01.0	338 35.6 +02.5	S	21 11.8 +00.1	91 32.1 -36.8	N	27 01.4 -04.7	12			
13	17 44.9 +00.2	S	04 05.6 +01.0	353 38.1 +02.6	S	21 11.9 +00.2	105 55.3 -36.9	N	26 56.7 -05.0	13			
14	32 45.1 +00.2	S	04 06.6 +00.9	8 40.7 +02.6	S	21 12.1 +00.2	120 18.4 -36.7	N	26 51.7 -05.1	14			
15	47 45.3 +00.2	S	04 07.5 +01.0	23 43.3 +02.5	S	21 12.3 +00.1	134 41.7 -36.7	N	26 46.6 -05.3	15			
16	62 45.5 +00.2	S	04 08.5 +01.0	38 45.8 +02.6	S	21 12.4 +00.2	149 05.0 -36.6	N	26 41.3 -05.5	16			
17	77 45.7 +00.2	S	04 09.5 +00.9	53 48.4 +02.6	S	21 12.6 +00.1	163 28.4 -36.5	N	26 35.8 -05.6	17			
18	92 45.9 +00.2	S	04 10.4 +01.0	68 51.0 +02.5	S	21 12.7 +00.2	177 51.9 -36.5	N	26 30.2 -05.8	18			
19	107 46.1 +00.2	S	04 11.4 +01.0	83 53.5 +02.6	S	21 12.9 +00.1	192 15.4 -36.3	N	26 24.4 -06.0	19			
20	122 46.3 +00.1	S	04 12.4 +00.9	98 56.1 +02.6	S	21 13.0 +00.2	206 39.1 -36.4	N	26 18.4 -06.2	20			
21	137 46.4 +00.2	S	04 13.3 +01.0	113 58.7 +02.6	S	21 13.2 +00.1	221 02.7 -36.2	N	26 12.2 -06.4	21			
22	152 46.6 +00.2	S	04 14.3 +00.9	129 01.3 +02.6	S	21 13.3 +00.2	235 26.5 -36.1	N	26 05.8 -06.5	22			
23	167 46.8 +00.2	S	04 15.2 +01.0	144 03.9 +02.6	S	21 13.5 +00.1	249 50.4 -36.1	N	25 59.3 -06.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'1 16'1 16'1 16'1 16'1 16'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 59'3 59'3 59'2 59'2 59'2 59'2						
	SHA 171° 171° 171° 170° 170° 170°			SHA 146° 146° 146° 146° 146° 146°			SHA 266° 263° 261° 258° 255° 253°						
	Greenwich Culmination Time: 11:49			Greenwich Culmination Time: 13:25			Greenwich Culmination Time: 05:38						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	246 19.4 +00.9	N	20 32.6 -00.3	229 09.8 +02.0	N	15 24.1 -00.1	0 09.2 +02.7	N	02 01.2 -00.1	00			
01	261 20.3 +01.0	N	20 32.3 -00.3	244 11.8 +02.0	N	15 24.0 -00.1	15 11.9 +02.6	N	02 01.1 -00.1	01			
02	276 21.3 +00.9	N	20 32.0 -00.3	259 13.8 +02.1	N	15 23.9 -00.2	30 14.5 +02.6	N	02 01.0 +00.0	02			
03	291 22.2 +01.0	N	20 31.7 -00.3	274 15.9 +02.0	N	15 23.7 -00.1	45 17.1 +02.7	N	02 01.0 -00.1	03			
04	306 23.2 +00.9	N	20 31.4 -00.3	289 17.9 +02.0	N	15 23.6 -00.1	60 19.8 +02.6	N	02 00.9 -00.1	04			
05	321 24.1 +01.0	N	20 31.1 -00.3	304 19.9 +02.1	N	15 23.5 -00.2	75 22.4 +02.7	N	02 00.8 -00.1	05			
06	336 25.1 +00.9	N	20 30.8 -00.3	319 22.0 +02.0	N	15 23.3 -00.1	90 25.1 +02.6	N	02 00.7 +00.0	06			
07	351 26.0 +01.0	N	20 30.5 -00.3	334 24.0 +02.0	N	15 23.2 -00.1	105 27.7 +02.7	N	02 00.7 -00.1	07			
08	6 27.0 +00.9	N	20 30.2 -00.3	349 26.0 +02.0	N	15 23.1 -00.2	120 30.4 +02.6	N	02 00.6 -00.1	08			
09	21 27.9 +01.0	N	20 29.9 -00.2	4 28.0 +02.1	N	15 22.9 -00.1	135 33.0 +02.7	N	02 00.5 -00.1	09			
10	36 28.9 +00.9	N	20 29.7 -00.3	19 30.1 +02.0	N	15 22.8 -00.1	150 35.7 +02.6	N	02 00.4 -00.1	10			
11	51 29.8 +01.0	N	20 29.4 -00.3	34 32.1 +02.0	N	15 22.7 -00.2	165 38.3 +02.6	N	02 00.3 +00.0	11			
12	66 30.8 +01.0	N	20 29.1 -00.3	49 34.1 +02.1	N	15 22.5 -00.1	180 40.9 +02.7	N	02 00.3 -00.1	12			
13	81 31.8 +00.9	N	20 28.8 -00.3	64 36.2 +02.0	N	15 22.4 -00.1	195 43.6 +02.6	N	02 00.2 -00.1	13			
14	96 32.7 +01.0	N	20 28.5 -00.3	79 38.2 +02.0	N	15 22.3 -00.2	210 46.2 +02.7	N	02 00.1 -00.1	14			
15	111 33.7 +00.9	N	20 28.2 -00.3	94 40.2 +02.1	N	15 22.1 -00.1	225 48.9 +02.6	N	02 00.0 +00.0	15			
16	126 34.6 +01.0	N	20 27.9 -00.3	109 42.3 +02.0	N	15 22.0 -00.1	240 51.5 +02.7	N	01 60.0 -00.1	16			
17	141 35.6 +00.9	N	20 27.6 -00.3	124 44.3 +02.0	N	15 21.9 -00.2	255 54.2 +02.6	N	01 59.9 -00.1	17			
18	156 36.5 +01.0	N	20 27.3 -00.3	139 46.3 +02.0	N	15 21.7 -00.1	270 56.8 +02.7	N	01 59.8 -00.1	18			
19	171 37.5 +00.9	N	20 27.0 -00.3	154 48.3 +02.1	N	15 21.6 -00.1	285 59.5 +02.6	N	01 59.7 +00.0	19			
20	186 38.4 +01.0	N	20 26.7 -00.3	169 50.4 +02.0	N	15 21.5 -00.2	301 02.1 +02.7	N	01 59.7 -00.1	20			
21	201 39.4 +01.0	N	20 26.4 -00.3	184 52.4 +02.0	N	15 21.3 -00.1	316 04.8 +02.6	N	01 59.6 -00.1	21			
22	216 40.4 +00.9	N	20 26.1 -00.3	199 54.4 +02.1	N	15 21.2 -00.1	331 07.4 +02.6	N	01 59.5 -00.1	22			
23	231 41.3 +01.0	N	20 25.8 -00.3	214 56.5 +02.0	N	15 21.1 -00.2	346 10.0 +02.7	N	01 59.4 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 235° 234° 234° 234° 234° 234°			SHA 217° 217° 217° 217° 217° 217°			SHA 348° 348° 348° 348° 348° 349°						
	Greenwich Culmination Time: 07:34			Greenwich Culmination Time: 08:42			Greenwich Culmination Time: 23:55						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182	47.0 +00.2	S 04 16.2	+01.0	159	06.5 +02.6	S 21 13.6	+00.2	264	14.3 -36.0	N 25 52.6	-06.8	00
01	197	47.2 +00.2	S 04 17.2	+00.9	174	09.1 +02.6	S 21 13.8	+00.1	278	38.3 -35.9	N 25 45.8	-07.0	01
02	212	47.4 +00.2	S 04 18.1	+01.0	189	11.7 +02.6	S 21 13.9	+00.1	293	02.4 -35.8	N 25 38.8	-07.2	02
03	227	47.6 +00.2	S 04 19.1	+01.0	204	14.3 +02.6	S 21 14.0	+00.2	307	26.6 -35.7	N 25 31.6	-07.4	03
04	242	47.8 +00.2	S 04 20.1	+00.9	219	16.9 +02.6	S 21 14.2	+00.1	321	50.9 -35.7	N 25 24.2	-07.5	04
05	257	48.0 +00.2	S 04 21.0	+01.0	234	19.5 +02.6	S 21 14.3	+00.1	336	15.2 -35.5	N 25 16.7	-07.7	05
06	272	48.2 +00.2	S 04 22.0	+01.0	249	22.1 +02.6	S 21 14.4	+00.2	350	39.7 -35.5	N 25 09.0	-07.8	06
07	287	48.4 +00.2	S 04 23.0	+00.9	264	24.7 +02.6	S 21 14.6	+00.1	5	04.2 -35.3	N 25 01.2	-08.0	07
08	302	48.6 +00.2	S 04 23.9	+01.0	279	27.3 +02.7	S 21 14.7	+00.1	19	28.9 -35.3	N 24 53.2	-08.1	08
09	317	48.8 +00.2	S 04 24.9	+01.0	294	30.0 +02.6	S 21 14.8	+00.1	33	53.6 -35.2	N 24 45.1	-08.3	09
10	332	49.0 +00.1	S 04 25.9	+00.9	309	32.6 +02.6	S 21 14.9	+00.1	48	18.4 -35.1	N 24 36.8	-08.5	10
11	347	49.1 +00.2	S 04 26.8	+01.0	324	35.2 +02.7	S 21 15.0	+00.2	62	43.3 -35.0	N 24 28.3	-08.6	11
12	2	49.3 +00.2	S 04 27.8	+00.9	339	37.9 +02.6	S 21 15.2	+00.1	77	08.3 -34.9	N 24 19.7	-08.7	12
13	17	49.5 +00.2	S 04 28.7	+01.0	354	40.5 +02.7	S 21 15.3	+00.1	91	33.4 -34.8	N 24 11.0	-08.9	13
14	32	49.7 +00.2	S 04 29.7	+01.0	9	43.2 +02.6	S 21 15.4	+00.1	105	58.6 -34.7	N 24 02.1	-09.1	14
15	47	49.9 +00.2	S 04 30.7	+00.9	24	45.8 +02.7	S 21 15.5	+00.1	120	23.9 -34.6	N 23 53.0	-09.2	15
16	62	50.1 +00.2	S 04 31.6	+01.0	39	48.5 +02.6	S 21 15.6	+00.1	134	49.3 -34.5	N 23 43.8	-09.3	16
17	77	50.3 +00.2	S 04 32.6	+01.0	54	51.1 +02.7	S 21 15.7	+00.1	149	14.8 -34.5	N 23 34.5	-09.5	17
18	92	50.5 +00.2	S 04 33.6	+00.9	69	53.8 +02.6	S 21 15.8	+00.1	163	40.3 -34.3	N 23 25.0	-09.6	18
19	107	50.7 +00.2	S 04 34.5	+01.0	84	56.4 +02.7	S 21 15.9	+00.1	178	06.0 -34.2	N 23 15.4	-09.8	19
20	122	50.9 +00.1	S 04 35.5	+00.9	99	59.1 +02.7	S 21 16.0	+00.1	192	31.8 -34.1	N 23 05.6	-09.9	20
21	137	51.0 +00.2	S 04 36.4	+01.0	115	01.8 +02.7	S 21 16.1	+00.1	206	57.7 -34.0	N 22 55.7	-10.0	21
22	152	51.2 +00.2	S 04 37.4	+01.0	130	04.5 +02.6	S 21 16.2	+00.1	221	23.7 -33.9	N 22 45.7	-10.2	22
23	167	51.4 +00.2	S 04 38.4	+00.9	145	07.1 +02.7	S 21 16.3	+00.1	235	49.8 -33.9	N 22 35.5	-10.3	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16°0 16°0 16°0 16°0 16°0 16°0				SD 00°4 00°4 00°4 00°4 00°4 00°4				SD 16°1 16°1 16°1 16°1 16°1 16°1				
	HP 00°1 00°1 00°1 00°1 00°1 00°1				HP 00°4 00°4 00°4 00°4 00°4 00°4				HP 59°1 59°1 59°1 59°0 59°0 58°9				
	SHA 170° 170° 170° 170° 169° 169°				SHA 146° 146° 146° 146° 146° 146°				SHA 250° 248° 245° 243° 240° 238°				
	Greenwich Culmination Time: 11:48				Greenwich Culmination Time: 13:21				Greenwich Culmination Time: 06:38				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	246	42.3 +00.9	N 20 25.5	-00.3	229	58.5 +02.0	N 15 20.9	-00.1	1	12.7 +02.6	N 01 59.3	+00.0	00
01	261	43.2 +01.0	N 20 25.2	-00.2	245	00.5 +02.1	N 15 20.8	-00.1	16	15.3 +02.7	N 01 59.3	-00.1	01
02	276	44.2 +00.9	N 20 25.0	-00.3	260	02.6 +02.0	N 15 20.7	-00.2	31	18.0 +02.6	N 01 59.2	-00.1	02
03	291	45.1 +01.0	N 20 24.7	-00.3	275	04.6 +02.0	N 15 20.5	-00.1	46	20.6 +02.7	N 01 59.1	-00.1	03
04	306	46.1 +01.0	N 20 24.4	-00.3	290	06.6 +02.1	N 15 20.4	-00.1	61	23.3 +02.6	N 01 59.0	+00.0	04
05	321	47.1 +00.9	N 20 24.1	-00.3	305	08.7 +02.0	N 15 20.3	-00.2	76	25.9 +02.7	N 01 59.0	-00.1	05
06	336	48.0 +01.0	N 20 23.8	-00.3	320	10.7 +02.0	N 15 20.1	-00.1	91	28.6 +02.6	N 01 58.9	-00.1	06
07	351	49.0 +00.9	N 20 23.5	-00.3	335	12.7 +02.1	N 15 20.0	-00.1	106	31.2 +02.6	N 01 58.8	-00.1	07
08	6	49.9 +01.0	N 20 23.2	-00.3	350	14.8 +02.0	N 15 19.9	-00.1	121	33.8 +02.7	N 01 58.7	-00.1	08
09	21	50.9 +01.0	N 20 22.9	-00.3	5	16.8 +02.0	N 15 19.8	-00.2	136	36.5 +02.6	N 01 58.6	+00.0	09
10	36	51.9 +00.9	N 20 22.6	-00.3	20	18.8 +02.1	N 15 19.6	-00.1	151	39.1 +02.7	N 01 58.6	-00.1	10
11	51	52.8 +01.0	N 20 22.3	-00.3	35	20.9 +02.0	N 15 19.5	-00.1	166	41.8 +02.6	N 01 58.5	-00.1	11
12	66	53.8 +00.9	N 20 22.0	-00.3	50	22.9 +02.0	N 15 19.4	-00.2	181	44.4 +02.7	N 01 58.4	-00.1	12
13	81	54.7 +01.0	N 20 21.7	-00.3	65	24.9 +02.1	N 15 19.2	-00.1	196	47.1 +02.6	N 01 58.3	+00.0	13
14	96	55.7 +01.0	N 20 21.4	-00.3	80	27.0 +02.0	N 15 19.1	-00.1	211	49.7 +02.7	N 01 58.3	-00.1	14
15	111	56.7 +00.9	N 20 21.1	-00.3	95	29.0 +02.0	N 15 19.0	-00.2	226	52.4 +02.6	N 01 58.2	-00.1	15
16	126	57.6 +01.0	N 20 20.8	-00.3	110	31.0 +02.1	N 15 18.8	-00.1	241	55.0 +02.6	N 01 58.1	-00.1	16
17	141	58.6 +01.0	N 20 20.5	-00.3	125	33.1 +02.0	N 15 18.7	-00.1	256	57.6 +02.7	N 01 58.0	-00.1	17
18	156	59.6 +00.9	N 20 20.2	-00.3	140	35.1 +02.0	N 15 18.6	-00.2	272	00.3 +02.6	N 01 57.9	+00.0	18
19	172	00.5 +01.0	N 20 19.9	-00.3	155	37.1 +02.1	N 15 18.4	-00.1	287	02.9 +02.7	N 01 57.9	-00.1	19
20	187	01.5 +00.9	N 20 19.6	-00.3	170	39.2 +02.0	N 15 18.3	-00.1	302	05.6 +02.6	N 01 57.8	-00.1	20
21	202	02.4 +01.0	N 20 19.3	-00.3	185	41.2 +02.1	N 15 18.2	-00.2	317	08.2 +02.7	N 01 57.7	-00.1	21
22	217	03.4 +01.0	N 20 19.0	-00.3	200	43.3 +02.0	N 15 18.0	-00.1	332	10.9 +02.6	N 01 57.6	+00.0	22
23	232	04.4 +00.9	N 20 18.7	-00.3	215	45.3 +02.0	N 15 17.9	-00.1	347	13.5 +02.7	N 01 57.6	-00.1	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00°0 00°0 00°0 00°0 00°0 00°0				SD 00°3 00°3 00°3 00°3 00°3 00°3				SD 00°2 00°2 00°2 00°2 00°2 00°2				
	HP 00°1 00°1 00°1 00°1 00°1 00°1				HP 00°0 00°0 00°0 00°0 00°0 00°0				HP 00°0 00°0 00°0 00°0 00°0 00°0				
	SHA 234° 234° 234° 234° 234° 233°				SHA 217° 217° 217° 217° 217° 217°				SHA 349° 349° 349° 349° 349° 349°				
	Greenwich Culmination Time: 07:32				Greenwich Culmination Time: 08:38				Greenwich Culmination Time: 23:50				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 51.6 +00.2	S	04 39.3 +01.0	160 09.8 +02.7	S	21 16.4 +00.1	250 15.9 -33.7	N	22 25.2 -10.5	00			
01	197 51.8 +00.2	S	04 40.3 +01.0	175 12.5 +02.7	S	21 16.5 +00.1	264 42.2 -33.6	N	22 14.7 -10.5	01			
02	212 52.0 +00.2	S	04 41.3 +00.9	190 15.2 +02.7	S	21 16.6 +00.1	279 08.6 -33.5	N	22 04.2 -10.7	02			
03	227 52.2 +00.2	S	04 42.2 +01.0	205 17.9 +02.7	S	21 16.7 +00.1	293 35.1 -33.4	N	21 53.5 -10.8	03			
04	242 52.4 +00.2	S	04 43.2 +00.9	220 20.6 +02.7	S	21 16.8 +00.0	308 01.7 -33.3	N	21 42.7 -11.0	04			
05	257 52.6 +00.2	S	04 44.1 +01.0	235 23.3 +02.7	S	21 16.8 +00.1	322 28.4 -33.2	N	21 31.7 -11.1	05			
06	272 52.8 +00.1	S	04 45.1 +01.0	250 26.0 +02.7	S	21 16.9 +00.1	336 55.2 -33.1	N	21 20.6 -11.2	06			
07	287 52.9 +00.2	S	04 46.1 +00.9	265 28.7 +02.7	S	21 17.0 +00.1	351 22.1 -33.0	N	21 09.4 -11.3	07			
08	302 53.1 +00.2	S	04 47.0 +01.0	280 31.4 +02.8	S	21 17.1 +00.0	5 49.1 -32.9	N	20 58.1 -11.4	08			
09	317 53.3 +00.2	S	04 48.0 +01.0	295 34.2 +02.7	S	21 17.1 +00.1	20 16.2 -32.8	N	20 46.7 -11.5	09			
10	332 53.5 +00.2	S	04 49.0 +00.9	310 36.9 +02.7	S	21 17.2 +00.1	34 43.4 -32.7	N	20 35.2 -11.7	10			
11	347 53.7 +00.2	S	04 49.9 +01.0	325 39.6 +02.7	S	21 17.3 +00.0	49 10.7 -32.6	N	20 23.5 -11.8	11			
12	2 53.9 +00.2	S	04 50.9 +00.9	340 42.3 +02.8	S	21 17.3 +00.1	63 38.1 -32.5	N	20 11.7 -11.9	12			
13	17 54.1 +00.2	S	04 51.8 +01.0	355 45.1 +02.7	S	21 17.4 +00.1	78 05.6 -32.4	N	19 59.8 -12.0	13			
14	32 54.3 +00.1	S	04 52.8 +01.0	10 47.8 +02.8	S	21 17.5 +00.0	92 33.2 -32.3	N	19 47.8 -12.1	14			
15	47 54.4 +00.2	S	04 53.8 +00.9	25 50.6 +02.7	S	21 17.5 +00.1	107 00.9 -32.2	N	19 35.7 -12.2	15			
16	62 54.6 +00.2	S	04 54.7 +01.0	40 53.3 +02.8	S	21 17.6 +00.0	121 28.7 -32.1	N	19 23.5 -12.3	16			
17	77 54.8 +00.2	S	04 55.7 +00.9	55 56.1 +02.7	S	21 17.6 +00.1	135 56.6 -32.0	N	19 11.2 -12.4	17			
18	92 55.0 +00.2	S	04 56.6 +01.0	70 58.8 +02.8	S	21 17.7 +00.1	150 24.6 -31.9	N	18 58.8 -12.5	18			
19	107 55.2 +00.2	S	04 57.6 +01.0	86 01.6 +02.7	S	21 17.8 +00.0	164 52.7 -31.8	N	18 46.3 -12.6	19			
20	122 55.4 +00.2	S	04 58.6 +00.9	101 04.3 +02.8	S	21 17.8 +00.1	179 20.9 -31.7	N	18 33.7 -12.8	20			
21	137 55.6 +00.1	S	04 59.5 +01.0	116 07.1 +02.8	S	21 17.9 +00.0	193 49.2 -31.6	N	18 20.9 -12.8	21			
22	152 55.7 +00.2	S	05 00.5 +00.9	131 09.9 +02.7	S	21 17.9 +00.0	208 17.6 -31.6	N	18 08.1 -12.9	22			
23	167 55.9 +00.2	S	05 01.4 +01.0	146 12.6 +02.8	S	21 17.9 +00.1	222 46.0 -31.4	N	17 55.2 -13.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'0 16'0 16'0 16'0 16'0 16'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'5 00'5 00'5 00'5 00'5			HP 58'9 58'9 58'8 58'8 58'7 58'7						
	SHA 169° 169° 169° 169° 168° 168°			SHA 146° 146° 147° 147° 147° 147°			SHA 235° 233° 231° 228° 226° 224°						
	Greenwich Culmination Time: 11:48			Greenwich Culmination Time: 13:16			Greenwich Culmination Time: 07:35						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	247 05.3 +01.0	N	20 18.4 -00.3	230 47.3 +02.1	N	15 17.8 -00.1	2 16.2 +02.6	N	01 57.5 -00.1	00			
01	262 06.3 +01.0	N	20 18.1 -00.3	245 49.4 +02.0	N	15 17.7 -00.2	17 18.8 +02.7	N	01 57.4 -00.1	01			
02	277 07.3 +00.9	N	20 17.8 -00.3	260 51.4 +02.0	N	15 17.5 -00.1	32 21.5 +02.6	N	01 57.3 +00.0	02			
03	292 08.2 +01.0	N	20 17.5 -00.3	275 53.4 +02.1	N	15 17.4 -00.1	47 24.1 +02.6	N	01 57.3 -00.1	03			
04	307 09.2 +01.0	N	20 17.2 -00.3	290 55.5 +02.0	N	15 17.3 -00.2	62 26.7 +02.7	N	01 57.2 -00.1	04			
05	322 10.2 +00.9	N	20 16.9 -00.3	305 57.5 +02.0	N	15 17.1 -00.1	77 29.4 +02.6	N	01 57.1 -00.1	05			
06	337 11.1 +01.0	N	20 16.6 -00.3	320 59.5 +02.1	N	15 17.0 -00.1	92 32.0 +02.7	N	01 57.0 -00.1	06			
07	352 12.1 +01.0	N	20 16.3 -00.3	336 01.6 +02.0	N	15 16.9 -00.2	107 34.7 +02.6	N	01 56.9 +00.0	07			
08	7 13.1 +00.9	N	20 16.0 -00.3	351 03.6 +02.1	N	15 16.7 -00.1	122 37.3 +02.7	N	01 56.9 -00.1	08			
09	22 14.0 +01.0	N	20 15.7 -00.3	6 05.7 +02.0	N	15 16.6 -00.1	137 40.0 +02.6	N	01 56.8 -00.1	09			
10	37 15.0 +01.0	N	20 15.4 -00.3	21 07.7 +02.0	N	15 16.5 -00.2	152 42.6 +02.7	N	01 56.7 -00.1	10			
11	52 16.0 +00.9	N	20 15.1 -00.3	36 09.7 +02.1	N	15 16.3 -00.1	167 45.3 +02.6	N	01 56.6 +00.0	11			
12	67 16.9 +01.0	N	20 14.8 -00.3	51 11.8 +02.0	N	15 16.2 -00.1	182 47.9 +02.6	N	01 56.6 -00.1	12			
13	82 17.9 +01.0	N	20 14.5 -00.3	66 13.8 +02.0	N	15 16.1 -00.1	197 50.5 +02.7	N	01 56.5 -00.1	13			
14	97 18.9 +01.0	N	20 14.2 -00.3	81 15.8 +02.1	N	15 16.0 -00.2	212 53.2 +02.6	N	01 56.4 -00.1	14			
15	112 19.9 +00.9	N	20 13.9 -00.3	96 17.9 +02.0	N	15 15.8 -00.1	227 55.8 +02.7	N	01 56.3 +00.0	15			
16	127 20.8 +01.0	N	20 13.6 -00.3	111 19.9 +02.1	N	15 15.7 -00.1	242 58.5 +02.6	N	01 56.3 -00.1	16			
17	142 21.8 +01.0	N	20 13.3 -00.3	126 22.0 +02.0	N	15 15.6 -00.2	258 01.1 +02.7	N	01 56.2 -00.1	17			
18	157 22.8 +00.9	N	20 13.0 -00.3	141 24.0 +02.0	N	15 15.4 -00.1	273 03.8 +02.6	N	01 56.1 -00.1	18			
19	172 23.7 +01.0	N	20 12.7 -00.3	156 26.0 +02.1	N	15 15.3 -00.1	288 06.4 +02.7	N	01 56.0 -00.1	19			
20	187 24.7 +01.0	N	20 12.4 -00.3	171 28.1 +02.0	N	15 15.2 -00.2	303 09.1 +02.6	N	01 55.9 +00.0	20			
21	202 25.7 +01.0	N	20 12.1 -00.3	186 30.1 +02.1	N	15 15.0 -00.1	318 11.7 +02.6	N	01 55.9 -00.1	21			
22	217 26.7 +00.9	N	20 11.8 -00.3	201 32.2 +02.0	N	15 14.9 -00.1	333 14.3 +02.7	N	01 55.8 -00.1	22			
23	232 27.6 +01.0	N	20 11.5 -00.3	216 34.2 +02.0	N	15 14.8 -00.1	348 17.0 +02.6	N	01 55.7 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 233° 233° 233° 233° 233° 233°			SHA 217° 217° 217° 217° 217° 217°			SHA 349° 349° 349° 349° 349° 349°						
	Greenwich Culmination Time: 07:31			Greenwich Culmination Time: 08:35			Greenwich Culmination Time: 23:46						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 56.1 +00.2	S	05 02.4 +01.0	161 15.4 +02.8	S	21 18.0 +00.0	237 14.6 -31.3	N	17 42.2 -13.1	00			
01	197 56.3 +00.2	S	05 03.4 +00.9	176 18.2 +02.8	S	21 18.0 +00.1	251 43.3 -31.2	N	17 29.1 -13.1	01			
02	212 56.5 +00.2	S	05 04.3 +01.0	191 21.0 +02.8	S	21 18.1 +00.0	266 12.1 -31.2	N	17 16.0 -13.3	02			
03	227 56.7 +00.2	S	05 05.3 +00.9	206 23.8 +02.8	S	21 18.1 +00.0	280 40.9 -31.0	N	17 02.7 -13.4	03			
04	242 56.9 +00.1	S	05 06.2 +01.0	221 26.6 +02.7	S	21 18.1 +00.0	295 09.9 -31.0	N	16 49.3 -13.4	04			
05	257 57.0 +00.2	S	05 07.2 +01.0	236 29.3 +02.8	S	21 18.1 +00.1	309 38.9 -30.8	N	16 35.9 -13.5	05			
06	272 57.2 +00.2	S	05 08.2 +00.9	251 32.1 +02.9	S	21 18.2 +00.0	324 08.1 -30.8	N	16 22.4 -13.6	06			
07	287 57.4 +00.2	S	05 09.1 +01.0	266 35.0 +02.8	S	21 18.2 +00.0	338 37.3 -30.7	N	16 08.8 -13.7	07			
08	302 57.6 +00.2	S	05 10.1 +00.9	281 37.8 +02.8	S	21 18.2 +00.0	353 06.6 -30.6	N	15 55.1 -13.8	08			
09	317 57.8 +00.2	S	05 11.0 +01.0	296 40.6 +02.8	S	21 18.2 +00.1	7 36.0 -30.5	N	15 41.3 -13.8	09			
10	332 58.0 +00.1	S	05 12.0 +01.0	311 43.4 +02.8	S	21 18.3 +00.0	22 05.5 -30.4	N	15 27.5 -14.0	10			
11	347 58.1 +00.2	S	05 13.0 +00.9	326 46.2 +02.8	S	21 18.3 +00.0	36 35.1 -30.4	N	15 13.5 -13.9	11			
12	2 58.3 +00.2	S	05 13.9 +01.0	341 49.0 +02.9	S	21 18.3 +00.0	51 04.7 -30.2	N	14 59.6 -14.1	12			
13	17 58.5 +00.2	S	05 14.9 +00.9	356 51.9 +02.8	S	21 18.3 +00.0	65 34.5 -30.2	N	14 45.5 -14.1	13			
14	32 58.7 +00.2	S	05 15.8 +01.0	11 54.7 +02.8	S	21 18.3 +00.0	80 04.3 -30.1	N	14 31.4 -14.2	14			
15	47 58.9 +00.2	S	05 16.8 +00.9	26 57.5 +02.9	S	21 18.3 +00.0	94 34.2 -30.0	N	14 17.2 -14.3	15			
16	62 59.1 +00.1	S	05 17.7 +01.0	42 00.4 +02.8	S	21 18.3 +00.0	109 04.2 -29.9	N	14 02.9 -14.3	16			
17	77 59.2 +00.2	S	05 18.7 +01.0	57 03.2 +02.8	S	21 18.3 +00.0	123 34.3 -29.8	N	13 48.6 -14.4	17			
18	92 59.4 +00.2	S	05 19.7 +00.9	72 06.0 +02.9	S	21 18.3 +00.0	138 04.5 -29.8	N	13 34.2 -14.5	18			
19	107 59.6 +00.2	S	05 20.6 +01.0	87 08.9 +02.8	S	21 18.3 +00.0	152 34.7 -29.7	N	13 19.7 -14.5	19			
20	122 59.8 +00.2	S	05 21.6 +00.9	102 11.7 +02.9	S	21 18.3 +00.0	167 05.0 -29.6	N	13 05.2 -14.6	20			
21	137 60.0 +00.1	S	05 22.5 +01.0	117 14.6 +02.9	S	21 18.3 +00.0	181 35.4 -29.5	N	12 50.6 -14.6	21			
22	153 00.1 +00.2	S	05 23.5 +01.0	132 17.5 +02.8	S	21 18.3 +00.0	196 05.9 -29.4	N	12 36.0 -14.7	22			
23	168 00.3 +00.2	S	05 24.5 +00.9	147 20.3 +02.9	S	21 18.3 +00.0	210 36.5 -29.4	N	12 21.3 -14.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'0 16'0 15'9 15'9 15'9 15'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 58'6 58'6 58'5 58'5 58'4 58'3						
	SHA 168° 168° 168° 168° 168° 167°			SHA 147° 147° 147° 147° 147° 147°			SHA 221° 219° 217° 215° 213° 211°						
	Greenwich Culmination Time: 11:48			Greenwich Culmination Time: 13:12			Greenwich Culmination Time: 08:28						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	247 28.6 +01.0	N	20 11.2 -00.3	231 36.2 +02.1	N	15 14.7 -00.2	3 19.6 +02.7	N	01 55.6 +00.0	00			
01	262 29.6 +00.9	N	20 10.9 -00.3	246 38.3 +02.0	N	15 14.5 -00.1	18 22.3 +02.6	N	01 55.6 -00.1	01			
02	277 30.5 +01.0	N	20 10.6 -00.3	261 40.3 +02.1	N	15 14.4 -00.1	33 24.9 +02.7	N	01 55.5 -00.1	02			
03	292 31.5 +01.0	N	20 10.3 -00.3	276 42.4 +02.0	N	15 14.3 -00.2	48 27.6 +02.6	N	01 55.4 -00.1	03			
04	307 32.5 +01.0	N	20 10.0 -00.3	291 44.4 +02.0	N	15 14.1 -00.1	63 30.2 +02.7	N	01 55.3 -00.1	04			
05	322 33.5 +00.9	N	20 09.7 -00.3	306 46.4 +02.1	N	15 14.0 -00.1	78 32.9 +02.6	N	01 55.2 +00.0	05			
06	337 34.4 +01.0	N	20 09.4 -00.3	321 48.5 +02.0	N	15 13.9 -00.2	93 35.5 +02.7	N	01 55.2 -00.1	06			
07	352 35.4 +01.0	N	20 09.1 -00.3	336 50.5 +02.1	N	15 13.7 -00.1	108 38.2 +02.6	N	01 55.1 -00.1	07			
08	7 36.4 +01.0	N	20 08.8 -00.3	351 52.6 +02.0	N	15 13.6 -00.1	123 40.8 +02.6	N	01 55.0 -00.1	08			
09	22 37.4 +00.9	N	20 08.5 -00.3	6 54.6 +02.0	N	15 13.5 -00.1	138 43.4 +02.7	N	01 54.9 +00.0	09			
10	37 38.3 +01.0	N	20 08.2 -00.3	21 56.6 +02.1	N	15 13.4 -00.2	153 46.1 +02.6	N	01 54.9 -00.1	10			
11	52 39.3 +01.0	N	20 07.9 -00.3	36 58.7 +02.0	N	15 13.2 -00.1	168 48.7 +02.7	N	01 54.8 -00.1	11			
12	67 40.3 +01.0	N	20 07.6 -00.3	52 00.7 +02.1	N	15 13.1 -00.1	183 51.4 +02.6	N	01 54.7 -00.1	12			
13	82 41.3 +00.9	N	20 07.3 -00.3	67 02.8 +02.0	N	15 13.0 -00.2	198 54.0 +02.7	N	01 54.6 +00.0	13			
14	97 42.2 +01.0	N	20 07.0 -00.3	82 04.8 +02.1	N	15 12.8 -00.1	213 56.7 +02.6	N	01 54.6 -00.1	14			
15	112 43.2 +01.0	N	20 06.7 -00.3	97 06.9 +02.0	N	15 12.7 -00.1	228 59.3 +02.7	N	01 54.5 -00.1	15			
16	127 44.2 +01.0	N	20 06.4 -00.3	112 08.9 +02.0	N	15 12.6 -00.2	244 02.0 +02.6	N	01 54.4 -00.1	16			
17	142 45.2 +01.0	N	20 06.1 -00.3	127 10.9 +02.1	N	15 12.4 -00.1	259 04.6 +02.6	N	01 54.3 +00.0	17			
18	157 46.2 +00.9	N	20 05.8 -00.3	142 13.0 +02.0	N	15 12.3 -00.1	274 07.2 +02.7	N	01 54.3 -00.1	18			
19	172 47.1 +01.0	N	20 05.5 -00.3	157 15.0 +02.1	N	15 12.2 -00.1	289 09.9 +02.6	N	01 54.2 -00.1	19			
20	187 48.1 +01.0	N	20 05.2 -00.3	172 17.1 +02.0	N	15 12.1 -00.2	304 12.5 +02.7	N	01 54.1 -00.1	20			
21	202 49.1 +01.0	N	20 04.9 -00.3	187 19.1 +02.1	N	15 11.9 -00.1	319 15.2 +02.6	N	01 54.0 -00.1	21			
22	217 50.1 +01.0	N	20 04.6 -00.3	202 21.2 +02.0	N	15 11.8 -00.1	334 17.8 +02.7	N	01 53.9 +00.0	22			
23	232 51.1 +00.9	N	20 04.3 -00.3	217 23.2 +02.0	N	15 11.7 -00.2	349 20.5 +02.6	N	01 53.9 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 233° 233° 233° 232° 232° 232°			SHA 217° 217° 217° 217° 217° 217°			SHA 349° 349° 349° 349° 349° 349°						
	Greenwich Culmination Time: 07:29			Greenwich Culmination Time: 08:32			Greenwich Culmination Time: 23:42						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 00.5 +00.2	S	05 25.4 +01.0	162 23.2 +02.9	S	21 18.3 +00.0	225 07.1 -29.3	N	12 06.5 -14.8				
01	198 00.7 +00.2	S	05 26.4 +00.9	177 26.1 +02.8	S	21 18.3 +00.0	239 37.8 -29.2	N	11 51.7 -14.8				
02	213 00.9 +00.1	S	05 27.3 +01.0	192 28.9 +02.9	S	21 18.3 -00.1	254 08.6 -29.2	N	11 36.9 -14.9				
03	228 01.0 +00.2	S	05 28.3 +00.9	207 31.8 +02.9	S	21 18.2 +00.0	268 39.4 -29.1	N	11 22.0 -15.0				
04	243 01.2 +00.2	S	05 29.2 +01.0	222 34.7 +02.9	S	21 18.2 +00.0	283 10.3 -29.0	N	11 07.0 -15.0				
05	258 01.4 +00.2	S	05 30.2 +00.9	237 37.6 +02.9	S	21 18.2 +00.0	297 41.3 -29.0	N	10 52.0 -15.0				
06	273 01.6 +00.2	S	05 31.1 +01.0	252 40.5 +02.9	S	21 18.2 -00.1	312 12.3 -28.9	N	10 37.0 -15.1				
07	288 01.8 +00.1	S	05 32.1 +01.0	267 43.4 +02.9	S	21 18.1 +00.0	326 43.4 -28.8	N	10 21.9 -15.2				
08	303 01.9 +00.2	S	05 33.1 +00.9	282 46.3 +02.9	S	21 18.1 +00.0	341 14.6 -28.7	N	10 06.7 -15.2				
09	318 02.1 +00.2	S	05 34.0 +01.0	297 49.2 +02.9	S	21 18.1 -00.1	355 45.9 -28.7	N	09 51.5 -15.2				
10	333 02.3 +00.2	S	05 35.0 +00.9	312 52.1 +02.9	S	21 18.0 +00.0	10 17.2 -28.7	N	09 36.3 -15.2				
11	348 02.5 +00.2	S	05 35.9 +01.0	327 55.0 +02.9	S	21 18.0 +00.0	24 48.5 -28.5	N	09 21.1 -15.3				
12	3 02.7 +00.1	S	05 36.9 +00.9	342 57.9 +02.9	S	21 18.0 -00.1	39 20.0 -28.5	N	09 05.8 -15.3				
13	18 02.8 +00.2	S	05 37.8 +01.0	358 00.8 +03.0	S	21 17.9 +00.0	53 51.5 -28.5	N	08 50.5 -15.4				
14	33 03.0 +00.2	S	05 38.8 +01.0	13 03.8 +02.9	S	21 17.9 -00.1	68 23.0 -28.4	N	08 35.1 -15.4				
15	48 03.2 +00.2	S	05 39.8 +00.9	28 06.7 +02.9	S	21 17.8 +00.0	82 54.6 -28.3	N	08 19.7 -15.4				
16	63 03.4 +00.2	S	05 40.7 +01.0	43 09.6 +03.0	S	21 17.8 -00.1	97 26.3 -28.3	N	08 04.3 -15.5				
17	78 03.6 +00.1	S	05 41.7 +00.9	58 12.6 +02.9	S	21 17.7 +00.0	111 58.0 -28.2	N	07 48.8 -15.5				
18	93 03.7 +00.2	S	05 42.6 +01.0	73 15.5 +02.9	S	21 17.7 -00.1	126 29.8 -28.2	N	07 33.3 -15.5				
19	108 03.9 +00.2	S	05 43.6 +00.9	88 18.4 +03.0	S	21 17.6 +00.0	141 01.6 -28.1	N	07 17.8 -15.5				
20	123 04.1 +00.2	S	05 44.5 +01.0	103 21.4 +02.9	S	21 17.6 -00.1	155 33.5 -28.1	N	07 02.3 -15.6				
21	138 04.3 +00.1	S	05 45.5 +00.9	118 24.3 +03.0	S	21 17.5 -00.1	170 05.4 -28.0	N	06 46.7 -15.5				
22	153 04.4 +00.2	S	05 46.4 +01.0	133 27.3 +02.9	S	21 17.4 +00.0	184 37.4 -28.0	N	06 31.2 -15.6				
23	168 04.6 +00.2	S	05 47.4 +00.9	148 30.2 +03.0	S	21 17.4 -00.1	199 09.4 -27.9	N	06 15.6 -15.7				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 15'9 15'9 15'8 15'8 15'8 15'8					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 58'3 58'2 58'1 58'1 58'0 57'9					
	SHA 167° 167° 167° 167° 167° 167°			SHA 147° 147° 147° 147° 147° 147°				SHA 208° 206° 204° 202° 200° 198°					
	Greenwich Culmination Time: 11:47			Greenwich Culmination Time: 13:07				Greenwich Culmination Time: 09:17					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	247 52.0 +01.0	N	20 04.0 -00.3	232 25.2 +02.1	N	15 11.5 -00.1	4 23.1 +02.7	N	01 53.8 -00.1				
01	262 53.0 +01.0	N	20 03.7 -00.3	247 27.3 +02.0	N	15 11.4 -00.1	19 25.8 +02.6	N	01 53.7 -00.1				
02	277 54.0 +01.0	N	20 03.4 -00.4	262 29.3 +02.1	N	15 11.3 -00.1	34 28.4 +02.6	N	01 53.6 +00.0				
03	292 55.0 +01.0	N	20 03.0 -00.3	277 31.4 +02.0	N	15 11.2 -00.2	49 31.0 +02.7	N	01 53.6 -00.1				
04	307 56.0 +00.9	N	20 02.7 -00.3	292 33.4 +02.1	N	15 11.0 -00.1	64 33.7 +02.6	N	01 53.5 -00.1				
05	322 56.9 +01.0	N	20 02.4 -00.3	307 35.5 +02.0	N	15 10.9 -00.1	79 36.3 +02.7	N	01 53.4 -00.1				
06	337 57.9 +01.0	N	20 02.1 -00.3	322 37.5 +02.1	N	15 10.8 -00.2	94 39.0 +02.6	N	01 53.3 +00.0				
07	352 58.9 +01.0	N	20 01.8 -00.3	337 39.6 +02.0	N	15 10.6 -00.1	109 41.6 +02.7	N	01 53.3 -00.1				
08	7 59.9 +01.0	N	20 01.5 -00.3	352 41.6 +02.0	N	15 10.5 -00.1	124 44.3 +02.6	N	01 53.2 -00.1				
09	23 00.9 +01.0	N	20 01.2 -00.3	7 43.6 +02.1	N	15 10.4 -00.1	139 46.9 +02.7	N	01 53.1 -00.1				
10	38 01.9 +00.9	N	20 00.9 -00.3	22 45.7 +02.0	N	15 10.3 -00.2	154 49.6 +02.6	N	01 53.0 -00.1				
11	53 02.8 +01.0	N	20 00.6 -00.3	37 47.7 +02.1	N	15 10.1 -00.1	169 52.2 +02.6	N	01 52.9 +00.0				
12	68 03.8 +01.0	N	20 00.3 -00.3	52 49.8 +02.0	N	15 10.0 -00.1	184 54.8 +02.7	N	01 52.9 -00.1				
13	83 04.8 +01.0	N	19 60.0 -00.3	67 51.8 +02.1	N	15 09.9 -00.2	199 57.5 +02.6	N	01 52.8 -00.1				
14	98 05.8 +01.0	N	19 59.7 -00.3	82 53.9 +02.0	N	15 09.7 -00.1	215 00.1 +02.7	N	01 52.7 -00.1				
15	113 06.8 +01.0	N	19 59.4 -00.3	97 55.9 +02.1	N	15 09.6 -00.1	230 02.8 +02.6	N	01 52.6 +00.0				
16	128 07.8 +01.0	N	19 59.1 -00.3	112 58.0 +02.0	N	15 09.5 -00.1	245 05.4 +02.7	N	01 52.6 -00.1				
17	143 08.8 +00.9	N	19 58.8 -00.3	128 00.0 +02.1	N	15 09.4 -00.2	260 08.1 +02.6	N	01 52.5 -00.1				
18	158 09.7 +01.0	N	19 58.5 -00.3	143 02.1 +02.0	N	15 09.2 -00.1	275 10.7 +02.7	N	01 52.4 -00.1				
19	173 10.7 +01.0	N	19 58.2 -00.4	158 04.1 +02.1	N	15 09.1 -00.1	290 13.4 +02.6	N	01 52.3 +00.0				
20	188 11.7 +01.0	N	19 57.8 -00.3	173 06.2 +02.0	N	15 09.0 -00.2	305 16.0 +02.7	N	01 52.3 -00.1				
21	203 12.7 +01.0	N	19 57.5 -00.3	188 08.2 +02.1	N	15 08.8 -00.1	320 18.7 +02.6	N	01 52.2 -00.1				
22	218 13.7 +01.0	N	19 57.2 -00.3	203 10.3 +02.0	N	15 08.7 -00.1	335 21.3 +02.6	N	01 52.1 -00.1				
23	233 14.7 +01.0	N	19 56.9 -00.3	218 12.3 +02.0	N	15 08.6 -00.1	350 23.9 +02.7	N	01 52.0 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 232° 232° 232° 232° 232° 232°			SHA 217° 217° 217° 217° 217° 217°				SHA 349° 349° 349° 349° 349° 349°					
	Greenwich Culmination Time: 07:28			Greenwich Culmination Time: 08:29				Greenwich Culmination Time: 23:38					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 04.8 +00.2	S	05 48.3 +01.0	163 33.2 +03.0	S	21 17.3 -00.1	213 41.5 -27.9	N	05 59.9 -15.6	00			
01	198 05.0 +00.2	S	05 49.3 +01.0	178 36.2 +02.9	S	21 17.2 -00.1	228 13.6 -27.8	N	05 44.3 -15.7	01			
02	213 05.2 +00.1	S	05 50.3 +00.9	193 39.1 +03.0	S	21 17.1 +00.0	242 45.8 -27.8	N	05 28.6 -15.7	02			
03	228 05.3 +00.2	S	05 51.2 +01.0	208 42.1 +03.0	S	21 17.1 -00.1	257 18.0 -27.8	N	05 12.9 -15.6	03			
04	243 05.5 +00.2	S	05 52.2 +00.9	223 45.1 +03.0	S	21 17.0 -00.1	271 50.2 -27.7	N	04 57.3 -15.7	04			
05	258 05.7 +00.2	S	05 53.1 +01.0	238 48.1 +02.9	S	21 16.9 -00.1	286 22.5 -27.6	N	04 41.6 -15.8	05			
06	273 05.9 +00.1	S	05 54.1 +00.9	253 51.0 +03.0	S	21 16.8 +00.0	300 54.9 -27.7	N	04 25.8 -15.7	06			
07	288 06.0 +00.2	S	05 55.0 +01.0	268 54.0 +03.0	S	21 16.8 -00.1	315 27.2 -27.6	N	04 10.1 -15.7	07			
08	303 06.2 +00.2	S	05 56.0 +00.9	283 57.0 +03.0	S	21 16.7 -00.1	329 59.6 -27.5	N	03 54.4 -15.8	08			
09	318 06.4 +00.2	S	05 56.9 +01.0	299 00.0 +03.0	S	21 16.6 -00.1	344 32.1 -27.5	N	03 38.6 -15.7	09			
10	333 06.6 +00.1	S	05 57.9 +00.9	314 03.0 +03.0	S	21 16.5 -00.1	359 04.6 -27.5	N	03 22.9 -15.8	10			
11	348 06.7 +00.2	S	05 58.8 +01.0	329 06.0 +03.0	S	21 16.4 -00.1	13 37.1 -27.5	N	03 07.1 -15.7	11			
12	3 06.9 +00.2	S	05 59.8 +00.9	344 09.0 +03.0	S	21 16.3 -00.1	28 09.6 -27.4	N	02 51.4 -15.8	12			
13	18 07.1 +00.2	S	06 00.7 +01.0	359 12.0 +03.0	S	21 16.2 -00.1	42 42.2 -27.4	N	02 35.6 -15.8	13			
14	33 07.3 +00.1	S	06 01.7 +00.9	14 15.0 +03.0	S	21 16.1 -00.1	57 14.8 -27.3	N	02 19.8 -15.7	14			
15	48 07.4 +00.2	S	06 02.6 +01.0	29 18.0 +03.1	S	21 16.0 -00.1	71 47.5 -27.4	N	02 04.1 -15.8	15			
16	63 07.6 +00.2	S	06 03.6 +01.0	44 21.1 +03.0	S	21 15.9 -00.1	86 20.1 -27.3	N	01 48.3 -15.8	16			
17	78 07.8 +00.1	S	06 04.6 +00.9	59 24.1 +03.0	S	21 15.8 -00.1	100 52.8 -27.2	N	01 32.5 -15.7	17			
18	93 07.9 +00.2	S	06 05.5 +01.0	74 27.1 +03.1	S	21 15.7 -00.1	115 25.6 -27.3	N	01 16.8 -15.8	18			
19	108 08.1 +00.2	S	06 06.5 +00.9	89 30.2 +03.0	S	21 15.6 -00.2	129 58.3 -27.2	N	01 01.0 -15.7	19			
20	123 08.3 +00.2	S	06 07.4 +01.0	104 33.2 +03.0	S	21 15.4 -00.1	144 31.1 -27.2	N	00 45.3 -15.8	20			
21	138 08.5 +00.1	S	06 08.4 +00.9	119 36.2 +03.1	S	21 15.3 -00.1	159 03.9 -27.2	N	00 29.5 -15.7	21			
22	153 08.6 +00.2	S	06 09.3 +01.0	134 39.3 +03.0	S	21 15.2 -00.1	173 36.7 -27.2	N	00 13.8 -15.7	22			
23	168 08.8 +00.2	S	06 10.3 +00.9	149 42.3 +03.1	S	21 15.1 -00.1	188 09.5 -27.1	S	00 01.9 +15.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'4 00'4 00'4 00'4 00'4 00'5			SD 15'8 15'7 15'7 15'7 15'7 15'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 57'9 57'8 57'7 57'6 57'5 57'5						
	SHA 166° 166° 166° 166° 166° 166°			SHA 147° 147° 147° 147° 147° 147°			SHA 196° 194° 192° 190° 188° 186°						
	Greenwich Culmination Time: 11:47			Greenwich Culmination Time: 13:03			Greenwich Culmination Time: 10:03						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	248 15.7 +01.0	N	19 56.6 -00.3	233 14.3 +02.1	N	15 08.5 -00.2	5 26.6 +02.6	N	01 52.0 -00.1	00			
01	263 16.7 +00.9	N	19 56.3 -00.3	248 16.4 +02.0	N	15 08.3 -00.1	20 29.2 +02.7	N	01 51.9 -00.1	01			
02	278 17.6 +01.0	N	19 56.0 -00.3	263 18.4 +02.1	N	15 08.2 -00.1	35 31.9 +02.6	N	01 51.8 -00.1	02			
03	293 18.6 +01.0	N	19 55.7 -00.3	278 20.5 +02.0	N	15 08.1 -00.2	50 34.5 +02.7	N	01 51.7 -00.1	03			
04	308 19.6 +01.0	N	19 55.4 -00.3	293 22.5 +02.1	N	15 07.9 -00.1	65 37.2 +02.6	N	01 51.6 +00.0	04			
05	323 20.6 +01.0	N	19 55.1 -00.3	308 24.6 +02.0	N	15 07.8 -00.1	80 39.8 +02.7	N	01 51.6 -00.1	05			
06	338 21.6 +01.0	N	19 54.8 -00.3	323 26.6 +02.1	N	15 07.7 -00.1	95 42.5 +02.6	N	01 51.5 -00.1	06			
07	353 22.6 +01.0	N	19 54.5 -00.3	338 28.7 +02.0	N	15 07.6 -00.2	110 45.1 +02.6	N	01 51.4 -00.1	07			
08	8 23.6 +01.0	N	19 54.2 -00.4	353 30.7 +02.1	N	15 07.4 -00.1	125 47.7 +02.7	N	01 51.3 +00.0	08			
09	23 24.6 +01.0	N	19 53.8 -00.3	8 32.8 +02.0	N	15 07.3 -00.1	140 50.4 +02.6	N	01 51.3 -00.1	09			
10	38 25.6 +01.0	N	19 53.5 -00.3	23 34.8 +02.1	N	15 07.2 -00.1	155 53.0 +02.7	N	01 51.2 -00.1	10			
11	53 26.6 +01.0	N	19 53.2 -00.3	38 36.9 +02.0	N	15 07.1 -00.2	170 55.7 +02.6	N	01 51.1 -00.1	11			
12	68 27.6 +01.0	N	19 52.9 -00.3	53 38.9 +02.1	N	15 06.9 -00.1	185 58.3 +02.7	N	01 51.0 +00.0	12			
13	83 28.6 +00.9	N	19 52.6 -00.3	68 41.0 +02.0	N	15 06.8 -00.1	201 01.0 +02.6	N	01 51.0 -00.1	13			
14	98 29.5 +01.0	N	19 52.3 -00.3	83 43.0 +02.1	N	15 06.7 -00.2	216 03.6 +02.7	N	01 50.9 -00.1	14			
15	113 30.5 +01.0	N	19 52.0 -00.3	98 45.1 +02.0	N	15 06.5 -00.1	231 06.3 +02.6	N	01 50.8 -00.1	15			
16	128 31.5 +01.0	N	19 51.7 -00.3	113 47.1 +02.1	N	15 06.4 -00.1	246 08.9 +02.6	N	01 50.7 +00.0	16			
17	143 32.5 +01.0	N	19 51.4 -00.3	128 49.2 +02.0	N	15 06.3 -00.1	261 11.5 +02.7	N	01 50.7 -00.1	17			
18	158 33.5 +01.0	N	19 51.1 -00.3	143 51.2 +02.1	N	15 06.2 -00.2	276 14.2 +02.6	N	01 50.6 -00.1	18			
19	173 34.5 +01.0	N	19 50.8 -00.4	158 53.3 +02.0	N	15 06.0 -00.1	291 16.8 +02.7	N	01 50.5 -00.1	19			
20	188 35.5 +01.0	N	19 50.4 -00.3	173 55.3 +02.1	N	15 05.9 -00.1	306 19.5 +02.6	N	01 50.4 +00.0	20			
21	203 36.5 +01.0	N	19 50.1 -00.3	188 57.4 +02.0	N	15 05.8 -00.1	321 22.1 +02.7	N	01 50.4 -00.1	21			
22	218 37.5 +01.0	N	19 49.8 -00.3	203 59.4 +02.1	N	15 05.7 -00.2	336 24.8 +02.6	N	01 50.3 -00.1	22			
23	233 38.5 +01.0	N	19 49.5 -00.3	219 01.5 +02.1	N	15 05.5 -00.1	351 27.4 +02.7	N	01 50.2 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 232° 231° 231° 231° 231° 231°			SHA 217° 217° 217° 216° 216° 216°			SHA 349° 349° 349° 349° 349° 349°						
	Greenwich Culmination Time: 07:26			Greenwich Culmination Time: 08:25			Greenwich Culmination Time: 23:34						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 09.0 +00.2	S	06 11.2 +01.0	164 45.4 +03.0	S	21 15.0 -00.2	202 42.4 -27.1	S	00 17.7 +15.7	00			
01	198 09.2 +00.1	S	06 12.2 +00.9	179 48.4 +03.1	S	21 14.8 -00.1	217 15.3 -27.1	S	00 33.4 +15.6	01			
02	213 09.3 +00.2	S	06 13.1 +01.0	194 51.5 +03.0	S	21 14.7 -00.1	231 48.2 -27.1	S	00 49.0 +15.7	02			
03	228 09.5 +00.2	S	06 14.1 +00.9	209 54.5 +03.1	S	21 14.6 -00.2	246 21.1 -27.1	S	01 04.7 +15.7	03			
04	243 09.7 +00.1	S	06 15.0 +01.0	224 57.6 +03.1	S	21 14.4 -00.1	260 54.0 -27.1	S	01 20.4 +15.6	04			
05	258 09.8 +00.2	S	06 16.0 +00.9	240 00.7 +03.0	S	21 14.3 -00.1	275 26.9 -27.0	S	01 36.0 +15.6	05			
06	273 10.0 +00.2	S	06 16.9 +01.0	255 03.7 +03.1	S	21 14.2 -00.2	289 59.9 -27.0	S	01 51.6 +15.6	06			
07	288 10.2 +00.1	S	06 17.9 +00.9	270 06.8 +03.1	S	21 14.0 -00.1	304 32.9 -27.1	S	02 07.2 +15.6	07			
08	303 10.3 +00.2	S	06 18.8 +01.0	285 09.9 +03.1	S	21 13.9 -00.2	319 05.8 -27.0	S	02 22.8 +15.6	08			
09	318 10.5 +00.2	S	06 19.8 +00.9	300 13.0 +03.1	S	21 13.7 -00.1	333 38.8 -27.0	S	02 38.4 +15.5	09			
10	333 10.7 +00.2	S	06 20.7 +01.0	315 16.1 +03.1	S	21 13.6 -00.2	348 11.8 -27.0	S	02 53.9 +15.5	10			
11	348 10.9 +00.1	S	06 21.7 +00.9	330 19.2 +03.1	S	21 13.4 -00.1	2 44.8 -27.0	S	03 09.4 +15.5	11			
12	3 11.0 +00.2	S	06 22.6 +01.0	345 22.3 +03.1	S	21 13.3 -00.2	17 17.8 -27.0	S	03 24.9 +15.5	12			
13	18 11.2 +00.2	S	06 23.6 +00.9	0 25.4 +03.1	S	21 13.1 -00.1	31 50.8 -27.0	S	03 40.4 +15.4	13			
14	33 11.4 +00.1	S	06 24.5 +01.0	15 28.5 +03.1	S	21 13.0 -00.2	46 23.8 -26.9	S	03 55.8 +15.4	14			
15	48 11.5 +00.2	S	06 25.5 +00.9	30 31.6 +03.1	S	21 12.8 -00.2	60 56.9 -27.0	S	04 11.2 +15.4	15			
16	63 11.7 +00.2	S	06 26.4 +01.0	45 34.7 +03.1	S	21 12.6 -00.1	75 29.9 -27.0	S	04 26.6 +15.3	16			
17	78 11.9 +00.1	S	06 27.4 +00.9	60 37.8 +03.1	S	21 12.5 -00.2	90 02.9 -27.0	S	04 41.9 +15.3	17			
18	93 12.0 +00.2	S	06 28.3 +01.0	75 40.9 +03.1	S	21 12.3 -00.2	104 35.9 -27.0	S	04 57.2 +15.3	18			
19	108 12.2 +00.2	S	06 29.3 +00.9	90 44.0 +03.1	S	21 12.1 -00.1	119 08.9 -26.9	S	05 12.5 +15.3	19			
20	123 12.4 +00.1	S	06 30.2 +01.0	105 47.1 +03.2	S	21 12.0 -00.2	133 42.0 -27.0	S	05 27.8 +15.2	20			
21	138 12.5 +00.2	S	06 31.2 +00.9	120 50.3 +03.1	S	21 11.8 -00.2	148 15.0 -27.0	S	05 43.0 +15.1	21			
22	153 12.7 +00.2	S	06 32.1 +00.9	135 53.4 +03.1	S	21 11.6 -00.2	162 48.0 -27.0	S	05 58.1 +15.2	22			
23	168 12.9 +00.2	S	06 33.0 +01.0	150 56.5 +03.2	S	21 11.4 -00.2	177 21.0 -27.0	S	06 13.3 +15.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 15'6 15'6 15'6 15'6 15'5 15'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 57'4 57'3 57'2 57'1 57'0 56'9						
	SHA 165° 165° 165° 165° 165° 165°			SHA 147° 147° 147° 147° 147° 147°			SHA 184° 182° 180° 178° 176° 174°						
	Greenwich Culmination Time: 11:47			Greenwich Culmination Time: 12:58			Greenwich Culmination Time: 10:48						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	248 39.5 +01.0	N	19 49.2 -00.3	234 03.6 +02.0	N	15 05.4 -00.1	6 30.1 +02.6	N	01 50.1 -00.1	00			
01	263 40.5 +01.0	N	19 48.9 -00.3	249 05.6 +02.1	N	15 05.3 -00.2	21 32.7 +02.6	N	01 50.0 +00.0	01			
02	278 41.5 +01.0	N	19 48.6 -00.3	264 07.7 +02.0	N	15 05.1 -00.1	36 35.3 +02.7	N	01 50.0 -00.1	02			
03	293 42.5 +01.0	N	19 48.3 -00.3	279 09.7 +02.1	N	15 05.0 -00.1	51 38.0 +02.6	N	01 49.9 -00.1	03			
04	308 43.5 +01.0	N	19 48.0 -00.4	294 11.8 +02.0	N	15 04.9 -00.1	66 40.6 +02.7	N	01 49.8 -00.1	04			
05	323 44.5 +01.0	N	19 47.6 -00.3	309 13.8 +02.1	N	15 04.8 -00.2	81 43.3 +02.6	N	01 49.7 +00.0	05			
06	338 45.5 +01.0	N	19 47.3 -00.3	324 15.9 +02.0	N	15 04.6 -00.1	96 45.9 +02.7	N	01 49.7 -00.1	06			
07	353 46.5 +01.0	N	19 47.0 -00.3	339 17.9 +02.1	N	15 04.5 -00.1	111 48.6 +02.6	N	01 49.6 -00.1	07			
08	8 47.5 +01.0	N	19 46.7 -00.3	354 20.0 +02.0	N	15 04.4 -00.1	126 51.2 +02.7	N	01 49.5 -00.1	08			
09	23 48.5 +01.0	N	19 46.4 -00.3	9 22.0 +02.1	N	15 04.3 -00.2	141 53.9 +02.6	N	01 49.4 +00.0	09			
10	38 49.5 +01.0	N	19 46.1 -00.3	24 24.1 +02.0	N	15 04.1 -00.1	156 56.5 +02.6	N	01 49.4 -00.1	10			
11	53 50.5 +01.0	N	19 45.8 -00.3	39 26.1 +02.1	N	15 04.0 -00.1	171 59.1 +02.7	N	01 49.3 -00.1	11			
12	68 51.5 +01.0	N	19 45.5 -00.3	54 28.2 +02.0	N	15 03.9 -00.1	187 01.8 +02.6	N	01 49.2 -00.1	12			
13	83 52.5 +01.0	N	19 45.2 -00.4	69 30.2 +02.1	N	15 03.8 -00.2	202 04.4 +02.7	N	01 49.1 +00.0	13			
14	98 53.5 +01.0	N	19 44.8 -00.3	84 32.3 +02.1	N	15 03.6 -00.1	217 07.1 +02.6	N	01 49.1 -00.1	14			
15	113 54.5 +01.0	N	19 44.5 -00.3	99 34.4 +02.0	N	15 03.5 -00.1	232 09.7 +02.7	N	01 49.0 -00.1	15			
16	128 55.5 +01.0	N	19 44.2 -00.3	114 36.4 +02.1	N	15 03.4 -00.2	247 12.4 +02.6	N	01 48.9 -00.1	16			
17	143 56.5 +01.0	N	19 43.9 -00.3	129 38.5 +02.0	N	15 03.2 -00.1	262 15.0 +02.6	N	01 48.8 +00.0	17			
18	158 57.5 +01.0	N	19 43.6 -00.3	144 40.5 +02.1	N	15 03.1 -00.1	277 17.6 +02.7	N	01 48.8 -00.1	18			
19	173 58.5 +01.0	N	19 43.3 -00.3	159 42.6 +02.0	N	15 03.0 -00.1	292 20.3 +02.6	N	01 48.7 -00.1	19			
20	188 59.5 +01.0	N	19 43.0 -00.3	174 44.6 +02.1	N	15 02.9 -00.2	307 22.9 +02.7	N	01 48.6 -00.1	20			
21	204 00.5 +01.0	N	19 42.7 -00.4	189 46.7 +02.0	N	15 02.7 -00.1	322 25.6 +02.6	N	01 48.5 +00.0	21			
22	219 01.5 +01.0	N	19 42.3 -00.3	204 48.7 +02.1	N	15 02.6 -00.1	337 28.2 +02.7	N	01 48.5 -00.1	22			
23	234 02.5 +01.0	N	19 42.0 -00.3	219 50.8 +02.1	N	15 02.5 -00.1	352 30.9 +02.6	N	01 48.4 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 231° 231° 231° 231° 231° 230°			SHA 216° 216° 216° 216° 216° 216°			SHA 349° 349° 349° 349° 349° 349°						
	Greenwich Culmination Time: 07:24			Greenwich Culmination Time: 08:22			Greenwich Culmination Time: 23:29						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183	13.1 +00.1	S 06 34.0 +00.9		165	59.7 +03.1	S 21 11.2 -00.1		191	54.0 -27.0	S 06 28.4 +15.0		00
01	198	13.2 +00.2	S 06 34.9 +01.0		181	02.8 +03.2	S 21 11.1 -00.2		206	27.0 -27.0	S 06 43.4 +15.0		01
02	213	13.4 +00.2	S 06 35.9 +00.9		196	06.0 +03.1	S 21 10.9 -00.2		220	60.0 -27.0	S 06 58.4 +15.0		02
03	228	13.6 +00.1	S 06 36.8 +01.0		211	09.1 +03.2	S 21 10.7 -00.2		235	33.0 -27.1	S 07 13.4 +14.9		03
04	243	13.7 +00.2	S 06 37.8 +00.9		226	12.3 +03.1	S 21 10.5 -00.2		250	05.9 -27.0	S 07 28.3 +14.9		04
05	258	13.9 +00.1	S 06 38.7 +01.0		241	15.4 +03.2	S 21 10.3 -00.2		264	38.9 -27.1	S 07 43.2 +14.8		05
06	273	14.0 +00.2	S 06 39.7 +00.9		256	18.6 +03.2	S 21 10.1 -00.2		279	11.8 -27.0	S 07 58.0 +14.8		06
07	288	14.2 +00.2	S 06 40.6 +01.0		271	21.8 +03.1	S 21 09.9 -00.2		293	44.8 -27.1	S 08 12.8 +14.8		07
08	303	14.4 +00.1	S 06 41.6 +00.9		286	24.9 +03.2	S 21 09.7 -00.2		308	17.7 -27.1	S 08 27.6 +14.7		08
09	318	14.5 +00.2	S 06 42.5 +01.0		301	28.1 +03.2	S 21 09.5 -00.2		322	50.6 -27.1	S 08 42.3 +14.6		09
10	333	14.7 +00.2	S 06 43.5 +00.9		316	31.3 +03.1	S 21 09.3 -00.2		337	23.5 -27.1	S 08 56.9 +14.6		10
11	348	14.9 +00.1	S 06 44.4 +01.0		331	34.4 +03.2	S 21 09.1 -00.2		351	56.4 -27.2	S 09 11.5 +14.5		11
12	3	15.0 +00.2	S 06 45.4 +00.9		346	37.6 +03.2	S 21 08.9 -00.3		6	29.2 -27.1	S 09 26.0 +14.5		12
13	18	15.2 +00.2	S 06 46.3 +00.9		1	40.8 +03.2	S 21 08.6 -00.2		21	02.1 -27.2	S 09 40.5 +14.5		13
14	33	15.4 +00.1	S 06 47.2 +01.0		16	44.0 +03.2	S 21 08.4 -00.2		35	34.9 -27.2	S 09 55.0 +14.3		14
15	48	15.5 +00.2	S 06 48.2 +00.9		31	47.2 +03.2	S 21 08.2 -00.2		50	07.7 -27.2	S 10 09.3 +14.4		15
16	63	15.7 +00.2	S 06 49.1 +01.0		46	50.4 +03.2	S 21 08.0 -00.2		64	40.5 -27.3	S 10 23.7 +14.2		16
17	78	15.9 +00.1	S 06 50.1 +00.9		61	53.6 +03.2	S 21 07.8 -00.3		79	13.2 -27.2	S 10 37.9 +14.2		17
18	93	16.0 +00.2	S 06 51.0 +01.0		76	56.8 +03.2	S 21 07.5 -00.2		93	46.0 -27.3	S 10 52.1 +14.2		18
19	108	16.2 +00.2	S 06 52.0 +00.9		91	60.0 +03.2	S 21 07.3 -00.2		108	18.7 -27.3	S 11 06.3 +14.0		19
20	123	16.4 +00.1	S 06 52.9 +01.0		107	03.2 +03.2	S 21 07.1 -00.3		122	51.4 -27.3	S 11 20.3 +14.1		20
21	138	16.5 +00.2	S 06 53.9 +00.9		122	06.4 +03.2	S 21 06.8 -00.2		137	24.1 -27.4	S 11 34.4 +13.9		21
22	153	16.7 +00.1	S 06 54.8 +00.9		137	09.6 +03.3	S 21 06.6 -00.2		151	56.7 -27.4	S 11 48.3 +13.9		22
23	168	16.8 +00.2	S 06 55.7 +01.0		152	12.9 +03.2	S 21 06.4 -00.3		166	29.3 -27.4	S 12 02.2 +13.8		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'0 16'0 16'0 16'0 16'0 16'0				SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 15'5 15'5 15'4 15'4 15'4 15'4				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 56'9 56'8 56'7 56'6 56'5 56'4				
	SHA 165° 164° 164° 164° 164° 164°				SHA 147° 147° 147° 148° 148° 148°				SHA 172° 170° 168° 166° 164° 162°				
	Greenwich Culmination Time: 11:46				Greenwich Culmination Time: 12:53				Greenwich Culmination Time: 11:33				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	249	03.5 +01.0	N 19 41.7 -00.3		234	52.9 +02.0	N 15 02.4 -00.2		7	33.5 +02.7	N 01 48.3 -00.1		00
01	264	04.5 +01.0	N 19 41.4 -00.3		249	54.9 +02.1	N 15 02.2 -00.1		22	36.2 +02.6	N 01 48.2 +00.0		01
02	279	05.5 +01.0	N 19 41.1 -00.3		264	57.0 +02.0	N 15 02.1 -00.1		37	38.8 +02.6	N 01 48.2 -00.1		02
03	294	06.5 +01.0	N 19 40.8 -00.3		279	59.0 +02.1	N 15 02.0 -00.1		52	41.4 +02.7	N 01 48.1 -00.1		03
04	309	07.5 +01.0	N 19 40.5 -00.3		295	01.1 +02.0	N 15 01.9 -00.2		67	44.1 +02.6	N 01 48.0 -00.1		04
05	324	08.5 +01.0	N 19 40.2 -00.4		310	03.1 +02.1	N 15 01.7 -00.1		82	46.7 +02.7	N 01 47.9 -00.1		05
06	339	09.5 +01.1	N 19 39.8 -00.3		325	05.2 +02.1	N 15 01.6 -00.1		97	49.4 +02.6	N 01 47.8 +00.0		06
07	354	10.6 +01.0	N 19 39.5 -00.3		340	07.3 +02.0	N 15 01.5 -00.1		112	52.0 +02.7	N 01 47.8 -00.1		07
08	9	11.6 +01.0	N 19 39.2 -00.3		355	09.3 +02.1	N 15 01.4 -00.2		127	54.7 +02.6	N 01 47.7 -00.1		08
09	24	12.6 +01.0	N 19 38.9 -00.3		10	11.4 +02.0	N 15 01.2 -00.1		142	57.3 +02.6	N 01 47.6 -00.1		09
10	39	13.6 +01.0	N 19 38.6 -00.3		25	13.4 +02.1	N 15 01.1 -00.1		157	59.9 +02.7	N 01 47.5 +00.0		10
11	54	14.6 +01.0	N 19 38.3 -00.3		40	15.5 +02.1	N 15 01.0 -00.1		173	02.6 +02.6	N 01 47.5 -00.1		11
12	69	15.6 +01.0	N 19 38.0 -00.4		55	17.6 +02.0	N 15 00.9 -00.2		188	05.2 +02.7	N 01 47.4 -00.1		12
13	84	16.6 +01.0	N 19 37.6 -00.3		70	19.6 +02.1	N 15 00.7 -00.1		203	07.9 +02.6	N 01 47.3 -00.1		13
14	99	17.6 +01.0	N 19 37.3 -00.3		85	21.7 +02.0	N 15 00.6 -00.1		218	10.5 +02.7	N 01 47.2 +00.0		14
15	114	18.6 +01.0	N 19 37.0 -00.3		100	23.7 +02.1	N 15 00.5 -00.1		233	13.2 +02.6	N 01 47.2 -00.1		15
16	129	19.6 +01.0	N 19 36.7 -00.3		115	25.8 +02.0	N 15 00.4 -00.2		248	15.8 +02.7	N 01 47.1 -00.1		16
17	144	20.6 +01.1	N 19 36.4 -00.3		130	27.8 +02.1	N 15 00.2 -00.1		263	18.5 +02.6	N 01 47.0 -00.1		17
18	159	21.7 +01.0	N 19 36.1 -00.4		145	29.9 +02.1	N 15 00.1 -00.1		278	21.1 +02.6	N 01 46.9 +00.0		18
19	174	22.7 +01.0	N 19 35.7 -00.3		160	32.0 +02.0	N 14 60.0 -00.1		293	23.7 +02.7	N 01 46.9 -00.1		19
20	189	23.7 +01.0	N 19 35.4 -00.3		175	34.0 +02.1	N 14 59.9 -00.2		308	26.4 +02.6	N 01 46.8 -00.1		20
21	204	24.7 +01.0	N 19 35.1 -00.3		190	36.1 +02.0	N 14 59.7 -00.1		323	29.0 +02.7	N 01 46.7 -00.1		21
22	219	25.7 +01.0	N 19 34.8 -00.3		205	38.1 +02.1	N 14 59.6 -00.1		338	31.7 +02.6	N 01 46.6 +00.0		22
23	234	26.7 +01.0	N 19 34.5 -00.3		220	40.2 +02.1	N 14 59.5 -00.1		353	34.3 +02.7	N 01 46.6 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 230° 230° 230° 230° 230° 230°				SHA 216° 216° 216° 216° 216° 216°				SHA 349° 349° 349° 349° 349° 349°				
	Greenwich Culmination Time: 07:23				Greenwich Culmination Time: 08:19				Greenwich Culmination Time: 23:25				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183	17.0 +00.2	S 06 56.7 +00.9		167	16.1 +03.2	S 21 06.1 -00.2		181	01.9 -27.4	S 12 16.0 +13.8		00
01	198	17.2 +00.1	S 06 57.6 +01.0		182	19.3 +03.2	S 21 05.9 -00.3		195	34.5 -27.5	S 12 29.8 +13.7		01
02	213	17.3 +00.2	S 06 58.6 +00.9		197	22.5 +03.3	S 21 05.6 -00.2		210	07.0 -27.5	S 12 43.5 +13.6		02
03	228	17.5 +00.2	S 06 59.5 +01.0		212	25.8 +03.2	S 21 05.4 -00.3		224	39.5 -27.5	S 12 57.1 +13.6		03
04	243	17.7 +00.1	S 07 00.5 +00.9		227	29.0 +03.3	S 21 05.1 -00.2		239	12.0 -27.5	S 13 10.7 +13.5		04
05	258	17.8 +00.2	S 07 01.4 +00.9		242	32.3 +03.2	S 21 04.9 -00.3		253	44.5 -27.6	S 13 24.2 +13.4		05
06	273	18.0 +00.1	S 07 02.3 +01.0		257	35.5 +03.3	S 21 04.6 -00.2		268	16.9 -27.6	S 13 37.6 +13.4		06
07	288	18.1 +00.2	S 07 03.3 +00.9		272	38.8 +03.2	S 21 04.4 -00.3		282	49.3 -27.7	S 13 51.0 +13.2		07
08	303	18.3 +00.2	S 07 04.2 +01.0		287	42.0 +03.3	S 21 04.1 -00.3		297	21.6 -27.7	S 14 04.2 +13.2		08
09	318	18.5 +00.1	S 07 05.2 +00.9		302	45.3 +03.2	S 21 03.8 -00.2		311	53.9 -27.7	S 14 17.4 +13.2		09
10	333	18.6 +00.2	S 07 06.1 +01.0		317	48.5 +03.3	S 21 03.6 -00.3		326	26.2 -27.7	S 14 30.6 +13.0		10
11	348	18.8 +00.1	S 07 07.1 +00.9		332	51.8 +03.3	S 21 03.3 -00.3		340	58.5 -27.8	S 14 43.6 +13.0		11
12	3	18.9 +00.2	S 07 08.0 +00.9		347	55.1 +03.2	S 21 03.0 -00.2		355	30.7 -27.8	S 14 56.6 +12.9		12
13	18	19.1 +00.2	S 07 08.9 +01.0		2	58.3 +03.3	S 21 02.8 -00.3		10	02.9 -27.9	S 15 09.5 +12.8		13
14	33	19.3 +00.1	S 07 09.9 +00.9		18	01.6 +03.3	S 21 02.5 -00.3		24	35.0 -27.9	S 15 22.3 +12.7		14
15	48	19.4 +00.2	S 07 10.8 +01.0		33	04.9 +03.3	S 21 02.2 -00.3		39	07.1 -27.9	S 15 35.0 +12.7		15
16	63	19.6 +00.1	S 07 11.8 +00.9		48	08.2 +03.2	S 21 01.9 -00.3		53	39.2 -28.0	S 15 47.7 +12.6		16
17	78	19.7 +00.2	S 07 12.7 +01.0		63	11.4 +03.3	S 21 01.6 -00.3		68	11.2 -28.0	S 16 00.3 +12.5		17
18	93	19.9 +00.1	S 07 13.7 +00.9		78	14.7 +03.3	S 21 01.3 -00.2		82	43.2 -28.0	S 16 12.8 +12.4		18
19	108	20.0 +00.2	S 07 14.6 +00.9		93	18.0 +03.3	S 21 01.1 -00.3		97	15.2 -28.1	S 16 25.2 +12.3		19
20	123	20.2 +00.2	S 07 15.5 +01.0		108	21.3 +03.3	S 21 00.8 -00.3		111	47.1 -28.1	S 16 37.5 +12.2		20
21	138	20.4 +00.1	S 07 16.5 +00.9		123	24.6 +03.3	S 21 00.5 -00.3		126	19.0 -28.1	S 16 49.7 +12.2		21
22	153	20.5 +00.2	S 07 17.4 +01.0		138	27.9 +03.3	S 21 00.2 -00.3		140	50.9 -28.2	S 17 01.9 +12.1		22
23	168	20.7 +00.1	S 07 18.4 +00.9		153	31.2 +03.3	S 21 00.0 -00.3		155	22.7 -28.3	S 17 14.0 +11.9		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'0 16'0 16'0 16'0 16'0 16'0				SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 15'3 15'3 15'3 15'3 15'2 15'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 56'3 56'2 56'1 56'0 55'9 55'8				
	SHA 164° 163° 163° 163° 163° 163°				SHA 148° 148° 148° 148° 148° 148°				SHA 160° 158° 156° 154° 152° 150°				
	Greenwich Culmination Time: 11:46				Greenwich Culmination Time: 12:48				Greenwich Culmination Time: 12:18				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	249	27.7 +01.0	N 19 34.2 -00.3		235	42.3 +02.0	N 14 59.4 -00.2		8	37.0 +02.6	N 01 46.5 -00.1		00
01	264	28.7 +01.1	N 19 33.9 -00.4		250	44.3 +02.1	N 14 59.2 -00.1		23	39.6 +02.6	N 01 46.4 -00.1		01
02	279	29.8 +01.0	N 19 33.5 -00.3		265	46.4 +02.1	N 14 59.1 -00.1		38	42.2 +02.7	N 01 46.3 +00.0		02
03	294	30.8 +01.0	N 19 33.2 -00.3		280	48.5 +02.0	N 14 59.0 -00.1		53	44.9 +02.6	N 01 46.3 -00.1		03
04	309	31.8 +01.0	N 19 32.9 -00.3		295	50.5 +02.1	N 14 58.9 -00.2		68	47.5 +02.7	N 01 46.2 -00.1		04
05	324	32.8 +01.0	N 19 32.6 -00.3		310	52.6 +02.0	N 14 58.7 -00.1		83	50.2 +02.6	N 01 46.1 -00.1		05
06	339	33.8 +01.0	N 19 32.3 -00.3		325	54.6 +02.1	N 14 58.6 -00.1		98	52.8 +02.7	N 01 46.0 +00.0		06
07	354	34.8 +01.0	N 19 32.0 -00.4		340	56.7 +02.1	N 14 58.5 -00.1		113	55.5 +02.6	N 01 46.0 -00.1		07
08	9	35.8 +01.1	N 19 31.6 -00.3		355	58.8 +02.0	N 14 58.4 -00.2		128	58.1 +02.6	N 01 45.9 -00.1		08
09	24	36.9 +01.0	N 19 31.3 -00.3		11	00.8 +02.1	N 14 58.2 -00.1		144	00.7 +02.7	N 01 45.8 -00.1		09
10	39	37.9 +01.0	N 19 31.0 -00.3		26	02.9 +02.0	N 14 58.1 -00.1		159	03.4 +02.6	N 01 45.7 +00.0		10
11	54	38.9 +01.0	N 19 30.7 -00.3		41	04.9 +02.1	N 14 58.0 -00.1		174	06.0 +02.7	N 01 45.7 -00.1		11
12	69	39.9 +01.0	N 19 30.4 -00.3		56	07.0 +02.1	N 14 57.9 -00.2		189	08.7 +02.6	N 01 45.6 -00.1		12
13	84	40.9 +01.0	N 19 30.1 -00.4		71	09.1 +02.0	N 14 57.7 -00.1		204	11.3 +02.7	N 01 45.5 -00.1		13
14	99	41.9 +01.1	N 19 29.7 -00.3		86	11.1 +02.1	N 14 57.6 -00.1		219	14.0 +02.6	N 01 45.4 +00.0		14
15	114	43.0 +01.0	N 19 29.4 -00.3		101	13.2 +02.1	N 14 57.5 -00.1		234	16.6 +02.6	N 01 45.4 -00.1		15
16	129	44.0 +01.0	N 19 29.1 -00.3		116	15.3 +02.0	N 14 57.4 -00.2		249	19.2 +02.7	N 01 45.3 -00.1		16
17	144	45.0 +01.0	N 19 28.8 -00.3		131	17.3 +02.1	N 14 57.2 -00.1		264	21.9 +02.6	N 01 45.2 -00.1		17
18	159	46.0 +01.0	N 19 28.5 -00.4		146	19.4 +02.1	N 14 57.1 -00.1		279	24.5 +02.7	N 01 45.1 +00.0		18
19	174	47.0 +01.1	N 19 28.1 -00.3		161	21.5 +02.0	N 14 57.0 -00.1		294	27.2 +02.6	N 01 45.1 -00.1		19
20	189	48.1 +01.0	N 19 27.8 -00.3		176	23.5 +02.1	N 14 56.9 -00.1		309	29.8 +02.7	N 01 45.0 -00.1		20
21	204	49.1 +01.0	N 19 27.5 -00.3		191	25.6 +02.0	N 14 56.8 -00.2		324	32.5 +02.6	N 01 44.9 -00.1		21
22	219	50.1 +01.0	N 19 27.2 -00.3		206	27.6 +02.1	N 14 56.6 -00.1		339	35.1 +02.6	N 01 44.8 +00.0		22
23	234	51.1 +01.0	N 19 26.9 -00.3		221	29.7 +02.1	N 14 56.5 -00.1		354	37.7 +02.7	N 01 44.8 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'0 00'0				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 230° 230° 230° 230° 229° 229°				SHA 216° 216° 216° 216° 216° 216°				SHA 349° 349° 349° 349° 349° 349°				
	Greenwich Culmination Time: 07:21				Greenwich Culmination Time: 08:16				Greenwich Culmination Time: 23:21				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 20.8 +00.2	S	07 19.3 +00.9	168 34.5 +03.3	S	20 59.6 -00.3	169 54.4 -28.3	S	17 25.9 +11.9	00			
01	198 21.0 +00.2	S	07 20.2 +01.0	183 37.8 +03.3	S	20 59.3 -00.3	184 26.1 -28.3	S	17 37.8 +11.8	01			
02	213 21.2 +00.1	S	07 21.2 +00.9	198 41.1 +03.4	S	20 59.0 -00.3	198 57.8 -28.3	S	17 49.6 +11.7	02			
03	228 21.3 +00.2	S	07 22.1 +00.9	213 44.5 +03.3	S	20 58.7 -00.4	213 29.5 -28.4	S	18 01.3 +11.7	03			
04	243 21.5 +00.1	S	07 23.0 +01.0	228 47.8 +03.3	S	20 58.3 -00.3	228 01.1 -28.5	S	18 13.0 +11.5	04			
05	258 21.6 +00.2	S	07 24.0 +00.9	243 51.1 +03.3	S	20 58.0 -00.3	242 32.6 -28.5	S	18 24.5 +11.4	05			
06	273 21.8 +00.1	S	07 24.9 +01.0	258 54.4 +03.4	S	20 57.7 -00.3	257 04.1 -28.5	S	18 35.9 +11.3	06			
07	288 21.9 +00.2	S	07 25.9 +00.9	273 57.8 +03.3	S	20 57.4 -00.3	271 35.6 -28.6	S	18 47.2 +11.3	07			
08	303 22.1 +00.1	S	07 26.8 +00.9	289 01.1 +03.3	S	20 57.1 -00.4	286 07.0 -28.6	S	18 58.5 +11.1	08			
09	318 22.2 +00.2	S	07 27.7 +01.0	304 04.4 +03.4	S	20 56.7 -00.3	300 38.4 -28.6	S	19 09.6 +11.1	09			
10	333 22.4 +00.2	S	07 28.7 +00.9	319 07.8 +03.3	S	20 56.4 -00.3	315 09.8 -28.7	S	19 20.7 +10.9	10			
11	348 22.6 +00.1	S	07 29.6 +01.0	334 11.1 +03.4	S	20 56.1 -00.3	329 41.1 -28.8	S	19 31.6 +10.9	11			
12	3 22.7 +00.2	S	07 30.6 +00.9	349 14.5 +03.3	S	20 55.8 -00.4	344 12.3 -28.8	S	19 42.5 +10.7	12			
13	18 22.9 +00.1	S	07 31.5 +00.9	4 17.8 +03.4	S	20 55.4 -00.3	358 43.5 -28.8	S	19 53.2 +10.7	13			
14	33 23.0 +00.2	S	07 32.4 +01.0	19 21.2 +03.3	S	20 55.1 -00.4	13 14.7 -28.9	S	20 03.9 +10.5	14			
15	48 23.2 +00.1	S	07 33.4 +00.9	34 24.5 +03.4	S	20 54.7 -00.3	27 45.8 -28.9	S	20 14.4 +10.5	15			
16	63 23.3 +00.2	S	07 34.3 +00.9	49 27.9 +03.3	S	20 54.4 -00.3	42 16.9 -29.0	S	20 24.9 +10.3	16			
17	78 23.5 +00.1	S	07 35.2 +01.0	64 31.2 +03.4	S	20 54.1 -00.4	56 47.9 -29.0	S	20 35.2 +10.3	17			
18	93 23.6 +00.2	S	07 36.2 +00.9	79 34.6 +03.4	S	20 53.7 -00.3	71 18.9 -29.1	S	20 45.5 +10.1	18			
19	108 23.8 +00.1	S	07 37.1 +01.0	94 38.0 +03.4	S	20 53.4 -00.4	85 49.8 -29.1	S	20 55.6 +10.0	19			
20	123 23.9 +00.2	S	07 38.1 +00.9	109 41.4 +03.3	S	20 53.0 -00.3	100 20.7 -29.1	S	21 05.6 +10.0	20			
21	138 24.1 +00.1	S	07 39.0 +00.9	124 44.7 +03.4	S	20 52.7 -00.4	114 51.6 -29.2	S	21 15.6 +09.8	21			
22	153 24.2 +00.2	S	07 39.9 +01.0	139 48.1 +03.4	S	20 52.3 -00.4	129 22.4 -29.2	S	21 25.4 +09.7	22			
23	168 24.4 +00.1	S	07 40.9 +00.9	154 51.5 +03.4	S	20 51.9 -00.3	143 53.2 -29.3	S	21 35.1 +09.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 15'2 15'2 15'1 15'1 15'1 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 55'8 55'7 55'6 55'5 55'4 55'3						
	SHA 163° 163° 162° 162° 162° 162°			SHA 148° 148° 148° 148° 148° 148°			SHA 148° 146° 144° 142° 140° 138°						
	Greenwich Culmination Time: 11:46			Greenwich Culmination Time: 12:42			Greenwich Culmination Time: 13:05						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	249 52.1 +01.1	N	19 26.6 -00.4	236 31.8 +02.0	N	14 56.4 -00.1	9 40.4 +02.6	N	01 44.7 -00.1	00			
01	264 53.2 +01.0	N	19 26.2 -00.3	251 33.8 +02.1	N	14 56.3 -00.2	24 43.0 +02.7	N	01 44.6 -00.1	01			
02	279 54.2 +01.0	N	19 25.9 -00.3	266 35.9 +02.1	N	14 56.1 -00.1	39 45.7 +02.6	N	01 44.5 +00.0	02			
03	294 55.2 +01.0	N	19 25.6 -00.3	281 38.0 +02.0	N	14 56.0 -00.1	54 48.3 +02.7	N	01 44.5 -00.1	03			
04	309 56.2 +01.0	N	19 25.3 -00.3	296 40.0 +02.1	N	14 55.9 -00.1	69 51.0 +02.6	N	01 44.4 -00.1	04			
05	324 57.2 +01.1	N	19 25.0 -00.4	311 42.1 +02.1	N	14 55.8 -00.2	84 53.6 +02.6	N	01 44.3 -00.1	05			
06	339 58.3 +01.0	N	19 24.6 -00.3	326 44.2 +02.0	N	14 55.6 -00.1	99 56.2 +02.7	N	01 44.2 +00.0	06			
07	354 59.3 +01.0	N	19 24.3 -00.3	341 46.2 +02.1	N	14 55.5 -00.1	114 58.9 +02.6	N	01 44.2 -00.1	07			
08	10 00.3 +01.0	N	19 24.0 -00.3	356 48.3 +02.1	N	14 55.4 -00.1	130 01.5 +02.7	N	01 44.1 -00.1	08			
09	25 01.3 +01.1	N	19 23.7 -00.3	11 50.4 +02.0	N	14 55.3 -00.2	145 04.2 +02.6	N	01 44.0 +00.0	09			
10	40 02.4 +01.0	N	19 23.4 -00.4	26 52.4 +02.1	N	14 55.1 -00.1	160 06.8 +02.7	N	01 44.0 -00.1	10			
11	55 03.4 +01.0	N	19 23.0 -00.3	41 54.5 +02.1	N	14 55.0 -00.1	175 09.5 +02.6	N	01 43.9 -00.1	11			
12	70 04.4 +01.0	N	19 22.7 -00.3	56 56.6 +02.0	N	14 54.9 -00.1	190 12.1 +02.6	N	01 43.8 -00.1	12			
13	85 05.4 +01.1	N	19 22.4 -00.3	71 58.6 +02.1	N	14 54.8 -00.1	205 14.7 +02.7	N	01 43.7 +00.0	13			
14	100 06.5 +01.0	N	19 22.1 -00.3	87 00.7 +02.1	N	14 54.7 -00.2	220 17.4 +02.6	N	01 43.7 -00.1	14			
15	115 07.5 +01.0	N	19 21.8 -00.3	102 02.8 +02.0	N	14 54.5 -00.1	235 20.0 +02.7	N	01 43.6 -00.1	15			
16	130 08.5 +01.0	N	19 21.5 -00.4	117 04.8 +02.1	N	14 54.4 -00.1	250 22.7 +02.6	N	01 43.5 -00.1	16			
17	145 09.5 +01.1	N	19 21.1 -00.3	132 06.9 +02.1	N	14 54.3 -00.1	265 25.3 +02.7	N	01 43.4 +00.0	17			
18	160 10.6 +01.0	N	19 20.8 -00.3	147 09.0 +02.1	N	14 54.2 -00.2	280 28.0 +02.6	N	01 43.4 -00.1	18			
19	175 11.6 +01.0	N	19 20.5 -00.3	162 11.1 +02.0	N	14 54.0 -00.1	295 30.6 +02.6	N	01 43.3 -00.1	19			
20	190 12.6 +01.1	N	19 20.2 -00.4	177 13.1 +02.1	N	14 53.9 -00.1	310 33.2 +02.7	N	01 43.2 -00.1	20			
21	205 13.7 +01.0	N	19 19.8 -00.3	192 15.2 +02.1	N	14 53.8 -00.1	325 35.9 +02.6	N	01 43.1 +00.0	21			
22	220 14.7 +01.0	N	19 19.5 -00.3	207 17.3 +02.0	N	14 53.7 -00.1	340 38.5 +02.7	N	01 43.1 -00.1	22			
23	235 15.7 +01.0	N	19 19.2 -00.3	222 19.3 +02.1	N	14 53.6 -00.2	355 41.2 +02.6	N	01 43.0 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 229° 229° 229° 229° 229° 229°			SHA 216° 216° 216° 216° 216° 216°			SHA 349° 349° 349° 349° 349° 349°						
	Greenwich Culmination Time: 07:20			Greenwich Culmination Time: 08:12			Greenwich Culmination Time: 23:17						

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 24.5 +00.2	S	07 41.8 +00.9	169 54.9 +03.4	S	20 51.6 -00.4	158 23.9 -29.3	S	21 44.7 +09.5	00			
01	198 24.7 +00.2	S	07 42.7 +01.0	184 58.3 +03.4	S	20 51.2 -00.4	172 54.6 -29.4	S	21 54.2 +09.4	01			
02	213 24.9 +00.1	S	07 43.7 +00.9	200 01.7 +03.4	S	20 50.8 -00.3	187 25.2 -29.4	S	22 03.6 +09.3	02			
03	228 25.0 +00.2	S	07 44.6 +00.9	215 05.1 +03.4	S	20 50.5 -00.4	201 55.8 -29.5	S	22 12.9 +09.1	03			
04	243 25.2 +00.1	S	07 45.5 +01.0	230 08.5 +03.4	S	20 50.1 -00.4	216 26.3 -29.5	S	22 22.0 +09.1	04			
05	258 25.3 +00.2	S	07 46.5 +00.9	245 11.9 +03.4	S	20 49.7 -00.3	230 56.8 -29.5	S	22 31.1 +08.9	05			
06	273 25.5 +00.1	S	07 47.4 +00.9	260 15.3 +03.4	S	20 49.4 -00.4	245 27.3 -29.6	S	22 40.0 +08.8	06			
07	288 25.6 +00.2	S	07 48.3 +01.0	275 18.7 +03.4	S	20 49.0 -00.4	259 57.7 -29.7	S	22 48.8 +08.7	07			
08	303 25.8 +00.1	S	07 49.3 +00.9	290 22.1 +03.4	S	20 48.6 -00.4	274 28.0 -29.6	S	22 57.5 +08.6	08			
09	318 25.9 +00.2	S	07 50.2 +00.9	305 25.5 +03.4	S	20 48.2 -00.4	288 58.4 -29.8	S	23 06.1 +08.5	09			
10	333 26.1 +00.1	S	07 51.1 +01.0	320 28.9 +03.4	S	20 47.8 -00.4	303 28.6 -29.7	S	23 14.6 +08.4	10			
11	348 26.2 +00.2	S	07 52.1 +00.9	335 32.3 +03.5	S	20 47.4 -00.4	317 58.9 -29.8	S	23 23.0 +08.2	11			
12	3 26.4 +00.1	S	07 53.0 +00.9	350 35.8 +03.4	S	20 47.0 -00.4	332 29.1 -29.9	S	23 31.2 +08.2	12			
13	18 26.5 +00.2	S	07 53.9 +01.0	5 39.2 +03.4	S	20 46.6 -00.4	346 59.2 -29.9	S	23 39.4 +08.0	13			
14	33 26.7 +00.1	S	07 54.9 +00.9	20 42.6 +03.5	S	20 46.2 -00.4	1 29.3 -29.9	S	23 47.4 +07.9	14			
15	48 26.8 +00.1	S	07 55.8 +00.9	35 46.1 +03.4	S	20 45.8 -00.4	15 59.4 -30.0	S	23 55.3 +07.7	15			
16	63 26.9 +00.2	S	07 56.7 +01.0	50 49.5 +03.4	S	20 45.4 -00.4	30 29.4 -30.0	S	24 03.0 +07.7	16			
17	78 27.1 +00.1	S	07 57.7 +00.9	65 52.9 +03.5	S	20 45.0 -00.4	44 59.4 -30.0	S	24 10.7 +07.5	17			
18	93 27.2 +00.2	S	07 58.6 +00.9	80 56.4 +03.4	S	20 44.6 -00.4	59 29.4 -30.1	S	24 18.2 +07.4	18			
19	108 27.4 +00.1	S	07 59.5 +01.0	95 59.8 +03.5	S	20 44.2 -00.4	73 59.3 -30.2	S	24 25.6 +07.3	19			
20	123 27.5 +00.2	S	08 00.5 +00.9	111 03.3 +03.4	S	20 43.8 -00.4	88 29.1 -30.1	S	24 32.9 +07.2	20			
21	138 27.7 +00.1	S	08 01.4 +00.9	126 06.7 +03.5	S	20 43.4 -00.4	102 59.0 -30.2	S	24 40.1 +07.0	21			
22	153 27.8 +00.2	S	08 02.3 +01.0	141 10.2 +03.4	S	20 43.0 -00.5	117 28.8 -30.3	S	24 47.1 +06.9	22			
23	168 28.0 +00.1	S	08 03.3 +00.9	156 13.6 +03.5	S	20 42.5 -00.4	131 58.5 -30.3	S	24 54.0 +06.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 15'0 15'0 15'0 15'0 15'0 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 55'2 55'2 55'1 55'0 54'9 54'9						
	SHA 162° 162° 161° 161° 161° 161°			SHA 148° 148° 148° 149° 149° 149°			SHA 136° 134° 131° 129° 127° 125°						
	Greenwich Culmination Time: 11:46			Greenwich Culmination Time: 12:37			Greenwich Culmination Time: 13:53						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	250 16.7 +01.1	N	19 18.9 -00.3	237 21.4 +02.1	N	14 53.4 -00.1	10 43.8 +02.7	N	01 42.9 -00.1	00			
01	265 17.8 +01.0	N	19 18.6 -00.4	252 23.5 +02.0	N	14 53.3 -00.1	25 46.5 +02.6	N	01 42.8 +00.0	01			
02	280 18.8 +01.0	N	19 18.2 -00.3	267 25.5 +02.1	N	14 53.2 -00.1	40 49.1 +02.6	N	01 42.8 -00.1	02			
03	295 19.8 +01.1	N	19 17.9 -00.3	282 27.6 +02.1	N	14 53.1 -00.2	55 51.7 +02.7	N	01 42.7 -00.1	03			
04	310 20.9 +01.0	N	19 17.6 -00.3	297 29.7 +02.0	N	14 52.9 -00.1	70 54.4 +02.6	N	01 42.6 -00.1	04			
05	325 21.9 +01.0	N	19 17.3 -00.3	312 31.7 +02.1	N	14 52.8 -00.1	85 57.0 +02.7	N	01 42.5 +00.0	05			
06	340 22.9 +01.1	N	19 17.0 -00.4	327 33.8 +02.1	N	14 52.7 -00.1	100 59.7 +02.6	N	01 42.5 -00.1	06			
07	355 24.0 +01.0	N	19 16.6 -00.3	342 35.9 +02.1	N	14 52.6 -00.1	116 02.3 +02.6	N	01 42.4 -00.1	07			
08	10 25.0 +01.0	N	19 16.3 -00.3	357 38.0 +02.0	N	14 52.5 -00.2	131 04.9 +02.7	N	01 42.3 -00.1	08			
09	25 26.0 +01.1	N	19 16.0 -00.3	12 40.0 +02.1	N	14 52.3 -00.1	146 07.6 +02.6	N	01 42.2 +00.0	09			
10	40 27.1 +01.0	N	19 15.7 -00.3	27 42.1 +02.1	N	14 52.2 -00.1	161 10.2 +02.7	N	01 42.2 -00.1	10			
11	55 28.1 +01.0	N	19 15.4 -00.4	42 44.2 +02.0	N	14 52.1 -00.1	176 12.9 +02.6	N	01 42.1 -00.1	11			
12	70 29.1 +01.1	N	19 15.0 -00.3	57 46.2 +02.1	N	14 52.0 -00.2	191 15.5 +02.7	N	01 42.0 -00.1	12			
13	85 30.2 +01.0	N	19 14.7 -00.3	72 48.3 +02.1	N	14 51.8 -00.1	206 18.2 +02.6	N	01 41.9 +00.0	13			
14	100 31.2 +01.0	N	19 14.4 -00.3	87 50.4 +02.1	N	14 51.7 -00.1	221 20.8 +02.6	N	01 41.9 -00.1	14			
15	115 32.2 +01.1	N	19 14.1 -00.4	102 52.5 +02.0	N	14 51.6 -00.1	236 23.4 +02.7	N	01 41.8 -00.1	15			
16	130 33.3 +01.0	N	19 13.7 -00.3	117 54.5 +02.1	N	14 51.5 -00.1	251 26.1 +02.6	N	01 41.7 +00.0	16			
17	145 34.3 +01.0	N	19 13.4 -00.3	132 56.6 +02.1	N	14 51.4 -00.2	266 28.7 +02.7	N	01 41.7 -00.1	17			
18	160 35.3 +01.1	N	19 13.1 -00.3	147 58.7 +02.1	N	14 51.2 -00.1	281 31.4 +02.6	N	01 41.6 -00.1	18			
19	175 36.4 +01.0	N	19 12.8 -00.3	163 00.8 +02.0	N	14 51.1 -00.1	296 34.0 +02.6	N	01 41.5 -00.1	19			
20	190 37.4 +01.0	N	19 12.5 -00.4	178 02.8 +02.1	N	14 51.0 -00.1	311 36.6 +02.7	N	01 41.4 +00.0	20			
21	205 38.4 +01.1	N	19 12.1 -00.3	193 04.9 +02.1	N	14 50.9 -00.1	326 39.3 +02.6	N	01 41.4 -00.1	21			
22	220 39.5 +01.0	N	19 11.8 -00.3	208 07.0 +02.0	N	14 50.8 -00.2	341 41.9 +02.7	N	01 41.3 -00.1	22			
23	235 40.5 +01.1	N	19 11.5 -00.3	223 09.0 +02.1	N	14 50.6 -00.1	356 44.6 +02.6	N	01 41.2 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 229° 229° 228° 228° 228° 228°			SHA 216° 216° 216° 216° 216° 216°			SHA 349° 349° 349° 349° 349° 349°						
	Greenwich Culmination Time: 07:18			Greenwich Culmination Time: 08:09			Greenwich Culmination Time: 23:12						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 28.1 +00.2	S	08 04.2 +00.9	171 17.1 +03.5	S	20 42.1 -00.4	146 28.2 -30.3	S	25 00.8 +06.7	00			
01	198 28.3 +00.1	S	08 05.1 +00.9	186 20.6 +03.4	S	20 41.7 -00.4	160 57.9 -30.3	S	25 07.5 +06.6	01			
02	213 28.4 +00.2	S	08 06.0 +01.0	201 24.0 +03.5	S	20 41.3 -00.5	175 27.6 -30.4	S	25 14.1 +06.4	02			
03	228 28.6 +00.1	S	08 07.0 +00.9	216 27.5 +03.5	S	20 40.8 -00.4	189 57.2 -30.5	S	25 20.5 +06.3	03			
04	243 28.7 +00.2	S	08 07.9 +00.9	231 31.0 +03.4	S	20 40.4 -00.4	204 26.7 -30.4	S	25 26.8 +06.1	04			
05	258 28.9 +00.1	S	08 08.8 +01.0	246 34.4 +03.5	S	20 40.0 -00.5	218 56.3 -30.5	S	25 32.9 +06.1	05			
06	273 29.0 +00.1	S	08 09.8 +00.9	261 37.9 +03.5	S	20 39.5 -00.4	233 25.8 -30.6	S	25 39.0 +05.9	06			
07	288 29.1 +00.2	S	08 10.7 +00.9	276 41.4 +03.5	S	20 39.1 -00.4	247 55.2 -30.5	S	25 44.9 +05.8	07			
08	303 29.3 +00.1	S	08 11.6 +01.0	291 44.9 +03.5	S	20 38.7 -00.5	262 24.7 -30.6	S	25 50.7 +05.6	08			
09	318 29.4 +00.2	S	08 12.6 +00.9	306 48.4 +03.5	S	20 38.2 -00.4	276 54.1 -30.6	S	25 56.3 +05.5	09			
10	333 29.6 +00.1	S	08 13.5 +00.9	321 51.9 +03.4	S	20 37.8 -00.5	291 23.5 -30.7	S	26 01.8 +05.4	10			
11	348 29.7 +00.2	S	08 14.4 +00.9	336 55.3 +03.5	S	20 37.3 -00.4	305 52.8 -30.7	S	26 07.2 +05.3	11			
12	3 29.9 +00.1	S	08 15.3 +01.0	351 58.8 +03.5	S	20 36.9 -00.5	320 22.1 -30.7	S	26 12.5 +05.1	12			
13	18 30.0 +00.2	S	08 16.3 +00.9	7 02.3 +03.5	S	20 36.4 -00.5	334 51.4 -30.7	S	26 17.6 +05.0	13			
14	33 30.2 +00.1	S	08 17.2 +00.9	22 05.8 +03.5	S	20 35.9 -00.4	349 20.7 -30.8	S	26 22.6 +04.9	14			
15	48 30.3 +00.1	S	08 18.1 +01.0	37 09.3 +03.6	S	20 35.5 -00.5	3 49.9 -30.8	S	26 27.5 +04.8	15			
16	63 30.4 +00.2	S	08 19.1 +00.9	52 12.9 +03.5	S	20 35.0 -00.5	18 19.1 -30.8	S	26 32.3 +04.6	16			
17	78 30.6 +00.1	S	08 20.0 +00.9	67 16.4 +03.5	S	20 34.5 -00.4	32 48.3 -30.8	S	26 36.9 +04.4	17			
18	93 30.7 +00.2	S	08 20.9 +00.9	82 19.9 +03.5	S	20 34.1 -00.5	47 17.5 -30.9	S	26 41.3 +04.4	18			
19	108 30.9 +00.1	S	08 21.8 +01.0	97 23.4 +03.5	S	20 33.6 -00.5	61 46.6 -30.9	S	26 45.7 +04.2	19			
20	123 31.0 +00.2	S	08 22.8 +00.9	112 26.9 +03.5	S	20 33.1 -00.4	76 15.7 -30.9	S	26 49.9 +04.1	20			
21	138 31.2 +00.1	S	08 23.7 +00.9	127 30.4 +03.6	S	20 32.7 -00.5	90 44.8 -30.9	S	26 54.0 +03.9	21			
22	153 31.3 +00.1	S	08 24.6 +00.9	142 34.0 +03.5	S	20 32.2 -00.5	105 13.9 -31.0	S	26 57.9 +03.8	22			
23	168 31.4 +00.2	S	08 25.5 +01.0	157 37.5 +03.5	S	20 31.7 -00.5	119 42.9 -30.9	S	27 01.7 +03.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 14'9 14'9 14'9 14'9 14'9 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 54'8 54'7 54'7 54'6 54'5 54'5						
	SHA 161° 161° 161° 160° 160° 160°			SHA 149° 149° 149° 149° 149° 149°			SHA 123° 121° 118° 116° 114° 112°						
	Greenwich Culmination Time: 11:46			Greenwich Culmination Time: 12:31			Greenwich Culmination Time: 14:44						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	250 41.6 +01.0	N	19 11.2 -00.4	238 11.1 +02.1	N	14 50.5 -00.1	11 47.2 +02.7	N	01 41.1 +00.0	00			
01	265 42.6 +01.0	N	19 10.8 -00.3	253 13.2 +02.1	N	14 50.4 -00.1	26 49.9 +02.6	N	01 41.1 -00.1	01			
02	280 43.6 +01.1	N	19 10.5 -00.3	268 15.3 +02.0	N	14 50.3 -00.2	41 52.5 +02.6	N	01 41.0 -00.1	02			
03	295 44.7 +01.0	N	19 10.2 -00.3	283 17.3 +02.1	N	14 50.1 -00.1	56 55.1 +02.7	N	01 40.9 -00.1	03			
04	310 45.7 +01.0	N	19 09.9 -00.4	298 19.4 +02.1	N	14 50.0 -00.1	71 57.8 +02.6	N	01 40.8 +00.0	04			
05	325 46.7 +01.1	N	19 09.5 -00.3	313 21.5 +02.1	N	14 49.9 -00.1	87 00.4 +02.7	N	01 40.8 -00.1	05			
06	340 47.8 +01.0	N	19 09.2 -00.3	328 23.6 +02.0	N	14 49.8 -00.1	102 03.1 +02.6	N	01 40.7 -00.1	06			
07	355 48.8 +01.1	N	19 08.9 -00.3	343 25.6 +02.1	N	14 49.7 -00.2	117 05.7 +02.6	N	01 40.6 +00.0	07			
08	10 49.9 +01.0	N	19 08.6 -00.3	358 27.7 +02.1	N	14 49.5 -00.1	132 08.3 +02.7	N	01 40.6 -00.1	08			
09	25 50.9 +01.1	N	19 08.3 -00.4	13 29.8 +02.1	N	14 49.4 -00.1	147 11.0 +02.6	N	01 40.5 -00.1	09			
10	40 52.0 +01.0	N	19 07.9 -00.3	28 31.9 +02.0	N	14 49.3 -00.1	162 13.6 +02.7	N	01 40.4 -00.1	10			
11	55 53.0 +01.0	N	19 07.6 -00.3	43 33.9 +02.1	N	14 49.2 -00.1	177 16.3 +02.6	N	01 40.3 +00.0	11			
12	70 54.0 +01.1	N	19 07.3 -00.3	58 36.0 +02.1	N	14 49.1 -00.2	192 18.9 +02.6	N	01 40.3 -00.1	12			
13	85 55.1 +01.0	N	19 07.0 -00.4	73 38.1 +02.1	N	14 48.9 -00.1	207 21.5 +02.7	N	01 40.2 -00.1	13			
14	100 56.1 +01.1	N	19 06.6 -00.3	88 40.2 +02.1	N	14 48.8 -00.1	222 24.2 +02.6	N	01 40.1 -00.1	14			
15	115 57.2 +01.0	N	19 06.3 -00.3	103 42.3 +02.0	N	14 48.7 -00.1	237 26.8 +02.7	N	01 40.0 +00.0	15			
16	130 58.2 +01.0	N	19 06.0 -00.3	118 44.3 +02.1	N	14 48.6 -00.1	252 29.5 +02.6	N	01 40.0 -00.1	16			
17	145 59.2 +01.1	N	19 05.7 -00.4	133 46.4 +02.1	N	14 48.5 -00.2	267 32.1 +02.6	N	01 39.9 -00.1	17			
18	161 00.3 +01.0	N	19 05.3 -00.3	148 48.5 +02.1	N	14 48.3 -00.1	282 34.7 +02.7	N	01 39.8 -00.1	18			
19	176 01.3 +01.1	N	19 05.0 -00.3	163 50.6 +02.0	N	14 48.2 -00.1	297 37.4 +02.6	N	01 39.7 +00.0	19			
20	191 02.4 +01.0	N	19 04.7 -00.3	178 52.6 +02.1	N	14 48.1 -00.1	312 40.0 +02.7	N	01 39.7 -00.1	20			
21	206 03.4 +01.1	N	19 04.4 -00.4	193 54.7 +02.1	N	14 48.0 -00.1	327 42.7 +02.6	N	01 39.6 -00.1	21			
22	221 04.5 +01.0	N	19 04.0 -00.3	208 56.8 +02.1	N	14 47.9 -00.2	342 45.3 +02.7	N	01 39.5 +00.0	22			
23	236 05.5 +01.1	N	19 03.7 -00.3	223 58.9 +02.1	N	14 47.7 -00.1	357 48.0 +02.6	N	01 39.5 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 228° 228° 228° 228° 228° 228°			SHA 216° 216° 216° 216° 216° 215°			SHA 349° 349° 349° 349° 349° 349°						
	Greenwich Culmination Time: 07:16			Greenwich Culmination Time: 08:06			Greenwich Culmination Time: 23:08						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183	31.6 +00.1	S 08 26.5 +00.9		172	41.0 +03.5	S 20 31.2 -00.5		134	12.0 -31.0	S 27 05.4 +03.6		00
01	198	31.7 +00.2	S 08 27.4 +00.9		187	44.5 +03.6	S 20 30.7 -00.5		148	41.0 -31.0	S 27 09.0 +03.4		01
02	213	31.9 +00.1	S 08 28.3 +00.9		202	48.1 +03.5	S 20 30.2 -00.5		163	10.0 -31.0	S 27 12.4 +03.3		02
03	228	32.0 +00.1	S 08 29.2 +01.0		217	51.6 +03.5	S 20 29.7 -00.4		177	39.0 -31.1	S 27 15.7 +03.1		03
04	243	32.1 +00.2	S 08 30.2 +00.9		232	55.1 +03.6	S 20 29.3 -00.5		192	07.9 -31.0	S 27 18.8 +03.0		04
05	258	32.3 +00.1	S 08 31.1 +00.9		247	58.7 +03.5	S 20 28.8 -00.5		206	36.9 -31.1	S 27 21.8 +02.9		05
06	273	32.4 +00.2	S 08 32.0 +00.9		263	02.2 +03.6	S 20 28.3 -00.5		221	05.8 -31.0	S 27 24.7 +02.7		06
07	288	32.6 +00.1	S 08 32.9 +01.0		278	05.8 +03.5	S 20 27.8 -00.5		235	34.8 -31.1	S 27 27.4 +02.6		07
08	303	32.7 +00.1	S 08 33.9 +00.9		293	09.3 +03.6	S 20 27.3 -00.6		250	03.7 -31.1	S 27 30.0 +02.5		08
09	318	32.8 +00.2	S 08 34.8 +00.9		308	12.9 +03.5	S 20 26.7 -00.5		264	32.6 -31.1	S 27 32.5 +02.3		09
10	333	33.0 +00.1	S 08 35.7 +00.9		323	16.4 +03.6	S 20 26.2 -00.5		279	01.5 -31.1	S 27 34.8 +02.2		10
11	348	33.1 +00.2	S 08 36.6 +01.0		338	20.0 +03.6	S 20 25.7 -00.5		293	30.4 -31.2	S 27 37.0 +02.1		11
12	3	33.3 +00.1	S 08 37.6 +00.9		353	23.6 +03.5	S 20 25.2 -00.5		307	59.2 -31.1	S 27 39.1 +01.9		12
13	18	33.4 +00.1	S 08 38.5 +00.9		8	27.1 +03.6	S 20 24.7 -00.5		322	28.1 -31.1	S 27 41.0 +01.8		13
14	33	33.5 +00.2	S 08 39.4 +00.9		23	30.7 +03.6	S 20 24.2 -00.5		336	57.0 -31.1	S 27 42.8 +01.6		14
15	48	33.7 +00.1	S 08 40.3 +01.0		38	34.3 +03.5	S 20 23.7 -00.6		351	25.9 -31.2	S 27 44.4 +01.5		15
16	63	33.8 +00.1	S 08 41.3 +00.9		53	37.8 +03.6	S 20 23.1 -00.5		5	54.7 -31.1	S 27 45.9 +01.4		16
17	78	33.9 +00.2	S 08 42.2 +00.9		68	41.4 +03.6	S 20 22.6 -00.5		20	23.6 -31.1	S 27 47.3 +01.3		17
18	93	34.1 +00.1	S 08 43.1 +00.9		83	45.0 +03.6	S 20 22.1 -00.6		34	52.5 -31.2	S 27 48.6 +01.1		18
19	108	34.2 +00.2	S 08 44.0 +00.9		98	48.6 +03.5	S 20 21.5 -00.5		49	21.3 -31.1	S 27 49.7 +00.9		19
20	123	34.4 +00.1	S 08 44.9 +01.0		113	52.1 +03.6	S 20 21.0 -00.5		63	50.2 -31.1	S 27 50.6 +00.9		20
21	138	34.5 +00.1	S 08 45.9 +00.9		128	55.7 +03.6	S 20 20.5 -00.6		78	19.1 -31.2	S 27 51.5 +00.7		21
22	153	34.6 +00.2	S 08 46.8 +00.9		143	59.3 +03.6	S 20 19.9 -00.5		92	47.9 -31.1	S 27 52.2 +00.5		22
23	168	34.8 +00.1	S 08 47.7 +00.9		159	02.9 +03.6	S 20 19.4 -00.5		107	16.8 -31.1	S 27 52.7 +00.4		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'0 16'0 16'0 16'0 16'0 16'0				SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 14'8 14'8 14'8 14'8 14'8 14'8				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 54'4 54'4 54'4 54'3 54'3 54'3				
	SHA 160° 160° 160° 159° 159° 159°				SHA 149° 149° 149° 149° 149° 150°				SHA 110° 107° 105° 103° 101° 098°				
	Greenwich Culmination Time: 11:45				Greenwich Culmination Time: 12:26				Greenwich Culmination Time: 15:35				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	251	06.6 +01.0	N 19 03.4 -00.3		239	01.0 +02.0	N 14 47.6 -00.1		12	50.6 +02.6	N 01 39.4 -00.1		00
01	266	07.6 +01.1	N 19 03.1 -00.4		254	03.0 +02.1	N 14 47.5 -00.1		27	53.2 +02.7	N 01 39.3 -00.1		01
02	281	08.7 +01.0	N 19 02.7 -00.3		269	05.1 +02.1	N 14 47.4 -00.1		42	55.9 +02.6	N 01 39.2 +00.0		02
03	296	09.7 +01.1	N 19 02.4 -00.3		284	07.2 +02.1	N 14 47.3 -00.2		57	58.5 +02.7	N 01 39.2 -00.1		03
04	311	10.8 +01.0	N 19 02.1 -00.3		299	09.3 +02.1	N 14 47.1 -00.1		73	01.2 +02.6	N 01 39.1 -00.1		04
05	326	11.8 +01.0	N 19 01.8 -00.4		314	11.4 +02.0	N 14 47.0 -00.1		88	03.8 +02.6	N 01 39.0 -00.1		05
06	341	12.8 +01.1	N 19 01.4 -00.3		329	13.4 +02.1	N 14 46.9 -00.1		103	06.4 +02.7	N 01 38.9 +00.0		06
07	356	13.9 +01.0	N 19 01.1 -00.3		344	15.5 +02.1	N 14 46.8 -00.1		118	09.1 +02.6	N 01 38.9 -00.1		07
08	11	14.9 +01.1	N 19 00.8 -00.3		359	17.6 +02.1	N 14 46.7 -00.2		133	11.7 +02.7	N 01 38.8 -00.1		08
09	26	16.0 +01.0	N 19 00.5 -00.4		14	19.7 +02.1	N 14 46.5 -00.1		148	14.4 +02.6	N 01 38.7 +00.0		09
10	41	17.0 +01.1	N 19 00.1 -00.3		29	21.8 +02.0	N 14 46.4 -00.1		163	17.0 +02.6	N 01 38.7 -00.1		10
11	56	18.1 +01.0	N 18 59.8 -00.3		44	23.8 +02.1	N 14 46.3 -00.1		178	19.6 +02.7	N 01 38.6 -00.1		11
12	71	19.1 +01.1	N 18 59.5 -00.4		59	25.9 +02.1	N 14 46.2 -00.1		193	22.3 +02.6	N 01 38.5 -00.1		12
13	86	20.2 +01.0	N 18 59.1 -00.3		74	28.0 +02.1	N 14 46.1 -00.2		208	24.9 +02.7	N 01 38.4 +00.0		13
14	101	21.2 +01.1	N 18 58.8 -00.3		89	30.1 +02.1	N 14 45.9 -00.1		223	27.6 +02.6	N 01 38.4 -00.1		14
15	116	22.3 +01.1	N 18 58.5 -00.3		104	32.2 +02.0	N 14 45.8 -00.1		238	30.2 +02.6	N 01 38.3 -00.1		15
16	131	23.4 +01.0	N 18 58.2 -00.4		119	34.2 +02.1	N 14 45.7 -00.1		253	32.8 +02.7	N 01 38.2 +00.0		16
17	146	24.4 +01.1	N 18 57.8 -00.3		134	36.3 +02.1	N 14 45.6 -00.1		268	35.5 +02.6	N 01 38.2 -00.1		17
18	161	25.5 +01.0	N 18 57.5 -00.3		149	38.4 +02.1	N 14 45.5 -00.1		283	38.1 +02.7	N 01 38.1 -00.1		18
19	176	26.5 +01.1	N 18 57.2 -00.3		164	40.5 +02.1	N 14 45.4 -00.2		298	40.8 +02.6	N 01 38.0 -00.1		19
20	191	27.6 +01.0	N 18 56.9 -00.4		179	42.6 +02.1	N 14 45.2 -00.1		313	43.4 +02.6	N 01 37.9 +00.0		20
21	206	28.6 +01.1	N 18 56.5 -00.3		194	44.7 +02.0	N 14 45.1 -00.1		328	46.0 +02.7	N 01 37.9 -00.1		21
22	221	29.7 +01.0	N 18 56.2 -00.3		209	46.7 +02.1	N 14 45.0 -00.1		343	48.7 +02.6	N 01 37.8 -00.1		22
23	236	30.7 +01.1	N 18 55.9 -00.3		224	48.8 +02.1	N 14 44.9 -00.1		358	51.3 +02.6	N 01 37.7 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'0 00'0 00'0 00'0 00'1 00'1				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 228° 227° 227° 227° 227° 227°				SHA 215° 215° 215° 215° 215° 215°				SHA 349° 349° 349° 349° 349° 349°				
	Greenwich Culmination Time: 07:15				Greenwich Culmination Time: 08:02				Greenwich Culmination Time: 23:04				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 34.9 +00.1	S	08 48.6 +00.9	174 06.5 +03.6	S	20 18.9 -00.6	121 45.7 -31.1	S	27 53.1 +00.3	00			
01	198 35.0 +00.2	S	08 49.5 +01.0	189 10.1 +03.6	S	20 18.3 -00.5	136 14.6 -31.1	S	27 53.4 +00.2	01			
02	213 35.2 +00.1	S	08 50.5 +00.9	204 13.7 +03.6	S	20 17.8 -00.6	150 43.5 -31.1	S	27 53.6 +00.0	02			
03	228 35.3 +00.1	S	08 51.4 +00.9	219 17.3 +03.6	S	20 17.2 -00.5	165 12.4 -31.1	S	27 53.6 -00.1	03			
04	243 35.4 +00.2	S	08 52.3 +00.9	234 20.9 +03.6	S	20 16.7 -00.6	179 41.3 -31.1	S	27 53.5 -00.3	04			
05	258 35.6 +00.1	S	08 53.2 +00.9	249 24.5 +03.6	S	20 16.1 -00.6	194 10.2 -31.0	S	27 53.2 -00.4	05			
06	273 35.7 +00.1	S	08 54.1 +01.0	264 28.1 +03.6	S	20 15.5 -00.5	208 39.2 -31.1	S	27 52.8 -00.5	06			
07	288 35.8 +00.2	S	08 55.1 +00.9	279 31.7 +03.6	S	20 15.0 -00.6	223 08.1 -31.0	S	27 52.3 -00.6	07			
08	303 36.0 +00.1	S	08 56.0 +00.9	294 35.3 +03.6	S	20 14.4 -00.5	237 37.1 -31.1	S	27 51.7 -00.8	08			
09	318 36.1 +00.1	S	08 56.9 +00.9	309 38.9 +03.7	S	20 13.9 -00.6	252 06.0 -31.0	S	27 50.9 -01.0	09			
10	333 36.2 +00.2	S	08 57.8 +00.9	324 42.6 +03.6	S	20 13.3 -00.6	266 35.0 -30.9	S	27 49.9 -01.0	10			
11	348 36.4 +00.1	S	08 58.7 +01.0	339 46.2 +03.6	S	20 12.7 -00.6	281 04.1 -31.0	S	27 48.9 -01.2	11			
12	3 36.5 +00.1	S	08 59.7 +00.9	354 49.8 +03.6	S	20 12.1 -00.5	295 33.1 -31.0	S	27 47.7 -01.3	12			
13	18 36.6 +00.2	S	09 00.6 +00.9	9 53.4 +03.6	S	20 11.6 -00.6	310 02.1 -30.9	S	27 46.4 -01.5	13			
14	33 36.8 +00.1	S	09 01.5 +00.9	24 57.0 +03.7	S	20 11.0 -00.6	324 31.2 -30.9	S	27 44.9 -01.6	14			
15	48 36.9 +00.1	S	09 02.4 +00.9	40 00.7 +03.6	S	20 10.4 -00.6	339 00.3 -30.9	S	27 43.3 -01.7	15			
16	63 37.0 +00.2	S	09 03.3 +00.9	55 04.3 +03.6	S	20 09.8 -00.6	353 29.4 -30.9	S	27 41.6 -01.9	16			
17	78 37.2 +00.1	S	09 04.2 +01.0	70 07.9 +03.7	S	20 09.2 -00.6	7 58.5 -30.8	S	27 39.7 -02.0	17			
18	93 37.3 +00.1	S	09 05.2 +00.9	85 11.6 +03.6	S	20 08.6 -00.5	22 27.7 -30.8	S	27 37.7 -02.1	18			
19	108 37.4 +00.1	S	09 06.1 +00.9	100 15.2 +03.6	S	20 08.1 -00.6	36 56.9 -30.8	S	27 35.6 -02.3	19			
20	123 37.5 +00.2	S	09 07.0 +00.9	115 18.8 +03.7	S	20 07.5 -00.6	51 26.1 -30.8	S	27 33.3 -02.4	20			
21	138 37.7 +00.1	S	09 07.9 +00.9	130 22.5 +03.6	S	20 06.9 -00.6	65 55.3 -30.7	S	27 30.9 -02.5	21			
22	153 37.8 +00.1	S	09 08.8 +00.9	145 26.1 +03.7	S	20 06.3 -00.6	80 24.6 -30.7	S	27 28.4 -02.7	22			
23	168 37.9 +00.2	S	09 09.7 +01.0	160 29.8 +03.6	S	20 05.7 -00.6	94 53.9 -30.7	S	27 25.7 -02.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 14'8 14'8 14'8 14'8 14'8 14'8					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 54'2 54'2 54'2 54'2 54'2 54'2					
	SHA 159° 159° 159° 159° 158° 158°			SHA 150° 150° 150° 150° 150° 150°				SHA 096° 094° 092° 089° 087° 085°					
	Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 12:20				Greenwich Culmination Time: 16:26					
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	251 31.8 +01.0	N	18 55.6 -00.4	239 50.9 +02.1	N	14 44.8 -00.2	13 53.9 +02.7	N	01 37.6 +00.0	00			
01	266 32.8 +01.1	N	18 55.2 -00.3	254 53.0 +02.1	N	14 44.6 -00.1	28 56.6 +02.6	N	01 37.6 -00.1	01			
02	281 33.9 +01.0	N	18 54.9 -00.3	269 55.1 +02.1	N	14 44.5 -00.1	43 59.2 +02.7	N	01 37.5 -00.1	02			
03	296 34.9 +01.1	N	18 54.6 -00.4	284 57.2 +02.0	N	14 44.4 -00.1	59 01.9 +02.6	N	01 37.4 +00.0	03			
04	311 36.0 +01.1	N	18 54.2 -00.3	299 59.2 +02.1	N	14 44.3 -00.1	74 04.5 +02.6	N	01 37.4 -00.1	04			
05	326 37.1 +01.0	N	18 53.9 -00.3	315 01.3 +02.1	N	14 44.2 -00.2	89 07.1 +02.7	N	01 37.3 -00.1	05			
06	341 38.1 +01.1	N	18 53.6 -00.3	330 03.4 +02.1	N	14 44.0 -00.1	104 09.8 +02.6	N	01 37.2 -00.1	06			
07	356 39.2 +01.0	N	18 53.3 -00.4	345 05.5 +02.1	N	14 43.9 -00.1	119 12.4 +02.7	N	01 37.1 +00.0	07			
08	11 40.2 +01.1	N	18 52.9 -00.3	0 07.6 +02.1	N	14 43.8 -00.1	134 15.1 +02.6	N	01 37.1 -00.1	08			
09	26 41.3 +01.0	N	18 52.6 -00.3	15 09.7 +02.0	N	14 43.7 -00.1	149 17.7 +02.6	N	01 37.0 -00.1	09			
10	41 42.3 +01.1	N	18 52.3 -00.3	30 11.7 +02.1	N	14 43.6 -00.1	164 20.3 +02.7	N	01 36.9 +00.0	10			
11	56 43.4 +01.1	N	18 52.0 -00.4	45 13.8 +02.1	N	14 43.5 -00.2	179 23.0 +02.6	N	01 36.9 -00.1	11			
12	71 44.5 +01.0	N	18 51.6 -00.3	60 15.9 +02.1	N	14 43.3 -00.1	194 25.6 +02.7	N	01 36.8 -00.1	12			
13	86 45.5 +01.1	N	18 51.3 -00.3	75 18.0 +02.1	N	14 43.2 -00.1	209 28.3 +02.6	N	01 36.7 -00.1	13			
14	101 46.6 +01.0	N	18 51.0 -00.4	90 20.1 +02.1	N	14 43.1 -00.1	224 30.9 +02.6	N	01 36.6 +00.0	14			
15	116 47.6 +01.1	N	18 50.6 -00.3	105 22.2 +02.1	N	14 43.0 -00.1	239 33.5 +02.7	N	01 36.6 -00.1	15			
16	131 48.7 +01.1	N	18 50.3 -00.3	120 24.3 +02.0	N	14 42.9 -00.1	254 36.2 +02.6	N	01 36.5 -00.1	16			
17	146 49.8 +01.0	N	18 50.0 -00.3	135 26.3 +02.1	N	14 42.8 -00.2	269 38.8 +02.6	N	01 36.4 +00.0	17			
18	161 50.8 +01.1	N	18 49.7 -00.4	150 28.4 +02.1	N	14 42.6 -00.1	284 41.4 +02.7	N	01 36.4 -00.1	18			
19	176 51.9 +01.0	N	18 49.3 -00.3	165 30.5 +02.1	N	14 42.5 -00.1	299 44.1 +02.6	N	01 36.3 -00.1	19			
20	191 52.9 +01.1	N	18 49.0 -00.3	180 32.6 +02.1	N	14 42.4 -00.1	314 46.7 +02.7	N	01 36.2 -00.1	20			
21	206 54.0 +01.1	N	18 48.7 -00.4	195 34.7 +02.1	N	14 42.3 -00.1	329 49.4 +02.6	N	01 36.1 +00.0	21			
22	221 55.1 +01.0	N	18 48.3 -00.3	210 36.8 +02.1	N	14 42.2 -00.2	344 52.0 +02.6	N	01 36.1 -00.1	22			
23	236 56.1 +01.1	N	18 48.0 -00.3	225 38.9 +02.1	N	14 42.0 -00.1	359 54.6 +02.7	N	01 36.0 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 227° 227° 227° 227° 227° 226°			SHA 215° 215° 215° 215° 215° 215°				SHA 349° 349° 349° 349° 349° 349°					
	Greenwich Culmination Time: 07:13			Greenwich Culmination Time: 07:59				Greenwich Culmination Time: 23:00					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 38.1 +00.1	S	09 10.7 +00.9	175 33.4 +03.7	S	20 05.1 -00.6	109 23.2 -30.6	S	27 22.9 -02.9	00			
01	198 38.2 +00.1	S	09 11.6 +00.9	190 37.1 +03.6	S	20 04.5 -00.6	123 52.6 -30.7	S	27 20.0 -03.0	01			
02	213 38.3 +00.2	S	09 12.5 +00.9	205 40.7 +03.7	S	20 03.9 -00.7	138 21.9 -30.5	S	27 17.0 -03.2	02			
03	228 38.5 +00.1	S	09 13.4 +00.9	220 44.4 +03.6	S	20 03.2 -00.6	152 51.4 -30.6	S	27 13.8 -03.3	03			
04	243 38.6 +00.1	S	09 14.3 +00.9	235 48.0 +03.7	S	20 02.6 -00.6	167 20.8 -30.5	S	27 10.5 -03.4	04			
05	258 38.7 +00.1	S	09 15.2 +01.0	250 51.7 +03.6	S	20 02.0 -00.6	181 50.3 -30.5	S	27 07.1 -03.6	05			
06	273 38.8 +00.2	S	09 16.2 +00.9	265 55.3 +03.7	S	20 01.4 -00.6	196 19.8 -30.5	S	27 03.5 -03.7	06			
07	288 39.0 +00.1	S	09 17.1 +00.9	280 59.0 +03.7	S	20 00.8 -00.6	210 49.3 -30.4	S	26 59.8 -03.8	07			
08	303 39.1 +00.1	S	09 18.0 +00.9	296 02.7 +03.6	S	20 00.2 -00.7	225 18.9 -30.4	S	26 56.0 -03.9	08			
09	318 39.2 +00.1	S	09 18.9 +00.9	311 06.3 +03.7	S	19 59.5 -00.6	239 48.5 -30.3	S	26 52.1 -04.1	09			
10	333 39.3 +00.2	S	09 19.8 +00.9	326 10.0 +03.7	S	19 58.9 -00.6	254 18.2 -30.3	S	26 48.0 -04.2	10			
11	348 39.5 +00.1	S	09 20.7 +00.9	341 13.7 +03.6	S	19 58.3 -00.6	268 47.9 -30.3	S	26 43.8 -04.3	11			
12	3 39.6 +00.1	S	09 21.6 +00.9	356 17.3 +03.7	S	19 57.7 -00.7	283 17.6 -30.2	S	26 39.5 -04.5	12			
13	18 39.7 +00.2	S	09 22.5 +01.0	11 21.0 +03.7	S	19 57.0 -00.6	297 47.4 -30.2	S	26 35.0 -04.6	13			
14	33 39.9 +00.1	S	09 23.5 +00.9	26 24.7 +03.7	S	19 56.4 -00.7	312 17.2 -30.2	S	26 30.4 -04.7	14			
15	48 40.0 +00.1	S	09 24.4 +00.9	41 28.4 +03.7	S	19 55.7 -00.6	326 47.0 -30.1	S	26 25.7 -04.8	15			
16	63 40.1 +00.1	S	09 25.3 +00.9	56 32.1 +03.6	S	19 55.1 -00.6	341 16.9 -30.0	S	26 20.9 -04.9	16			
17	78 40.2 +00.2	S	09 26.2 +00.9	71 35.7 +03.7	S	19 54.5 -00.7	355 46.9 -30.1	S	26 16.0 -05.1	17			
18	93 40.4 +00.1	S	09 27.1 +00.9	86 39.4 +03.7	S	19 53.8 -00.6	10 16.8 -30.0	S	26 10.9 -05.2	18			
19	108 40.5 +00.1	S	09 28.0 +00.9	101 43.1 +03.7	S	19 53.2 -00.7	24 46.8 -29.9	S	26 05.7 -05.3	19			
20	123 40.6 +00.1	S	09 28.9 +00.9	116 46.8 +03.7	S	19 52.5 -00.6	39 16.9 -29.9	S	26 00.4 -05.4	20			
21	138 40.7 +00.2	S	09 29.8 +00.9	131 50.5 +03.7	S	19 51.9 -00.7	53 47.0 -29.9	S	25 55.0 -05.6	21			
22	153 40.9 +00.1	S	09 30.7 +01.0	146 54.2 +03.7	S	19 51.2 -00.6	68 17.1 -29.8	S	25 49.4 -05.7	22			
23	168 41.0 +00.1	S	09 31.7 +00.9	161 57.9 +03.7	S	19 50.6 -00.7	82 47.3 -29.8	S	25 43.7 -05.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 14'8 14'8 14'8 14'8 14'8 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 54'2 54'2 54'2 54'2 54'2 54'2						
	SHA 158° 158° 158° 158° 157° 157°			SHA 150° 150° 150° 150° 150° 150°			SHA 083° 081° 078° 076° 074° 072°						
	Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 17:17						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	251 57.2 +01.1	N	18 47.7 -00.3	240 41.0 +02.0	N	14 41.9 -00.1	14 57.3 +02.6	N	01 35.9 +00.0	00			
01	266 58.3 +01.0	N	18 47.4 -00.4	255 43.0 +02.1	N	14 41.8 -00.1	29 59.9 +02.7	N	01 35.9 -00.1	01			
02	281 59.3 +01.1	N	18 47.0 -00.3	270 45.1 +02.1	N	14 41.7 -00.1	45 02.6 +02.6	N	01 35.8 -00.1	02			
03	297 00.4 +01.1	N	18 46.7 -00.3	285 47.2 +02.1	N	14 41.6 -00.1	60 05.2 +02.6	N	01 35.7 -00.1	03			
04	312 01.5 +01.0	N	18 46.4 -00.4	300 49.3 +02.1	N	14 41.5 -00.2	75 07.8 +02.7	N	01 35.6 +00.0	04			
05	327 02.5 +01.1	N	18 46.0 -00.3	315 51.4 +02.1	N	14 41.3 -00.1	90 10.5 +02.6	N	01 35.6 -00.1	05			
06	342 03.6 +01.0	N	18 45.7 -00.3	330 53.5 +02.1	N	14 41.2 -00.1	105 13.1 +02.6	N	01 35.5 -00.1	06			
07	357 04.6 +01.1	N	18 45.4 -00.4	345 55.6 +02.1	N	14 41.1 -00.1	120 15.7 +02.7	N	01 35.4 +00.0	07			
08	12 05.7 +01.1	N	18 45.0 -00.3	0 57.7 +02.1	N	14 41.0 -00.1	135 18.4 +02.6	N	01 35.4 -00.1	08			
09	27 06.8 +01.0	N	18 44.7 -00.3	15 59.8 +02.0	N	14 40.9 -00.1	150 21.0 +02.7	N	01 35.3 -00.1	09			
10	42 07.8 +01.1	N	18 44.4 -00.3	31 01.8 +02.1	N	14 40.8 -00.2	165 23.7 +02.6	N	01 35.2 -00.1	10			
11	57 08.9 +01.1	N	18 44.1 -00.4	46 03.9 +02.1	N	14 40.6 -00.1	180 26.3 +02.6	N	01 35.1 +00.0	11			
12	72 10.0 +01.0	N	18 43.7 -00.3	61 06.0 +02.1	N	14 40.5 -00.1	195 28.9 +02.7	N	01 35.1 -00.1	12			
13	87 11.0 +01.1	N	18 43.4 -00.3	76 08.1 +02.1	N	14 40.4 -00.1	210 31.6 +02.6	N	01 35.0 -00.1	13			
14	102 12.1 +01.1	N	18 43.1 -00.4	91 10.2 +02.1	N	14 40.3 -00.1	225 34.2 +02.6	N	01 34.9 +00.0	14			
15	117 13.2 +01.1	N	18 42.7 -00.3	106 12.3 +02.1	N	14 40.2 -00.1	240 36.8 +02.7	N	01 34.9 -00.1	15			
16	132 14.3 +01.0	N	18 42.4 -00.3	121 14.4 +02.1	N	14 40.1 -00.2	255 39.5 +02.6	N	01 34.8 -00.1	16			
17	147 15.3 +01.1	N	18 42.1 -00.4	136 16.5 +02.1	N	14 39.9 -00.1	270 42.1 +02.7	N	01 34.7 -00.1	17			
18	162 16.4 +01.1	N	18 41.7 -00.3	151 18.6 +02.1	N	14 39.8 -00.1	285 44.8 +02.6	N	01 34.6 +00.0	18			
19	177 17.5 +01.0	N	18 41.4 -00.3	166 20.7 +02.1	N	14 39.7 -00.1	300 47.4 +02.6	N	01 34.6 -00.1	19			
20	192 18.5 +01.1	N	18 41.1 -00.3	181 22.8 +02.0	N	14 39.6 -00.1	315 50.0 +02.7	N	01 34.5 -00.1	20			
21	207 19.6 +01.1	N	18 40.8 -00.4	196 24.8 +02.1	N	14 39.5 -00.1	330 52.7 +02.6	N	01 34.4 +00.0	21			
22	222 20.7 +01.0	N	18 40.4 -00.3	211 26.9 +02.1	N	14 39.4 -00.1	345 55.3 +02.6	N	01 34.4 -00.1	22			
23	237 21.7 +01.1	N	18 40.1 -00.3	226 29.0 +02.1	N	14 39.3 -00.2	0 57.9 +02.7	N	01 34.3 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 226° 226° 226° 226° 226° 226°			SHA 215° 215° 215° 215° 215° 215°			SHA 349° 349° 349° 349° 349° 350°						
	Greenwich Culmination Time: 07:11			Greenwich Culmination Time: 07:56			Greenwich Culmination Time: 22:56						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183	41.1+00.1	S 09 32.6	+00.9	177	01.6+03.7	S 19 49.9	-00.7	97	17.5 -29.7	S 25 37.9	-05.9	00
01	198	41.2+00.1	S 09 33.5	+00.9	192	05.3+03.7	S 19 49.2	-00.6	111	47.8 -29.7	S 25 32.0	-06.0	01
02	213	41.3+00.2	S 09 34.4	+00.9	207	09.0+03.7	S 19 48.6	-00.7	126	18.1 -29.6	S 25 26.0	-06.2	02
03	228	41.5+00.1	S 09 35.3	+00.9	222	12.7+03.7	S 19 47.9	-00.7	140	48.5 -29.6	S 25 19.8	-06.2	03
04	243	41.6+00.1	S 09 36.2	+00.9	237	16.4+03.7	S 19 47.2	-00.6	155	18.9 -29.6	S 25 13.6	-06.4	04
05	258	41.7+00.1	S 09 37.1	+00.9	252	20.1+03.7	S 19 46.6	-00.7	169	49.3 -29.5	S 25 07.2	-06.5	05
06	273	41.8+00.2	S 09 38.0	+00.9	267	23.8+03.7	S 19 45.9	-00.7	184	19.8 -29.4	S 25 00.7	-06.7	06
07	288	42.0+00.1	S 09 38.9	+00.9	282	27.5+03.7	S 19 45.2	-00.7	198	50.4 -29.4	S 24 54.0	-06.7	07
08	303	42.1+00.1	S 09 39.8	+00.9	297	31.2+03.7	S 19 44.5	-00.7	213	21.0 -29.4	S 24 47.3	-06.8	08
09	318	42.2+00.1	S 09 40.7	+00.9	312	34.9+03.7	S 19 43.8	-00.6	227	51.6 -29.3	S 24 40.5	-07.0	09
10	333	42.3+00.1	S 09 41.6	+01.0	327	38.6+03.7	S 19 43.2	-00.7	242	22.3 -29.3	S 24 33.5	-07.1	10
11	348	42.4+00.2	S 09 42.6	+00.9	342	42.3+03.8	S 19 42.5	-00.7	256	53.0 -29.2	S 24 26.4	-07.2	11
12	3	42.6+00.1	S 09 43.5	+00.9	357	46.1+03.7	S 19 41.8	-00.7	271	23.8 -29.1	S 24 19.2	-07.3	12
13	18	42.7+00.1	S 09 44.4	+00.9	12	49.8+03.7	S 19 41.1	-00.7	285	54.7 -29.2	S 24 11.9	-07.4	13
14	33	42.8+00.1	S 09 45.3	+00.9	27	53.5+03.7	S 19 40.4	-00.7	300	25.5 -29.0	S 24 04.5	-07.5	14
15	48	42.9+00.1	S 09 46.2	+00.9	42	57.2+03.7	S 19 39.7	-00.7	314	56.5 -29.1	S 23 57.0	-07.7	15
16	63	43.0+00.2	S 09 47.1	+00.9	58	00.9+03.8	S 19 39.0	-00.7	329	27.4 -28.9	S 23 49.3	-07.7	16
17	78	43.2+00.1	S 09 48.0	+00.9	73	04.7+03.7	S 19 38.3	-00.7	343	58.5 -29.0	S 23 41.6	-07.9	17
18	93	43.3+00.1	S 09 48.9	+00.9	88	08.4+03.7	S 19 37.6	-00.7	358	29.5 -28.9	S 23 33.7	-07.9	18
19	108	43.4+00.1	S 09 49.8	+00.9	103	12.1+03.8	S 19 36.9	-00.7	13	00.6 -28.8	S 23 25.8	-08.1	19
20	123	43.5+00.1	S 09 50.7	+00.9	118	15.9+03.7	S 19 36.2	-00.7	27	31.8 -28.8	S 23 17.7	-08.2	20
21	138	43.6+00.1	S 09 51.6	+00.9	133	19.6+03.7	S 19 35.5	-00.7	42	03.0 -28.7	S 23 09.5	-08.3	21
22	153	43.7+00.2	S 09 52.5	+00.9	148	23.3+03.7	S 19 34.8	-00.7	56	34.3 -28.7	S 23 01.2	-08.3	22
23	168	43.9+00.1	S 09 53.4	+00.9	163	27.0+03.8	S 19 34.1	-00.7	71	05.6 -28.7	S 22 52.9	-08.5	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'1 16'1 16'1 16'1 16'1 16'1				SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 14'8 14'8 14'8 14'8 14'8 14'8				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 54'3 54'3 54'3 54'4 54'4 54'5				
	SHA 157° 157° 157° 157° 156° 156°				SHA 151° 151° 151° 151° 151° 151°				SHA 070° 068° 065° 063° 061° 059°				
	Greenwich Culmination Time: 11:45				Greenwich Culmination Time: 12:08				Greenwich Culmination Time: 18:06				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	252	22.8+01.1	N 18 39.8	-00.4	241	31.1+02.1	N 14 39.1	-00.1	16	00.6+02.6	N 01 34.2	-00.1	00
01	267	23.9+01.1	N 18 39.4	-00.3	256	33.2+02.1	N 14 39.0	-00.1	31	03.2+02.7	N 01 34.1	+00.0	01
02	282	25.0+01.0	N 18 39.1	-00.3	271	35.3+02.1	N 14 38.9	-00.1	46	05.9+02.6	N 01 34.1	-00.1	02
03	297	26.0+01.1	N 18 38.8	-00.4	286	37.4+02.1	N 14 38.8	-00.1	61	08.5+02.6	N 01 34.0	-00.1	03
04	312	27.1+01.1	N 18 38.4	-00.3	301	39.5+02.1	N 14 38.7	-00.1	76	11.1+02.7	N 01 33.9	+00.0	04
05	327	28.2+01.1	N 18 38.1	-00.3	316	41.6+02.1	N 14 38.6	-00.2	91	13.8+02.6	N 01 33.9	-00.1	05
06	342	29.3+01.0	N 18 37.8	-00.4	331	43.7+02.1	N 14 38.4	-00.1	106	16.4+02.6	N 01 33.8	-00.1	06
07	357	30.3+01.1	N 18 37.4	-00.3	346	45.8+02.1	N 14 38.3	-00.1	121	19.0+02.7	N 01 33.7	+00.0	07
08	12	31.4+01.1	N 18 37.1	-00.3	1	47.9+02.1	N 14 38.2	-00.1	136	21.7+02.6	N 01 33.7	-00.1	08
09	27	32.5+01.1	N 18 36.8	-00.4	16	50.0+02.1	N 14 38.1	-00.1	151	24.3+02.6	N 01 33.6	-00.1	09
10	42	33.6+01.0	N 18 36.4	-00.3	31	52.1+02.1	N 14 38.0	-00.1	166	26.9+02.7	N 01 33.5	-00.1	10
11	57	34.6+01.1	N 18 36.1	-00.3	46	54.2+02.1	N 14 37.9	-00.1	181	29.6+02.6	N 01 33.4	+00.0	11
12	72	35.7+01.1	N 18 35.8	-00.3	61	56.3+02.0	N 14 37.8	-00.2	196	32.2+02.7	N 01 33.4	-00.1	12
13	87	36.8+01.1	N 18 35.5	-00.4	76	58.3+02.1	N 14 37.6	-00.1	211	34.9+02.6	N 01 33.3	-00.1	13
14	102	37.9+01.0	N 18 35.1	-00.3	92	00.4+02.1	N 14 37.5	-00.1	226	37.5+02.6	N 01 33.2	+00.0	14
15	117	38.9+01.1	N 18 34.8	-00.3	107	02.5+02.1	N 14 37.4	-00.1	241	40.1+02.7	N 01 33.2	-00.1	15
16	132	40.0+01.1	N 18 34.5	-00.4	122	04.6+02.1	N 14 37.3	-00.1	256	42.8+02.6	N 01 33.1	-00.1	16
17	147	41.1+01.1	N 18 34.1	-00.3	137	06.7+02.1	N 14 37.2	-00.1	271	45.4+02.6	N 01 33.0	-00.1	17
18	162	42.2+01.0	N 18 33.8	-00.3	152	08.8+02.1	N 14 37.1	-00.2	286	48.0+02.7	N 01 32.9	+00.0	18
19	177	43.2+01.1	N 18 33.5	-00.4	167	10.9+02.1	N 14 36.9	-00.1	301	50.7+02.6	N 01 32.9	-00.1	19
20	192	44.3+01.1	N 18 33.1	-00.3	182	13.0+02.1	N 14 36.8	-00.1	316	53.3+02.6	N 01 32.8	-00.1	20
21	207	45.4+01.1	N 18 32.8	-00.3	197	15.1+02.1	N 14 36.7	-00.1	331	55.9+02.7	N 01 32.7	+00.0	21
22	222	46.5+01.1	N 18 32.5	-00.4	212	17.2+02.1	N 14 36.6	-00.1	346	58.6+02.6	N 01 32.7	-00.1	22
23	237	47.6+01.0	N 18 32.1	-00.3	227	19.3+02.1	N 14 36.5	-00.1	2	01.2+02.7	N 01 32.6	-00.1	23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 226° 226° 226° 226° 225° 225°				SHA 215° 215° 215° 215° 215° 215°				SHA 350° 350° 350° 350° 350° 350°				
	Greenwich Culmination Time: 07:09				Greenwich Culmination Time: 07:52				Greenwich Culmination Time: 22:51				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183	44.0 +00.1	S 09 54.3 +00.9		178	30.8 +03.7	S 19 33.4 -00.8		85	36.9 -28.6	S 22 44.4 -08.6		00
01	198	44.1 +00.1	S 09 55.2 +00.9		193	34.5 +03.8	S 19 32.6 -00.7		100	08.3 -28.5	S 22 35.8 -08.8		01
02	213	44.2 +00.1	S 09 56.1 +00.9		208	38.3 +03.7	S 19 31.9 -00.7		114	39.8 -28.5	S 22 27.0 -08.8		02
03	228	44.3 +00.1	S 09 57.0 +00.9		223	42.0 +03.7	S 19 31.2 -00.7		129	11.3 -28.5	S 22 18.2 -08.9		03
04	243	44.4 +00.2	S 09 57.9 +00.9		238	45.7 +03.8	S 19 30.5 -00.7		143	42.8 -28.4	S 22 09.3 -09.0		04
05	258	44.6 +00.1	S 09 58.8 +00.9		253	49.5 +03.7	S 19 29.8 -00.8		158	14.4 -28.3	S 22 00.3 -09.1		05
06	273	44.7 +00.1	S 09 59.7 +00.9		268	53.2 +03.8	S 19 29.0 -00.7		172	46.1 -28.4	S 21 51.2 -09.2		06
07	288	44.8 +00.1	S 10 00.6 +00.9		283	57.0 +03.7	S 19 28.3 -00.7		187	17.7 -28.2	S 21 42.0 -09.4		07
08	303	44.9 +00.1	S 10 01.5 +00.9		299	00.7 +03.8	S 19 27.6 -00.8		201	49.5 -28.2	S 21 32.6 -09.4		08
09	318	45.0 +00.1	S 10 02.4 +00.9		314	04.5 +03.7	S 19 26.8 -00.7		216	21.3 -28.2	S 21 23.2 -09.5		09
10	333	45.1 +00.2	S 10 03.3 +00.9		329	08.2 +03.8	S 19 26.1 -00.7		230	53.1 -28.1	S 21 13.7 -09.6		10
11	348	45.3 +00.1	S 10 04.2 +00.9		344	12.0 +03.7	S 19 25.4 -00.8		245	25.0 -28.1	S 21 04.1 -09.7		11
12	3	45.4 +00.1	S 10 05.1 +01.0		359	15.7 +03.8	S 19 24.6 -00.7		259	56.9 -28.1	S 20 54.4 -09.8		12
13	18	45.5 +00.1	S 10 06.1 +00.9		14	19.5 +03.7	S 19 23.9 -00.8		274	28.8 -28.0	S 20 44.6 -09.9		13
14	33	45.6 +00.1	S 10 07.0 +00.9		29	23.2 +03.8	S 19 23.1 -00.7		289	00.8 -27.9	S 20 34.7 -10.0		14
15	48	45.7 +00.1	S 10 07.9 +00.9		44	27.0 +03.7	S 19 22.4 -00.8		303	32.9 -27.9	S 20 24.7 -10.1		15
16	63	45.8 +00.1	S 10 08.8 +00.8		59	30.7 +03.8	S 19 21.6 -00.7		318	05.0 -27.9	S 20 14.6 -10.2		16
17	78	45.9 +00.1	S 10 09.6 +00.9		74	34.5 +03.8	S 19 20.9 -00.8		332	37.1 -27.8	S 20 04.4 -10.3		17
18	93	46.0 +00.2	S 10 10.5 +00.9		89	38.3 +03.7	S 19 20.1 -00.7		347	09.3 -27.8	S 19 54.1 -10.4		18
19	108	46.2 +00.1	S 10 11.4 +00.9		104	42.0 +03.8	S 19 19.4 -00.8		1	41.5 -27.7	S 19 43.7 -10.5		19
20	123	46.3 +00.1	S 10 12.3 +00.9		119	45.8 +03.8	S 19 18.6 -00.7		16	13.8 -27.7	S 19 33.2 -10.5		20
21	138	46.4 +00.1	S 10 13.2 +00.9		134	49.6 +03.7	S 19 17.9 -00.8		30	46.1 -27.7	S 19 22.7 -10.7		21
22	153	46.5 +00.1	S 10 14.1 +00.9		149	53.3 +03.8	S 19 17.1 -00.8		45	18.4 -27.6	S 19 12.0 -10.7		22
23	168	46.6 +00.1	S 10 15.0 +00.9		164	57.1 +03.8	S 19 16.3 -00.7		59	50.8 -27.5	S 19 01.3 -10.9		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'1 16'1 16'1 16'1 16'1 16'1				SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 14'9 14'9 14'9 14'9 14'9 15'0				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 54'6 54'6 54'7 54'8 54'8 54'9				
	SHA 156° 156° 156° 156° 156° 155°				SHA 151° 151° 151° 151° 151° 151°				SHA 057° 055° 053° 051° 049° 047°				
	Greenwich Culmination Time: 11:44				Greenwich Culmination Time: 12:02				Greenwich Culmination Time: 18:53				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	252	48.6 +01.1	N 18 31.8 -00.3		242	21.4 +02.1	N 14 36.4 -00.1		17	03.9 +02.6	N 01 32.5 +00.0		00
01	267	49.7 +01.1	N 18 31.5 -00.4		257	23.5 +02.1	N 14 36.3 -00.2		32	06.5 +02.6	N 01 32.5 -00.1		01
02	282	50.8 +01.1	N 18 31.1 -00.3		272	25.6 +02.1	N 14 36.1 -00.1		47	09.1 +02.7	N 01 32.4 -00.1		02
03	297	51.9 +01.1	N 18 30.8 -00.3		287	27.7 +02.1	N 14 36.0 -00.1		62	11.8 +02.6	N 01 32.3 +00.0		03
04	312	53.0 +01.1	N 18 30.5 -00.4		302	29.8 +02.1	N 14 35.9 -00.1		77	14.4 +02.6	N 01 32.3 -00.1		04
05	327	54.1 +01.0	N 18 30.1 -00.3		317	31.9 +02.1	N 14 35.8 -00.1		92	17.0 +02.7	N 01 32.2 -00.1		05
06	342	55.1 +01.1	N 18 29.8 -00.3		332	34.0 +02.1	N 14 35.7 -00.1		107	19.7 +02.6	N 01 32.1 -00.1		06
07	357	56.2 +01.1	N 18 29.5 -00.4		347	36.1 +02.1	N 14 35.6 -00.1		122	22.3 +02.6	N 01 32.0 +00.0		07
08	12	57.3 +01.1	N 18 29.1 -00.3		2	38.2 +02.1	N 14 35.5 -00.2		137	24.9 +02.7	N 01 32.0 -00.1		08
09	27	58.4 +01.1	N 18 28.8 -00.3		17	40.3 +02.1	N 14 35.3 -00.1		152	27.6 +02.6	N 01 31.9 -00.1		09
10	42	59.5 +01.1	N 18 28.5 -00.4		32	42.4 +02.1	N 14 35.2 -00.1		167	30.2 +02.6	N 01 31.8 +00.0		10
11	58	00.6 +01.0	N 18 28.1 -00.3		47	44.5 +02.1	N 14 35.1 -00.1		182	32.8 +02.7	N 01 31.8 -00.1		11
12	73	01.6 +01.1	N 18 27.8 -00.3		62	46.6 +02.1	N 14 35.0 -00.1		197	35.5 +02.6	N 01 31.7 -00.1		12
13	88	02.7 +01.1	N 18 27.5 -00.4		77	48.7 +02.1	N 14 34.9 -00.1		212	38.1 +02.7	N 01 31.6 +00.0		13
14	103	03.8 +01.1	N 18 27.1 -00.3		92	50.8 +02.1	N 14 34.8 -00.1		227	40.8 +02.6	N 01 31.6 -00.1		14
15	118	04.9 +01.1	N 18 26.8 -00.3		107	52.9 +02.1	N 14 34.7 -00.1		242	43.4 +02.6	N 01 31.5 -00.1		15
16	133	06.0 +01.1	N 18 26.5 -00.4		122	55.0 +02.1	N 14 34.6 -00.2		257	46.0 +02.7	N 01 31.4 -00.1		16
17	148	07.1 +01.1	N 18 26.1 -00.3		137	57.1 +02.1	N 14 34.4 -00.1		272	48.7 +02.6	N 01 31.3 +00.0		17
18	163	08.2 +01.0	N 18 25.8 -00.3		152	59.2 +02.1	N 14 34.3 -00.1		287	51.3 +02.6	N 01 31.3 -00.1		18
19	178	09.2 +01.1	N 18 25.5 -00.4		168	01.3 +02.1	N 14 34.2 -00.1		302	53.9 +02.7	N 01 31.2 -00.1		19
20	193	10.3 +01.1	N 18 25.1 -00.3		183	03.4 +02.1	N 14 34.1 -00.1		317	56.6 +02.6	N 01 31.1 +00.0		20
21	208	11.4 +01.1	N 18 24.8 -00.3		198	05.5 +02.1	N 14 34.0 -00.1		332	59.2 +02.6	N 01 31.1 -00.1		21
22	223	12.5 +01.1	N 18 24.5 -00.4		213	07.6 +02.1	N 14 33.9 -00.1		348	01.8 +02.7	N 01 31.0 -00.1		22
23	238	13.6 +01.1	N 18 24.1 -00.3		228	09.7 +02.1	N 14 33.8 -00.2		3	04.5 +02.6	N 01 30.9 +00.0		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 225° 225° 225° 225° 225° 225°				SHA 215° 215° 215° 215° 215° 215°				SHA 350° 350° 350° 350° 350° 350°				
	Greenwich Culmination Time: 07:08				Greenwich Culmination Time: 07:49				Greenwich Culmination Time: 22:47				

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 46.7 +00.1	S	10 15.9 +00.9	180 00.9 +03.7	S	19 15.6 -00.8	74 23.3 -27.6	S	18 50.4 -10.9	00			
01	198 46.8 +00.1	S	10 16.8 +00.9	195 04.6 +03.8	S	19 14.8 -00.8	88 55.7 -27.5	S	18 39.5 -11.0	01			
02	213 46.9 +00.1	S	10 17.7 +00.9	210 08.4 +03.8	S	19 14.0 -00.8	103 28.2 -27.4	S	18 28.5 -11.1	02			
03	228 47.0 +00.2	S	10 18.6 +00.9	225 12.2 +03.7	S	19 13.2 -00.7	118 00.8 -27.4	S	18 17.4 -11.2	03			
04	243 47.2 +00.1	S	10 19.5 +00.9	240 15.9 +03.8	S	19 12.5 -00.8	132 33.4 -27.4	S	18 06.2 -11.3	04			
05	258 47.3 +00.1	S	10 20.4 +00.9	255 19.7 +03.8	S	19 11.7 -00.8	147 06.0 -27.3	S	17 54.9 -11.3	05			
06	273 47.4 +00.1	S	10 21.3 +00.9	270 23.5 +03.8	S	19 10.9 -00.8	161 38.7 -27.3	S	17 43.6 -11.5	06			
07	288 47.5 +00.1	S	10 22.2 +00.9	285 27.3 +03.7	S	19 10.1 -00.8	176 11.4 -27.3	S	17 32.1 -11.5	07			
08	303 47.6 +00.1	S	10 23.1 +00.9	300 31.0 +03.8	S	19 09.3 -00.7	190 44.1 -27.2	S	17 20.6 -11.6	08			
09	318 47.7 +00.1	S	10 24.0 +00.9	315 34.8 +03.8	S	19 08.6 -00.8	205 16.9 -27.2	S	17 09.0 -11.7	09			
10	333 47.8 +00.1	S	10 24.9 +00.9	330 38.6 +03.8	S	19 07.8 -00.8	219 49.7 -27.2	S	16 57.3 -11.8	10			
11	348 47.9 +00.1	S	10 25.8 +00.9	345 42.4 +03.7	S	19 07.0 -00.8	234 22.5 -27.1	S	16 45.5 -11.8	11			
12	3 48.0 +00.1	S	10 26.7 +00.9	0 46.1 +03.8	S	19 06.2 -00.8	248 55.4 -27.1	S	16 33.7 -12.0	12			
13	18 48.1 +00.1	S	10 27.6 +00.9	15 49.9 +03.8	S	19 05.4 -00.8	263 28.3 -27.1	S	16 21.7 -12.0	13			
14	33 48.2 +00.1	S	10 28.5 +00.9	30 53.7 +03.8	S	19 04.6 -00.8	278 01.2 -27.0	S	16 09.7 -12.1	14			
15	48 48.3 +00.1	S	10 29.4 +00.9	45 57.5 +03.8	S	19 03.8 -00.8	292 34.2 -27.0	S	15 57.6 -12.2	15			
16	63 48.4 +00.2	S	10 30.3 +00.9	61 01.3 +03.7	S	19 03.0 -00.8	307 07.2 -27.0	S	15 45.4 -12.2	16			
17	78 48.6 +00.1	S	10 31.2 +00.8	76 05.0 +03.8	S	19 02.2 -00.8	321 40.2 -26.9	S	15 33.2 -12.3	17			
18	93 48.7 +00.1	S	10 32.0 +00.9	91 08.8 +03.8	S	19 01.4 -00.8	336 13.3 -27.0	S	15 20.9 -12.4	18			
19	108 48.8 +00.1	S	10 32.9 +00.9	106 12.6 +03.8	S	19 00.6 -00.8	350 46.3 -26.8	S	15 08.5 -12.5	19			
20	123 48.9 +00.1	S	10 33.8 +00.9	121 16.4 +03.8	S	18 59.8 -00.8	5 19.5 -26.9	S	14 56.0 -12.6	20			
21	138 49.0 +00.1	S	10 34.7 +00.9	136 20.2 +03.8	S	18 59.0 -00.8	19 52.6 -26.8	S	14 43.4 -12.6	21			
22	153 49.1 +00.1	S	10 35.6 +00.9	151 24.0 +03.8	S	18 58.2 -00.8	34 25.8 -26.8	S	14 30.8 -12.7	22			
23	168 49.2 +00.1	S	10 36.5 +00.9	166 27.8 +03.8	S	18 57.4 -00.9	48 59.0 -26.8	S	14 18.1 -12.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 15'0 15'0 15'0 15'1 15'1 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 55'0 55'1 55'2 55'3 55'4 55'5						
	SHA 155° 155° 155° 155° 155° 154°			SHA 152° 152° 152° 152° 152° 152°			SHA 045° 043° 041° 039° 037° 035°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 19:38						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	253 14.7 +01.1	N	18 23.8 -00.3	243 11.8 +02.1	N	14 33.6 -00.1	18 07.1 +02.6	N	01 30.9 -00.1	00			
01	268 15.8 +01.1	N	18 23.5 -00.4	258 13.9 +02.1	N	14 33.5 -00.1	33 09.7 +02.7	N	01 30.8 -00.1	01			
02	283 16.9 +01.1	N	18 23.1 -00.3	273 16.0 +02.1	N	14 33.4 -00.1	48 12.4 +02.6	N	01 30.7 +00.0	02			
03	298 18.0 +01.0	N	18 22.8 -00.3	288 18.1 +02.1	N	14 33.3 -00.1	63 15.0 +02.6	N	01 30.7 -00.1	03			
04	313 19.0 +01.1	N	18 22.5 -00.4	303 20.2 +02.1	N	14 33.2 -00.1	78 17.6 +02.7	N	01 30.6 -00.1	04			
05	328 20.1 +01.1	N	18 22.1 -00.3	318 22.3 +02.1	N	14 33.1 -00.1	93 20.3 +02.6	N	01 30.5 -00.1	05			
06	343 21.2 +01.1	N	18 21.8 -00.3	333 24.4 +02.1	N	14 33.0 -00.1	108 22.9 +02.6	N	01 30.4 +00.0	06			
07	358 22.3 +01.1	N	18 21.5 -00.4	348 26.5 +02.1	N	14 32.9 -00.2	123 25.5 +02.7	N	01 30.4 -00.1	07			
08	13 23.4 +01.1	N	18 21.1 -00.3	3 28.6 +02.1	N	14 32.7 -00.1	138 28.2 +02.6	N	01 30.3 -00.1	08			
09	28 24.5 +01.1	N	18 20.8 -00.3	18 30.7 +02.1	N	14 32.6 -00.1	153 30.8 +02.6	N	01 30.2 +00.0	09			
10	43 25.6 +01.1	N	18 20.5 -00.4	33 32.8 +02.2	N	14 32.5 -00.1	168 33.4 +02.7	N	01 30.2 -00.1	10			
11	58 26.7 +01.1	N	18 20.1 -00.3	48 35.0 +02.1	N	14 32.4 -00.1	183 36.1 +02.6	N	01 30.1 -00.1	11			
12	73 27.8 +01.1	N	18 19.8 -00.3	63 37.1 +02.1	N	14 32.3 -00.1	198 38.7 +02.6	N	01 30.0 +00.0	12			
13	88 28.9 +01.1	N	18 19.5 -00.4	78 39.2 +02.1	N	14 32.2 -00.1	213 41.3 +02.7	N	01 30.0 -00.1	13			
14	103 30.0 +01.1	N	18 19.1 -00.3	93 41.3 +02.1	N	14 32.1 -00.1	228 44.0 +02.6	N	01 29.9 -00.1	14			
15	118 31.1 +01.1	N	18 18.8 -00.3	108 43.4 +02.1	N	14 32.0 -00.1	243 46.6 +02.6	N	01 29.8 +00.0	15			
16	133 32.2 +01.1	N	18 18.5 -00.4	123 45.5 +02.1	N	14 31.9 -00.2	258 49.2 +02.7	N	01 29.8 -00.1	16			
17	148 33.3 +01.0	N	18 18.1 -00.3	138 47.6 +02.1	N	14 31.7 -00.1	273 51.9 +02.6	N	01 29.7 -00.1	17			
18	163 34.3 +01.1	N	18 17.8 -00.4	153 49.7 +02.1	N	14 31.6 -00.1	288 54.5 +02.6	N	01 29.6 +00.0	18			
19	178 35.4 +01.1	N	18 17.4 -00.3	168 51.8 +02.1	N	14 31.5 -00.1	303 57.1 +02.7	N	01 29.6 -00.1	19			
20	193 36.5 +01.1	N	18 17.1 -00.3	183 53.9 +02.1	N	14 31.4 -00.1	318 59.8 +02.6	N	01 29.5 -00.1	20			
21	208 37.6 +01.1	N	18 16.8 -00.4	198 56.0 +02.1	N	14 31.3 -00.1	334 02.4 +02.6	N	01 29.4 +00.0	21			
22	223 38.7 +01.1	N	18 16.4 -00.3	213 58.1 +02.1	N	14 31.2 -00.1	349 05.0 +02.7	N	01 29.4 -00.1	22			
23	238 39.8 +01.1	N	18 16.1 -00.3	229 00.2 +02.1	N	14 31.1 -00.1	4 07.7 +02.6	N	01 29.3 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 225° 225° 225° 224° 224° 224°			SHA 215° 215° 215° 215° 215° 215°			SHA 350° 350° 350° 350° 350° 350°						
	Greenwich Culmination Time: 07:06			Greenwich Culmination Time: 07:46			Greenwich Culmination Time: 22:43						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	183 49.3 +00.1	S	10 37.4 +00.9	181 31.6 +03.7	S	18 56.5 -00.8	63 32.2 -26.8	S	14 05.3 -12.8	00							
01	198 49.4 +00.1	S	10 38.3 +00.9	196 35.3 +03.8	S	18 55.7 -00.8	78 05.4 -26.7	S	13 52.5 -13.0	01							
02	213 49.5 +00.1	S	10 39.2 +00.9	211 39.1 +03.8	S	18 54.9 -00.8	92 38.7 -26.7	S	13 39.5 -13.0	02							
03	228 49.6 +00.1	S	10 40.1 +00.9	226 42.9 +03.8	S	18 54.1 -00.8	107 12.0 -26.7	S	13 26.5 -13.0	03							
04	243 49.7 +00.1	S	10 41.0 +00.9	241 46.7 +03.8	S	18 53.3 -00.9	121 45.3 -26.7	S	13 13.5 -13.2	04							
05	258 49.8 +00.1	S	10 41.9 +00.8	256 50.5 +03.8	S	18 52.4 -00.8	136 18.6 -26.7	S	13 00.3 -13.2	05							
06	273 49.9 +00.1	S	10 42.7 +00.9	271 54.3 +03.8	S	18 51.6 -00.8	150 51.9 -26.6	S	12 47.1 -13.2	06							
07	288 50.0 +00.1	S	10 43.6 +00.9	286 58.1 +03.8	S	18 50.8 -00.9	165 25.3 -26.6	S	12 33.9 -13.4	07							
08	303 50.1 +00.1	S	10 44.5 +00.9	302 01.9 +03.8	S	18 49.9 -00.8	179 58.7 -26.6	S	12 20.5 -13.4	08							
09	318 50.2 +00.1	S	10 45.4 +00.9	317 05.7 +03.8	S	18 49.1 -00.8	194 32.1 -26.6	S	12 07.1 -13.4	09							
10	333 50.3 +00.1	S	10 46.3 +00.9	332 09.5 +03.8	S	18 48.3 -00.9	209 05.5 -26.6	S	11 53.7 -13.6	10							
11	348 50.4 +00.1	S	10 47.2 +00.9	347 13.3 +03.8	S	18 47.4 -00.8	223 38.9 -26.5	S	11 40.1 -13.5	11							
12	3 50.5 +00.1	S	10 48.1 +00.9	2 17.1 +03.8	S	18 46.6 -00.8	238 12.4 -26.6	S	11 26.6 -13.7	12							
13	18 50.6 +00.1	S	10 49.0 +00.8	17 20.9 +03.8	S	18 45.8 -00.9	252 45.8 -26.5	S	11 12.9 -13.7	13							
14	33 50.7 +00.1	S	10 49.8 +00.9	32 24.7 +03.8	S	18 44.9 -00.8	267 19.3 -26.5	S	10 59.2 -13.8	14							
15	48 50.8 +00.1	S	10 50.7 +00.9	47 28.5 +03.8	S	18 44.1 -00.9	281 52.8 -26.5	S	10 45.4 -13.8	15							
16	63 50.9 +00.1	S	10 51.6 +00.9	62 32.3 +03.8	S	18 43.2 -00.8	296 26.3 -26.5	S	10 31.6 -13.9	16							
17	78 51.0 +00.1	S	10 52.5 +00.9	77 36.1 +03.8	S	18 42.4 -00.9	310 59.8 -26.5	S	10 17.7 -14.0	17							
18	93 51.1 +00.1	S	10 53.4 +00.9	92 39.9 +03.8	S	18 41.5 -00.8	325 33.3 -26.5	S	10 03.7 -14.0	18							
19	108 51.2 +00.1	S	10 54.3 +00.9	107 43.7 +03.8	S	18 40.7 -00.9	340 06.8 -26.5	S	09 49.7 -14.1	19							
20	123 51.3 +00.1	S	10 55.2 +00.8	122 47.5 +03.8	S	18 39.8 -00.8	354 40.3 -26.4	S	09 35.6 -14.1	20							
21	138 51.4 +00.1	S	10 56.0 +00.9	137 51.3 +03.8	S	18 39.0 -00.9	9 13.9 -26.5	S	09 21.5 -14.2	21							
22	153 51.5 +00.1	S	10 56.9 +00.9	152 55.1 +03.8	S	18 38.1 -00.8	23 47.4 -26.5	S	09 07.3 -14.3	22							
23	168 51.6 +00.1	S	10 57.8 +00.9	167 58.9 +03.8	S	18 37.3 -00.9	38 20.9 -26.4	S	08 53.0 -14.3	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
SD	16'1	16'1	16'1	16'1	16'1	16'1	SD	00'5	00'5	00'5	00'5	00'5	00'5	SD			
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'5	00'5	00'5	00'5	00'5	00'5	HP			
SHA	154°	154°	154°	154°	154°	153°	SHA	152°	152°	152°	152°	152°	153°	SHA			
Greenwich Culmination Time: 11:44						Greenwich Culmination Time: 11:50						Greenwich Culmination Time: 20:21					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	253 40.9 +01.1	N	18 15.8 -00.4	244 02.3 +02.1	N	14 31.0 -00.2	19 10.3 +02.6	N	01 29.2 -00.1	00							
01	268 42.0 +01.1	N	18 15.4 -00.3	259 04.4 +02.1	N	14 30.8 -00.1	34 12.9 +02.7	N	01 29.1 +00.0	01							
02	283 43.1 +01.1	N	18 15.1 -00.3	274 06.5 +02.2	N	14 30.7 -00.1	49 15.6 +02.6	N	01 29.1 -00.1	02							
03	298 44.2 +01.1	N	18 14.8 -00.4	289 08.7 +02.1	N	14 30.6 -00.1	64 18.2 +02.6	N	01 29.0 -00.1	03							
04	313 45.3 +01.1	N	18 14.4 -00.3	304 10.8 +02.1	N	14 30.5 -00.1	79 20.8 +02.7	N	01 28.9 +00.0	04							
05	328 46.4 +01.1	N	18 14.1 -00.3	319 12.9 +02.1	N	14 30.4 -00.1	94 23.5 +02.6	N	01 28.9 -00.1	05							
06	343 47.5 +01.1	N	18 13.8 -00.4	334 15.0 +02.1	N	14 30.3 -00.1	109 26.1 +02.6	N	01 28.8 -00.1	06							
07	358 48.6 +01.1	N	18 13.4 -00.3	349 17.1 +02.1	N	14 30.2 -00.1	124 28.7 +02.7	N	01 28.7 +00.0	07							
08	13 49.7 +01.1	N	18 13.1 -00.3	4 19.2 +02.1	N	14 30.1 -00.1	139 31.4 +02.6	N	01 28.7 -00.1	08							
09	28 50.8 +01.1	N	18 12.8 -00.4	19 21.3 +02.1	N	14 30.0 -00.2	154 34.0 +02.6	N	01 28.6 -00.1	09							
10	43 51.9 +01.1	N	18 12.4 -00.3	34 23.4 +02.1	N	14 29.8 -00.1	169 36.6 +02.7	N	01 28.5 +00.0	10							
11	58 53.0 +01.1	N	18 12.1 -00.4	49 25.5 +02.1	N	14 29.7 -00.1	184 39.3 +02.6	N	01 28.5 -00.1	11							
12	73 54.1 +01.1	N	18 11.7 -00.3	64 27.6 +02.1	N	14 29.6 -00.1	199 41.9 +02.6	N	01 28.4 -00.1	12							
13	88 55.2 +01.1	N	18 11.4 -00.3	79 29.7 +02.2	N	14 29.5 -00.1	214 44.5 +02.7	N	01 28.3 +00.0	13							
14	103 56.3 +01.1	N	18 11.1 -00.4	94 31.9 +02.1	N	14 29.4 -00.1	229 47.2 +02.6	N	01 28.3 -00.1	14							
15	118 57.4 +01.1	N	18 10.7 -00.3	109 34.0 +02.1	N	14 29.3 -00.1	244 49.8 +02.6	N	01 28.2 -00.1	15							
16	133 58.5 +01.1	N	18 10.4 -00.3	124 36.1 +02.1	N	14 29.2 -00.1	259 52.4 +02.7	N	01 28.1 +00.0	16							
17	148 59.6 +01.2	N	18 10.1 -00.4	139 38.2 +02.1	N	14 29.1 -00.1	274 55.1 +02.6	N	01 28.1 -00.1	17							
18	164 00.8 +01.1	N	18 09.7 -00.3	154 40.3 +02.1	N	14 29.0 -00.1	289 57.7 +02.6	N	01 28.0 -00.1	18							
19	179 01.9 +01.1	N	18 09.4 -00.3	169 42.4 +02.1	N	14 28.9 -00.2	305 00.3 +02.6	N	01 27.9 +00.0	19							
20	194 03.0 +01.1	N	18 09.1 -00.4	184 44.5 +02.1	N	14 28.7 -00.1	320 02.9 +02.7	N	01 27.9 -00.1	20							
21	209 04.1 +01.1	N	18 08.7 -00.3	199 46.6 +02.1	N	14 28.6 -00.1	335 05.6 +02.6	N	01 27.8 -00.1	21							
22	224 05.2 +01.1	N	18 08.4 -00.4	214 48.7 +02.2	N	14 28.5 -00.1	350 08.2 +02.6	N	01 27.7 +00.0	22							
23	239 06.3 +01.1	N	18 08.0 -00.3	229 50.9 +02.1	N	14 28.4 -00.1	5 10.8 +02.7	N	01 27.7 -00.1	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'2	00'2	00'2	00'2	00'2	00'2	SD			
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP			
SHA	224°	224°	224°	224°	224°	224°	SHA	215°	215°	215°	214°	214°	214°	SHA			
Greenwich Culmination Time: 07:04						Greenwich Culmination Time: 07:42						Greenwich Culmination Time: 22:39					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 51.7 +00.1	S	10 58.7 +00.9	183 02.7 +03.8	S	18 36.4 -00.9	52 54.5 -26.5	S	08 38.7 -14.3	00			
01	198 51.8 +00.1	S	10 59.6 +00.9	198 06.5 +03.8	S	18 35.5 -00.8	67 28.0 -26.4	S	08 24.4 -14.4	01			
02	213 51.9 +00.1	S	11 00.5 +00.9	213 10.3 +03.8	S	18 34.7 -00.9	82 01.6 -26.5	S	08 10.0 -14.5	02			
03	228 52.0 +00.1	S	11 01.4 +00.8	228 14.1 +03.8	S	18 33.8 -00.9	96 35.1 -26.4	S	07 55.5 -14.5	03			
04	243 52.1 +00.1	S	11 02.2 +00.9	243 17.9 +03.8	S	18 32.9 -00.8	111 08.7 -26.5	S	07 41.0 -14.5	04			
05	258 52.2 +00.1	S	11 03.1 +00.9	258 21.7 +03.8	S	18 32.1 -00.9	125 42.2 -26.5	S	07 26.5 -14.6	05			
06	273 52.3 +00.1	S	11 04.0 +00.9	273 25.5 +03.8	S	18 31.2 -00.9	140 15.7 -26.4	S	07 11.9 -14.7	06			
07	288 52.4 +00.1	S	11 04.9 +00.9	288 29.3 +03.8	S	18 30.3 -00.9	154 49.3 -26.5	S	06 57.2 -14.7	07			
08	303 52.5 +00.1	S	11 05.8 +00.8	303 33.1 +03.8	S	18 29.4 -00.8	169 22.8 -26.5	S	06 42.5 -14.7	08			
09	318 52.6 +00.1	S	11 06.6 +00.9	318 36.9 +03.8	S	18 28.6 -00.9	183 56.3 -26.5	S	06 27.8 -14.8	09			
10	333 52.7 +00.1	S	11 07.5 +00.9	333 40.7 +03.8	S	18 27.7 -00.9	198 29.8 -26.5	S	06 13.0 -14.9	10			
11	348 52.8 +00.1	S	11 08.4 +00.9	348 44.5 +03.8	S	18 26.8 -00.9	213 03.3 -26.5	S	05 58.1 -14.8	11			
12	3 52.9 +00.0	S	11 09.3 +00.9	3 48.3 +03.8	S	18 25.9 -00.9	227 36.8 -26.5	S	05 43.3 -15.0	12			
13	18 52.9 +00.1	S	11 10.2 +00.9	18 52.1 +03.8	S	18 25.0 -00.8	242 10.3 -26.6	S	05 28.3 -14.9	13			
14	33 53.0 +00.1	S	11 11.1 +00.8	33 55.9 +03.8	S	18 24.2 -00.9	256 43.7 -26.5	S	05 13.4 -15.0	14			
15	48 53.1 +00.1	S	11 11.9 +00.9	48 59.7 +03.8	S	18 23.3 -00.9	271 17.2 -26.6	S	04 58.4 -15.1	15			
16	63 53.2 +00.1	S	11 12.8 +00.9	64 03.5 +03.8	S	18 22.4 -00.9	285 50.6 -26.6	S	04 43.3 -15.1	16			
17	78 53.3 +00.1	S	11 13.7 +00.9	79 07.3 +03.9	S	18 21.5 -00.9	300 24.0 -26.6	S	04 28.2 -15.1	17			
18	93 53.4 +00.1	S	11 14.6 +00.9	94 11.2 +03.8	S	18 20.6 -00.9	314 57.4 -26.6	S	04 13.1 -15.1	18			
19	108 53.5 +00.1	S	11 15.5 +00.8	109 15.0 +03.8	S	18 19.7 -00.9	329 30.8 -26.6	S	03 58.0 -15.2	19			
20	123 53.6 +00.1	S	11 16.3 +00.9	124 18.8 +03.8	S	18 18.8 -00.9	344 04.2 -26.7	S	03 42.8 -15.3	20			
21	138 53.7 +00.1	S	11 17.2 +00.9	139 22.6 +03.8	S	18 17.9 -00.9	358 37.5 -26.6	S	03 27.5 -15.2	21			
22	153 53.8 +00.1	S	11 18.1 +00.9	154 26.4 +03.8	S	18 17.0 -00.9	13 10.9 -26.7	S	03 12.3 -15.3	22			
23	168 53.9 +00.1	S	11 19.0 +00.8	169 30.2 +03.8	S	18 16.1 -00.9	27 44.2 -26.8	S	02 57.0 -15.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 15'3 15'4 15'4 15'5 15'5 15'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 56'3 56'5 56'6 56'7 56'9 57'0						
	SHA 153° 153° 153° 153° 153° 153°			SHA 153° 153° 153° 153° 153° 153°			SHA 022° 020° 018° 016° 014° 012°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 21:05						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	254 07.4 +01.1	N	18 07.7 -00.3	244 53.0 +02.1	N	14 28.3 -00.1	20 13.5 +02.6	N	01 27.6 -00.1	00			
01	269 08.5 +01.1	N	18 07.4 -00.4	259 55.1 +02.1	N	14 28.2 -00.1	35 16.1 +02.6	N	01 27.5 +00.0	01			
02	284 09.6 +01.1	N	18 07.0 -00.3	274 57.2 +02.1	N	14 28.1 -00.1	50 18.7 +02.7	N	01 27.5 -00.1	02			
03	299 10.7 +01.1	N	18 06.7 -00.3	289 59.3 +02.1	N	14 28.0 -00.1	65 21.4 +02.6	N	01 27.4 -00.1	03			
04	314 11.8 +01.1	N	18 06.4 -00.4	305 01.4 +02.1	N	14 27.9 -00.1	80 24.0 +02.6	N	01 27.3 +00.0	04			
05	329 12.9 +01.1	N	18 06.0 -00.3	320 03.5 +02.1	N	14 27.8 -00.2	95 26.6 +02.7	N	01 27.3 -00.1	05			
06	344 14.0 +01.1	N	18 05.7 -00.4	335 05.6 +02.2	N	14 27.6 -00.1	110 29.3 +02.6	N	01 27.2 -00.1	06			
07	359 15.1 +01.2	N	18 05.3 -00.3	350 07.8 +02.1	N	14 27.5 -00.1	125 31.9 +02.6	N	01 27.1 +00.0	07			
08	14 16.3 +01.1	N	18 05.0 -00.3	5 09.9 +02.1	N	14 27.4 -00.1	140 34.5 +02.7	N	01 27.1 -00.1	08			
09	29 17.4 +01.1	N	18 04.7 -00.4	20 12.0 +02.1	N	14 27.3 -00.1	155 37.2 +02.6	N	01 27.0 -00.1	09			
10	44 18.5 +01.1	N	18 04.3 -00.3	35 14.1 +02.1	N	14 27.2 -00.1	170 39.8 +02.6	N	01 26.9 +00.0	10			
11	59 19.6 +01.1	N	18 04.0 -00.3	50 16.2 +02.1	N	14 27.1 -00.1	185 42.4 +02.6	N	01 26.9 -00.1	11			
12	74 20.7 +01.1	N	18 03.7 -00.4	65 18.3 +02.1	N	14 27.0 -00.1	200 45.0 +02.7	N	01 26.8 -00.1	12			
13	89 21.8 +01.1	N	18 03.3 -00.3	80 20.4 +02.2	N	14 26.9 -00.1	215 47.7 +02.6	N	01 26.7 -00.1	13			
14	104 22.9 +01.1	N	18 03.0 -00.3	95 22.6 +02.1	N	14 26.8 -00.1	230 50.3 +02.6	N	01 26.6 +00.0	14			
15	119 24.0 +01.1	N	18 02.7 -00.4	110 24.7 +02.1	N	14 26.7 -00.1	245 52.9 +02.7	N	01 26.6 -00.1	15			
16	134 25.1 +01.2	N	18 02.3 -00.3	125 26.8 +02.1	N	14 26.6 -00.2	260 55.6 +02.6	N	01 26.5 -00.1	16			
17	149 26.3 +01.1	N	18 02.0 -00.4	140 28.9 +02.1	N	14 26.4 -00.1	275 58.2 +02.6	N	01 26.4 +00.0	17			
18	164 27.4 +01.1	N	18 01.6 -00.3	155 31.0 +02.1	N	14 26.3 -00.1	291 00.8 +02.7	N	01 26.4 -00.1	18			
19	179 28.5 +01.1	N	18 01.3 -00.3	170 33.1 +02.2	N	14 26.2 -00.1	306 03.5 +02.6	N	01 26.3 -00.1	19			
20	194 29.6 +01.1	N	18 01.0 -00.4	185 35.3 +02.1	N	14 26.1 -00.1	321 06.1 +02.6	N	01 26.2 +00.0	20			
21	209 30.7 +01.1	N	18 00.6 -00.3	200 37.4 +02.1	N	14 26.0 -00.1	336 08.7 +02.6	N	01 26.2 -00.1	21			
22	224 31.8 +01.1	N	18 00.3 -00.4	215 39.5 +02.1	N	14 25.9 -00.1	351 11.3 +02.7	N	01 26.1 +00.0	22			
23	239 32.9 +01.2	N	17 59.9 -00.3	230 41.6 +02.1	N	14 25.8 -00.1	6 14.0 +02.6	N	01 26.1 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 224° 224° 223° 223° 223° 223°			SHA 214° 214° 214° 214° 214° 214°			SHA 350° 350° 350° 350° 350° 350°						
	Greenwich Culmination Time: 07:02			Greenwich Culmination Time: 07:39			Greenwich Culmination Time: 22:35						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 40%				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	183 54.0 +00.1	S	11 19.8 +00.9	184 34.0 +03.8	S	18 15.2 -00.9	42 17.4 -26.7	S	02 41.6 -15.3	00			
01	198 54.1 +00.0	S	11 20.7 +00.9	199 37.8 +03.8	S	18 14.3 -00.9	56 50.7 -26.8	S	02 26.3 -15.4	01			
02	213 54.1 +00.1	S	11 21.6 +00.9	214 41.6 +03.8	S	18 13.4 -00.9	71 23.9 -26.8	S	02 10.9 -15.4	02			
03	228 54.2 +00.1	S	11 22.5 +00.8	229 45.4 +03.8	S	18 12.5 -00.9	85 57.1 -26.8	S	01 55.5 -15.5	03			
04	243 54.3 +00.1	S	11 23.3 +00.9	244 49.2 +03.8	S	18 11.6 -00.9	100 30.3 -26.9	S	01 40.0 -15.4	04			
05	258 54.4 +00.1	S	11 24.2 +00.9	259 53.0 +03.8	S	18 10.7 -00.9	115 03.4 -26.9	S	01 24.6 -15.5	05			
06	273 54.5 +00.1	S	11 25.1 +00.9	274 56.8 +03.8	S	18 09.8 -00.9	129 36.5 -26.9	S	01 09.1 -15.6	06			
07	288 54.6 +00.1	S	11 26.0 +00.8	290 00.6 +03.8	S	18 08.9 -00.9	144 09.6 -26.9	S	00 53.5 -15.5	07			
08	303 54.7 +00.1	S	11 26.8 +00.9	305 04.4 +03.8	S	18 08.0 -01.0	158 42.7 -27.0	S	00 38.0 -15.6	08			
09	318 54.8 +00.0	S	11 27.7 +00.9	320 08.2 +03.8	S	18 07.0 -00.9	173 15.7 -27.1	S	00 22.4 -15.6	09			
10	333 54.8 +00.1	S	11 28.6 +00.9	335 12.0 +03.8	S	18 06.1 -00.9	187 48.6 -27.0	S	00 06.8 -15.6	10			
11	348 54.9 +00.1	S	11 29.5 +00.8	350 15.8 +03.8	S	18 05.2 -00.9	202 21.6 -27.1	N	00 08.8 +15.6	11			
12	3 55.0 +00.1	S	11 30.3 +00.9	5 19.6 +03.8	S	18 04.3 -00.9	216 54.5 -27.2	N	00 24.4 +15.6	12			
13	18 55.1 +00.1	S	11 31.2 +00.9	20 23.4 +03.8	S	18 03.4 -01.0	231 27.3 -27.2	N	00 40.0 +15.7	13			
14	33 55.2 +00.1	S	11 32.1 +00.9	35 27.2 +03.8	S	18 02.4 -00.9	246 00.1 -27.2	N	00 55.7 +15.7	14			
15	48 55.3 +00.1	S	11 33.0 +00.8	50 31.0 +03.8	S	18 01.5 -00.9	260 32.9 -27.3	N	01 11.4 +15.7	15			
16	63 55.4 +00.1	S	11 33.8 +00.9	65 34.8 +03.8	S	18 00.6 -00.9	275 05.6 -27.3	N	01 27.1 +15.7	16			
17	78 55.5 +00.0	S	11 34.7 +00.9	80 38.6 +03.8	S	17 59.7 -01.0	289 38.3 -27.3	N	01 42.8 +15.7	17			
18	93 55.5 +00.1	S	11 35.6 +00.9	95 42.4 +03.8	S	17 58.7 -00.9	304 11.0 -27.4	N	01 58.5 +15.7	18			
19	108 55.6 +00.1	S	11 36.5 +00.8	110 46.2 +03.8	S	17 57.8 -00.9	318 43.6 -27.5	N	02 14.2 +15.8	19			
20	123 55.7 +00.1	S	11 37.3 +00.9	125 50.0 +03.8	S	17 56.9 -01.0	333 16.1 -27.5	N	02 30.0 +15.7	20			
21	138 55.8 +00.1	S	11 38.2 +00.9	140 53.8 +03.8	S	17 55.9 -00.9	347 48.6 -27.5	N	02 45.7 +15.8	21			
22	153 55.9 +00.1	S	11 39.1 +00.8	155 57.6 +03.8	S	17 55.0 -00.9	2 21.1 -27.6	N	03 01.5 +15.7	22			
23	168 56.0 +00.0	S	11 39.9 +00.9	171 01.4 +03.8	S	17 54.1 -01.0	16 53.5 -27.7	N	03 17.2 +15.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 15'6 15'6 15'6 15'7 15'7 15'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 57'1 57'3 57'4 57'5 57'7 57'8						
	SHA 152° 152° 152° 152° 152° 152°			SHA 153° 153° 153° 153° 154° 154°			SHA 010° 008° 006° 004° 002° 000°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 11:38			Greenwich Culmination Time: 21:50						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	GHA ° ' "	ddGHA	Dec ° ' "	dDec	
00	254 34.1 +01.1	N	17 59.6 -00.3	245 43.7 +02.1	N	14 25.7 -00.1	21 16.6 +02.6	N	01 26.0 -00.1	00			
01	269 35.2 +01.1	N	17 59.3 -00.4	260 45.8 +02.2	N	14 25.6 -00.1	36 19.2 +02.7	N	01 25.9 +00.0	01			
02	284 36.3 +01.1	N	17 58.9 -00.3	275 48.0 +02.1	N	14 25.5 -00.1	51 21.9 +02.6	N	01 25.9 -00.1	02			
03	299 37.4 +01.1	N	17 58.6 -00.3	290 50.1 +02.1	N	14 25.4 -00.2	66 24.5 +02.6	N	01 25.8 -00.1	03			
04	314 38.5 +01.1	N	17 58.3 -00.4	305 52.2 +02.1	N	14 25.2 -00.1	81 27.1 +02.7	N	01 25.7 +00.0	04			
05	329 39.6 +01.2	N	17 57.9 -00.3	320 54.3 +02.1	N	14 25.1 -00.1	96 29.8 +02.6	N	01 25.7 -00.1	05			
06	344 40.8 +01.1	N	17 57.6 -00.4	335 56.4 +02.2	N	14 25.0 -00.1	111 32.4 +02.6	N	01 25.6 -00.1	06			
07	359 41.9 +01.1	N	17 57.2 -00.3	350 58.6 +02.1	N	14 24.9 -00.1	126 35.0 +02.6	N	01 25.5 +00.0	07			
08	14 43.0 +01.1	N	17 56.9 -00.3	6 00.7 +02.1	N	14 24.8 -00.1	141 37.6 +02.7	N	01 25.5 -00.1	08			
09	29 44.1 +01.1	N	17 56.6 -00.4	21 02.8 +02.1	N	14 24.7 -00.1	156 40.3 +02.6	N	01 25.4 -00.1	09			
10	44 45.2 +01.1	N	17 56.2 -00.3	36 04.9 +02.1	N	14 24.6 -00.1	171 42.9 +02.6	N	01 25.3 +00.0	10			
11	59 46.3 +01.2	N	17 55.9 -00.3	51 07.0 +02.2	N	14 24.5 -00.1	186 45.5 +02.7	N	01 25.3 -00.1	11			
12	74 47.5 +01.1	N	17 55.6 -00.4	66 09.2 +02.1	N	14 24.4 -00.1	201 48.2 +02.6	N	01 25.2 -00.1	12			
13	89 48.6 +01.1	N	17 55.2 -00.3	81 11.3 +02.1	N	14 24.3 -00.1	216 50.8 +02.6	N	01 25.1 +00.0	13			
14	104 49.7 +01.1	N	17 54.9 -00.4	96 13.4 +02.1	N	14 24.2 -00.1	231 53.4 +02.6	N	01 25.1 -00.1	14			
15	119 50.8 +01.1	N	17 54.5 -00.3	111 15.5 +02.1	N	14 24.1 -00.1	246 56.0 +02.7	N	01 25.0 -00.1	15			
16	134 51.9 +01.2	N	17 54.2 -00.3	126 17.6 +02.2	N	14 24.0 -00.2	261 58.7 +02.6	N	01 24.9 +00.0	16			
17	149 53.1 +01.1	N	17 53.9 -00.4	141 19.8 +02.1	N	14 23.8 -00.1	277 01.3 +02.6	N	01 24.9 -00.1	17			
18	164 54.2 +01.1	N	17 53.5 -00.3	156 21.9 +02.1	N	14 23.7 -00.1	292 03.9 +02.7	N	01 24.8 -00.1	18			
19	179 55.3 +01.1	N	17 53.2 -00.4	171 24.0 +02.1	N	14 23.6 -00.1	307 06.6 +02.6	N	01 24.7 +00.0	19			
20	194 56.4 +01.2	N	17 52.8 -00.3	186 26.1 +02.1	N	14 23.5 -00.1	322 09.2 +02.6	N	01 24.7 -00.1	20			
21	209 57.6 +01.1	N	17 52.5 -00.3	201 28.2 +02.2	N	14 23.4 -00.1	337 11.8 +02.6	N	01 24.6 -00.1	21			
22	224 58.7 +01.1	N	17 52.2 -00.4	216 30.4 +02.1	N	14 23.3 -00.1	352 14.4 +02.7	N	01 24.5 +00.0	22			
23	239 59.8 +01.1	N	17 51.8 -00.3	231 32.5 +02.1	N	14 23.2 -00.1	7 17.1 +02.6	N	01 24.5 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 223° 223° 223° 223° 223° 223°			SHA 214° 214° 214° 214° 214° 214°			SHA 350° 350° 350° 350° 350° 350°						
	Greenwich Culmination Time: 07:01			Greenwich Culmination Time: 07:36			Greenwich Culmination Time: 22:30						

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 56.0 +00.1	S	11 40.8 +00.9	186 05.2 +03.8	S	17 53.1 -00.9	31 25.8 -27.7	N	03 33.0 +15.7	00			
01	198 56.1 +00.1	S	11 41.7 +00.8	201 09.0 +03.8	S	17 52.2 -00.9	45 58.1 -27.8	N	03 48.7 +15.8	01			
02	213 56.2 +00.1	S	11 42.5 +00.9	216 12.8 +03.8	S	17 51.3 -01.0	60 30.3 -27.8	N	04 04.5 +15.8	02			
03	228 56.3 +00.1	S	11 43.4 +00.9	231 16.6 +03.8	S	17 50.3 -00.9	75 02.5 -27.9	N	04 20.3 +15.7	03			
04	243 56.4 +00.1	S	11 44.3 +00.9	246 20.4 +03.8	S	17 49.4 -01.0	89 34.6 -27.9	N	04 36.0 +15.8	04			
05	258 56.5 +00.0	S	11 45.2 +00.8	261 24.2 +03.8	S	17 48.4 -00.9	104 06.7 -28.0	N	04 51.8 +15.7	05			
06	273 56.5 +00.1	S	11 46.0 +00.9	276 28.0 +03.8	S	17 47.5 -01.0	118 38.7 -28.1	N	05 07.5 +15.8	06			
07	288 56.6 +00.1	S	11 46.9 +00.9	291 31.8 +03.8	S	17 46.5 -00.9	133 10.6 -28.1	N	05 23.3 +15.7	07			
08	303 56.7 +00.1	S	11 47.8 +00.8	306 35.6 +03.8	S	17 45.6 -01.0	147 42.5 -28.2	N	05 39.0 +15.8	08			
09	318 56.8 +00.1	S	11 48.6 +00.9	321 39.4 +03.8	S	17 44.6 -00.9	162 14.3 -28.3	N	05 54.8 +15.7	09			
10	333 56.9 +00.0	S	11 49.5 +00.9	336 43.2 +03.8	S	17 43.7 -01.0	176 46.0 -28.3	N	06 10.5 +15.7	10			
11	348 56.9 +00.1	S	11 50.4 +00.8	351 47.0 +03.8	S	17 42.7 -00.9	191 17.7 -28.4	N	06 26.2 +15.7	11			
12	3 57.0 +00.1	S	11 51.2 +00.9	6 50.8 +03.8	S	17 41.8 -01.0	205 49.3 -28.5	N	06 41.9 +15.7	12			
13	18 57.1 +00.1	S	11 52.1 +00.9	21 54.6 +03.8	S	17 40.8 -00.9	220 20.8 -28.5	N	06 57.6 +15.7	13			
14	33 57.2 +00.1	S	11 53.0 +00.8	36 58.4 +03.7	S	17 39.9 -01.0	234 52.3 -28.6	N	07 13.3 +15.6	14			
15	48 57.3 +00.0	S	11 53.8 +00.9	52 02.1 +03.8	S	17 38.9 -00.9	249 23.7 -28.7	N	07 28.9 +15.7	15			
16	63 57.3 +00.1	S	11 54.7 +00.9	67 05.9 +03.8	S	17 38.0 -01.0	263 55.0 -28.7	N	07 44.6 +15.6	16			
17	78 57.4 +00.1	S	11 55.6 +00.8	82 09.7 +03.8	S	17 37.0 -01.0	278 26.3 -28.9	N	08 00.2 +15.6	17			
18	93 57.5 +00.1	S	11 56.4 +00.9	97 13.5 +03.8	S	17 36.0 -00.9	292 57.4 -28.9	N	08 15.8 +15.5	18			
19	108 57.6 +00.0	S	11 57.3 +00.8	112 17.3 +03.8	S	17 35.1 -01.0	307 28.5 -28.9	N	08 31.3 +15.6	19			
20	123 57.6 +00.1	S	11 58.1 +00.9	127 21.1 +03.8	S	17 34.1 -00.9	321 59.6 -29.1	N	08 46.9 +15.5	20			
21	138 57.7 +00.1	S	11 59.0 +00.9	142 24.9 +03.7	S	17 33.2 -01.0	336 30.5 -29.1	N	09 02.4 +15.5	21			
22	153 57.8 +00.1	S	11 59.9 +00.8	157 28.6 +03.8	S	17 32.2 -01.0	351 01.4 -29.3	N	09 17.9 +15.4	22			
23	168 57.9 +00.1	S	12 00.7 +00.9	172 32.4 +03.8	S	17 31.2 -00.9	5 32.1 -29.3	N	09 33.3 +15.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 15'8 15'8 15'9 15'9 15'9 16'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 57'9 58'1 58'2 58'3 58'5 58'6						
	SHA 151° 151° 151° 151° 151° 151°			SHA 154° 154° 154° 154° 154° 154°			SHA 358° 356° 354° 352° 350° 348°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 11:32			Greenwich Culmination Time: 22:37						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	255 00.9 +01.2	N	17 51.5 -00.3	246 34.6 +02.1	N	14 23.1 -00.1	22 19.7 +02.6	N	01 24.4 -00.1	00			
01	270 02.1 +01.1	N	17 51.2 -00.4	261 36.7 +02.2	N	14 23.0 -00.1	37 22.3 +02.6	N	01 24.3 +00.0	01			
02	285 03.2 +01.1	N	17 50.8 -00.3	276 38.9 +02.1	N	14 22.9 -00.1	52 24.9 +02.7	N	01 24.3 -00.1	02			
03	300 04.3 +01.1	N	17 50.5 -00.4	291 41.0 +02.1	N	14 22.8 -00.1	67 27.6 +02.6	N	01 24.2 -00.1	03			
04	315 05.4 +01.2	N	17 50.1 -00.3	306 43.1 +02.1	N	14 22.7 -00.1	82 30.2 +02.6	N	01 24.1 +00.0	04			
05	330 06.6 +01.1	N	17 49.8 -00.3	321 45.2 +02.1	N	14 22.6 -00.1	97 32.8 +02.7	N	01 24.1 -00.1	05			
06	345 07.7 +01.1	N	17 49.5 -00.4	336 47.3 +02.2	N	14 22.5 -00.1	112 35.5 +02.6	N	01 24.0 -00.1	06			
07	0 08.8 +01.1	N	17 49.1 -00.3	351 49.5 +02.1	N	14 22.4 -00.2	127 38.1 +02.6	N	01 23.9 +00.0	07			
08	15 09.9 +01.2	N	17 48.8 -00.4	6 51.6 +02.1	N	14 22.2 -00.1	142 40.7 +02.6	N	01 23.9 -00.1	08			
09	30 11.1 +01.1	N	17 48.4 -00.3	21 53.7 +02.1	N	14 22.1 -00.1	157 43.3 +02.7	N	01 23.8 -00.1	09			
10	45 12.2 +01.1	N	17 48.1 -00.3	36 55.8 +02.2	N	14 22.0 -00.1	172 46.0 +02.6	N	01 23.7 +00.0	10			
11	60 13.3 +01.2	N	17 47.8 -00.4	51 58.0 +02.1	N	14 21.9 -00.1	187 48.6 +02.6	N	01 23.7 -00.1	11			
12	75 14.5 +01.1	N	17 47.4 -00.3	67 00.1 +02.1	N	14 21.8 -00.1	202 51.2 +02.7	N	01 23.6 +00.0	12			
13	90 15.6 +01.1	N	17 47.1 -00.4	82 02.2 +02.1	N	14 21.7 -00.1	217 53.9 +02.6	N	01 23.6 -00.1	13			
14	105 16.7 +01.1	N	17 46.7 -00.3	97 04.3 +02.2	N	14 21.6 -00.1	232 56.5 +02.6	N	01 23.5 -00.1	14			
15	120 17.8 +01.2	N	17 46.4 -00.3	112 06.5 +02.1	N	14 21.5 -00.1	247 59.1 +02.6	N	01 23.4 +00.0	15			
16	135 19.0 +01.1	N	17 46.1 -00.4	127 08.6 +02.1	N	14 21.4 -00.1	263 01.7 +02.7	N	01 23.4 -00.1	16			
17	150 20.1 +01.1	N	17 45.7 -00.3	142 10.7 +02.1	N	14 21.3 -00.1	278 04.4 +02.6	N	01 23.3 -00.1	17			
18	165 21.2 +01.2	N	17 45.4 -00.4	157 12.8 +02.2	N	14 21.2 -00.1	293 07.0 +02.6	N	01 23.2 +00.0	18			
19	180 22.4 +01.1	N	17 45.0 -00.3	172 15.0 +02.1	N	14 21.1 -00.1	308 09.6 +02.6	N	01 23.2 -00.1	19			
20	195 23.5 +01.1	N	17 44.7 -00.3	187 17.1 +02.1	N	14 21.0 -00.1	323 12.2 +02.7	N	01 23.1 -00.1	20			
21	210 24.6 +01.2	N	17 44.4 -00.4	202 19.2 +02.2	N	14 20.9 -00.1	338 14.9 +02.6	N	01 23.0 +00.0	21			
22	225 25.8 +01.1	N	17 44.0 -00.3	217 21.4 +02.1	N	14 20.8 -00.1	353 17.5 +02.6	N	01 23.0 -00.1	22			
23	240 26.9 +01.1	N	17 43.7 -00.4	232 23.5 +02.1	N	14 20.7 -00.1	8 20.1 +02.6	N	01 22.9 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 223° 222° 222° 222° 222° 222°			SHA 214° 214° 214° 214° 214° 214°			SHA 350° 350° 350° 350° 350° 350°						
	Greenwich Culmination Time: 06:59			Greenwich Culmination Time: 07:32			Greenwich Culmination Time: 22:26						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 58.0 +00.0	S	12 01.6 +00.9	187 36.2 +03.8	S	17 30.3 -01.0	20 02.8 -29.4	N	09 48.8 +15.4	00			
01	198 58.0 +00.1	S	12 02.5 +00.8	202 40.0 +03.8	S	17 29.3 -01.0	34 33.4 -29.4	N	10 04.2 +15.3	01			
02	213 58.1 +00.1	S	12 03.3 +00.9	217 43.8 +03.8	S	17 28.3 -00.9	49 04.0 -29.6	N	10 19.5 +15.4	02			
03	228 58.2 +00.1	S	12 04.2 +00.8	232 47.6 +03.7	S	17 27.4 -01.0	63 34.4 -29.6	N	10 34.9 +15.2	03			
04	243 58.3 +00.0	S	12 05.0 +00.9	247 51.3 +03.8	S	17 26.4 -01.0	78 04.8 -29.8	N	10 50.1 +15.3	04			
05	258 58.3 +00.1	S	12 05.9 +00.9	262 55.1 +03.8	S	17 25.4 -01.0	92 35.0 -29.8	N	11 05.4 +15.2	05			
06	273 58.4 +00.1	S	12 06.8 +00.8	277 58.9 +03.8	S	17 24.4 -00.9	107 05.2 -29.9	N	11 20.6 +15.1	06			
07	288 58.5 +00.1	S	12 07.6 +00.9	293 02.7 +03.7	S	17 23.5 -01.0	121 35.3 -30.0	N	11 35.7 +15.2	07			
08	303 58.6 +00.0	S	12 08.5 +00.8	308 06.4 +03.8	S	17 22.5 -01.0	136 05.3 -30.1	N	11 50.9 +15.0	08			
09	318 58.6 +00.1	S	12 09.3 +00.9	323 10.2 +03.8	S	17 21.5 -01.0	150 35.2 -30.2	N	12 05.9 +15.0	09			
10	333 58.7 +00.1	S	12 10.2 +00.9	338 14.0 +03.7	S	17 20.5 -00.9	165 05.0 -30.3	N	12 20.9 +15.0	10			
11	348 58.8 +00.0	S	12 11.1 +00.8	353 17.7 +03.8	S	17 19.6 -01.0	179 34.7 -30.4	N	12 35.9 +14.9	11			
12	3 58.8 +00.1	S	12 11.9 +00.9	8 21.5 +03.8	S	17 18.6 -01.0	194 04.3 -30.4	N	12 50.8 +14.9	12			
13	18 58.9 +00.1	S	12 12.8 +00.8	23 25.3 +03.8	S	17 17.6 -01.0	208 33.9 -30.6	N	13 05.7 +14.8	13			
14	33 59.0 +00.1	S	12 13.6 +00.9	38 29.1 +03.7	S	17 16.6 -01.0	223 03.3 -30.7	N	13 20.5 +14.7	14			
15	48 59.1 +00.0	S	12 14.5 +00.9	53 32.8 +03.8	S	17 15.6 -01.0	237 32.6 -30.8	N	13 35.2 +14.7	15			
16	63 59.1 +00.1	S	12 15.4 +00.8	68 36.6 +03.8	S	17 14.6 -00.9	252 01.8 -30.8	N	13 49.9 +14.7	16			
17	78 59.2 +00.1	S	12 16.2 +00.9	83 40.4 +03.7	S	17 13.7 -01.0	266 31.0 -31.0	N	14 04.6 +14.5	17			
18	93 59.3 +00.0	S	12 17.1 +00.8	98 44.1 +03.8	S	17 12.7 -01.0	280 60.0 -31.1	N	14 19.1 +14.5	18			
19	108 59.3 +00.1	S	12 17.9 +00.9	113 47.9 +03.7	S	17 11.7 -01.0	295 28.9 -31.2	N	14 33.6 +14.4	19			
20	123 59.4 +00.1	S	12 18.8 +00.8	128 51.6 +03.8	S	17 10.7 -01.0	309 57.7 -31.3	N	14 48.0 +14.4	20			
21	138 59.5 +00.1	S	12 19.6 +00.9	143 55.4 +03.8	S	17 09.7 -01.0	324 26.4 -31.4	N	15 02.4 +14.3	21			
22	153 59.6 +00.0	S	12 20.5 +00.8	158 59.2 +03.7	S	17 08.7 -01.0	338 55.0 -31.5	N	15 16.7 +14.2	22			
23	168 59.6 +00.1	S	12 21.3 +00.9	174 02.9 +03.8	S	17 07.7 -01.0	353 23.5 -31.6	N	15 30.9 +14.1	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	16'1 16'1 16'1 16'1 16'1 16'1			SD	00'5 00'5 00'5 00'5 00'5 00'5			SD	16'0 16'0 16'1 16'1 16'1 16'1				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'5 00'5 00'5 00'5 00'5 00'5			HP	58'7 58'8 58'9 59'1 59'2 59'3				
SHA	150° 150° 150° 150° 150° 150°			SHA	154° 154° 154° 155° 155° 155°			SHA	346° 343° 341° 339° 337° 335°				
Greenwich Culmination Time: 11:44				Greenwich Culmination Time: 11:26				Greenwich Culmination Time: 23:27					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	255 28.0 +01.2	N	17 43.3 -00.3	247 25.6 +02.1	N	14 20.6 -00.2	23 22.7 +02.7	N	01 22.8 +00.0	00			
01	270 29.2 +01.1	N	17 43.0 -00.3	262 27.7 +02.2	N	14 20.4 -00.1	38 25.4 +02.6	N	01 22.8 -00.1	01			
02	285 30.3 +01.1	N	17 42.7 -00.4	277 29.9 +02.1	N	14 20.3 -00.1	53 28.0 +02.6	N	01 22.7 +00.0	02			
03	300 31.4 +01.2	N	17 42.3 -00.3	292 32.0 +02.1	N	14 20.2 -00.1	68 30.6 +02.6	N	01 22.7 -00.1	03			
04	315 32.6 +01.1	N	17 42.0 -00.4	307 34.1 +02.2	N	14 20.1 -00.1	83 33.2 +02.7	N	01 22.6 -00.1	04			
05	330 33.7 +01.1	N	17 41.6 -00.3	322 36.3 +02.1	N	14 20.0 -00.1	98 35.9 +02.6	N	01 22.5 +00.0	05			
06	345 34.8 +01.2	N	17 41.3 -00.3	337 38.4 +02.1	N	14 19.9 -00.1	113 38.5 +02.6	N	01 22.5 -00.1	06			
07	0 36.0 +01.1	N	17 41.0 -00.4	352 40.5 +02.1	N	14 19.8 -00.1	128 41.1 +02.6	N	01 22.4 -00.1	07			
08	15 37.1 +01.1	N	17 40.6 -00.3	7 42.6 +02.2	N	14 19.7 -00.1	143 43.7 +02.7	N	01 22.3 +00.0	08			
09	30 38.2 +01.2	N	17 40.3 -00.4	22 44.8 +02.1	N	14 19.6 -00.1	158 46.4 +02.6	N	01 22.3 -00.1	09			
10	45 39.4 +01.1	N	17 39.9 -00.3	37 46.9 +02.1	N	14 19.5 -00.1	173 49.0 +02.6	N	01 22.2 -00.1	10			
11	60 40.5 +01.2	N	17 39.6 -00.3	52 49.0 +02.2	N	14 19.4 -00.1	188 51.6 +02.6	N	01 22.1 +00.0	11			
12	75 41.7 +01.1	N	17 39.3 -00.4	67 51.2 +02.1	N	14 19.3 -00.1	203 54.2 +02.7	N	01 22.1 -00.1	12			
13	90 42.8 +01.1	N	17 38.9 -00.3	82 53.3 +02.1	N	14 19.2 -00.1	218 56.9 +02.6	N	01 22.0 -00.1	13			
14	105 43.9 +01.2	N	17 38.6 -00.4	97 55.4 +02.2	N	14 19.1 -00.1	233 59.5 +02.6	N	01 21.9 +00.0	14			
15	120 45.1 +01.1	N	17 38.2 -00.3	112 57.6 +02.1	N	14 19.0 -00.1	249 02.1 +02.6	N	01 21.9 -00.1	15			
16	135 46.2 +01.1	N	17 37.9 -00.3	127 59.7 +02.1	N	14 18.9 -00.1	264 04.7 +02.7	N	01 21.8 +00.0	16			
17	150 47.3 +01.2	N	17 37.6 -00.4	143 01.8 +02.1	N	14 18.8 -00.1	279 07.4 +02.6	N	01 21.8 -00.1	17			
18	165 48.5 +01.1	N	17 37.2 -00.3	158 03.9 +02.2	N	14 18.7 -00.1	294 10.0 +02.6	N	01 21.7 -00.1	18			
19	180 49.6 +01.2	N	17 36.9 -00.4	173 06.1 +02.1	N	14 18.6 -00.1	309 12.6 +02.6	N	01 21.6 +00.0	19			
20	195 50.8 +01.1	N	17 36.5 -00.3	188 08.2 +02.1	N	14 18.5 -00.1	324 15.2 +02.7	N	01 21.6 -00.1	20			
21	210 51.9 +01.2	N	17 36.2 -00.3	203 10.3 +02.2	N	14 18.4 -00.1	339 17.9 +02.6	N	01 21.5 -00.1	21			
22	225 53.1 +01.1	N	17 35.9 -00.4	218 12.5 +02.1	N	14 18.3 -00.1	354 20.5 +02.6	N	01 21.4 +00.0	22			
23	240 54.2 +01.1	N	17 35.5 -00.3	233 14.6 +02.1	N	14 18.2 -00.2	9 23.1 +02.6	N	01 21.4 -00.1	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	00'1 00'1 00'1 00'1 00'1 00'1			SD	00'3 00'3 00'3 00'3 00'3 00'3			SD	00'2 00'2 00'2 00'2 00'2 00'2				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'0 00'0 00'0 00'0 00'0 00'0			HP	00'0 00'0 00'0 00'0 00'0 00'0				
SHA	222° 222° 222° 222° 222° 222°			SHA	214° 214° 214° 214° 214° 214°			SHA	350° 350° 350° 350° 350° 350°				
Greenwich Culmination Time: 06:57				Greenwich Culmination Time: 07:29				Greenwich Culmination Time: 22:22					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183	59.7 +00.1	S 12 22.2 +00.9		189	06.7 +03.7	S 17 06.7 -01.0		7	51.9 -31.7	N 15 45.0 +14.1		00
01	198	59.8 +00.0	S 12 23.1 +00.8		204	10.4 +03.8	S 17 05.7 -01.0		22	20.2 -31.8	N 15 59.1 +14.0		01
02	213	59.8 +00.1	S 12 23.9 +00.9		219	14.2 +03.7	S 17 04.7 -00.9		36	48.4 -31.9	N 16 13.1 +13.9		02
03	228	59.9 +00.1	S 12 24.8 +00.8		234	17.9 +03.8	S 17 03.8 -01.0		51	16.5 -32.1	N 16 27.0 +13.8		03
04	243	60.0 +00.0	S 12 25.6 +00.9		249	21.7 +03.7	S 17 02.8 -01.0		65	44.4 -32.1	N 16 40.8 +13.7		04
05	259	00.0 +00.1	S 12 26.5 +00.8		264	25.4 +03.8	S 17 01.8 -01.0		80	12.3 -32.3	N 16 54.5 +13.7		05
06	274	00.1 +00.1	S 12 27.3 +00.9		279	29.2 +03.7	S 17 00.8 -01.0		94	40.0 -32.3	N 17 08.2 +13.5		06
07	289	00.2 +00.0	S 12 28.2 +00.8		294	32.9 +03.8	S 16 59.8 -01.0		109	07.7 -32.5	N 17 21.7 +13.5		07
08	304	00.2 +00.1	S 12 29.0 +00.9		309	36.7 +03.7	S 16 58.8 -01.0		123	35.2 -32.6	N 17 35.2 +13.4		08
09	319	00.3 +00.1	S 12 29.9 +00.8		324	40.4 +03.8	S 16 57.8 -01.0		138	02.6 -32.7	N 17 48.6 +13.2		09
10	334	00.4 +00.0	S 12 30.7 +00.9		339	44.2 +03.7	S 16 56.8 -01.0		152	29.9 -32.8	N 18 01.8 +13.2		10
11	349	00.4 +00.1	S 12 31.6 +00.8		354	47.9 +03.7	S 16 55.8 -01.0		166	57.1 -33.0	N 18 15.0 +13.1		11
12	4	00.5 +00.1	S 12 32.4 +00.9		9	51.6 +03.8	S 16 54.8 -01.0		181	24.1 -33.0	N 18 28.1 +13.0		12
13	19	00.6 +00.0	S 12 33.3 +00.8		24	55.4 +03.7	S 16 53.8 -01.0		195	51.1 -33.2	N 18 41.1 +12.9		13
14	34	00.6 +00.1	S 12 34.1 +00.9		39	59.1 +03.7	S 16 52.8 -01.0		210	17.9 -33.2	N 18 54.0 +12.7		14
15	49	00.7 +00.0	S 12 35.0 +00.8		55	02.8 +03.8	S 16 51.8 -01.1		224	44.7 -33.4	N 19 06.7 +12.7		15
16	64	00.7 +00.1	S 12 35.8 +00.9		70	06.6 +03.7	S 16 50.7 -01.0		239	11.3 -33.5	N 19 19.4 +12.5		16
17	79	00.8 +00.1	S 12 36.7 +00.8		85	10.3 +03.7	S 16 49.7 -01.0		253	37.8 -33.7	N 19 31.9 +12.5		17
18	94	00.9 +00.0	S 12 37.5 +00.9		100	14.0 +03.8	S 16 48.7 -01.0		268	04.1 -33.7	N 19 44.4 +12.3		18
19	109	00.9 +00.1	S 12 38.4 +00.8		115	17.8 +03.7	S 16 47.7 -01.0		282	30.4 -33.8	N 19 56.7 +12.2		19
20	124	01.0 +00.1	S 12 39.2 +00.9		130	21.5 +03.7	S 16 46.7 -01.0		296	56.6 -34.0	N 20 08.9 +12.1		20
21	139	01.1 +00.0	S 12 40.1 +00.8		145	25.2 +03.7	S 16 45.7 -01.0		311	22.6 -34.1	N 20 21.0 +12.0		21
22	154	01.1 +00.1	S 12 40.9 +00.9		160	28.9 +03.8	S 16 44.7 -01.0		325	48.5 -34.2	N 20 33.0 +11.8		22
23	169	01.2 +00.0	S 12 41.8 +00.8		175	32.7 +03.7	S 16 43.7 -01.0		340	14.3 -34.3	N 20 44.8 +11.8		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'1 16'1 16'1 16'1 16'1 16'1				SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 16'2 16'2 16'2 16'2 16'3 16'3				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 59'4 59'5 59'5 59'6 59'7 59'8				
	SHA 150° 149° 149° 149° 149° 149°				SHA 155° 155° 155° 155° 155° 155°				SHA 332° 330° 328° 325° 323° 321°				
	Greenwich Culmination Time: 11:43				Greenwich Culmination Time: 11:20				Greenwich Culmination Time: -1:00				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	255	55.3 +01.2	N 17 35.2 -00.4		248	16.7 +02.2	N 14 18.0 -00.1		24	25.7 +02.7	N 01 21.3 -00.1		00
01	270	56.5 +01.1	N 17 34.8 -00.3		263	18.9 +02.1	N 14 17.9 -00.1		39	28.4 +02.6	N 01 21.2 +00.0		01
02	285	57.6 +01.2	N 17 34.5 -00.3		278	21.0 +02.1	N 14 17.8 -00.1		54	31.0 +02.6	N 01 21.2 -00.1		02
03	300	58.8 +01.1	N 17 34.2 -00.4		293	23.1 +02.2	N 14 17.7 -00.1		69	33.6 +02.6	N 01 21.1 +00.0		03
04	315	59.9 +01.2	N 17 33.8 -00.3		308	25.3 +02.1	N 14 17.6 -00.1		84	36.2 +02.7	N 01 21.1 -00.1		04
05	331	01.1 +01.1	N 17 33.5 -00.4		323	27.4 +02.1	N 14 17.5 -00.1		99	38.9 +02.6	N 01 21.0 -00.1		05
06	346	02.2 +01.1	N 17 33.1 -00.3		338	29.5 +02.2	N 14 17.4 -00.1		114	41.5 +02.6	N 01 20.9 +00.0		06
07	1	03.3 +01.2	N 17 32.8 -00.3		353	31.7 +02.1	N 14 17.3 -00.1		129	44.1 +02.6	N 01 20.9 -00.1		07
08	16	04.5 +01.1	N 17 32.5 -00.4		8	33.8 +02.1	N 14 17.2 -00.1		144	46.7 +02.7	N 01 20.8 -00.1		08
09	31	05.6 +01.2	N 17 32.1 -00.3		23	35.9 +02.2	N 14 17.1 -00.1		159	49.4 +02.6	N 01 20.7 +00.0		09
10	46	06.8 +01.1	N 17 31.8 -00.4		38	38.1 +02.1	N 14 17.0 -00.1		174	52.0 +02.6	N 01 20.7 -00.1		10
11	61	07.9 +01.2	N 17 31.4 -00.3		53	40.2 +02.2	N 14 16.9 -00.1		189	54.6 +02.6	N 01 20.6 +00.0		11
12	76	09.1 +01.1	N 17 31.1 -00.4		68	42.4 +02.1	N 14 16.8 -00.1		204	57.2 +02.7	N 01 20.6 -00.1		12
13	91	10.2 +01.2	N 17 30.7 -00.3		83	44.5 +02.1	N 14 16.7 -00.1		219	59.9 +02.6	N 01 20.5 -00.1		13
14	106	11.4 +01.1	N 17 30.4 -00.3		98	46.6 +02.2	N 14 16.6 -00.1		235	02.5 +02.6	N 01 20.4 +00.0		14
15	121	12.5 +01.2	N 17 30.1 -00.4		113	48.8 +02.1	N 14 16.5 -00.1		250	05.1 +02.6	N 01 20.4 -00.1		15
16	136	13.7 +01.1	N 17 29.7 -00.3		128	50.9 +02.1	N 14 16.4 -00.1		265	07.7 +02.6	N 01 20.3 -00.1		16
17	151	14.8 +01.2	N 17 29.4 -00.4		143	53.0 +02.2	N 14 16.3 -00.1		280	10.3 +02.7	N 01 20.2 +00.0		17
18	166	16.0 +01.1	N 17 29.0 -00.3		158	55.2 +02.1	N 14 16.2 -00.1		295	13.0 +02.6	N 01 20.2 -00.1		18
19	181	17.1 +01.2	N 17 28.7 -00.3		173	57.3 +02.1	N 14 16.1 -00.1		310	15.6 +02.6	N 01 20.1 +00.0		19
20	196	18.3 +01.1	N 17 28.4 -00.4		188	59.4 +02.2	N 14 16.0 -00.1		325	18.2 +02.6	N 01 20.1 -00.1		20
21	211	19.4 +01.2	N 17 28.0 -00.3		204	01.6 +02.1	N 14 15.9 -00.1		340	20.8 +02.7	N 01 20.0 -00.1		21
22	226	20.6 +01.1	N 17 27.7 -00.4		219	03.7 +02.2	N 14 15.8 -00.1		355	23.5 +02.6	N 01 19.9 +00.0		22
23	241	21.7 +01.2	N 17 27.3 -00.3		234	05.9 +02.1	N 14 15.7 -00.1		10	26.1 +02.6	N 01 19.9 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 221° 221° 221° 221° 221° 221°				SHA 214° 214° 214° 214° 214° 214°				SHA 350° 350° 350° 350° 350° 350°				
	Greenwich Culmination Time: 06:55				Greenwich Culmination Time: 07:25				Greenwich Culmination Time: 22:18				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 01.2 +00.1	S 12 42.6 +00.9	190 36.4 +03.7	S 16 42.7 -01.0	354 40.0 -34.4	N 20 56.6 +11.6	00						
01	199 01.3 +00.1	S 12 43.5 +00.8	205 40.1 +03.7	S 16 41.7 -01.0	9 05.6 -34.5	N 21 08.2 +11.4	01						
02	214 01.4 +00.0	S 12 44.3 +00.9	220 43.8 +03.7	S 16 40.7 -01.1	23 31.1 -34.7	N 21 19.6 +11.4	02						
03	229 01.4 +00.1	S 12 45.2 +00.8	235 47.5 +03.8	S 16 39.6 -01.0	37 56.4 -34.8	N 21 31.0 +11.2	03						
04	244 01.5 +00.0	S 12 46.0 +00.8	250 51.3 +03.7	S 16 38.6 -01.0	52 21.6 -34.8	N 21 42.2 +11.1	04						
05	259 01.5 +00.1	S 12 46.8 +00.9	265 55.0 +03.7	S 16 37.6 -01.0	66 46.8 -35.0	N 21 53.3 +10.9	05						
06	274 01.6 +00.1	S 12 47.7 +00.8	280 58.7 +03.7	S 16 36.6 -01.0	81 11.8 -35.1	N 22 04.2 +10.8	06						
07	289 01.7 +00.0	S 12 48.5 +00.9	296 02.4 +03.7	S 16 35.6 -01.0	95 36.7 -35.3	N 22 15.0 +10.7	07						
08	304 01.7 +00.1	S 12 49.4 +00.8	311 06.1 +03.7	S 16 34.6 -01.0	110 01.4 -35.3	N 22 25.7 +10.5	08						
09	319 01.8 +00.0	S 12 50.2 +00.9	326 09.8 +03.7	S 16 33.6 -01.1	124 26.1 -35.4	N 22 36.2 +10.3	09						
10	334 01.8 +00.1	S 12 51.1 +00.8	341 13.5 +03.7	S 16 32.5 -01.0	138 50.7 -35.6	N 22 46.5 +10.3	10						
11	349 01.9 +00.1	S 12 51.9 +00.9	356 17.2 +03.7	S 16 31.5 -01.0	153 15.1 -35.6	N 22 56.8 +10.1	11						
12	4 02.0 +00.0	S 12 52.8 +00.8	11 20.9 +03.7	S 16 30.5 -01.0	167 39.5 -35.8	N 23 06.9 +09.9	12						
13	19 02.0 +00.1	S 12 53.6 +00.8	26 24.6 +03.7	S 16 29.5 -01.0	182 03.7 -35.9	N 23 16.8 +09.8	13						
14	34 02.1 +00.0	S 12 54.4 +00.9	41 28.3 +03.7	S 16 28.5 -01.0	196 27.8 -35.9	N 23 26.6 +09.6	14						
15	49 02.1 +00.1	S 12 55.3 +00.8	56 32.0 +03.7	S 16 27.5 -01.1	210 51.9 -36.1	N 23 36.2 +09.4	15						
16	64 02.2 +00.0	S 12 56.1 +00.9	71 35.7 +03.7	S 16 26.4 -01.0	225 15.8 -36.2	N 23 45.6 +09.4	16						
17	79 02.2 +00.1	S 12 57.0 +00.8	86 39.4 +03.7	S 16 25.4 -01.0	239 39.6 -36.3	N 23 55.0 +09.1	17						
18	94 02.3 +00.0	S 12 57.8 +00.8	101 43.1 +03.6	S 16 24.4 -01.0	254 03.3 -36.4	N 24 04.1 +09.0	18						
19	109 02.3 +00.1	S 12 58.6 +00.9	116 46.7 +03.7	S 16 23.4 -01.1	268 26.9 -36.5	N 24 13.1 +08.8	19						
20	124 02.4 +00.1	S 12 59.5 +00.8	131 50.4 +03.7	S 16 22.3 -01.0	282 50.4 -36.6	N 24 21.9 +08.7	20						
21	139 02.5 +00.0	S 13 00.3 +00.9	146 54.1 +03.7	S 16 21.3 -01.0	297 13.8 -36.6	N 24 30.6 +08.5	21						
22	154 02.5 +00.1	S 13 01.2 +00.8	161 57.8 +03.7	S 16 20.3 -01.0	311 37.2 -36.8	N 24 39.1 +08.3	22						
23	169 02.6 +00.0	S 13 02.0 +00.8	177 01.5 +03.6	S 16 19.3 -01.0	326 00.4 -36.9	N 24 47.4 +08.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'5 00'5 00'5 00'5 00'5 00'5		SD 16'3 16'3 16'3 16'3 16'4 16'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 59'8 59'9 59'9 60'0 60'0 60'1								
	SHA 149° 148° 148° 148° 148° 148°		SHA 155° 155° 155° 156° 156° 156°		SHA 318° 316° 313° 311° 308° 305°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 11:14		Greenwich Culmination Time: 00:22								
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	256 22.9 +01.1	N 17 27.0 -00.3	249 08.0 +02.1	N 14 15.6 -00.1	25 28.7 +02.6	N 01 19.8 -00.1	00						
01	271 24.0 +01.2	N 17 26.7 -00.4	264 10.1 +02.2	N 14 15.5 -00.1	40 31.3 +02.6	N 01 19.7 +00.0	01						
02	286 25.2 +01.1	N 17 26.3 -00.3	279 12.3 +02.1	N 14 15.4 -00.1	55 33.9 +02.7	N 01 19.7 -00.1	02						
03	301 26.3 +01.2	N 17 26.0 -00.4	294 14.4 +02.2	N 14 15.3 -00.1	70 36.6 +02.6	N 01 19.6 +00.0	03						
04	316 27.5 +01.1	N 17 25.6 -00.3	309 16.6 +02.1	N 14 15.2 -00.1	85 39.2 +02.6	N 01 19.6 -00.1	04						
05	331 28.6 +01.2	N 17 25.3 -00.4	324 18.7 +02.1	N 14 15.1 -00.1	100 41.8 +02.6	N 01 19.5 -00.1	05						
06	346 29.8 +01.1	N 17 24.9 -00.3	339 20.8 +02.2	N 14 15.0 -00.1	115 44.4 +02.7	N 01 19.4 +00.0	06						
07	1 30.9 +01.2	N 17 24.6 -00.3	354 23.0 +02.1	N 14 14.9 -00.1	130 47.1 +02.6	N 01 19.4 -00.1	07						
08	16 32.1 +01.1	N 17 24.3 -00.4	9 25.1 +02.2	N 14 14.8 -00.1	145 49.7 +02.6	N 01 19.3 -00.1	08						
09	31 33.2 +01.2	N 17 23.9 -00.3	24 27.3 +02.1	N 14 14.7 -00.1	160 52.3 +02.6	N 01 19.2 +00.0	09						
10	46 34.4 +01.1	N 17 23.6 -00.4	39 29.4 +02.1	N 14 14.6 -00.1	175 54.9 +02.6	N 01 19.2 -00.1	10						
11	61 35.5 +01.2	N 17 23.2 -00.3	54 31.5 +02.2	N 14 14.5 -00.1	190 57.5 +02.7	N 01 19.1 +00.0	11						
12	76 36.7 +01.2	N 17 22.9 -00.3	69 33.7 +02.1	N 14 14.4 -00.1	206 00.2 +02.6	N 01 19.1 -00.1	12						
13	91 37.9 +01.1	N 17 22.6 -00.4	84 35.8 +02.2	N 14 14.3 -00.1	221 02.8 +02.6	N 01 19.0 -00.1	13						
14	106 39.0 +01.2	N 17 22.2 -00.3	99 38.0 +02.1	N 14 14.2 -00.1	236 05.4 +02.6	N 01 18.9 +00.0	14						
15	121 40.2 +01.1	N 17 21.9 -00.4	114 40.1 +02.1	N 14 14.1 -00.1	251 08.0 +02.6	N 01 18.9 -00.1	15						
16	136 41.3 +01.2	N 17 21.5 -00.3	129 42.2 +02.2	N 14 14.0 -00.1	266 10.6 +02.7	N 01 18.8 +00.0	16						
17	151 42.5 +01.1	N 17 21.2 -00.4	144 44.4 +02.1	N 14 13.9 -00.1	281 13.3 +02.6	N 01 18.8 -00.1	17						
18	166 43.6 +01.2	N 17 20.8 -00.3	159 46.5 +02.2	N 14 13.8 -00.1	296 15.9 +02.6	N 01 18.7 -00.1	18						
19	181 44.8 +01.2	N 17 20.5 -00.3	174 48.7 +02.1	N 14 13.7 -00.1	311 18.5 +02.6	N 01 18.6 +00.0	19						
20	196 46.0 +01.1	N 17 20.2 -00.4	189 50.8 +02.2	N 14 13.6 -00.1	326 21.1 +02.6	N 01 18.6 -00.1	20						
21	211 47.1 +01.2	N 17 19.8 -00.3	204 53.0 +02.1	N 14 13.5 -00.1	341 23.7 +02.7	N 01 18.5 -00.1	21						
22	226 48.3 +01.1	N 17 19.5 -00.4	219 55.1 +02.1	N 14 13.4 -00.2	356 26.4 +02.6	N 01 18.4 +00.0	22						
23	241 49.4 +01.2	N 17 19.1 -00.3	234 57.2 +02.2	N 14 13.2 -00.1	11 29.0 +02.6	N 01 18.4 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 221° 221° 221° 221° 221° 221°		SHA 214° 214° 214° 214° 214° 214°		SHA 350° 350° 350° 350° 350° 350°								
	Greenwich Culmination Time: 06:53		Greenwich Culmination Time: 07:22		Greenwich Culmination Time: 22:14								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	184	02.6 +00.1	S 13 02.8	+00.9	192	05.1 +03.7	S 16 18.3	-01.1	340	23.5 -37.0	N 24 55.6	+08.0	00		
01	199	02.7 +00.0	S 13 03.7	+00.8	207	08.8 +03.7	S 16 17.2	-01.0	354	46.5 -37.0	N 25 03.6	+07.8	01		
02	214	02.7 +00.1	S 13 04.5	+00.9	222	12.5 +03.7	S 16 16.2	-01.0	9	09.5 -37.2	N 25 11.4	+07.6	02		
03	229	02.8 +00.0	S 13 05.4	+00.8	237	16.2 +03.6	S 16 15.2	-01.0	23	32.3 -37.2	N 25 19.0	+07.5	03		
04	244	02.8 +00.1	S 13 06.2	+00.8	252	19.8 +03.7	S 16 14.2	-01.1	37	55.1 -37.4	N 25 26.5	+07.3	04		
05	259	02.9 +00.0	S 13 07.0	+00.9	267	23.5 +03.7	S 16 13.1	-01.0	52	17.7 -37.4	N 25 33.8	+07.1	05		
06	274	02.9 +00.1	S 13 07.9	+00.8	282	27.2 +03.6	S 16 12.1	-01.0	66	40.3 -37.5	N 25 40.9	+06.9	06		
07	289	03.0 +00.0	S 13 08.7	+00.8	297	30.8 +03.7	S 16 11.1	-01.0	81	02.8 -37.5	N 25 47.8	+06.7	07		
08	304	03.0 +00.1	S 13 09.5	+00.9	312	34.5 +03.6	S 16 10.1	-01.1	95	25.3 -37.7	N 25 54.5	+06.6	08		
09	319	03.1 +00.0	S 13 10.4	+00.8	327	38.1 +03.7	S 16 09.0	-01.0	109	47.6 -37.7	N 26 01.1	+06.4	09		
10	334	03.1 +00.1	S 13 11.2	+00.8	342	41.8 +03.6	S 16 08.0	-01.0	124	09.9 -37.8	N 26 07.5	+06.2	10		
11	349	03.2 +00.0	S 13 12.0	+00.9	357	45.4 +03.7	S 16 07.0	-01.0	138	32.1 -37.9	N 26 13.7	+06.0	11		
12	4	03.2 +00.1	S 13 12.9	+00.8	12	49.1 +03.6	S 16 06.0	-01.1	152	54.2 -37.9	N 26 19.7	+05.8	12		
13	19	03.3 +00.0	S 13 13.7	+00.8	27	52.7 +03.7	S 16 04.9	-01.0	167	16.3 -38.0	N 26 25.5	+05.6	13		
14	34	03.3 +00.1	S 13 14.5	+00.9	42	56.4 +03.6	S 16 03.9	-01.0	181	38.3 -38.1	N 26 31.1	+05.4	14		
15	49	03.4 +00.0	S 13 15.4	+00.8	58	00.0 +03.7	S 16 02.9	-01.1	196	00.2 -38.1	N 26 36.5	+05.3	15		
16	64	03.4 +00.1	S 13 16.2	+00.8	73	03.7 +03.6	S 16 01.8	-01.0	210	22.1 -38.2	N 26 41.8	+05.0	16		
17	79	03.5 +00.0	S 13 17.0	+00.9	88	07.3 +03.7	S 16 00.8	-01.0	224	43.9 -38.3	N 26 46.8	+04.8	17		
18	94	03.5 +00.1	S 13 17.9	+00.8	103	11.0 +03.6	S 15 59.8	-01.0	239	05.6 -38.3	N 26 51.6	+04.7	18		
19	109	03.6 +00.0	S 13 18.7	+00.8	118	14.6 +03.6	S 15 58.8	-01.1	253	27.3 -38.3	N 26 56.3	+04.5	19		
20	124	03.6 +00.1	S 13 19.5	+00.9	133	18.2 +03.7	S 15 57.7	-01.0	267	49.0 -38.4	N 27 00.8	+04.2	20		
21	139	03.7 +00.0	S 13 20.4	+00.8	148	21.9 +03.6	S 15 56.7	-01.0	282	10.6 -38.5	N 27 05.0	+04.1	21		
22	154	03.7 +00.0	S 13 21.2	+00.8	163	25.5 +03.6	S 15 55.7	-01.1	296	32.1 -38.5	N 27 09.1	+03.9	22		
23	169	03.7 +00.1	S 13 22.0	+00.9	178	29.1 +03.6	S 15 54.6	-01.0	310	53.6 -38.5	N 27 13.0	+03.6	23		
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22				
	SD 16'1 16'1 16'1 16'1 16'1 16'1					SD 00'5 00'5 00'5 00'5 00'5 00'5					SD 16'4 16'4 16'4 16'4 16'4 16'4				
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'5 00'5 00'5 00'5 00'5 00'5					HP 60'1 60'1 60'1 60'1 60'1 60'1				
	SHA 148° 147° 147° 147° 147° 147°					SHA 156° 156° 156° 156° 156° 156°					SHA 303° 300° 297° 295° 292° 289°				
	Greenwich Culmination Time: 11:43				Greenwich Culmination Time: 11:08				Greenwich Culmination Time: 01:21						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	256	50.6 +01.2	N 17 18.8	-00.3	249	59.4 +02.1	N 14 13.1	-00.1	26	31.6 +02.6	N 01 18.3	+00.0	00		
01	271	51.8 +01.1	N 17 18.5	-00.4	265	01.5 +02.2	N 14 13.0	-00.1	41	34.2 +02.6	N 01 18.3	-00.1	01		
02	286	52.9 +01.2	N 17 18.1	-00.3	280	03.7 +02.1	N 14 12.9	-00.1	56	36.8 +02.7	N 01 18.2	-00.1	02		
03	301	54.1 +01.1	N 17 17.8	-00.4	295	05.8 +02.2	N 14 12.8	-00.1	71	39.5 +02.6	N 01 18.1	+00.0	03		
04	316	55.2 +01.2	N 17 17.4	-00.3	310	08.0 +02.1	N 14 12.7	-00.1	86	42.1 +02.6	N 01 18.1	-00.1	04		
05	331	56.4 +01.2	N 17 17.1	-00.4	325	10.1 +02.1	N 14 12.6	-00.1	101	44.7 +02.6	N 01 18.0	+00.0	05		
06	346	57.6 +01.1	N 17 16.7	-00.3	340	12.2 +02.2	N 14 12.5	-00.1	116	47.3 +02.6	N 01 18.0	-00.1	06		
07	1	58.7 +01.2	N 17 16.4	-00.3	355	14.4 +02.1	N 14 12.4	-00.1	131	49.9 +02.7	N 01 17.9	-00.1	07		
08	16	59.9 +01.2	N 17 16.1	-00.4	10	16.5 +02.2	N 14 12.3	-00.1	146	52.6 +02.6	N 01 17.8	+00.0	08		
09	32	01.1 +01.1	N 17 15.7	-00.3	25	18.7 +02.1	N 14 12.2	-00.1	161	55.2 +02.6	N 01 17.8	-00.1	09		
10	47	02.2 +01.2	N 17 15.4	-00.4	40	20.8 +02.2	N 14 12.1	-00.1	176	57.8 +02.6	N 01 17.7	+00.0	10		
11	62	03.4 +01.2	N 17 15.0	-00.3	55	23.0 +02.1	N 14 12.0	+00.0	192	00.4 +02.6	N 01 17.7	-00.1	11		
12	77	04.6 +01.1	N 17 14.7	-00.4	70	25.1 +02.2	N 14 12.0	-00.1	207	03.0 +02.7	N 01 17.6	-00.1	12		
13	92	05.7 +01.2	N 17 14.3	-00.3	85	27.3 +02.1	N 14 11.9	-00.1	222	05.7 +02.6	N 01 17.5	+00.0	13		
14	107	06.9 +01.2	N 17 14.0	-00.3	100	29.4 +02.2	N 14 11.8	-00.1	237	08.3 +02.6	N 01 17.5	-00.1	14		
15	122	08.1 +01.1	N 17 13.7	-00.4	115	31.6 +02.1	N 14 11.7	-00.1	252	10.9 +02.6	N 01 17.4	-00.1	15		
16	137	09.2 +01.2	N 17 13.3	-00.3	130	33.7 +02.2	N 14 11.6	-00.1	267	13.5 +02.6	N 01 17.3	+00.0	16		
17	152	10.4 +01.2	N 17 13.0	-00.4	145	35.9 +02.1	N 14 11.5	-00.1	282	16.1 +02.7	N 01 17.3	-00.1	17		
18	167	11.6 +01.1	N 17 12.6	-00.3	160	38.0 +02.2	N 14 11.4	-00.1	297	18.8 +02.6	N 01 17.2	+00.0	18		
19	182	12.7 +01.2	N 17 12.3	-00.4	175	40.2 +02.1	N 14 11.3	-00.1	312	21.4 +02.6	N 01 17.2	-00.1	19		
20	197	13.9 +01.2	N 17 11.9	-00.3	190	42.3 +02.1	N 14 11.2	-00.1	327	24.0 +02.6	N 01 17.1	-00.1	20		
21	212	15.1 +01.1	N 17 11.6	-00.3	205	44.4 +02.2	N 14 11.1	-00.1	342	26.6 +02.6	N 01 17.0	+00.0	21		
22	227	16.2 +01.2	N 17 11.3	-00.4	220	46.6 +02.1	N 14 11.0	-00.1	357	29.2 +02.6	N 01 17.0	-00.1	22		
23	242	17.4 +01.2	N 17 10.9	-00.3	235	48.7 +02.2	N 14 10.9	-00.1	12	31.8 +02.7	N 01 16.9	+00.0	23		
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'1					SD 00'3 00'3 00'3 00'3 00'3 00'3					SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'0 00'0 00'0 00'0 00'0 00'0					HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 220° 220° 220° 220° 220° 220°					SHA 214° 214° 214° 214° 214° 214°					SHA 350° 350° 350° 350° 350° 350°				
	Greenwich Culmination Time: 06:52				Greenwich Culmination Time: 07:18				Greenwich Culmination Time: 22:10						

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 03.8 +00.0	S	13 22.9 +00.8	193 32.7 +03.7	S	15 53.6 -01.0	325 15.1 -38.6	N	27 16.6 +03.5				
01	199 03.8 +00.1	S	13 23.7 +00.8	208 36.4 +03.6	S	15 52.6 -01.1	339 36.5 -38.6	N	27 20.1 +03.3				
02	214 03.9 +00.0	S	13 24.5 +00.8	223 40.0 +03.6	S	15 51.5 -01.0	353 57.9 -38.6	N	27 23.4 +03.0				
03	229 03.9 +00.1	S	13 25.3 +00.9	238 43.6 +03.6	S	15 50.5 -01.0	8 19.3 -38.7	N	27 26.4 +02.9				
04	244 04.0 +00.0	S	13 26.2 +00.8	253 47.2 +03.6	S	15 49.5 -01.0	22 40.6 -38.7	N	27 29.3 +02.6				
05	259 04.0 +00.1	S	13 27.0 +00.8	268 50.8 +03.6	S	15 48.5 -01.1	37 01.9 -38.7	N	27 31.9 +02.5				
06	274 04.1 +00.0	S	13 27.8 +00.9	283 54.4 +03.6	S	15 47.4 -01.0	51 23.2 -38.8	N	27 34.4 +02.2				
07	289 04.1 +00.0	S	13 28.7 +00.8	298 58.0 +03.6	S	15 46.4 -01.0	65 44.4 -38.7	N	27 36.6 +02.1				
08	304 04.1 +00.1	S	13 29.5 +00.8	314 01.6 +03.6	S	15 45.4 -01.1	80 05.7 -38.8	N	27 38.7 +01.8				
09	319 04.2 +00.0	S	13 30.3 +00.8	329 05.2 +03.6	S	15 44.3 -01.0	94 26.9 -38.8	N	27 40.5 +01.7				
10	334 04.2 +00.1	S	13 31.1 +00.9	344 08.8 +03.6	S	15 43.3 -01.0	108 48.1 -38.8	N	27 42.2 +01.4				
11	349 04.3 +00.0	S	13 32.0 +00.8	359 12.4 +03.6	S	15 42.3 -01.1	123 09.3 -38.8	N	27 43.6 +01.2				
12	4 04.3 +00.0	S	13 32.8 +00.8	14 16.0 +03.6	S	15 41.2 -01.0	137 30.5 -38.8	N	27 44.8 +01.1				
13	19 04.3 +00.1	S	13 33.6 +00.8	29 19.6 +03.6	S	15 40.2 -01.0	151 51.7 -38.8	N	27 45.9 +00.8				
14	34 04.4 +00.0	S	13 34.4 +00.9	44 23.2 +03.6	S	15 39.2 -01.1	166 12.9 -38.8	N	27 46.7 +00.6				
15	49 04.4 +00.1	S	13 35.3 +00.8	59 26.8 +03.6	S	15 38.1 -01.0	180 34.1 -38.8	N	27 47.3 +00.4				
16	64 04.5 +00.0	S	13 36.1 +00.8	74 30.4 +03.6	S	15 37.1 -01.0	194 55.3 -38.7	N	27 47.7 +00.2				
17	79 04.5 +00.0	S	13 36.9 +00.8	89 34.0 +03.6	S	15 36.1 -01.1	209 16.6 -38.8	N	27 47.9 +00.0				
18	94 04.5 +00.1	S	13 37.7 +00.9	104 37.6 +03.5	S	15 35.0 -01.0	223 37.8 -38.8	N	27 47.9 -00.2				
19	109 04.6 +00.0	S	13 38.6 +00.8	119 41.1 +03.6	S	15 34.0 -01.0	237 59.0 -38.7	N	27 47.7 -00.4				
20	124 04.6 +00.1	S	13 39.4 +00.8	134 44.7 +03.6	S	15 33.0 -01.0	252 20.3 -38.7	N	27 47.3 -00.6				
21	139 04.7 +00.0	S	13 40.2 +00.8	149 48.3 +03.6	S	15 32.0 -01.1	266 41.6 -38.7	N	27 46.7 -00.8				
22	154 04.7 +00.0	S	13 41.0 +00.8	164 51.9 +03.5	S	15 30.9 -01.0	281 02.9 -38.7	N	27 45.9 -01.0				
23	169 04.7 +00.1	S	13 41.8 +00.9	179 55.4 +03.6	S	15 29.9 -01.0	295 24.2 -38.6	N	27 44.9 -01.2				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 16'4 16'4 16'4 16'4 16'4 16'3						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 60'1 60'1 60'1 60'1 60'0 60'0						
	SHA 147° 146° 146° 146° 146° 146°			SHA 156° 156° 156° 156° 157° 157°			SHA 287° 284° 281° 278° 276° 273°						
	Greenwich Culmination Time: 11:43			Greenwich Culmination Time: 11:03			Greenwich Culmination Time: 02:25						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	257 18.6 +01.1	N	17 10.6 -00.4	250 50.9 +02.1	N	14 10.8 -00.1	27 34.5 +02.6	N	01 16.9 -00.1				
01	272 19.7 +01.2	N	17 10.2 -00.3	265 53.0 +02.2	N	14 10.7 -00.1	42 37.1 +02.6	N	01 16.8 -00.1				
02	287 20.9 +01.2	N	17 09.9 -00.3	280 55.2 +02.1	N	14 10.6 -00.1	57 39.7 +02.6	N	01 16.7 +00.0				
03	302 22.1 +01.1	N	17 09.6 -00.4	295 57.3 +02.2	N	14 10.5 -00.1	72 42.3 +02.6	N	01 16.7 -00.1				
04	317 23.2 +01.2	N	17 09.2 -00.3	310 59.5 +02.1	N	14 10.4 -00.1	87 44.9 +02.6	N	01 16.6 +00.0				
05	332 24.4 +01.2	N	17 08.9 -00.4	326 01.6 +02.2	N	14 10.3 -00.1	102 47.5 +02.7	N	01 16.6 -00.1				
06	347 25.6 +01.2	N	17 08.5 -00.3	341 03.8 +02.1	N	14 10.2 -00.1	117 50.2 +02.6	N	01 16.5 -00.1				
07	2 26.8 +01.1	N	17 08.2 -00.4	356 05.9 +02.2	N	14 10.1 -00.1	132 52.8 +02.6	N	01 16.4 +00.0				
08	17 27.9 +01.2	N	17 07.8 -00.3	11 08.1 +02.1	N	14 10.0 -00.1	147 55.4 +02.6	N	01 16.4 -00.1				
09	32 29.1 +01.2	N	17 07.5 -00.3	26 10.2 +02.2	N	14 09.9 -00.1	162 58.0 +02.6	N	01 16.3 +00.0				
10	47 30.3 +01.2	N	17 07.2 -00.4	41 12.4 +02.1	N	14 09.8 -00.1	178 00.6 +02.7	N	01 16.3 -00.1				
11	62 31.5 +01.1	N	17 06.8 -00.3	56 14.5 +02.2	N	14 09.7 -00.1	193 03.3 +02.6	N	01 16.2 +00.0				
12	77 32.6 +01.2	N	17 06.5 -00.4	71 16.7 +02.2	N	14 09.6 -00.1	208 05.9 +02.6	N	01 16.2 -00.1				
13	92 33.8 +01.2	N	17 06.1 -00.3	86 18.9 +02.1	N	14 09.5 -00.1	223 08.5 +02.6	N	01 16.1 -00.1				
14	107 35.0 +01.2	N	17 05.8 -00.4	101 21.0 +02.2	N	14 09.4 -00.1	238 11.1 +02.6	N	01 16.0 +00.0				
15	122 36.2 +01.1	N	17 05.4 -00.3	116 23.2 +02.1	N	14 09.3 -00.1	253 13.7 +02.6	N	01 16.0 -00.1				
16	137 37.3 +01.2	N	17 05.1 -00.3	131 25.3 +02.2	N	14 09.2 -00.1	268 16.3 +02.7	N	01 15.9 +00.0				
17	152 38.5 +01.2	N	17 04.8 -00.4	146 27.5 +02.1	N	14 09.1 -00.1	283 19.0 +02.6	N	01 15.9 -00.1				
18	167 39.7 +01.2	N	17 04.4 -00.3	161 29.6 +02.2	N	14 09.0 -00.1	298 21.6 +02.6	N	01 15.8 -00.1				
19	182 40.9 +01.1	N	17 04.1 -00.4	176 31.8 +02.1	N	14 08.9 -00.1	313 24.2 +02.6	N	01 15.7 +00.0				
20	197 42.0 +01.2	N	17 03.7 -00.3	191 33.9 +02.2	N	14 08.8 -00.1	328 26.8 +02.6	N	01 15.7 -00.1				
21	212 43.2 +01.2	N	17 03.4 -00.4	206 36.1 +02.1	N	14 08.7 -00.1	343 29.4 +02.6	N	01 15.6 +00.0				
22	227 44.4 +01.2	N	17 03.0 -00.3	221 38.2 +02.2	N	14 08.6 -00.1	358 32.0 +02.6	N	01 15.6 -00.1				
23	242 45.6 +01.1	N	17 02.7 -00.3	236 40.4 +02.1	N	14 08.5 -00.1	13 34.6 +02.7	N	01 15.5 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 220° 220° 220° 220° 220° 219°			SHA 213° 213° 213° 213° 213° 213°			SHA 350° 350° 350° 350° 350° 350°						
	Greenwich Culmination Time: 06:50			Greenwich Culmination Time: 07:15			Greenwich Culmination Time: 22:05						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 67%				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	184 04.8 +00.0	S 13 42.7 +00.8	194 59.0 +03.5	S 15 28.9 -01.1	309 45.6 -38.6	N 27 43.7 -01.4	00						
01	199 04.8 +00.0	S 13 43.5 +00.8	210 02.5 +03.6	S 15 27.8 -01.0	324 07.0 -38.6	N 27 42.3 -01.7	01						
02	214 04.8 +00.1	S 13 44.3 +00.8	225 06.1 +03.6	S 15 26.8 -01.0	338 28.4 -38.5	N 27 40.6 -01.8	02						
03	229 04.9 +00.0	S 13 45.1 +00.8	240 09.7 +03.5	S 15 25.8 -01.1	352 49.9 -38.5	N 27 38.8 -02.0	03						
04	244 04.9 +00.1	S 13 45.9 +00.9	255 13.2 +03.6	S 15 24.7 -01.0	7 11.4 -38.4	N 27 36.8 -02.2	04						
05	259 05.0 +00.0	S 13 46.8 +00.8	270 16.8 +03.5	S 15 23.7 -01.0	21 33.0 -38.4	N 27 34.6 -02.4	05						
06	274 05.0 +00.0	S 13 47.6 +00.8	285 20.3 +03.6	S 15 22.7 -01.0	35 54.6 -38.3	N 27 32.2 -02.7	06						
07	289 05.0 +00.1	S 13 48.4 +00.8	300 23.9 +03.5	S 15 21.7 -01.1	50 16.3 -38.3	N 27 29.5 -02.8	07						
08	304 05.1 +00.0	S 13 49.2 +00.8	315 27.4 +03.5	S 15 20.6 -01.0	64 38.0 -38.3	N 27 26.7 -03.0	08						
09	319 05.1 +00.0	S 13 50.0 +00.9	330 30.9 +03.6	S 15 19.6 -01.0	78 59.7 -38.1	N 27 23.7 -03.2	09						
10	334 05.1 +00.1	S 13 50.9 +00.8	345 34.5 +03.5	S 15 18.6 -01.1	93 21.6 -38.2	N 27 20.5 -03.4	10						
11	349 05.2 +00.0	S 13 51.7 +00.8	0 38.0 +03.5	S 15 17.5 -01.0	107 43.4 -38.0	N 27 17.1 -03.6	11						
12	4 05.2 +00.0	S 13 52.5 +00.8	15 41.5 +03.6	S 15 16.5 -01.0	122 05.4 -38.0	N 27 13.5 -03.8	12						
13	19 05.2 +00.1	S 13 53.3 +00.8	30 45.1 +03.5	S 15 15.5 -01.1	136 27.4 -37.9	N 27 09.7 -03.9	13						
14	34 05.3 +00.0	S 13 54.1 +00.8	45 48.6 +03.5	S 15 14.4 -01.0	150 49.5 -37.9	N 27 05.8 -04.2	14						
15	49 05.3 +00.0	S 13 54.9 +00.9	60 52.1 +03.5	S 15 13.4 -01.0	165 11.6 -37.8	N 27 01.6 -04.4	15						
16	64 05.3 +00.0	S 13 55.8 +00.8	75 55.6 +03.6	S 15 12.4 -01.0	179 33.8 -37.7	N 26 57.2 -04.5	16						
17	79 05.3 +00.1	S 13 56.6 +00.8	90 59.2 +03.5	S 15 11.4 -01.1	193 56.1 -37.6	N 26 52.7 -04.7	17						
18	94 05.4 +00.0	S 13 57.4 +00.8	106 02.7 +03.5	S 15 10.3 -01.0	208 18.5 -37.5	N 26 48.0 -05.0	18						
19	109 05.4 +00.0	S 13 58.2 +00.8	121 06.2 +03.5	S 15 09.3 -01.0	222 41.0 -37.5	N 26 43.0 -05.1	19						
20	124 05.4 +00.1	S 13 59.0 +00.8	136 09.7 +03.5	S 15 08.3 -01.0	237 03.5 -37.4	N 26 37.9 -05.2	20						
21	139 05.5 +00.0	S 13 59.8 +00.8	151 13.2 +03.5	S 15 07.3 -01.1	251 26.1 -37.3	N 26 32.7 -05.5	21						
22	154 05.5 +00.0	S 14 00.6 +00.9	166 16.7 +03.5	S 15 06.2 -01.0	265 48.8 -37.2	N 26 27.2 -05.6	22						
23	169 05.5 +00.1	S 14 01.5 +00.8	181 20.2 +03.5	S 15 05.2 -01.0	280 11.6 -37.1	N 26 21.6 -05.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'5 00'5 00'5 00'5 00'5 00'5		SD 16'3 16'3 16'3 16'3 16'3 16'3								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 60'0 59'9 59'9 59'8 59'8 59'7								
	SHA 146° 146° 145° 145° 145° 145°		SHA 157° 157° 157° 157° 157° 157°		SHA 270° 267° 265° 262° 259° 257°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 10:57		Greenwich Culmination Time: 03:29								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	GHA ° ' "	ddGHA ' "	Dec ° ' "	dDec ' "	
00	257 46.7 +01.2	N 17 02.4 -00.4	251 42.5 +02.2	N 14 08.4 -00.1	28 37.3 +02.6	N 01 15.4 +00.0	00						
01	272 47.9 +01.2	N 17 02.0 -00.3	266 44.7 +02.2	N 14 08.3 -00.1	43 39.9 +02.6	N 01 15.4 -00.1	01						
02	287 49.1 +01.2	N 17 01.7 -00.4	281 46.9 +02.1	N 14 08.2 -00.1	58 42.5 +02.6	N 01 15.3 +00.0	02						
03	302 50.3 +01.2	N 17 01.3 -00.3	296 49.0 +02.2	N 14 08.1 -00.1	73 45.1 +02.6	N 01 15.3 -00.1	03						
04	317 51.5 +01.1	N 17 01.0 -00.4	311 51.2 +02.1	N 14 08.0 -00.1	88 47.7 +02.6	N 01 15.2 -00.1	04						
05	332 52.6 +01.2	N 17 00.6 -00.3	326 53.3 +02.2	N 14 07.9 -00.1	103 50.3 +02.7	N 01 15.1 +00.0	05						
06	347 53.8 +01.2	N 17 00.3 -00.3	341 55.5 +02.1	N 14 07.8 -00.1	118 53.0 +02.6	N 01 15.1 -00.1	06						
07	2 55.0 +01.2	N 16 60.0 -00.4	356 57.6 +02.2	N 14 07.7 -00.1	133 55.6 +02.6	N 01 15.0 +00.0	07						
08	17 56.2 +01.2	N 16 59.6 -00.3	11 59.8 +02.1	N 14 07.6 -00.1	148 58.2 +02.6	N 01 15.0 -00.1	08						
09	32 57.4 +01.2	N 16 59.3 -00.4	27 01.9 +02.2	N 14 07.5 +00.0	164 00.8 +02.6	N 01 14.9 +00.0	09						
10	47 58.6 +01.1	N 16 58.9 -00.3	42 04.1 +02.2	N 14 07.5 -00.1	179 03.4 +02.6	N 01 14.9 -00.1	10						
11	62 59.7 +01.2	N 16 58.6 -00.4	57 06.3 +02.1	N 14 07.4 -00.1	194 06.0 +02.6	N 01 14.8 -00.1	11						
12	78 00.9 +01.2	N 16 58.2 -00.3	72 08.4 +02.2	N 14 07.3 -00.1	209 08.6 +02.7	N 01 14.7 +00.0	12						
13	93 02.1 +01.2	N 16 57.9 -00.3	87 10.6 +02.1	N 14 07.2 -00.1	224 11.3 +02.6	N 01 14.7 -00.1	13						
14	108 03.3 +01.2	N 16 57.6 -00.4	102 12.7 +02.2	N 14 07.1 -00.1	239 13.9 +02.6	N 01 14.6 +00.0	14						
15	123 04.5 +01.2	N 16 57.2 -00.3	117 14.9 +02.1	N 14 07.0 -00.1	254 16.5 +02.6	N 01 14.6 -00.1	15						
16	138 05.7 +01.2	N 16 56.9 -00.4	132 17.0 +02.2	N 14 06.9 -00.1	269 19.1 +02.6	N 01 14.5 -00.1	16						
17	153 06.9 +01.1	N 16 56.5 -00.3	147 19.2 +02.2	N 14 06.8 -00.1	284 21.7 +02.6	N 01 14.4 +00.0	17						
18	168 08.0 +01.2	N 16 56.2 -00.4	162 21.4 +02.1	N 14 06.7 -00.1	299 24.3 +02.6	N 01 14.4 -00.1	18						
19	183 09.2 +01.2	N 16 55.8 -00.3	177 23.5 +02.2	N 14 06.6 -00.1	314 26.9 +02.7	N 01 14.3 +00.0	19						
20	198 10.4 +01.2	N 16 55.5 -00.3	192 25.7 +02.1	N 14 06.5 -00.1	329 29.6 +02.6	N 01 14.3 -00.1	20						
21	213 11.6 +01.2	N 16 55.2 -00.4	207 27.8 +02.2	N 14 06.4 -00.1	344 32.2 +02.6	N 01 14.2 +00.0	21						
22	228 12.8 +01.2	N 16 54.8 -00.3	222 30.0 +02.2	N 14 06.3 -00.1	359 34.8 +02.6	N 01 14.2 -00.1	22						
23	243 14.0 +01.2	N 16 54.5 -00.4	237 32.2 +02.1	N 14 06.2 -00.1	14 37.4 +02.6	N 01 14.1 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 219° 219° 219° 219° 219° 219°		SHA 213° 213° 213° 213° 213° 213°		SHA 350° 350° 350° 350° 350° 350°								
	Greenwich Culmination Time: 06:48		Greenwich Culmination Time: 07:12		Greenwich Culmination Time: 22:01								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 05.6 +00.0	S	14 02.3 +00.8	196 23.7 +03.5	S	15 04.2 -01.0	294 34.5 -37.1	N	26 15.7 -06.0				
01	199 05.6 +00.0	S	14 03.1 +00.8	211 27.2 +03.5	S	15 03.2 -01.1	308 57.4 -36.9	N	26 09.7 -06.1				
02	214 05.6 +00.0	S	14 03.9 +00.8	226 30.7 +03.5	S	15 02.1 -01.0	323 20.5 -36.8	N	26 03.6 -06.4				
03	229 05.6 +00.1	S	14 04.7 +00.8	241 34.2 +03.5	S	15 01.1 -01.0	337 43.7 -36.8	N	25 57.2 -06.5				
04	244 05.7 +00.0	S	14 05.5 +00.8	256 37.7 +03.4	S	15 00.1 -01.0	352 06.9 -36.7	N	25 50.7 -06.7				
05	259 05.7 +00.0	S	14 06.3 +00.8	271 41.1 +03.5	S	14 59.1 -01.1	6 30.2 -36.5	N	25 44.0 -06.9				
06	274 05.7 +00.0	S	14 07.1 +00.8	286 44.6 +03.5	S	14 58.0 -01.0	20 53.7 -36.5	N	25 37.1 -07.0				
07	289 05.7 +00.1	S	14 07.9 +00.8	301 48.1 +03.5	S	14 57.0 -01.0	35 17.2 -36.3	N	25 30.1 -07.2				
08	304 05.8 +00.0	S	14 08.7 +00.9	316 51.6 +03.4	S	14 56.0 -01.0	49 40.9 -36.3	N	25 22.9 -07.4				
09	319 05.8 +00.0	S	14 09.6 +00.8	331 55.0 +03.5	S	14 55.0 -01.1	64 04.6 -36.1	N	25 15.5 -07.5				
10	334 05.8 +00.1	S	14 10.4 +00.8	346 58.5 +03.5	S	14 53.9 -01.0	78 28.5 -36.1	N	25 08.0 -07.7				
11	349 05.9 +00.0	S	14 11.2 +00.8	2 02.0 +03.4	S	14 52.9 -01.0	92 52.4 -35.9	N	25 00.3 -07.8				
12	4 05.9 +00.0	S	14 12.0 +00.8	17 05.4 +03.5	S	14 51.9 -01.0	107 16.5 -35.9	N	24 52.5 -08.0				
13	19 05.9 +00.0	S	14 12.8 +00.8	32 08.9 +03.5	S	14 50.9 -01.0	121 40.6 -35.7	N	24 44.5 -08.2				
14	34 05.9 +00.0	S	14 13.6 +00.8	47 12.4 +03.4	S	14 49.9 -01.1	136 04.9 -35.6	N	24 36.3 -08.3				
15	49 05.9 +00.1	S	14 14.4 +00.8	62 15.8 +03.5	S	14 48.8 -01.0	150 29.3 -35.5	N	24 28.0 -08.5				
16	64 06.0 +00.0	S	14 15.2 +00.8	77 19.3 +03.4	S	14 47.8 -01.0	164 53.8 -35.4	N	24 19.5 -08.6				
17	79 06.0 +00.0	S	14 16.0 +00.8	92 22.7 +03.4	S	14 46.8 -01.0	179 18.4 -35.3	N	24 10.9 -08.8				
18	94 06.0 +00.0	S	14 16.8 +00.8	107 26.1 +03.5	S	14 45.8 -01.0	193 43.1 -35.2	N	24 02.1 -08.9				
19	109 06.0 +00.1	S	14 17.6 +00.8	122 29.6 +03.4	S	14 44.8 -01.0	208 07.9 -35.0	N	23 53.2 -09.1				
20	124 06.1 +00.0	S	14 18.4 +00.8	137 33.0 +03.5	S	14 43.8 -01.1	222 32.9 -35.0	N	23 44.1 -09.2				
21	139 06.1 +00.0	S	14 19.2 +00.8	152 36.5 +03.4	S	14 42.7 -01.0	236 57.9 -34.8	N	23 34.9 -09.3				
22	154 06.1 +00.0	S	14 20.0 +00.8	167 39.9 +03.4	S	14 41.7 -01.0	251 23.1 -34.7	N	23 25.6 -09.5				
23	169 06.1 +00.0	S	14 20.8 +00.8	182 43.3 +03.4	S	14 40.7 -01.0	265 48.4 -34.6	N	23 16.1 -09.7				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 16'3 16'2 16'2 16'2 16'2 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 59'6 59'6 59'5 59'4 59'4 59'3						
	SHA 145° 145° 144° 144° 144° 144°			SHA 157° 157° 157° 157° 157° 157°			SHA 254° 251° 249° 246° 244° 241°						
	Greenwich Culmination Time: 11:43			Greenwich Culmination Time: 10:51			Greenwich Culmination Time: 04:32						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	258 15.2 +01.1	N	16 54.1 -00.3	252 34.3 +02.2	N	14 06.1 -00.1	29 40.0 +02.6	N	01 14.0 +00.0				
01	273 16.3 +01.2	N	16 53.8 -00.4	267 36.5 +02.1	N	14 06.0 -00.1	44 42.6 +02.6	N	01 14.0 -00.1				
02	288 17.5 +01.2	N	16 53.4 -00.3	282 38.6 +02.2	N	14 05.9 -00.1	59 45.2 +02.7	N	01 13.9 +00.0				
03	303 18.7 +01.2	N	16 53.1 -00.3	297 40.8 +02.2	N	14 05.8 -00.1	74 47.9 +02.6	N	01 13.9 -00.1				
04	318 19.9 +01.2	N	16 52.8 -00.4	312 43.0 +02.1	N	14 05.7 -00.1	89 50.5 +02.6	N	01 13.8 +00.0				
05	333 21.1 +01.2	N	16 52.4 -00.3	327 45.1 +02.2	N	14 05.6 -00.1	104 53.1 +02.6	N	01 13.8 -00.1				
06	348 22.3 +01.2	N	16 52.1 -00.4	342 47.3 +02.1	N	14 05.5 -00.1	119 55.7 +02.6	N	01 13.7 -00.1				
07	3 23.5 +01.2	N	16 51.7 -00.3	357 49.4 +02.2	N	14 05.4 +00.0	134 58.3 +02.6	N	01 13.6 +00.0				
08	18 24.7 +01.2	N	16 51.4 -00.3	12 51.6 +02.2	N	14 05.4 -00.1	150 00.9 +02.6	N	01 13.6 -00.1				
09	33 25.9 +01.2	N	16 51.1 -00.4	27 53.8 +02.1	N	14 05.3 -00.1	165 03.5 +02.6	N	01 13.5 +00.0				
10	48 27.1 +01.2	N	16 50.7 -00.3	42 55.9 +02.2	N	14 05.2 -00.1	180 06.1 +02.7	N	01 13.5 -00.1				
11	63 28.3 +01.2	N	16 50.4 -00.4	57 58.1 +02.2	N	14 05.1 -00.1	195 08.8 +02.6	N	01 13.4 +00.0				
12	78 29.5 +01.1	N	16 50.0 -00.3	73 00.3 +02.1	N	14 05.0 -00.1	210 11.4 +02.6	N	01 13.4 -00.1				
13	93 30.6 +01.2	N	16 49.7 -00.4	88 02.4 +02.2	N	14 04.9 -00.1	225 14.0 +02.6	N	01 13.3 -00.1				
14	108 31.8 +01.2	N	16 49.3 -00.3	103 04.6 +02.1	N	14 04.8 -00.1	240 16.6 +02.6	N	01 13.2 +00.0				
15	123 33.0 +01.2	N	16 49.0 -00.3	118 06.7 +02.2	N	14 04.7 -00.1	255 19.2 +02.6	N	01 13.2 -00.1				
16	138 34.2 +01.2	N	16 48.7 -00.4	133 08.9 +02.2	N	14 04.6 -00.1	270 21.8 +02.6	N	01 13.1 +00.0				
17	153 35.4 +01.2	N	16 48.3 -00.3	148 11.1 +02.1	N	14 04.5 -00.1	285 24.4 +02.6	N	01 13.1 -00.1				
18	168 36.6 +01.2	N	16 48.0 -00.4	163 13.2 +02.2	N	14 04.4 -00.1	300 27.0 +02.6	N	01 13.0 +00.0				
19	183 37.8 +01.2	N	16 47.6 -00.3	178 15.4 +02.2	N	14 04.3 -00.1	315 29.6 +02.7	N	01 13.0 -00.1				
20	198 39.0 +01.2	N	16 47.3 -00.4	193 17.6 +02.1	N	14 04.2 -00.1	330 32.3 +02.6	N	01 12.9 -00.1				
21	213 40.2 +01.2	N	16 46.9 -00.3	208 19.7 +02.2	N	14 04.1 -00.1	345 34.9 +02.6	N	01 12.8 +00.0				
22	228 41.4 +01.2	N	16 46.6 -00.3	223 21.9 +02.2	N	14 04.0 -00.1	0 37.5 +02.6	N	01 12.8 -00.1				
23	243 42.6 +01.2	N	16 46.3 -00.4	238 24.1 +02.1	N	14 03.9 +00.0	15 40.1 +02.6	N	01 12.7 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 219° 219° 219° 219° 219° 218°			SHA 213° 213° 213° 213° 213° 213°			SHA 350° 350° 350° 350° 350° 350°						
	Greenwich Culmination Time: 06:46			Greenwich Culmination Time: 07:08			Greenwich Culmination Time: 21:57						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 06.1 +00.1	S 14 21.6 +00.8	197 46.7 +03.5	S 14 39.7 -01.0	280 13.8 -34.5	N 23 06.4 -09.7	00						
01	199 06.2 +00.0	S 14 22.4 +00.8	212 50.2 +03.4	S 14 38.7 -01.0	294 39.3 -34.4	N 22 56.7 -09.9	01						
02	214 06.2 +00.0	S 14 23.2 +00.8	227 53.6 +03.4	S 14 37.7 -01.0	309 04.9 -34.2	N 22 46.8 -10.1	02						
03	229 06.2 +00.0	S 14 24.0 +00.8	242 57.0 +03.4	S 14 36.7 -01.1	323 30.7 -34.2	N 22 36.7 -10.1	03						
04	244 06.2 +00.0	S 14 24.8 +00.8	258 00.4 +03.4	S 14 35.6 -01.0	337 56.5 -34.0	N 22 26.6 -10.3	04						
05	259 06.2 +00.1	S 14 25.6 +00.8	273 03.8 +03.4	S 14 34.6 -01.0	352 22.5 -33.9	N 22 16.3 -10.5	05						
06	274 06.3 +00.0	S 14 26.4 +00.8	288 07.2 +03.4	S 14 33.6 -01.0	6 48.6 -33.8	N 22 05.8 -10.5	06						
07	289 06.3 +00.0	S 14 27.2 +00.8	303 10.6 +03.4	S 14 32.6 -01.0	21 14.8 -33.7	N 21 55.3 -10.7	07						
08	304 06.3 +00.0	S 14 28.0 +00.8	318 14.0 +03.4	S 14 31.6 -01.0	35 41.1 -33.6	N 21 44.6 -10.8	08						
09	319 06.3 +00.0	S 14 28.8 +00.8	333 17.4 +03.4	S 14 30.6 -01.0	50 07.5 -33.4	N 21 33.8 -10.9	09						
10	334 06.3 +00.0	S 14 29.6 +00.8	348 20.8 +03.4	S 14 29.6 -01.0	64 34.1 -33.3	N 21 22.9 -11.1	10						
11	349 06.3 +00.1	S 14 30.4 +00.8	3 24.2 +03.4	S 14 28.6 -01.0	79 00.8 -33.3	N 21 11.8 -11.1	11						
12	4 06.4 +00.0	S 14 31.2 +00.8	18 27.6 +03.4	S 14 27.6 -01.0	93 27.5 -33.1	N 21 00.7 -11.3	12						
13	19 06.4 +00.0	S 14 32.0 +00.8	33 31.0 +03.3	S 14 26.6 -01.1	107 54.4 -32.9	N 20 49.4 -11.4	13						
14	34 06.4 +00.0	S 14 32.8 +00.8	48 34.3 +03.4	S 14 25.5 -01.0	122 21.5 -32.9	N 20 38.0 -11.5	14						
15	49 06.4 +00.0	S 14 33.6 +00.8	63 37.7 +03.4	S 14 24.5 -01.0	136 48.6 -32.8	N 20 26.5 -11.6	15						
16	64 06.4 +00.0	S 14 34.4 +00.8	78 41.1 +03.4	S 14 23.5 -01.0	151 15.8 -32.6	N 20 14.9 -11.7	16						
17	79 06.4 +00.0	S 14 35.2 +00.8	93 44.5 +03.3	S 14 22.5 -01.0	165 43.2 -32.6	N 20 03.2 -11.8	17						
18	94 06.4 +00.1	S 14 36.0 +00.8	108 47.8 +03.4	S 14 21.5 -01.0	180 10.6 -32.4	N 19 51.4 -12.0	18						
19	109 06.5 +00.0	S 14 36.8 +00.8	123 51.2 +03.4	S 14 20.5 -01.0	194 38.2 -32.3	N 19 39.4 -12.0	19						
20	124 06.5 +00.0	S 14 37.6 +00.8	138 54.6 +03.3	S 14 19.5 -01.0	209 05.9 -32.2	N 19 27.4 -12.1	20						
21	139 06.5 +00.0	S 14 38.4 +00.8	153 57.9 +03.4	S 14 18.5 -01.0	223 33.7 -32.1	N 19 15.3 -12.3	21						
22	154 06.5 +00.0	S 14 39.2 +00.8	169 01.3 +03.3	S 14 17.5 -01.0	238 01.6 -31.9	N 19 03.0 -12.3	22						
23	169 06.5 +00.0	S 14 40.0 +00.8	184 04.6 +03.4	S 14 16.5 -01.0	252 29.7 -31.9	N 18 50.7 -12.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'5 00'5 00'5 00'5 00'5 00'5		SD 16'1 16'1 16'1 16'1 16'0 16'0								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 59'2 59'1 59'0 59'0 58'9 58'8								
	SHA 144° 144° 143° 143° 143° 143°		SHA 158° 158° 158° 158° 158° 158°		SHA 239° 236° 234° 231° 229° 227°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 10:46		Greenwich Culmination Time: 05:31								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	258 43.8 +01.2	N 16 45.9 -00.3	253 26.2 +02.2	N 14 03.9 -00.1	30 42.7 +02.6	N 01 12.7 -00.1	00						
01	273 45.0 +01.2	N 16 45.6 -00.4	268 28.4 +02.2	N 14 03.8 -00.1	45 45.3 +02.6	N 01 12.6 +00.0	01						
02	288 46.2 +01.2	N 16 45.2 -00.3	283 30.6 +02.1	N 14 03.7 -00.1	60 47.9 +02.6	N 01 12.6 -00.1	02						
03	303 47.4 +01.2	N 16 44.9 -00.4	298 32.7 +02.2	N 14 03.6 -00.1	75 50.5 +02.6	N 01 12.5 -00.1	03						
04	318 48.6 +01.2	N 16 44.5 -00.3	313 34.9 +02.2	N 14 03.5 -00.1	90 53.1 +02.7	N 01 12.4 +00.0	04						
05	333 49.8 +01.2	N 16 44.2 -00.3	328 37.1 +02.1	N 14 03.4 -00.1	105 55.8 +02.6	N 01 12.4 -00.1	05						
06	348 51.0 +01.2	N 16 43.9 -00.4	343 39.2 +02.2	N 14 03.3 -00.1	120 58.4 +02.6	N 01 12.3 +00.0	06						
07	3 52.2 +01.2	N 16 43.5 -00.3	358 41.4 +02.2	N 14 03.2 -00.1	136 01.0 +02.6	N 01 12.3 -00.1	07						
08	18 53.4 +01.2	N 16 43.2 -00.4	13 43.6 +02.1	N 14 03.1 -00.1	151 03.6 +02.6	N 01 12.2 +00.0	08						
09	33 54.6 +01.2	N 16 42.8 -00.3	28 45.7 +02.2	N 14 03.0 -00.1	166 06.2 +02.6	N 01 12.2 -00.1	09						
10	48 55.8 +01.2	N 16 42.5 -00.4	43 47.9 +02.2	N 14 02.9 -00.1	181 08.8 +02.6	N 01 12.1 +00.0	10						
11	63 57.0 +01.2	N 16 42.1 -00.3	58 50.1 +02.1	N 14 02.8 -00.1	196 11.4 +02.6	N 01 12.1 -00.1	11						
12	78 58.2 +01.2	N 16 41.8 -00.3	73 52.2 +02.2	N 14 02.7 -00.1	211 14.0 +02.6	N 01 12.0 -00.1	12						
13	93 59.4 +01.2	N 16 41.5 -00.4	88 54.4 +02.2	N 14 02.6 +00.0	226 16.6 +02.6	N 01 11.9 +00.0	13						
14	109 00.6 +01.2	N 16 41.1 -00.3	103 56.6 +02.1	N 14 02.6 -00.1	241 19.2 +02.7	N 01 11.9 -00.1	14						
15	124 01.8 +01.2	N 16 40.8 -00.4	118 58.7 +02.2	N 14 02.5 -00.1	256 21.9 +02.6	N 01 11.8 +00.0	15						
16	139 03.0 +01.2	N 16 40.4 -00.3	134 00.9 +02.2	N 14 02.4 -00.1	271 24.5 +02.6	N 01 11.8 -00.1	16						
17	154 04.2 +01.2	N 16 40.1 -00.4	149 03.1 +02.2	N 14 02.3 -00.1	286 27.1 +02.6	N 01 11.7 +00.0	17						
18	169 05.4 +01.2	N 16 39.7 -00.3	164 05.3 +02.1	N 14 02.2 -00.1	301 29.7 +02.6	N 01 11.7 -00.1	18						
19	184 06.6 +01.2	N 16 39.4 -00.3	179 07.4 +02.2	N 14 02.1 -00.1	316 32.3 +02.6	N 01 11.6 +00.0	19						
20	199 07.8 +01.2	N 16 39.1 -00.4	194 09.6 +02.2	N 14 02.0 -00.1	331 34.9 +02.6	N 01 11.6 -00.1	20						
21	214 09.0 +01.3	N 16 38.7 -00.3	209 11.8 +02.1	N 14 01.9 -00.1	346 37.5 +02.6	N 01 11.5 -00.1	21						
22	229 10.3 +01.2	N 16 38.4 -00.4	224 13.9 +02.2	N 14 01.8 -00.1	1 40.1 +02.6	N 01 11.4 +00.0	22						
23	244 11.5 +01.2	N 16 38.0 -00.3	239 16.1 +02.2	N 14 01.7 -00.1	16 42.7 +02.6	N 01 11.4 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 218° 218° 218° 218° 218° 218°		SHA 213° 213° 213° 213° 213° 213°		SHA 350° 350° 350° 350° 350° 350°								
	Greenwich Culmination Time: 06:44		Greenwich Culmination Time: 07:05		Greenwich Culmination Time: 21:53								

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 06.5 +00.0	S	14 40.8 +00.8	199 08.0 +03.3	S	14 15.5 -01.0	266 57.8 -31.8	N	18 38.3 -12.5	00			
01	199 06.5 +00.0	S	14 41.6 +00.8	214 11.3 +03.3	S	14 14.5 -01.0	281 26.0 -31.6	N	18 25.8 -12.7	01			
02	214 06.5 +00.1	S	14 42.4 +00.8	229 14.6 +03.4	S	14 13.5 -01.0	295 54.4 -31.5	N	18 13.1 -12.7	02			
03	229 06.6 +00.0	S	14 43.2 +00.8	244 18.0 +03.3	S	14 12.5 -01.0	310 22.9 -31.5	N	18 00.4 -12.8	03			
04	244 06.6 +00.0	S	14 44.0 +00.7	259 21.3 +03.3	S	14 11.5 -01.0	324 51.4 -31.3	N	17 47.6 -12.8	04			
05	259 06.6 +00.0	S	14 44.7 +00.8	274 24.6 +03.4	S	14 10.5 -00.9	339 20.1 -31.2	N	17 34.8 -13.0	05			
06	274 06.6 +00.0	S	14 45.5 +00.8	289 28.0 +03.3	S	14 09.6 -01.0	353 48.9 -31.1	N	17 21.8 -13.1	06			
07	289 06.6 +00.0	S	14 46.3 +00.8	304 31.3 +03.3	S	14 08.6 -01.0	8 17.8 -31.1	N	17 08.7 -13.1	07			
08	304 06.6 +00.0	S	14 47.1 +00.8	319 34.6 +03.3	S	14 07.6 -01.0	22 46.7 -30.9	N	16 55.6 -13.2	08			
09	319 06.6 +00.0	S	14 47.9 +00.8	334 37.9 +03.3	S	14 06.6 -01.0	37 15.8 -30.8	N	16 42.4 -13.3	09			
10	334 06.6 +00.0	S	14 48.7 +00.8	349 41.2 +03.3	S	14 05.6 -01.0	51 45.0 -30.7	N	16 29.1 -13.4	10			
11	349 06.6 +00.0	S	14 49.5 +00.8	4 44.5 +03.3	S	14 04.6 -01.0	66 14.3 -30.6	N	16 15.7 -13.4	11			
12	4 06.6 +00.0	S	14 50.3 +00.8	19 47.8 +03.4	S	14 03.6 -01.0	80 43.7 -30.5	N	16 02.3 -13.5	12			
13	19 06.6 +00.0	S	14 51.1 +00.7	34 51.2 +03.2	S	14 02.6 -01.0	95 13.2 -30.4	N	15 48.8 -13.6	13			
14	34 06.6 +00.1	S	14 51.8 +00.8	49 54.4 +03.3	S	14 01.6 -01.0	109 42.8 -30.3	N	15 35.2 -13.7	14			
15	49 06.7 +00.0	S	14 52.6 +00.8	64 57.7 +03.3	S	14 00.6 -00.9	124 12.5 -30.2	N	15 21.5 -13.7	15			
16	64 06.7 +00.0	S	14 53.4 +00.8	80 01.0 +03.3	S	13 59.7 -01.0	138 42.3 -30.2	N	15 07.8 -13.8	16			
17	79 06.7 +00.0	S	14 54.2 +00.8	95 04.3 +03.3	S	13 58.7 -01.0	153 12.1 -30.0	N	14 54.0 -13.9	17			
18	94 06.7 +00.0	S	14 55.0 +00.8	110 07.6 +03.3	S	13 57.7 -01.0	167 42.1 -29.9	N	14 40.1 -13.9	18			
19	109 06.7 +00.0	S	14 55.8 +00.8	125 10.9 +03.3	S	13 56.7 -01.0	182 12.2 -29.9	N	14 26.2 -14.0	19			
20	124 06.7 +00.0	S	14 56.6 +00.7	140 14.2 +03.2	S	13 55.7 -00.9	196 42.3 -29.7	N	14 12.2 -14.1	20			
21	139 06.7 +00.0	S	14 57.3 +00.8	155 17.4 +03.3	S	13 54.8 -01.0	211 12.6 -29.7	N	13 58.1 -14.1	21			
22	154 06.7 +00.0	S	14 58.1 +00.8	170 20.7 +03.3	S	13 53.8 -01.0	225 42.9 -29.6	N	13 44.0 -14.2	22			
23	169 06.7 +00.0	S	14 58.9 +00.8	185 24.0 +03.2	S	13 52.8 -01.0	240 13.3 -29.5	N	13 29.8 -14.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 16'0 16'0 15'9 15'9 15'9 15'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 58'7 58'6 58'5 58'4 58'3 58'3						
	SHA 143° 143° 142° 142° 142° 142°			SHA 158° 158° 158° 158° 158° 158°			SHA 225° 222° 220° 218° 216° 214°						
	Greenwich Culmination Time: 11:43			Greenwich Culmination Time: 10:41			Greenwich Culmination Time: 06:25						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	259 12.7 +01.2	N	16 37.7 -00.4	254 18.3 +02.2	N	14 01.6 -00.1	31 45.3 +02.6	N	01 11.3 +00.0	00			
01	274 13.9 +01.2	N	16 37.3 -00.3	269 20.5 +02.1	N	14 01.5 +00.0	46 47.9 +02.7	N	01 11.3 -00.1	01			
02	289 15.1 +01.2	N	16 37.0 -00.3	284 22.6 +02.2	N	14 01.5 -00.1	61 50.6 +02.6	N	01 11.2 +00.0	02			
03	304 16.3 +01.2	N	16 36.7 -00.4	299 24.8 +02.2	N	14 01.4 -00.1	76 53.2 +02.6	N	01 11.2 -00.1	03			
04	319 17.5 +01.2	N	16 36.3 -00.3	314 27.0 +02.1	N	14 01.3 -00.1	91 55.8 +02.6	N	01 11.1 +00.0	04			
05	334 18.7 +01.2	N	16 36.0 -00.4	329 29.1 +02.2	N	14 01.2 -00.1	106 58.4 +02.6	N	01 11.1 -00.1	05			
06	349 19.9 +01.2	N	16 35.6 -00.3	344 31.3 +02.2	N	14 01.1 -00.1	122 01.0 +02.6	N	01 11.0 +00.0	06			
07	4 21.1 +01.2	N	16 35.3 -00.4	359 33.5 +02.2	N	14 01.0 -00.1	137 03.6 +02.6	N	01 11.0 -00.1	07			
08	19 22.3 +01.3	N	16 34.9 -00.3	14 35.7 +02.1	N	14 00.9 -00.1	152 06.2 +02.6	N	01 10.9 -00.1	08			
09	34 23.6 +01.2	N	16 34.6 -00.3	29 37.8 +02.2	N	14 00.8 -00.1	167 08.8 +02.6	N	01 10.8 +00.0	09			
10	49 24.8 +01.2	N	16 34.3 -00.4	44 40.0 +02.2	N	14 00.7 -00.1	182 11.4 +02.6	N	01 10.8 -00.1	10			
11	64 26.0 +01.2	N	16 33.9 -00.3	59 42.2 +02.2	N	14 00.6 -00.1	197 14.0 +02.6	N	01 10.7 +00.0	11			
12	79 27.2 +01.2	N	16 33.6 -00.4	74 44.4 +02.1	N	14 00.5 +00.0	212 16.6 +02.6	N	01 10.7 -00.1	12			
13	94 28.4 +01.2	N	16 33.2 -00.3	89 46.5 +02.2	N	14 00.5 -00.1	227 19.2 +02.6	N	01 10.6 +00.0	13			
14	109 29.6 +01.2	N	16 32.9 -00.3	104 48.7 +02.2	N	14 00.4 -00.1	242 21.8 +02.7	N	01 10.6 -00.1	14			
15	124 30.8 +01.2	N	16 32.6 -00.4	119 50.9 +02.2	N	14 00.3 -00.1	257 24.5 +02.6	N	01 10.5 +00.0	15			
16	139 32.0 +01.3	N	16 32.2 -00.3	134 53.1 +02.1	N	14 00.2 -00.1	272 27.1 +02.6	N	01 10.5 -00.1	16			
17	154 33.3 +01.2	N	16 31.9 -00.4	149 55.2 +02.2	N	14 00.1 -00.1	287 29.7 +02.6	N	01 10.4 +00.0	17			
18	169 34.5 +01.2	N	16 31.5 -00.3	164 57.4 +02.2	N	14 00.0 -00.1	302 32.3 +02.6	N	01 10.4 -00.1	18			
19	184 35.7 +01.2	N	16 31.2 -00.4	179 59.6 +02.2	N	13 59.9 -00.1	317 34.9 +02.6	N	01 10.3 -00.1	19			
20	199 36.9 +01.2	N	16 30.8 -00.3	195 01.8 +02.1	N	13 59.8 -00.1	332 37.5 +02.6	N	01 10.2 +00.0	20			
21	214 38.1 +01.2	N	16 30.5 -00.3	210 03.9 +02.2	N	13 59.7 -00.1	347 40.1 +02.6	N	01 10.2 -00.1	21			
22	229 39.3 +01.3	N	16 30.2 -00.4	225 06.1 +02.2	N	13 59.6 +00.0	2 42.7 +02.6	N	01 10.1 +00.0	22			
23	244 40.6 +01.2	N	16 29.8 -00.3	240 08.3 +02.2	N	13 59.6 -00.1	17 45.3 +02.6	N	01 10.1 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 218° 218° 218° 218° 218° 217°			SHA 213° 213° 213° 213° 213° 213°			SHA 350° 350° 350° 351° 351° 351°						
	Greenwich Culmination Time: 06:42			Greenwich Culmination Time: 07:01			Greenwich Culmination Time: 21:49						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184	06.7 +00.0	S 14 59.7 +00.8		200	27.2 +03.3	S 13 51.8 -01.0		254	43.8 -29.4	N 13 15.6 -14.3		00
01	199	06.7 +00.0	S 15 00.5 +00.8		215	30.5 +03.3	S 13 50.8 -00.9		269	14.4 -29.3	N 13 01.3 -14.3		01
02	214	06.7 +00.0	S 15 01.3 +00.7		230	33.8 +03.2	S 13 49.9 -01.0		283	45.1 -29.2	N 12 47.0 -14.4		02
03	229	06.7 +00.0	S 15 02.0 +00.8		245	37.0 +03.3	S 13 48.9 -01.0		298	15.9 -29.2	N 12 32.6 -14.5		03
04	244	06.7 +00.0	S 15 02.8 +00.8		260	40.3 +03.2	S 13 47.9 -01.0		312	46.7 -29.1	N 12 18.1 -14.5		04
05	259	06.7 +00.0	S 15 03.6 +00.8		275	43.5 +03.3	S 13 46.9 -00.9		327	17.6 -28.9	N 12 03.6 -14.5		05
06	274	06.7 +00.0	S 15 04.4 +00.8		290	46.8 +03.2	S 13 46.0 -01.0		341	48.7 -29.0	N 11 49.1 -14.6		06
07	289	06.7 +00.0	S 15 05.2 +00.7		305	50.0 +03.2	S 13 45.0 -01.0		356	19.7 -28.8	N 11 34.5 -14.6		07
08	304	06.7 +00.0	S 15 05.9 +00.8		320	53.2 +03.3	S 13 44.0 -00.9		10	50.9 -28.8	N 11 19.9 -14.7		08
09	319	06.7 +00.0	S 15 06.7 +00.8		335	56.5 +03.2	S 13 43.1 -01.0		25	22.1 -28.7	N 11 05.2 -14.8		09
10	334	06.7 +00.0	S 15 07.5 +00.8		350	59.7 +03.2	S 13 42.1 -01.0		39	53.4 -28.6	N 10 50.4 -14.7		10
11	349	06.7 +00.0	S 15 08.3 +00.8		6	02.9 +03.2	S 13 41.1 -00.9		54	24.8 -28.5	N 10 35.7 -14.8		11
12	4	06.7 +00.0	S 15 09.1 +00.7		21	06.1 +03.2	S 13 40.2 -01.0		68	56.3 -28.5	N 10 20.9 -14.9		12
13	19	06.7 +00.0	S 15 09.8 +00.8		36	09.3 +03.3	S 13 39.2 -01.0		83	27.8 -28.4	N 10 06.0 -14.8		13
14	34	06.7 +00.0	S 15 10.6 +00.8		51	12.6 +03.2	S 13 38.2 -00.9		97	59.4 -28.3	N 09 51.2 -15.0		14
15	49	06.7 +00.0	S 15 11.4 +00.8		66	15.8 +03.2	S 13 37.3 -01.0		112	31.1 -28.3	N 09 36.2 -14.9		15
16	64	06.7 +00.0	S 15 12.2 +00.7		81	19.0 +03.2	S 13 36.3 -00.9		127	02.8 -28.2	N 09 21.3 -15.0		16
17	79	06.7 +00.0	S 15 12.9 +00.8		96	22.2 +03.2	S 13 35.4 -01.0		141	34.6 -28.1	N 09 06.3 -15.0		17
18	94	06.7 +00.0	S 15 13.7 +00.8		111	25.4 +03.2	S 13 34.4 -01.0		156	06.5 -28.1	N 08 51.3 -15.0		18
19	109	06.7 +00.0	S 15 14.5 +00.8		126	28.6 +03.2	S 13 33.4 -00.9		170	38.4 -28.0	N 08 36.3 -15.1		19
20	124	06.7 +00.0	S 15 15.3 +00.7		141	31.8 +03.2	S 13 32.5 -01.0		185	10.4 -27.9	N 08 21.2 -15.1		20
21	139	06.7 +00.0	S 15 16.0 +00.8		156	35.0 +03.1	S 13 31.5 -00.9		199	42.5 -27.9	N 08 06.1 -15.1		21
22	154	06.7 +00.0	S 15 16.8 +00.8		171	38.1 +03.2	S 13 30.6 -01.0		214	14.6 -27.8	N 07 51.0 -15.2		22
23	169	06.7 +00.0	S 15 17.6 +00.8		186	41.3 +03.2	S 13 29.6 -00.9		228	46.8 -27.8	N 07 35.8 -15.2		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'1 16'1 16'1 16'1 16'1 16'1				SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 15'8 15'8 15'8 15'8 15'7 15'7				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 58'2 58'1 58'0 57'9 57'8 57'7				
	SHA 142° 142° 141° 141° 141° 141°				SHA 158° 158° 158° 158° 158° 158°				SHA 211° 209° 207° 205° 203° 201°				
	Greenwich Culmination Time: 11:43				Greenwich Culmination Time: 10:35				Greenwich Culmination Time: 07:15				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	259	41.8 +01.2	N 16 29.5 -00.4		255	10.5 +02.1	N 13 59.5 -00.1		32	47.9 +02.6	N 01 10.0 +00.0		00
01	274	43.0 +01.2	N 16 29.1 -00.3		270	12.6 +02.2	N 13 59.4 -00.1		47	50.5 +02.6	N 01 10.0 -00.1		01
02	289	44.2 +01.2	N 16 28.8 -00.4		285	14.8 +02.2	N 13 59.3 -00.1		62	53.1 +02.6	N 01 09.9 +00.0		02
03	304	45.4 +01.2	N 16 28.4 -00.3		300	17.0 +02.2	N 13 59.2 -00.1		77	55.7 +02.6	N 01 09.9 -00.1		03
04	319	46.6 +01.3	N 16 28.1 -00.3		315	19.2 +02.2	N 13 59.1 -00.1		92	58.3 +02.6	N 01 09.8 +00.0		04
05	334	47.9 +01.2	N 16 27.8 -00.4		330	21.4 +02.1	N 13 59.0 -00.1		108	00.9 +02.6	N 01 09.8 -00.1		05
06	349	49.1 +01.2	N 16 27.4 -00.3		345	23.5 +02.2	N 13 58.9 -00.1		123	03.5 +02.7	N 01 09.7 -00.1		06
07	4	50.3 +01.2	N 16 27.1 -00.4		0	25.7 +02.2	N 13 58.8 +00.0		138	06.2 +02.6	N 01 09.6 +00.0		07
08	19	51.5 +01.3	N 16 26.7 -00.3		15	27.9 +02.2	N 13 58.8 -00.1		153	08.8 +02.6	N 01 09.6 -00.1		08
09	34	52.8 +01.2	N 16 26.4 -00.4		30	30.1 +02.2	N 13 58.7 -00.1		168	11.4 +02.6	N 01 09.5 +00.0		09
10	49	54.0 +01.2	N 16 26.0 -00.3		45	32.3 +02.1	N 13 58.6 -00.1		183	14.0 +02.6	N 01 09.5 -00.1		10
11	64	55.2 +01.2	N 16 25.7 -00.3		60	34.4 +02.2	N 13 58.5 -00.1		198	16.6 +02.6	N 01 09.4 +00.0		11
12	79	56.4 +01.2	N 16 25.4 -00.4		75	36.6 +02.2	N 13 58.4 -00.1		213	19.2 +02.6	N 01 09.4 -00.1		12
13	94	57.6 +01.3	N 16 25.0 -00.3		90	38.8 +02.2	N 13 58.3 -00.1		228	21.8 +02.6	N 01 09.3 +00.0		13
14	109	58.9 +01.2	N 16 24.7 -00.4		105	41.0 +02.2	N 13 58.2 -00.1		243	24.4 +02.6	N 01 09.3 -00.1		14
15	125	00.1 +01.2	N 16 24.3 -00.3		120	43.2 +02.1	N 13 58.1 -00.1		258	27.0 +02.6	N 01 09.2 +00.0		15
16	140	01.3 +01.2	N 16 24.0 -00.3		135	45.3 +02.2	N 13 58.0 +00.0		273	29.6 +02.6	N 01 09.2 -00.1		16
17	155	02.5 +01.3	N 16 23.7 -00.4		150	47.5 +02.2	N 13 58.0 -00.1		288	32.2 +02.6	N 01 09.1 +00.0		17
18	170	03.8 +01.2	N 16 23.3 -00.3		165	49.7 +02.2	N 13 57.9 -00.1		303	34.8 +02.6	N 01 09.1 -00.1		18
19	185	05.0 +01.2	N 16 23.0 -00.4		180	51.9 +02.2	N 13 57.8 -00.1		318	37.4 +02.6	N 01 09.0 +00.0		19
20	200	06.2 +01.2	N 16 22.6 -00.3		195	54.1 +02.1	N 13 57.7 -00.1		333	40.0 +02.6	N 01 09.0 -00.1		20
21	215	07.4 +01.3	N 16 22.3 -00.4		210	56.2 +02.2	N 13 57.6 -00.1		348	42.6 +02.6	N 01 08.9 +00.0		21
22	230	08.7 +01.2	N 16 21.9 -00.3		225	58.4 +02.2	N 13 57.5 -00.1		3	45.2 +02.6	N 01 08.9 -00.1		22
23	245	09.9 +01.2	N 16 21.6 -00.3		241	00.6 +02.2	N 13 57.4 -00.1		18	47.8 +02.6	N 01 08.8 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 217° 217° 217° 217° 217° 217°				SHA 213° 213° 213° 213° 213° 213°				SHA 351° 351° 351° 351° 351° 351°				
	Greenwich Culmination Time: 06:40				Greenwich Culmination Time: 06:58				Greenwich Culmination Time: 21:45				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 06.7 +00.0	S 15 18.4 +00.7	201 44.5 +03.2	S 13 28.7 -01.0	243 19.0 -27.7	N 07 20.6 -15.2	00						
01	199 06.7 +00.0	S 15 19.1 +00.8	216 47.7 +03.1	S 13 27.7 -00.9	257 51.3 -27.7	N 07 05.4 -15.2	01						
02	214 06.7 -00.1	S 15 19.9 +00.8	231 50.8 +03.2	S 13 26.8 -01.0	272 23.6 -27.6	N 06 50.2 -15.2	02						
03	229 06.6 +00.0	S 15 20.7 +00.7	246 54.0 +03.2	S 13 25.8 -00.9	286 56.0 -27.6	N 06 35.0 -15.3	03						
04	244 06.6 +00.0	S 15 21.4 +00.8	261 57.2 +03.1	S 13 24.9 -01.0	301 28.4 -27.5	N 06 19.7 -15.3	04						
05	259 06.6 +00.0	S 15 22.2 +00.8	277 00.3 +03.2	S 13 23.9 -00.9	316 00.9 -27.4	N 06 04.4 -15.3	05						
06	274 06.6 +00.0	S 15 23.0 +00.8	292 03.5 +03.1	S 13 23.0 -01.0	330 33.5 -27.4	N 05 49.1 -15.3	06						
07	289 06.6 +00.0	S 15 23.8 +00.7	307 06.6 +03.2	S 13 22.0 -00.9	345 06.1 -27.4	N 05 33.8 -15.3	07						
08	304 06.6 +00.0	S 15 24.5 +00.8	322 09.8 +03.1	S 13 21.1 -00.9	359 38.7 -27.3	N 05 18.5 -15.3	08						
09	319 06.6 +00.0	S 15 25.3 +00.8	337 12.9 +03.2	S 13 20.2 -01.0	14 11.4 -27.3	N 05 03.2 -15.4	09						
10	334 06.6 +00.0	S 15 26.1 +00.7	352 16.1 +03.1	S 13 19.2 -00.9	28 44.1 -27.2	N 04 47.8 -15.3	10						
11	349 06.6 +00.0	S 15 26.8 +00.8	7 19.2 +03.1	S 13 18.3 -01.0	43 16.9 -27.2	N 04 32.5 -15.4	11						
12	4 06.6 +00.0	S 15 27.6 +00.8	22 22.3 +03.2	S 13 17.3 -00.9	57 49.7 -27.1	N 04 17.1 -15.4	12						
13	19 06.6 -00.1	S 15 28.4 +00.7	37 25.5 +03.1	S 13 16.4 -00.9	72 22.6 -27.1	N 04 01.7 -15.4	13						
14	34 06.5 +00.0	S 15 29.1 +00.8	52 28.6 +03.1	S 13 15.5 -01.0	86 55.5 -27.1	N 03 46.3 -15.4	14						
15	49 06.5 +00.0	S 15 29.9 +00.8	67 31.7 +03.1	S 13 14.5 -00.9	101 28.4 -27.0	N 03 30.9 -15.4	15						
16	64 06.5 +00.0	S 15 30.7 +00.7	82 34.8 +03.1	S 13 13.6 -00.9	116 01.4 -27.0	N 03 15.5 -15.3	16						
17	79 06.5 +00.0	S 15 31.4 +00.8	97 37.9 +03.2	S 13 12.7 -01.0	130 34.4 -27.0	N 03 00.2 -15.4	17						
18	94 06.5 +00.0	S 15 32.2 +00.8	112 41.1 +03.1	S 13 11.7 -00.9	145 07.4 -26.9	N 02 44.8 -15.4	18						
19	109 06.5 +00.0	S 15 33.0 +00.7	127 44.2 +03.1	S 13 10.8 -00.9	159 40.5 -26.9	N 02 29.4 -15.4	19						
20	124 06.5 +00.0	S 15 33.7 +00.8	142 47.3 +03.1	S 13 09.9 -00.9	174 13.6 -26.9	N 02 14.0 -15.4	20						
21	139 06.5 -00.1	S 15 34.5 +00.8	157 50.4 +03.1	S 13 09.0 -01.0	188 46.7 -26.8	N 01 58.6 -15.4	21						
22	154 06.4 +00.0	S 15 35.3 +00.7	172 53.5 +03.1	S 13 08.0 -00.9	203 19.9 -26.9	N 01 43.2 -15.4	22						
23	169 06.4 +00.0	S 15 36.0 +00.8	187 56.6 +03.0	S 13 07.1 -00.9	217 53.0 -26.7	N 01 27.8 -15.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'5 00'5 00'5 00'5 00'5 00'5		SD 15'7 15'7 15'7 15'6 15'6 15'6								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 57'6 57'5 57'4 57'4 57'3 57'2								
	SHA 141° 141° 140° 140° 140° 140°		SHA 159° 159° 159° 159° 159° 159°		SHA 199° 197° 195° 193° 191° 189°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 10:30		Greenwich Culmination Time: 08:01								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	260 11.1 +01.2	N 16 21.3 -00.4	256 02.8 +02.2	N 13 57.3 +00.0	33 50.4 +02.6	N 01 08.7 +00.0	00						
01	275 12.3 +01.3	N 16 20.9 -00.3	271 05.0 +02.2	N 13 57.3 -00.1	48 53.0 +02.6	N 01 08.7 -00.1	01						
02	290 13.6 +01.2	N 16 20.6 -00.4	286 07.2 +02.1	N 13 57.2 -00.1	63 55.6 +02.6	N 01 08.6 +00.0	02						
03	305 14.8 +01.2	N 16 20.2 -00.3	301 09.3 +02.2	N 13 57.1 -00.1	78 58.2 +02.6	N 01 08.6 -00.1	03						
04	320 16.0 +01.3	N 16 19.9 -00.3	316 11.5 +02.2	N 13 57.0 -00.1	94 00.8 +02.6	N 01 08.5 +00.0	04						
05	335 17.3 +01.2	N 16 19.6 -00.4	331 13.7 +02.2	N 13 56.9 -00.1	109 03.4 +02.6	N 01 08.5 -00.1	05						
06	350 18.5 +01.2	N 16 19.2 -00.3	346 15.9 +02.2	N 13 56.8 -00.1	124 06.0 +02.6	N 01 08.4 +00.0	06						
07	5 19.7 +01.3	N 16 18.9 -00.4	1 18.1 +02.2	N 13 56.7 -00.1	139 08.6 +02.6	N 01 08.4 -00.1	07						
08	20 21.0 +01.2	N 16 18.5 -00.3	16 20.3 +02.2	N 13 56.6 +00.0	154 11.2 +02.7	N 01 08.3 +00.0	08						
09	35 22.2 +01.2	N 16 18.2 -00.4	31 22.5 +02.1	N 13 56.6 -00.1	169 13.9 +02.6	N 01 08.3 -00.1	09						
10	50 23.4 +01.2	N 16 17.8 -00.3	46 24.6 +02.2	N 13 56.5 -00.1	184 16.5 +02.6	N 01 08.2 +00.0	10						
11	65 24.6 +01.3	N 16 17.5 -00.3	61 26.8 +02.2	N 13 56.4 -00.1	199 19.1 +02.6	N 01 08.2 -00.1	11						
12	80 25.9 +01.2	N 16 17.2 -00.4	76 29.0 +02.2	N 13 56.3 -00.1	214 21.7 +02.6	N 01 08.1 +00.0	12						
13	95 27.1 +01.2	N 16 16.8 -00.3	91 31.2 +02.2	N 13 56.2 -00.1	229 24.3 +02.6	N 01 08.1 -00.1	13						
14	110 28.3 +01.3	N 16 16.5 -00.4	106 33.4 +02.2	N 13 56.1 -00.1	244 26.9 +02.6	N 01 08.0 +00.0	14						
15	125 29.6 +01.2	N 16 16.1 -00.3	121 35.6 +02.2	N 13 56.0 +00.0	259 29.5 +02.6	N 01 08.0 -00.1	15						
16	140 30.8 +01.2	N 16 15.8 -00.3	136 37.8 +02.1	N 13 56.0 -00.1	274 32.1 +02.6	N 01 07.9 +00.0	16						
17	155 32.0 +01.3	N 16 15.5 -00.4	151 39.9 +02.2	N 13 55.9 -00.1	289 34.7 +02.6	N 01 07.9 -00.1	17						
18	170 33.3 +01.2	N 16 15.1 -00.3	166 42.1 +02.2	N 13 55.8 -00.1	304 37.3 +02.6	N 01 07.8 +00.0	18						
19	185 34.5 +01.3	N 16 14.8 -00.4	181 44.3 +02.2	N 13 55.7 -00.1	319 39.9 +02.6	N 01 07.8 -00.1	19						
20	200 35.8 +01.2	N 16 14.4 -00.3	196 46.5 +02.2	N 13 55.6 -00.1	334 42.5 +02.6	N 01 07.7 +00.0	20						
21	215 37.0 +01.2	N 16 14.1 -00.3	211 48.7 +02.2	N 13 55.5 -00.1	349 45.1 +02.6	N 01 07.7 -00.1	21						
22	230 38.2 +01.3	N 16 13.8 -00.4	226 50.9 +02.2	N 13 55.4 +00.0	4 47.7 +02.6	N 01 07.6 +00.0	22						
23	245 39.5 +01.2	N 16 13.4 -00.3	241 53.1 +02.2	N 13 55.4 -00.1	19 50.3 +02.6	N 01 07.6 -00.1	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 217° 217° 217° 217° 217° 216°		SHA 213° 213° 213° 213° 213° 213°		SHA 351° 351° 351° 351° 351° 351°								
	Greenwich Culmination Time: 06:38		Greenwich Culmination Time: 06:54		Greenwich Culmination Time: 21:40								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 06.4 +00.0	S 15 36.8 +00.7	202 59.6 +03.1	S 13 06.2 -00.9	232 26.3 -26.8	N 01 12.4 -15.4	00						
01	199 06.4 +00.0	S 15 37.5 +00.8	218 02.7 +03.1	S 13 05.3 -01.0	246 59.5 -26.7	N 00 57.0 -15.4	01						
02	214 06.4 +00.0	S 15 38.3 +00.8	233 05.8 +03.1	S 13 04.3 -00.9	261 32.8 -26.8	N 00 41.6 -15.4	02						
03	229 06.4 +00.0	S 15 39.1 +00.7	248 08.9 +03.1	S 13 03.4 -00.9	276 06.0 -26.6	N 00 26.2 -15.3	03						
04	244 06.4 -00.1	S 15 39.8 +00.8	263 12.0 +03.0	S 13 02.5 -00.9	290 39.4 -26.7	N 00 10.9 -15.4	04						
05	259 06.3 +00.0	S 15 40.6 +00.7	278 15.0 +03.1	S 13 01.6 -00.9	305 12.7 -26.7	S 00 04.5 +15.3	05						
06	274 06.3 +00.0	S 15 41.3 +00.8	293 18.1 +03.0	S 13 00.7 -00.9	319 46.0 -26.6	S 00 19.8 +15.3	06						
07	289 06.3 +00.0	S 15 42.1 +00.8	308 21.1 +03.1	S 12 59.8 -00.9	334 19.4 -26.6	S 00 35.1 +15.3	07						
08	304 06.3 +00.0	S 15 42.9 +00.7	323 24.2 +03.1	S 12 58.9 -00.9	348 52.8 -26.6	S 00 50.4 +15.3	08						
09	319 06.3 +00.0	S 15 43.6 +00.8	338 27.3 +03.0	S 12 58.0 -01.0	3 26.2 -26.6	S 01 05.7 +15.3	09						
10	334 06.3 -00.1	S 15 44.4 +00.7	353 30.3 +03.1	S 12 57.0 -00.9	17 59.6 -26.6	S 01 21.0 +15.3	10						
11	349 06.2 +00.0	S 15 45.1 +00.8	8 33.4 +03.0	S 12 56.1 -00.9	32 33.0 -26.5	S 01 36.3 +15.3	11						
12	4 06.2 +00.0	S 15 45.9 +00.7	23 36.4 +03.0	S 12 55.2 -00.9	47 06.5 -26.6	S 01 51.6 +15.2	12						
13	19 06.2 +00.0	S 15 46.6 +00.8	38 39.4 +03.1	S 12 54.3 -00.9	61 39.9 -26.5	S 02 06.8 +15.2	13						
14	34 06.2 +00.0	S 15 47.4 +00.8	53 42.5 +03.0	S 12 53.4 -00.9	76 13.4 -26.6	S 02 22.0 +15.2	14						
15	49 06.2 -00.1	S 15 48.2 +00.7	68 45.5 +03.0	S 12 52.5 -00.9	90 46.8 -26.5	S 02 37.2 +15.2	15						
16	64 06.1 +00.0	S 15 48.9 +00.8	83 48.5 +03.1	S 12 51.6 -00.9	105 20.3 -26.5	S 02 52.4 +15.1	16						
17	79 06.1 +00.0	S 15 49.7 +00.7	98 51.6 +03.0	S 12 50.7 -00.9	119 53.8 -26.5	S 03 07.5 +15.1	17						
18	94 06.1 +00.0	S 15 50.4 +00.8	113 54.6 +03.0	S 12 49.8 -00.9	134 27.3 -26.5	S 03 22.6 +15.1	18						
19	109 06.1 +00.0	S 15 51.2 +00.7	128 57.6 +03.0	S 12 48.9 -00.9	149 00.8 -26.5	S 03 37.7 +15.1	19						
20	124 06.1 -00.1	S 15 51.9 +00.8	144 00.6 +03.0	S 12 48.0 -00.9	163 34.3 -26.6	S 03 52.8 +15.1	20						
21	139 06.0 +00.0	S 15 52.7 +00.7	159 03.6 +03.0	S 12 47.1 -00.9	178 07.7 -26.5	S 04 07.9 +15.0	21						
22	154 06.0 +00.0	S 15 53.4 +00.8	174 06.6 +03.0	S 12 46.2 -00.8	192 41.2 -26.5	S 04 22.9 +15.0	22						
23	169 06.0 +00.0	S 15 54.2 +00.7	189 09.6 +03.0	S 12 45.4 -00.9	207 14.7 -26.5	S 04 37.9 +14.9	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'5 00'5 00'5 00'5 00'5 00'5		SD 15'6 15'5 15'5 15'5 15'5 15'4								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 57'1 57'0 56'9 56'8 56'8 56'7								
	SHA 140° 140° 139° 139° 139° 139°		SHA 159° 159° 159° 159° 159° 159°		SHA 187° 185° 183° 181° 179° 178°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 10:25		Greenwich Culmination Time: 08:45								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	260 40.7 +01.2	N 16 13.1 -00.4	256 55.3 +02.2	N 13 55.3 -00.1	34 52.9 +02.6	N 01 07.5 +00.0	00						
01	275 41.9 +01.3	N 16 12.7 -00.3	271 57.5 +02.1	N 13 55.2 -00.1	49 55.5 +02.6	N 01 07.5 -00.1	01						
02	290 43.2 +01.2	N 16 12.4 -00.4	286 59.6 +02.2	N 13 55.1 -00.1	64 58.1 +02.6	N 01 07.4 -00.1	02						
03	305 44.4 +01.3	N 16 12.0 -00.3	302 01.8 +02.2	N 13 55.0 -00.1	80 00.7 +02.6	N 01 07.3 +00.0	03						
04	320 45.7 +01.2	N 16 11.7 -00.3	317 04.0 +02.2	N 13 54.9 -00.1	95 03.3 +02.6	N 01 07.3 -00.1	04						
05	335 46.9 +01.2	N 16 11.4 -00.4	332 06.2 +02.2	N 13 54.8 +00.0	110 05.9 +02.6	N 01 07.2 +00.0	05						
06	350 48.1 +01.3	N 16 11.0 -00.3	347 08.4 +02.2	N 13 54.8 -00.1	125 08.5 +02.6	N 01 07.2 -00.1	06						
07	5 49.4 +01.2	N 16 10.7 -00.4	2 10.6 +02.2	N 13 54.7 -00.1	140 11.1 +02.6	N 01 07.1 +00.0	07						
08	20 50.6 +01.3	N 16 10.3 -00.3	17 12.8 +02.2	N 13 54.6 -00.1	155 13.7 +02.6	N 01 07.1 -00.1	08						
09	35 51.9 +01.2	N 16 10.0 -00.3	32 15.0 +02.2	N 13 54.5 -00.1	170 16.3 +02.6	N 01 07.0 +00.0	09						
10	50 53.1 +01.2	N 16 09.7 -00.4	47 17.2 +02.2	N 13 54.4 -00.1	185 18.9 +02.6	N 01 07.0 -00.1	10						
11	65 54.3 +01.3	N 16 09.3 -00.3	62 19.4 +02.2	N 13 54.3 +00.0	200 21.5 +02.6	N 01 06.9 +00.0	11						
12	80 55.6 +01.2	N 16 09.0 -00.4	77 21.6 +02.2	N 13 54.3 -00.1	215 24.1 +02.6	N 01 06.9 -00.1	12						
13	95 56.8 +01.3	N 16 08.6 -00.3	92 23.8 +02.1	N 13 54.2 -00.1	230 26.7 +02.6	N 01 06.8 +00.0	13						
14	110 58.1 +01.2	N 16 08.3 -00.3	107 25.9 +02.2	N 13 54.1 -00.1	245 29.3 +02.6	N 01 06.8 -00.1	14						
15	125 59.3 +01.3	N 16 08.0 -00.4	122 28.1 +02.2	N 13 54.0 -00.1	260 31.9 +02.6	N 01 06.7 +00.0	15						
16	141 00.6 +01.2	N 16 07.6 -00.3	137 30.3 +02.2	N 13 53.9 -00.1	275 34.5 +02.6	N 01 06.7 -00.1	16						
17	156 01.8 +01.3	N 16 07.3 -00.4	152 32.5 +02.2	N 13 53.8 -00.1	290 37.1 +02.6	N 01 06.6 +00.0	17						
18	171 03.1 +01.2	N 16 06.9 -00.3	167 34.7 +02.2	N 13 53.7 +00.0	305 39.7 +02.6	N 01 06.6 -00.1	18						
19	186 04.3 +01.2	N 16 06.6 -00.3	182 36.9 +02.2	N 13 53.7 -00.1	320 42.3 +02.6	N 01 06.5 +00.0	19						
20	201 05.5 +01.3	N 16 06.3 -00.4	197 39.1 +02.2	N 13 53.6 -00.1	335 44.9 +02.6	N 01 06.5 -00.1	20						
21	216 06.8 +01.2	N 16 05.9 -00.3	212 41.3 +02.2	N 13 53.5 -00.1	350 47.5 +02.6	N 01 06.4 +00.0	21						
22	231 08.0 +01.3	N 16 05.6 -00.4	227 43.5 +02.2	N 13 53.4 -00.1	5 50.1 +02.6	N 01 06.4 -00.1	22						
23	246 09.3 +01.2	N 16 05.2 -00.3	242 45.7 +02.2	N 13 53.3 -00.1	20 52.7 +02.6	N 01 06.3 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 216° 216° 216° 216° 216° 216°		SHA 213° 213° 213° 213° 213° 213°		SHA 351° 351° 351° 351° 351° 351°								
	Greenwich Culmination Time: 06:36		Greenwich Culmination Time: 06:51		Greenwich Culmination Time: 21:36								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 90%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 06.0 -00.1	S	15 54.9 +00.8	204 12.6 +03.0	S	12 44.5 -00.9	221 48.2 -26.5	S	04 52.8 +15.0				
01	199 05.9 +00.0	S	15 55.7 +00.7	219 15.6 +03.0	S	12 43.6 -00.9	236 21.7 -26.5	S	05 07.8 +14.9				
02	214 05.9 +00.0	S	15 56.4 +00.8	234 18.6 +03.0	S	12 42.7 -00.9	250 55.2 -26.5	S	05 22.7 +14.8				
03	229 05.9 +00.0	S	15 57.2 +00.7	249 21.6 +03.0	S	12 41.8 -00.9	265 28.7 -26.5	S	05 37.5 +14.8				
04	244 05.9 -00.1	S	15 57.9 +00.8	264 24.6 +02.9	S	12 40.9 -00.8	280 02.2 -26.5	S	05 52.3 +14.8				
05	259 05.8 +00.0	S	15 58.7 +00.7	279 27.5 +03.0	S	12 40.1 -00.9	294 35.7 -26.6	S	06 07.1 +14.8				
06	274 05.8 +00.0	S	15 59.4 +00.8	294 30.5 +03.0	S	12 39.2 -00.9	309 09.1 -26.5	S	06 21.9 +14.7				
07	289 05.8 +00.0	S	16 00.2 +00.7	309 33.5 +02.9	S	12 38.3 -00.9	323 42.6 -26.6	S	06 36.6 +14.7				
08	304 05.8 -00.1	S	16 00.9 +00.8	324 36.4 +03.0	S	12 37.4 -00.9	338 16.0 -26.6	S	06 51.3 +14.7				
09	319 05.7 +00.0	S	16 01.7 +00.7	339 39.4 +03.0	S	12 36.5 -00.8	352 49.4 -26.5	S	07 06.0 +14.6				
10	334 05.7 +00.0	S	16 02.4 +00.8	354 42.4 +02.9	S	12 35.7 -00.9	7 22.9 -26.6	S	07 20.6 +14.5				
11	349 05.7 +00.0	S	16 03.2 +00.7	9 45.3 +03.0	S	12 34.8 -00.9	21 56.3 -26.6	S	07 35.1 +14.6				
12	4 05.7 -00.1	S	16 03.9 +00.8	24 48.3 +02.9	S	12 33.9 -00.8	36 29.7 -26.6	S	07 49.7 +14.4				
13	19 05.6 +00.0	S	16 04.7 +00.7	39 51.2 +02.9	S	12 33.1 -00.9	51 03.1 -26.7	S	08 04.1 +14.5				
14	34 05.6 +00.0	S	16 05.4 +00.8	54 54.1 +03.0	S	12 32.2 -00.9	65 36.4 -26.6	S	08 18.6 +14.4				
15	49 05.6 -00.1	S	16 06.2 +00.7	69 57.1 +02.9	S	12 31.3 -00.8	80 09.8 -26.7	S	08 33.0 +14.3				
16	64 05.5 +00.0	S	16 06.9 +00.7	85 00.0 +03.0	S	12 30.5 -00.9	94 43.1 -26.7	S	08 47.3 +14.3				
17	79 05.5 +00.0	S	16 07.6 +00.8	100 03.0 +02.9	S	12 29.6 -00.9	109 16.4 -26.7	S	09 01.6 +14.2				
18	94 05.5 +00.0	S	16 08.4 +00.7	115 05.9 +02.9	S	12 28.7 -00.8	123 49.7 -26.7	S	09 15.8 +14.3				
19	109 05.5 -00.1	S	16 09.1 +00.8	130 08.8 +02.9	S	12 27.9 -00.9	138 23.0 -26.8	S	09 30.1 +14.1				
20	124 05.4 +00.0	S	16 09.9 +00.7	145 11.7 +02.9	S	12 27.0 -00.8	152 56.2 -26.8	S	09 44.2 +14.1				
21	139 05.4 +00.0	S	16 10.6 +00.8	160 14.6 +02.9	S	12 26.2 -00.9	167 29.4 -26.7	S	09 58.3 +14.0				
22	154 05.4 -00.1	S	16 11.4 +00.7	175 17.5 +03.0	S	12 25.3 -00.8	182 02.7 -26.9	S	10 12.3 +14.0				
23	169 05.3 +00.0	S	16 12.1 +00.7	190 20.5 +02.9	S	12 24.5 -00.9	196 35.8 -26.8	S	10 26.3 +14.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 15'4 15'4 15'4 15'3 15'3 15'3					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 56'6 56'5 56'4 56'3 56'3 56'2					
	SHA 139° 139° 138° 138° 138° 138°			SHA 159° 159° 159° 159° 159° 159°				SHA 176° 174° 172° 170° 168° 166°					
	Greenwich Culmination Time: 11:43			Greenwich Culmination Time: 10:21				Greenwich Culmination Time: 09:29					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	261 10.5 +01.3	N	16 04.9 -00.3	257 47.9 +02.2	N	13 53.2 +00.0	35 55.3 +02.6	N	01 06.3 -00.1				
01	276 11.8 +01.2	N	16 04.6 -00.4	272 50.1 +02.2	N	13 53.2 -00.1	50 57.9 +02.5	N	01 06.2 +00.0				
02	291 13.0 +01.3	N	16 04.2 -00.3	287 52.3 +02.2	N	13 53.1 -00.1	66 00.4 +02.6	N	01 06.2 -00.1				
03	306 14.3 +01.2	N	16 03.9 -00.4	302 54.5 +02.2	N	13 53.0 -00.1	81 03.0 +02.6	N	01 06.1 +00.0				
04	321 15.5 +01.3	N	16 03.5 -00.3	317 56.7 +02.2	N	13 52.9 -00.1	96 05.6 +02.6	N	01 06.1 -00.1				
05	336 16.8 +01.2	N	16 03.2 -00.3	332 58.9 +02.2	N	13 52.8 -00.1	111 08.2 +02.6	N	01 06.0 +00.0				
06	351 18.0 +01.3	N	16 02.9 -00.4	348 01.1 +02.2	N	13 52.7 +00.0	126 10.8 +02.6	N	01 06.0 -00.1				
07	6 19.3 +01.2	N	16 02.5 -00.3	3 03.3 +02.2	N	13 52.7 -00.1	141 13.4 +02.6	N	01 05.9 +00.0				
08	21 20.5 +01.3	N	16 02.2 -00.4	18 05.5 +02.2	N	13 52.6 -00.1	156 16.0 +02.6	N	01 05.9 -00.1				
09	36 21.8 +01.2	N	16 01.8 -00.3	33 07.7 +02.2	N	13 52.5 -00.1	171 18.6 +02.6	N	01 05.8 +00.0				
10	51 23.0 +01.3	N	16 01.5 -00.3	48 09.9 +02.1	N	13 52.4 -00.1	186 21.2 +02.6	N	01 05.8 -00.1				
11	66 24.3 +01.2	N	16 01.2 -00.4	63 12.0 +02.2	N	13 52.3 -00.1	201 23.8 +02.6	N	01 05.7 +00.0				
12	81 25.5 +01.3	N	16 00.8 -00.3	78 14.2 +02.2	N	13 52.2 +00.0	216 26.4 +02.6	N	01 05.7 -00.1				
13	96 26.8 +01.2	N	16 00.5 -00.4	93 16.4 +02.2	N	13 52.2 -00.1	231 29.0 +02.6	N	01 05.6 +00.0				
14	111 28.0 +01.3	N	16 00.1 -00.3	108 18.6 +02.2	N	13 52.1 -00.1	246 31.6 +02.6	N	01 05.6 -00.1				
15	126 29.3 +01.3	N	15 59.8 -00.3	123 20.8 +02.2	N	13 52.0 -00.1	261 34.2 +02.6	N	01 05.5 +00.0				
16	141 30.6 +01.2	N	15 59.5 -00.4	138 23.0 +02.2	N	13 51.9 -00.1	276 36.8 +02.6	N	01 05.5 -00.1				
17	156 31.8 +01.3	N	15 59.1 -00.3	153 25.2 +02.2	N	13 51.8 +00.0	291 39.4 +02.6	N	01 05.4 +00.0				
18	171 33.1 +01.2	N	15 58.8 -00.4	168 27.4 +02.2	N	13 51.8 -00.1	306 42.0 +02.6	N	01 05.4 +00.0				
19	186 34.3 +01.3	N	15 58.4 -00.3	183 29.6 +02.2	N	13 51.7 -00.1	321 44.6 +02.6	N	01 05.4 -00.1				
20	201 35.6 +01.2	N	15 58.1 -00.3	198 31.8 +02.2	N	13 51.6 -00.1	336 47.2 +02.6	N	01 05.3 +00.0				
21	216 36.8 +01.3	N	15 57.8 -00.4	213 34.0 +02.2	N	13 51.5 -00.1	351 49.8 +02.6	N	01 05.3 -00.1				
22	231 38.1 +01.3	N	15 57.4 -00.3	228 36.2 +02.2	N	13 51.4 -00.1	6 52.4 +02.6	N	01 05.2 +00.0				
23	246 39.4 +01.2	N	15 57.1 -00.4	243 38.4 +02.2	N	13 51.3 +00.0	21 55.0 +02.6	N	01 05.2 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 216° 216° 216° 216° 216° 216°			SHA 213° 213° 213° 213° 212° 212°				SHA 351° 351° 351° 351° 351° 351°					
	Greenwich Culmination Time: 06:34			Greenwich Culmination Time: 06:47				Greenwich Culmination Time: 21:32					

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 05.3 +00.0	S 16 12.8 +00.8	205 23.4 +02.9	S 12 23.6 -00.9	211 09.0 -26.9	S 10 40.3 +13.9	00						
01	199 05.3 -00.1	S 16 13.6 +00.7	220 26.3 +02.9	S 12 22.7 -00.8	225 42.1 -26.9	S 10 54.2 +13.8	01						
02	214 05.2 +00.0	S 16 14.3 +00.8	235 29.2 +02.8	S 12 21.9 -00.8	240 15.2 -26.9	S 11 08.0 +13.8	02						
03	229 05.2 +00.0	S 16 15.1 +00.7	250 32.0 +02.9	S 12 21.1 -00.9	254 48.3 -27.0	S 11 21.8 +13.7	03						
04	244 05.2 -00.1	S 16 15.8 +00.7	265 34.9 +02.9	S 12 20.2 -00.8	269 21.3 -26.9	S 11 35.5 +13.6	04						
05	259 05.1 +00.0	S 16 16.5 +00.8	280 37.8 +02.9	S 12 19.4 -00.9	283 54.4 -27.1	S 11 49.1 +13.6	05						
06	274 05.1 +00.0	S 16 17.3 +00.7	295 40.7 +02.9	S 12 18.5 -00.8	298 27.3 -27.0	S 12 02.7 +13.6	06						
07	289 05.1 -00.1	S 16 18.0 +00.7	310 43.6 +02.8	S 12 17.7 -00.9	313 00.3 -27.1	S 12 16.3 +13.5	07						
08	304 05.0 +00.0	S 16 18.7 +00.8	325 46.4 +02.9	S 12 16.8 -00.8	327 33.2 -27.1	S 12 29.8 +13.4	08						
09	319 05.0 +00.0	S 16 19.5 +00.7	340 49.3 +02.9	S 12 16.0 -00.8	342 06.1 -27.1	S 12 43.2 +13.3	09						
10	334 05.0 -00.1	S 16 20.2 +00.7	355 52.2 +02.8	S 12 15.2 -00.9	356 39.0 -27.2	S 12 56.5 +13.3	10						
11	349 04.9 +00.0	S 16 20.9 +00.8	10 55.0 +02.9	S 12 14.3 -00.8	11 11.8 -27.2	S 13 09.8 +13.2	11						
12	4 04.9 -00.1	S 16 21.7 +00.7	25 57.9 +02.8	S 12 13.5 -00.8	25 44.6 -27.3	S 13 23.0 +13.2	12						
13	19 04.8 +00.0	S 16 22.4 +00.7	41 00.7 +02.9	S 12 12.7 -00.9	40 17.3 -27.2	S 13 36.2 +13.0	13						
14	34 04.8 +00.0	S 16 23.1 +00.8	56 03.6 +02.8	S 12 11.8 -00.8	54 50.1 -27.3	S 13 49.2 +13.1	14						
15	49 04.8 -00.1	S 16 23.9 +00.7	71 06.4 +02.9	S 12 11.0 -00.8	69 22.8 -27.4	S 14 02.3 +12.9	15						
16	64 04.7 +00.0	S 16 24.6 +00.7	86 09.3 +02.8	S 12 10.2 -00.8	83 55.4 -27.4	S 14 15.2 +12.9	16						
17	79 04.7 +00.0	S 16 25.3 +00.8	101 12.1 +02.8	S 12 09.4 -00.9	98 28.0 -27.4	S 14 28.1 +12.8	17						
18	94 04.7 -00.1	S 16 26.1 +00.7	116 14.9 +02.9	S 12 08.5 -00.8	113 00.6 -27.5	S 14 40.9 +12.7	18						
19	109 04.6 +00.0	S 16 26.8 +00.7	131 17.8 +02.8	S 12 07.7 -00.8	127 33.1 -27.5	S 14 53.6 +12.7	19						
20	124 04.6 -00.1	S 16 27.5 +00.8	146 20.6 +02.8	S 12 06.9 -00.8	142 05.6 -27.6	S 15 06.3 +12.6	20						
21	139 04.5 +00.0	S 16 28.3 +00.7	161 23.4 +02.8	S 12 06.1 -00.8	156 38.0 -27.5	S 15 18.9 +12.5	21						
22	154 04.5 +00.0	S 16 29.0 +00.7	176 26.2 +02.8	S 12 05.3 -00.8	171 10.5 -27.7	S 15 31.4 +12.4	22						
23	169 04.5 -00.1	S 16 29.7 +00.8	191 29.0 +02.9	S 12 04.5 -00.9	185 42.8 -27.6	S 15 43.8 +12.3	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'5 00'5 00'5 00'5 00'5 00'5		SD 15'3 15'3 15'2 15'2 15'2 15'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 56'1 56'0 55'9 55'9 55'8 55'7								
	SHA 138° 138° 137° 137° 137° 137°		SHA 159° 159° 159° 159° 159° 159°		SHA 164° 162° 160° 158° 156° 154°								
	Greenwich Culmination Time: 11:43		Greenwich Culmination Time: 10:16		Greenwich Culmination Time: 10:13								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	261 40.6 +01.3	N 15 56.7 -00.3	258 40.6 +02.2	N 13 51.3 -00.1	36 57.6 +02.6	N 01 05.1 +00.0	00						
01	276 41.9 +01.2	N 15 56.4 -00.3	273 42.8 +02.3	N 13 51.2 -00.1	52 00.2 +02.6	N 01 05.1 -00.1	01						
02	291 43.1 +01.3	N 15 56.1 -00.4	288 45.1 +02.2	N 13 51.1 -00.1	67 02.8 +02.6	N 01 05.0 +00.0	02						
03	306 44.4 +01.2	N 15 55.7 -00.3	303 47.3 +02.2	N 13 51.0 -00.1	82 05.4 +02.5	N 01 05.0 -00.1	03						
04	321 45.6 +01.3	N 15 55.4 -00.4	318 49.5 +02.2	N 13 50.9 +00.0	97 07.9 +02.6	N 01 04.9 +00.0	04						
05	336 46.9 +01.3	N 15 55.0 -00.3	333 51.7 +02.2	N 13 50.9 -00.1	112 10.5 +02.6	N 01 04.9 -00.1	05						
06	351 48.2 +01.2	N 15 54.7 -00.3	348 53.9 +02.2	N 13 50.8 -00.1	127 13.1 +02.6	N 01 04.8 +00.0	06						
07	6 49.4 +01.3	N 15 54.4 -00.4	3 56.1 +02.2	N 13 50.7 -00.1	142 15.7 +02.6	N 01 04.8 -00.1	07						
08	21 50.7 +01.3	N 15 54.0 -00.3	18 58.3 +02.2	N 13 50.6 -00.1	157 18.3 +02.6	N 01 04.7 +00.0	08						
09	36 52.0 +01.2	N 15 53.7 -00.3	34 00.5 +02.2	N 13 50.5 +00.0	172 20.9 +02.6	N 01 04.7 -00.1	09						
10	51 53.2 +01.3	N 15 53.4 -00.4	49 02.7 +02.2	N 13 50.5 -00.1	187 23.5 +02.6	N 01 04.6 +00.0	10						
11	66 54.5 +01.2	N 15 53.0 -00.3	64 04.9 +02.2	N 13 50.4 -00.1	202 26.1 +02.6	N 01 04.6 -00.1	11						
12	81 55.7 +01.3	N 15 52.7 -00.4	79 07.1 +02.2	N 13 50.3 -00.1	217 28.7 +02.6	N 01 04.5 +00.0	12						
13	96 57.0 +01.3	N 15 52.3 -00.3	94 09.3 +02.2	N 13 50.2 -00.1	232 31.3 +02.6	N 01 04.5 -00.1	13						
14	111 58.3 +01.2	N 15 52.0 -00.3	109 11.5 +02.2	N 13 50.1 +00.0	247 33.9 +02.6	N 01 04.4 +00.0	14						
15	126 59.5 +01.3	N 15 51.7 -00.4	124 13.7 +02.2	N 13 50.1 -00.1	262 36.5 +02.6	N 01 04.4 -00.1	15						
16	142 00.8 +01.3	N 15 51.3 -00.3	139 15.9 +02.2	N 13 50.0 -00.1	277 39.1 +02.6	N 01 04.3 +00.0	16						
17	157 02.1 +01.2	N 15 51.0 -00.4	154 18.1 +02.2	N 13 49.9 -00.1	292 41.7 +02.6	N 01 04.3 -00.1	17						
18	172 03.3 +01.3	N 15 50.6 -00.3	169 20.3 +02.2	N 13 49.8 -00.1	307 44.3 +02.5	N 01 04.2 +00.0	18						
19	187 04.6 +01.3	N 15 50.3 -00.3	184 22.5 +02.2	N 13 49.7 +00.0	322 46.8 +02.6	N 01 04.2 +00.0	19						
20	202 05.9 +01.2	N 15 50.0 -00.4	199 24.7 +02.2	N 13 49.7 -00.1	337 49.4 +02.6	N 01 04.2 -00.1	20						
21	217 07.1 +01.3	N 15 49.6 -00.3	214 26.9 +02.2	N 13 49.6 -00.1	352 52.0 +02.6	N 01 04.1 +00.0	21						
22	232 08.4 +01.3	N 15 49.3 -00.3	229 29.1 +02.2	N 13 49.5 -00.1	7 54.6 +02.6	N 01 04.1 -00.1	22						
23	247 09.7 +01.2	N 15 49.0 -00.4	244 31.3 +02.3	N 13 49.4 -00.1	22 57.2 +02.6	N 01 04.0 +00.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'2 00'2 00'2 00'2 00'2 00'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 215° 215° 215° 215° 215° 215°		SHA 212° 212° 212° 212° 212° 212°		SHA 351° 351° 351° 351° 351° 351°								
	Greenwich Culmination Time: 06:32		Greenwich Culmination Time: 06:44		Greenwich Culmination Time: 21:28								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	184 04.4 +00.0	S 16 30.5 +00.7	206 31.9 +02.8	S 12 03.6 -00.8	200 15.2 -27.8	S 15 56.1 +12.3	00							
01	199 04.4 -00.1	S 16 31.2 +00.7	221 34.7 +02.8	S 12 02.8 -00.8	214 47.4 -27.7	S 16 08.4 +12.2	01							
02	214 04.3 +00.0	S 16 31.9 +00.7	236 37.5 +02.8	S 12 02.0 -00.8	229 19.7 -27.8	S 16 20.6 +12.1	02							
03	229 04.3 +00.0	S 16 32.6 +00.8	251 40.3 +02.7	S 12 01.2 -00.8	243 51.9 -27.9	S 16 32.7 +12.1	03							
04	244 04.3 -00.1	S 16 33.4 +00.7	266 43.0 +02.8	S 12 00.4 -00.8	258 24.0 -27.9	S 16 44.8 +11.9	04							
05	259 04.2 +00.0	S 16 34.1 +00.7	281 45.8 +02.8	S 11 59.6 -00.8	272 56.1 -27.9	S 16 56.7 +11.9	05							
06	274 04.2 -00.1	S 16 34.8 +00.7	296 48.6 +02.8	S 11 58.8 -00.8	287 28.2 -28.0	S 17 08.6 +11.8	06							
07	289 04.1 +00.0	S 16 35.5 +00.8	311 51.4 +02.8	S 11 58.0 -00.8	302 00.2 -28.0	S 17 20.4 +11.7	07							
08	304 04.1 -00.1	S 16 36.3 +00.7	326 54.2 +02.8	S 11 57.2 -00.8	316 32.2 -28.1	S 17 32.1 +11.6	08							
09	319 04.0 +00.0	S 16 37.0 +00.7	341 57.0 +02.7	S 11 56.4 -00.8	331 04.1 -28.1	S 17 43.7 +11.5	09							
10	334 04.0 -00.1	S 16 37.7 +00.7	356 59.7 +02.8	S 11 55.6 -00.8	345 36.0 -28.2	S 17 55.2 +11.5	10							
11	349 03.9 +00.0	S 16 38.4 +00.8	12 02.5 +02.8	S 11 54.8 -00.8	0 07.8 -28.2	S 18 06.7 +11.3	11							
12	4 03.9 +00.0	S 16 39.2 +00.7	27 05.3 +02.7	S 11 54.0 -00.8	14 39.6 -28.3	S 18 18.0 +11.3	12							
13	19 03.9 -00.1	S 16 39.9 +00.7	42 08.0 +02.8	S 11 53.2 -00.7	29 11.3 -28.3	S 18 29.3 +11.2	13							
14	34 03.8 +00.0	S 16 40.6 +00.7	57 10.8 +02.7	S 11 52.5 -00.8	43 43.0 -28.3	S 18 40.5 +11.1	14							
15	49 03.8 -00.1	S 16 41.3 +00.8	72 13.5 +02.8	S 11 51.7 -00.8	58 14.7 -28.4	S 18 51.6 +10.9	15							
16	64 03.7 +00.0	S 16 42.1 +00.7	87 16.3 +02.7	S 11 50.9 -00.8	72 46.3 -28.5	S 19 02.5 +10.9	16							
17	79 03.7 -00.1	S 16 42.8 +00.7	102 19.0 +02.7	S 11 50.1 -00.8	87 17.8 -28.5	S 19 13.4 +10.8	17							
18	94 03.6 +00.0	S 16 43.5 +00.7	117 21.7 +02.8	S 11 49.3 -00.8	101 49.3 -28.5	S 19 24.2 +10.8	18							
19	109 03.6 -00.1	S 16 44.2 +00.7	132 24.5 +02.7	S 11 48.5 -00.7	116 20.8 -28.6	S 19 35.0 +10.6	19							
20	124 03.5 +00.0	S 16 44.9 +00.8	147 27.2 +02.7	S 11 47.8 -00.8	130 52.2 -28.7	S 19 45.6 +10.5	20							
21	139 03.5 -00.1	S 16 45.7 +00.7	162 29.9 +02.8	S 11 47.0 -00.8	145 23.5 -28.7	S 19 56.1 +10.4	21							
22	154 03.4 +00.0	S 16 46.4 +00.7	177 32.7 +02.7	S 11 46.2 -00.8	159 54.8 -28.7	S 20 06.5 +10.3	22							
23	169 03.4 -00.1	S 16 47.1 +00.7	192 35.4 +02.7	S 11 45.4 -00.7	174 26.1 -28.8	S 20 16.8 +10.3	23							
UT 02 06 10 14 18 22	SD 16°1 16°1 16°1 16°1 16°1 16°1	HP 00°1 00°1 00°1 00°1 00°1 00°1	SHA 137° 137° 136° 136° 136° 136°	Greenwich Culmination Time: 11:43	UT 02 06 10 14 18 22	SD 00°5 00°5 00°5 00°5 00°5 00°5	HP 00°5 00°5 00°5 00°5 00°5 00°5	SHA 159° 159° 159° 159° 159° 159°	Greenwich Culmination Time: 10:11	UT 02 06 10 14 18 22	SD 15°2 15°1 15°1 15°1 15°1 15°1	HP 55°6 55°5 55°5 55°4 55°3 55°3	SHA 152° 150° 148° 146° 144° 142°	Greenwich Culmination Time: 10:59

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	262 10.9 +01.3	N 15 48.6 -00.3	259 33.6 +02.2	N 13 49.3 +00.0	37 59.8 +02.6	N 01 04.0 -00.1	00							
01	277 12.2 +01.3	N 15 48.3 -00.4	274 35.8 +02.2	N 13 49.3 -00.1	53 02.4 +02.6	N 01 03.9 +00.0	01							
02	292 13.5 +01.2	N 15 47.9 -00.3	289 38.0 +02.2	N 13 49.2 -00.1	68 05.0 +02.6	N 01 03.9 -00.1	02							
03	307 14.7 +01.3	N 15 47.6 -00.3	304 40.2 +02.2	N 13 49.1 -00.1	83 07.6 +02.6	N 01 03.8 +00.0	03							
04	322 16.0 +01.3	N 15 47.3 -00.4	319 42.4 +02.2	N 13 49.0 -00.1	98 10.2 +02.6	N 01 03.8 -00.1	04							
05	337 17.3 +01.3	N 15 46.9 -00.3	334 44.6 +02.2	N 13 48.9 +00.0	113 12.8 +02.6	N 01 03.7 +00.0	05							
06	352 18.6 +01.2	N 15 46.6 -00.4	349 46.8 +02.2	N 13 48.9 -00.1	128 15.4 +02.6	N 01 03.7 -00.1	06							
07	7 19.8 +01.3	N 15 46.2 -00.3	4 49.0 +02.2	N 13 48.8 -00.1	143 18.0 +02.5	N 01 03.6 +00.0	07							
08	22 21.1 +01.3	N 15 45.9 -00.3	19 51.2 +02.2	N 13 48.7 -00.1	158 20.5 +02.6	N 01 03.6 -00.1	08							
09	37 22.4 +01.3	N 15 45.6 -00.4	34 53.4 +02.2	N 13 48.6 -00.1	173 23.1 +02.6	N 01 03.5 +00.0	09							
10	52 23.7 +01.2	N 15 45.2 -00.3	49 55.6 +02.3	N 13 48.5 +00.0	188 25.7 +02.6	N 01 03.5 +00.0	10							
11	67 24.9 +01.3	N 15 44.9 -00.3	64 57.9 +02.2	N 13 48.5 -00.1	203 28.3 +02.6	N 01 03.5 -00.1	11							
12	82 26.2 +01.3	N 15 44.6 -00.4	80 00.1 +02.2	N 13 48.4 -00.1	218 30.9 +02.6	N 01 03.4 +00.0	12							
13	97 27.5 +01.2	N 15 44.2 -00.3	95 02.3 +02.2	N 13 48.3 -00.1	233 33.5 +02.6	N 01 03.4 -00.1	13							
14	112 28.7 +01.3	N 15 43.9 -00.4	110 04.5 +02.2	N 13 48.2 +00.0	248 36.1 +02.6	N 01 03.3 +00.0	14							
15	127 30.0 +01.3	N 15 43.5 -00.3	125 06.7 +02.2	N 13 48.2 -00.1	263 38.7 +02.6	N 01 03.3 -00.1	15							
16	142 31.3 +01.3	N 15 43.2 -00.3	140 08.9 +02.2	N 13 48.1 -00.1	278 41.3 +02.6	N 01 03.2 +00.0	16							
17	157 32.6 +01.3	N 15 42.9 -00.4	155 11.1 +02.2	N 13 48.0 -00.1	293 43.9 +02.5	N 01 03.2 -00.1	17							
18	172 33.9 +01.2	N 15 42.5 -00.3	170 13.3 +02.2	N 13 47.9 -00.1	308 46.4 +02.6	N 01 03.1 +00.0	18							
19	187 35.1 +01.3	N 15 42.2 -00.3	185 15.5 +02.3	N 13 47.8 +00.0	323 49.0 +02.6	N 01 03.1 -00.1	19							
20	202 36.4 +01.3	N 15 41.9 -00.4	200 17.8 +02.2	N 13 47.8 -00.1	338 51.6 +02.6	N 01 03.0 +00.0	20							
21	217 37.7 +01.3	N 15 41.5 -00.3	215 20.0 +02.2	N 13 47.7 -00.1	353 54.2 +02.6	N 01 03.0 -00.1	21							
22	232 39.0 +01.2	N 15 41.2 -00.4	230 22.2 +02.2	N 13 47.6 -00.1	8 56.8 +02.6	N 01 02.9 +00.0	22							
23	247 40.2 +01.3	N 15 40.8 -00.3	245 24.4 +02.2	N 13 47.5 +00.0	23 59.4 +02.6	N 01 02.9 +00.0	23							
UT 02 06 10 14 18 22	SD 00°1 00°1 00°1 00°1 00°1 00°1	HP 00°1 00°1 00°1 00°1 00°1 00°1	SHA 215° 215° 215° 215° 215° 215°	Greenwich Culmination Time: 06:30	UT 02 06 10 14 18 22	SD 00°3 00°3 00°3 00°3 00°3 00°3	HP 00°0 00°0 00°0 00°0 00°0 00°0	SHA 212° 212° 212° 212° 212° 212°	Greenwich Culmination Time: 06:40	UT 02 06 10 14 18 22	SD 00°2 00°2 00°2 00°2 00°2 00°2	HP 00°0 00°0 00°0 00°0 00°0 00°0	SHA 351° 351° 351° 351° 351° 351°	Greenwich Culmination Time: 21:24

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184 03.3 +00.0	S 16 47.8 +00.7	207 38.1 +02.7	S 11 44.7 -00.8	188 57.3 -28.9	S 20 27.1 +10.1							
01	199 03.3 -00.1	S 16 48.5 +00.7	222 40.8 +02.7	S 11 43.9 -00.8	203 28.4 -28.9	S 20 37.2 +10.0							
02	214 03.2 +00.0	S 16 49.2 +00.8	237 43.5 +02.7	S 11 43.1 -00.7	217 59.5 -28.9	S 20 47.2 +09.9							
03	229 03.2 -00.1	S 16 50.0 +00.7	252 46.2 +02.7	S 11 42.4 -00.8	232 30.6 -29.0	S 20 57.1 +09.8							
04	244 03.1 +00.0	S 16 50.7 +00.7	267 48.9 +02.7	S 11 41.6 -00.7	247 01.6 -29.1	S 21 06.9 +09.7							
05	259 03.1 -00.1	S 16 51.4 +00.7	282 51.6 +02.7	S 11 40.9 -00.8	261 32.5 -29.1	S 21 16.6 +09.7							
06	274 03.0 +00.0	S 16 52.1 +00.7	297 54.3 +02.7	S 11 40.1 -00.8	276 03.4 -29.1	S 21 26.3 +09.5							
07	289 03.0 -00.1	S 16 52.8 +00.7	312 57.0 +02.7	S 11 39.3 -00.7	290 34.3 -29.2	S 21 35.8 +09.4							
08	304 02.9 +00.0	S 16 53.5 +00.7	327 59.7 +02.6	S 11 38.6 -00.8	305 05.1 -29.3	S 21 45.2 +09.3							
09	319 02.9 -00.1	S 16 54.2 +00.8	343 02.3 +02.7	S 11 37.8 -00.7	319 35.8 -29.3	S 21 54.5 +09.1							
10	334 02.8 +00.0	S 16 55.0 +00.7	358 05.0 +02.7	S 11 37.1 -00.8	334 06.5 -29.3	S 22 03.6 +09.1							
11	349 02.8 -00.1	S 16 55.7 +00.7	13 07.7 +02.6	S 11 36.3 -00.7	348 37.2 -29.4	S 22 12.7 +09.0							
12	4 02.7 +00.0	S 16 56.4 +00.7	28 10.3 +02.7	S 11 35.6 -00.8	3 07.8 -29.4	S 22 21.7 +08.8							
13	19 02.7 -00.1	S 16 57.1 +00.7	43 13.0 +02.7	S 11 34.8 -00.7	17 38.4 -29.5	S 22 30.5 +08.8							
14	34 02.6 -00.1	S 16 57.8 +00.7	58 15.7 +02.6	S 11 34.1 -00.8	32 08.9 -29.6	S 22 39.3 +08.6							
15	49 02.5 +00.0	S 16 58.5 +00.7	73 18.3 +02.7	S 11 33.3 -00.7	46 39.3 -29.6	S 22 47.9 +08.5							
16	64 02.5 -00.1	S 16 59.2 +00.7	88 21.0 +02.6	S 11 32.6 -00.7	61 09.7 -29.6	S 22 56.4 +08.5							
17	79 02.4 +00.0	S 16 59.9 +00.7	103 23.6 +02.7	S 11 31.9 -00.8	75 40.1 -29.7	S 23 04.9 +08.2							
18	94 02.4 -00.1	S 17 00.6 +00.7	118 26.3 +02.6	S 11 31.1 -00.7	90 10.4 -29.7	S 23 13.1 +08.2							
19	109 02.3 +00.0	S 17 01.3 +00.7	133 28.9 +02.6	S 11 30.4 -00.7	104 40.7 -29.8	S 23 21.3 +08.1							
20	124 02.3 -00.1	S 17 02.0 +00.8	148 31.5 +02.7	S 11 29.7 -00.8	119 10.9 -29.8	S 23 29.4 +07.9							
21	139 02.2 -00.1	S 17 02.8 +00.7	163 34.2 +02.6	S 11 28.9 -00.7	133 41.1 -29.9	S 23 37.3 +07.9							
22	154 02.1 +00.0	S 17 03.5 +00.7	178 36.8 +02.6	S 11 28.2 -00.7	148 11.2 -29.9	S 23 45.2 +07.7							
23	169 02.1 -00.1	S 17 04.2 +00.7	193 39.4 +02.6	S 11 27.5 -00.8	162 41.3 -29.9	S 23 52.9 +07.6							
	UT 02 06 10 14 18 22	SD 16'1 16'1 16'1 16'1 16'1 16'1	UT 02 06 10 14 18 22	SD 00'5 00'5 00'5 00'5 00'5 00'5	UT 02 06 10 14 18 22	SD 15'0 15'0 15'0 15'0 15'0 14'9							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 00'5 00'5 00'5 00'5 00'5 00'5		HP 55'2 55'1 55'0 55'0 54'9 54'9							
	SHA 136° 136° 135° 135° 135° 135°	SHA 159° 159° 159° 160° 160° 160°		SHA 140° 138° 136° 133° 131° 129°		SHA 140° 138° 136° 133° 131° 129°							
	Greenwich Culmination Time: 11:43	Greenwich Culmination Time: 10:07		Greenwich Culmination Time: 11:47		Greenwich Culmination Time: 11:47							

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	262 41.5 +01.3	N 15 40.5 -00.3	260 26.6 +02.2	N 13 47.5 -00.1	39 02.0 +02.6	N 01 02.9 -00.1							
01	277 42.8 +01.3	N 15 40.2 -00.4	275 28.8 +02.2	N 13 47.4 -00.1	54 04.6 +02.6	N 01 02.8 +00.0							
02	292 44.1 +01.3	N 15 39.8 -00.3	290 31.0 +02.3	N 13 47.3 -00.1	69 07.2 +02.5	N 01 02.8 -00.1							
03	307 45.4 +01.2	N 15 39.5 -00.3	305 33.3 +02.2	N 13 47.2 -00.1	84 09.7 +02.6	N 01 02.7 +00.0							
04	322 46.6 +01.3	N 15 39.2 -00.4	320 35.5 +02.2	N 13 47.1 +00.0	99 12.3 +02.6	N 01 02.7 -00.1							
05	337 47.9 +01.3	N 15 38.8 -00.3	335 37.7 +02.2	N 13 47.1 -00.1	114 14.9 +02.6	N 01 02.6 +00.0							
06	352 49.2 +01.3	N 15 38.5 -00.3	350 39.9 +02.2	N 13 47.0 -00.1	129 17.5 +02.6	N 01 02.6 -00.1							
07	7 50.5 +01.3	N 15 38.2 -00.4	5 42.1 +02.2	N 13 46.9 -00.1	144 20.1 +02.6	N 01 02.5 +00.0							
08	22 51.8 +01.3	N 15 37.8 -00.3	20 44.3 +02.3	N 13 46.8 +00.0	159 22.7 +02.6	N 01 02.5 -00.1							
09	37 53.1 +01.2	N 15 37.5 -00.4	35 46.6 +02.2	N 13 46.8 -00.1	174 25.3 +02.6	N 01 02.4 +00.0							
10	52 54.3 +01.3	N 15 37.1 -00.3	50 48.8 +02.2	N 13 46.7 -00.1	189 27.9 +02.6	N 01 02.4 +00.0							
11	67 55.6 +01.3	N 15 36.8 -00.3	65 51.0 +02.2	N 13 46.6 -00.1	204 30.5 +02.5	N 01 02.4 -00.1							
12	82 56.9 +01.3	N 15 36.5 -00.4	80 53.2 +02.2	N 13 46.5 +00.0	219 33.0 +02.6	N 01 02.3 +00.0							
13	97 58.2 +01.3	N 15 36.1 -00.3	95 55.4 +02.2	N 13 46.5 -00.1	234 35.6 +02.6	N 01 02.3 -00.1							
14	112 59.5 +01.3	N 15 35.8 -00.3	110 57.6 +02.3	N 13 46.4 -00.1	249 38.2 +02.6	N 01 02.2 +00.0							
15	128 00.8 +01.3	N 15 35.5 -00.4	125 59.9 +02.2	N 13 46.3 -00.1	264 40.8 +02.6	N 01 02.2 -00.1							
16	143 02.1 +01.2	N 15 35.1 -00.3	141 02.1 +02.2	N 13 46.2 +00.0	279 43.4 +02.6	N 01 02.1 +00.0							
17	158 03.3 +01.3	N 15 34.8 -00.3	156 04.3 +02.2	N 13 46.2 -00.1	294 46.0 +02.6	N 01 02.1 -00.1							
18	173 04.6 +01.3	N 15 34.5 -00.4	171 06.5 +02.2	N 13 46.1 -00.1	309 48.6 +02.6	N 01 02.0 +00.0							
19	188 05.9 +01.3	N 15 34.1 -00.3	186 08.7 +02.2	N 13 46.0 -00.1	324 51.2 +02.5	N 01 02.0 +00.0							
20	203 07.2 +01.3	N 15 33.8 -00.4	201 10.9 +02.3	N 13 45.9 +00.0	339 53.7 +02.6	N 01 02.0 -00.1							
21	218 08.5 +01.3	N 15 33.4 -00.3	216 13.2 +02.2	N 13 45.9 -00.1	354 56.3 +02.6	N 01 01.9 +00.0							
22	233 09.8 +01.3	N 15 33.1 -00.3	231 15.4 +02.2	N 13 45.8 -00.1	9 58.9 +02.6	N 01 01.9 -00.1							
23	248 11.1 +01.3	N 15 32.8 -00.4	246 17.6 +02.2	N 13 45.7 -00.1	25 01.5 +02.6	N 01 01.8 +00.0							
	UT 02 06 10 14 18 22	SD 00'1 00'1 00'1 00'1 00'1 00'1	UT 02 06 10 14 18 22	SD 00'3 00'3 00'3 00'3 00'3 00'3	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2							
	HP 00'1 00'1 00'1 00'1 00'1 00'1	HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0							
	SHA 214° 214° 214° 214° 214° 214°	SHA 212° 212° 212° 212° 212° 212°		SHA 351° 351° 351° 351° 351° 351°		SHA 351° 351° 351° 351° 351° 351°							
	Greenwich Culmination Time: 06:28	Greenwich Culmination Time: 06:37		Greenwich Culmination Time: 21:20		Greenwich Culmination Time: 21:20							

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UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	184	02.0 +00.0	S 17 04.9 +00.7		208	42.0 +02.7	S 11 26.7 -00.7		177	11.4 -30.0	S 24 00.5 +07.5		00
01	199	02.0 -00.1	S 17 05.6 +00.7		223	44.7 +02.6	S 11 26.0 -00.7		191	41.4 -30.1	S 24 08.0 +07.3		01
02	214	01.9 -00.1	S 17 06.3 +00.7		238	47.3 +02.6	S 11 25.3 -00.7		206	11.3 -30.1	S 24 15.3 +07.3		02
03	229	01.8 +00.0	S 17 07.0 +00.7		253	49.9 +02.6	S 11 24.6 -00.7		220	41.2 -30.1	S 24 22.6 +07.1		03
04	244	01.8 -00.1	S 17 07.7 +00.7		268	52.5 +02.6	S 11 23.9 -00.8		235	11.1 -30.2	S 24 29.7 +07.0		04
05	259	01.7 +00.0	S 17 08.4 +00.7		283	55.1 +02.6	S 11 23.1 -00.7		249	40.9 -30.2	S 24 36.7 +06.9		05
06	274	01.7 -00.1	S 17 09.1 +00.7		298	57.7 +02.6	S 11 22.4 -00.7		264	10.7 -30.3	S 24 43.6 +06.7		06
07	289	01.6 -00.1	S 17 09.8 +00.7		314	00.3 +02.6	S 11 21.7 -00.7		278	40.4 -30.3	S 24 50.3 +06.7		07
08	304	01.5 +00.0	S 17 10.5 +00.7		329	02.9 +02.5	S 11 21.0 -00.7		293	10.1 -30.3	S 24 57.0 +06.5		08
09	319	01.5 -00.1	S 17 11.2 +00.7		344	05.4 +02.6	S 11 20.3 -00.7		307	39.8 -30.4	S 25 03.5 +06.3		09
10	334	01.4 +00.0	S 17 11.9 +00.7		359	08.0 +02.6	S 11 19.6 -00.7		322	09.4 -30.4	S 25 09.8 +06.3		10
11	349	01.4 -00.1	S 17 12.6 +00.7		14	10.6 +02.6	S 11 18.9 -00.7		336	39.0 -30.4	S 25 16.1 +06.1		11
12	4	01.3 -00.1	S 17 13.3 +00.7		29	13.2 +02.5	S 11 18.2 -00.7		351	08.6 -30.5	S 25 22.2 +06.0		12
13	19	01.2 +00.0	S 17 14.0 +00.7		44	15.7 +02.6	S 11 17.5 -00.7		5	38.1 -30.6	S 25 28.2 +05.9		13
14	34	01.2 -00.1	S 17 14.7 +00.7		59	18.3 +02.6	S 11 16.8 -00.7		20	07.5 -30.5	S 25 34.1 +05.8		14
15	49	01.1 -00.1	S 17 15.4 +00.7		74	20.9 +02.5	S 11 16.1 -00.7		34	37.0 -30.6	S 25 39.9 +05.6		15
16	64	01.0 +00.0	S 17 16.1 +00.7		89	23.4 +02.6	S 11 15.4 -00.7		49	06.4 -30.6	S 25 45.5 +05.5		16
17	79	01.0 -00.1	S 17 16.8 +00.7		104	26.0 +02.5	S 11 14.7 -00.7		63	35.8 -30.7	S 25 51.0 +05.4		17
18	94	00.9 -00.1	S 17 17.5 +00.7		119	28.5 +02.6	S 11 14.0 -00.7		78	05.1 -30.7	S 25 56.4 +05.2		18
19	109	00.8 +00.0	S 17 18.2 +00.7		134	31.1 +02.5	S 11 13.3 -00.7		92	34.4 -30.7	S 26 01.6 +05.1		19
20	124	00.8 -00.1	S 17 18.9 +00.7		149	33.6 +02.5	S 11 12.6 -00.7		107	03.7 -30.8	S 26 06.7 +05.0		20
21	139	00.7 -00.1	S 17 19.6 +00.7		164	36.1 +02.6	S 11 11.9 -00.7		121	32.9 -30.8	S 26 11.7 +04.8		21
22	154	00.6 +00.0	S 17 20.3 +00.6		179	38.7 +02.5	S 11 11.2 -00.6		136	02.1 -30.8	S 26 16.5 +04.8		22
23	169	00.6 -00.1	S 17 20.9 +00.7		194	41.2 +02.5	S 11 10.6 -00.7		150	31.3 -30.8	S 26 21.3 +04.6		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'1 16'1 16'1 16'2 16'2 16'2				SD 00'5 00'5 00'4 00'4 00'4 00'4				SD 14'9 14'9 14'9 14'9 14'9 14'9				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'5 00'5 00'5 00'5 00'5 00'5				HP 54'8 54'7 54'7 54'6 54'6 54'5				
	SHA 135° 135° 134° 134° 134° 134°				SHA 160° 160° 160° 160° 160° 160°				SHA 127° 125° 123° 120° 118° 116°				
	Greenwich Culmination Time: 11:43				Greenwich Culmination Time: 10:03				Greenwich Culmination Time: 12:36				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	263	12.4 +01.3	N 15 32.4 -00.3		261	19.8 +02.2	N 13 45.6 -00.1		40	04.1 +02.6	N 01 01.8 -00.1		00
01	278	13.7 +01.2	N 15 32.1 -00.3		276	22.0 +02.3	N 13 45.5 +00.0		55	06.7 +02.6	N 01 01.7 +00.0		01
02	293	14.9 +01.3	N 15 31.8 -00.4		291	24.3 +02.2	N 13 45.5 -00.1		70	09.3 +02.5	N 01 01.7 -00.1		02
03	308	16.2 +01.3	N 15 31.4 -00.3		306	26.5 +02.2	N 13 45.4 -00.1		85	11.8 +02.6	N 01 01.6 +00.0		03
04	323	17.5 +01.3	N 15 31.1 -00.3		321	28.7 +02.2	N 13 45.3 +00.0		100	14.4 +02.6	N 01 01.6 +00.0		04
05	338	18.8 +01.3	N 15 30.8 -00.4		336	30.9 +02.3	N 13 45.3 -00.1		115	17.0 +02.6	N 01 01.6 -00.1		05
06	353	20.1 +01.3	N 15 30.4 -00.3		351	33.2 +02.2	N 13 45.2 -00.1		130	19.6 +02.6	N 01 01.5 +00.0		06
07	8	21.4 +01.3	N 15 30.1 -00.3		6	35.4 +02.2	N 13 45.1 -00.1		145	22.2 +02.6	N 01 01.5 -00.1		07
08	23	22.7 +01.3	N 15 29.8 -00.4		21	37.6 +02.2	N 13 45.0 +00.0		160	24.8 +02.5	N 01 01.4 +00.0		08
09	38	24.0 +01.3	N 15 29.4 -00.3		36	39.8 +02.2	N 13 45.0 -00.1		175	27.3 +02.6	N 01 01.4 -00.1		09
10	53	25.3 +01.3	N 15 29.1 -00.3		51	42.0 +02.3	N 13 44.9 -00.1		190	29.9 +02.6	N 01 01.3 +00.0		10
11	68	26.6 +01.3	N 15 28.8 -00.4		66	44.3 +02.2	N 13 44.8 -00.1		205	32.5 +02.6	N 01 01.3 +00.0		11
12	83	27.9 +01.3	N 15 28.4 -00.3		81	46.5 +02.2	N 13 44.7 +00.0		220	35.1 +02.6	N 01 01.3 -00.1		12
13	98	29.2 +01.3	N 15 28.1 -00.4		96	48.7 +02.2	N 13 44.7 -00.1		235	37.7 +02.6	N 01 01.2 +00.0		13
14	113	30.5 +01.3	N 15 27.7 -00.3		111	50.9 +02.3	N 13 44.6 -00.1		250	40.3 +02.6	N 01 01.2 -00.1		14
15	128	31.8 +01.3	N 15 27.4 -00.3		126	53.2 +02.2	N 13 44.5 -00.1		265	42.9 +02.5	N 01 01.1 +00.0		15
16	143	33.1 +01.3	N 15 27.1 -00.4		141	55.4 +02.2	N 13 44.4 +00.0		280	45.4 +02.6	N 01 01.1 -00.1		16
17	158	34.4 +01.3	N 15 26.7 -00.3		156	57.6 +02.2	N 13 44.4 -00.1		295	48.0 +02.6	N 01 01.0 +00.0		17
18	173	35.7 +01.3	N 15 26.4 -00.3		171	59.8 +02.3	N 13 44.3 -00.1		310	50.6 +02.6	N 01 01.0 +00.0		18
19	188	37.0 +01.3	N 15 26.1 -00.4		187	02.1 +02.2	N 13 44.2 -00.1		325	53.2 +02.6	N 01 01.0 -00.1		19
20	203	38.3 +01.3	N 15 25.7 -00.3		202	04.3 +02.2	N 13 44.1 +00.0		340	55.8 +02.6	N 01 00.9 +00.0		20
21	218	39.6 +01.3	N 15 25.4 -00.3		217	06.5 +02.2	N 13 44.1 -00.1		355	58.4 +02.5	N 01 00.9 -00.1		21
22	233	40.9 +01.3	N 15 25.1 -00.4		232	08.7 +02.3	N 13 44.0 -00.1		11	00.9 +02.6	N 01 00.8 +00.0		22
23	248	42.2 +01.3	N 15 24.7 -00.3		247	11.0 +02.2	N 13 43.9 -00.1		26	03.5 +02.6	N 01 00.8 -00.1		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 214° 214° 214° 214° 214° 214°				SHA 212° 212° 212° 212° 212° 212°				SHA 351° 351° 351° 351° 351° 351°				
	Greenwich Culmination Time: 06:26				Greenwich Culmination Time: 06:33				Greenwich Culmination Time: 21:16				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	184 00.5 -00.1	S	17 21.6 +00.7	209 43.7 +02.6	S	11 09.9 -00.7	165 00.5 -30.9	S	26 25.9 +04.4	00										
01	199 00.4 +00.0	S	17 22.3 +00.7	224 46.3 +02.5	S	11 09.2 -00.7	179 29.6 -30.9	S	26 30.3 +04.3	01										
02	214 00.4 -00.1	S	17 23.0 +00.7	239 48.8 +02.5	S	11 08.5 -00.7	193 58.7 -30.9	S	26 34.6 +04.2	02										
03	229 00.3 -00.1	S	17 23.7 +00.7	254 51.3 +02.5	S	11 07.8 -00.6	208 27.8 -30.9	S	26 38.8 +04.1	03										
04	244 00.2 +00.0	S	17 24.4 +00.7	269 53.8 +02.5	S	11 07.2 -00.7	222 56.9 -31.0	S	26 42.9 +03.9	04										
05	259 00.2 -00.1	S	17 25.1 +00.7	284 56.3 +02.5	S	11 06.5 -00.7	237 25.9 -31.0	S	26 46.8 +03.8	05										
06	274 00.1 -00.1	S	17 25.8 +00.7	299 58.8 +02.5	S	11 05.8 -00.6	251 54.9 -31.0	S	26 50.6 +03.7	06										
07	289 00.0 +00.0	S	17 26.5 +00.7	315 01.3 +02.5	S	11 05.2 -00.7	266 23.9 -31.0	S	26 54.3 +03.5	07										
08	303 60.0 -00.1	S	17 27.2 +00.7	330 03.8 +02.5	S	11 04.5 -00.7	280 52.9 -31.0	S	26 57.8 +03.4	08										
09	318 59.9 -00.1	S	17 27.9 +00.6	345 06.3 +02.5	S	11 03.8 -00.6	295 21.9 -31.1	S	27 01.2 +03.2	09										
10	333 59.8 -00.1	S	17 28.5 +00.7	0 08.8 +02.5	S	11 03.2 -00.7	309 50.8 -31.1	S	27 04.4 +03.2	10										
11	348 59.7 +00.0	S	17 29.2 +00.7	15 11.3 +02.4	S	11 02.5 -00.6	324 19.7 -31.1	S	27 07.6 +03.0	11										
12	3 59.7 -00.1	S	17 29.9 +00.7	30 13.7 +02.5	S	11 01.9 -00.7	338 48.6 -31.1	S	27 10.6 +02.8	12										
13	18 59.6 -00.1	S	17 30.6 +00.7	45 16.2 +02.5	S	11 01.2 -00.7	353 17.5 -31.1	S	27 13.4 +02.7	13										
14	33 59.5 +00.0	S	17 31.3 +00.7	60 18.7 +02.4	S	11 00.5 -00.6	7 46.4 -31.1	S	27 16.1 +02.6	14										
15	48 59.5 -00.1	S	17 32.0 +00.7	75 21.1 +02.5	S	10 59.9 -00.7	22 15.3 -31.1	S	27 18.7 +02.5	15										
16	63 59.4 -00.1	S	17 32.7 +00.6	90 23.6 +02.5	S	10 59.2 -00.6	36 44.2 -31.2	S	27 21.2 +02.3	16										
17	78 59.3 -00.1	S	17 33.3 +00.7	105 26.1 +02.4	S	10 58.6 -00.6	51 13.0 -31.1	S	27 23.5 +02.2	17										
18	93 59.2 +00.0	S	17 34.0 +00.7	120 28.5 +02.5	S	10 58.0 -00.7	65 41.9 -31.2	S	27 25.7 +02.0	18										
19	108 59.2 -00.1	S	17 34.7 +00.7	135 31.0 +02.4	S	10 57.3 -00.6	80 10.7 -31.2	S	27 27.7 +01.9	19										
20	123 59.1 -00.1	S	17 35.4 +00.7	150 33.4 +02.5	S	10 56.7 -00.7	94 39.5 -31.1	S	27 29.6 +01.8	20										
21	138 59.0 -00.1	S	17 36.1 +00.7	165 35.9 +02.4	S	10 56.0 -00.6	109 08.4 -31.2	S	27 31.4 +01.6	21										
22	153 58.9 +00.0	S	17 36.8 +00.6	180 38.3 +02.4	S	10 55.4 -00.6	123 37.2 -31.2	S	27 33.0 +01.5	22										
23	168 58.9 -00.1	S	17 37.4 +00.7	195 40.7 +02.5	S	10 54.8 -00.7	138 06.0 -31.2	S	27 34.5 +01.4	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'4	00'4	00'4	00'4	00'4	00'4	SD	14'8	14'8	14'8	14'8	14'8	14'8
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'5	00'5	00'5	00'5	00'5	00'5	HP	54'5	54'4	54'4	54'3	54'3	54'2
SHA	134°	134°	133°	133°	133°	133°	SHA	160°	160°	160°	160°	160°	160°	SHA	114°	112°	109°	107°	105°	103°
Greenwich Culmination Time: 11:44							Greenwich Culmination Time: 09:59							Greenwich Culmination Time: 13:27						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	263 43.5 +01.3	N	15 24.4 -00.3	262 13.2 +02.2	N	13 43.8 +00.0	41 06.1 +02.6	N	01 00.7 +00.0	00										
01	278 44.8 +01.3	N	15 24.1 -00.4	277 15.4 +02.2	N	13 43.8 -00.1	56 08.7 +02.6	N	01 00.7 +00.0	01										
02	293 46.1 +01.3	N	15 23.7 -00.3	292 17.6 +02.3	N	13 43.7 -00.1	71 11.3 +02.6	N	01 00.7 -00.1	02										
03	308 47.4 +01.3	N	15 23.4 -00.3	307 19.9 +02.2	N	13 43.6 +00.0	86 13.9 +02.5	N	01 00.6 +00.0	03										
04	323 48.7 +01.3	N	15 23.1 -00.4	322 22.1 +02.2	N	13 43.6 -00.1	101 16.4 +02.6	N	01 00.6 -00.1	04										
05	338 50.0 +01.3	N	15 22.7 -00.3	337 24.3 +02.3	N	13 43.5 -00.1	116 19.0 +02.6	N	01 00.5 +00.0	05										
06	353 51.3 +01.3	N	15 22.4 -00.3	352 26.6 +02.2	N	13 43.4 -00.1	131 21.6 +02.6	N	01 00.5 -00.1	06										
07	8 52.6 +01.3	N	15 22.1 -00.4	7 28.8 +02.2	N	13 43.3 +00.0	146 24.2 +02.6	N	01 00.4 +00.0	07										
08	23 53.9 +01.3	N	15 21.7 -00.3	22 31.0 +02.2	N	13 43.3 -00.1	161 26.8 +02.5	N	01 00.4 +00.0	08										
09	38 55.2 +01.3	N	15 21.4 -00.3	37 33.2 +02.3	N	13 43.2 -00.1	176 29.3 +02.6	N	01 00.4 -00.1	09										
10	53 56.5 +01.3	N	15 21.1 -00.4	52 35.5 +02.2	N	13 43.1 +00.0	191 31.9 +02.6	N	01 00.3 +00.0	10										
11	68 57.8 +01.3	N	15 20.7 -00.3	67 37.7 +02.2	N	13 43.1 -00.1	206 34.5 +02.6	N	01 00.3 -00.1	11										
12	83 59.1 +01.3	N	15 20.4 -00.3	82 39.9 +02.3	N	13 43.0 -00.1	221 37.1 +02.6	N	01 00.2 +00.0	12										
13	99 00.4 +01.3	N	15 20.1 -00.4	97 42.2 +02.2	N	13 42.9 -00.1	236 39.7 +02.6	N	01 00.2 +00.0	13										
14	114 01.7 +01.3	N	15 19.7 -00.3	112 44.4 +02.2	N	13 42.8 +00.0	251 42.3 +02.5	N	01 00.2 -00.1	14										
15	129 03.0 +01.3	N	15 19.4 -00.3	127 46.6 +02.3	N	13 42.8 -00.1	266 44.8 +02.6	N	01 00.1 +00.0	15										
16	144 04.3 +01.4	N	15 19.1 -00.4	142 48.9 +02.2	N	13 42.7 -00.1	281 47.4 +02.6	N	01 00.1 -00.1	16										
17	159 05.7 +01.3	N	15 18.7 -00.3	157 51.1 +02.2	N	13 42.6 +00.0	296 50.0 +02.6	N	01 00.0 +00.0	17										
18	174 07.0 +01.3	N	15 18.4 -00.3	172 53.3 +02.2	N	13 42.6 -00.1	311 52.6 +02.6	N	00 60.0 -00.1	18										
19	189 08.3 +01.3	N	15 18.1 -00.4	187 55.5 +02.3	N	13 42.5 -00.1	326 55.2 +02.5	N	00 59.9 +00.0	19										
20	204 09.6 +01.3	N	15 17.7 -00.3	202 57.8 +02.2	N	13 42.4 -00.1	341 57.7 +02.6	N	00 59.9 +00.0	20										
21	219 10.9 +01.3	N	15 17.4 -00.3	218 00.0 +02.2	N	13 42.3 +00.0	357 00.3 +02.6	N	00 59.9 -00.1	21										
22	234 12.2 +01.3	N	15 17.1 -00.4	233 02.2 +02.3	N	13 42.3 -00.1	12 02.9 +02.6	N	00 59.8 +00.0	22										
23	249 13.5 +01.3	N	15 16.7 -00.3	248 04.5 +02.2	N	13 42.2 -00.1	27 05.5 +02.6	N	00 59.8 -00.1	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'2	00'2	00'2	00'2	00'2	00'2
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	214°	213°	213°	213°	213°	213°	SHA	212°	212°	212°	212°	212°	212°	SHA	351°	351°	351°	351°	351°	351°
Greenwich Culmination Time: 06:24							Greenwich Culmination Time: 06:30							Greenwich Culmination Time: 21:11						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 58.8 -00.1	S	17 38.1 +00.7	210 43.2 +02.4	S	10 54.1 -00.6	152 34.8 -31.1	S	27 35.9 +01.2	00			
01	198 58.7 -00.1	S	17 38.8 +00.7	225 45.6 +02.4	S	10 53.5 -00.6	167 03.7 -31.2	S	27 37.1 +01.1	01			
02	213 58.6 +00.0	S	17 39.5 +00.7	240 48.0 +02.4	S	10 52.9 -00.7	181 32.5 -31.2	S	27 38.2 +00.9	02			
03	228 58.6 -00.1	S	17 40.2 +00.6	255 50.4 +02.5	S	10 52.2 -00.6	196 01.3 -31.2	S	27 39.1 +00.9	03			
04	243 58.5 -00.1	S	17 40.8 +00.7	270 52.9 +02.4	S	10 51.6 -00.6	210 30.1 -31.1	S	27 40.0 +00.6	04			
05	258 58.4 -00.1	S	17 41.5 +00.7	285 55.3 +02.4	S	10 51.0 -00.6	224 59.0 -31.2	S	27 40.6 +00.6	05			
06	273 58.3 -00.1	S	17 42.2 +00.7	300 57.7 +02.4	S	10 50.4 -00.7	239 27.8 -31.1	S	27 41.2 +00.4	06			
07	288 58.2 +00.0	S	17 42.9 +00.6	316 00.1 +02.4	S	10 49.7 -00.6	253 56.7 -31.2	S	27 41.6 +00.3	07			
08	303 58.2 -00.1	S	17 43.5 +00.7	331 02.5 +02.4	S	10 49.1 -00.6	268 25.5 -31.1	S	27 41.9 +00.1	08			
09	318 58.1 -00.1	S	17 44.2 +00.7	346 04.9 +02.4	S	10 48.5 -00.6	282 54.4 -31.1	S	27 42.0 +00.0	09			
10	333 58.0 -00.1	S	17 44.9 +00.7	1 07.3 +02.4	S	10 47.9 -00.6	297 23.3 -31.1	S	27 42.0 -00.1	10			
11	348 57.9 -00.1	S	17 45.6 +00.6	16 09.7 +02.4	S	10 47.3 -00.6	311 52.2 -31.1	S	27 41.9 -00.3	11			
12	3 57.8 +00.0	S	17 46.2 +00.7	31 12.1 +02.3	S	10 46.7 -00.6	326 21.1 -31.1	S	27 41.6 -00.4	12			
13	18 57.8 -00.1	S	17 46.9 +00.7	46 14.4 +02.4	S	10 46.1 -00.6	340 50.0 -31.1	S	27 41.2 -00.5	13			
14	33 57.7 -00.1	S	17 47.6 +00.7	61 16.8 +02.4	S	10 45.5 -00.7	355 18.9 -31.0	S	27 40.7 -00.7	14			
15	48 57.6 -00.1	S	17 48.3 +00.6	76 19.2 +02.4	S	10 44.8 -00.6	9 47.9 -31.0	S	27 40.0 -00.8	15			
16	63 57.5 -00.1	S	17 48.9 +00.7	91 21.6 +02.3	S	10 44.2 -00.6	24 16.9 -31.0	S	27 39.2 -00.9	16			
17	78 57.4 +00.0	S	17 49.6 +00.7	106 23.9 +02.4	S	10 43.6 -00.6	38 45.9 -31.0	S	27 38.3 -01.1	17			
18	93 57.4 -00.1	S	17 50.3 +00.6	121 26.3 +02.3	S	10 43.0 -00.5	53 14.9 -31.0	S	27 37.2 -01.2	18			
19	108 57.3 -00.1	S	17 50.9 +00.7	136 28.6 +02.4	S	10 42.5 -00.6	67 43.9 -30.9	S	27 36.0 -01.4	19			
20	123 57.2 -00.1	S	17 51.6 +00.7	151 31.0 +02.3	S	10 41.9 -00.6	82 13.0 -31.0	S	27 34.6 -01.4	20			
21	138 57.1 -00.1	S	17 52.3 +00.6	166 33.3 +02.4	S	10 41.3 -00.6	96 42.0 -30.9	S	27 33.2 -01.6	21			
22	153 57.0 -00.1	S	17 52.9 +00.7	181 35.7 +02.3	S	10 40.7 -00.6	111 11.1 -30.8	S	27 31.6 -01.8	22			
23	168 56.9 +00.0	S	17 53.6 +00.7	196 38.0 +02.4	S	10 40.1 -00.6	125 40.3 -30.9	S	27 29.8 -01.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 14'8 14'8 14'8 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 54'2 54'2 54'1 54'1 54'1 54'1						
	SHA 133° 133° 132° 132° 132° 132°			SHA 160° 160° 160° 160° 160° 160°			SHA 100° 098° 096° 094° 091° 089°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 09:55			Greenwich Culmination Time: 14:19						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	264 14.8 +01.3	N	15 16.4 -00.3	263 06.7 +02.2	N	13 42.1 +00.0	42 08.1 +02.5	N	00 59.7 +00.0	00			
01	279 16.1 +01.4	N	15 16.1 -00.4	278 08.9 +02.3	N	13 42.1 -00.1	57 10.6 +02.6	N	00 59.7 +00.0	01			
02	294 17.5 +01.3	N	15 15.7 -00.3	293 11.2 +02.2	N	13 42.0 -00.1	72 13.2 +02.6	N	00 59.7 -00.1	02			
03	309 18.8 +01.3	N	15 15.4 -00.3	308 13.4 +02.2	N	13 41.9 -00.1	87 15.8 +02.6	N	00 59.6 +00.0	03			
04	324 20.1 +01.3	N	15 15.1 -00.3	323 15.6 +02.3	N	13 41.8 +00.0	102 18.4 +02.5	N	00 59.6 -00.1	04			
05	339 21.4 +01.3	N	15 14.8 -00.4	338 17.9 +02.2	N	13 41.8 -00.1	117 20.9 +02.6	N	00 59.5 +00.0	05			
06	354 22.7 +01.3	N	15 14.4 -00.3	353 20.1 +02.2	N	13 41.7 -00.1	132 23.5 +02.6	N	00 59.5 +00.0	06			
07	9 24.0 +01.3	N	15 14.1 -00.3	8 22.3 +02.3	N	13 41.6 +00.0	147 26.1 +02.6	N	00 59.5 -00.1	07			
08	24 25.3 +01.4	N	15 13.8 -00.4	23 24.6 +02.2	N	13 41.6 -00.1	162 28.7 +02.6	N	00 59.4 +00.0	08			
09	39 26.7 +01.3	N	15 13.4 -00.3	38 26.8 +02.3	N	13 41.5 -00.1	177 31.3 +02.5	N	00 59.4 -00.1	09			
10	54 28.0 +01.3	N	15 13.1 -00.3	53 29.1 +02.2	N	13 41.4 +00.0	192 33.8 +02.6	N	00 59.3 +00.0	10			
11	69 29.3 +01.3	N	15 12.8 -00.4	68 31.3 +02.2	N	13 41.4 -00.1	207 36.4 +02.6	N	00 59.3 +00.0	11			
12	84 30.6 +01.3	N	15 12.4 -00.3	83 33.5 +02.3	N	13 41.3 -00.1	222 39.0 +02.6	N	00 59.3 -00.1	12			
13	99 31.9 +01.4	N	15 12.1 -00.3	98 35.8 +02.2	N	13 41.2 -00.1	237 41.6 +02.6	N	00 59.2 +00.0	13			
14	114 33.3 +01.3	N	15 11.8 -00.4	113 38.0 +02.2	N	13 41.1 +00.0	252 44.2 +02.5	N	00 59.2 -00.1	14			
15	129 34.6 +01.3	N	15 11.4 -00.3	128 40.2 +02.3	N	13 41.1 -00.1	267 46.7 +02.6	N	00 59.1 +00.0	15			
16	144 35.9 +01.3	N	15 11.1 -00.3	143 42.5 +02.2	N	13 41.0 -00.1	282 49.3 +02.6	N	00 59.1 +00.0	16			
17	159 37.2 +01.3	N	15 10.8 -00.4	158 44.7 +02.2	N	13 40.9 +00.0	297 51.9 +02.6	N	00 59.1 -00.1	17			
18	174 38.5 +01.4	N	15 10.4 -00.3	173 46.9 +02.3	N	13 40.9 -00.1	312 54.5 +02.5	N	00 59.0 +00.0	18			
19	189 39.9 +01.3	N	15 10.1 -00.3	188 49.2 +02.2	N	13 40.8 -00.1	327 57.0 +02.6	N	00 59.0 -00.1	19			
20	204 41.2 +01.3	N	15 09.8 -00.3	203 51.4 +02.3	N	13 40.7 +00.0	342 59.6 +02.6	N	00 58.9 +00.0	20			
21	219 42.5 +01.3	N	15 09.5 -00.4	218 53.7 +02.2	N	13 40.7 -00.1	358 02.2 +02.6	N	00 58.9 +00.0	21			
22	234 43.8 +01.3	N	15 09.1 -00.3	233 55.9 +02.2	N	13 40.6 -00.1	13 04.8 +02.5	N	00 58.9 -00.1	22			
23	249 45.1 +01.4	N	15 08.8 -00.3	248 58.1 +02.3	N	13 40.5 +00.0	28 07.3 +02.6	N	00 58.8 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 213° 213° 213° 213° 213° 213°			SHA 212° 212° 212° 212° 212° 212°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 06:22			Greenwich Culmination Time: 06:26			Greenwich Culmination Time: 21:07						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 56.9 -00.1	S	17 54.3 +00.6	211 40.4 +02.3	S	10 39.5 -00.6	140 09.4 -30.8	S	27 27.9 -02.0	00			
01	198 56.8 -00.1	S	17 54.9 +00.7	226 42.7 +02.3	S	10 38.9 -00.6	154 38.6 -30.8	S	27 25.9 -02.1	01			
02	213 56.7 -00.1	S	17 55.6 +00.7	241 45.0 +02.4	S	10 38.3 -00.5	169 07.8 -30.8	S	27 23.8 -02.3	02			
03	228 56.6 -00.1	S	17 56.3 +00.6	256 47.4 +02.3	S	10 37.8 -00.6	183 37.0 -30.7	S	27 21.5 -02.4	03			
04	243 56.5 -00.1	S	17 56.9 +00.7	271 49.7 +02.3	S	10 37.2 -00.6	198 06.3 -30.7	S	27 19.1 -02.5	04			
05	258 56.4 -00.1	S	17 57.6 +00.7	286 52.0 +02.3	S	10 36.6 -00.6	212 35.6 -30.7	S	27 16.6 -02.7	05			
06	273 56.3 -00.1	S	17 58.3 +00.6	301 54.3 +02.4	S	10 36.0 -00.5	227 04.9 -30.6	S	27 13.9 -02.7	06			
07	288 56.2 +00.0	S	17 58.9 +00.7	316 56.7 +02.3	S	10 35.5 -00.6	241 34.3 -30.6	S	27 11.2 -03.0	07			
08	303 56.2 -00.1	S	17 59.6 +00.7	331 59.0 +02.3	S	10 34.9 -00.6	256 03.7 -30.5	S	27 08.2 -03.0	08			
09	318 56.1 -00.1	S	18 00.3 +00.6	347 01.3 +02.3	S	10 34.3 -00.6	270 33.2 -30.6	S	27 05.2 -03.2	09			
10	333 56.0 -00.1	S	18 00.9 +00.7	2 03.6 +02.3	S	10 33.7 -00.5	285 02.6 -30.5	S	27 02.0 -03.3	10			
11	348 55.9 -00.1	S	18 01.6 +00.6	17 05.9 +02.3	S	10 33.2 -00.6	299 32.1 -30.4	S	26 58.7 -03.4	11			
12	3 55.8 -00.1	S	18 02.2 +00.7	32 08.2 +02.2	S	10 32.6 -00.5	314 01.7 -30.4	S	26 55.3 -03.6	12			
13	18 55.7 -00.1	S	18 02.9 +00.7	47 10.4 +02.3	S	10 32.1 -00.6	328 31.3 -30.4	S	26 51.7 -03.6	13			
14	33 55.6 -00.1	S	18 03.6 +00.6	62 12.7 +02.3	S	10 31.5 -00.6	343 00.9 -30.3	S	26 48.1 -03.9	14			
15	48 55.5 -00.1	S	18 04.2 +00.7	77 15.0 +02.3	S	10 30.9 -00.5	357 30.6 -30.3	S	26 44.2 -03.9	15			
16	63 55.4 +00.0	S	18 04.9 +00.6	92 17.3 +02.3	S	10 30.4 -00.6	12 00.3 -30.3	S	26 40.3 -04.0	16			
17	78 55.4 -00.1	S	18 05.5 +00.7	107 19.6 +02.2	S	10 29.8 -00.5	26 30.0 -30.2	S	26 36.3 -04.2	17			
18	93 55.3 -00.1	S	18 06.2 +00.7	122 21.8 +02.3	S	10 29.3 -00.6	40 59.8 -30.1	S	26 32.1 -04.3	18			
19	108 55.2 -00.1	S	18 06.9 +00.6	137 24.1 +02.3	S	10 28.7 -00.5	55 29.7 -30.2	S	26 27.8 -04.5	19			
20	123 55.1 -00.1	S	18 07.5 +00.7	152 26.4 +02.2	S	10 28.2 -00.5	69 59.5 -30.0	S	26 23.3 -04.5	20			
21	138 55.0 -00.1	S	18 08.2 +00.6	167 28.6 +02.3	S	10 27.7 -00.6	84 29.5 -30.1	S	26 18.8 -04.7	21			
22	153 54.9 -00.1	S	18 08.8 +00.7	182 30.9 +02.2	S	10 27.1 -00.5	98 59.4 -30.0	S	26 14.1 -04.8	22			
23	168 54.8 -00.1	S	18 09.5 +00.6	197 33.1 +02.3	S	10 26.6 -00.6	113 29.4 -29.9	S	26 09.3 -04.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 54'1 54'0 54'0 54'0 54'0 54'0						
	SHA 132° 132° 131° 131° 131° 131°			SHA 160° 160° 160° 160° 159° 159°			SHA 087° 085° 083° 080° 078° 076°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 09:51			Greenwich Culmination Time: 15:10						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	264 46.5 +01.3	N	15 08.5 -00.4	264 00.4 +02.2	N	13 40.5 -00.1	43 09.9 +02.6	N	00 58.8 -00.1	00			
01	279 47.8 +01.3	N	15 08.1 -00.3	279 02.6 +02.3	N	13 40.4 -00.1	58 12.5 +02.6	N	00 58.7 +00.0	01			
02	294 49.1 +01.3	N	15 07.8 -00.3	294 04.9 +02.2	N	13 40.3 -00.1	73 15.1 +02.6	N	00 58.7 +00.0	02			
03	309 50.4 +01.4	N	15 07.5 -00.4	309 07.1 +02.2	N	13 40.2 +00.0	88 17.7 +02.5	N	00 58.7 -00.1	03			
04	324 51.8 +01.3	N	15 07.1 -00.3	324 09.3 +02.3	N	13 40.2 -00.1	103 20.2 +02.6	N	00 58.6 +00.0	04			
05	339 53.1 +01.3	N	15 06.8 -00.3	339 11.6 +02.2	N	13 40.1 -00.1	118 22.8 +02.6	N	00 58.6 -00.1	05			
06	354 54.4 +01.3	N	15 06.5 -00.4	354 13.8 +02.3	N	13 40.0 +00.0	133 25.4 +02.6	N	00 58.5 +00.0	06			
07	9 55.7 +01.4	N	15 06.1 -00.3	9 16.1 +02.2	N	13 40.0 -00.1	148 28.0 +02.5	N	00 58.5 +00.0	07			
08	24 57.1 +01.3	N	15 05.8 -00.3	24 18.3 +02.2	N	13 39.9 -00.1	163 30.5 +02.6	N	00 58.5 -00.1	08			
09	39 58.4 +01.3	N	15 05.5 -00.3	39 20.5 +02.3	N	13 39.8 +00.0	178 33.1 +02.6	N	00 58.4 +00.0	09			
10	54 59.7 +01.4	N	15 05.2 -00.4	54 22.8 +02.2	N	13 39.8 -00.1	193 35.7 +02.6	N	00 58.4 +00.0	10			
11	70 01.1 +01.3	N	15 04.8 -00.3	69 25.0 +02.3	N	13 39.7 -00.1	208 38.3 +02.5	N	00 58.4 -00.1	11			
12	85 02.4 +01.3	N	15 04.5 -00.3	84 27.3 +02.2	N	13 39.6 +00.0	223 40.8 +02.6	N	00 58.3 +00.0	12			
13	100 03.7 +01.3	N	15 04.2 -00.4	99 29.5 +02.3	N	13 39.6 -00.1	238 43.4 +02.6	N	00 58.3 -00.1	13			
14	115 05.0 +01.4	N	15 03.8 -00.3	114 31.8 +02.2	N	13 39.5 -00.1	253 46.0 +02.6	N	00 58.2 +00.0	14			
15	130 06.4 +01.3	N	15 03.5 -00.3	129 34.0 +02.3	N	13 39.4 +00.0	268 48.6 +02.5	N	00 58.2 +00.0	15			
16	145 07.7 +01.3	N	15 03.2 -00.3	144 36.3 +02.2	N	13 39.4 -00.1	283 51.1 +02.6	N	00 58.2 -00.1	16			
17	160 09.0 +01.4	N	15 02.9 -00.4	159 38.5 +02.2	N	13 39.3 -00.1	298 53.7 +02.6	N	00 58.1 +00.0	17			
18	175 10.4 +01.3	N	15 02.5 -00.3	174 40.7 +02.3	N	13 39.2 +00.0	313 56.3 +02.5	N	00 58.1 -00.1	18			
19	190 11.7 +01.3	N	15 02.2 -00.3	189 43.0 +02.2	N	13 39.2 -00.1	328 58.8 +02.6	N	00 58.0 +00.0	19			
20	205 13.0 +01.4	N	15 01.9 -00.4	204 45.2 +02.3	N	13 39.1 -00.1	344 01.4 +02.6	N	00 58.0 +00.0	20			
21	220 14.4 +01.3	N	15 01.5 -00.3	219 47.5 +02.2	N	13 39.0 +00.0	359 04.0 +02.6	N	00 58.0 -00.1	21			
22	235 15.7 +01.3	N	15 01.2 -00.3	234 49.7 +02.3	N	13 39.0 -00.1	14 06.6 +02.5	N	00 57.9 +00.0	22			
23	250 17.0 +01.4	N	15 00.9 -00.3	249 52.0 +02.2	N	13 38.9 -00.1	29 09.1 +02.6	N	00 57.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 213° 213° 212° 212° 212° 212°			SHA 212° 212° 212° 212° 212° 212°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 06:20			Greenwich Culmination Time: 06:23			Greenwich Culmination Time: 21:03						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 54.7 -00.1	S	18 10.1 +00.7	212 35.4 +02.2	S	10 26.0 -00.5	127 59.5 -29.9	S	26 04.4 -05.0				
01	198 54.6 -00.1	S	18 10.8 +00.6	227 37.6 +02.3	S	10 25.5 -00.5	142 29.6 -29.8	S	25 59.4 -05.2				
02	213 54.5 -00.1	S	18 11.4 +00.7	242 39.9 +02.2	S	10 25.0 -00.6	156 59.8 -29.8	S	25 54.2 -05.3				
03	228 54.4 -00.1	S	18 12.1 +00.6	257 42.1 +02.3	S	10 24.4 -00.5	171 30.0 -29.8	S	25 48.9 -05.4				
04	243 54.3 -00.1	S	18 12.7 +00.7	272 44.4 +02.2	S	10 23.9 -00.5	186 00.2 -29.7	S	25 43.5 -05.5				
05	258 54.2 -00.1	S	18 13.4 +00.6	287 46.6 +02.2	S	10 23.4 -00.6	200 30.5 -29.6	S	25 38.0 -05.6				
06	273 54.1 -00.1	S	18 14.0 +00.7	302 48.8 +02.2	S	10 22.8 -00.5	215 00.9 -29.6	S	25 32.4 -05.8				
07	288 54.0 -00.1	S	18 14.7 +00.6	317 51.0 +02.2	S	10 22.3 -00.5	229 31.3 -29.6	S	25 26.6 -05.8				
08	303 53.9 -00.1	S	18 15.3 +00.7	332 53.2 +02.3	S	10 21.8 -00.5	244 01.7 -29.5	S	25 20.8 -06.0				
09	318 53.8 +00.0	S	18 16.0 +00.6	347 55.5 +02.2	S	10 21.3 -00.5	258 32.2 -29.4	S	25 14.8 -06.1				
10	333 53.8 -00.1	S	18 16.6 +00.7	2 57.7 +02.2	S	10 20.8 -00.6	273 02.8 -29.4	S	25 08.7 -06.2				
11	348 53.7 -00.1	S	18 17.3 +00.6	17 59.9 +02.2	S	10 20.2 -00.5	287 33.4 -29.3	S	25 02.5 -06.3				
12	3 53.6 -00.1	S	18 17.9 +00.7	33 02.1 +02.2	S	10 19.7 -00.5	302 04.1 -29.3	S	24 56.2 -06.5				
13	18 53.5 -00.1	S	18 18.6 +00.6	48 04.3 +02.2	S	10 19.2 -00.5	316 34.8 -29.3	S	24 49.7 -06.5				
14	33 53.4 -00.1	S	18 19.2 +00.7	63 06.5 +02.2	S	10 18.7 -00.5	331 05.5 -29.2	S	24 43.2 -06.7				
15	48 53.3 -00.1	S	18 19.9 +00.6	78 08.7 +02.2	S	10 18.2 -00.5	345 36.3 -29.1	S	24 36.5 -06.8				
16	63 53.2 -00.1	S	18 20.5 +00.7	93 10.9 +02.2	S	10 17.7 -00.5	0 07.2 -29.1	S	24 29.7 -06.9				
17	78 53.1 -00.1	S	18 21.2 +00.6	108 13.1 +02.1	S	10 17.2 -00.5	14 38.1 -29.0	S	24 22.8 -06.9				
18	93 53.0 -00.1	S	18 21.8 +00.7	123 15.2 +02.2	S	10 16.7 -00.5	29 09.1 -29.0	S	24 15.9 -07.1				
19	108 52.9 -00.1	S	18 22.5 +00.6	138 17.4 +02.2	S	10 16.2 -00.5	43 40.1 -28.9	S	24 08.8 -07.3				
20	123 52.8 -00.1	S	18 23.1 +00.6	153 19.6 +02.2	S	10 15.7 -00.5	58 11.2 -28.9	S	24 01.5 -07.3				
21	138 52.7 -00.1	S	18 23.7 +00.7	168 21.8 +02.1	S	10 15.2 -00.5	72 42.3 -28.8	S	23 54.2 -07.4				
22	153 52.6 -00.1	S	18 24.4 +00.6	183 23.9 +02.2	S	10 14.7 -00.5	87 13.5 -28.7	S	23 46.8 -07.5				
23	168 52.5 -00.1	S	18 25.0 +00.7	198 26.1 +02.1	S	10 14.2 -00.5	101 44.8 -28.7	S	23 39.3 -07.7				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 54'0 54'1 54'1 54'1 54'1 54'1						
	SHA 131° 131° 130° 130° 130° 130°			SHA 159° 159° 159° 159° 159° 159°			SHA 074° 072° 070° 067° 065° 063°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 09:48			Greenwich Culmination Time: 15:59						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	265 18.4 +01.3	N	15 00.6 -00.4	264 54.2 +02.3	N	13 38.8 +00.0	44 11.7 +02.6	N	00 57.9 -00.1				
01	280 19.7 +01.3	N	15 00.2 -00.3	279 56.5 +02.2	N	13 38.8 -00.1	59 14.3 +02.6	N	00 57.8 +00.0				
02	295 21.0 +01.4	N	14 59.9 -00.3	294 58.7 +02.3	N	13 38.7 -00.1	74 16.9 +02.5	N	00 57.8 -00.1				
03	310 22.4 +01.3	N	14 59.6 -00.4	310 01.0 +02.2	N	13 38.6 +00.0	89 19.4 +02.6	N	00 57.7 +00.0				
04	325 23.7 +01.4	N	14 59.2 -00.3	325 03.2 +02.2	N	13 38.6 -00.1	104 22.0 +02.6	N	00 57.7 +00.0				
05	340 25.1 +01.3	N	14 58.9 -00.3	340 05.4 +02.3	N	13 38.5 -00.1	119 24.6 +02.5	N	00 57.7 -00.1				
06	355 26.4 +01.3	N	14 58.6 -00.3	355 07.7 +02.2	N	13 38.4 +00.0	134 27.1 +02.6	N	00 57.6 +00.0				
07	10 27.7 +01.4	N	14 58.3 -00.4	10 09.9 +02.3	N	13 38.4 -00.1	149 29.7 +02.6	N	00 57.6 +00.0				
08	25 29.1 +01.3	N	14 57.9 -00.3	25 12.2 +02.2	N	13 38.3 -00.1	164 32.3 +02.6	N	00 57.6 -00.1				
09	40 30.4 +01.3	N	14 57.6 -00.3	40 14.4 +02.3	N	13 38.2 +00.0	179 34.9 +02.5	N	00 57.5 +00.0				
10	55 31.7 +01.4	N	14 57.3 -00.4	55 16.7 +02.2	N	13 38.2 -00.1	194 37.4 +02.6	N	00 57.5 -00.1				
11	70 33.1 +01.3	N	14 56.9 -00.3	70 18.9 +02.3	N	13 38.1 +00.0	209 40.0 +02.6	N	00 57.4 +00.0				
12	85 34.4 +01.4	N	14 56.6 -00.3	85 21.2 +02.2	N	13 38.1 -00.1	224 42.6 +02.5	N	00 57.4 +00.0				
13	100 35.8 +01.3	N	14 56.3 -00.3	100 23.4 +02.3	N	13 38.0 -00.1	239 45.1 +02.6	N	00 57.4 -00.1				
14	115 37.1 +01.3	N	14 56.0 -00.4	115 25.7 +02.2	N	13 37.9 +00.0	254 47.7 +02.6	N	00 57.3 +00.0				
15	130 38.4 +01.4	N	14 55.6 -00.3	130 27.9 +02.3	N	13 37.9 -00.1	269 50.3 +02.6	N	00 57.3 +00.0				
16	145 39.8 +01.3	N	14 55.3 -00.3	145 30.2 +02.2	N	13 37.8 -00.1	284 52.9 +02.5	N	00 57.3 -00.1				
17	160 41.1 +01.4	N	14 55.0 -00.3	160 32.4 +02.3	N	13 37.7 +00.0	299 55.4 +02.6	N	00 57.2 +00.0				
18	175 42.5 +01.3	N	14 54.7 -00.4	175 34.7 +02.2	N	13 37.7 -00.1	314 58.0 +02.6	N	00 57.2 -00.1				
19	190 43.8 +01.4	N	14 54.3 -00.3	190 36.9 +02.3	N	13 37.6 -00.1	330 00.6 +02.5	N	00 57.1 +00.0				
20	205 45.2 +01.3	N	14 54.0 -00.3	205 39.2 +02.2	N	13 37.5 +00.0	345 03.1 +02.6	N	00 57.1 +00.0				
21	220 46.5 +01.4	N	14 53.7 -00.3	220 41.4 +02.3	N	13 37.5 -00.1	0 05.7 +02.6	N	00 57.1 -00.1				
22	235 47.9 +01.3	N	14 53.4 -00.4	235 43.7 +02.3	N	13 37.4 -00.1	15 08.3 +02.6	N	00 57.0 +00.0				
23	250 49.2 +01.3	N	14 53.0 -00.3	250 46.0 +02.2	N	13 37.3 +00.0	30 10.9 +02.5	N	00 57.0 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 212° 212° 212° 212° 212° 212°			SHA 212° 212° 212° 212° 212° 212°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 06:18			Greenwich Culmination Time: 06:19			Greenwich Culmination Time: 20:59						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 52.4 -00.1	S	18 25.7 +00.6	213 28.2 +02.2	S	10 13.7 -00.5	116 16.1 -28.7	S	23 31.6 -07.7	00			
01	198 52.3 -00.2	S	18 26.3 +00.7	228 30.4 +02.2	S	10 13.2 -00.5	130 47.4 -28.6	S	23 23.9 -07.9	01			
02	213 52.1 -00.1	S	18 27.0 +00.6	243 32.6 +02.1	S	10 12.7 -00.4	145 18.8 -28.5	S	23 16.0 -07.9	02			
03	228 52.0 -00.1	S	18 27.6 +00.6	258 34.7 +02.1	S	10 12.3 -00.5	159 50.3 -28.5	S	23 08.1 -08.1	03			
04	243 51.9 -00.1	S	18 28.2 +00.7	273 36.8 +02.2	S	10 11.8 -00.5	174 21.8 -28.4	S	23 00.0 -08.1	04			
05	258 51.8 -00.1	S	18 28.9 +00.6	288 39.0 +02.1	S	10 11.3 -00.5	188 53.4 -28.4	S	22 51.9 -08.3	05			
06	273 51.7 -00.1	S	18 29.5 +00.6	303 41.1 +02.2	S	10 10.8 -00.5	203 25.0 -28.3	S	22 43.6 -08.3	06			
07	288 51.6 -00.1	S	18 30.1 +00.7	318 43.3 +02.1	S	10 10.3 -00.4	217 56.7 -28.3	S	22 35.3 -08.5	07			
08	303 51.5 -00.1	S	18 30.8 +00.6	333 45.4 +02.1	S	10 09.9 -00.5	232 28.4 -28.2	S	22 26.8 -08.6	08			
09	318 51.4 -00.1	S	18 31.4 +00.6	348 47.5 +02.1	S	10 09.4 -00.5	247 00.2 -28.2	S	22 18.2 -08.6	09			
10	333 51.3 -00.1	S	18 32.0 +00.7	3 49.6 +02.2	S	10 08.9 -00.4	261 32.0 -28.1	S	22 09.6 -08.8	10			
11	348 51.2 -00.1	S	18 32.7 +00.6	18 51.8 +02.1	S	10 08.5 -00.5	276 03.9 -28.1	S	22 00.8 -08.8	11			
12	3 51.1 -00.1	S	18 33.3 +00.7	33 53.9 +02.1	S	10 08.0 -00.5	290 35.8 -28.0	S	21 52.0 -09.0	12			
13	18 51.0 -00.1	S	18 34.0 +00.6	48 56.0 +02.1	S	10 07.5 -00.4	305 07.8 -27.9	S	21 43.0 -09.0	13			
14	33 50.9 -00.1	S	18 34.6 +00.6	63 58.1 +02.1	S	10 07.1 -00.5	319 39.9 -27.9	S	21 34.0 -09.2	14			
15	48 50.8 -00.1	S	18 35.2 +00.6	79 00.2 +02.1	S	10 06.6 -00.4	334 12.0 -27.9	S	21 24.8 -09.2	15			
16	63 50.7 -00.1	S	18 35.8 +00.7	94 02.3 +02.1	S	10 06.2 -00.5	348 44.1 -27.8	S	21 15.6 -09.3	16			
17	78 50.6 -00.1	S	18 36.5 +00.6	109 04.4 +02.1	S	10 05.7 -00.4	3 16.3 -27.7	S	21 06.3 -09.5	17			
18	93 50.5 -00.2	S	18 37.1 +00.6	124 06.5 +02.1	S	10 05.3 -00.5	17 48.6 -27.7	S	20 56.8 -09.5	18			
19	108 50.3 -00.1	S	18 37.7 +00.7	139 08.6 +02.1	S	10 04.8 -00.5	32 20.9 -27.7	S	20 47.3 -09.6	19			
20	123 50.2 -00.1	S	18 38.4 +00.6	154 10.7 +02.1	S	10 04.3 -00.4	46 53.2 -27.6	S	20 37.7 -09.7	20			
21	138 50.1 -00.1	S	18 39.0 +00.6	169 12.8 +02.0	S	10 03.9 -00.4	61 25.6 -27.5	S	20 28.0 -09.8	21			
22	153 50.0 -00.1	S	18 39.6 +00.7	184 14.8 +02.1	S	10 03.5 -00.5	75 58.1 -27.5	S	20 18.2 -09.9	22			
23	168 49.9 -00.1	S	18 40.3 +00.6	199 16.9 +02.1	S	10 03.0 -00.4	90 30.6 -27.5	S	20 08.3 -09.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 14'8 14'8 14'8 14'8 14'8 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 54'2 54'2 54'2 54'3 54'3 54'4						
	SHA 130° 130° 129° 129° 129° 129°			SHA 159° 159° 159° 159° 159° 159°			SHA 061° 059° 057° 055° 053° 051°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 09:44			Greenwich Culmination Time: 16:46						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	265 50.5 +01.4	N	14 52.7 -00.3	265 48.2 +02.3	N	13 37.3 -00.1	45 13.4 +02.6	N	00 57.0 -00.1	00			
01	280 51.9 +01.3	N	14 52.4 -00.4	280 50.5 +02.2	N	13 37.2 +00.0	60 16.0 +02.6	N	00 56.9 +00.0	01			
02	295 53.2 +01.4	N	14 52.0 -00.3	295 52.7 +02.3	N	13 37.2 -00.1	75 18.6 +02.5	N	00 56.9 +00.0	02			
03	310 54.6 +01.3	N	14 51.7 -00.3	310 55.0 +02.2	N	13 37.1 -00.1	90 21.1 +02.6	N	00 56.9 -00.1	03			
04	325 55.9 +01.4	N	14 51.4 -00.3	325 57.2 +02.3	N	13 37.0 +00.0	105 23.7 +02.6	N	00 56.8 +00.0	04			
05	340 57.3 +01.3	N	14 51.1 -00.4	340 59.5 +02.2	N	13 37.0 -00.1	120 26.3 +02.5	N	00 56.8 +00.0	05			
06	355 58.6 +01.4	N	14 50.7 -00.3	356 01.7 +02.3	N	13 36.9 -00.1	135 28.8 +02.6	N	00 56.8 -00.1	06			
07	10 60.0 +01.3	N	14 50.4 -00.3	11 04.0 +02.2	N	13 36.8 +00.0	150 31.4 +02.6	N	00 56.7 +00.0	07			
08	26 01.3 +01.4	N	14 50.1 -00.3	26 06.2 +02.3	N	13 36.8 -00.1	165 34.0 +02.5	N	00 56.7 -00.1	08			
09	41 02.7 +01.3	N	14 49.8 -00.4	41 08.5 +02.2	N	13 36.7 -00.1	180 36.5 +02.6	N	00 56.6 +00.0	09			
10	56 04.0 +01.4	N	14 49.4 -00.3	56 10.7 +02.3	N	13 36.6 +00.0	195 39.1 +02.6	N	00 56.6 +00.0	10			
11	71 05.4 +01.3	N	14 49.1 -00.3	71 13.0 +02.3	N	13 36.6 -00.1	210 41.7 +02.5	N	00 56.6 -00.1	11			
12	86 06.7 +01.4	N	14 48.8 -00.3	86 15.3 +02.2	N	13 36.5 +00.0	225 44.2 +02.6	N	00 56.5 +00.0	12			
13	101 08.1 +01.3	N	14 48.5 -00.4	101 17.5 +02.3	N	13 36.5 -00.1	240 46.8 +02.6	N	00 56.5 +00.0	13			
14	116 09.4 +01.4	N	14 48.1 -00.3	116 19.8 +02.2	N	13 36.4 -00.1	255 49.4 +02.5	N	00 56.5 -00.1	14			
15	131 10.8 +01.4	N	14 47.8 -00.3	131 22.0 +02.3	N	13 36.3 +00.0	270 51.9 +02.6	N	00 56.4 +00.0	15			
16	146 12.2 +01.3	N	14 47.5 -00.3	146 24.3 +02.2	N	13 36.3 -00.1	285 54.5 +02.6	N	00 56.4 +00.0	16			
17	161 13.5 +01.4	N	14 47.2 -00.4	161 26.5 +02.3	N	13 36.2 -00.1	300 57.1 +02.6	N	00 56.4 -00.1	17			
18	176 14.9 +01.3	N	14 46.8 -00.3	176 28.8 +02.3	N	13 36.1 +00.0	315 59.7 +02.5	N	00 56.3 +00.0	18			
19	191 16.2 +01.4	N	14 46.5 -00.3	191 31.1 +02.2	N	13 36.1 -00.1	331 02.2 +02.6	N	00 56.3 +00.0	19			
20	206 17.6 +01.3	N	14 46.2 -00.3	206 33.3 +02.3	N	13 36.0 +00.0	346 04.8 +02.6	N	00 56.3 -00.1	20			
21	221 18.9 +01.4	N	14 45.9 -00.4	221 35.6 +02.2	N	13 36.0 -00.1	1 07.4 +02.5	N	00 56.2 +00.0	21			
22	236 20.3 +01.3	N	14 45.5 -00.3	236 37.8 +02.3	N	13 35.9 -00.1	16 09.9 +02.6	N	00 56.2 +00.0	22			
23	251 21.6 +01.4	N	14 45.2 -00.3	251 40.1 +02.3	N	13 35.8 +00.0	31 12.5 +02.5	N	00 56.2 -00.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 212° 212° 212° 211° 211° 211°			SHA 212° 212° 212° 212° 212° 212°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 06:16			Greenwich Culmination Time: 06:15			Greenwich Culmination Time: 20:55						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	183 49.8 -00.1	S	18 40.9 +00.6	214 19.0 +02.0	S	10 02.6 -00.5	105 03.1 -27.4	S	19 58.4 -10.1	00										
01	198 49.7 -00.1	S	18 41.5 +00.6	229 21.0 +02.1	S	10 02.1 -00.4	119 35.7 -27.3	S	19 48.3 -10.1	01										
02	213 49.6 -00.1	S	18 42.1 +00.7	244 23.1 +02.1	S	10 01.7 -00.4	134 08.4 -27.3	S	19 38.2 -10.3	02										
03	228 49.5 -00.2	S	18 42.8 +00.6	259 25.2 +02.0	S	10 01.3 -00.5	148 41.1 -27.3	S	19 27.9 -10.3	03										
04	243 49.3 -00.1	S	18 43.4 +00.6	274 27.2 +02.1	S	10 00.8 -00.4	163 13.8 -27.2	S	19 17.6 -10.4	04										
05	258 49.2 -00.1	S	18 44.0 +00.6	289 29.3 +02.0	S	10 00.4 -00.4	177 46.6 -27.1	S	19 07.2 -10.5	05										
06	273 49.1 -00.1	S	18 44.6 +00.7	304 31.3 +02.1	S	09 60.0 -00.5	192 19.5 -27.1	S	18 56.7 -10.6	06										
07	288 49.0 -00.1	S	18 45.3 +00.6	319 33.4 +02.0	S	09 59.5 -00.4	206 52.4 -27.1	S	18 46.1 -10.6	07										
08	303 48.9 -00.1	S	18 45.9 +00.6	334 35.4 +02.1	S	09 59.1 -00.4	221 25.3 -27.0	S	18 35.5 -10.8	08										
09	318 48.8 -00.1	S	18 46.5 +00.6	349 37.5 +02.0	S	09 58.7 -00.4	235 58.3 -27.0	S	18 24.7 -10.8	09										
10	333 48.7 -00.1	S	18 47.1 +00.6	4 39.5 +02.0	S	09 58.3 -00.4	250 31.3 -27.0	S	18 13.9 -10.9	10										
11	348 48.6 -00.2	S	18 47.7 +00.7	19 41.5 +02.1	S	09 57.9 -00.5	265 04.3 -26.9	S	18 03.0 -11.0	11										
12	3 48.4 -00.1	S	18 48.4 +00.6	34 43.6 +02.0	S	09 57.4 -00.4	279 37.4 -26.8	S	17 52.0 -11.0	12										
13	18 48.3 -00.1	S	18 49.0 +00.6	49 45.6 +02.0	S	09 57.0 -00.4	294 10.6 -26.8	S	17 41.0 -11.2	13										
14	33 48.2 -00.1	S	18 49.6 +00.6	64 47.6 +02.0	S	09 56.6 -00.4	308 43.8 -26.8	S	17 29.8 -11.2	14										
15	48 48.1 -00.1	S	18 50.2 +00.6	79 49.6 +02.0	S	09 56.2 -00.4	323 17.0 -26.7	S	17 18.6 -11.3	15										
16	63 48.0 -00.1	S	18 50.8 +00.7	94 51.6 +02.1	S	09 55.8 -00.4	337 50.3 -26.7	S	17 07.3 -11.4	16										
17	78 47.9 -00.2	S	18 51.5 +00.6	109 53.7 +02.0	S	09 55.4 -00.4	352 23.6 -26.7	S	16 55.9 -11.5	17										
18	93 47.7 -00.1	S	18 52.1 +00.6	124 55.7 +02.0	S	09 55.0 -00.4	6 56.9 -26.6	S	16 44.4 -11.5	18										
19	108 47.6 -00.1	S	18 52.7 +00.6	139 57.7 +02.0	S	09 54.6 -00.4	21 30.3 -26.6	S	16 32.9 -11.6	19										
20	123 47.5 -00.1	S	18 53.3 +00.6	154 59.7 +02.0	S	09 54.2 -00.4	36 03.7 -26.5	S	16 21.3 -11.7	20										
21	138 47.4 -00.1	S	18 53.9 +00.6	170 01.7 +02.0	S	09 53.8 -00.4	50 37.2 -26.5	S	16 09.6 -11.7	21										
22	153 47.3 -00.2	S	18 54.5 +00.6	185 03.7 +02.0	S	09 53.4 -00.4	65 10.7 -26.5	S	15 57.9 -11.9	22										
23	168 47.1 -00.1	S	18 55.1 +00.7	200 05.7 +01.9	S	09 53.0 -00.4	79 44.2 -26.4	S	15 46.0 -11.9	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'4	00'4	00'4	00'4	00'4	00'4	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'4	00'4	00'4	00'4	00'4	00'4	HP						
SHA	129°	128°	128°	128°	128°	128°	SHA	159°	159°	159°	159°	159°	159°	SHA						
Greenwich Culmination Time: 11:44							Greenwich Culmination Time: 09:41							Greenwich Culmination Time: 17:31						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	266 23.0 +01.4	N	14 44.9 -00.3	266 42.4 +02.2	N	13 35.8 -00.1	46 15.0 +02.6	N	00 56.1 +00.0	00										
01	281 24.4 +01.3	N	14 44.6 -00.4	281 44.6 +02.3	N	13 35.7 +00.0	61 17.6 +02.6	N	00 56.1 +00.0	01										
02	296 25.7 +01.4	N	14 44.2 -00.3	296 46.9 +02.2	N	13 35.7 -00.1	76 20.2 +02.5	N	00 56.1 -00.1	02										
03	311 27.1 +01.3	N	14 43.9 -00.3	311 49.1 +02.3	N	13 35.6 -00.1	91 22.7 +02.6	N	00 56.0 +00.0	03										
04	326 28.4 +01.4	N	14 43.6 -00.3	326 51.4 +02.3	N	13 35.5 +00.0	106 25.3 +02.6	N	00 56.0 -00.1	04										
05	341 29.8 +01.4	N	14 43.3 -00.3	341 53.7 +02.2	N	13 35.5 -00.1	121 27.9 +02.5	N	00 55.9 +00.0	05										
06	356 31.2 +01.3	N	14 43.0 -00.4	356 55.9 +02.3	N	13 35.4 -00.1	136 30.4 +02.6	N	00 55.9 +00.0	06										
07	11 32.5 +01.4	N	14 42.6 -00.3	11 58.2 +02.2	N	13 35.3 +00.0	151 33.0 +02.6	N	00 55.9 -00.1	07										
08	26 33.9 +01.3	N	14 42.3 -00.3	27 00.4 +02.3	N	13 35.3 -00.1	166 35.6 +02.5	N	00 55.8 +00.0	08										
09	41 35.2 +01.4	N	14 42.0 -00.3	42 02.7 +02.3	N	13 35.2 +00.0	181 38.1 +02.6	N	00 55.8 +00.0	09										
10	56 36.6 +01.4	N	14 41.7 -00.4	57 05.0 +02.2	N	13 35.2 -00.1	196 40.7 +02.6	N	00 55.8 -00.1	10										
11	71 38.0 +01.3	N	14 41.3 -00.3	72 07.2 +02.3	N	13 35.1 -00.1	211 43.3 +02.5	N	00 55.7 +00.0	11										
12	86 39.3 +01.4	N	14 41.0 -00.3	87 09.5 +02.3	N	13 35.0 +00.0	226 45.8 +02.6	N	00 55.7 +00.0	12										
13	101 40.7 +01.4	N	14 40.7 -00.3	102 11.8 +02.2	N	13 35.0 -00.1	241 48.4 +02.6	N	00 55.7 -00.1	13										
14	116 42.1 +01.3	N	14 40.4 -00.4	117 14.0 +02.3	N	13 34.9 +00.0	256 51.0 +02.5	N	00 55.6 +00.0	14										
15	131 43.4 +01.4	N	14 40.0 -00.3	132 16.3 +02.2	N	13 34.9 -00.1	271 53.5 +02.6	N	00 55.6 +00.0	15										
16	146 44.8 +01.4	N	14 39.7 -00.3	147 18.5 +02.3	N	13 34.8 -00.1	286 56.1 +02.6	N	00 55.6 -00.1	16										
17	161 46.2 +01.3	N	14 39.4 -00.3	162 20.8 +02.3	N	13 34.7 +00.0	301 58.7 +02.5	N	00 55.5 +00.0	17										
18	176 47.5 +01.4	N	14 39.1 -00.3	177 23.1 +02.2	N	13 34.7 -00.1	317 01.2 +02.6	N	00 55.5 +00.0	18										
19	191 48.9 +01.4	N	14 38.8 -00.4	192 25.3 +02.3	N	13 34.6 +00.0	332 03.8 +02.5	N	00 55.5 -00.1	19										
20	206 50.3 +01.3	N	14 38.4 -00.3	207 27.6 +02.3	N	13 34.6 -00.1	347 06.3 +02.6	N	00 55.4 +00.0	20										
21	221 51.6 +01.4	N	14 38.1 -00.3	222 29.9 +02.2	N	13 34.5 -00.1	2 08.9 +02.6	N	00 55.4 +00.0	21										
22	236 53.0 +01.4	N	14 37.8 -00.3	237 32.1 +02.3	N	13 34.4 +00.0	17 11.5 +02.5	N	00 55.4 -00.1	22										
23	251 54.4 +01.3	N	14 37.5 -00.3	252 34.4 +02.3	N	13 34.4 -00.1	32 14.0 +02.6	N	00 55.3 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD						
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP						
SHA	211°	211°	211°	211°	211°	211°	SHA	212°	212°	212°	212°	212°	212°	SHA						
Greenwich Culmination Time: 06:13							Greenwich Culmination Time: 06:12							Greenwich Culmination Time: 20:51						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 47.0 -00.1	S	18 55.8 +00.6	215 07.6 +02.0	S	09 52.6 -00.4	94 17.8 -26.4	S	15 34.1 -11.9				
01	198 46.9 -00.1	S	18 56.4 +00.6	230 09.6 +02.0	S	09 52.2 -00.4	108 51.4 -26.4	S	15 22.2 -12.1				
02	213 46.8 -00.1	S	18 57.0 +00.6	245 11.6 +02.0	S	09 51.8 -00.4	123 25.0 -26.4	S	15 10.1 -12.1				
03	228 46.7 -00.2	S	18 57.6 +00.6	260 13.6 +02.0	S	09 51.4 -00.4	137 58.6 -26.3	S	14 58.0 -12.2				
04	243 46.5 -00.1	S	18 58.2 +00.6	275 15.6 +01.9	S	09 51.0 -00.4	152 32.3 -26.2	S	14 45.8 -12.3				
05	258 46.4 -00.1	S	18 58.8 +00.6	290 17.5 +02.0	S	09 50.6 -00.3	167 06.1 -26.3	S	14 33.5 -12.3				
06	273 46.3 -00.1	S	18 59.4 +00.6	305 19.5 +01.9	S	09 50.3 -00.4	181 39.8 -26.2	S	14 21.2 -12.4				
07	288 46.2 -00.1	S	19 00.0 +00.6	320 21.4 +02.0	S	09 49.9 -00.4	196 13.6 -26.2	S	14 08.8 -12.4				
08	303 46.1 -00.2	S	19 00.6 +00.7	335 23.4 +02.0	S	09 49.5 -00.4	210 47.4 -26.2	S	13 56.4 -12.6				
09	318 45.9 -00.1	S	19 01.3 +00.6	350 25.4 +01.9	S	09 49.1 -00.3	225 21.2 -26.1	S	13 43.8 -12.6				
10	333 45.8 -00.1	S	19 01.9 +00.6	5 27.3 +02.0	S	09 48.8 -00.4	239 55.1 -26.1	S	13 31.2 -12.6				
11	348 45.7 -00.1	S	19 02.5 +00.6	20 29.3 +01.9	S	09 48.4 -00.4	254 29.0 -26.1	S	13 18.6 -12.7				
12	3 45.6 -00.2	S	19 03.1 +00.6	35 31.2 +02.0	S	09 48.0 -00.3	269 02.9 -26.1	S	13 05.9 -12.8				
13	18 45.4 -00.1	S	19 03.7 +00.6	50 33.2 +01.9	S	09 47.7 -00.4	283 36.8 -26.0	S	12 53.1 -12.9				
14	33 45.3 -00.1	S	19 04.3 +00.6	65 35.1 +01.9	S	09 47.3 -00.4	298 10.8 -26.1	S	12 40.2 -12.9				
15	48 45.2 -00.1	S	19 04.9 +00.6	80 37.0 +02.0	S	09 46.9 -00.3	312 44.7 -26.0	S	12 27.3 -13.0				
16	63 45.1 -00.2	S	19 05.5 +00.6	95 39.0 +01.9	S	09 46.6 -00.4	327 18.7 -25.9	S	12 14.3 -13.0				
17	78 44.9 -00.1	S	19 06.1 +00.6	110 40.9 +01.9	S	09 46.2 -00.3	341 52.8 -26.0	S	12 01.3 -13.1				
18	93 44.8 -00.1	S	19 06.7 +00.6	125 42.8 +01.9	S	09 45.9 -00.4	356 26.8 -26.0	S	11 48.2 -13.2				
19	108 44.7 -00.1	S	19 07.3 +00.6	140 44.7 +01.9	S	09 45.5 -00.4	11 00.8 -25.9	S	11 35.0 -13.2				
20	123 44.6 -00.2	S	19 07.9 +00.6	155 46.6 +02.0	S	09 45.1 -00.3	25 34.9 -25.9	S	11 21.8 -13.2				
21	138 44.4 -00.1	S	19 08.5 +00.6	170 48.6 +01.9	S	09 44.8 -00.4	40 09.0 -25.9	S	11 08.6 -13.4				
22	153 44.3 -00.1	S	19 09.1 +00.6	185 50.5 +01.9	S	09 44.4 -00.3	54 43.1 -25.9	S	10 55.2 -13.4				
23	168 44.2 -00.1	S	19 09.7 +00.6	200 52.4 +01.9	S	09 44.1 -00.3	69 17.2 -25.9	S	10 41.8 -13.4				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 15'0 15'0 15'0 15'0 15'1 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 54'9 55'0 55'1 55'2 55'3 55'4						
	SHA 128° 127° 127° 127° 127° 127°			SHA 159° 159° 159° 159° 159° 159°			SHA 037° 035° 033° 032° 030° 028°						
	Greenwich Culmination Time: 11:44			Greenwich Culmination Time: 09:38			Greenwich Culmination Time: 18:14						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	266 55.7 +01.4	N	14 37.2 -00.4	267 36.7 +02.2	N	13 34.3 +00.0	47 16.6 +02.6	N	00 55.3 +00.0				
01	281 57.1 +01.4	N	14 36.8 -00.3	282 38.9 +02.3	N	13 34.3 -00.1	62 19.2 +02.5	N	00 55.3 -00.1				
02	296 58.5 +01.3	N	14 36.5 -00.3	297 41.2 +02.3	N	13 34.2 -00.1	77 21.7 +02.6	N	00 55.2 +00.0				
03	311 59.8 +01.4	N	14 36.2 -00.3	312 43.5 +02.2	N	13 34.1 +00.0	92 24.3 +02.5	N	00 55.2 +00.0				
04	327 01.2 +01.4	N	14 35.9 -00.4	327 45.7 +02.3	N	13 34.1 -00.1	107 26.8 +02.6	N	00 55.2 -00.1				
05	342 02.6 +01.4	N	14 35.5 -00.3	342 48.0 +02.3	N	13 34.0 +00.0	122 29.4 +02.6	N	00 55.1 +00.0				
06	357 04.0 +01.3	N	14 35.2 -00.3	357 50.3 +02.2	N	13 34.0 -00.1	137 32.0 +02.5	N	00 55.1 +00.0				
07	12 05.3 +01.4	N	14 34.9 -00.3	12 52.5 +02.3	N	13 33.9 +00.0	152 34.5 +02.6	N	00 55.1 +00.0				
08	27 06.7 +01.4	N	14 34.6 -00.3	27 54.8 +02.3	N	13 33.9 -00.1	167 37.1 +02.6	N	00 55.1 -00.1				
09	42 08.1 +01.4	N	14 34.3 -00.4	42 57.1 +02.2	N	13 33.8 -00.1	182 39.7 +02.5	N	00 55.0 +00.0				
10	57 09.5 +01.3	N	14 33.9 -00.3	57 59.3 +02.3	N	13 33.7 +00.0	197 42.2 +02.6	N	00 55.0 +00.0				
11	72 10.8 +01.4	N	14 33.6 -00.3	73 01.6 +02.3	N	13 33.7 -00.1	212 44.8 +02.5	N	00 55.0 -00.1				
12	87 12.2 +01.4	N	14 33.3 -00.3	88 03.9 +02.3	N	13 33.6 +00.0	227 47.3 +02.6	N	00 54.9 +00.0				
13	102 13.6 +01.4	N	14 33.0 -00.3	103 06.2 +02.2	N	13 33.6 -00.1	242 49.9 +02.6	N	00 54.9 +00.0				
14	117 15.0 +01.3	N	14 32.7 -00.4	118 08.4 +02.3	N	13 33.5 -00.1	257 52.5 +02.5	N	00 54.9 -00.1				
15	132 16.3 +01.4	N	14 32.3 -00.3	133 10.7 +02.3	N	13 33.4 +00.0	272 55.0 +02.6	N	00 54.8 +00.0				
16	147 17.7 +01.4	N	14 32.0 -00.3	148 13.0 +02.2	N	13 33.4 -00.1	287 57.6 +02.5	N	00 54.8 +00.0				
17	162 19.1 +01.4	N	14 31.7 -00.3	163 15.2 +02.3	N	13 33.3 +00.0	303 00.1 +02.6	N	00 54.8 -00.1				
18	177 20.5 +01.3	N	14 31.4 -00.3	178 17.5 +02.3	N	13 33.3 -00.1	318 02.7 +02.6	N	00 54.7 +00.0				
19	192 21.8 +01.4	N	14 31.1 -00.4	193 19.8 +02.3	N	13 33.2 +00.0	333 05.3 +02.5	N	00 54.7 +00.0				
20	207 23.2 +01.4	N	14 30.7 -00.3	208 22.1 +02.2	N	13 33.2 -00.1	348 07.8 +02.6	N	00 54.7 -00.1				
21	222 24.6 +01.4	N	14 30.4 -00.3	223 24.3 +02.3	N	13 33.1 -00.1	3 10.4 +02.5	N	00 54.6 +00.0				
22	237 26.0 +01.4	N	14 30.1 -00.3	238 26.6 +02.3	N	13 33.0 +00.0	18 12.9 +02.6	N	00 54.6 +00.0				
23	252 27.4 +01.3	N	14 29.8 -00.3	253 28.9 +02.2	N	13 33.0 -00.1	33 15.5 +02.6	N	00 54.6 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 211° 211° 211° 211° 211° 210°			SHA 212° 212° 212° 211° 211° 211°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 06:11			Greenwich Culmination Time: 06:08			Greenwich Culmination Time: 20:47						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 44.1 -00.2	S	19 10.3 +00.6	215 54.3 +01.9	S	09 43.8 -00.4	83 51.3 -25.8	S	10 28.4 -13.5	00			
01	198 43.9 -00.1	S	19 10.9 +00.6	230 56.2 +01.9	S	09 43.4 -00.3	98 25.5 -25.9	S	10 14.9 -13.6	01			
02	213 43.8 -00.1	S	19 11.5 +00.6	245 58.1 +01.9	S	09 43.1 -00.4	112 59.6 -25.8	S	10 01.3 -13.6	02			
03	228 43.7 -00.2	S	19 12.1 +00.6	260 60.0 +01.9	S	09 42.7 -00.3	127 33.8 -25.9	S	09 47.7 -13.6	03			
04	243 43.5 -00.1	S	19 12.7 +00.6	276 01.9 +01.8	S	09 42.4 -00.3	142 07.9 -25.8	S	09 34.1 -13.8	04			
05	258 43.4 -00.1	S	19 13.3 +00.6	291 03.7 +01.9	S	09 42.1 -00.4	156 42.1 -25.8	S	09 20.3 -13.7	05			
06	273 43.3 -00.1	S	19 13.9 +00.6	306 05.6 +01.9	S	09 41.7 -00.3	171 16.3 -25.8	S	09 06.6 -13.9	06			
07	288 43.2 -00.2	S	19 14.5 +00.6	321 07.5 +01.9	S	09 41.4 -00.3	185 50.5 -25.8	S	08 52.7 -13.8	07			
08	303 43.0 -00.1	S	19 15.1 +00.6	336 09.4 +01.9	S	09 41.1 -00.4	200 24.7 -25.8	S	08 38.9 -14.0	08			
09	318 42.9 -00.1	S	19 15.7 +00.6	351 11.3 +01.8	S	09 40.7 -00.3	214 58.9 -25.8	S	08 24.9 -13.9	09			
10	333 42.8 -00.2	S	19 16.3 +00.6	6 13.1 +01.9	S	09 40.4 -00.3	229 33.1 -25.9	S	08 11.0 -14.0	10			
11	348 42.6 -00.1	S	19 16.9 +00.5	21 15.0 +01.9	S	09 40.1 -00.3	244 07.2 -25.8	S	07 57.0 -14.1	11			
12	3 42.5 -00.1	S	19 17.4 +00.6	36 16.9 +01.8	S	09 39.8 -00.4	258 41.4 -25.8	S	07 42.9 -14.1	12			
13	18 42.4 -00.2	S	19 18.0 +00.6	51 18.7 +01.9	S	09 39.4 -00.3	273 15.6 -25.8	S	07 28.8 -14.2	13			
14	33 42.2 -00.1	S	19 18.6 +00.6	66 20.6 +01.8	S	09 39.1 -00.3	287 49.8 -25.8	S	07 14.6 -14.2	14			
15	48 42.1 -00.1	S	19 19.2 +00.6	81 22.4 +01.9	S	09 38.8 -00.3	302 24.0 -25.8	S	07 00.4 -14.3	15			
16	63 42.0 -00.2	S	19 19.8 +00.6	96 24.3 +01.8	S	09 38.5 -00.3	316 58.2 -25.8	S	06 46.1 -14.2	16			
17	78 41.8 -00.1	S	19 20.4 +00.6	111 26.1 +01.9	S	09 38.2 -00.3	331 32.4 -25.9	S	06 31.9 -14.4	17			
18	93 41.7 -00.1	S	19 21.0 +00.6	126 28.0 +01.8	S	09 37.9 -00.3	346 06.5 -25.8	S	06 17.5 -14.4	18			
19	108 41.6 -00.2	S	19 21.6 +00.6	141 29.8 +01.8	S	09 37.6 -00.3	0 40.7 -25.9	S	06 03.1 -14.4	19			
20	123 41.4 -00.1	S	19 22.2 +00.5	156 31.6 +01.9	S	09 37.3 -00.3	15 14.8 -25.8	S	05 48.7 -14.5	20			
21	138 41.3 -00.1	S	19 22.7 +00.6	171 33.5 +01.8	S	09 37.0 -00.3	29 49.0 -25.9	S	05 34.2 -14.5	21			
22	153 41.2 -00.2	S	19 23.3 +00.6	186 35.3 +01.8	S	09 36.7 -00.3	44 23.1 -25.9	S	05 19.7 -14.5	22			
23	168 41.0 -00.1	S	19 23.9 +00.6	201 37.1 +01.8	S	09 36.4 -00.3	58 57.2 -25.9	S	05 05.2 -14.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 15'1 15'2 15'2 15'2 15'3 15'3						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 55'5 55'6 55'8 55'9 56'0 56'1						
	SHA 127° 126° 126° 126° 126° 126°			SHA 159° 159° 159° 159° 159° 159°			SHA 026° 024° 022° 020° 018° 016°						
	Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 09:35			Greenwich Culmination Time: 18:57						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	267 28.7 +01.4	N	14 29.5 -00.4	268 31.1 +02.3	N	13 32.9 +00.0	48 18.1 +02.5	N	00 54.5 +00.0	00			
01	282 30.1 +01.4	N	14 29.1 -00.3	283 33.4 +02.3	N	13 32.9 -00.1	63 20.6 +02.6	N	00 54.5 +00.0	01			
02	297 31.5 +01.4	N	14 28.8 -00.3	298 35.7 +02.3	N	13 32.8 +00.0	78 23.2 +02.5	N	00 54.5 -00.1	02			
03	312 32.9 +01.4	N	14 28.5 -00.3	313 38.0 +02.2	N	13 32.8 -00.1	93 25.7 +02.6	N	00 54.4 +00.0	03			
04	327 34.3 +01.4	N	14 28.2 -00.3	328 40.2 +02.3	N	13 32.7 +00.0	108 28.3 +02.5	N	00 54.4 +00.0	04			
05	342 35.7 +01.3	N	14 27.9 -00.3	343 42.5 +02.3	N	13 32.7 -00.1	123 30.8 +02.6	N	00 54.4 +00.0	05			
06	357 37.0 +01.4	N	14 27.6 -00.4	358 44.8 +02.3	N	13 32.6 -00.1	138 33.4 +02.6	N	00 54.4 -00.1	06			
07	12 38.4 +01.4	N	14 27.2 -00.3	13 47.1 +02.2	N	13 32.5 +00.0	153 36.0 +02.5	N	00 54.3 +00.0	07			
08	27 39.8 +01.4	N	14 26.9 -00.3	28 49.3 +02.3	N	13 32.5 -00.1	168 38.5 +02.6	N	00 54.3 +00.0	08			
09	42 41.2 +01.4	N	14 26.6 -00.3	43 51.6 +02.3	N	13 32.4 +00.0	183 41.1 +02.5	N	00 54.3 -00.1	09			
10	57 42.6 +01.4	N	14 26.3 -00.3	58 53.9 +02.3	N	13 32.4 -00.1	198 43.6 +02.6	N	00 54.2 +00.0	10			
11	72 44.0 +01.4	N	14 26.0 -00.4	73 56.2 +02.2	N	13 32.3 +00.0	213 46.2 +02.6	N	00 54.2 +00.0	11			
12	87 45.4 +01.3	N	14 25.6 -00.3	88 58.4 +02.3	N	13 32.3 -00.1	228 48.8 +02.5	N	00 54.2 -00.1	12			
13	102 46.7 +01.4	N	14 25.3 -00.3	104 00.7 +02.3	N	13 32.2 -00.1	243 51.3 +02.6	N	00 54.1 +00.0	13			
14	117 48.1 +01.4	N	14 25.0 -00.3	119 03.0 +02.3	N	13 32.1 +00.0	258 53.9 +02.5	N	00 54.1 +00.0	14			
15	132 49.5 +01.4	N	14 24.7 -00.3	134 05.3 +02.3	N	13 32.1 -00.1	273 56.4 +02.6	N	00 54.1 +00.0	15			
16	147 50.9 +01.4	N	14 24.4 -00.3	149 07.6 +02.2	N	13 32.0 +00.0	288 59.0 +02.5	N	00 54.1 -00.1	16			
17	162 52.3 +01.4	N	14 24.1 -00.4	164 09.8 +02.3	N	13 32.0 -00.1	304 01.5 +02.6	N	00 54.0 +00.0	17			
18	177 53.7 +01.4	N	14 23.7 -00.3	179 12.1 +02.3	N	13 31.9 +00.0	319 04.1 +02.5	N	00 54.0 +00.0	18			
19	192 55.1 +01.4	N	14 23.4 -00.3	194 14.4 +02.3	N	13 31.9 -00.1	334 06.6 +02.6	N	00 54.0 -00.1	19			
20	207 56.5 +01.4	N	14 23.1 -00.3	209 16.7 +02.2	N	13 31.8 +00.0	349 09.2 +02.6	N	00 53.9 +00.0	20			
21	222 57.9 +01.4	N	14 22.8 -00.3	224 18.9 +02.3	N	13 31.8 -00.1	4 11.8 +02.5	N	00 53.9 +00.0	21			
22	237 59.3 +01.4	N	14 22.5 -00.3	239 21.2 +02.3	N	13 31.7 +00.0	19 14.3 +02.6	N	00 53.9 -00.1	22			
23	253 00.7 +01.3	N	14 22.2 -00.4	254 23.5 +02.3	N	13 31.7 -00.1	34 16.9 +02.5	N	00 53.8 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 210° 210° 210° 210° 210° 210°			SHA 211° 211° 211° 211° 211° 211°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 06:09			Greenwich Culmination Time: 06:05			Greenwich Culmination Time: 20:43						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 40.9 -00.2	S	19 24.5 +00.6	216 38.9 +01.9	S	09 36.1 -00.3	73 31.3 -25.9	S	04 50.6 -14.6	00			
01	198 40.7 -00.1	S	19 25.1 +00.6	231 40.8 +01.8	S	09 35.8 -00.3	88 05.4 -25.9	S	04 36.0 -14.7	01			
02	213 40.6 -00.1	S	19 25.7 +00.6	246 42.6 +01.8	S	09 35.5 -00.3	102 39.5 -26.0	S	04 21.3 -14.7	02			
03	228 40.5 -00.2	S	19 26.3 +00.5	261 44.4 +01.8	S	09 35.2 -00.3	117 13.5 -26.0	S	04 06.6 -14.7	03			
04	243 40.3 -00.1	S	19 26.8 +00.6	276 46.2 +01.8	S	09 34.9 -00.3	131 47.5 -25.9	S	03 51.9 -14.8	04			
05	258 40.2 -00.1	S	19 27.4 +00.6	291 48.0 +01.8	S	09 34.6 -00.3	146 21.6 -26.1	S	03 37.1 -14.8	05			
06	273 40.1 -00.2	S	19 28.0 +00.6	306 49.8 +01.8	S	09 34.3 -00.3	160 55.5 -26.0	S	03 22.3 -14.8	06			
07	288 39.9 -00.1	S	19 28.6 +00.6	321 51.6 +01.8	S	09 34.0 -00.3	175 29.5 -26.0	S	03 07.5 -14.9	07			
08	303 39.8 -00.2	S	19 29.2 +00.5	336 53.4 +01.8	S	09 33.7 -00.2	190 03.5 -26.1	S	02 52.6 -14.9	08			
09	318 39.6 -00.1	S	19 29.7 +00.6	351 55.2 +01.8	S	09 33.5 -00.3	204 37.4 -26.1	S	02 37.7 -14.9	09			
10	333 39.5 -00.1	S	19 30.3 +00.6	6 57.0 +01.8	S	09 33.2 -00.3	219 11.3 -26.2	S	02 22.8 -15.0	10			
11	348 39.4 -00.2	S	19 30.9 +00.6	21 58.8 +01.7	S	09 32.9 -00.3	233 45.1 -26.1	S	02 07.8 -14.9	11			
12	3 39.2 -00.1	S	19 31.5 +00.5	37 00.5 +01.8	S	09 32.6 -00.2	248 19.0 -26.2	S	01 52.9 -15.1	12			
13	18 39.1 -00.2	S	19 32.0 +00.6	52 02.3 +01.8	S	09 32.4 -00.3	262 52.8 -26.3	S	01 37.8 -15.0	13			
14	33 38.9 -00.1	S	19 32.6 +00.6	67 04.1 +01.8	S	09 32.1 -00.3	277 26.5 -26.2	S	01 22.8 -15.1	14			
15	48 38.8 -00.1	S	19 33.2 +00.6	82 05.9 +01.7	S	09 31.8 -00.2	292 00.3 -26.3	S	01 07.7 -15.1	15			
16	63 38.7 -00.2	S	19 33.8 +00.5	97 07.6 +01.8	S	09 31.6 -00.3	306 34.0 -26.4	S	00 52.6 -15.1	16			
17	78 38.5 -00.1	S	19 34.3 +00.6	112 09.4 +01.8	S	09 31.3 -00.3	321 07.6 -26.3	S	00 37.5 -15.1	17			
18	93 38.4 -00.2	S	19 34.9 +00.6	127 11.2 +01.7	S	09 31.0 -00.2	335 41.3 -26.4	S	00 22.4 -15.2	18			
19	108 38.2 -00.1	S	19 35.5 +00.6	142 12.9 +01.8	S	09 30.8 -00.3	350 14.9 -26.5	S	00 07.2 -15.2	19			
20	123 38.1 -00.2	S	19 36.1 +00.5	157 14.7 +01.7	S	09 30.5 -00.3	4 48.4 -26.5	N	00 08.0 +15.2	20			
21	138 37.9 -00.1	S	19 36.6 +00.6	172 16.4 +01.8	S	09 30.2 -00.2	19 21.9 -26.5	N	00 23.2 +15.2	21			
22	153 37.8 -00.1	S	19 37.2 +00.6	187 18.2 +01.7	S	09 30.0 -00.3	33 55.4 -26.6	N	00 38.4 +15.2	22			
23	168 37.7 -00.2	S	19 37.8 +00.5	202 19.9 +01.8	S	09 29.7 -00.2	48 28.8 -26.6	N	00 53.6 +15.3	23			
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 16'2 16'2 16'2 16'2 16'2 16'2				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 15'3 15'4 15'4 15'5 15'5 15'5					
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'4 00'4 00'4 00'4 00'4 00'4				HP 56'3 56'4 56'6 56'7 56'9 57'0					
SHA 126° 125° 125° 125° 125° 125°				SHA 159° 159° 158° 158° 158° 158°				SHA 015° 013° 011° 009° 007° 005°					
Greenwich Culmination Time: 11:45				Greenwich Culmination Time: 09:32				Greenwich Culmination Time: 19:40					
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	268 02.0 +01.4	N	14 21.8 -00.3	269 25.8 +02.3	N	13 31.6 -00.1	49 19.4 +02.6	N	00 53.8 +00.0	00			
01	283 03.4 +01.4	N	14 21.5 -00.3	284 28.1 +02.2	N	13 31.5 +00.0	64 22.0 +02.5	N	00 53.8 +00.0	01			
02	298 04.8 +01.4	N	14 21.2 -00.3	299 30.3 +02.3	N	13 31.5 -00.1	79 24.5 +02.6	N	00 53.8 -00.1	02			
03	313 06.2 +01.4	N	14 20.9 -00.3	314 32.6 +02.3	N	13 31.4 +00.0	94 27.1 +02.5	N	00 53.7 +00.0	03			
04	328 07.6 +01.4	N	14 20.6 -00.3	329 34.9 +02.3	N	13 31.4 -00.1	109 29.6 +02.6	N	00 53.7 +00.0	04			
05	343 09.0 +01.4	N	14 20.3 -00.3	344 37.2 +02.3	N	13 31.3 +00.0	124 32.2 +02.6	N	00 53.7 -00.1	05			
06	358 10.4 +01.4	N	14 20.0 -00.4	359 39.5 +02.3	N	13 31.3 -00.1	139 34.8 +02.5	N	00 53.6 +00.0	06			
07	13 11.8 +01.4	N	14 19.6 -00.3	14 41.8 +02.2	N	13 31.2 +00.0	154 37.3 +02.6	N	00 53.6 +00.0	07			
08	28 13.2 +01.4	N	14 19.3 -00.3	29 44.0 +02.3	N	13 31.2 -00.1	169 39.9 +02.5	N	00 53.6 -00.1	08			
09	43 14.6 +01.4	N	14 19.0 -00.3	44 46.3 +02.3	N	13 31.1 +00.0	184 42.4 +02.6	N	00 53.5 +00.0	09			
10	58 16.0 +01.4	N	14 18.7 -00.3	59 48.6 +02.3	N	13 31.1 -00.1	199 45.0 +02.5	N	00 53.5 +00.0	10			
11	73 17.4 +01.4	N	14 18.4 -00.3	74 50.9 +02.3	N	13 31.0 +00.0	214 47.5 +02.6	N	00 53.5 +00.0	11			
12	88 18.8 +01.4	N	14 18.1 -00.4	89 53.2 +02.2	N	13 31.0 -00.1	229 50.1 +02.5	N	00 53.5 -00.1	12			
13	103 20.2 +01.4	N	14 17.7 -00.3	104 55.4 +02.3	N	13 30.9 -00.1	244 52.6 +02.6	N	00 53.4 +00.0	13			
14	118 21.6 +01.4	N	14 17.4 -00.3	119 57.7 +02.3	N	13 30.8 +00.0	259 55.2 +02.5	N	00 53.4 +00.0	14			
15	133 23.0 +01.4	N	14 17.1 -00.3	135 00.0 +02.3	N	13 30.8 -00.1	274 57.7 +02.6	N	00 53.4 -00.1	15			
16	148 24.4 +01.4	N	14 16.8 -00.3	150 02.3 +02.3	N	13 30.7 +00.0	290 00.3 +02.5	N	00 53.3 +00.0	16			
17	163 25.8 +01.4	N	14 16.5 -00.3	165 04.6 +02.3	N	13 30.7 -00.1	305 02.8 +02.6	N	00 53.3 +00.0	17			
18	178 27.2 +01.4	N	14 16.2 -00.3	180 06.9 +02.3	N	13 30.6 +00.0	320 05.4 +02.6	N	00 53.3 +00.0	18			
19	193 28.6 +01.4	N	14 15.9 -00.4	195 09.2 +02.2	N	13 30.6 -00.1	335 08.0 +02.5	N	00 53.3 -00.1	19			
20	208 30.0 +01.4	N	14 15.5 -00.3	210 11.4 +02.3	N	13 30.5 +00.0	350 10.5 +02.6	N	00 53.2 +00.0	20			
21	223 31.4 +01.4	N	14 15.2 -00.3	225 13.7 +02.3	N	13 30.5 -00.1	5 13.1 +02.5	N	00 53.2 +00.0	21			
22	238 32.8 +01.4	N	14 14.9 -00.3	240 16.0 +02.3	N	13 30.4 +00.0	20 15.6 +02.6	N	00 53.2 +00.0	22			
23	253 34.2 +01.4	N	14 14.6 -00.3	255 18.3 +02.3	N	13 30.4 -00.1	35 18.2 +02.5	N	00 53.2 -00.1	23			
UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
SHA 210° 210° 210° 210° 210° 210°				SHA 211° 211° 211° 211° 211° 211°				SHA 351° 351° 351° 351° 351° 351°					
Greenwich Culmination Time: 06:07				Greenwich Culmination Time: 06:01				Greenwich Culmination Time: 20:39					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 37.5 -00.1	S	19 38.3 +00.6	217 21.7 +01.7	S	09 29.5 -00.3	63 02.2 -26.7	N	01 08.9 +15.3				
01	198 37.4 -00.2	S	19 38.9 +00.6	232 23.4 +01.8	S	09 29.2 -00.2	77 35.5 -26.7	N	01 24.2 +15.2				
02	213 37.2 -00.1	S	19 39.5 +00.6	247 25.2 +01.7	S	09 29.0 -00.3	92 08.8 -26.7	N	01 39.4 +15.4				
03	228 37.1 -00.2	S	19 40.1 +00.5	262 26.9 +01.7	S	09 28.7 -00.2	106 42.1 -26.8	N	01 54.8 +15.3				
04	243 36.9 -00.1	S	19 40.6 +00.6	277 28.6 +01.8	S	09 28.5 -00.2	121 15.3 -26.9	N	02 10.1 +15.3				
05	258 36.8 -00.2	S	19 41.2 +00.6	292 30.4 +01.7	S	09 28.3 -00.3	135 48.4 -26.9	N	02 25.4 +15.3				
06	273 36.6 -00.1	S	19 41.8 +00.5	307 32.1 +01.7	S	09 28.0 -00.2	150 21.5 -27.0	N	02 40.7 +15.4				
07	288 36.5 -00.2	S	19 42.3 +00.6	322 33.8 +01.7	S	09 27.8 -00.3	164 54.5 -27.0	N	02 56.1 +15.4				
08	303 36.3 -00.1	S	19 42.9 +00.5	337 35.5 +01.7	S	09 27.5 -00.2	179 27.5 -27.1	N	03 11.5 +15.3				
09	318 36.2 -00.2	S	19 43.4 +00.6	352 37.2 +01.7	S	09 27.3 -00.2	194 00.4 -27.1	N	03 26.8 +15.4				
10	333 36.0 -00.1	S	19 44.0 +00.6	7 38.9 +01.7	S	09 27.1 -00.3	208 33.3 -27.2	N	03 42.2 +15.4				
11	348 35.9 -00.2	S	19 44.6 +00.5	22 40.6 +01.8	S	09 26.8 -00.2	223 06.1 -27.3	N	03 57.6 +15.4				
12	3 35.7 -00.1	S	19 45.1 +00.6	37 42.4 +01.7	S	09 26.6 -00.2	237 38.8 -27.3	N	04 13.0 +15.3				
13	18 35.6 -00.2	S	19 45.7 +00.6	52 44.1 +01.7	S	09 26.4 -00.2	252 11.5 -27.4	N	04 28.3 +15.4				
14	33 35.4 -00.1	S	19 46.3 +00.5	67 45.8 +01.6	S	09 26.2 -00.3	266 44.1 -27.5	N	04 43.7 +15.4				
15	48 35.3 -00.2	S	19 46.8 +00.6	82 47.4 +01.7	S	09 25.9 -00.2	281 16.6 -27.5	N	04 59.1 +15.4				
16	63 35.1 -00.1	S	19 47.4 +00.5	97 49.1 +01.7	S	09 25.7 -00.2	295 49.1 -27.6	N	05 14.5 +15.4				
17	78 35.0 -00.2	S	19 47.9 +00.6	112 50.8 +01.7	S	09 25.5 -00.2	310 21.5 -27.6	N	05 29.9 +15.4				
18	93 34.8 -00.1	S	19 48.5 +00.6	127 52.5 +01.7	S	09 25.3 -00.2	324 53.9 -27.8	N	05 45.3 +15.3				
19	108 34.7 -00.2	S	19 49.1 +00.5	142 54.2 +01.7	S	09 25.1 -00.2	339 26.1 -27.8	N	06 00.6 +15.4				
20	123 34.5 -00.1	S	19 49.6 +00.6	157 55.9 +01.6	S	09 24.9 -00.3	353 58.3 -27.8	N	06 16.0 +15.4				
21	138 34.4 -00.2	S	19 50.2 +00.5	172 57.5 +01.7	S	09 24.6 -00.2	8 30.5 -28.0	N	06 31.4 +15.3				
22	153 34.2 -00.1	S	19 50.7 +00.6	187 59.2 +01.7	S	09 24.4 -00.2	23 02.5 -28.0	N	06 46.7 +15.4				
23	168 34.1 -00.2	S	19 51.3 +00.5	203 00.9 +01.7	S	09 24.2 -00.2	37 34.5 -28.1	N	07 02.1 +15.3				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 15'6 15'6 15'7 15'7 15'7 15'8					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4				HP 57'2 57'3 57'5 57'6 57'8 57'9					
	SHA 125° 124° 124° 124° 124° 124°			SHA 158° 158° 158° 158° 158° 158°				SHA 003° 001° 359° 357° 355° 353°					
	Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 09:29				Greenwich Culmination Time: 20:24					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	268 35.6 +01.4	N	14 14.3 -00.3	270 20.6 +02.3	N	13 30.3 +00.0	50 20.7 +02.6	N	00 53.1 +00.0				
01	283 37.0 +01.4	N	14 14.0 -00.3	285 22.9 +02.3	N	13 30.3 -00.1	65 23.3 +02.5	N	00 53.1 +00.0				
02	298 38.4 +01.5	N	14 13.7 -00.3	300 25.2 +02.3	N	13 30.2 +00.0	80 25.8 +02.6	N	00 53.1 -00.1				
03	313 39.9 +01.4	N	14 13.4 -00.4	315 27.5 +02.2	N	13 30.2 -00.1	95 28.4 +02.5	N	00 53.0 +00.0				
04	328 41.3 +01.4	N	14 13.0 -00.3	330 29.7 +02.3	N	13 30.1 +00.0	110 30.9 +02.6	N	00 53.0 +00.0				
05	343 42.7 +01.4	N	14 12.7 -00.3	345 32.0 +02.3	N	13 30.1 -00.1	125 33.5 +02.5	N	00 53.0 +00.0				
06	358 44.1 +01.4	N	14 12.4 -00.3	0 34.3 +02.3	N	13 30.0 +00.0	140 36.0 +02.6	N	00 53.0 -00.1				
07	13 45.5 +01.4	N	14 12.1 -00.3	15 36.6 +02.3	N	13 30.0 -00.1	155 38.6 +02.5	N	00 52.9 +00.0				
08	28 46.9 +01.4	N	14 11.8 -00.3	30 38.9 +02.3	N	13 29.9 +00.0	170 41.1 +02.6	N	00 52.9 +00.0				
09	43 48.3 +01.4	N	14 11.5 -00.3	45 41.2 +02.3	N	13 29.9 -00.1	185 43.7 +02.5	N	00 52.9 -00.1				
10	58 49.7 +01.4	N	14 11.2 -00.3	60 43.5 +02.3	N	13 29.8 +00.0	200 46.2 +02.6	N	00 52.8 +00.0				
11	73 51.1 +01.4	N	14 10.9 -00.4	75 45.8 +02.3	N	13 29.8 -00.1	215 48.8 +02.5	N	00 52.8 +00.0				
12	88 52.5 +01.5	N	14 10.5 -00.3	90 48.1 +02.2	N	13 29.7 +00.0	230 51.3 +02.6	N	00 52.8 +00.0				
13	103 54.0 +01.4	N	14 10.2 -00.3	105 50.3 +02.3	N	13 29.7 -00.1	245 53.9 +02.5	N	00 52.8 -00.1				
14	118 55.4 +01.4	N	14 09.9 -00.3	120 52.6 +02.3	N	13 29.6 +00.0	260 56.4 +02.6	N	00 52.7 +00.0				
15	133 56.8 +01.4	N	14 09.6 -00.3	135 54.9 +02.3	N	13 29.6 -00.1	275 59.0 +02.5	N	00 52.7 +00.0				
16	148 58.2 +01.4	N	14 09.3 -00.3	150 57.2 +02.3	N	13 29.5 +00.0	291 01.5 +02.6	N	00 52.7 +00.0				
17	163 59.6 +01.4	N	14 09.0 -00.3	165 59.5 +02.3	N	13 29.5 -00.1	306 04.1 +02.5	N	00 52.7 -00.1				
18	179 01.0 +01.4	N	14 08.7 -00.3	181 01.8 +02.3	N	13 29.4 +00.0	321 06.6 +02.6	N	00 52.6 +00.0				
19	194 02.4 +01.5	N	14 08.4 -00.3	196 04.1 +02.3	N	13 29.4 -00.1	336 09.2 +02.5	N	00 52.6 +00.0				
20	209 03.9 +01.4	N	14 08.1 -00.4	211 06.4 +02.3	N	13 29.3 +00.0	351 11.7 +02.6	N	00 52.6 +00.0				
21	224 05.3 +01.4	N	14 07.7 -00.3	226 08.7 +02.3	N	13 29.3 -00.1	6 14.3 +02.5	N	00 52.6 -00.1				
22	239 06.7 +01.4	N	14 07.4 -00.3	241 11.0 +02.3	N	13 29.2 +00.0	21 16.8 +02.6	N	00 52.5 +00.0				
23	254 08.1 +01.4	N	14 07.1 -00.3	256 13.3 +02.3	N	13 29.2 -00.1	36 19.4 +02.5	N	00 52.5 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 210° 209° 209° 209° 209° 209°			SHA 211° 211° 211° 211° 211° 211°				SHA 351° 351° 351° 351° 351° 351°					
	Greenwich Culmination Time: 06:05			Greenwich Culmination Time: 05:57				Greenwich Culmination Time: 20:35					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 33.9 -00.1	S	19 51.8 +00.6	218 02.6 +01.6	S	09 24.0 -00.2	52 06.4 -28.2	N	07 17.4 +15.3				
01	198 33.8 -00.2	S	19 52.4 +00.5	233 04.2 +01.7	S	09 23.8 -00.2	66 38.2 -28.3	N	07 32.7 +15.4				
02	213 33.6 -00.1	S	19 52.9 +00.6	248 05.9 +01.6	S	09 23.6 -00.2	81 09.9 -28.3	N	07 48.1 +15.3				
03	228 33.5 -00.2	S	19 53.5 +00.6	263 07.5 +01.7	S	09 23.4 -00.2	95 41.6 -28.4	N	08 03.4 +15.2				
04	243 33.3 -00.1	S	19 54.1 +00.5	278 09.2 +01.6	S	09 23.2 -00.2	110 13.2 -28.5	N	08 18.6 +15.3				
05	258 33.2 -00.2	S	19 54.6 +00.6	293 10.8 +01.7	S	09 23.0 -00.2	124 44.7 -28.6	N	08 33.9 +15.2				
06	273 33.0 -00.1	S	19 55.2 +00.5	308 12.5 +01.6	S	09 22.8 -00.2	139 16.1 -28.7	N	08 49.1 +15.2				
07	288 32.9 -00.2	S	19 55.7 +00.6	323 14.1 +01.7	S	09 22.6 -00.2	153 47.4 -28.8	N	09 04.3 +15.2				
08	303 32.7 -00.2	S	19 56.3 +00.5	338 15.8 +01.6	S	09 22.4 -00.1	168 18.6 -28.9	N	09 19.5 +15.2				
09	318 32.5 -00.1	S	19 56.8 +00.6	353 17.4 +01.7	S	09 22.3 -00.2	182 49.7 -28.9	N	09 34.7 +15.2				
10	333 32.4 -00.2	S	19 57.4 +00.5	8 19.1 +01.6	S	09 22.1 -00.2	197 20.8 -29.1	N	09 49.9 +15.1				
11	348 32.2 -00.1	S	19 57.9 +00.5	23 20.7 +01.6	S	09 21.9 -00.2	211 51.7 -29.1	N	10 05.0 +15.1				
12	3 32.1 -00.2	S	19 58.4 +00.6	38 22.3 +01.6	S	09 21.7 -00.2	226 22.6 -29.3	N	10 20.1 +15.0				
13	18 31.9 -00.1	S	19 59.0 +00.5	53 23.9 +01.7	S	09 21.5 -00.2	240 53.3 -29.3	N	10 35.1 +15.1				
14	33 31.8 -00.2	S	19 59.5 +00.6	68 25.6 +01.6	S	09 21.3 -00.1	255 24.0 -29.4	N	10 50.2 +14.9				
15	48 31.6 -00.2	S	20 00.1 +00.5	83 27.2 +01.6	S	09 21.2 -00.2	269 54.6 -29.6	N	11 05.1 +15.0				
16	63 31.4 -00.1	S	20 00.6 +00.6	98 28.8 +01.6	S	09 21.0 -00.2	284 25.0 -29.6	N	11 20.1 +14.9				
17	78 31.3 -00.2	S	20 01.2 +00.5	113 30.4 +01.6	S	09 20.8 -00.2	298 55.4 -29.7	N	11 35.0 +14.9				
18	93 31.1 -00.1	S	20 01.7 +00.6	128 32.0 +01.6	S	09 20.6 -00.1	313 25.7 -29.9	N	11 49.9 +14.9				
19	108 31.0 -00.2	S	20 02.3 +00.5	143 33.6 +01.6	S	09 20.5 -00.2	327 55.8 -29.9	N	12 04.8 +14.8				
20	123 30.8 -00.2	S	20 02.8 +00.5	158 35.2 +01.6	S	09 20.3 -00.2	342 25.9 -30.1	N	12 19.6 +14.7				
21	138 30.6 -00.1	S	20 03.3 +00.6	173 36.8 +01.6	S	09 20.1 -00.1	356 55.8 -30.1	N	12 34.3 +14.7				
22	153 30.5 -00.2	S	20 03.9 +00.5	188 38.4 +01.6	S	09 20.0 -00.2	11 25.7 -30.3	N	12 49.0 +14.7				
23	168 30.3 -00.1	S	20 04.4 +00.6	203 40.0 +01.6	S	09 19.8 -00.2	25 55.4 -30.4	N	13 03.7 +14.6				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 15'8 15'9 15'9 16'0 16'0 16'0					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4				HP 58'1 58'3 58'4 58'6 58'7 58'9					
	SHA 123° 123° 123° 123° 123° 123°			SHA 158° 158° 158° 158° 158° 158°				SHA 351° 349° 347° 345° 343° 341°					
	Greenwich Culmination Time: 11:45			Greenwich Culmination Time: 09:26				Greenwich Culmination Time: 21:12					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	269 09.5 +01.4	N	14 06.8 -00.3	271 15.6 +02.3	N	13 29.1 +00.0	51 21.9 +02.6	N	00 52.5 -00.1				
01	284 10.9 +01.5	N	14 06.5 -00.3	286 17.9 +02.2	N	13 29.1 -00.1	66 24.5 +02.5	N	00 52.4 +00.0				
02	299 12.4 +01.4	N	14 06.2 -00.3	301 20.1 +02.3	N	13 29.0 +00.0	81 27.0 +02.6	N	00 52.4 +00.0				
03	314 13.8 +01.4	N	14 05.9 -00.3	316 22.4 +02.3	N	13 29.0 -00.1	96 29.6 +02.5	N	00 52.4 +00.0				
04	329 15.2 +01.4	N	14 05.6 -00.3	331 24.7 +02.3	N	13 28.9 +00.0	111 32.1 +02.6	N	00 52.4 -00.1				
05	344 16.6 +01.4	N	14 05.3 -00.4	346 27.0 +02.3	N	13 28.9 -00.1	126 34.7 +02.5	N	00 52.3 +00.0				
06	359 18.0 +01.5	N	14 04.9 -00.3	1 29.3 +02.3	N	13 28.8 +00.0	141 37.2 +02.5	N	00 52.3 +00.0				
07	14 19.5 +01.4	N	14 04.6 -00.3	16 31.6 +02.3	N	13 28.8 -00.1	156 39.7 +02.6	N	00 52.3 +00.0				
08	29 20.9 +01.4	N	14 04.3 -00.3	31 33.9 +02.3	N	13 28.7 +00.0	171 42.3 +02.5	N	00 52.3 -00.1				
09	44 22.3 +01.4	N	14 04.0 -00.3	46 36.2 +02.3	N	13 28.7 -00.1	186 44.8 +02.6	N	00 52.2 +00.0				
10	59 23.7 +01.4	N	14 03.7 -00.3	61 38.5 +02.3	N	13 28.6 +00.0	201 47.4 +02.5	N	00 52.2 +00.0				
11	74 25.1 +01.5	N	14 03.4 -00.3	76 40.8 +02.3	N	13 28.6 -00.1	216 49.9 +02.6	N	00 52.2 +00.0				
12	89 26.6 +01.4	N	14 03.1 -00.3	91 43.1 +02.3	N	13 28.5 +00.0	231 52.5 +02.5	N	00 52.2 -00.1				
13	104 28.0 +01.4	N	14 02.8 -00.3	106 45.4 +02.3	N	13 28.5 -00.1	246 55.0 +02.6	N	00 52.1 +00.0				
14	119 29.4 +01.4	N	14 02.5 -00.3	121 47.7 +02.3	N	13 28.4 +00.0	261 57.6 +02.5	N	00 52.1 +00.0				
15	134 30.8 +01.5	N	14 02.2 -00.3	136 50.0 +02.3	N	13 28.4 -00.1	277 00.1 +02.6	N	00 52.1 +00.0				
16	149 32.3 +01.4	N	14 01.9 -00.3	151 52.3 +02.3	N	13 28.3 +00.0	292 02.7 +02.5	N	00 52.1 -00.1				
17	164 33.7 +01.4	N	14 01.6 -00.4	166 54.6 +02.3	N	13 28.3 -00.1	307 05.2 +02.6	N	00 52.0 +00.0				
18	179 35.1 +01.5	N	14 01.2 -00.3	181 56.9 +02.3	N	13 28.2 +00.0	322 07.8 +02.5	N	00 52.0 +00.0				
19	194 36.6 +01.4	N	14 00.9 -00.3	196 59.2 +02.3	N	13 28.2 -00.1	337 10.3 +02.5	N	00 52.0 +00.0				
20	209 38.0 +01.4	N	14 00.6 -00.3	212 01.5 +02.3	N	13 28.1 +00.0	352 12.8 +02.6	N	00 52.0 -00.1				
21	224 39.4 +01.4	N	14 00.3 -00.3	227 03.8 +02.3	N	13 28.1 -00.1	7 15.4 +02.5	N	00 51.9 +00.0				
22	239 40.8 +01.5	N	14 00.0 -00.3	242 06.1 +02.3	N	13 28.0 +00.0	22 17.9 +02.6	N	00 51.9 +00.0				
23	254 42.3 +01.4	N	13 59.7 -00.3	257 08.4 +02.3	N	13 28.0 -00.1	37 20.5 +02.5	N	00 51.9 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 209° 209° 209° 209° 209° 209°			SHA 211° 211° 211° 211° 211° 211°				SHA 351° 351° 351° 351° 351° 351°					
	Greenwich Culmination Time: 06:02			Greenwich Culmination Time: 05:54				Greenwich Culmination Time: 20:31					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 30.2 -00.2	S	20 05.0 +00.5	218 41.6 +01.6	S	09 19.6 -00.1	40 25.0 -30.5	N	13 18.3 +14.6	00			
01	198 30.0 -00.2	S	20 05.5 +00.5	233 43.2 +01.6	S	09 19.5 -00.2	54 54.5 -30.6	N	13 32.9 +14.5	01			
02	213 29.8 -00.1	S	20 06.0 +00.6	248 44.8 +01.6	S	09 19.3 -00.1	69 23.9 -30.7	N	13 47.4 +14.4	02			
03	228 29.7 -00.2	S	20 06.6 +00.5	263 46.4 +01.6	S	09 19.2 -00.2	83 53.2 -30.8	N	14 01.8 +14.4	03			
04	243 29.5 -00.1	S	20 07.1 +00.6	278 48.0 +01.5	S	09 19.0 -00.1	98 22.4 -30.9	N	14 16.2 +14.4	04			
05	258 29.4 -00.2	S	20 07.7 +00.5	293 49.5 +01.6	S	09 18.9 -00.2	112 51.5 -31.1	N	14 30.6 +14.2	05			
06	273 29.2 -00.2	S	20 08.2 +00.5	308 51.1 +01.6	S	09 18.7 -00.1	127 20.4 -31.2	N	14 44.8 +14.2	06			
07	288 29.0 -00.1	S	20 08.7 +00.6	323 52.7 +01.5	S	09 18.6 -00.2	141 49.2 -31.3	N	14 59.0 +14.2	07			
08	303 28.9 -00.2	S	20 09.3 +00.5	338 54.2 +01.6	S	09 18.4 -00.1	156 17.9 -31.4	N	15 13.2 +14.1	08			
09	318 28.7 -00.2	S	20 09.8 +00.5	353 55.8 +01.6	S	09 18.3 -00.2	170 46.5 -31.5	N	15 27.3 +14.0	09			
10	333 28.5 -00.1	S	20 10.3 +00.6	8 57.4 +01.5	S	09 18.1 -00.1	185 15.0 -31.7	N	15 41.3 +13.9	10			
11	348 28.4 -00.2	S	20 10.9 +00.5	23 58.9 +01.6	S	09 18.0 -00.1	199 43.3 -31.7	N	15 55.2 +13.9	11			
12	3 28.2 -00.2	S	20 11.4 +00.5	39 00.5 +01.5	S	09 17.9 -00.2	214 11.6 -31.9	N	16 09.1 +13.8	12			
13	18 28.0 -00.1	S	20 11.9 +00.6	54 02.0 +01.6	S	09 17.7 -00.1	228 39.7 -32.0	N	16 22.9 +13.7	13			
14	33 27.9 -00.2	S	20 12.5 +00.5	69 03.6 +01.5	S	09 17.6 -00.1	243 07.7 -32.2	N	16 36.6 +13.7	14			
15	48 27.7 -00.2	S	20 13.0 +00.5	84 05.1 +01.6	S	09 17.5 -00.2	257 35.5 -32.3	N	16 50.3 +13.5	15			
16	63 27.5 -00.1	S	20 13.5 +00.5	99 06.7 +01.5	S	09 17.3 -00.1	272 03.2 -32.4	N	17 03.8 +13.5	16			
17	78 27.4 -00.2	S	20 14.0 +00.6	114 08.2 +01.6	S	09 17.2 -00.1	286 30.8 -32.5	N	17 17.3 +13.4	17			
18	93 27.2 -00.2	S	20 14.6 +00.5	129 09.8 +01.5	S	09 17.1 -00.2	300 58.3 -32.6	N	17 30.7 +13.3	18			
19	108 27.0 -00.1	S	20 15.1 +00.5	144 11.3 +01.5	S	09 16.9 -00.1	315 25.7 -32.8	N	17 44.0 +13.2	19			
20	123 26.9 -00.2	S	20 15.6 +00.6	159 12.8 +01.6	S	09 16.8 -00.1	329 52.9 -32.9	N	17 57.2 +13.2	20			
21	138 26.7 -00.2	S	20 16.2 +00.5	174 14.4 +01.5	S	09 16.7 -00.1	344 20.0 -33.1	N	18 10.4 +13.0	21			
22	153 26.5 -00.1	S	20 16.7 +00.5	189 15.9 +01.5	S	09 16.6 -00.2	358 46.9 -33.1	N	18 23.4 +12.9	22			
23	168 26.4 -00.2	S	20 17.2 +00.5	204 17.4 +01.5	S	09 16.4 -00.1	13 13.8 -33.4	N	18 36.3 +12.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'1 16'1 16'2 16'2 16'2 16'3						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 59'0 59'2 59'3 59'5 59'6 59'7						
	SHA 122° 122° 122° 122° 122° 122°			SHA 158° 158° 158° 157° 157° 157°			SHA 338° 336° 334° 332° 329° 327°						
	Greenwich Culmination Time: 11:46			Greenwich Culmination Time: 09:24			Greenwich Culmination Time: 22:05						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	269 43.7 +01.4	N	13 59.4 -00.3	272 10.7 +02.3	N	13 27.9 +00.0	52 23.0 +02.6	N	00 51.9 -00.1	00			
01	284 45.1 +01.5	N	13 59.1 -00.3	287 13.0 +02.3	N	13 27.9 +00.0	67 25.6 +02.5	N	00 51.8 +00.0	01			
02	299 46.6 +01.4	N	13 58.8 -00.3	302 15.3 +02.3	N	13 27.9 -00.1	82 28.1 +02.6	N	00 51.8 +00.0	02			
03	314 48.0 +01.4	N	13 58.5 -00.3	317 17.6 +02.3	N	13 27.8 +00.0	97 30.7 +02.5	N	00 51.8 +00.0	03			
04	329 49.4 +01.5	N	13 58.2 -00.3	332 19.9 +02.3	N	13 27.8 -00.1	112 33.2 +02.5	N	00 51.8 -00.1	04			
05	344 50.9 +01.4	N	13 57.9 -00.3	347 22.2 +02.3	N	13 27.7 +00.0	127 35.7 +02.6	N	00 51.7 +00.0	05			
06	359 52.3 +01.4	N	13 57.6 -00.3	2 24.5 +02.3	N	13 27.7 -00.1	142 38.3 +02.5	N	00 51.7 +00.0	06			
07	14 53.7 +01.5	N	13 57.3 -00.4	17 26.8 +02.3	N	13 27.6 +00.0	157 40.8 +02.6	N	00 51.7 +00.0	07			
08	29 55.2 +01.4	N	13 56.9 -00.3	32 29.1 +02.3	N	13 27.6 -00.1	172 43.4 +02.5	N	00 51.7 -00.1	08			
09	44 56.6 +01.4	N	13 56.6 -00.3	47 31.4 +02.3	N	13 27.5 +00.0	187 45.9 +02.6	N	00 51.6 +00.0	09			
10	59 58.0 +01.5	N	13 56.3 -00.3	62 33.7 +02.3	N	13 27.5 -00.1	202 48.5 +02.5	N	00 51.6 +00.0	10			
11	74 59.5 +01.4	N	13 56.0 -00.3	77 36.0 +02.3	N	13 27.4 +00.0	217 51.0 +02.5	N	00 51.6 +00.0	11			
12	90 00.9 +01.4	N	13 55.7 -00.3	92 38.3 +02.3	N	13 27.4 -00.1	232 53.5 +02.6	N	00 51.6 +00.0	12			
13	105 02.3 +01.5	N	13 55.4 -00.3	107 40.6 +02.3	N	13 27.3 +00.0	247 56.1 +02.5	N	00 51.6 -00.1	13			
14	120 03.8 +01.4	N	13 55.1 -00.3	122 42.9 +02.4	N	13 27.3 +00.0	262 58.6 +02.6	N	00 51.5 +00.0	14			
15	135 05.2 +01.4	N	13 54.8 -00.3	137 45.3 +02.3	N	13 27.3 -00.1	278 01.2 +02.5	N	00 51.5 +00.0	15			
16	150 06.6 +01.5	N	13 54.5 -00.3	152 47.6 +02.3	N	13 27.2 +00.0	293 03.7 +02.6	N	00 51.5 +00.0	16			
17	165 08.1 +01.4	N	13 54.2 -00.3	167 49.9 +02.3	N	13 27.2 -00.1	308 06.3 +02.5	N	00 51.5 -00.1	17			
18	180 09.5 +01.5	N	13 53.9 -00.3	182 52.2 +02.3	N	13 27.1 +00.0	323 08.8 +02.5	N	00 51.4 +00.0	18			
19	195 11.0 +01.4	N	13 53.6 -00.3	197 54.5 +02.3	N	13 27.1 -00.1	338 11.3 +02.6	N	00 51.4 +00.0	19			
20	210 12.4 +01.5	N	13 53.3 -00.3	212 56.8 +02.3	N	13 27.0 +00.0	353 13.9 +02.5	N	00 51.4 +00.0	20			
21	225 13.9 +01.4	N	13 53.0 -00.3	227 59.1 +02.3	N	13 27.0 -00.1	8 16.4 +02.6	N	00 51.4 -00.1	21			
22	240 15.3 +01.4	N	13 52.7 -00.3	243 01.4 +02.3	N	13 26.9 +00.0	23 19.0 +02.5	N	00 51.3 +00.0	22			
23	255 16.7 +01.5	N	13 52.4 -00.3	258 03.7 +02.3	N	13 26.9 -00.1	38 21.5 +02.5	N	00 51.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 209° 209° 209° 208° 208° 208°			SHA 211° 211° 211° 211° 211° 211°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 06:00			Greenwich Culmination Time: 05:50			Greenwich Culmination Time: 20:26						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 26.2 -00.2	S	20 17.7 +00.6	219 18.9 +01.5	S	09 16.3 -00.1	27 40.4 -33.4	N	18 49.2 +12.7				
01	198 26.0 -00.1	S	20 18.3 +00.5	234 20.4 +01.6	S	09 16.2 -00.1	42 07.0 -33.5	N	19 01.9 +12.7				
02	213 25.9 -00.2	S	20 18.8 +00.5	249 22.0 +01.5	S	09 16.1 -00.1	56 33.5 -33.7	N	19 14.6 +12.5				
03	228 25.7 -00.2	S	20 19.3 +00.5	264 23.5 +01.5	S	09 16.0 -00.1	70 59.8 -33.9	N	19 27.1 +12.4				
04	243 25.5 -00.2	S	20 19.8 +00.5	279 25.0 +01.5	S	09 15.9 -00.1	85 25.9 -33.9	N	19 39.5 +12.3				
05	258 25.3 -00.1	S	20 20.3 +00.6	294 26.5 +01.5	S	09 15.8 -00.1	99 52.0 -34.1	N	19 51.8 +12.3				
06	273 25.2 -00.2	S	20 20.9 +00.5	309 28.0 +01.5	S	09 15.7 -00.1	114 17.9 -34.3	N	20 04.1 +12.0				
07	288 25.0 -00.2	S	20 21.4 +00.5	324 29.5 +01.5	S	09 15.6 -00.1	128 43.6 -34.3	N	20 16.1 +12.0				
08	303 24.8 -00.1	S	20 21.9 +00.5	339 31.0 +01.5	S	09 15.5 -00.1	143 09.3 -34.5	N	20 28.1 +11.9				
09	318 24.7 -00.2	S	20 22.4 +00.5	354 32.5 +01.5	S	09 15.4 -00.1	157 34.8 -34.6	N	20 40.0 +11.7				
10	333 24.5 -00.2	S	20 22.9 +00.6	9 34.0 +01.4	S	09 15.3 -00.1	172 00.2 -34.8	N	20 51.7 +11.6				
11	348 24.3 -00.2	S	20 23.5 +00.5	24 35.4 +01.5	S	09 15.2 -00.1	186 25.4 -34.9	N	21 03.3 +11.5				
12	3 24.1 -00.1	S	20 24.0 +00.5	39 36.9 +01.5	S	09 15.1 -00.1	200 50.5 -35.0	N	21 14.8 +11.4				
13	18 24.0 -00.2	S	20 24.5 +00.5	54 38.4 +01.5	S	09 15.0 -00.1	215 15.5 -35.2	N	21 26.2 +11.2				
14	33 23.8 -00.2	S	20 25.0 +00.5	69 39.9 +01.5	S	09 14.9 -00.1	229 40.3 -35.3	N	21 37.4 +11.1				
15	48 23.6 -00.2	S	20 25.5 +00.5	84 41.4 +01.4	S	09 14.8 -00.1	244 05.0 -35.4	N	21 48.5 +11.0				
16	63 23.4 -00.1	S	20 26.0 +00.5	99 42.8 +01.5	S	09 14.7 -00.1	258 29.6 -35.6	N	21 59.5 +10.8				
17	78 23.3 -00.2	S	20 26.5 +00.6	114 44.3 +01.5	S	09 14.6 -00.1	272 54.0 -35.6	N	22 10.3 +10.7				
18	93 23.1 -00.2	S	20 27.1 +00.5	129 45.8 +01.4	S	09 14.5 -00.1	287 18.4 -35.9	N	22 21.0 +10.6				
19	108 22.9 -00.2	S	20 27.6 +00.5	144 47.2 +01.5	S	09 14.4 +00.0	301 42.5 -35.9	N	22 31.6 +10.4				
20	123 22.7 -00.1	S	20 28.1 +00.5	159 48.7 +01.5	S	09 14.4 -00.1	316 06.6 -36.1	N	22 42.0 +10.3				
21	138 22.6 -00.2	S	20 28.6 +00.5	174 50.2 +01.4	S	09 14.3 -00.1	330 30.5 -36.2	N	22 52.3 +10.1				
22	153 22.4 -00.2	S	20 29.1 +00.5	189 51.6 +01.5	S	09 14.2 -00.1	344 54.3 -36.3	N	23 02.4 +10.0				
23	168 22.2 -00.2	S	20 29.6 +00.5	204 53.1 +01.4	S	09 14.1 -00.1	359 18.0 -36.5	N	23 12.4 +09.8				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 16'3 16'3 16'4 16'4 16'4 16'5					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4				HP 59'9 60'0 60'1 60'2 60'3 60'4					
	SHA 121° 121° 121° 121° 121° 120°			SHA 157° 157° 157° 157° 157° 157°				SHA 324° 322° 320° 317° 315° 312°					
	Greenwich Culmination Time: 11:46			Greenwich Culmination Time: 09:21				Greenwich Culmination Time: 23:02					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	270 18.2 +01.4	N	13 52.1 -00.3	273 06.0 +02.3	N	13 26.8 +00.0	53 24.0 +02.6	N	00 51.3 +00.0				
01	285 19.6 +01.5	N	13 51.8 -00.3	288 08.3 +02.3	N	13 26.8 +00.0	68 26.6 +02.5	N	00 51.3 +00.0				
02	300 21.1 +01.4	N	13 51.5 -00.3	303 10.6 +02.3	N	13 26.8 -00.1	83 29.1 +02.6	N	00 51.3 -00.1				
03	315 22.5 +01.5	N	13 51.2 -00.3	318 12.9 +02.3	N	13 26.7 +00.0	98 31.7 +02.5	N	00 51.2 +00.0				
04	330 24.0 +01.4	N	13 50.9 -00.4	333 15.2 +02.4	N	13 26.7 -00.1	113 34.2 +02.5	N	00 51.2 +00.0				
05	345 25.4 +01.4	N	13 50.5 -00.3	348 17.6 +02.3	N	13 26.6 +00.0	128 36.7 +02.6	N	00 51.2 +00.0				
06	0 26.8 +01.5	N	13 50.2 -00.3	3 19.9 +02.3	N	13 26.6 -00.1	143 39.3 +02.5	N	00 51.2 -00.1				
07	15 28.3 +01.4	N	13 49.9 -00.3	18 22.2 +02.3	N	13 26.5 +00.0	158 41.8 +02.6	N	00 51.1 +00.0				
08	30 29.7 +01.5	N	13 49.6 -00.3	33 24.5 +02.3	N	13 26.5 +00.0	173 44.4 +02.5	N	00 51.1 +00.0				
09	45 31.2 +01.4	N	13 49.3 -00.3	48 26.8 +02.3	N	13 26.5 -00.1	188 46.9 +02.5	N	00 51.1 +00.0				
10	60 32.6 +01.5	N	13 49.0 -00.3	63 29.1 +02.3	N	13 26.4 +00.0	203 49.4 +02.6	N	00 51.1 +00.0				
11	75 34.1 +01.4	N	13 48.7 -00.3	78 31.4 +02.3	N	13 26.4 -00.1	218 52.0 +02.5	N	00 51.1 -00.1				
12	90 35.5 +01.5	N	13 48.4 -00.3	93 33.7 +02.3	N	13 26.3 +00.0	233 54.5 +02.6	N	00 51.0 +00.0				
13	105 37.0 +01.4	N	13 48.1 -00.3	108 36.0 +02.4	N	13 26.3 -00.1	248 57.1 +02.5	N	00 51.0 +00.0				
14	120 38.4 +01.5	N	13 47.8 -00.3	123 38.4 +02.3	N	13 26.2 +00.0	263 59.6 +02.5	N	00 51.0 +00.0				
15	135 39.9 +01.4	N	13 47.5 -00.3	138 40.7 +02.3	N	13 26.2 -00.1	279 02.1 +02.6	N	00 51.0 -00.1				
16	150 41.3 +01.5	N	13 47.2 -00.3	153 43.0 +02.3	N	13 26.1 +00.0	294 04.7 +02.5	N	00 50.9 +00.0				
17	165 42.8 +01.4	N	13 46.9 -00.3	168 45.3 +02.3	N	13 26.1 +00.0	309 07.2 +02.6	N	00 50.9 +00.0				
18	180 44.2 +01.5	N	13 46.6 -00.3	183 47.6 +02.3	N	13 26.1 -00.1	324 09.8 +02.5	N	00 50.9 +00.0				
19	195 45.7 +01.4	N	13 46.3 -00.3	198 49.9 +02.3	N	13 26.0 +00.0	339 12.3 +02.5	N	00 50.9 +00.0				
20	210 47.1 +01.5	N	13 46.0 -00.3	213 52.2 +02.3	N	13 26.0 -00.1	354 14.8 +02.6	N	00 50.9 -00.1				
21	225 48.6 +01.4	N	13 45.7 -00.3	228 54.5 +02.4	N	13 25.9 +00.0	9 17.4 +02.5	N	00 50.8 +00.0				
22	240 50.0 +01.5	N	13 45.4 -00.3	243 56.9 +02.3	N	13 25.9 -00.1	24 19.9 +02.5	N	00 50.8 +00.0				
23	255 51.5 +01.5	N	13 45.1 -00.3	258 59.2 +02.3	N	13 25.8 +00.0	39 22.4 +02.6	N	00 50.8 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 208° 208° 208° 208° 208° 208°			SHA 211° 211° 211° 211° 211° 211°				SHA 351° 351° 351° 351° 351° 351°					
	Greenwich Culmination Time: 05:58			Greenwich Culmination Time: 05:46				Greenwich Culmination Time: 20:22					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 22.0 -00.1	S	20 30.1 +00.5	219 54.5 +01.5	S	09 14.0 +00.0	13 41.5 -36.6	N	23 22.2 +09.6				
01	198 21.9 -00.2	S	20 30.6 +00.5	234 56.0 +01.4	S	09 14.0 -00.1	28 04.9 -36.7	N	23 31.8 +09.6				
02	213 21.7 -00.2	S	20 31.1 +00.5	249 57.4 +01.5	S	09 13.9 -00.1	42 28.2 -36.8	N	23 41.4 +09.3				
03	228 21.5 -00.2	S	20 31.6 +00.5	264 58.9 +01.4	S	09 13.8 +00.0	56 51.4 -37.0	N	23 50.7 +09.2				
04	243 21.3 -00.2	S	20 32.1 +00.5	280 00.3 +01.4	S	09 13.8 -00.1	71 14.4 -37.1	N	23 59.9 +09.0				
05	258 21.1 -00.1	S	20 32.6 +00.6	295 01.7 +01.5	S	09 13.7 -00.1	85 37.3 -37.2	N	24 08.9 +08.9				
06	273 21.0 -00.2	S	20 33.2 +00.5	310 03.2 +01.4	S	09 13.6 +00.0	100 00.1 -37.3	N	24 17.8 +08.7				
07	288 20.8 -00.2	S	20 33.7 +00.5	325 04.6 +01.4	S	09 13.6 -00.1	114 22.8 -37.4	N	24 26.5 +08.5				
08	303 20.6 -00.2	S	20 34.2 +00.5	340 06.0 +01.4	S	09 13.5 -00.1	128 45.4 -37.6	N	24 35.0 +08.4				
09	318 20.4 -00.2	S	20 34.7 +00.5	355 07.4 +01.5	S	09 13.4 +00.0	143 07.8 -37.6	N	24 43.4 +08.2				
10	333 20.2 -00.1	S	20 35.2 +00.5	10 08.9 +01.4	S	09 13.4 -00.1	157 30.2 -37.8	N	24 51.6 +08.0				
11	348 20.1 -00.2	S	20 35.7 +00.5	25 10.3 +01.4	S	09 13.3 +00.0	171 52.4 -37.9	N	24 59.6 +07.8				
12	3 19.9 -00.2	S	20 36.2 +00.5	40 11.7 +01.4	S	09 13.3 -00.1	186 14.5 -38.0	N	25 07.4 +07.7				
13	18 19.7 -00.2	S	20 36.7 +00.5	55 13.1 +01.4	S	09 13.2 +00.0	200 36.5 -38.1	N	25 15.1 +07.4				
14	33 19.5 -00.2	S	20 37.2 +00.5	70 14.5 +01.4	S	09 13.2 -00.1	214 58.4 -38.2	N	25 22.5 +07.3				
15	48 19.3 -00.1	S	20 37.7 +00.5	85 15.9 +01.4	S	09 13.1 +00.0	229 20.2 -38.3	N	25 29.8 +07.1				
16	63 19.2 -00.2	S	20 38.2 +00.5	100 17.3 +01.4	S	09 13.1 -00.1	243 41.9 -38.4	N	25 36.9 +06.9				
17	78 19.0 -00.2	S	20 38.7 +00.5	115 18.7 +01.4	S	09 13.0 +00.0	258 03.5 -38.5	N	25 43.8 +06.8				
18	93 18.8 -00.2	S	20 39.2 +00.5	130 20.1 +01.4	S	09 13.0 -00.1	272 25.0 -38.6	N	25 50.6 +06.5				
19	108 18.6 -00.2	S	20 39.7 +00.5	145 21.5 +01.4	S	09 12.9 +00.0	286 46.4 -38.7	N	25 57.1 +06.4				
20	123 18.4 -00.2	S	20 40.2 +00.4	160 22.9 +01.4	S	09 12.9 +00.0	301 07.7 -38.8	N	26 03.5 +06.1				
21	138 18.2 -00.1	S	20 40.6 +00.5	175 24.3 +01.4	S	09 12.9 -00.1	315 28.9 -38.9	N	26 09.6 +06.0				
22	153 18.1 -00.2	S	20 41.1 +00.5	190 25.7 +01.4	S	09 12.8 +00.0	329 50.0 -39.0	N	26 15.6 +05.8				
23	168 17.9 -00.2	S	20 41.6 +00.5	205 27.1 +01.4	S	09 12.8 +00.0	344 11.0 -39.0	N	26 21.4 +05.6				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 16'5 16'5 16'5 16'5 16'6 16'6					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4				HP 60'5 60'6 60'7 60'7 60'8 60'9					
	SHA 120° 120° 120° 120° 120° 119°			SHA 157° 157° 157° 157° 157° 157°				SHA 309° 307° 304° 301° 299° 296°					
	Greenwich Culmination Time: 11:46			Greenwich Culmination Time: 09:19				Greenwich Culmination Time: -1:00					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	270 53.0 +01.4	N	13 44.8 -00.3	274 01.5 +02.3	N	13 25.8 +00.0	54 25.0 +02.5	N	00 50.8 +00.0				
01	285 54.4 +01.5	N	13 44.5 -00.3	289 03.8 +02.3	N	13 25.8 -00.1	69 27.5 +02.5	N	00 50.8 -00.1				
02	300 55.9 +01.4	N	13 44.2 -00.3	304 06.1 +02.3	N	13 25.7 +00.0	84 30.0 +02.6	N	00 50.7 +00.0				
03	315 57.3 +01.5	N	13 43.9 -00.3	319 08.4 +02.4	N	13 25.7 -00.1	99 32.6 +02.5	N	00 50.7 +00.0				
04	330 58.8 +01.4	N	13 43.6 -00.3	334 10.8 +02.3	N	13 25.6 +00.0	114 35.1 +02.6	N	00 50.7 +00.0				
05	346 00.2 +01.5	N	13 43.3 -00.3	349 13.1 +02.3	N	13 25.6 +00.0	129 37.7 +02.5	N	00 50.7 +00.0				
06	1 01.7 +01.5	N	13 43.0 -00.3	4 15.4 +02.3	N	13 25.6 -00.1	144 40.2 +02.5	N	00 50.7 -00.1				
07	16 03.2 +01.4	N	13 42.7 -00.3	19 17.7 +02.3	N	13 25.5 +00.0	159 42.7 +02.6	N	00 50.6 +00.0				
08	31 04.6 +01.5	N	13 42.4 -00.3	34 20.0 +02.3	N	13 25.5 -00.1	174 45.3 +02.5	N	00 50.6 +00.0				
09	46 06.1 +01.4	N	13 42.1 -00.3	49 22.3 +02.4	N	13 25.4 +00.0	189 47.8 +02.5	N	00 50.6 +00.0				
10	61 07.5 +01.5	N	13 41.8 -00.3	64 24.7 +02.3	N	13 25.4 +00.0	204 50.3 +02.6	N	00 50.6 -00.1				
11	76 09.0 +01.5	N	13 41.5 -00.3	79 27.0 +02.3	N	13 25.4 -00.1	219 52.9 +02.5	N	00 50.5 +00.0				
12	91 10.5 +01.4	N	13 41.2 -00.3	94 29.3 +02.3	N	13 25.3 +00.0	234 55.4 +02.5	N	00 50.5 +00.0				
13	106 11.9 +01.5	N	13 40.9 -00.3	109 31.6 +02.3	N	13 25.3 -00.1	249 57.9 +02.6	N	00 50.5 +00.0				
14	121 13.4 +01.5	N	13 40.6 -00.3	124 33.9 +02.4	N	13 25.2 +00.0	265 00.5 +02.5	N	00 50.5 +00.0				
15	136 14.9 +01.4	N	13 40.3 -00.3	139 36.3 +02.3	N	13 25.2 -00.1	280 03.0 +02.5	N	00 50.5 -00.1				
16	151 16.3 +01.5	N	13 40.0 -00.3	154 38.6 +02.3	N	13 25.1 +00.0	295 05.5 +02.6	N	00 50.4 +00.0				
17	166 17.8 +01.4	N	13 39.7 -00.3	169 40.9 +02.3	N	13 25.1 +00.0	310 08.1 +02.5	N	00 50.4 +00.0				
18	181 19.2 +01.5	N	13 39.4 -00.3	184 43.2 +02.3	N	13 25.1 -00.1	325 10.6 +02.5	N	00 50.4 +00.0				
19	196 20.7 +01.5	N	13 39.1 -00.3	199 45.5 +02.4	N	13 25.0 +00.0	340 13.1 +02.6	N	00 50.4 +00.0				
20	211 22.2 +01.4	N	13 38.8 -00.3	214 47.9 +02.3	N	13 25.0 -00.1	355 15.7 +02.5	N	00 50.4 +00.0				
21	226 23.6 +01.5	N	13 38.5 -00.3	229 50.2 +02.3	N	13 24.9 +00.0	10 18.2 +02.5	N	00 50.4 -00.1				
22	241 25.1 +01.5	N	13 38.2 -00.3	244 52.5 +02.3	N	13 24.9 +00.0	25 20.7 +02.6	N	00 50.3 +00.0				
23	256 26.6 +01.5	N	13 37.9 -00.3	259 54.8 +02.3	N	13 24.9 -00.1	40 23.3 +02.5	N	00 50.3 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 208° 208° 208° 208° 208° 208°			SHA 211° 211° 211° 211° 211° 211°				SHA 351° 351° 351° 351° 351° 351°					
	Greenwich Culmination Time: 05:55			Greenwich Culmination Time: 05:43				Greenwich Culmination Time: 20:18					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 17.7 -00.2	S	20 42.1 +00.5	220 28.5 +01.3	S	09 12.8 -00.1	358 32.0 -39.1	N	26 27.0 +05.3	00			
01	198 17.5 -00.2	S	20 42.6 +00.5	235 29.8 +01.4	S	09 12.7 +00.0	12 52.9 -39.2	N	26 32.3 +05.2	01			
02	213 17.3 -00.2	S	20 43.1 +00.5	250 31.2 +01.4	S	09 12.7 +00.0	27 13.7 -39.3	N	26 37.5 +05.0	02			
03	228 17.1 -00.2	S	20 43.6 +00.5	265 32.6 +01.4	S	09 12.7 -00.1	41 34.4 -39.4	N	26 42.5 +04.7	03			
04	243 16.9 -00.1	S	20 44.1 +00.5	280 34.0 +01.3	S	09 12.6 +00.0	55 55.0 -39.4	N	26 47.2 +04.6	04			
05	258 16.8 -00.2	S	20 44.6 +00.5	295 35.3 +01.4	S	09 12.6 +00.0	70 15.6 -39.5	N	26 51.8 +04.4	05			
06	273 16.6 -00.2	S	20 45.1 +00.5	310 36.7 +01.4	S	09 12.6 +00.0	84 36.1 -39.5	N	26 56.2 +04.1	06			
07	288 16.4 -00.2	S	20 45.6 +00.4	325 38.1 +01.3	S	09 12.6 +00.0	98 56.6 -39.6	N	27 00.3 +04.0	07			
08	303 16.2 -00.2	S	20 46.0 +00.5	340 39.4 +01.4	S	09 12.6 -00.1	113 17.0 -39.7	N	27 04.3 +03.7	08			
09	318 16.0 -00.2	S	20 46.5 +00.5	355 40.8 +01.3	S	09 12.5 +00.0	127 37.3 -39.7	N	27 08.0 +03.5	09			
10	333 15.8 -00.2	S	20 47.0 +00.5	10 42.1 +01.4	S	09 12.5 +00.0	141 57.6 -39.8	N	27 11.5 +03.4	10			
11	348 15.6 -00.2	S	20 47.5 +00.5	25 43.5 +01.3	S	09 12.5 +00.0	156 17.8 -39.8	N	27 14.9 +03.1	11			
12	3 15.4 -00.2	S	20 48.0 +00.5	40 44.8 +01.4	S	09 12.5 +00.0	170 38.0 -39.9	N	27 18.0 +02.9	12			
13	18 15.2 -00.1	S	20 48.5 +00.5	55 46.2 +01.3	S	09 12.5 +00.0	184 58.1 -39.9	N	27 20.9 +02.6	13			
14	33 15.1 -00.2	S	20 49.0 +00.4	70 47.5 +01.4	S	09 12.5 +00.0	199 18.2 -39.9	N	27 23.5 +02.5	14			
15	48 14.9 -00.2	S	20 49.4 +00.5	85 48.9 +01.3	S	09 12.5 +00.0	213 38.3 -40.0	N	27 26.0 +02.3	15			
16	63 14.7 -00.2	S	20 49.9 +00.5	100 50.2 +01.3	S	09 12.5 -00.1	227 58.3 -40.0	N	27 28.3 +02.0	16			
17	78 14.5 -00.2	S	20 50.4 +00.5	115 51.5 +01.4	S	09 12.4 +00.0	242 18.3 -40.0	N	27 30.3 +01.8	17			
18	93 14.3 -00.2	S	20 50.9 +00.5	130 52.9 +01.3	S	09 12.4 +00.0	256 38.3 -40.0	N	27 32.1 +01.6	18			
19	108 14.1 -00.2	S	20 51.4 +00.4	145 54.2 +01.3	S	09 12.4 +00.0	270 58.3 -40.1	N	27 33.7 +01.4	19			
20	123 13.9 -00.2	S	20 51.8 +00.5	160 55.5 +01.4	S	09 12.4 +00.0	285 18.2 -40.1	N	27 35.1 +01.2	20			
21	138 13.7 -00.2	S	20 52.3 +00.5	175 56.9 +01.3	S	09 12.4 +00.0	299 38.1 -40.1	N	27 36.3 +00.9	21			
22	153 13.5 -00.2	S	20 52.8 +00.5	190 58.2 +01.3	S	09 12.4 +00.1	313 58.0 -40.1	N	27 37.2 +00.8	22			
23	168 13.3 -00.2	S	20 53.3 +00.5	205 59.5 +01.3	S	09 12.5 +00.0	328 17.9 -40.1	N	27 38.0 +00.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'6 16'6 16'6 16'6 16'6 16'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 60'9 60'9 61'0 61'0 61'0 61'0						
	SHA 119° 119° 119° 119° 119° 118°			SHA 156° 156° 156° 156° 156° 156°			SHA 293° 290° 288° 285° 282° 279°						
	Greenwich Culmination Time: 11:46			Greenwich Culmination Time: 09:17			Greenwich Culmination Time: 00:06						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	271 28.1 +01.4	N	13 37.6 -00.2	274 57.1 +02.4	N	13 24.8 +00.0	55 25.8 +02.5	N	00 50.3 +00.0	00			
01	286 29.5 +01.5	N	13 37.4 -00.3	289 59.5 +02.3	N	13 24.8 -00.1	70 28.3 +02.6	N	00 50.3 +00.0	01			
02	301 31.0 +01.5	N	13 37.1 -00.3	305 01.8 +02.3	N	13 24.7 +00.0	85 30.9 +02.5	N	00 50.3 -00.1	02			
03	316 32.5 +01.4	N	13 36.8 -00.3	320 04.1 +02.3	N	13 24.7 +00.0	100 33.4 +02.5	N	00 50.2 +00.0	03			
04	331 33.9 +01.5	N	13 36.5 -00.3	335 06.4 +02.4	N	13 24.7 -00.1	115 35.9 +02.6	N	00 50.2 +00.0	04			
05	346 35.4 +01.5	N	13 36.2 -00.3	350 08.8 +02.3	N	13 24.6 +00.0	130 38.5 +02.5	N	00 50.2 +00.0	05			
06	1 36.9 +01.4	N	13 35.9 -00.3	5 11.1 +02.3	N	13 24.6 +00.0	145 41.0 +02.5	N	00 50.2 +00.0	06			
07	16 38.3 +01.5	N	13 35.6 -00.3	20 13.4 +02.3	N	13 24.6 -00.1	160 43.5 +02.6	N	00 50.2 -00.1	07			
08	31 39.8 +01.5	N	13 35.3 -00.3	35 15.7 +02.4	N	13 24.5 +00.0	175 46.1 +02.5	N	00 50.1 +00.0	08			
09	46 41.3 +01.5	N	13 35.0 -00.3	50 18.1 +02.3	N	13 24.5 -00.1	190 48.6 +02.5	N	00 50.1 +00.0	09			
10	61 42.8 +01.4	N	13 34.7 -00.3	65 20.4 +02.3	N	13 24.4 +00.0	205 51.1 +02.6	N	00 50.1 +00.0	10			
11	76 44.2 +01.5	N	13 34.4 -00.3	80 22.7 +02.3	N	13 24.4 +00.0	220 53.7 +02.5	N	00 50.1 +00.0	11			
12	91 45.7 +01.5	N	13 34.1 -00.3	95 25.0 +02.4	N	13 24.4 -00.1	235 56.2 +02.5	N	00 50.1 -00.1	12			
13	106 47.2 +01.5	N	13 33.8 -00.3	110 27.4 +02.3	N	13 24.3 +00.0	250 58.7 +02.6	N	00 50.0 +00.0	13			
14	121 48.7 +01.4	N	13 33.5 -00.3	125 29.7 +02.3	N	13 24.3 -00.1	266 01.3 +02.5	N	00 50.0 +00.0	14			
15	136 50.1 +01.5	N	13 33.2 -00.3	140 32.0 +02.3	N	13 24.2 +00.0	281 03.8 +02.5	N	00 50.0 +00.0	15			
16	151 51.6 +01.5	N	13 32.9 -00.3	155 34.3 +02.4	N	13 24.2 +00.0	296 06.3 +02.6	N	00 50.0 +00.0	16			
17	166 53.1 +01.5	N	13 32.6 -00.3	170 36.7 +02.3	N	13 24.2 -00.1	311 08.9 +02.5	N	00 50.0 +00.0	17			
18	181 54.6 +01.5	N	13 32.3 -00.3	185 39.0 +02.3	N	13 24.1 +00.0	326 11.4 +02.5	N	00 50.0 -00.1	18			
19	196 56.1 +01.4	N	13 32.0 -00.3	200 41.3 +02.4	N	13 24.1 +00.0	341 13.9 +02.5	N	00 49.9 +00.0	19			
20	211 57.5 +01.5	N	13 31.7 -00.2	215 43.7 +02.3	N	13 24.1 -00.1	356 16.4 +02.6	N	00 49.9 +00.0	20			
21	226 59.0 +01.5	N	13 31.5 -00.3	230 46.0 +02.3	N	13 24.0 +00.0	11 19.0 +02.5	N	00 49.9 +00.0	21			
22	242 00.5 +01.5	N	13 31.2 -00.3	245 48.3 +02.3	N	13 24.0 -00.1	26 21.5 +02.5	N	00 49.9 +00.0	22			
23	257 02.0 +01.5	N	13 30.9 -00.3	260 50.6 +02.4	N	13 23.9 +00.0	41 24.0 +02.6	N	00 49.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 207° 207° 207° 207° 207° 207°			SHA 211° 211° 211° 211° 211° 211°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 05:53			Greenwich Culmination Time: 05:39			Greenwich Culmination Time: 20:14						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 13.1 -00.2	S	20 53.8 +00.4	221 00.8 +01.3	S	09 12.5 +00.0	342 37.8 -40.1	N	27 38.5 +00.3				
01	198 12.9 -00.1	S	20 54.2 +00.5	236 02.1 +01.3	S	09 12.5 +00.0	356 57.7 -40.1	N	27 38.8 +00.1				
02	213 12.8 -00.2	S	20 54.7 +00.5	251 03.4 +01.3	S	09 12.5 +00.0	11 17.6 -40.1	N	27 38.9 -00.1				
03	228 12.6 -00.2	S	20 55.2 +00.5	266 04.7 +01.4	S	09 12.5 +00.0	25 37.5 -40.1	N	27 38.8 -00.4				
04	243 12.4 -00.2	S	20 55.7 +00.4	281 06.1 +01.3	S	09 12.5 +00.0	39 57.4 -40.1	N	27 38.4 -00.5				
05	258 12.2 -00.2	S	20 56.1 +00.5	296 07.4 +01.3	S	09 12.5 +00.0	54 17.3 -40.0	N	27 37.9 -00.8				
06	273 12.0 -00.2	S	20 56.6 +00.5	311 08.7 +01.3	S	09 12.5 +00.0	68 37.3 -40.1	N	27 37.1 -01.0				
07	288 11.8 -00.2	S	20 57.1 +00.4	326 10.0 +01.2	S	09 12.5 +00.1	82 57.2 -40.0	N	27 36.1 -01.2				
08	303 11.6 -00.2	S	20 57.5 +00.5	341 11.2 +01.3	S	09 12.6 +00.0	97 17.2 -40.0	N	27 34.9 -01.4				
09	318 11.4 -00.2	S	20 58.0 +00.5	356 12.5 +01.3	S	09 12.6 +00.0	111 37.2 -40.0	N	27 33.5 -01.7				
10	333 11.2 -00.2	S	20 58.5 +00.5	11 13.8 +01.3	S	09 12.6 +00.0	125 57.2 -39.9	N	27 31.8 -01.8				
11	348 11.0 -00.2	S	20 59.0 +00.4	26 15.1 +01.3	S	09 12.6 +00.1	140 17.3 -39.9	N	27 30.0 -02.1				
12	3 10.8 -00.2	S	20 59.4 +00.5	41 16.4 +01.3	S	09 12.7 +00.0	154 37.4 -39.8	N	27 27.9 -02.3				
13	18 10.6 -00.2	S	20 59.9 +00.5	56 17.7 +01.3	S	09 12.7 +00.0	168 57.6 -39.8	N	27 25.6 -02.5				
14	33 10.4 -00.2	S	21 00.4 +00.4	71 19.0 +01.2	S	09 12.7 +00.0	183 17.8 -39.8	N	27 23.1 -02.7				
15	48 10.2 -00.2	S	21 00.8 +00.5	86 20.2 +01.3	S	09 12.7 +00.1	197 38.0 -39.7	N	27 20.4 -02.9				
16	63 10.0 -00.2	S	21 01.3 +00.5	101 21.5 +01.3	S	09 12.8 +00.0	211 58.3 -39.6	N	27 17.5 -03.1				
17	78 09.8 -00.2	S	21 01.8 +00.4	116 22.8 +01.3	S	09 12.8 +00.0	226 18.7 -39.6	N	27 14.4 -03.4				
18	93 09.6 -00.2	S	21 02.2 +00.5	131 24.1 +01.2	S	09 12.8 +00.1	240 39.1 -39.6	N	27 11.0 -03.5				
19	108 09.4 -00.2	S	21 02.7 +00.4	146 25.3 +01.3	S	09 12.9 +00.0	254 59.5 -39.4	N	27 07.5 -03.8				
20	123 09.2 -00.2	S	21 03.1 +00.5	161 26.6 +01.2	S	09 12.9 +00.1	269 20.1 -39.4	N	27 03.7 -03.9				
21	138 09.0 -00.2	S	21 03.6 +00.5	176 27.8 +01.3	S	09 13.0 +00.0	283 40.7 -39.4	N	26 59.8 -04.2				
22	153 08.8 -00.2	S	21 04.1 +00.4	191 29.1 +01.3	S	09 13.0 +00.1	298 01.3 -39.2	N	26 55.6 -04.3				
23	168 08.6 -00.2	S	21 04.5 +00.5	206 30.4 +01.2	S	09 13.1 +00.0	312 22.1 -39.2	N	26 51.3 -04.6				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'3 00'3 00'3			SD 16'6 16'6 16'6 16'6 16'6 16'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 61'0 61'0 60'9 60'9 60'9 60'8						
	SHA 118° 118° 118° 118° 117° 117°			SHA 156° 156° 156° 156° 156° 156°			SHA 276° 273° 271° 268° 265° 262°						
	Greenwich Culmination Time: 11:47			Greenwich Culmination Time: 09:15			Greenwich Culmination Time: 01:12						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	272 03.5 +01.4	N	13 30.6 -00.3	275 53.0 +02.3	N	13 23.9 +00.0	56 26.6 +02.5	N	00 49.9 -00.1				
01	287 04.9 +01.5	N	13 30.3 -00.3	290 55.3 +02.3	N	13 23.9 -00.1	71 29.1 +02.5	N	00 49.8 +00.0				
02	302 06.4 +01.5	N	13 30.0 -00.3	305 57.6 +02.4	N	13 23.8 +00.0	86 31.6 +02.5	N	00 49.8 +00.0				
03	317 07.9 +01.5	N	13 29.7 -00.3	320 60.0 +02.3	N	13 23.8 +00.0	101 34.1 +02.6	N	00 49.8 +00.0				
04	332 09.4 +01.5	N	13 29.4 -00.3	336 02.3 +02.3	N	13 23.8 -00.1	116 36.7 +02.5	N	00 49.8 +00.0				
05	347 10.9 +01.5	N	13 29.1 -00.3	351 04.6 +02.4	N	13 23.7 +00.0	131 39.2 +02.5	N	00 49.8 +00.0				
06	2 12.4 +01.4	N	13 28.8 -00.3	6 07.0 +02.3	N	13 23.7 +00.0	146 41.7 +02.6	N	00 49.8 -00.1				
07	17 13.8 +01.5	N	13 28.5 -00.3	21 09.3 +02.3	N	13 23.7 -00.1	161 44.3 +02.5	N	00 49.7 +00.0				
08	32 15.3 +01.5	N	13 28.2 -00.3	36 11.6 +02.4	N	13 23.6 +00.0	176 46.8 +02.5	N	00 49.7 +00.0				
09	47 16.8 +01.5	N	13 27.9 -00.3	51 14.0 +02.3	N	13 23.6 -00.1	191 49.3 +02.5	N	00 49.7 +00.0				
10	62 18.3 +01.5	N	13 27.6 -00.2	66 16.3 +02.3	N	13 23.5 +00.0	206 51.8 +02.6	N	00 49.7 +00.0				
11	77 19.8 +01.5	N	13 27.4 -00.3	81 18.6 +02.3	N	13 23.5 +00.0	221 54.4 +02.5	N	00 49.7 -00.1				
12	92 21.3 +01.5	N	13 27.1 -00.3	96 20.9 +02.4	N	13 23.5 -00.1	236 56.9 +02.5	N	00 49.6 +00.0				
13	107 22.8 +01.5	N	13 26.8 -00.3	111 23.3 +02.3	N	13 23.4 +00.0	251 59.4 +02.6	N	00 49.6 +00.0				
14	122 24.3 +01.4	N	13 26.5 -00.3	126 25.6 +02.4	N	13 23.4 +00.0	267 02.0 +02.5	N	00 49.6 +00.0				
15	137 25.7 +01.5	N	13 26.2 -00.3	141 28.0 +02.3	N	13 23.4 -00.1	282 04.5 +02.5	N	00 49.6 +00.0				
16	152 27.2 +01.5	N	13 25.9 -00.3	156 30.3 +02.3	N	13 23.3 +00.0	297 07.0 +02.5	N	00 49.6 +00.0				
17	167 28.7 +01.5	N	13 25.6 -00.3	171 32.6 +02.4	N	13 23.3 +00.0	312 09.5 +02.6	N	00 49.6 +00.0				
18	182 30.2 +01.5	N	13 25.3 -00.3	186 35.0 +02.3	N	13 23.3 -00.1	327 12.1 +02.5	N	00 49.6 -00.1				
19	197 31.7 +01.5	N	13 25.0 -00.3	201 37.3 +02.3	N	13 23.2 +00.0	342 14.6 +02.5	N	00 49.5 +00.0				
20	212 33.2 +01.5	N	13 24.7 -00.2	216 39.6 +02.4	N	13 23.2 +00.0	357 17.1 +02.5	N	00 49.5 +00.0				
21	227 34.7 +01.5	N	13 24.5 -00.3	231 42.0 +02.3	N	13 23.2 -00.1	12 19.6 +02.6	N	00 49.5 +00.0				
22	242 36.2 +01.5	N	13 24.2 -00.3	246 44.3 +02.3	N	13 23.1 +00.0	27 22.2 +02.5	N	00 49.5 +00.0				
23	257 37.7 +01.5	N	13 23.9 -00.3	261 46.6 +02.4	N	13 23.1 +00.0	42 24.7 +02.5	N	00 49.5 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 207° 207° 207° 207° 207° 207°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:51			Greenwich Culmination Time: 05:35			Greenwich Culmination Time: 20:10						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 08.4 -00.2	S	21 05.0 +00.4	221 31.6 +01.3	S	09 13.1 +00.0	326 42.9 -39.1	N	26 46.7 -04.8	00			
01	198 08.2 -00.2	S	21 05.4 +00.5	236 32.9 +01.2	S	09 13.1 +00.1	341 03.8 -39.1	N	26 41.9 -04.9	01			
02	213 08.0 -00.2	S	21 05.9 +00.5	251 34.1 +01.3	S	09 13.2 +00.0	355 24.7 -38.9	N	26 37.0 -05.2	02			
03	228 07.8 -00.2	S	21 06.4 +00.4	266 35.4 +01.2	S	09 13.2 +00.1	9 45.8 -38.9	N	26 31.8 -05.4	03			
04	243 07.6 -00.2	S	21 06.8 +00.5	281 36.6 +01.2	S	09 13.3 +00.0	24 06.9 -38.7	N	26 26.4 -05.5	04			
05	258 07.4 -00.2	S	21 07.3 +00.4	296 37.8 +01.3	S	09 13.3 +00.1	38 28.2 -38.7	N	26 20.9 -05.8	05			
06	273 07.2 -00.2	S	21 07.7 +00.5	311 39.1 +01.2	S	09 13.4 +00.1	52 49.5 -38.6	N	26 15.1 -05.9	06			
07	288 07.0 -00.2	S	21 08.2 +00.4	326 40.3 +01.2	S	09 13.5 +00.0	67 10.9 -38.5	N	26 09.2 -06.1	07			
08	303 06.8 -00.2	S	21 08.6 +00.5	341 41.5 +01.3	S	09 13.5 +00.1	81 32.4 -38.4	N	26 03.1 -06.3	08			
09	318 06.6 -00.2	S	21 09.1 +00.5	356 42.8 +01.2	S	09 13.6 +00.0	95 54.0 -38.3	N	25 56.8 -06.5	09			
10	333 06.4 -00.2	S	21 09.6 +00.4	11 44.0 +01.2	S	09 13.6 +00.1	110 15.7 -38.1	N	25 50.3 -06.7	10			
11	348 06.2 -00.2	S	21 10.0 +00.5	26 45.2 +01.2	S	09 13.7 +00.1	124 37.6 -38.1	N	25 43.6 -06.9	11			
12	3 06.0 -00.2	S	21 10.5 +00.4	41 46.4 +01.3	S	09 13.8 +00.0	138 59.5 -38.0	N	25 36.7 -07.1	12			
13	18 05.8 -00.2	S	21 10.9 +00.5	56 47.7 +01.2	S	09 13.8 +00.1	153 21.5 -37.9	N	25 29.6 -07.2	13			
14	33 05.6 -00.2	S	21 11.4 +00.4	71 48.9 +01.2	S	09 13.9 +00.1	167 43.6 -37.7	N	25 22.4 -07.4	14			
15	48 05.4 -00.2	S	21 11.8 +00.5	86 50.1 +01.2	S	09 14.0 +00.0	182 05.9 -37.7	N	25 15.0 -07.6	15			
16	63 05.2 -00.3	S	21 12.3 +00.4	101 51.3 +01.2	S	09 14.0 +00.1	196 28.2 -37.5	N	25 07.4 -07.8	16			
17	78 04.9 -00.2	S	21 12.7 +00.5	116 52.5 +01.2	S	09 14.1 +00.1	210 50.7 -37.4	N	24 59.6 -07.9	17			
18	93 04.7 -00.2	S	21 13.2 +00.4	131 53.7 +01.2	S	09 14.2 +00.0	225 13.3 -37.3	N	24 51.7 -08.1	18			
19	108 04.5 -00.2	S	21 13.6 +00.5	146 54.9 +01.2	S	09 14.2 +00.1	239 36.0 -37.2	N	24 43.6 -08.3	19			
20	123 04.3 -00.2	S	21 14.1 +00.4	161 56.1 +01.2	S	09 14.3 +00.1	253 58.8 -37.1	N	24 35.3 -08.4	20			
21	138 04.1 -00.2	S	21 14.5 +00.4	176 57.3 +01.2	S	09 14.4 +00.1	268 21.7 -36.9	N	24 26.9 -08.6	21			
22	153 03.9 -00.2	S	21 14.9 +00.5	191 58.5 +01.2	S	09 14.5 +00.1	282 44.8 -36.8	N	24 18.3 -08.8	22			
23	168 03.7 -00.2	S	21 15.4 +00.4	206 59.7 +01.2	S	09 14.6 +00.0	297 08.0 -36.7	N	24 09.5 -08.9	23			
UT 02 06 10 14 18 22 SD 16'2 16'2 16'2 16'2 16'2 16'2 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 117° 117° 117° 117° 116° 116° Greenwich Culmination Time: 11:47				UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'4 00'4 00'4 00'4 00'4 00'4 SHA 156° 155° 155° 155° 155° 155° Greenwich Culmination Time: 09:13				UT 02 06 10 14 18 22 SD 16'6 16'5 16'5 16'5 16'5 16'5 HP 60'8 60'7 60'7 60'6 60'5 60'4 SHA 259° 257° 254° 251° 249° 246° Greenwich Culmination Time: 02:19					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	272 39.2 +01.5	N	13 23.6 -00.3	276 49.0 +02.3	N	13 23.1 -00.1	57 27.2 +02.5	N	00 49.5 -00.1	00			
01	287 40.7 +01.5	N	13 23.3 -00.3	291 51.3 +02.3	N	13 23.0 +00.0	72 29.7 +02.6	N	00 49.4 +00.0	01			
02	302 42.2 +01.5	N	13 23.0 -00.3	306 53.6 +02.4	N	13 23.0 +00.0	87 32.3 +02.5	N	00 49.4 +00.0	02			
03	317 43.7 +01.5	N	13 22.7 -00.3	321 56.0 +02.3	N	13 23.0 -00.1	102 34.8 +02.5	N	00 49.4 +00.0	03			
04	332 45.2 +01.5	N	13 22.4 -00.3	336 58.3 +02.4	N	13 22.9 +00.0	117 37.3 +02.5	N	00 49.4 +00.0	04			
05	347 46.7 +01.5	N	13 22.1 -00.2	352 00.7 +02.3	N	13 22.9 -00.1	132 39.8 +02.6	N	00 49.4 +00.0	05			
06	2 48.2 +01.5	N	13 21.9 -00.3	7 03.0 +02.3	N	13 22.8 +00.0	147 42.4 +02.5	N	00 49.4 -00.1	06			
07	17 49.7 +01.5	N	13 21.6 -00.3	22 05.3 +02.4	N	13 22.8 +00.0	162 44.9 +02.5	N	00 49.3 +00.0	07			
08	32 51.2 +01.5	N	13 21.3 -00.3	37 07.7 +02.3	N	13 22.8 -00.1	177 47.4 +02.5	N	00 49.3 +00.0	08			
09	47 52.7 +01.5	N	13 21.0 -00.3	52 10.0 +02.4	N	13 22.7 +00.0	192 49.9 +02.6	N	00 49.3 +00.0	09			
10	62 54.2 +01.5	N	13 20.7 -00.3	67 12.4 +02.3	N	13 22.7 +00.0	207 52.5 +02.5	N	00 49.3 +00.0	10			
11	77 55.7 +01.5	N	13 20.4 -00.3	82 14.7 +02.3	N	13 22.7 -00.1	222 55.0 +02.5	N	00 49.3 +00.0	11			
12	92 57.2 +01.5	N	13 20.1 -00.3	97 17.0 +02.4	N	13 22.6 +00.0	237 57.5 +02.5	N	00 49.3 +00.0	12			
13	107 58.7 +01.5	N	13 19.8 -00.2	112 19.4 +02.3	N	13 22.6 +00.0	253 00.0 +02.6	N	00 49.3 -00.1	13			
14	123 00.2 +01.5	N	13 19.6 -00.3	127 21.7 +02.4	N	13 22.6 -00.1	268 02.6 +02.5	N	00 49.2 +00.0	14			
15	138 01.7 +01.5	N	13 19.3 -00.3	142 24.1 +02.3	N	13 22.5 +00.0	283 05.1 +02.5	N	00 49.2 +00.0	15			
16	153 03.2 +01.5	N	13 19.0 -00.3	157 26.4 +02.3	N	13 22.5 +00.0	298 07.6 +02.5	N	00 49.2 +00.0	16			
17	168 04.7 +01.5	N	13 18.7 -00.3	172 28.7 +02.4	N	13 22.5 +00.0	313 10.1 +02.5	N	00 49.2 +00.0	17			
18	183 06.2 +01.5	N	13 18.4 -00.3	187 31.1 +02.3	N	13 22.5 -00.1	328 12.6 +02.6	N	00 49.2 +00.0	18			
19	198 07.7 +01.5	N	13 18.1 -00.3	202 33.4 +02.4	N	13 22.4 +00.0	343 15.2 +02.5	N	00 49.2 +00.0	19			
20	213 09.2 +01.5	N	13 17.8 -00.2	217 35.8 +02.3	N	13 22.4 +00.0	358 17.7 +02.5	N	00 49.2 -00.1	20			
21	228 10.7 +01.5	N	13 17.6 -00.3	232 38.1 +02.4	N	13 22.4 -00.1	13 20.2 +02.5	N	00 49.1 +00.0	21			
22	243 12.2 +01.5	N	13 17.3 -00.3	247 40.5 +02.3	N	13 22.3 +00.0	28 22.7 +02.6	N	00 49.1 +00.0	22			
23	258 13.7 +01.5	N	13 17.0 -00.3	262 42.8 +02.3	N	13 22.3 +00.0	43 25.3 +02.5	N	00 49.1 +00.0	23			
UT 02 06 10 14 18 22 SD 00'1 00'1 00'1 00'1 00'1 00'1 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 207° 207° 207° 207° 206° 206° Greenwich Culmination Time: 05:48				UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 211° 211° 211° 211° 211° 211° Greenwich Culmination Time: 05:31				UT 02 06 10 14 18 22 SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'0 00'0 00'0 00'0 00'0 00'0 SHA 352° 352° 352° 352° 352° 352° Greenwich Culmination Time: 20:06					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	183 03.5 -00.2	S	21 15.8 +00.5	222 00.9 +01.2	S	09 14.6 +00.1	311 31.3 -36.6	N	24 00.6 -09.1	00			
01	198 03.3 -00.2	S	21 16.3 +00.4	237 02.1 +01.2	S	09 14.7 +00.1	325 54.7 -36.5	N	23 51.5 -09.2	01			
02	213 03.1 -00.2	S	21 16.7 +00.5	252 03.3 +01.2	S	09 14.8 +00.1	340 18.2 -36.3	N	23 42.3 -09.4	02			
03	228 02.9 -00.2	S	21 17.2 +00.4	267 04.5 +01.2	S	09 14.9 +00.1	354 41.9 -36.2	N	23 32.9 -09.6	03			
04	243 02.7 -00.3	S	21 17.6 +00.4	282 05.7 +01.1	S	09 15.0 +00.1	9 05.7 -36.1	N	23 23.3 -09.7	04			
05	258 02.4 -00.2	S	21 18.0 +00.5	297 06.8 +01.2	S	09 15.1 +00.1	23 29.6 -35.9	N	23 13.6 -09.8	05			
06	273 02.2 -00.2	S	21 18.5 +00.4	312 08.0 +01.2	S	09 15.2 +00.1	37 53.7 -35.8	N	23 03.8 -10.0	06			
07	288 02.0 -00.2	S	21 18.9 +00.5	327 09.2 +01.2	S	09 15.3 +00.1	52 17.9 -35.7	N	22 53.8 -10.1	07			
08	303 01.8 -00.2	S	21 19.4 +00.4	342 10.4 +01.1	S	09 15.4 +00.1	66 42.2 -35.6	N	22 43.7 -10.3	08			
09	318 01.6 -00.2	S	21 19.8 +00.4	357 11.5 +01.2	S	09 15.5 +00.1	81 06.6 -35.4	N	22 33.4 -10.4	09			
10	333 01.4 -00.2	S	21 20.2 +00.5	12 12.7 +01.2	S	09 15.6 +00.0	95 31.2 -35.3	N	22 23.0 -10.6	10			
11	348 01.2 -00.2	S	21 20.7 +00.4	27 13.9 +01.1	S	09 15.6 +00.1	109 55.9 -35.2	N	22 12.4 -10.7	11			
12	3 01.0 -00.2	S	21 21.1 +00.4	42 15.0 +01.2	S	09 15.7 +00.2	124 20.7 -35.0	N	22 01.7 -10.8	12			
13	18 00.8 -00.3	S	21 21.5 +00.5	57 16.2 +01.1	S	09 15.9 +00.1	138 45.7 -34.9	N	21 50.9 -10.9	13			
14	33 00.5 -00.2	S	21 22.0 +00.4	72 17.3 +01.2	S	09 16.0 +00.1	153 10.8 -34.8	N	21 40.0 -11.1	14			
15	48 00.3 -00.2	S	21 22.4 +00.4	87 18.5 +01.1	S	09 16.1 +00.1	167 36.0 -34.6	N	21 28.9 -11.2	15			
16	63 00.1 -00.2	S	21 22.8 +00.5	102 19.6 +01.2	S	09 16.2 +00.1	182 01.4 -34.5	N	21 17.7 -11.3	16			
17	77 59.9 -00.2	S	21 23.3 +00.4	117 20.8 +01.1	S	09 16.3 +00.1	196 26.9 -34.4	N	21 06.4 -11.5	17			
18	92 59.7 -00.2	S	21 23.7 +00.4	132 21.9 +01.2	S	09 16.4 +00.1	210 52.5 -34.3	N	20 54.9 -11.5	18			
19	107 59.5 -00.2	S	21 24.1 +00.5	147 23.1 +01.1	S	09 16.5 +00.1	225 18.2 -34.1	N	20 43.4 -11.7	19			
20	122 59.3 -00.3	S	21 24.6 +00.4	162 24.2 +01.2	S	09 16.6 +00.1	239 44.1 -34.0	N	20 31.7 -11.8	20			
21	137 59.0 -00.2	S	21 25.0 +00.4	177 25.4 +01.1	S	09 16.7 +00.1	254 10.1 -33.8	N	20 19.9 -12.0	21			
22	152 58.8 -00.2	S	21 25.4 +00.5	192 26.5 +01.1	S	09 16.8 +00.2	268 36.3 -33.8	N	20 07.9 -12.0	22			
23	167 58.6 -00.2	S	21 25.9 +00.4	207 27.6 +01.2	S	09 17.0 +00.1	283 02.5 -33.6	N	19 55.9 -12.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 16'4 16'4 16'4 16'4 16'3 16'3						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 60'3 60'2 60'1 60'0 59'9 59'8						
	SHA 116° 116° 116° 116° 115° 115°			SHA 155° 155° 155° 155° 155° 155°			SHA 243° 241° 238° 236° 233° 231°						
	Greenwich Culmination Time: 11:47			Greenwich Culmination Time: 09:11			Greenwich Culmination Time: 03:22						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	273 15.2 +01.5	N	13 16.7 -00.3	277 45.1 +02.4	N	13 22.3 -00.1	58 27.8 +02.5	N	00 49.1 +00.0	00			
01	288 16.7 +01.5	N	13 16.4 -00.3	292 47.5 +02.3	N	13 22.2 +00.0	73 30.3 +02.5	N	00 49.1 +00.0	01			
02	303 18.2 +01.6	N	13 16.1 -00.3	307 49.8 +02.4	N	13 22.2 +00.0	88 32.8 +02.5	N	00 49.1 +00.0	02			
03	318 19.8 +01.5	N	13 15.8 -00.2	322 52.2 +02.3	N	13 22.2 -00.1	103 35.3 +02.6	N	00 49.1 -00.1	03			
04	333 21.3 +01.5	N	13 15.6 -00.3	337 54.5 +02.4	N	13 22.1 +00.0	118 37.9 +02.5	N	00 49.0 +00.0	04			
05	348 22.8 +01.5	N	13 15.3 -00.3	352 56.9 +02.3	N	13 22.1 +00.0	133 40.4 +02.5	N	00 49.0 +00.0	05			
06	3 24.3 +01.5	N	13 15.0 -00.3	7 59.2 +02.4	N	13 22.1 -00.1	148 42.9 +02.5	N	00 49.0 +00.0	06			
07	18 25.8 +01.5	N	13 14.7 -00.3	23 01.6 +02.3	N	13 22.0 +00.0	163 45.4 +02.5	N	00 49.0 +00.0	07			
08	33 27.3 +01.5	N	13 14.4 -00.3	38 03.9 +02.4	N	13 22.0 +00.0	178 47.9 +02.6	N	00 49.0 +00.0	08			
09	48 28.8 +01.5	N	13 14.1 -00.2	53 06.3 +02.3	N	13 22.0 -00.1	193 50.5 +02.5	N	00 49.0 +00.0	09			
10	63 30.3 +01.6	N	13 13.9 -00.3	68 08.6 +02.4	N	13 21.9 +00.0	208 53.0 +02.5	N	00 49.0 +00.0	10			
11	78 31.9 +01.5	N	13 13.6 -00.3	83 11.0 +02.3	N	13 21.9 +00.0	223 55.5 +02.5	N	00 49.0 -00.1	11			
12	93 33.4 +01.5	N	13 13.3 -00.3	98 13.3 +02.3	N	13 21.9 +00.0	238 58.0 +02.5	N	00 48.9 +00.0	12			
13	108 34.9 +01.5	N	13 13.0 -00.3	113 15.6 +02.4	N	13 21.9 -00.1	254 00.5 +02.6	N	00 48.9 +00.0	13			
14	123 36.4 +01.5	N	13 12.7 -00.3	128 18.0 +02.3	N	13 21.8 +00.0	269 03.1 +02.5	N	00 48.9 +00.0	14			
15	138 37.9 +01.5	N	13 12.4 -00.2	143 20.3 +02.4	N	13 21.8 +00.0	284 05.6 +02.5	N	00 48.9 +00.0	15			
16	153 39.4 +01.6	N	13 12.2 -00.3	158 22.7 +02.3	N	13 21.8 -00.1	299 08.1 +02.5	N	00 48.9 +00.0	16			
17	168 41.0 +01.5	N	13 11.9 -00.3	173 25.0 +02.4	N	13 21.7 +00.0	314 10.6 +02.5	N	00 48.9 +00.0	17			
18	183 42.5 +01.5	N	13 11.6 -00.3	188 27.4 +02.3	N	13 21.7 +00.0	329 13.1 +02.6	N	00 48.9 -00.1	18			
19	198 44.0 +01.5	N	13 11.3 -00.3	203 29.7 +02.4	N	13 21.7 -00.1	344 15.7 +02.5	N	00 48.8 +00.0	19			
20	213 45.5 +01.5	N	13 11.0 -00.2	218 32.1 +02.3	N	13 21.6 +00.0	359 18.2 +02.5	N	00 48.8 +00.0	20			
21	228 47.0 +01.6	N	13 10.8 -00.3	233 34.4 +02.4	N	13 21.6 +00.0	14 20.7 +02.5	N	00 48.8 +00.0	21			
22	243 48.6 +01.5	N	13 10.5 -00.3	248 36.8 +02.3	N	13 21.6 +00.0	29 23.2 +02.5	N	00 48.8 +00.0	22			
23	258 50.1 +01.5	N	13 10.2 -00.3	263 39.1 +02.4	N	13 21.6 -00.1	44 25.7 +02.5	N	00 48.8 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 206° 206° 206° 206° 206° 206°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:46			Greenwich Culmination Time: 05:28			Greenwich Culmination Time: 20:02						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 70%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 58.4 -00.2	S	21 26.3 +00.4	222 28.8 +01.1	S	09 17.1 +00.1	297 28.9 -33.4	N	19 43.8 -12.3				
01	197 58.2 -00.2	S	21 26.7 +00.4	237 29.9 +01.1	S	09 17.2 +00.1	311 55.5 -33.4	N	19 31.5 -12.3				
02	212 58.0 -00.3	S	21 27.1 +00.5	252 31.0 +01.2	S	09 17.3 +00.1	326 22.1 -33.2	N	19 19.2 -12.5				
03	227 57.7 -00.2	S	21 27.6 +00.4	267 32.2 +01.1	S	09 17.4 +00.2	340 48.9 -33.1	N	19 06.7 -12.5				
04	242 57.5 -00.2	S	21 28.0 +00.4	282 33.3 +01.1	S	09 17.6 +00.1	355 15.8 -32.9	N	18 54.2 -12.7				
05	257 57.3 -00.2	S	21 28.4 +00.4	297 34.4 +01.1	S	09 17.7 +00.1	9 42.9 -32.9	N	18 41.5 -12.7				
06	272 57.1 -00.2	S	21 28.8 +00.4	312 35.5 +01.1	S	09 17.8 +00.1	24 10.0 -32.7	N	18 28.8 -12.9				
07	287 56.9 -00.2	S	21 29.2 +00.5	327 36.6 +01.2	S	09 17.9 +00.2	38 37.3 -32.5	N	18 15.9 -12.9				
08	302 56.7 -00.3	S	21 29.7 +00.4	342 37.8 +01.1	S	09 18.1 +00.1	53 04.8 -32.5	N	18 03.0 -13.0				
09	317 56.4 -00.2	S	21 30.1 +00.4	357 38.9 +01.1	S	09 18.2 +00.1	67 32.3 -32.3	N	17 50.0 -13.2				
10	332 56.2 -00.2	S	21 30.5 +00.4	12 40.0 +01.1	S	09 18.3 +00.2	81 60.0 -32.2	N	17 36.8 -13.2				
11	347 56.0 -00.2	S	21 30.9 +00.4	27 41.1 +01.1	S	09 18.5 +00.1	96 27.8 -32.1	N	17 23.6 -13.3				
12	2 55.8 -00.2	S	21 31.3 +00.5	42 42.2 +01.1	S	09 18.6 +00.1	110 55.7 -32.0	N	17 10.3 -13.3				
13	17 55.6 -00.3	S	21 31.8 +00.4	57 43.3 +01.1	S	09 18.7 +00.2	125 23.7 -31.9	N	16 57.0 -13.5				
14	32 55.3 -00.2	S	21 32.2 +00.4	72 44.4 +01.1	S	09 18.9 +00.1	139 51.8 -31.7	N	16 43.5 -13.5				
15	47 55.1 -00.2	S	21 32.6 +00.4	87 45.5 +01.1	S	09 19.0 +00.2	154 20.1 -31.6	N	16 30.0 -13.6				
16	62 54.9 -00.2	S	21 33.0 +00.4	102 46.6 +01.1	S	09 19.2 +00.1	168 48.5 -31.5	N	16 16.4 -13.7				
17	77 54.7 -00.2	S	21 33.4 +00.4	117 47.7 +01.1	S	09 19.3 +00.1	183 17.0 -31.4	N	16 02.7 -13.8				
18	92 54.5 -00.3	S	21 33.8 +00.5	132 48.8 +01.0	S	09 19.4 +00.2	197 45.6 -31.3	N	15 48.9 -13.8				
19	107 54.2 -00.2	S	21 34.3 +00.4	147 49.8 +01.1	S	09 19.6 +00.1	212 14.3 -31.1	N	15 35.1 -13.9				
20	122 54.0 -00.2	S	21 34.7 +00.4	162 50.9 +01.1	S	09 19.7 +00.2	226 43.2 -31.0	N	15 21.2 -14.0				
21	137 53.8 -00.2	S	21 35.1 +00.4	177 52.0 +01.1	S	09 19.9 +00.1	241 12.2 -31.0	N	15 07.2 -14.0				
22	152 53.6 -00.3	S	21 35.5 +00.4	192 53.1 +01.1	S	09 20.0 +00.2	255 41.2 -30.8	N	14 53.2 -14.1				
23	167 53.3 -00.2	S	21 35.9 +00.4	207 54.2 +01.0	S	09 20.2 +00.1	270 10.4 -30.7	N	14 39.1 -14.2				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 16'3 16'2 16'2 16'2 16'1 16'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'3			HP 59'7 59'6 59'4 59'3 59'2 59'1						
	SHA 115° 115° 115° 114° 114° 114°			SHA 155° 154° 154° 154° 154° 154°			SHA 228° 226° 224° 221° 219° 217°						
	Greenwich Culmination Time: 11:48			Greenwich Culmination Time: 09:09			Greenwich Culmination Time: 04:19						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	273 51.6 +01.5	N	13 09.9 -00.3	278 41.5 +02.4	N	13 21.5 +00.0	59 28.2 +02.6	N	00 48.8 +00.0				
01	288 53.1 +01.5	N	13 09.6 -00.2	293 43.9 +02.3	N	13 21.5 +00.0	74 30.8 +02.5	N	00 48.8 +00.0				
02	303 54.6 +01.6	N	13 09.4 -00.3	308 46.2 +02.4	N	13 21.5 -00.1	89 33.3 +02.5	N	00 48.8 +00.0				
03	318 56.2 +01.5	N	13 09.1 -00.3	323 48.6 +02.3	N	13 21.4 +00.0	104 35.8 +02.5	N	00 48.8 -00.1				
04	333 57.7 +01.5	N	13 08.8 -00.3	338 50.9 +02.4	N	13 21.4 +00.0	119 38.3 +02.5	N	00 48.7 +00.0				
05	348 59.2 +01.5	N	13 08.5 -00.3	353 53.3 +02.3	N	13 21.4 +00.0	134 40.8 +02.5	N	00 48.7 +00.0				
06	4 00.7 +01.6	N	13 08.2 -00.2	8 55.6 +02.4	N	13 21.4 -00.1	149 43.3 +02.6	N	00 48.7 +00.0				
07	19 02.3 +01.5	N	13 08.0 -00.3	23 58.0 +02.3	N	13 21.3 +00.0	164 45.9 +02.5	N	00 48.7 +00.0				
08	34 03.8 +01.5	N	13 07.7 -00.3	39 00.3 +02.4	N	13 21.3 +00.0	179 48.4 +02.5	N	00 48.7 +00.0				
09	49 05.3 +01.6	N	13 07.4 -00.3	54 02.7 +02.3	N	13 21.3 -00.1	194 50.9 +02.5	N	00 48.7 +00.0				
10	64 06.9 +01.5	N	13 07.1 -00.3	69 05.0 +02.4	N	13 21.2 +00.0	209 53.4 +02.5	N	00 48.7 +00.0				
11	79 08.4 +01.5	N	13 06.8 -00.2	84 07.4 +02.3	N	13 21.2 +00.0	224 55.9 +02.5	N	00 48.7 -00.1				
12	94 09.9 +01.5	N	13 06.6 -00.3	99 09.7 +02.4	N	13 21.2 +00.0	239 58.4 +02.6	N	00 48.6 +00.0				
13	109 11.4 +01.6	N	13 06.3 -00.3	114 12.1 +02.4	N	13 21.2 -00.1	255 01.0 +02.5	N	00 48.6 +00.0				
14	124 13.0 +01.5	N	13 06.0 -00.3	129 14.5 +02.3	N	13 21.1 +00.0	270 03.5 +02.5	N	00 48.6 +00.0				
15	139 14.5 +01.5	N	13 05.7 -00.2	144 16.8 +02.4	N	13 21.1 +00.0	285 06.0 +02.5	N	00 48.6 +00.0				
16	154 16.0 +01.6	N	13 05.5 -00.3	159 19.2 +02.3	N	13 21.1 +00.0	300 08.5 +02.5	N	00 48.6 +00.0				
17	169 17.6 +01.5	N	13 05.2 -00.3	174 21.5 +02.4	N	13 21.1 -00.1	315 11.0 +02.5	N	00 48.6 +00.0				
18	184 19.1 +01.5	N	13 04.9 -00.3	189 23.9 +02.3	N	13 21.0 +00.0	330 13.5 +02.5	N	00 48.6 +00.0				
19	199 20.6 +01.6	N	13 04.6 -00.3	204 26.2 +02.4	N	13 21.0 +00.0	345 16.0 +02.6	N	00 48.6 +00.0				
20	214 22.2 +01.5	N	13 04.3 -00.2	219 28.6 +02.4	N	13 21.0 -00.1	0 18.6 +02.5	N	00 48.6 -00.1				
21	229 23.7 +01.5	N	13 04.1 -00.3	234 31.0 +02.3	N	13 20.9 +00.0	15 21.1 +02.5	N	00 48.5 +00.0				
22	244 25.2 +01.6	N	13 03.8 -00.3	249 33.3 +02.4	N	13 20.9 +00.0	30 23.6 +02.5	N	00 48.5 +00.0				
23	259 26.8 +01.5	N	13 03.5 -00.3	264 35.7 +02.3	N	13 20.9 +00.0	45 26.1 +02.5	N	00 48.5 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 206° 206° 206° 206° 206° 206°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:43			Greenwich Culmination Time: 05:24			Greenwich Culmination Time: 19:58						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 53.1 -00.2	S	21 36.3 +00.4	222 55.2 +01.1	S	09 20.3 +00.2	284 39.7 -30.6	N	14 24.9 -14.2	00			
01	197 52.9 -00.2	S	21 36.7 +00.4	237 56.3 +01.1	S	09 20.5 +00.1	299 09.1 -30.5	N	14 10.7 -14.3	01			
02	212 52.7 -00.2	S	21 37.1 +00.4	252 57.4 +01.1	S	09 20.6 +00.2	313 38.6 -30.4	N	13 56.4 -14.3	02			
03	227 52.5 -00.3	S	21 37.5 +00.5	267 58.5 +01.0	S	09 20.8 +00.2	328 08.2 -30.3	N	13 42.1 -14.4	03			
04	242 52.2 -00.2	S	21 38.0 +00.4	282 59.5 +01.1	S	09 21.0 +00.1	342 37.9 -30.2	N	13 27.7 -14.5	04			
05	257 52.0 -00.2	S	21 38.4 +00.4	298 00.6 +01.1	S	09 21.1 +00.2	357 07.7 -30.0	N	13 13.2 -14.5	05			
06	272 51.8 -00.2	S	21 38.8 +00.4	313 01.7 +01.0	S	09 21.3 +00.1	11 37.7 -30.0	N	12 58.7 -14.6	06			
07	287 51.6 -00.3	S	21 39.2 +00.4	328 02.7 +01.1	S	09 21.4 +00.2	26 07.7 -29.9	N	12 44.1 -14.6	07			
08	302 51.3 -00.2	S	21 39.6 +00.4	343 03.8 +01.0	S	09 21.6 +00.2	40 37.8 -29.8	N	12 29.5 -14.6	08			
09	317 51.1 -00.2	S	21 40.0 +00.4	358 04.8 +01.1	S	09 21.8 +00.1	55 08.0 -29.7	N	12 14.9 -14.7	09			
10	332 50.9 -00.3	S	21 40.4 +00.4	13 05.9 +01.0	S	09 21.9 +00.2	69 38.3 -29.6	N	12 00.2 -14.8	10			
11	347 50.6 -00.2	S	21 40.8 +00.4	28 06.9 +01.1	S	09 22.1 +00.2	84 08.7 -29.5	N	11 45.4 -14.7	11			
12	2 50.4 -00.2	S	21 41.2 +00.4	43 08.0 +01.0	S	09 22.3 +00.1	98 39.2 -29.4	N	11 30.7 -14.9	12			
13	17 50.2 -00.2	S	21 41.6 +00.4	58 09.0 +01.1	S	09 22.4 +00.2	113 09.8 -29.3	N	11 15.8 -14.8	13			
14	32 50.0 -00.3	S	21 42.0 +00.4	73 10.1 +01.0	S	09 22.6 +00.2	127 40.5 -29.2	N	11 01.0 -14.9	14			
15	47 49.7 -00.2	S	21 42.4 +00.4	88 11.1 +01.0	S	09 22.8 +00.2	142 11.3 -29.2	N	10 46.1 -15.0	15			
16	62 49.5 -00.2	S	21 42.8 +00.4	103 12.1 +01.1	S	09 23.0 +00.1	156 42.1 -29.0	N	10 31.1 -15.0	16			
17	77 49.3 -00.2	S	21 43.2 +00.4	118 13.2 +01.0	S	09 23.1 +00.2	171 13.1 -29.0	N	10 16.1 -15.0	17			
18	92 49.1 -00.3	S	21 43.6 +00.4	133 14.2 +01.1	S	09 23.3 +00.2	185 44.1 -28.9	N	10 01.1 -15.0	18			
19	107 48.8 -00.2	S	21 44.0 +00.4	148 15.3 +01.0	S	09 23.5 +00.2	200 15.2 -28.8	N	09 46.1 -15.1	19			
20	122 48.6 -00.2	S	21 44.4 +00.4	163 16.3 +01.0	S	09 23.7 +00.2	214 46.4 -28.7	N	09 31.0 -15.1	20			
21	137 48.4 -00.3	S	21 44.8 +00.4	178 17.3 +01.0	S	09 23.9 +00.1	229 17.7 -28.6	N	09 15.9 -15.1	21			
22	152 48.1 -00.2	S	21 45.2 +00.4	193 18.3 +01.1	S	09 24.0 +00.2	243 49.1 -28.6	N	09 00.8 -15.2	22			
23	167 47.9 -00.2	S	21 45.6 +00.3	208 19.4 +01.0	S	09 24.2 +00.2	258 20.5 -28.5	N	08 45.6 -15.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 16'1 16'0 16'0 15'9 15'9 15'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 58'9 58'8 58'7 58'5 58'4 58'3						
	SHA 114° 114° 114° 113° 113° 113°			SHA 154° 154° 154° 154° 154° 154°			SHA 215° 212° 210° 208° 206° 204°						
	Greenwich Culmination Time: 11:48			Greenwich Culmination Time: 09:07			Greenwich Culmination Time: 05:11						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	274 28.3 +01.5	N	13 03.2 -00.2	279 38.0 +02.4	N	13 20.9 -00.1	60 28.6 +02.5	N	00 48.5 +00.0	00			
01	289 29.8 +01.6	N	13 03.0 -00.3	294 40.4 +02.3	N	13 20.8 +00.0	75 31.1 +02.5	N	00 48.5 +00.0	01			
02	304 31.4 +01.5	N	13 02.7 -00.3	309 42.7 +02.4	N	13 20.8 +00.0	90 33.6 +02.6	N	00 48.5 +00.0	02			
03	319 32.9 +01.6	N	13 02.4 -00.3	324 45.1 +02.4	N	13 20.8 +00.0	105 36.2 +02.5	N	00 48.5 +00.0	03			
04	334 34.5 +01.5	N	13 02.1 -00.2	339 47.5 +02.3	N	13 20.8 -00.1	120 38.7 +02.5	N	00 48.5 +00.0	04			
05	349 36.0 +01.5	N	13 01.9 -00.3	354 49.8 +02.4	N	13 20.7 +00.0	135 41.2 +02.5	N	00 48.5 +00.0	05			
06	4 37.5 +01.6	N	13 01.6 -00.3	9 52.2 +02.4	N	13 20.7 +00.0	150 43.7 +02.5	N	00 48.5 -00.1	06			
07	19 39.1 +01.5	N	13 01.3 -00.3	24 54.6 +02.3	N	13 20.7 +00.0	165 46.2 +02.5	N	00 48.4 +00.0	07			
08	34 40.6 +01.6	N	13 01.0 -00.2	39 56.9 +02.4	N	13 20.7 -00.1	180 48.7 +02.5	N	00 48.4 +00.0	08			
09	49 42.2 +01.5	N	13 00.8 -00.3	54 59.3 +02.3	N	13 20.6 +00.0	195 51.2 +02.5	N	00 48.4 +00.0	09			
10	64 43.7 +01.6	N	13 00.5 -00.3	70 01.6 +02.4	N	13 20.6 +00.0	210 53.7 +02.6	N	00 48.4 +00.0	10			
11	79 45.3 +01.5	N	13 00.2 -00.3	85 04.0 +02.4	N	13 20.6 +00.0	225 56.3 +02.5	N	00 48.4 +00.0	11			
12	94 46.8 +01.5	N	12 59.9 -00.2	100 06.4 +02.3	N	13 20.6 -00.1	240 58.8 +02.5	N	00 48.4 +00.0	12			
13	109 48.3 +01.6	N	12 59.7 -00.3	115 08.7 +02.4	N	13 20.5 +00.0	256 01.3 +02.5	N	00 48.4 +00.0	13			
14	124 49.9 +01.5	N	12 59.4 -00.3	130 11.1 +02.4	N	13 20.5 +00.0	271 03.8 +02.5	N	00 48.4 +00.0	14			
15	139 51.4 +01.6	N	12 59.1 -00.2	145 13.5 +02.3	N	13 20.5 +00.0	286 06.3 +02.5	N	00 48.4 +00.0	15			
16	154 53.0 +01.5	N	12 58.9 -00.3	160 15.8 +02.4	N	13 20.5 -00.1	301 08.8 +02.5	N	00 48.4 +00.0	16			
17	169 54.5 +01.6	N	12 58.6 -00.3	175 18.2 +02.3	N	13 20.4 +00.0	316 11.3 +02.5	N	00 48.4 -00.1	17			
18	184 56.1 +01.5	N	12 58.3 -00.3	190 20.5 +02.4	N	13 20.4 +00.0	331 13.8 +02.5	N	00 48.3 +00.0	18			
19	199 57.6 +01.6	N	12 58.0 -00.2	205 22.9 +02.4	N	13 20.4 +00.0	346 16.3 +02.6	N	00 48.3 +00.0	19			
20	214 59.2 +01.5	N	12 57.8 -00.3	220 25.3 +02.3	N	13 20.4 -00.1	1 18.9 +02.5	N	00 48.3 +00.0	20			
21	230 00.7 +01.6	N	12 57.5 -00.3	235 27.6 +02.4	N	13 20.3 +00.0	16 21.4 +02.5	N	00 48.3 +00.0	21			
22	245 02.3 +01.5	N	12 57.2 -00.2	250 30.0 +02.4	N	13 20.3 +00.0	31 23.9 +02.5	N	00 48.3 +00.0	22			
23	260 03.8 +01.6	N	12 57.0 -00.3	265 32.4 +02.3	N	13 20.3 +00.0	46 26.4 +02.5	N	00 48.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 206° 205° 205° 205° 205° 205°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:41			Greenwich Culmination Time: 05:20			Greenwich Culmination Time: 19:54						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 47.7 -00.3	S	21 45.9 +00.4	223 20.4 +01.0	S	09 24.4 +00.2	272 52.0 -28.4	N	08 30.5 -15.2				
01	197 47.4 -00.2	S	21 46.3 +00.4	238 21.4 +01.0	S	09 24.6 +00.2	287 23.6 -28.3	N	08 15.3 -15.3				
02	212 47.2 -00.2	S	21 46.7 +00.4	253 22.4 +01.0	S	09 24.8 +00.2	301 55.3 -28.3	N	08 00.0 -15.2				
03	227 47.0 -00.2	S	21 47.1 +00.4	268 23.4 +01.0	S	09 25.0 +00.2	316 27.0 -28.1	N	07 44.8 -15.3				
04	242 46.8 -00.3	S	21 47.5 +00.4	283 24.4 +01.0	S	09 25.2 +00.2	330 58.9 -28.2	N	07 29.5 -15.3				
05	257 46.5 -00.2	S	21 47.9 +00.4	298 25.4 +01.1	S	09 25.4 +00.2	345 30.7 -28.0	N	07 14.2 -15.3				
06	272 46.3 -00.2	S	21 48.3 +00.4	313 26.5 +01.0	S	09 25.6 +00.1	0 02.7 -28.0	N	06 58.9 -15.3				
07	287 46.1 -00.3	S	21 48.7 +00.4	328 27.5 +01.0	S	09 25.7 +00.2	14 34.7 -27.9	N	06 43.6 -15.3				
08	302 45.8 -00.2	S	21 49.1 +00.3	343 28.5 +01.0	S	09 25.9 +00.2	29 06.8 -27.9	N	06 28.3 -15.4				
09	317 45.6 -00.2	S	21 49.4 +00.4	358 29.5 +01.0	S	09 26.1 +00.2	43 38.9 -27.8	N	06 12.9 -15.3				
10	332 45.4 -00.3	S	21 49.8 +00.4	13 30.5 +01.0	S	09 26.3 +00.2	58 11.1 -27.7	N	05 57.6 -15.4				
11	347 45.1 -00.2	S	21 50.2 +00.4	28 31.5 +01.0	S	09 26.5 +00.2	72 43.4 -27.6	N	05 42.2 -15.4				
12	2 44.9 -00.2	S	21 50.6 +00.4	43 32.5 +00.9	S	09 26.7 +00.2	87 15.8 -27.7	N	05 26.8 -15.4				
13	17 44.7 -00.3	S	21 51.0 +00.4	58 33.4 +01.0	S	09 26.9 +00.2	101 48.1 -27.5	N	05 11.4 -15.3				
14	32 44.4 -00.2	S	21 51.4 +00.4	73 34.4 +01.0	S	09 27.1 +00.3	116 20.6 -27.5	N	04 56.1 -15.4				
15	47 44.2 -00.3	S	21 51.8 +00.3	88 35.4 +01.0	S	09 27.4 +00.2	130 53.1 -27.4	N	04 40.7 -15.4				
16	62 43.9 -00.2	S	21 52.1 +00.4	103 36.4 +01.0	S	09 27.6 +00.2	145 25.7 -27.4	N	04 25.3 -15.4				
17	77 43.7 -00.2	S	21 52.5 +00.4	118 37.4 +01.0	S	09 27.8 +00.2	159 58.3 -27.4	N	04 09.9 -15.5				
18	92 43.5 -00.3	S	21 52.9 +00.4	133 38.4 +01.0	S	09 28.0 +00.2	174 30.9 -27.3	N	03 54.4 -15.4				
19	107 43.2 -00.2	S	21 53.3 +00.4	148 39.4 +00.9	S	09 28.2 +00.2	189 03.6 -27.2	N	03 39.0 -15.4				
20	122 43.0 -00.2	S	21 53.7 +00.3	163 40.3 +01.0	S	09 28.4 +00.2	203 36.4 -27.2	N	03 23.6 -15.4				
21	137 42.8 -00.3	S	21 54.0 +00.4	178 41.3 +01.0	S	09 28.6 +00.2	218 09.2 -27.1	N	03 08.2 -15.4				
22	152 42.5 -00.2	S	21 54.4 +00.4	193 42.3 +00.9	S	09 28.8 +00.2	232 42.1 -27.1	N	02 52.8 -15.4				
23	167 42.3 -00.2	S	21 54.8 +00.4	208 43.2 +01.0	S	09 29.0 +00.3	247 15.0 -27.1	N	02 37.4 -15.4				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 15'8 15'8 15'8 15'7 15'7 15'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 58'1 58'0 57'9 57'8 57'6 57'5						
	SHA 113° 113° 112° 112° 112° 112°			SHA 153° 153° 153° 153° 153° 153°			SHA 202° 200° 198° 196° 194° 192°						
	Greenwich Culmination Time: 11:49			Greenwich Culmination Time: 09:06			Greenwich Culmination Time: 05:59						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	275 05.4 +01.5	N	12 56.7 -00.3	280 34.7 +02.4	N	13 20.3 -00.1	61 28.9 +02.5	N	00 48.3 +00.0				
01	290 06.9 +01.6	N	12 56.4 -00.3	295 37.1 +02.4	N	13 20.2 +00.0	76 31.4 +02.5	N	00 48.3 +00.0				
02	305 08.5 +01.5	N	12 56.1 -00.2	310 39.5 +02.3	N	13 20.2 +00.0	91 33.9 +02.5	N	00 48.3 +00.0				
03	320 10.0 +01.6	N	12 55.9 -00.3	325 41.8 +02.4	N	13 20.2 +00.0	106 36.4 +02.5	N	00 48.3 +00.0				
04	335 11.6 +01.5	N	12 55.6 -00.3	340 44.2 +02.4	N	13 20.2 -00.1	121 38.9 +02.5	N	00 48.3 -00.1				
05	350 13.1 +01.6	N	12 55.3 -00.2	355 46.6 +02.3	N	13 20.1 +00.0	136 41.4 +02.6	N	00 48.2 +00.0				
06	5 14.7 +01.5	N	12 55.1 -00.3	10 48.9 +02.4	N	13 20.1 +00.0	151 44.0 +02.5	N	00 48.2 +00.0				
07	20 16.2 +01.6	N	12 54.8 -00.3	25 51.3 +02.4	N	13 20.1 +00.0	166 46.5 +02.5	N	00 48.2 +00.0				
08	35 17.8 +01.6	N	12 54.5 -00.3	40 53.7 +02.4	N	13 20.1 +00.0	181 49.0 +02.5	N	00 48.2 +00.0				
09	50 19.4 +01.5	N	12 54.2 -00.2	55 56.1 +02.3	N	13 20.1 -00.1	196 51.5 +02.5	N	00 48.2 +00.0				
10	65 20.9 +01.6	N	12 54.0 -00.3	70 58.4 +02.4	N	13 20.0 +00.0	211 54.0 +02.5	N	00 48.2 +00.0				
11	80 22.5 +01.5	N	12 53.7 -00.3	86 00.8 +02.4	N	13 20.0 +00.0	226 56.5 +02.5	N	00 48.2 +00.0				
12	95 24.0 +01.6	N	12 53.4 -00.2	101 03.2 +02.3	N	13 20.0 +00.0	241 59.0 +02.5	N	00 48.2 +00.0				
13	110 25.6 +01.5	N	12 53.2 -00.3	116 05.5 +02.4	N	13 20.0 -00.1	257 01.5 +02.5	N	00 48.2 +00.0				
14	125 27.1 +01.6	N	12 52.9 -00.3	131 07.9 +02.4	N	13 19.9 +00.0	272 04.0 +02.5	N	00 48.2 +00.0				
15	140 28.7 +01.6	N	12 52.6 -00.2	146 10.3 +02.4	N	13 19.9 +00.0	287 06.5 +02.5	N	00 48.2 +00.0				
16	155 30.3 +01.5	N	12 52.4 -00.3	161 12.7 +02.3	N	13 19.9 +00.0	302 09.0 +02.5	N	00 48.2 +00.0				
17	170 31.8 +01.6	N	12 52.1 -00.3	176 15.0 +02.4	N	13 19.9 +00.0	317 11.5 +02.5	N	00 48.2 -00.1				
18	185 33.4 +01.6	N	12 51.8 -00.2	191 17.4 +02.4	N	13 19.9 -00.1	332 14.0 +02.5	N	00 48.1 +00.0				
19	200 35.0 +01.5	N	12 51.6 -00.3	206 19.8 +02.3	N	13 19.8 +00.0	347 16.5 +02.6	N	00 48.1 +00.0				
20	215 36.5 +01.6	N	12 51.3 -00.3	221 22.1 +02.4	N	13 19.8 +00.0	2 19.1 +02.5	N	00 48.1 +00.0				
21	230 38.1 +01.5	N	12 51.0 -00.2	236 24.5 +02.4	N	13 19.8 +00.0	17 21.6 +02.5	N	00 48.1 +00.0				
22	245 39.6 +01.6	N	12 50.8 -00.3	251 26.9 +02.4	N	13 19.8 -00.1	32 24.1 +02.5	N	00 48.1 +00.0				
23	260 41.2 +01.6	N	12 50.5 -00.3	266 29.3 +02.3	N	13 19.7 +00.0	47 26.6 +02.5	N	00 48.1 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 205° 205° 205° 205° 205° 205°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:39			Greenwich Culmination Time: 05:16			Greenwich Culmination Time: 19:50						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 42.1 -00.3	S	21 55.2 +00.3	223 44.2 +01.0	S	09 29.3 +00.2	261 47.9 -27.0	N	02 22.0 -15.4	00			
01	197 41.8 -00.2	S	21 55.5 +00.4	238 45.2 +00.9	S	09 29.5 +00.2	276 20.9 -27.0	N	02 06.6 -15.3	01			
02	212 41.6 -00.3	S	21 55.9 +00.4	253 46.1 +01.0	S	09 29.7 +00.2	290 53.9 -26.9	N	01 51.3 -15.4	02			
03	227 41.3 -00.2	S	21 56.3 +00.4	268 47.1 +01.0	S	09 29.9 +00.2	305 27.0 -26.9	N	01 35.9 -15.4	03			
04	242 41.1 -00.2	S	21 56.7 +00.3	283 48.1 +00.9	S	09 30.1 +00.3	320 00.1 -26.9	N	01 20.5 -15.3	04			
05	257 40.9 -00.3	S	21 57.0 +00.4	298 49.0 +01.0	S	09 30.4 +00.2	334 33.2 -26.8	N	01 05.2 -15.4	05			
06	272 40.6 -00.2	S	21 57.4 +00.4	313 50.0 +00.9	S	09 30.6 +00.2	349 06.4 -26.8	N	00 49.8 -15.3	06			
07	287 40.4 -00.2	S	21 57.8 +00.3	328 50.9 +01.0	S	09 30.8 +00.2	3 39.6 -26.8	N	00 34.5 -15.3	07			
08	302 40.2 -00.3	S	21 58.1 +00.4	343 51.9 +00.9	S	09 31.0 +00.3	18 12.8 -26.7	N	00 19.2 -15.3	08			
09	317 39.9 -00.2	S	21 58.5 +00.4	358 52.8 +01.0	S	09 31.3 +00.2	32 46.1 -26.7	N	00 03.9 -15.3	09			
10	332 39.7 -00.3	S	21 58.9 +00.3	13 53.8 +00.9	S	09 31.5 +00.2	47 19.4 -26.7	S	00 11.4 +15.3	10			
11	347 39.4 -00.2	S	21 59.2 +00.4	28 54.7 +01.0	S	09 31.7 +00.3	61 52.7 -26.6	S	00 26.7 +15.3	11			
12	2 39.2 -00.3	S	21 59.6 +00.4	43 55.7 +00.9	S	09 32.0 +00.2	76 26.1 -26.6	S	00 42.0 +15.2	12			
13	17 38.9 -00.2	S	21 60.0 +00.3	58 56.6 +00.9	S	09 32.2 +00.2	90 59.5 -26.6	S	00 57.2 +15.2	13			
14	32 38.7 -00.2	S	22 00.3 +00.4	73 57.5 +01.0	S	09 32.4 +00.3	105 32.9 -26.6	S	01 12.4 +15.2	14			
15	47 38.5 -00.3	S	22 00.7 +00.4	88 58.5 +00.9	S	09 32.7 +00.2	120 06.3 -26.6	S	01 27.6 +15.2	15			
16	62 38.2 -00.2	S	22 01.1 +00.3	103 59.4 +00.9	S	09 32.9 +00.2	134 39.7 -26.5	S	01 42.8 +15.2	16			
17	77 38.0 -00.3	S	22 01.4 +00.4	119 00.3 +01.0	S	09 33.1 +00.3	149 13.2 -26.5	S	01 58.0 +15.1	17			
18	92 37.7 -00.2	S	22 01.8 +00.4	134 01.3 +00.9	S	09 33.4 +00.2	163 46.7 -26.5	S	02 13.1 +15.1	18			
19	107 37.5 -00.2	S	22 02.2 +00.3	149 02.2 +00.9	S	09 33.6 +00.3	178 20.2 -26.5	S	02 28.2 +15.1	19			
20	122 37.3 -00.3	S	22 02.5 +00.4	164 03.1 +00.9	S	09 33.9 +00.2	192 53.7 -26.4	S	02 43.3 +15.0	20			
21	137 37.0 -00.2	S	22 02.9 +00.3	179 04.0 +01.0	S	09 34.1 +00.3	207 27.3 -26.5	S	02 58.3 +15.1	21			
22	152 36.8 -00.3	S	22 03.2 +00.4	194 05.0 +00.9	S	09 34.4 +00.2	222 00.8 -26.4	S	03 13.4 +15.0	22			
23	167 36.5 -00.2	S	22 03.6 +00.4	209 05.9 +00.9	S	09 34.6 +00.2	236 34.4 -26.4	S	03 28.4 +14.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 15'6 15'6 15'6 15'5 15'5 15'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 57'4 57'3 57'1 57'0 56'9 56'8						
	SHA 112° 112° 111° 111° 111° 111°			SHA 153° 153° 153° 153° 152° 152°			SHA 190° 188° 186° 184° 182° 180°						
	Greenwich Culmination Time: 11:49			Greenwich Culmination Time: 09:04			Greenwich Culmination Time: 06:44						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	275 42.8 +01.5	N	12 50.2 -00.2	281 31.6 +02.4	N	13 19.7 +00.0	62 29.1 +02.5	N	00 48.1 +00.0	00			
01	290 44.3 +01.6	N	12 50.0 -00.3	296 34.0 +02.4	N	13 19.7 +00.0	77 31.6 +02.5	N	00 48.1 +00.0	01			
02	305 45.9 +01.6	N	12 49.7 -00.3	311 36.4 +02.4	N	13 19.7 +00.0	92 34.1 +02.5	N	00 48.1 +00.0	02			
03	320 47.5 +01.5	N	12 49.4 -00.2	326 38.8 +02.3	N	13 19.7 -00.1	107 36.6 +02.5	N	00 48.1 +00.0	03			
04	335 49.0 +01.6	N	12 49.2 -00.3	341 41.1 +02.4	N	13 19.6 +00.0	122 39.1 +02.5	N	00 48.1 +00.0	04			
05	350 50.6 +01.6	N	12 48.9 -00.3	356 43.5 +02.4	N	13 19.6 +00.0	137 41.6 +02.5	N	00 48.1 +00.0	05			
06	5 52.2 +01.6	N	12 48.6 -00.2	11 45.9 +02.4	N	13 19.6 +00.0	152 44.1 +02.5	N	00 48.1 +00.0	06			
07	20 53.8 +01.5	N	12 48.4 -00.3	26 48.3 +02.3	N	13 19.6 +00.0	167 46.6 +02.5	N	00 48.1 +00.0	07			
08	35 55.3 +01.6	N	12 48.1 -00.3	41 50.6 +02.4	N	13 19.6 -00.1	182 49.1 +02.5	N	00 48.1 -00.1	08			
09	50 56.9 +01.6	N	12 47.8 -00.2	56 53.0 +02.4	N	13 19.5 +00.0	197 51.6 +02.5	N	00 48.0 +00.0	09			
10	65 58.5 +01.5	N	12 47.6 -00.3	71 55.4 +02.4	N	13 19.5 +00.0	212 54.1 +02.5	N	00 48.0 +00.0	10			
11	81 00.0 +01.6	N	12 47.3 -00.2	86 57.8 +02.4	N	13 19.5 +00.0	227 56.6 +02.5	N	00 48.0 +00.0	11			
12	96 01.6 +01.6	N	12 47.1 -00.3	102 00.2 +02.3	N	13 19.5 +00.0	242 59.1 +02.5	N	00 48.0 +00.0	12			
13	111 03.2 +01.6	N	12 46.8 -00.3	117 02.5 +02.4	N	13 19.5 -00.1	258 01.6 +02.5	N	00 48.0 +00.0	13			
14	126 04.8 +01.5	N	12 46.5 -00.2	132 04.9 +02.4	N	13 19.4 +00.0	273 04.1 +02.5	N	00 48.0 +00.0	14			
15	141 06.3 +01.6	N	12 46.3 -00.3	147 07.3 +02.4	N	13 19.4 +00.0	288 06.6 +02.5	N	00 48.0 +00.0	15			
16	156 07.9 +01.6	N	12 46.0 -00.3	162 09.7 +02.3	N	13 19.4 +00.0	303 09.1 +02.5	N	00 48.0 +00.0	16			
17	171 09.5 +01.6	N	12 45.7 -00.2	177 12.0 +02.4	N	13 19.4 +00.0	318 11.6 +02.5	N	00 48.0 +00.0	17			
18	186 11.1 +01.5	N	12 45.5 -00.3	192 14.4 +02.4	N	13 19.4 -00.1	333 14.1 +02.6	N	00 48.0 +00.0	18			
19	201 12.6 +01.6	N	12 45.2 -00.2	207 16.8 +02.4	N	13 19.3 +00.0	348 16.7 +02.5	N	00 48.0 +00.0	19			
20	216 14.2 +01.6	N	12 45.0 -00.3	222 19.2 +02.4	N	13 19.3 +00.0	3 19.2 +02.5	N	00 48.0 +00.0	20			
21	231 15.8 +01.6	N	12 44.7 -00.3	237 21.6 +02.3	N	13 19.3 +00.0	18 21.7 +02.5	N	00 48.0 +00.0	21			
22	246 17.4 +01.6	N	12 44.4 -00.2	252 23.9 +02.4	N	13 19.3 +00.0	33 24.2 +02.5	N	00 48.0 +00.0	22			
23	261 19.0 +01.5	N	12 44.2 -00.3	267 26.3 +02.4	N	13 19.3 +00.0	48 26.7 +02.5	N	00 48.0 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 205° 205° 205° 205° 205° 205°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:36			Greenwich Culmination Time: 05:13			Greenwich Culmination Time: 19:46						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 36.3 -00.3	S	22 04.0 +00.3	224 06.8 +00.9	S	09 34.8 +00.3	251 08.0 -26.5	S	03 43.3 +15.0	00			
01	197 36.0 -00.2	S	22 04.3 +00.4	239 07.7 +00.9	S	09 35.1 +00.2	265 41.5 -26.4	S	03 58.3 +14.9	01			
02	212 35.8 -00.3	S	22 04.7 +00.3	254 08.6 +00.9	S	09 35.3 +00.3	280 15.1 -26.3	S	04 13.2 +14.9	02			
03	227 35.5 -00.2	S	22 05.0 +00.4	269 09.5 +01.0	S	09 35.6 +00.2	294 48.8 -26.4	S	04 28.1 +14.8	03			
04	242 35.3 -00.2	S	22 05.4 +00.3	284 10.5 +00.9	S	09 35.8 +00.3	309 22.4 -26.4	S	04 42.9 +14.8	04			
05	257 35.1 -00.3	S	22 05.7 +00.4	299 11.4 +00.9	S	09 36.1 +00.3	323 56.0 -26.4	S	04 57.7 +14.8	05			
06	272 34.8 -00.2	S	22 06.1 +00.3	314 12.3 +00.9	S	09 36.4 +00.2	338 29.6 -26.4	S	05 12.5 +14.8	06			
07	287 34.6 -00.3	S	22 06.4 +00.4	329 13.2 +00.9	S	09 36.6 +00.3	353 03.2 -26.3	S	05 27.3 +14.7	07			
08	302 34.3 -00.2	S	22 06.8 +00.3	344 14.1 +00.9	S	09 36.9 +00.2	7 36.9 -26.4	S	05 42.0 +14.7	08			
09	317 34.1 -00.3	S	22 07.1 +00.4	359 15.0 +00.9	S	09 37.1 +00.3	22 10.5 -26.4	S	05 56.7 +14.6	09			
10	332 33.8 -00.2	S	22 07.5 +00.3	14 15.9 +00.9	S	09 37.4 +00.2	36 44.1 -26.4	S	06 11.3 +14.6	10			
11	347 33.6 -00.3	S	22 07.8 +00.4	29 16.8 +00.8	S	09 37.6 +00.3	51 17.7 -26.3	S	06 25.9 +14.5	11			
12	2 33.3 -00.2	S	22 08.2 +00.3	44 17.6 +00.9	S	09 37.9 +00.3	65 51.4 -26.4	S	06 40.4 +14.6	12			
13	17 33.1 -00.3	S	22 08.5 +00.4	59 18.5 +00.9	S	09 38.2 +00.2	80 25.0 -26.4	S	06 55.0 +14.4	13			
14	32 32.8 -00.2	S	22 08.9 +00.3	74 19.4 +00.9	S	09 38.4 +00.3	94 58.6 -26.4	S	07 09.4 +14.5	14			
15	47 32.6 -00.3	S	22 09.2 +00.4	89 20.3 +00.9	S	09 38.7 +00.3	109 32.2 -26.4	S	07 23.9 +14.4	15			
16	62 32.3 -00.2	S	22 09.6 +00.3	104 21.2 +00.9	S	09 39.0 +00.2	124 05.8 -26.4	S	07 38.3 +14.3	16			
17	77 32.1 -00.3	S	22 09.9 +00.4	119 22.1 +00.9	S	09 39.2 +00.3	138 39.4 -26.4	S	07 52.6 +14.3	17			
18	92 31.8 -00.2	S	22 10.3 +00.3	134 23.0 +00.8	S	09 39.5 +00.3	153 13.0 -26.4	S	08 06.9 +14.2	18			
19	107 31.6 -00.3	S	22 10.6 +00.4	149 23.8 +00.9	S	09 39.8 +00.2	167 46.6 -26.5	S	08 21.1 +14.2	19			
20	122 31.3 -00.2	S	22 11.0 +00.3	164 24.7 +00.9	S	09 40.0 +00.3	182 20.1 -26.4	S	08 35.3 +14.2	20			
21	137 31.1 -00.3	S	22 11.3 +00.3	179 25.6 +00.9	S	09 40.3 +00.3	196 53.7 -26.5	S	08 49.5 +14.1	21			
22	152 30.8 -00.2	S	22 11.6 +00.4	194 26.5 +00.8	S	09 40.6 +00.3	211 27.2 -26.5	S	09 03.6 +14.1	22			
23	167 30.6 -00.3	S	22 12.0 +00.3	209 27.3 +00.9	S	09 40.9 +00.2	226 00.7 -26.5	S	09 17.7 +14.0	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	16'2 16'2 16'2 16'2 16'2 16'2			SD	00'3 00'3 00'3 00'3 00'3 00'3			SD	15'4 15'4 15'4 15'4 15'3 15'3				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'3 00'3 00'3 00'3 00'3 00'3			HP	56'7 56'6 56'5 56'4 56'3 56'2				
SHA	111° 110° 110° 110° 110° 110°			SHA	152° 152° 152° 152° 152° 152°			SHA	178° 176° 174° 173° 171° 169°				
Greenwich Culmination Time: 11:49				Greenwich Culmination Time: 09:02				Greenwich Culmination Time: 07:28					

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	276 20.5 +01.6	N	12 43.9 -00.3	282 28.7 +02.4	N	13 19.3 -00.1	63 29.2 +02.5	N	00 48.0 +00.0	00			
01	291 22.1 +01.6	N	12 43.6 -00.2	297 31.1 +02.4	N	13 19.2 +00.0	78 31.7 +02.5	N	00 48.0 +00.0	01			
02	306 23.7 +01.6	N	12 43.4 -00.3	312 33.5 +02.4	N	13 19.2 +00.0	93 34.2 +02.5	N	00 48.0 -00.1	02			
03	321 25.3 +01.6	N	12 43.1 -00.2	327 35.9 +02.3	N	13 19.2 +00.0	108 36.7 +02.5	N	00 47.9 +00.0	03			
04	336 26.9 +01.6	N	12 42.9 -00.3	342 38.2 +02.4	N	13 19.2 +00.0	123 39.2 +02.5	N	00 47.9 +00.0	04			
05	351 28.5 +01.5	N	12 42.6 -00.3	357 40.6 +02.4	N	13 19.2 -00.1	138 41.7 +02.5	N	00 47.9 +00.0	05			
06	6 30.0 +01.6	N	12 42.3 -00.2	12 43.0 +02.4	N	13 19.1 +00.0	153 44.2 +02.5	N	00 47.9 +00.0	06			
07	21 31.6 +01.6	N	12 42.1 -00.3	27 45.4 +02.4	N	13 19.1 +00.0	168 46.7 +02.5	N	00 47.9 +00.0	07			
08	36 33.2 +01.6	N	12 41.8 -00.2	42 47.8 +02.4	N	13 19.1 +00.0	183 49.2 +02.5	N	00 47.9 +00.0	08			
09	51 34.8 +01.6	N	12 41.6 -00.3	57 50.2 +02.3	N	13 19.1 +00.0	198 51.7 +02.5	N	00 47.9 +00.0	09			
10	66 36.4 +01.6	N	12 41.3 -00.2	72 52.5 +02.4	N	13 19.1 +00.0	213 54.2 +02.5	N	00 47.9 +00.0	10			
11	81 38.0 +01.6	N	12 41.1 -00.3	87 54.9 +02.4	N	13 19.1 -00.1	228 56.7 +02.5	N	00 47.9 +00.0	11			
12	96 39.6 +01.5	N	12 40.8 -00.3	102 57.3 +02.4	N	13 19.0 +00.0	243 59.2 +02.5	N	00 47.9 +00.0	12			
13	111 41.1 +01.6	N	12 40.5 -00.2	117 59.7 +02.4	N	13 19.0 +00.0	259 01.7 +02.5	N	00 47.9 +00.0	13			
14	126 42.7 +01.6	N	12 40.3 -00.3	133 02.1 +02.4	N	13 19.0 +00.0	274 04.2 +02.5	N	00 47.9 +00.0	14			
15	141 44.3 +01.6	N	12 40.0 -00.2	148 04.5 +02.4	N	13 19.0 +00.0	289 06.7 +02.5	N	00 47.9 +00.0	15			
16	156 45.9 +01.6	N	12 39.8 -00.3	163 06.9 +02.4	N	13 19.0 +00.0	304 09.2 +02.5	N	00 47.9 +00.0	16			
17	171 47.5 +01.6	N	12 39.5 -00.3	178 09.3 +02.3	N	13 19.0 -00.1	319 11.7 +02.5	N	00 47.9 +00.0	17			
18	186 49.1 +01.6	N	12 39.2 -00.2	193 11.6 +02.4	N	13 18.9 +00.0	334 14.2 +02.5	N	00 47.9 +00.0	18			
19	201 50.7 +01.6	N	12 39.0 -00.3	208 14.0 +02.4	N	13 18.9 +00.0	349 16.7 +02.5	N	00 47.9 +00.0	19			
20	216 52.3 +01.6	N	12 38.7 -00.2	223 16.4 +02.4	N	13 18.9 +00.0	4 19.2 +02.5	N	00 47.9 +00.0	20			
21	231 53.9 +01.6	N	12 38.5 -00.3	238 18.8 +02.4	N	13 18.9 +00.0	19 21.7 +02.5	N	00 47.9 +00.0	21			
22	246 55.5 +01.6	N	12 38.2 -00.2	253 21.2 +02.4	N	13 18.9 +00.0	34 24.2 +02.5	N	00 47.9 +00.0	22			
23	261 57.1 +01.6	N	12 38.0 -00.3	268 23.6 +02.4	N	13 18.9 -00.1	49 26.7 +02.4	N	00 47.9 +00.0	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	00'1 00'1 00'1 00'1 00'1 00'1			SD	00'3 00'3 00'3 00'3 00'3 00'3			SD	00'2 00'2 00'2 00'2 00'2 00'2				
HP	00'1 00'1 00'1 00'1 00'1 00'1			HP	00'0 00'0 00'0 00'0 00'0 00'0			HP	00'0 00'0 00'0 00'0 00'0 00'0				
SHA	204° 204° 204° 204° 204° 204°			SHA	211° 211° 211° 211° 211° 211°			SHA	352° 352° 352° 352° 352° 352°				
Greenwich Culmination Time: 05:34				Greenwich Culmination Time: 05:09				Greenwich Culmination Time: 19:42					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 30.3 -00.2	S	22 12.3 +00.4	224 28.2 +00.9	S	09 41.1 +00.3	240 34.2 -26.5	S	09 31.7 +13.9	00			
01	197 30.1 -00.3	S	22 12.7 +00.3	239 29.1 +00.8	S	09 41.4 +00.3	255 07.7 -26.5	S	09 45.6 +13.9	01			
02	212 29.8 -00.2	S	22 13.0 +00.3	254 29.9 +00.9	S	09 41.7 +00.3	269 41.2 -26.5	S	09 59.5 +13.9	02			
03	227 29.6 -00.3	S	22 13.3 +00.4	269 30.8 +00.9	S	09 42.0 +00.2	284 14.7 -26.6	S	10 13.4 +13.8	03			
04	242 29.3 -00.2	S	22 13.7 +00.3	284 31.7 +00.8	S	09 42.2 +00.3	298 48.1 -26.6	S	10 27.2 +13.7	04			
05	257 29.1 -00.3	S	22 14.0 +00.3	299 32.5 +00.9	S	09 42.5 +00.3	313 21.5 -26.6	S	10 40.9 +13.7	05			
06	272 28.8 -00.2	S	22 14.3 +00.4	314 33.4 +00.8	S	09 42.8 +00.3	327 54.9 -26.6	S	10 54.6 +13.7	06			
07	287 28.6 -00.3	S	22 14.7 +00.3	329 34.2 +00.9	S	09 43.1 +00.3	342 28.3 -26.7	S	11 08.3 +13.5	07			
08	302 28.3 -00.2	S	22 15.0 +00.3	344 35.1 +00.8	S	09 43.4 +00.3	357 01.6 -26.7	S	11 21.8 +13.6	08			
09	317 28.1 -00.3	S	22 15.3 +00.4	359 35.9 +00.9	S	09 43.7 +00.3	11 34.9 -26.7	S	11 35.4 +13.4	09			
10	332 27.8 -00.2	S	22 15.7 +00.3	14 36.8 +00.8	S	09 44.0 +00.2	26 08.2 -26.7	S	11 48.8 +13.4	10			
11	347 27.6 -00.3	S	22 16.0 +00.3	29 37.6 +00.9	S	09 44.2 +00.3	40 41.5 -26.7	S	12 02.2 +13.4	11			
12	2 27.3 -00.2	S	22 16.3 +00.4	44 38.5 +00.8	S	09 44.5 +00.3	55 14.8 -26.8	S	12 15.6 +13.2	12			
13	17 27.1 -00.3	S	22 16.7 +00.3	59 39.3 +00.8	S	09 44.8 +00.3	69 48.0 -26.8	S	12 28.8 +13.2	13			
14	32 26.8 -00.2	S	22 17.0 +00.3	74 40.1 +00.9	S	09 45.1 +00.3	84 21.2 -26.9	S	12 42.0 +13.2	14			
15	47 26.6 -00.3	S	22 17.3 +00.4	89 41.0 +00.8	S	09 45.4 +00.3	98 54.3 -26.8	S	12 55.2 +13.1	15			
16	62 26.3 -00.3	S	22 17.7 +00.3	104 41.8 +00.8	S	09 45.7 +00.3	113 27.5 -26.9	S	13 08.3 +13.0	16			
17	77 26.0 -00.2	S	22 18.0 +00.3	119 42.6 +00.9	S	09 46.0 +00.3	128 00.6 -27.0	S	13 21.3 +13.0	17			
18	92 25.8 -00.3	S	22 18.3 +00.3	134 43.5 +00.8	S	09 46.3 +00.3	142 33.6 -27.0	S	13 34.3 +12.8	18			
19	107 25.5 -00.2	S	22 18.6 +00.4	149 44.3 +00.8	S	09 46.6 +00.3	157 06.6 -27.0	S	13 47.1 +12.9	19			
20	122 25.3 -00.3	S	22 19.0 +00.3	164 45.1 +00.9	S	09 46.9 +00.3	171 39.6 -27.0	S	13 60.0 +12.7	20			
21	137 25.0 -00.2	S	22 19.3 +00.3	179 46.0 +00.8	S	09 47.2 +00.3	186 12.6 -27.1	S	14 12.7 +12.7	21			
22	152 24.8 -00.3	S	22 19.6 +00.3	194 46.8 +00.8	S	09 47.5 +00.3	200 45.5 -27.1	S	14 25.4 +12.6	22			
23	167 24.5 -00.2	S	22 19.9 +00.4	209 47.6 +00.8	S	09 47.8 +00.3	215 18.4 -27.1	S	14 38.0 +12.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 15'3 15'2 15'2 15'2 15'2 15'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 56'1 56'0 55'9 55'8 55'7 55'6						
	SHA 110° 109° 109° 109° 109° 109°			SHA 152° 151° 151° 151° 151° 151°			SHA 167° 165° 163° 161° 159° 157°						
	Greenwich Culmination Time: 11:50			Greenwich Culmination Time: 09:01			Greenwich Culmination Time: 08:12						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	276 58.7 +01.6	N	12 37.7 -00.2	283 26.0 +02.4	N	13 18.8 +00.0	64 29.1 +02.5	N	00 47.9 +00.0	00			
01	292 00.3 +01.6	N	12 37.5 -00.3	298 28.4 +02.4	N	13 18.8 +00.0	79 31.6 +02.5	N	00 47.9 +00.0	01			
02	307 01.9 +01.6	N	12 37.2 -00.3	313 30.8 +02.3	N	13 18.8 +00.0	94 34.1 +02.5	N	00 47.9 +00.0	02			
03	322 03.5 +01.6	N	12 36.9 -00.2	328 33.1 +02.4	N	13 18.8 +00.0	109 36.6 +02.5	N	00 47.9 +00.0	03			
04	337 05.1 +01.6	N	12 36.7 -00.3	343 35.5 +02.4	N	13 18.8 +00.0	124 39.1 +02.5	N	00 47.9 -00.1	04			
05	352 06.7 +01.6	N	12 36.4 -00.2	358 37.9 +02.4	N	13 18.8 +00.0	139 41.6 +02.5	N	00 47.8 +00.0	05			
06	7 08.3 +01.6	N	12 36.2 -00.3	13 40.3 +02.4	N	13 18.8 -00.1	154 44.1 +02.5	N	00 47.8 +00.0	06			
07	22 09.9 +01.6	N	12 35.9 -00.2	28 42.7 +02.4	N	13 18.7 +00.0	169 46.6 +02.5	N	00 47.8 +00.0	07			
08	37 11.5 +01.6	N	12 35.7 -00.3	43 45.1 +02.4	N	13 18.7 +00.0	184 49.1 +02.5	N	00 47.8 +00.0	08			
09	52 13.1 +01.6	N	12 35.4 -00.2	58 47.5 +02.4	N	13 18.7 +00.0	199 51.6 +02.5	N	00 47.8 +00.0	09			
10	67 14.7 +01.6	N	12 35.2 -00.3	73 49.9 +02.4	N	13 18.7 +00.0	214 54.1 +02.5	N	00 47.8 +00.0	10			
11	82 16.3 +01.6	N	12 34.9 -00.2	88 52.3 +02.4	N	13 18.7 +00.0	229 56.6 +02.5	N	00 47.8 +00.0	11			
12	97 17.9 +01.6	N	12 34.7 -00.3	103 54.7 +02.4	N	13 18.7 +00.0	244 59.1 +02.5	N	00 47.8 +00.0	12			
13	112 19.5 +01.6	N	12 34.4 -00.2	118 57.1 +02.4	N	13 18.7 -00.1	260 01.6 +02.5	N	00 47.8 +00.0	13			
14	127 21.1 +01.6	N	12 34.2 -00.3	133 59.5 +02.4	N	13 18.6 +00.0	275 04.1 +02.5	N	00 47.8 +00.0	14			
15	142 22.7 +01.6	N	12 33.9 -00.2	149 01.9 +02.3	N	13 18.6 +00.0	290 06.6 +02.5	N	00 47.8 +00.0	15			
16	157 24.3 +01.6	N	12 33.7 -00.3	164 04.2 +02.4	N	13 18.6 +00.0	305 09.1 +02.5	N	00 47.8 +00.0	16			
17	172 25.9 +01.6	N	12 33.4 -00.3	179 06.6 +02.4	N	13 18.6 +00.0	320 11.6 +02.5	N	00 47.8 +00.0	17			
18	187 27.5 +01.6	N	12 33.1 -00.2	194 09.0 +02.4	N	13 18.6 +00.0	335 14.1 +02.5	N	00 47.8 +00.0	18			
19	202 29.1 +01.6	N	12 32.9 -00.3	209 11.4 +02.4	N	13 18.6 +00.0	350 16.6 +02.5	N	00 47.8 +00.0	19			
20	217 30.7 +01.6	N	12 32.6 -00.2	224 13.8 +02.4	N	13 18.6 -00.1	5 19.1 +02.5	N	00 47.8 +00.0	20			
21	232 32.3 +01.6	N	12 32.4 -00.3	239 16.2 +02.4	N	13 18.5 +00.0	20 21.6 +02.4	N	00 47.8 +00.0	21			
22	247 33.9 +01.7	N	12 32.1 -00.2	254 18.6 +02.4	N	13 18.5 +00.0	35 24.0 +02.5	N	00 47.8 +00.0	22			
23	262 35.6 +01.6	N	12 31.9 -00.3	269 21.0 +02.4	N	13 18.5 +00.0	50 26.5 +02.5	N	00 47.8 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 204° 204° 204° 204° 204° 204°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:31			Greenwich Culmination Time: 05:05			Greenwich Culmination Time: 19:38						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 24.3 -00.3	S	22 20.3 +00.3	224 48.4 +00.9	S	09 48.1 +00.3	229 51.3 -27.2	S	14 50.5 +12.5				
01	197 24.0 -00.3	S	22 20.6 +00.3	239 49.3 +00.8	S	09 48.4 +00.3	244 24.1 -27.2	S	15 03.0 +12.4				
02	212 23.7 -00.2	S	22 20.9 +00.3	254 50.1 +00.8	S	09 48.7 +00.3	258 56.9 -27.3	S	15 15.4 +12.3				
03	227 23.5 -00.3	S	22 21.2 +00.3	269 50.9 +00.8	S	09 49.0 +00.3	273 29.6 -27.3	S	15 27.7 +12.3				
04	242 23.2 -00.2	S	22 21.5 +00.4	284 51.7 +00.8	S	09 49.3 +00.3	288 02.3 -27.3	S	15 40.0 +12.2				
05	257 23.0 -00.3	S	22 21.9 +00.3	299 52.5 +00.8	S	09 49.6 +00.3	302 35.0 -27.4	S	15 52.2 +12.1				
06	272 22.7 -00.2	S	22 22.2 +00.3	314 53.3 +00.8	S	09 49.9 +00.3	317 07.6 -27.4	S	16 04.3 +12.0				
07	287 22.5 -00.3	S	22 22.5 +00.3	329 54.1 +00.8	S	09 50.2 +00.4	331 40.2 -27.5	S	16 16.3 +11.9				
08	302 22.2 -00.3	S	22 22.8 +00.3	344 54.9 +00.8	S	09 50.6 +00.3	346 12.7 -27.5	S	16 28.2 +11.9				
09	317 21.9 -00.2	S	22 23.1 +00.3	359 55.7 +00.8	S	09 50.9 +00.3	0 45.2 -27.5	S	16 40.1 +11.8				
10	332 21.7 -00.3	S	22 23.4 +00.4	14 56.5 +00.8	S	09 51.2 +00.3	15 17.7 -27.6	S	16 51.9 +11.7				
11	347 21.4 -00.2	S	22 23.8 +00.3	29 57.3 +00.8	S	09 51.5 +00.3	29 50.1 -27.6	S	17 03.6 +11.6				
12	2 21.2 -00.3	S	22 24.1 +00.3	44 58.1 +00.8	S	09 51.8 +00.3	44 22.5 -27.7	S	17 15.2 +11.5				
13	17 20.9 -00.3	S	22 24.4 +00.3	59 58.9 +00.8	S	09 52.1 +00.3	58 54.8 -27.7	S	17 26.7 +11.5				
14	32 20.6 -00.2	S	22 24.7 +00.3	74 59.7 +00.8	S	09 52.4 +00.4	73 27.1 -27.8	S	17 38.2 +11.4				
15	47 20.4 -00.3	S	22 25.0 +00.3	90 00.5 +00.8	S	09 52.8 +00.3	87 59.3 -27.8	S	17 49.6 +11.2				
16	62 20.1 -00.2	S	22 25.3 +00.3	105 01.3 +00.8	S	09 53.1 +00.3	102 31.5 -27.9	S	18 00.8 +11.2				
17	77 19.9 -00.3	S	22 25.6 +00.3	120 02.1 +00.8	S	09 53.4 +00.3	117 03.6 -27.9	S	18 12.0 +11.2				
18	92 19.6 -00.3	S	22 25.9 +00.3	135 02.9 +00.8	S	09 53.7 +00.4	131 35.7 -28.0	S	18 23.2 +11.0				
19	107 19.3 -00.2	S	22 26.2 +00.3	150 03.7 +00.7	S	09 54.1 +00.3	146 07.7 -28.0	S	18 34.2 +10.9				
20	122 19.1 -00.3	S	22 26.5 +00.3	165 04.4 +00.8	S	09 54.4 +00.3	160 39.7 -28.0	S	18 45.1 +10.9				
21	137 18.8 -00.2	S	22 26.8 +00.4	180 05.2 +00.8	S	09 54.7 +00.3	175 11.7 -28.1	S	18 56.0 +10.7				
22	152 18.6 -00.3	S	22 27.2 +00.3	195 06.0 +00.8	S	09 55.0 +00.4	189 43.6 -28.2	S	19 06.7 +10.7				
23	167 18.3 -00.3	S	22 27.5 +00.3	210 06.8 +00.8	S	09 55.4 +00.3	204 15.4 -28.2	S	19 17.4 +10.6				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 15'1 15'1 15'1 15'1 15'0 15'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 55'5 55'4 55'4 55'3 55'2 55'1						
	SHA 109° 108° 108° 108° 108° 108°			SHA 151° 151° 151° 151° 150° 150°			SHA 155° 153° 151° 149° 147° 145°						
	Greenwich Culmination Time: 11:50			Greenwich Culmination Time: 09:00			Greenwich Culmination Time: 08:56						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	277 37.2 +01.6	N	12 31.6 -00.2	284 23.4 +02.4	N	13 18.5 +00.0	65 29.0 +02.5	N	00 47.8 +00.0				
01	292 38.8 +01.6	N	12 31.4 -00.3	299 25.8 +02.4	N	13 18.5 +00.0	80 31.5 +02.5	N	00 47.8 +00.0				
02	307 40.4 +01.6	N	12 31.1 -00.2	314 28.2 +02.4	N	13 18.5 +00.0	95 34.0 +02.5	N	00 47.8 +00.0				
03	322 42.0 +01.6	N	12 30.9 -00.3	329 30.6 +02.4	N	13 18.5 +00.0	110 36.5 +02.5	N	00 47.8 +00.0				
04	337 43.6 +01.6	N	12 30.6 -00.2	344 33.0 +02.4	N	13 18.5 -00.1	125 39.0 +02.5	N	00 47.8 +00.0				
05	352 45.2 +01.7	N	12 30.4 -00.3	359 35.4 +02.4	N	13 18.4 +00.0	140 41.5 +02.5	N	00 47.8 +00.0				
06	7 46.9 +01.6	N	12 30.1 -00.2	14 37.8 +02.4	N	13 18.4 +00.0	155 44.0 +02.5	N	00 47.8 +00.0				
07	22 48.5 +01.6	N	12 29.9 -00.2	29 40.2 +02.4	N	13 18.4 +00.0	170 46.5 +02.5	N	00 47.8 +00.0				
08	37 50.1 +01.6	N	12 29.7 -00.3	44 42.6 +02.4	N	13 18.4 +00.0	185 49.0 +02.5	N	00 47.8 +00.0				
09	52 51.7 +01.6	N	12 29.4 -00.2	59 45.0 +02.4	N	13 18.4 +00.0	200 51.5 +02.5	N	00 47.8 +00.0				
10	67 53.3 +01.6	N	12 29.2 -00.3	74 47.4 +02.4	N	13 18.4 +00.0	215 54.0 +02.5	N	00 47.8 +00.0				
11	82 54.9 +01.7	N	12 28.9 -00.2	89 49.8 +02.4	N	13 18.4 +00.0	230 56.5 +02.4	N	00 47.8 +00.0				
12	97 56.6 +01.6	N	12 28.7 -00.3	104 52.2 +02.4	N	13 18.4 +00.0	245 58.9 +02.5	N	00 47.8 +00.0				
13	112 58.2 +01.6	N	12 28.4 -00.2	119 54.6 +02.4	N	13 18.4 -00.1	261 01.4 +02.5	N	00 47.8 +00.0				
14	127 59.8 +01.6	N	12 28.2 -00.3	134 57.0 +02.4	N	13 18.3 +00.0	276 03.9 +02.5	N	00 47.8 +00.0				
15	143 01.4 +01.6	N	12 27.9 -00.2	149 59.4 +02.4	N	13 18.3 +00.0	291 06.4 +02.5	N	00 47.8 +00.0				
16	158 03.0 +01.7	N	12 27.7 -00.3	165 01.8 +02.4	N	13 18.3 +00.0	306 08.9 +02.5	N	00 47.8 +00.0				
17	173 04.7 +01.6	N	12 27.4 -00.2	180 04.2 +02.4	N	13 18.3 +00.0	321 11.4 +02.5	N	00 47.8 +00.0				
18	188 06.3 +01.6	N	12 27.2 -00.3	195 06.6 +02.4	N	13 18.3 +00.0	336 13.9 +02.5	N	00 47.8 +00.0				
19	203 07.9 +01.6	N	12 26.9 -00.2	210 09.0 +02.4	N	13 18.3 +00.0	351 16.4 +02.5	N	00 47.8 +00.0				
20	218 09.5 +01.7	N	12 26.7 -00.3	225 11.4 +02.4	N	13 18.3 +00.0	6 18.9 +02.5	N	00 47.8 +00.0				
21	233 11.2 +01.6	N	12 26.4 -00.2	240 13.8 +02.4	N	13 18.3 +00.0	21 21.4 +02.4	N	00 47.8 +00.0				
22	248 12.8 +01.6	N	12 26.2 -00.2	255 16.2 +02.4	N	13 18.3 -00.1	36 23.8 +02.5	N	00 47.8 +00.0				
23	263 14.4 +01.7	N	12 26.0 -00.3	270 18.6 +02.4	N	13 18.2 +00.0	51 26.3 +02.5	N	00 47.8 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 204° 204° 204° 204° 204° 203°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:28			Greenwich Culmination Time: 05:01			Greenwich Culmination Time: 19:34						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	182	18.0	-00.2	S 22 27.8	+00.3	225	07.6	+00.7	S 09 55.7	+00.3	218	47.2	-28.2	S 19 28.0	+10.5	00
01	197	17.8	-00.3	S 22 28.1	+00.3	240	08.3	+00.8	S 09 56.0	+00.3	233	19.0	-28.3	S 19 38.5	+10.4	01
02	212	17.5	-00.3	S 22 28.4	+00.3	255	09.1	+00.8	S 09 56.3	+00.4	247	50.7	-28.4	S 19 48.9	+10.3	02
03	227	17.2	-00.2	S 22 28.7	+00.3	270	09.9	+00.7	S 09 56.7	+00.3	262	22.3	-28.4	S 19 59.2	+10.2	03
04	242	17.0	-00.3	S 22 29.0	+00.3	285	10.6	+00.8	S 09 57.0	+00.3	276	53.9	-28.4	S 20 09.4	+10.1	04
05	257	16.7	-00.3	S 22 29.3	+00.3	300	11.4	+00.8	S 09 57.3	+00.4	291	25.5	-28.5	S 20 19.5	+10.0	05
06	272	16.4	-00.2	S 22 29.6	+00.3	315	12.2	+00.7	S 09 57.7	+00.3	305	57.0	-28.6	S 20 29.5	+09.9	06
07	287	16.2	-00.3	S 22 29.9	+00.3	330	12.9	+00.8	S 09 58.0	+00.4	320	28.4	-28.6	S 20 39.4	+09.8	07
08	302	15.9	-00.2	S 22 30.2	+00.3	345	13.7	+00.7	S 09 58.4	+00.3	334	59.8	-28.6	S 20 49.2	+09.8	08
09	317	15.7	-00.3	S 22 30.5	+00.3	0	14.4	+00.8	S 09 58.7	+00.3	349	31.2	-28.7	S 20 59.0	+09.6	09
10	332	15.4	-00.3	S 22 30.8	+00.3	15	15.2	+00.8	S 09 59.0	+00.4	4	02.5	-28.8	S 21 08.6	+09.5	10
11	347	15.1	-00.2	S 22 31.1	+00.2	30	16.0	+00.7	S 09 59.4	+00.3	18	33.7	-28.8	S 21 18.1	+09.4	11
12	2	14.9	-00.3	S 22 31.3	+00.3	45	16.7	+00.8	S 09 59.7	+00.4	33	04.9	-28.8	S 21 27.5	+09.3	12
13	17	14.6	-00.3	S 22 31.6	+00.3	60	17.5	+00.7	S 10 00.1	+00.3	47	36.1	-28.9	S 21 36.8	+09.2	13
14	32	14.3	-00.2	S 22 31.9	+00.3	75	18.2	+00.8	S 10 00.4	+00.3	62	07.2	-29.0	S 21 46.0	+09.2	14
15	47	14.1	-00.3	S 22 32.2	+00.3	90	19.0	+00.7	S 10 00.7	+00.4	76	38.2	-29.0	S 21 55.2	+09.0	15
16	62	13.8	-00.3	S 22 32.5	+00.3	105	19.7	+00.7	S 10 01.1	+00.3	91	09.2	-29.1	S 22 04.2	+08.9	16
17	77	13.5	-00.2	S 22 32.8	+00.3	120	20.4	+00.8	S 10 01.4	+00.4	105	40.1	-29.1	S 22 13.1	+08.7	17
18	92	13.3	-00.3	S 22 33.1	+00.3	135	21.2	+00.7	S 10 01.8	+00.3	120	11.0	-29.2	S 22 21.8	+08.7	18
19	107	13.0	-00.3	S 22 33.4	+00.3	150	21.9	+00.8	S 10 02.1	+00.4	134	41.8	-29.2	S 22 30.5	+08.6	19
20	122	12.7	-00.2	S 22 33.7	+00.3	165	22.7	+00.7	S 10 02.5	+00.3	149	12.6	-29.2	S 22 39.1	+08.5	20
21	137	12.5	-00.3	S 22 34.0	+00.3	180	23.4	+00.7	S 10 02.8	+00.4	163	43.4	-29.4	S 22 47.6	+08.3	21
22	152	12.2	-00.3	S 22 34.3	+00.2	195	24.1	+00.8	S 10 03.2	+00.3	178	14.0	-29.3	S 22 55.9	+08.3	22
23	167	11.9	-00.2	S 22 34.5	+00.3	210	24.9	+00.7	S 10 03.5	+00.4	192	44.7	-29.4	S 23 04.2	+08.1	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2					SD 00'3 00'3 00'3 00'3 00'3 00'3					SD 15'0 15'0 15'0 14'9 14'9 14'9					
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'3 00'3 00'3 00'3 00'3 00'3					HP 55'1 55'0 54'9 54'9 54'8 54'7					
	SHA 107° 107° 107° 107° 107° 107°					SHA 150° 150° 150° 150° 150° 150°					SHA 143° 141° 139° 137° 135° 133°					
	Greenwich Culmination Time: 11:51					Greenwich Culmination Time: 08:59					Greenwich Culmination Time: 09:43					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT			
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec				
00	278	16.1	+01.6	N 12 25.7	-00.2	285	21.0	+02.5	N 13 18.2	+00.0	66	28.8	+02.5	N 00 47.8	+00.0	00
01	293	17.7	+01.6	N 12 25.5	-00.3	300	23.5	+02.4	N 13 18.2	+00.0	81	31.3	+02.5	N 00 47.8	+00.0	01
02	308	19.3	+01.6	N 12 25.2	-00.2	315	25.9	+02.4	N 13 18.2	+00.0	96	33.8	+02.5	N 00 47.8	+00.0	02
03	323	20.9	+01.7	N 12 25.0	-00.3	330	28.3	+02.4	N 13 18.2	+00.0	111	36.3	+02.5	N 00 47.8	+00.0	03
04	338	22.6	+01.6	N 12 24.7	-00.2	345	30.7	+02.4	N 13 18.2	+00.0	126	38.8	+02.5	N 00 47.8	+00.0	04
05	353	24.2	+01.6	N 12 24.5	-00.2	0	33.1	+02.4	N 13 18.2	+00.0	141	41.3	+02.5	N 00 47.8	+00.0	05
06	8	25.8	+01.7	N 12 24.3	-00.3	15	35.5	+02.4	N 13 18.2	+00.0	156	43.8	+02.4	N 00 47.8	+00.0	06
07	23	27.5	+01.6	N 12 24.0	-00.2	30	37.9	+02.4	N 13 18.2	+00.0	171	46.2	+02.5	N 00 47.8	+00.0	07
08	38	29.1	+01.6	N 12 23.8	-00.3	45	40.3	+02.4	N 13 18.2	-00.1	186	48.7	+02.5	N 00 47.8	+00.0	08
09	53	30.7	+01.7	N 12 23.5	-00.2	60	42.7	+02.4	N 13 18.1	+00.0	201	51.2	+02.5	N 00 47.8	+00.0	09
10	68	32.4	+01.6	N 12 23.3	-00.3	75	45.1	+02.4	N 13 18.1	+00.0	216	53.7	+02.5	N 00 47.8	+00.0	10
11	83	34.0	+01.6	N 12 23.0	-00.2	90	47.5	+02.4	N 13 18.1	+00.0	231	56.2	+02.5	N 00 47.8	+00.0	11
12	98	35.6	+01.7	N 12 22.8	-00.2	105	49.9	+02.4	N 13 18.1	+00.0	246	58.7	+02.5	N 00 47.8	+00.0	12
13	113	37.3	+01.6	N 12 22.6	-00.3	120	52.3	+02.4	N 13 18.1	+00.0	262	01.2	+02.5	N 00 47.8	+00.0	13
14	128	38.9	+01.6	N 12 22.3	-00.2	135	54.7	+02.5	N 13 18.1	+00.0	277	03.7	+02.4	N 00 47.8	+00.0	14
15	143	40.5	+01.7	N 12 22.1	-00.3	150	57.2	+02.4	N 13 18.1	+00.0	292	06.1	+02.5	N 00 47.8	+00.0	15
16	158	42.2	+01.6	N 12 21.8	-00.2	165	59.6	+02.4	N 13 18.1	+00.0	307	08.6	+02.5	N 00 47.8	+00.0	16
17	173	43.8	+01.7	N 12 21.6	-00.2	181	02.0	+02.4	N 13 18.1	+00.0	322	11.1	+02.5	N 00 47.8	+00.0	17
18	188	45.5	+01.6	N 12 21.4	-00.3	196	04.4	+02.4	N 13 18.1	+00.0	337	13.6	+02.5	N 00 47.8	+00.0	18
19	203	47.1	+01.6	N 12 21.1	-00.2	211	06.8	+02.4	N 13 18.1	+00.0	352	16.1	+02.5	N 00 47.8	+00.0	19
20	218	48.7	+01.7	N 12 20.9	-00.3	226	09.2	+02.4	N 13 18.1	-00.1	7	18.6	+02.5	N 00 47.8	+00.0	20
21	233	50.4	+01.6	N 12 20.6	-00.2	241	11.6	+02.4	N 13 18.0	+00.0	22	21.1	+02.4	N 00 47.8	+00.0	21
22	248	52.0	+01.7	N 12 20.4	-00.2	256	14.0	+02.5	N 13 18.0	+00.0	37	23.5	+02.5	N 00 47.8	+00.0	22
23	263	53.7	+01.6	N 12 20.2	-00.3	271	16.5	+02.4	N 13 18.0	+00.0	52	26.0	+02.5	N 00 47.8	+00.0	23
	UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1					SD 00'3 00'3 00'3 00'3 00'3 00'3					SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1					HP 00'0 00'0 00'0 00'0 00'0 00'0					HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 203° 203° 203° 203° 203° 203°					SHA 211° 211° 211° 211° 211° 211°					SHA 352° 352° 352° 352° 352° 352°					
	Greenwich Culmination Time: 05:26					Greenwich Culmination Time: 04:57					Greenwich Culmination Time: 19:30					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	182 11.7 -00.3	S	22 34.8 +00.3	225 25.6 +00.7	S	10 03.9 +00.3	207 15.3 -29.5	S	23 12.3 +08.1	00										
01	197 11.4 -00.3	S	22 35.1 +00.3	240 26.3 +00.8	S	10 04.2 +00.4	221 45.8 -29.5	S	23 20.4 +07.9	01										
02	212 11.1 -00.2	S	22 35.4 +00.3	255 27.1 +00.7	S	10 04.6 +00.4	236 16.3 -29.6	S	23 28.3 +07.8	02										
03	227 10.9 -00.3	S	22 35.7 +00.3	270 27.8 +00.7	S	10 05.0 +00.3	250 46.7 -29.6	S	23 36.1 +07.7	03										
04	242 10.6 -00.3	S	22 36.0 +00.2	285 28.5 +00.7	S	10 05.3 +00.4	265 17.1 -29.6	S	23 43.8 +07.5	04										
05	257 10.3 -00.2	S	22 36.2 +00.3	300 29.2 +00.7	S	10 05.7 +00.3	279 47.5 -29.7	S	23 51.3 +07.5	05										
06	272 10.1 -00.3	S	22 36.5 +00.3	315 29.9 +00.8	S	10 06.0 +00.4	294 17.8 -29.8	S	23 58.8 +07.3	06										
07	287 09.8 -00.3	S	22 36.8 +00.3	330 30.7 +00.7	S	10 06.4 +00.3	308 48.0 -29.8	S	24 06.1 +07.3	07										
08	302 09.5 -00.3	S	22 37.1 +00.3	345 31.4 +00.7	S	10 06.7 +00.4	323 18.2 -29.9	S	24 13.4 +07.1	08										
09	317 09.2 -00.2	S	22 37.4 +00.2	0 32.1 +00.7	S	10 07.1 +00.4	337 48.3 -29.9	S	24 20.5 +07.0	09										
10	332 09.0 -00.3	S	22 37.6 +00.3	15 32.8 +00.7	S	10 07.5 +00.3	352 18.4 -29.9	S	24 27.5 +06.9	10										
11	347 08.7 -00.3	S	22 37.9 +00.3	30 33.5 +00.7	S	10 07.8 +00.4	6 48.5 -30.0	S	24 34.4 +06.7	11										
12	2 08.4 -00.2	S	22 38.2 +00.3	45 34.2 +00.7	S	10 08.2 +00.4	21 18.5 -30.0	S	24 41.1 +06.7	12										
13	17 08.2 -00.3	S	22 38.5 +00.2	60 34.9 +00.7	S	10 08.6 +00.3	35 48.5 -30.1	S	24 47.8 +06.5	13										
14	32 07.9 -00.3	S	22 38.7 +00.3	75 35.6 +00.7	S	10 08.9 +00.4	50 18.4 -30.1	S	24 54.3 +06.4	14										
15	47 07.6 -00.3	S	22 39.0 +00.3	90 36.3 +00.7	S	10 09.3 +00.4	64 48.3 -30.2	S	25 00.7 +06.2	15										
16	62 07.3 -00.2	S	22 39.3 +00.3	105 37.0 +00.7	S	10 09.7 +00.3	79 18.1 -30.2	S	25 06.9 +06.2	16										
17	77 07.1 -00.3	S	22 39.6 +00.2	120 37.7 +00.7	S	10 10.0 +00.4	93 47.9 -30.2	S	25 13.1 +06.0	17										
18	92 06.8 -00.3	S	22 39.8 +00.3	135 38.4 +00.7	S	10 10.4 +00.4	108 17.7 -30.3	S	25 19.1 +05.9	18										
19	107 06.5 -00.2	S	22 40.1 +00.3	150 39.1 +00.7	S	10 10.8 +00.4	122 47.4 -30.3	S	25 25.0 +05.8	19										
20	122 06.3 -00.3	S	22 40.4 +00.2	165 39.8 +00.7	S	10 11.2 +00.3	137 17.1 -30.4	S	25 30.8 +05.7	20										
21	137 06.0 -00.3	S	22 40.6 +00.3	180 40.5 +00.7	S	10 11.5 +00.4	151 46.7 -30.4	S	25 36.5 +05.5	21										
22	152 05.7 -00.3	S	22 40.9 +00.3	195 41.2 +00.7	S	10 11.9 +00.4	166 16.3 -30.4	S	25 42.0 +05.4	22										
23	167 05.4 -00.2	S	22 41.2 +00.3	210 41.9 +00.7	S	10 12.3 +00.4	180 45.9 -30.5	S	25 47.4 +05.3	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'2	16'2	16'2	16'2	16'2	16'2	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	14'9	14'9	14'9	14'9	14'8	14'8
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'3	00'3	00'3	00'3	00'3	00'3	HP	54'7	54'6	54'6	54'5	54'5	54'4
SHA	106°	106°	106°	106°	106°	105°	SHA	150°	149°	149°	149°	149°	149°	SHA	130°	128°	126°	124°	122°	120°
Greenwich Culmination Time: 11:51							Greenwich Culmination Time: 08:57							Greenwich Culmination Time: 10:31						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	278 55.3 +01.7	N	12 19.9 -00.2	286 18.9 +02.4	N	13 18.0 +00.0	67 28.5 +02.5	N	00 47.8 +00.0	00										
01	293 57.0 +01.6	N	12 19.7 -00.3	301 21.3 +02.4	N	13 18.0 +00.0	82 31.0 +02.5	N	00 47.8 +00.0	01										
02	308 58.6 +01.7	N	12 19.4 -00.2	316 23.7 +02.4	N	13 18.0 +00.0	97 33.5 +02.5	N	00 47.8 +00.0	02										
03	324 00.3 +01.6	N	12 19.2 -00.2	331 26.1 +02.4	N	13 18.0 +00.0	112 36.0 +02.5	N	00 47.8 +00.0	03										
04	339 01.9 +01.6	N	12 19.0 -00.3	346 28.5 +02.4	N	13 18.0 +00.0	127 38.5 +02.4	N	00 47.8 +00.0	04										
05	354 03.5 +01.7	N	12 18.7 -00.2	1 30.9 +02.4	N	13 18.0 +00.0	142 40.9 +02.5	N	00 47.8 +00.0	05										
06	9 05.2 +01.6	N	12 18.5 -00.2	16 33.3 +02.5	N	13 18.0 +00.0	157 43.4 +02.5	N	00 47.8 +00.1	06										
07	24 06.8 +01.7	N	12 18.3 -00.3	31 35.8 +02.4	N	13 18.0 +00.0	172 45.9 +02.5	N	00 47.9 +00.0	07										
08	39 08.5 +01.6	N	12 18.0 -00.2	46 38.2 +02.4	N	13 18.0 +00.0	187 48.4 +02.5	N	00 47.9 +00.0	08										
09	54 10.1 +01.7	N	12 17.8 -00.3	61 40.6 +02.4	N	13 18.0 +00.0	202 50.9 +02.5	N	00 47.9 +00.0	09										
10	69 11.8 +01.6	N	12 17.5 -00.2	76 43.0 +02.4	N	13 18.0 +00.0	217 53.4 +02.4	N	00 47.9 +00.0	10										
11	84 13.4 +01.7	N	12 17.3 -00.2	91 45.4 +02.4	N	13 18.0 -00.1	232 55.8 +02.5	N	00 47.9 +00.0	11										
12	99 15.1 +01.7	N	12 17.1 -00.3	106 47.8 +02.5	N	13 17.9 +00.0	247 58.3 +02.5	N	00 47.9 +00.0	12										
13	114 16.8 +01.6	N	12 16.8 -00.2	121 50.3 +02.4	N	13 17.9 +00.0	263 00.8 +02.5	N	00 47.9 +00.0	13										
14	129 18.4 +01.7	N	12 16.6 -00.2	136 52.7 +02.4	N	13 17.9 +00.0	278 03.3 +02.5	N	00 47.9 +00.0	14										
15	144 20.1 +01.6	N	12 16.4 -00.3	151 55.1 +02.4	N	13 17.9 +00.0	293 05.8 +02.5	N	00 47.9 +00.0	15										
16	159 21.7 +01.7	N	12 16.1 -00.2	166 57.5 +02.4	N	13 17.9 +00.0	308 08.3 +02.4	N	00 47.9 +00.0	16										
17	174 23.4 +01.6	N	12 15.9 -00.2	181 59.9 +02.4	N	13 17.9 +00.0	323 10.7 +02.5	N	00 47.9 +00.0	17										
18	189 25.0 +01.7	N	12 15.7 -00.3	197 02.3 +02.5	N	13 17.9 +00.0	338 13.2 +02.5	N	00 47.9 +00.0	18										
19	204 26.7 +01.6	N	12 15.4 -00.2	212 04.8 +02.4	N	13 17.9 +00.0	353 15.7 +02.5	N	00 47.9 +00.0	19										
20	219 28.3 +01.7	N	12 15.2 -00.2	227 07.2 +02.4	N	13 17.9 +00.0	8 18.2 +02.5	N	00 47.9 +00.0	20										
21	234 30.0 +01.7	N	12 15.0 -00.3	242 09.6 +02.4	N	13 17.9 +00.0	23 20.7 +02.4	N	00 47.9 +00.0	21										
22	249 31.7 +01.6	N	12 14.7 -00.2	257 12.0 +02.4	N	13 17.9 +00.0	38 23.1 +02.5	N	00 47.9 +00.0	22										
23	264 33.3 +01.7	N	12 14.5 -00.2	272 14.4 +02.5	N	13 17.9 +00.0	53 25.6 +02.5	N	00 47.9 +00.0	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	00'1	00'1	00'1	00'1	00'1	00'1	SD	00'3	00'3	00'3	00'3	00'3	00'3	SD	00'2	00'2	00'2	00'2	00'2	00'2
HP	00'1	00'1	00'1	00'1	00'1	00'1	HP	00'0	00'0	00'0	00'0	00'0	00'0	HP	00'0	00'0	00'0	00'0	00'0	00'0
SHA	203°	203°	203°	203°	203°	203°	SHA	211°	211°	211°	211°	211°	211°	SHA	352°	352°	352°	352°	352°	352°
Greenwich Culmination Time: 05:23							Greenwich Culmination Time: 04:53							Greenwich Culmination Time: 19:26						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	182 05.2 -00.3	S	22 41.5 +00.2	225 42.6 +00.7	S	10 12.7 +00.3	195 15.4 -30.5	S	25 52.7 +05.1				
01	197 04.9 -00.3	S	22 41.7 +00.3	240 43.3 +00.7	S	10 13.0 +00.4	209 44.9 -30.6	S	25 57.8 +05.1				
02	212 04.6 -00.3	S	22 42.0 +00.2	255 44.0 +00.7	S	10 13.4 +00.4	224 14.3 -30.5	S	26 02.9 +04.9				
03	227 04.3 -00.2	S	22 42.2 +00.3	270 44.7 +00.6	S	10 13.8 +00.4	238 43.8 -30.6	S	26 07.8 +04.7				
04	242 04.1 -00.3	S	22 42.5 +00.3	285 45.3 +00.7	S	10 14.2 +00.4	253 13.2 -30.7	S	26 12.5 +04.7				
05	257 03.8 -00.3	S	22 42.8 +00.2	300 46.0 +00.7	S	10 14.6 +00.3	267 42.5 -30.7	S	26 17.2 +04.5				
06	272 03.5 -00.3	S	22 43.0 +00.3	315 46.7 +00.7	S	10 14.9 +00.4	282 11.8 -30.7	S	26 21.7 +04.4				
07	287 03.2 -00.2	S	22 43.3 +00.3	330 47.4 +00.6	S	10 15.3 +00.4	296 41.1 -30.7	S	26 26.1 +04.2				
08	302 03.0 -00.3	S	22 43.6 +00.2	345 48.0 +00.7	S	10 15.7 +00.4	311 10.4 -30.8	S	26 30.3 +04.2				
09	317 02.7 -00.3	S	22 43.8 +00.3	0 48.7 +00.7	S	10 16.1 +00.4	325 39.6 -30.8	S	26 34.5 +04.0				
10	332 02.4 -00.3	S	22 44.1 +00.2	15 49.4 +00.7	S	10 16.5 +00.4	340 08.8 -30.8	S	26 38.5 +03.8				
11	347 02.1 -00.2	S	22 44.3 +00.3	30 50.1 +00.6	S	10 16.9 +00.3	354 38.0 -30.9	S	26 42.3 +03.8				
12	2 01.9 -00.3	S	22 44.6 +00.3	45 50.7 +00.7	S	10 17.2 +00.4	9 07.1 -30.8	S	26 46.1 +03.6				
13	17 01.6 -00.3	S	22 44.9 +00.2	60 51.4 +00.7	S	10 17.6 +00.4	23 36.3 -30.9	S	26 49.7 +03.4				
14	32 01.3 -00.3	S	22 45.1 +00.3	75 52.1 +00.6	S	10 18.0 +00.4	38 05.4 -30.9	S	26 53.1 +03.4				
15	47 01.0 -00.2	S	22 45.4 +00.2	90 52.7 +00.7	S	10 18.4 +00.4	52 34.5 -31.0	S	26 56.5 +03.2				
16	62 00.8 -00.3	S	22 45.6 +00.3	105 53.4 +00.6	S	10 18.8 +00.4	67 03.5 -30.9	S	26 59.7 +03.0				
17	77 00.5 -00.3	S	22 45.9 +00.2	120 54.0 +00.7	S	10 19.2 +00.4	81 32.6 -31.0	S	27 02.7 +03.0				
18	92 00.2 -00.3	S	22 46.1 +00.3	135 54.7 +00.7	S	10 19.6 +00.4	96 01.6 -31.0	S	27 05.7 +02.8				
19	106 59.9 -00.2	S	22 46.4 +00.2	150 55.4 +00.6	S	10 20.0 +00.4	110 30.6 -31.0	S	27 08.5 +02.7				
20	121 59.7 -00.3	S	22 46.6 +00.3	165 56.0 +00.7	S	10 20.4 +00.4	124 59.6 -31.0	S	27 11.2 +02.5				
21	136 59.4 -00.3	S	22 46.9 +00.2	180 56.7 +00.6	S	10 20.8 +00.4	139 28.6 -31.1	S	27 13.7 +02.4				
22	151 59.1 -00.3	S	22 47.1 +00.3	195 57.3 +00.7	S	10 21.2 +00.4	153 57.5 -31.0	S	27 16.1 +02.3				
23	166 58.8 -00.2	S	22 47.4 +00.2	210 58.0 +00.6	S	10 21.6 +00.4	168 26.5 -31.1	S	27 18.4 +02.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 14'8 14'8 14'8 14'8 14'8 14'8					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3				HP 54'4 54'3 54'3 54'3 54'2 54'2					
	SHA 105° 105° 105° 105° 104° 104°			SHA 149° 149° 149° 149° 148° 148°				SHA 117° 115° 113° 111° 109° 106°					
	Greenwich Culmination Time: 11:51			Greenwich Culmination Time: 08:56				Greenwich Culmination Time: 11:22					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	279 35.0 +01.6	N	12 14.3 -00.3	287 16.9 +02.4	N	13 17.9 +00.0	68 28.1 +02.5	N	00 47.9 +00.0				
01	294 36.6 +01.7	N	12 14.0 -00.2	302 19.3 +02.4	N	13 17.9 +00.0	83 30.6 +02.5	N	00 47.9 +00.0				
02	309 38.3 +01.7	N	12 13.8 -00.2	317 21.7 +02.4	N	13 17.9 +00.0	98 33.1 +02.4	N	00 47.9 +00.0				
03	324 40.0 +01.6	N	12 13.6 -00.3	332 24.1 +02.5	N	13 17.9 +00.0	113 35.5 +02.5	N	00 47.9 +00.0				
04	339 41.6 +01.7	N	12 13.3 -00.2	347 26.6 +02.4	N	13 17.9 +00.0	128 38.0 +02.5	N	00 47.9 +00.0				
05	354 43.3 +01.7	N	12 13.1 -00.2	2 29.0 +02.4	N	13 17.9 +00.0	143 40.5 +02.5	N	00 47.9 +00.0				
06	9 45.0 +01.6	N	12 12.9 -00.2	17 31.4 +02.4	N	13 17.9 +00.0	158 43.0 +02.5	N	00 47.9 +00.0				
07	24 46.6 +01.7	N	12 12.7 -00.3	32 33.8 +02.4	N	13 17.9 +00.0	173 45.5 +02.4	N	00 47.9 +00.0				
08	39 48.3 +01.7	N	12 12.4 -00.2	47 36.2 +02.5	N	13 17.9 +00.0	188 47.9 +02.5	N	00 47.9 +00.1				
09	54 50.0 +01.6	N	12 12.2 -00.2	62 38.7 +02.4	N	13 17.9 -00.1	203 50.4 +02.5	N	00 48.0 +00.0				
10	69 51.6 +01.7	N	12 12.0 -00.3	77 41.1 +02.4	N	13 17.8 +00.0	218 52.9 +02.5	N	00 48.0 +00.0				
11	84 53.3 +01.7	N	12 11.7 -00.2	92 43.5 +02.4	N	13 17.8 +00.0	233 55.4 +02.5	N	00 48.0 +00.0				
12	99 55.0 +01.6	N	12 11.5 -00.2	107 45.9 +02.5	N	13 17.8 +00.0	248 57.9 +02.4	N	00 48.0 +00.0				
13	114 56.6 +01.7	N	12 11.3 -00.3	122 48.4 +02.4	N	13 17.8 +00.0	264 00.3 +02.5	N	00 48.0 +00.0				
14	129 58.3 +01.7	N	12 11.0 -00.2	137 50.8 +02.4	N	13 17.8 +00.0	279 02.8 +02.5	N	00 48.0 +00.0				
15	144 60.0 +01.6	N	12 10.8 -00.2	152 53.2 +02.4	N	13 17.8 +00.0	294 05.3 +02.5	N	00 48.0 +00.0				
16	160 01.6 +01.7	N	12 10.6 -00.2	167 55.6 +02.5	N	13 17.8 +00.0	309 07.8 +02.5	N	00 48.0 +00.0				
17	175 03.3 +01.7	N	12 10.4 -00.3	182 58.1 +02.4	N	13 17.8 +00.0	324 10.3 +02.4	N	00 48.0 +00.0				
18	190 05.0 +01.7	N	12 10.1 -00.2	198 00.5 +02.4	N	13 17.8 +00.0	339 12.7 +02.5	N	00 48.0 +00.0				
19	205 06.7 +01.6	N	12 09.9 -00.2	213 02.9 +02.4	N	13 17.8 +00.0	354 15.2 +02.5	N	00 48.0 +00.0				
20	220 08.3 +01.7	N	12 09.7 -00.2	228 05.3 +02.5	N	13 17.8 +00.0	9 17.7 +02.5	N	00 48.0 +00.0				
21	235 10.0 +01.7	N	12 09.5 -00.3	243 07.8 +02.4	N	13 17.8 +00.0	24 20.2 +02.4	N	00 48.0 +00.0				
22	250 11.7 +01.7	N	12 09.2 -00.2	258 10.2 +02.4	N	13 17.8 +00.0	39 22.6 +02.5	N	00 48.0 +00.0				
23	265 13.4 +01.6	N	12 09.0 -00.2	273 12.6 +02.5	N	13 17.8 +00.0	54 25.1 +02.5	N	00 48.0 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 203° 203° 203° 203° 203° 203°			SHA 211° 211° 211° 211° 211° 210°				SHA 352° 352° 352° 352° 352° 352°					
	Greenwich Culmination Time: 05:21			Greenwich Culmination Time: 04:50				Greenwich Culmination Time: 19:22					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 58.6 -00.3	S	22 47.6 +00.3	225 58.6 +00.7	S	10 22.0 +00.4	182 55.4 -31.1	S	27 20.5 +02.0				
01	196 58.3 -00.3	S	22 47.9 +00.2	240 59.3 +00.6	S	10 22.4 +00.4	197 24.3 -31.1	S	27 22.5 +01.9				
02	211 58.0 -00.3	S	22 48.1 +00.3	255 59.9 +00.6	S	10 22.8 +00.4	211 53.2 -31.1	S	27 24.4 +01.7				
03	226 57.7 -00.3	S	22 48.4 +00.2	271 00.5 +00.7	S	10 23.2 +00.4	226 22.1 -31.1	S	27 26.1 +01.6				
04	241 57.4 -00.2	S	22 48.6 +00.3	286 01.2 +00.6	S	10 23.6 +00.4	240 51.0 -31.1	S	27 27.7 +01.5				
05	256 57.2 -00.3	S	22 48.9 +00.2	301 01.8 +00.7	S	10 24.0 +00.4	255 19.9 -31.1	S	27 29.2 +01.3				
06	271 56.9 -00.3	S	22 49.1 +00.3	316 02.5 +00.6	S	10 24.4 +00.4	269 48.8 -31.1	S	27 30.5 +01.2				
07	286 56.6 -00.3	S	22 49.4 +00.2	331 03.1 +00.6	S	10 24.8 +00.4	284 17.7 -31.1	S	27 31.7 +01.0				
08	301 56.3 -00.3	S	22 49.6 +00.2	346 03.7 +00.7	S	10 25.2 +00.4	298 46.6 -31.1	S	27 32.7 +01.0				
09	316 56.0 -00.2	S	22 49.8 +00.3	1 04.4 +00.6	S	10 25.6 +00.4	313 15.5 -31.2	S	27 33.7 +00.8				
10	331 55.8 -00.3	S	22 50.1 +00.2	16 05.0 +00.6	S	10 26.0 +00.4	327 44.3 -31.1	S	27 34.5 +00.6				
11	346 55.5 -00.3	S	22 50.3 +00.3	31 05.6 +00.6	S	10 26.4 +00.4	342 13.2 -31.1	S	27 35.1 +00.5				
12	1 55.2 -00.3	S	22 50.6 +00.2	46 06.2 +00.7	S	10 26.8 +00.4	356 42.1 -31.1	S	27 35.6 +00.4				
13	16 54.9 -00.3	S	22 50.8 +00.2	61 06.9 +00.6	S	10 27.2 +00.4	11 11.0 -31.1	S	27 36.0 +00.2				
14	31 54.6 -00.2	S	22 51.0 +00.3	76 07.5 +00.6	S	10 27.6 +00.4	25 39.9 -31.1	S	27 36.2 +00.2				
15	46 54.4 -00.3	S	22 51.3 +00.2	91 08.1 +00.6	S	10 28.0 +00.5	40 08.8 -31.1	S	27 36.4 -00.1				
16	61 54.1 -00.3	S	22 51.5 +00.2	106 08.7 +00.7	S	10 28.5 +00.4	54 37.7 -31.1	S	27 36.3 -00.1				
17	76 53.8 -00.3	S	22 51.7 +00.3	121 09.4 +00.6	S	10 28.9 +00.4	69 06.6 -31.0	S	27 36.2 -00.3				
18	91 53.5 -00.3	S	22 52.0 +00.2	136 10.0 +00.6	S	10 29.3 +00.4	83 35.6 -31.1	S	27 35.9 -00.5				
19	106 53.2 -00.2	S	22 52.2 +00.2	151 10.6 +00.6	S	10 29.7 +00.4	98 04.5 -31.0	S	27 35.4 -00.5				
20	121 53.0 -00.3	S	22 52.4 +00.3	166 11.2 +00.6	S	10 30.1 +00.4	112 33.5 -31.1	S	27 34.9 -00.7				
21	136 52.7 -00.3	S	22 52.7 +00.2	181 11.8 +00.6	S	10 30.5 +00.4	127 02.4 -31.0	S	27 34.2 -00.8				
22	151 52.4 -00.3	S	22 52.9 +00.2	196 12.4 +00.6	S	10 30.9 +00.5	141 31.4 -31.0	S	27 33.4 -01.0				
23	166 52.1 -00.3	S	22 53.1 +00.3	211 13.0 +00.6	S	10 31.4 +00.4	156 00.4 -31.0	S	27 32.4 -01.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 14'8 14'7 14'7 14'7 14'7 14'7					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3				HP 54'1 54'1 54'1 54'1 54'0 54'0					
	SHA 104° 104° 104° 104° 103° 103°			SHA 148° 148° 148° 148° 148° 148°				SHA 104° 102° 100° 097° 095° 093°					
	Greenwich Culmination Time: 11:52			Greenwich Culmination Time: 08:55				Greenwich Culmination Time: 12:13					

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	280 15.0 +01.7	N	12 08.8 -00.3	288 15.1 +02.4	N	13 17.8 +00.0	69 27.6 +02.5	N	00 48.0 +00.0				
01	295 16.7 +01.7	N	12 08.5 -00.2	303 17.5 +02.4	N	13 17.8 +00.0	84 30.1 +02.4	N	00 48.0 +00.0				
02	310 18.4 +01.7	N	12 08.3 -00.2	318 19.9 +02.4	N	13 17.8 +00.0	99 32.5 +02.5	N	00 48.0 +00.1				
03	325 20.1 +01.7	N	12 08.1 -00.2	333 22.3 +02.5	N	13 17.8 +00.0	114 35.0 +02.5	N	00 48.1 +00.0				
04	340 21.8 +01.6	N	12 07.9 -00.3	348 24.8 +02.4	N	13 17.8 +00.0	129 37.5 +02.5	N	00 48.1 +00.0				
05	355 23.4 +01.7	N	12 07.6 -00.2	3 27.2 +02.4	N	13 17.8 +00.0	144 40.0 +02.5	N	00 48.1 +00.0				
06	10 25.1 +01.7	N	12 07.4 -00.2	18 29.6 +02.5	N	13 17.8 +00.0	159 42.5 +02.4	N	00 48.1 +00.0				
07	25 26.8 +01.7	N	12 07.2 -00.2	33 32.1 +02.4	N	13 17.8 +00.0	174 44.9 +02.5	N	00 48.1 +00.0				
08	40 28.5 +01.7	N	12 07.0 -00.2	48 34.5 +02.4	N	13 17.8 +00.0	189 47.4 +02.5	N	00 48.1 +00.0				
09	55 30.2 +01.7	N	12 06.8 -00.3	63 36.9 +02.5	N	13 17.8 +00.0	204 49.9 +02.5	N	00 48.1 +00.0				
10	70 31.9 +01.6	N	12 06.5 -00.2	78 39.4 +02.4	N	13 17.8 +00.0	219 52.4 +02.4	N	00 48.1 +00.0				
11	85 33.5 +01.7	N	12 06.3 -00.2	93 41.8 +02.4	N	13 17.8 +00.0	234 54.8 +02.5	N	00 48.1 +00.0				
12	100 35.2 +01.7	N	12 06.1 -00.2	108 44.2 +02.5	N	13 17.8 +00.0	249 57.3 +02.5	N	00 48.1 +00.0				
13	115 36.9 +01.7	N	12 05.9 -00.3	123 46.7 +02.4	N	13 17.8 +00.0	264 59.8 +02.5	N	00 48.1 +00.0				
14	130 38.6 +01.7	N	12 05.6 -00.2	138 49.1 +02.4	N	13 17.8 +00.0	280 02.3 +02.4	N	00 48.1 +00.0				
15	145 40.3 +01.7	N	12 05.4 -00.2	153 51.5 +02.5	N	13 17.8 +00.0	295 04.7 +02.5	N	00 48.1 +00.0				
16	160 42.0 +01.7	N	12 05.2 -00.2	168 54.0 +02.4	N	13 17.8 +00.0	310 07.2 +02.5	N	00 48.1 +00.1				
17	175 43.7 +01.7	N	12 05.0 -00.2	183 56.4 +02.4	N	13 17.8 +00.0	325 09.7 +02.4	N	00 48.2 +00.0				
18	190 45.4 +01.6	N	12 04.8 -00.3	198 58.8 +02.5	N	13 17.8 +00.0	340 12.1 +02.5	N	00 48.2 +00.0				
19	205 47.0 +01.7	N	12 04.5 -00.2	214 01.3 +02.4	N	13 17.8 +00.0	355 14.6 +02.5	N	00 48.2 +00.0				
20	220 48.7 +01.7	N	12 04.3 -00.2	229 03.7 +02.4	N	13 17.8 +00.0	10 17.1 +02.5	N	00 48.2 +00.0				
21	235 50.4 +01.7	N	12 04.1 -00.2	244 06.1 +02.5	N	13 17.8 +00.0	25 19.6 +02.4	N	00 48.2 +00.0				
22	250 52.1 +01.7	N	12 03.9 -00.2	259 08.6 +02.4	N	13 17.8 +00.0	40 22.0 +02.5	N	00 48.2 +00.0				
23	265 53.8 +01.7	N	12 03.7 -00.3	274 11.0 +02.4	N	13 17.8 +00.0	55 24.5 +02.5	N	00 48.2 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'2 00'2 00'2 00'2 00'2 00'2					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0					
	SHA 202° 202° 202° 202° 202° 202°			SHA 210° 210° 210° 210° 210° 210°				SHA 352° 352° 352° 352° 352° 352°					
	Greenwich Culmination Time: 05:18			Greenwich Culmination Time: 04:46				Greenwich Culmination Time: 19:18					

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 51.8 -00.3	S	22 53.4 +00.2	226 13.6 +00.7	S	10 31.8 +00.4	170 29.4 -30.9	S	27 31.3 -01.2	00			
01	196 51.5 -00.2	S	22 53.6 +00.2	241 14.3 +00.6	S	10 32.2 +00.4	184 58.5 -31.0	S	27 30.1 -01.4	01			
02	211 51.3 -00.3	S	22 53.8 +00.2	256 14.9 +00.6	S	10 32.6 +00.4	199 27.5 -30.9	S	27 28.7 -01.5	02			
03	226 51.0 -00.3	S	22 54.0 +00.3	271 15.5 +00.6	S	10 33.0 +00.5	213 56.6 -30.9	S	27 27.2 -01.6	03			
04	241 50.7 -00.3	S	22 54.3 +00.2	286 16.1 +00.6	S	10 33.5 +00.4	228 25.7 -30.8	S	27 25.6 -01.8	04			
05	256 50.4 -00.3	S	22 54.5 +00.2	301 16.7 +00.6	S	10 33.9 +00.4	242 54.9 -30.9	S	27 23.8 -01.9	05			
06	271 50.1 -00.3	S	22 54.7 +00.3	316 17.3 +00.6	S	10 34.3 +00.4	257 24.0 -30.8	S	27 21.9 -02.0	06			
07	286 49.8 -00.2	S	22 55.0 +00.2	331 17.9 +00.5	S	10 34.7 +00.5	271 53.2 -30.8	S	27 19.9 -02.2	07			
08	301 49.6 -00.3	S	22 55.2 +00.2	346 18.4 +00.6	S	10 35.2 +00.4	286 22.4 -30.8	S	27 17.7 -02.3	08			
09	316 49.3 -00.3	S	22 55.4 +00.2	1 19.0 +00.6	S	10 35.6 +00.4	300 51.6 -30.7	S	27 15.4 -02.4	09			
10	331 49.0 -00.3	S	22 55.6 +00.2	16 19.6 +00.6	S	10 36.0 +00.4	315 20.9 -30.7	S	27 13.0 -02.6	10			
11	346 48.7 -00.3	S	22 55.8 +00.3	31 20.2 +00.6	S	10 36.4 +00.5	329 50.2 -30.7	S	27 10.4 -02.6	11			
12	1 48.4 -00.3	S	22 56.1 +00.2	46 20.8 +00.6	S	10 36.9 +00.4	344 19.5 -30.6	S	27 07.8 -02.8	12			
13	16 48.1 -00.3	S	22 56.3 +00.2	61 21.4 +00.6	S	10 37.3 +00.4	358 48.9 -30.6	S	27 05.0 -03.0	13			
14	31 47.8 -00.2	S	22 56.5 +00.2	76 22.0 +00.6	S	10 37.7 +00.5	13 18.3 -30.6	S	27 02.0 -03.0	14			
15	46 47.6 -00.3	S	22 56.7 +00.2	91 22.6 +00.5	S	10 38.2 +00.4	27 47.7 -30.6	S	26 59.0 -03.2	15			
16	61 47.3 -00.3	S	22 56.9 +00.3	106 23.1 +00.6	S	10 38.6 +00.4	42 17.1 -30.5	S	26 55.8 -03.4	16			
17	76 47.0 -00.3	S	22 57.2 +00.2	121 23.7 +00.6	S	10 39.0 +00.5	56 46.6 -30.4	S	26 52.4 -03.4	17			
18	91 46.7 -00.3	S	22 57.4 +00.2	136 24.3 +00.6	S	10 39.5 +00.4	71 16.2 -30.5	S	26 49.0 -03.6	18			
19	106 46.4 -00.3	S	22 57.6 +00.2	151 24.9 +00.6	S	10 39.9 +00.4	85 45.7 -30.3	S	26 45.4 -03.7	19			
20	121 46.1 -00.3	S	22 57.8 +00.2	166 25.5 +00.5	S	10 40.3 +00.5	100 15.4 -30.4	S	26 41.7 -03.8	20			
21	136 45.8 -00.2	S	22 58.0 +00.2	181 26.0 +00.6	S	10 40.8 +00.4	114 45.0 -30.3	S	26 37.9 -04.0	21			
22	151 45.6 -00.3	S	22 58.2 +00.2	196 26.6 +00.6	S	10 41.2 +00.4	129 14.7 -30.3	S	26 33.9 -04.1	22			
23	166 45.3 -00.3	S	22 58.4 +00.2	211 27.2 +00.5	S	10 41.6 +00.5	143 44.4 -30.2	S	26 29.8 -04.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 54'0 54'0 54'0 53'9 53'9 53'9						
	SHA 103° 103° 103° 102° 102° 102°			SHA 147° 147° 147° 147° 147° 147°			SHA 091° 088° 086° 084° 082° 080°						
	Greenwich Culmination Time: 11:52			Greenwich Culmination Time: 08:54			Greenwich Culmination Time: 13:04						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	280 55.5 +01.7	N	12 03.4 -00.2	289 13.4 +02.5	N	13 17.8 +00.0	70 27.0 +02.5	N	00 48.2 +00.0	00			
01	295 57.2 +01.7	N	12 03.2 -00.2	304 15.9 +02.4	N	13 17.8 +00.0	85 29.5 +02.4	N	00 48.2 +00.0	01			
02	310 58.9 +01.7	N	12 03.0 -00.2	319 18.3 +02.5	N	13 17.8 +00.0	100 31.9 +02.5	N	00 48.2 +00.0	02			
03	326 00.6 +01.7	N	12 02.8 -00.2	334 20.8 +02.4	N	13 17.8 +00.0	115 34.4 +02.5	N	00 48.2 +00.0	03			
04	341 02.3 +01.7	N	12 02.6 -00.3	349 23.2 +02.4	N	13 17.8 +00.0	130 36.9 +02.4	N	00 48.2 +00.0	04			
05	356 04.0 +01.7	N	12 02.3 -00.2	4 25.6 +02.5	N	13 17.8 +00.0	145 39.3 +02.5	N	00 48.2 +00.1	05			
06	11 05.7 +01.7	N	12 02.1 -00.2	19 28.1 +02.4	N	13 17.8 +00.0	160 41.8 +02.5	N	00 48.3 +00.0	06			
07	26 07.4 +01.7	N	12 01.9 -00.2	34 30.5 +02.4	N	13 17.8 +00.0	175 44.3 +02.5	N	00 48.3 +00.0	07			
08	41 09.1 +01.7	N	12 01.7 -00.2	49 32.9 +02.5	N	13 17.8 +00.0	190 46.8 +02.4	N	00 48.3 +00.0	08			
09	56 10.8 +01.7	N	12 01.5 -00.2	64 35.4 +02.4	N	13 17.8 +00.0	205 49.2 +02.5	N	00 48.3 +00.0	09			
10	71 12.5 +01.7	N	12 01.3 -00.3	79 37.8 +02.5	N	13 17.8 +00.0	220 51.7 +02.5	N	00 48.3 +00.0	10			
11	86 14.2 +01.7	N	12 01.0 -00.2	94 40.3 +02.4	N	13 17.8 +00.0	235 54.2 +02.4	N	00 48.3 +00.0	11			
12	101 15.9 +01.7	N	12 00.8 -00.2	109 42.7 +02.4	N	13 17.8 +00.0	250 56.6 +02.5	N	00 48.3 +00.0	12			
13	116 17.6 +01.7	N	12 00.6 -00.2	124 45.1 +02.5	N	13 17.8 +00.0	265 59.1 +02.5	N	00 48.3 +00.0	13			
14	131 19.3 +01.7	N	12 00.4 -00.2	139 47.6 +02.4	N	13 17.8 +00.0	281 01.6 +02.5	N	00 48.3 +00.0	14			
15	146 21.0 +01.7	N	12 00.2 -00.2	154 50.0 +02.5	N	13 17.8 +00.0	296 04.1 +02.4	N	00 48.3 +00.0	15			
16	161 22.7 +01.7	N	11 60.0 -00.3	169 52.5 +02.4	N	13 17.8 +00.0	311 06.5 +02.5	N	00 48.3 +00.0	16			
17	176 24.4 +01.7	N	11 59.7 -00.2	184 54.9 +02.5	N	13 17.8 +00.1	326 09.0 +02.5	N	00 48.3 +00.1	17			
18	191 26.1 +01.7	N	11 59.5 -00.2	199 57.4 +02.4	N	13 17.9 +00.0	341 11.5 +02.4	N	00 48.4 +00.0	18			
19	206 27.8 +01.8	N	11 59.3 -00.2	214 59.8 +02.4	N	13 17.9 +00.0	356 13.9 +02.5	N	00 48.4 +00.0	19			
20	221 29.6 +01.7	N	11 59.1 -00.2	230 02.2 +02.5	N	13 17.9 +00.0	11 16.4 +02.5	N	00 48.4 +00.0	20			
21	236 31.3 +01.7	N	11 58.9 -00.2	245 04.7 +02.4	N	13 17.9 +00.0	26 18.9 +02.4	N	00 48.4 +00.0	21			
22	251 33.0 +01.7	N	11 58.7 -00.2	260 07.1 +02.5	N	13 17.9 +00.0	41 21.3 +02.5	N	00 48.4 +00.0	22			
23	266 34.7 +01.7	N	11 58.5 -00.3	275 09.6 +02.4	N	13 17.9 +00.0	56 23.8 +02.5	N	00 48.4 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 202° 202° 202° 202° 202° 202°			SHA 210° 210° 210° 210° 210° 210°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:15			Greenwich Culmination Time: 04:42			Greenwich Culmination Time: 19:15						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 45.0 -00.3	S	22 58.6 +00.3	226 27.7 +00.6	S	10 42.1 +00.4	158 14.2 -30.1	S	26 25.6 -04.3	00			
01	196 44.7 -00.3	S	22 58.9 +00.2	241 28.3 +00.6	S	10 42.5 +00.5	172 44.1 -30.2	S	26 21.3 -04.5	01			
02	211 44.4 -00.3	S	22 59.1 +00.2	256 28.9 +00.5	S	10 43.0 +00.4	187 13.9 -30.1	S	26 16.8 -04.5	02			
03	226 44.1 -00.3	S	22 59.3 +00.2	271 29.4 +00.6	S	10 43.4 +00.4	201 43.8 -30.0	S	26 12.3 -04.7	03			
04	241 43.8 -00.2	S	22 59.5 +00.2	286 30.0 +00.6	S	10 43.8 +00.5	216 13.8 -30.0	S	26 07.6 -04.8	04			
05	256 43.6 -00.3	S	22 59.7 +00.2	301 30.6 +00.5	S	10 44.3 +00.4	230 43.8 -29.9	S	26 02.8 -05.0	05			
06	271 43.3 -00.3	S	22 59.9 +00.2	316 31.1 +00.6	S	10 44.7 +00.5	245 13.9 -29.9	S	25 57.8 -05.0	06			
07	286 43.0 -00.3	S	23 00.1 +00.2	331 31.7 +00.5	S	10 45.2 +00.4	259 44.0 -29.9	S	25 52.8 -05.2	07			
08	301 42.7 -00.3	S	23 00.3 +00.2	346 32.2 +00.6	S	10 45.6 +00.5	274 14.1 -29.8	S	25 47.6 -05.3	08			
09	316 42.4 -00.3	S	23 00.5 +00.2	1 32.8 +00.5	S	10 46.1 +00.4	288 44.3 -29.7	S	25 42.3 -05.4	09			
10	331 42.1 -00.3	S	23 00.7 +00.2	16 33.3 +00.6	S	10 46.5 +00.5	303 14.6 -29.7	S	25 36.9 -05.6	10			
11	346 41.8 -00.3	S	23 00.9 +00.2	31 33.9 +00.6	S	10 47.0 +00.4	317 44.9 -29.7	S	25 31.3 -05.6	11			
12	1 41.5 -00.3	S	23 01.1 +00.2	46 34.5 +00.5	S	10 47.4 +00.5	332 15.2 -29.6	S	25 25.7 -05.8	12			
13	16 41.2 -00.2	S	23 01.3 +00.2	61 35.0 +00.5	S	10 47.9 +00.4	346 45.6 -29.5	S	25 19.9 -05.8	13			
14	31 41.0 -00.3	S	23 01.5 +00.2	76 35.5 +00.6	S	10 48.3 +00.5	1 16.1 -29.5	S	25 14.1 -06.0	14			
15	46 40.7 -00.3	S	23 01.7 +00.2	91 36.1 +00.5	S	10 48.8 +00.4	15 46.6 -29.4	S	25 08.1 -06.2	15			
16	61 40.4 -00.3	S	23 01.9 +00.2	106 36.6 +00.6	S	10 49.2 +00.5	30 17.2 -29.4	S	25 01.9 -06.2	16			
17	76 40.1 -00.3	S	23 02.1 +00.2	121 37.2 +00.5	S	10 49.7 +00.4	44 47.8 -29.3	S	24 55.7 -06.3	17			
18	91 39.8 -00.3	S	23 02.3 +00.2	136 37.7 +00.6	S	10 50.1 +00.5	59 18.5 -29.3	S	24 49.4 -06.5	18			
19	106 39.5 -00.3	S	23 02.5 +00.2	151 38.3 +00.5	S	10 50.6 +00.4	73 49.2 -29.2	S	24 42.9 -06.5	19			
20	121 39.2 -00.3	S	23 02.7 +00.2	166 38.8 +00.5	S	10 51.0 +00.5	88 20.0 -29.2	S	24 36.4 -06.7	20			
21	136 38.9 -00.3	S	23 02.9 +00.2	181 39.3 +00.6	S	10 51.5 +00.4	102 50.8 -29.1	S	24 29.7 -06.8	21			
22	151 38.6 -00.3	S	23 03.1 +00.2	196 39.9 +00.5	S	10 51.9 +00.5	117 21.7 -29.0	S	24 22.9 -06.9	22			
23	166 38.3 -00.2	S	23 03.3 +00.2	211 40.4 +00.5	S	10 52.4 +00.4	131 52.7 -29.0	S	24 16.0 -07.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 53'9 53'9 53'9 53'9 53'9 53'9						
	SHA 102° 102° 102° 101° 101° 101°			SHA 147° 147° 146° 146° 146° 146°			SHA 077° 075° 073° 071° 069° 067°						
	Greenwich Culmination Time: 11:53			Greenwich Culmination Time: 08:53			Greenwich Culmination Time: 13:54						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	281 36.4 +01.7	N	11 58.2 -00.2	290 12.0 +02.5	N	13 17.9 +00.0	71 26.3 +02.4	N	00 48.4 +00.0	00			
01	296 38.1 +01.7	N	11 58.0 -00.2	305 14.5 +02.4	N	13 17.9 +00.0	86 28.7 +02.5	N	00 48.4 +00.0	01			
02	311 39.8 +01.7	N	11 57.8 -00.2	320 16.9 +02.4	N	13 17.9 +00.0	101 31.2 +02.5	N	00 48.4 +00.0	02			
03	326 41.5 +01.7	N	11 57.6 -00.2	335 19.3 +02.5	N	13 17.9 +00.0	116 33.7 +02.4	N	00 48.4 +00.1	03			
04	341 43.2 +01.8	N	11 57.4 -00.2	350 21.8 +02.4	N	13 17.9 +00.0	131 36.1 +02.5	N	00 48.5 +00.0	04			
05	356 45.0 +01.7	N	11 57.2 -00.2	5 24.2 +02.5	N	13 17.9 +00.0	146 38.6 +02.5	N	00 48.5 +00.0	05			
06	11 46.7 +01.7	N	11 57.0 -00.2	20 26.7 +02.4	N	13 17.9 +00.0	161 41.1 +02.4	N	00 48.5 +00.0	06			
07	26 48.4 +01.7	N	11 56.8 -00.2	35 29.1 +02.5	N	13 17.9 +00.0	176 43.5 +02.5	N	00 48.5 +00.0	07			
08	41 50.1 +01.7	N	11 56.6 -00.3	50 31.6 +02.4	N	13 17.9 +00.0	191 46.0 +02.5	N	00 48.5 +00.0	08			
09	56 51.8 +01.8	N	11 56.3 -00.2	65 34.0 +02.5	N	13 17.9 +00.0	206 48.5 +02.4	N	00 48.5 +00.0	09			
10	71 53.6 +01.7	N	11 56.1 -00.2	80 36.5 +02.4	N	13 17.9 +00.0	221 50.9 +02.5	N	00 48.5 +00.0	10			
11	86 55.3 +01.7	N	11 55.9 -00.2	95 38.9 +02.5	N	13 17.9 +00.0	236 53.4 +02.5	N	00 48.5 +00.0	11			
12	101 57.0 +01.7	N	11 55.7 -00.2	110 41.4 +02.4	N	13 17.9 +00.0	251 55.9 +02.4	N	00 48.5 +00.0	12			
13	116 58.7 +01.7	N	11 55.5 -00.2	125 43.8 +02.5	N	13 17.9 +00.0	266 58.3 +02.5	N	00 48.5 +00.1	13			
14	132 00.4 +01.8	N	11 55.3 -00.2	140 46.3 +02.4	N	13 17.9 +00.0	282 00.8 +02.5	N	00 48.6 +00.0	14			
15	147 02.2 +01.7	N	11 55.1 -00.2	155 48.7 +02.5	N	13 17.9 +00.1	297 03.3 +02.4	N	00 48.6 +00.0	15			
16	162 03.9 +01.7	N	11 54.9 -00.2	170 51.2 +02.4	N	13 18.0 +00.0	312 05.7 +02.5	N	00 48.6 +00.0	16			
17	177 05.6 +01.7	N	11 54.7 -00.2	185 53.6 +02.5	N	13 18.0 +00.0	327 08.2 +02.5	N	00 48.6 +00.0	17			
18	192 07.3 +01.8	N	11 54.5 -00.2	200 56.1 +02.4	N	13 18.0 +00.0	342 10.7 +02.4	N	00 48.6 +00.0	18			
19	207 09.1 +01.7	N	11 54.3 -00.2	215 58.5 +02.5	N	13 18.0 +00.0	357 13.1 +02.5	N	00 48.6 +00.0	19			
20	222 10.8 +01.7	N	11 54.1 -00.3	231 01.0 +02.4	N	13 18.0 +00.0	12 15.6 +02.5	N	00 48.6 +00.0	20			
21	237 12.5 +01.7	N	11 53.8 -00.2	246 03.4 +02.5	N	13 18.0 +00.0	27 18.1 +02.4	N	00 48.6 +00.0	21			
22	252 14.2 +01.8	N	11 53.6 -00.2	261 05.9 +02.4	N	13 18.0 +00.0	42 20.5 +02.5	N	00 48.6 +00.1	22			
23	267 16.0 +01.7	N	11 53.4 -00.2	276 08.3 +02.5	N	13 18.0 +00.0	57 23.0 +02.5	N	00 48.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 202° 202° 202° 202° 202° 202°			SHA 210° 210° 210° 210° 210° 210°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:12			Greenwich Culmination Time: 04:38			Greenwich Culmination Time: 19:11						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 38.1 -00.3	S	23 03.5 +00.2	226 40.9 +00.6	S	10 52.8 +00.5	146 23.7 -29.0	S	24 09.0 -07.1	00			
01	196 37.8 -00.3	S	23 03.7 +00.1	241 41.5 +00.5	S	10 53.3 +00.4	160 54.7 -28.8	S	24 01.9 -07.2	01			
02	211 37.5 -00.3	S	23 03.8 +00.2	256 42.0 +00.5	S	10 53.7 +00.5	175 25.9 -28.9	S	23 54.7 -07.3	02			
03	226 37.2 -00.3	S	23 04.0 +00.2	271 42.5 +00.5	S	10 54.2 +00.5	189 57.0 -28.7	S	23 47.4 -07.4	03			
04	241 36.9 -00.3	S	23 04.2 +00.2	286 43.0 +00.6	S	10 54.7 +00.4	204 28.3 -28.7	S	23 40.0 -07.6	04			
05	256 36.6 -00.3	S	23 04.4 +00.2	301 43.6 +00.5	S	10 55.1 +00.5	218 59.6 -28.7	S	23 32.4 -07.6	05			
06	271 36.3 -00.3	S	23 04.6 +00.2	316 44.1 +00.5	S	10 55.6 +00.4	233 30.9 -28.6	S	23 24.8 -07.7	06			
07	286 36.0 -00.3	S	23 04.8 +00.2	331 44.6 +00.5	S	10 56.0 +00.5	248 02.3 -28.5	S	23 17.1 -07.9	07			
08	301 35.7 -00.3	S	23 05.0 +00.2	346 45.1 +00.6	S	10 56.5 +00.5	262 33.8 -28.5	S	23 09.2 -07.9	08			
09	316 35.4 -00.3	S	23 05.2 +00.1	1 45.7 +00.5	S	10 57.0 +00.4	277 05.3 -28.4	S	23 01.3 -08.1	09			
10	331 35.1 -00.3	S	23 05.3 +00.2	16 46.2 +00.5	S	10 57.4 +00.5	291 36.9 -28.3	S	22 53.2 -08.1	10			
11	346 34.8 -00.2	S	23 05.5 +00.2	31 46.7 +00.5	S	10 57.9 +00.5	306 08.6 -28.3	S	22 45.1 -08.2	11			
12	1 34.6 -00.3	S	23 05.7 +00.2	46 47.2 +00.5	S	10 58.4 +00.4	320 40.3 -28.3	S	22 36.9 -08.4	12			
13	16 34.3 -00.3	S	23 05.9 +00.2	61 47.7 +00.5	S	10 58.8 +00.5	335 12.0 -28.1	S	22 28.5 -08.4	13			
14	31 34.0 -00.3	S	23 06.1 +00.2	76 48.2 +00.5	S	10 59.3 +00.5	349 43.9 -28.2	S	22 20.1 -08.6	14			
15	46 33.7 -00.3	S	23 06.3 +00.1	91 48.7 +00.5	S	10 59.8 +00.4	4 15.7 -28.0	S	22 11.5 -08.6	15			
16	61 33.4 -00.3	S	23 06.4 +00.2	106 49.2 +00.5	S	11 00.2 +00.5	18 47.7 -28.0	S	22 02.9 -08.7	16			
17	76 33.1 -00.3	S	23 06.6 +00.2	121 49.7 +00.5	S	11 00.7 +00.5	33 19.7 -28.0	S	21 54.2 -08.9	17			
18	91 32.8 -00.3	S	23 06.8 +00.2	136 50.2 +00.6	S	11 01.2 +00.4	47 51.7 -27.9	S	21 45.3 -08.9	18			
19	106 32.5 -00.3	S	23 07.0 +00.1	151 50.8 +00.5	S	11 01.6 +00.5	62 23.8 -27.8	S	21 36.4 -09.0	19			
20	121 32.2 -00.3	S	23 07.1 +00.2	166 51.3 +00.5	S	11 02.1 +00.5	76 56.0 -27.8	S	21 27.4 -09.1	20			
21	136 31.9 -00.3	S	23 07.3 +00.2	181 51.8 +00.5	S	11 02.6 +00.5	91 28.2 -27.7	S	21 18.3 -09.2	21			
22	151 31.6 -00.3	S	23 07.5 +00.2	196 52.3 +00.4	S	11 03.1 +00.4	106 00.5 -27.7	S	21 09.1 -09.3	22			
23	166 31.3 -00.3	S	23 07.7 +00.1	211 52.7 +00.5	S	11 03.5 +00.5	120 32.8 -27.6	S	20 59.8 -09.4	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 14'7 14'7 14'7 14'7 14'7 14'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 54'0 54'0 54'0 54'0 54'0 54'1						
	SHA 101° 101° 100° 100° 100° 100°			SHA 146° 146° 146° 146° 145° 145°			SHA 065° 063° 060° 058° 056° 054°						
	Greenwich Culmination Time: 11:53			Greenwich Culmination Time: 08:52			Greenwich Culmination Time: 14:42						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	282 17.7 +01.7	N	11 53.2 -00.2	291 10.8 +02.4	N	13 18.0 +00.0	72 25.5 +02.4	N	00 48.7 +00.0	00			
01	297 19.4 +01.8	N	11 53.0 -00.2	306 13.2 +02.5	N	13 18.0 +00.0	87 27.9 +02.5	N	00 48.7 +00.0	01			
02	312 21.2 +01.7	N	11 52.8 -00.2	321 15.7 +02.4	N	13 18.0 +00.0	102 30.4 +02.5	N	00 48.7 +00.0	02			
03	327 22.9 +01.7	N	11 52.6 -00.2	336 18.1 +02.5	N	13 18.0 +00.0	117 32.9 +02.4	N	00 48.7 +00.0	03			
04	342 24.6 +01.8	N	11 52.4 -00.2	351 20.6 +02.4	N	13 18.0 +00.0	132 35.3 +02.5	N	00 48.7 +00.0	04			
05	357 26.4 +01.7	N	11 52.2 -00.2	6 23.0 +02.5	N	13 18.0 +00.0	147 37.8 +02.4	N	00 48.7 +00.0	05			
06	12 28.1 +01.7	N	11 52.0 -00.2	21 25.5 +02.4	N	13 18.0 +00.1	162 40.2 +02.5	N	00 48.7 +00.1	06			
07	27 29.8 +01.8	N	11 51.8 -00.2	36 27.9 +02.5	N	13 18.1 +00.0	177 42.7 +02.5	N	00 48.8 +00.0	07			
08	42 31.6 +01.7	N	11 51.6 -00.2	51 30.4 +02.5	N	13 18.1 +00.0	192 45.2 +02.4	N	00 48.8 +00.0	08			
09	57 33.3 +01.7	N	11 51.4 -00.2	66 32.9 +02.4	N	13 18.1 +00.0	207 47.6 +02.5	N	00 48.8 +00.0	09			
10	72 35.0 +01.8	N	11 51.2 -00.2	81 35.3 +02.5	N	13 18.1 +00.0	222 50.1 +02.5	N	00 48.8 +00.0	10			
11	87 36.8 +01.7	N	11 51.0 -00.2	96 37.8 +02.4	N	13 18.1 +00.0	237 52.6 +02.4	N	00 48.8 +00.0	11			
12	102 38.5 +01.8	N	11 50.8 -00.2	111 40.2 +02.5	N	13 18.1 +00.0	252 55.0 +02.5	N	00 48.8 +00.0	12			
13	117 40.3 +01.7	N	11 50.6 -00.2	126 42.7 +02.4	N	13 18.1 +00.0	267 57.5 +02.4	N	00 48.8 +00.0	13			
14	132 42.0 +01.7	N	11 50.4 -00.2	141 45.1 +02.5	N	13 18.1 +00.0	282 59.9 +02.5	N	00 48.8 +00.1	14			
15	147 43.7 +01.8	N	11 50.2 -00.2	156 47.6 +02.4	N	13 18.1 +00.0	298 02.4 +02.5	N	00 48.9 +00.0	15			
16	162 45.5 +01.7	N	11 50.0 -00.2	171 50.0 +02.5	N	13 18.1 +00.0	313 04.9 +02.4	N	00 48.9 +00.0	16			
17	177 47.2 +01.8	N	11 49.8 -00.2	186 52.5 +02.5	N	13 18.1 +00.0	328 07.3 +02.5	N	00 48.9 +00.0	17			
18	192 49.0 +01.7	N	11 49.6 -00.2	201 55.0 +02.4	N	13 18.1 +00.1	343 09.8 +02.4	N	00 48.9 +00.0	18			
19	207 50.7 +01.8	N	11 49.4 -00.2	216 57.4 +02.5	N	13 18.2 +00.0	358 12.2 +02.5	N	00 48.9 +00.0	19			
20	222 52.5 +01.7	N	11 49.2 -00.2	231 59.9 +02.4	N	13 18.2 +00.0	13 14.7 +02.5	N	00 48.9 +00.0	20			
21	237 54.2 +01.7	N	11 49.0 -00.2	247 02.3 +02.5	N	13 18.2 +00.0	28 17.2 +02.4	N	00 48.9 +00.0	21			
22	252 55.9 +01.8	N	11 48.8 -00.2	262 04.8 +02.5	N	13 18.2 +00.0	43 19.6 +02.5	N	00 48.9 +00.1	22			
23	267 57.7 +01.7	N	11 48.6 -00.2	277 07.3 +02.4	N	13 18.2 +00.0	58 22.1 +02.4	N	00 49.0 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 202° 202° 201° 201° 201° 201°			SHA 210° 210° 210° 210° 210° 210°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:10			Greenwich Culmination Time: 04:34			Greenwich Culmination Time: 19:07						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 31.0 -00.3	S	23 07.8 +00.2	226 53.2 +00.5	S	11 04.0 +00.5	135 05.2 -27.5	S	20 50.4 -09.4	00			
01	196 30.7 -00.3	S	23 08.0 +00.2	241 53.7 +00.5	S	11 04.5 +00.5	149 37.7 -27.5	S	20 41.0 -09.6	01			
02	211 30.4 -00.2	S	23 08.2 +00.1	256 54.2 +00.5	S	11 05.0 +00.4	164 10.2 -27.5	S	20 31.4 -09.6	02			
03	226 30.2 -00.3	S	23 08.3 +00.2	271 54.7 +00.5	S	11 05.4 +00.5	178 42.7 -27.3	S	20 21.8 -09.8	03			
04	241 29.9 -00.3	S	23 08.5 +00.2	286 55.2 +00.5	S	11 05.9 +00.5	193 15.4 -27.4	S	20 12.0 -09.8	04			
05	256 29.6 -00.3	S	23 08.7 +00.2	301 55.7 +00.5	S	11 06.4 +00.5	207 48.0 -27.2	S	20 02.2 -09.9	05			
06	271 29.3 -00.3	S	23 08.9 +00.1	316 56.2 +00.5	S	11 06.9 +00.4	222 20.8 -27.3	S	19 52.3 -10.0	06			
07	286 29.0 -00.3	S	23 09.0 +00.2	331 56.7 +00.5	S	11 07.3 +00.5	236 53.5 -27.1	S	19 42.3 -10.0	07			
08	301 28.7 -00.3	S	23 09.2 +00.2	346 57.2 +00.4	S	11 07.8 +00.5	251 26.4 -27.1	S	19 32.3 -10.2	08			
09	316 28.4 -00.3	S	23 09.4 +00.1	1 57.6 +00.5	S	11 08.3 +00.5	265 59.3 -27.1	S	19 22.1 -10.2	09			
10	331 28.1 -00.3	S	23 09.5 +00.2	16 58.1 +00.5	S	11 08.8 +00.5	280 32.2 -27.0	S	19 11.9 -10.4	10			
11	346 27.8 -00.3	S	23 09.7 +00.1	31 58.6 +00.5	S	11 09.3 +00.4	295 05.2 -26.9	S	19 01.5 -10.4	11			
12	1 27.5 -00.3	S	23 09.8 +00.2	46 59.1 +00.5	S	11 09.7 +00.5	309 38.3 -26.9	S	18 51.1 -10.4	12			
13	16 27.2 -00.3	S	23 10.0 +00.2	61 59.6 +00.4	S	11 10.2 +00.5	324 11.4 -26.9	S	18 40.7 -10.6	13			
14	31 26.9 -00.3	S	23 10.2 +00.1	77 00.0 +00.5	S	11 10.7 +00.5	338 44.5 -26.8	S	18 30.1 -10.7	14			
15	46 26.6 -00.3	S	23 10.3 +00.2	92 00.5 +00.5	S	11 11.2 +00.5	353 17.7 -26.7	S	18 19.4 -10.7	15			
16	61 26.3 -00.3	S	23 10.5 +00.2	107 01.0 +00.4	S	11 11.7 +00.5	7 51.0 -26.7	S	18 08.7 -10.8	16			
17	76 26.0 -00.3	S	23 10.7 +00.1	122 01.4 +00.5	S	11 12.2 +00.4	22 24.3 -26.7	S	17 57.9 -10.8	17			
18	91 25.7 -00.3	S	23 10.8 +00.2	137 01.9 +00.5	S	11 12.6 +00.5	36 57.6 -26.6	S	17 47.1 -11.0	18			
19	106 25.4 -00.3	S	23 11.0 +00.1	152 02.4 +00.5	S	11 13.1 +00.5	51 31.0 -26.5	S	17 36.1 -11.0	19			
20	121 25.1 -00.3	S	23 11.1 +00.2	167 02.9 +00.4	S	11 13.6 +00.5	66 04.5 -26.5	S	17 25.1 -11.1	20			
21	136 24.8 -00.3	S	23 11.3 +00.1	182 03.3 +00.5	S	11 14.1 +00.5	80 38.0 -26.5	S	17 14.0 -11.2	21			
22	151 24.5 -00.3	S	23 11.4 +00.2	197 03.8 +00.4	S	11 14.6 +00.5	95 11.5 -26.4	S	17 02.8 -11.2	22			
23	166 24.2 -00.3	S	23 11.6 +00.1	212 04.2 +00.5	S	11 15.1 +00.5	109 45.1 -26.3	S	16 51.6 -11.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 14'7 14'8 14'8 14'8 14'8 14'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 54'1 54'1 54'2 54'2 54'3 54'3						
	SHA 100° 100° 099° 099° 099° 099°			SHA 145° 145° 145° 145° 145° 144°			SHA 052° 050° 048° 046° 045° 043°						
	Greenwich Culmination Time: 11:54			Greenwich Culmination Time: 08:52			Greenwich Culmination Time: 15:27						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	282 59.4 +01.8	N	11 48.4 -00.2	292 09.7 +02.5	N	13 18.2 +00.0	73 24.5 +02.5	N	00 49.0 +00.0	00			
01	298 01.2 +01.7	N	11 48.2 -00.2	307 12.2 +02.4	N	13 18.2 +00.0	88 27.0 +02.5	N	00 49.0 +00.0	01			
02	313 02.9 +01.8	N	11 48.0 -00.2	322 14.6 +02.5	N	13 18.2 +00.0	103 29.5 +02.4	N	00 49.0 +00.0	02			
03	328 04.7 +01.7	N	11 47.8 -00.2	337 17.1 +02.5	N	13 18.2 +00.0	118 31.9 +02.5	N	00 49.0 +00.0	03			
04	343 06.4 +01.8	N	11 47.6 -00.2	352 19.6 +02.4	N	13 18.2 +00.1	133 34.4 +02.4	N	00 49.0 +00.0	04			
05	358 08.2 +01.7	N	11 47.4 -00.2	7 22.0 +02.5	N	13 18.3 +00.0	148 36.8 +02.5	N	00 49.0 +00.1	05			
06	13 09.9 +01.8	N	11 47.2 -00.2	22 24.5 +02.4	N	13 18.3 +00.0	163 39.3 +02.5	N	00 49.1 +00.0	06			
07	28 11.7 +01.8	N	11 47.0 -00.2	37 26.9 +02.5	N	13 18.3 +00.0	178 41.8 +02.4	N	00 49.1 +00.0	07			
08	43 13.5 +01.7	N	11 46.8 -00.2	52 29.4 +02.5	N	13 18.3 +00.0	193 44.2 +02.5	N	00 49.1 +00.0	08			
09	58 15.2 +01.8	N	11 46.6 -00.2	67 31.9 +02.4	N	13 18.3 +00.0	208 46.7 +02.4	N	00 49.1 +00.0	09			
10	73 17.0 +01.7	N	11 46.4 -00.2	82 34.3 +02.5	N	13 18.3 +00.0	223 49.1 +02.5	N	00 49.1 +00.0	10			
11	88 18.7 +01.8	N	11 46.2 -00.2	97 36.8 +02.5	N	13 18.3 +00.0	238 51.6 +02.5	N	00 49.1 +00.0	11			
12	103 20.5 +01.7	N	11 46.0 -00.2	112 39.3 +02.4	N	13 18.3 +00.0	253 54.1 +02.4	N	00 49.1 +00.1	12			
13	118 22.2 +01.8	N	11 45.8 -00.2	127 41.7 +02.5	N	13 18.3 +00.0	268 56.5 +02.5	N	00 49.2 +00.0	13			
14	133 24.0 +01.7	N	11 45.6 -00.2	142 44.2 +02.5	N	13 18.3 +00.1	283 59.0 +02.4	N	00 49.2 +00.0	14			
15	148 25.7 +01.8	N	11 45.4 -00.2	157 46.7 +02.4	N	13 18.4 +00.0	299 01.4 +02.5	N	00 49.2 +00.0	15			
16	163 27.5 +01.8	N	11 45.2 -00.2	172 49.1 +02.5	N	13 18.4 +00.0	314 03.9 +02.4	N	00 49.2 +00.0	16			
17	178 29.3 +01.7	N	11 45.0 -00.2	187 51.6 +02.5	N	13 18.4 +00.0	329 06.3 +02.5	N	00 49.2 +00.0	17			
18	193 31.0 +01.8	N	11 44.8 -00.1	202 54.1 +02.4	N	13 18.4 +00.0	344 08.8 +02.5	N	00 49.2 +00.0	18			
19	208 32.8 +01.8	N	11 44.7 -00.2	217 56.5 +02.5	N	13 18.4 +00.0	359 11.3 +02.4	N	00 49.2 +00.1	19			
20	223 34.6 +01.7	N	11 44.5 -00.2	232 59.0 +02.5	N	13 18.4 +00.0	14 13.7 +02.5	N	00 49.3 +00.0	20			
21	238 36.3 +01.8	N	11 44.3 -00.2	248 01.5 +02.4	N	13 18.4 +00.0	29 16.2 +02.4	N	00 49.3 +00.0	21			
22	253 38.1 +01.8	N	11 44.1 -00.2	263 03.9 +02.5	N	13 18.4 +00.1	44 18.6 +02.5	N	00 49.3 +00.0	22			
23	268 39.9 +01.7	N	11 43.9 -00.2	278 06.4 +02.5	N	13 18.5 +00.0	59 21.1 +02.4	N	00 49.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 201° 201° 201° 201° 201° 201°			SHA 210° 210° 210° 210° 210° 210°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:07			Greenwich Culmination Time: 04:30			Greenwich Culmination Time: 19:03						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 23.9 -00.3	S	23 11.7 +00.2	227 04.7 +00.5	S	11 15.6 +00.5	124 18.8 -26.4	S	16 40.3 -11.4	00			
01	196 23.6 -00.3	S	23 11.9 +00.1	242 05.2 +00.4	S	11 16.1 +00.4	138 52.4 -26.2	S	16 28.9 -11.5	01			
02	211 23.3 -00.3	S	23 12.0 +00.2	257 05.6 +00.5	S	11 16.5 +00.5	153 26.2 -26.3	S	16 17.4 -11.5	02			
03	226 23.0 -00.3	S	23 12.2 +00.1	272 06.1 +00.4	S	11 17.0 +00.5	167 59.9 -26.2	S	16 05.9 -11.6	03			
04	241 22.7 -00.2	S	23 12.3 +00.2	287 06.5 +00.5	S	11 17.5 +00.5	182 33.7 -26.1	S	15 54.3 -11.7	04			
05	256 22.5 -00.3	S	23 12.5 +00.1	302 07.0 +00.4	S	11 18.0 +00.5	197 07.6 -26.1	S	15 42.6 -11.7	05			
06	271 22.2 -00.3	S	23 12.6 +00.2	317 07.4 +00.5	S	11 18.5 +00.5	211 41.5 -26.1	S	15 30.9 -11.8	06			
07	286 21.9 -00.3	S	23 12.8 +00.1	332 07.9 +00.4	S	11 19.0 +00.5	226 15.4 -26.0	S	15 19.1 -11.9	07			
08	301 21.6 -00.3	S	23 12.9 +00.2	347 08.3 +00.5	S	11 19.5 +00.5	240 49.4 -26.0	S	15 07.2 -11.9	08			
09	316 21.3 -00.3	S	23 13.1 +00.1	2 08.8 +00.4	S	11 20.0 +00.5	255 23.4 -25.9	S	14 55.3 -12.0	09			
10	331 21.0 -00.3	S	23 13.2 +00.2	17 09.2 +00.5	S	11 20.5 +00.5	269 57.5 -25.9	S	14 43.3 -12.1	10			
11	346 20.7 -00.3	S	23 13.4 +00.1	32 09.7 +00.4	S	11 21.0 +00.5	284 31.6 -25.9	S	14 31.2 -12.1	11			
12	1 20.4 -00.3	S	23 13.5 +00.2	47 10.1 +00.5	S	11 21.5 +00.5	299 05.7 -25.8	S	14 19.1 -12.2	12			
13	16 20.1 -00.3	S	23 13.7 +00.1	62 10.6 +00.4	S	11 22.0 +00.5	313 39.9 -25.8	S	14 06.9 -12.2	13			
14	31 19.8 -00.3	S	23 13.8 +00.2	77 11.0 +00.4	S	11 22.5 +00.5	328 14.1 -25.8	S	13 54.7 -12.4	14			
15	46 19.5 -00.3	S	23 14.0 +00.1	92 11.4 +00.5	S	11 23.0 +00.5	342 48.3 -25.7	S	13 42.3 -12.3	15			
16	61 19.2 -00.3	S	23 14.1 +00.1	107 11.9 +00.4	S	11 23.5 +00.5	357 22.6 -25.7	S	13 30.0 -12.5	16			
17	76 18.9 -00.3	S	23 14.2 +00.2	122 12.3 +00.5	S	11 24.0 +00.5	11 56.9 -25.7	S	13 17.5 -12.4	17			
18	91 18.6 -00.3	S	23 14.4 +00.1	137 12.8 +00.4	S	11 24.5 +00.5	26 31.2 -25.6	S	13 05.1 -12.6	18			
19	106 18.3 -00.3	S	23 14.5 +00.1	152 13.2 +00.4	S	11 25.0 +00.5	41 05.6 -25.7	S	12 52.5 -12.6	19			
20	121 18.0 -00.3	S	23 14.6 +00.2	167 13.6 +00.5	S	11 25.5 +00.5	55 39.9 -25.5	S	12 39.9 -12.7	20			
21	136 17.7 -00.3	S	23 14.8 +00.1	182 14.1 +00.4	S	11 26.0 +00.5	70 14.4 -25.6	S	12 27.2 -12.7	21			
22	151 17.4 -00.3	S	23 14.9 +00.2	197 14.5 +00.4	S	11 26.5 +00.5	84 48.8 -25.5	S	12 14.5 -12.8	22			
23	166 17.1 -00.3	S	23 15.1 +00.1	212 14.9 +00.4	S	11 27.0 +00.5	99 23.3 -25.5	S	12 01.7 -12.8	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 14'8 14'8 14'8 14'9 14'9 14'9						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 54'4 54'4 54'5 54'6 54'6 54'7						
	SHA 099° 098° 098° 098° 098° 098°			SHA 144° 144° 144° 144° 144° 144°			SHA 041° 039° 037° 035° 033° 031°						
	Greenwich Culmination Time: 11:54			Greenwich Culmination Time: 08:51			Greenwich Culmination Time: 16:10						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	283 41.6 +01.8	N	11 43.7 -00.2	293 08.9 +02.4	N	13 18.5 +00.0	74 23.5 +02.5	N	00 49.3 +00.0	00			
01	298 43.4 +01.8	N	11 43.5 -00.2	308 11.3 +02.5	N	13 18.5 +00.0	89 26.0 +02.4	N	00 49.3 +00.0	01			
02	313 45.2 +01.7	N	11 43.3 -00.2	323 13.8 +02.5	N	13 18.5 +00.0	104 28.4 +02.5	N	00 49.3 +00.1	02			
03	328 46.9 +01.8	N	11 43.1 -00.2	338 16.3 +02.4	N	13 18.5 +00.0	119 30.9 +02.5	N	00 49.4 +00.0	03			
04	343 48.7 +01.8	N	11 42.9 -00.2	353 18.7 +02.5	N	13 18.5 +00.0	134 33.4 +02.4	N	00 49.4 +00.0	04			
05	358 50.5 +01.7	N	11 42.7 -00.2	8 21.2 +02.5	N	13 18.5 +00.0	149 35.8 +02.5	N	00 49.4 +00.0	05			
06	13 52.2 +01.8	N	11 42.5 -00.1	23 23.7 +02.4	N	13 18.5 +00.1	164 38.3 +02.4	N	00 49.4 +00.0	06			
07	28 54.0 +01.8	N	11 42.4 -00.2	38 26.1 +02.5	N	13 18.6 +00.0	179 40.7 +02.5	N	00 49.4 +00.0	07			
08	43 55.8 +01.7	N	11 42.2 -00.2	53 28.6 +02.5	N	13 18.6 +00.0	194 43.2 +02.4	N	00 49.4 +00.1	08			
09	58 57.5 +01.8	N	11 42.0 -00.2	68 31.1 +02.5	N	13 18.6 +00.0	209 45.6 +02.5	N	00 49.5 +00.0	09			
10	73 59.3 +01.8	N	11 41.8 -00.2	83 33.6 +02.4	N	13 18.6 +00.0	224 48.1 +02.4	N	00 49.5 +00.0	10			
11	89 01.1 +01.8	N	11 41.6 -00.2	98 36.0 +02.5	N	13 18.6 +00.0	239 50.5 +02.5	N	00 49.5 +00.0	11			
12	104 02.9 +01.7	N	11 41.4 -00.2	113 38.5 +02.5	N	13 18.6 +00.0	254 53.0 +02.4	N	00 49.5 +00.0	12			
13	119 04.6 +01.8	N	11 41.2 -00.2	128 41.0 +02.4	N	13 18.6 +00.1	269 55.4 +02.5	N	00 49.5 +00.0	13			
14	134 06.4 +01.8	N	11 41.0 -00.1	143 43.4 +02.5	N	13 18.7 +00.0	284 57.9 +02.5	N	00 49.5 +00.1	14			
15	149 08.2 +01.8	N	11 40.9 -00.2	158 45.9 +02.5	N	13 18.7 +00.0	300 00.4 +02.4	N	00 49.6 +00.0	15			
16	164 10.0 +01.8	N	11 40.7 -00.2	173 48.4 +02.5	N	13 18.7 +00.0	315 02.8 +02.5	N	00 49.6 +00.0	16			
17	179 11.8 +01.7	N	11 40.5 -00.2	188 50.9 +02.4	N	13 18.7 +00.0	330 05.3 +02.4	N	00 49.6 +00.0	17			
18	194 13.5 +01.8	N	11 40.3 -00.2	203 53.3 +02.5	N	13 18.7 +00.0	345 07.7 +02.5	N	00 49.6 +00.0	18			
19	209 15.3 +01.8	N	11 40.1 -00.2	218 55.8 +02.5	N	13 18.7 +00.0	0 10.2 +02.4	N	00 49.6 +00.0	19			
20	224 17.1 +01.8	N	11 39.9 -00.2	233 58.3 +02.5	N	13 18.7 +00.1	15 12.6 +02.5	N	00 49.6 +00.0	20			
21	239 18.9 +01.8	N	11 39.7 -00.1	249 00.8 +02.4	N	13 18.8 +00.0	30 15.1 +02.4	N	00 49.6 +00.1	21			
22	254 20.7 +01.8	N	11 39.6 -00.2	264 03.2 +02.5	N	13 18.8 +00.0	45 17.5 +02.5	N	00 49.7 +00.0	22			
23	269 22.5 +01.7	N	11 39.4 -00.2	279 05.7 +02.5	N	13 18.8 +00.0	60 20.0 +02.4	N	00 49.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 201° 201° 201° 201° 201° 201°			SHA 210° 210° 210° 210° 210° 210°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:04			Greenwich Culmination Time: 04:26			Greenwich Culmination Time: 18:59						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 16.8 -00.3	S	23 15.2 +00.1	227 15.3 +00.5	S	11 27.5 +00.5	113 57.8 -25.5	S	11 48.9 -12.9	00			
01	196 16.5 -00.3	S	23 15.3 +00.2	242 15.8 +00.4	S	11 28.0 +00.5	128 32.3 -25.4	S	11 36.0 -12.9	01			
02	211 16.2 -00.3	S	23 15.5 +00.1	257 16.2 +00.4	S	11 28.5 +00.5	143 06.9 -25.4	S	11 23.1 -13.0	02			
03	226 15.9 -00.3	S	23 15.6 +00.1	272 16.6 +00.4	S	11 29.0 +00.5	157 41.5 -25.4	S	11 10.1 -13.0	03			
04	241 15.6 -00.3	S	23 15.7 +00.1	287 17.0 +00.4	S	11 29.5 +00.5	172 16.1 -25.4	S	10 57.1 -13.1	04			
05	256 15.3 -00.3	S	23 15.8 +00.2	302 17.4 +00.5	S	11 30.0 +00.5	186 50.7 -25.4	S	10 44.0 -13.2	05			
06	271 15.0 -00.3	S	23 16.0 +00.1	317 17.9 +00.4	S	11 30.5 +00.5	201 25.3 -25.3	S	10 30.8 -13.2	06			
07	286 14.7 -00.3	S	23 16.1 +00.1	332 18.3 +00.4	S	11 31.0 +00.5	215 60.0 -25.3	S	10 17.6 -13.2	07			
08	301 14.4 -00.3	S	23 16.2 +00.2	347 18.7 +00.4	S	11 31.5 +00.6	230 34.7 -25.3	S	10 04.4 -13.3	08			
09	316 14.1 -00.3	S	23 16.4 +00.1	2 19.1 +00.4	S	11 32.1 +00.5	245 09.4 -25.3	S	09 51.1 -13.3	09			
10	331 13.8 -00.3	S	23 16.5 +00.1	17 19.5 +00.4	S	11 32.6 +00.5	259 44.1 -25.3	S	09 37.8 -13.4	10			
11	346 13.5 -00.3	S	23 16.6 +00.1	32 19.9 +00.4	S	11 33.1 +00.5	274 18.8 -25.2	S	09 24.4 -13.5	11			
12	1 13.2 -00.3	S	23 16.7 +00.2	47 20.3 +00.5	S	11 33.6 +00.5	288 53.6 -25.3	S	09 10.9 -13.4	12			
13	16 12.9 -00.3	S	23 16.9 +00.1	62 20.8 +00.4	S	11 34.1 +00.5	303 28.3 -25.2	S	08 57.5 -13.6	13			
14	31 12.6 -00.3	S	23 17.0 +00.1	77 21.2 +00.4	S	11 34.6 +00.5	318 03.1 -25.2	S	08 43.9 -13.5	14			
15	46 12.3 -00.3	S	23 17.1 +00.1	92 21.6 +00.4	S	11 35.1 +00.5	332 37.9 -25.2	S	08 30.4 -13.6	15			
16	61 12.0 -00.3	S	23 17.2 +00.1	107 22.0 +00.4	S	11 35.6 +00.5	347 12.7 -25.2	S	08 16.8 -13.7	16			
17	76 11.7 -00.3	S	23 17.3 +00.2	122 22.4 +00.4	S	11 36.1 +00.6	1 47.5 -25.2	S	08 03.1 -13.7	17			
18	91 11.4 -00.4	S	23 17.5 +00.1	137 22.8 +00.4	S	11 36.7 +00.5	16 22.3 -25.2	S	07 49.4 -13.7	18			
19	106 11.0 -00.3	S	23 17.6 +00.1	152 23.2 +00.4	S	11 37.2 +00.5	30 57.1 -25.2	S	07 35.7 -13.8	19			
20	121 10.7 -00.3	S	23 17.7 +00.1	167 23.6 +00.4	S	11 37.7 +00.5	45 31.9 -25.2	S	07 21.9 -13.8	20			
21	136 10.4 -00.3	S	23 17.8 +00.1	182 24.0 +00.4	S	11 38.2 +00.5	60 06.7 -25.1	S	07 08.1 -13.9	21			
22	151 10.1 -00.3	S	23 17.9 +00.2	197 24.4 +00.4	S	11 38.7 +00.5	74 41.6 -25.2	S	06 54.2 -13.9	22			
23	166 09.8 -00.3	S	23 18.1 +00.1	212 24.8 +00.4	S	11 39.2 +00.6	89 16.4 -25.2	S	06 40.3 -13.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 16'2 16'2 16'2 16'2 16'3			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 14'9 15'0 15'0 15'0 15'0 15'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 54'8 54'9 55'0 55'1 55'2 55'3						
	SHA 098° 097° 097° 097° 097° 097°			SHA 144° 143° 143° 143° 143° 143°			SHA 029° 028° 026° 024° 022° 020°						
	Greenwich Culmination Time: 11:55			Greenwich Culmination Time: 08:50			Greenwich Culmination Time: 16:52						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	284 24.2 +01.8	N	11 39.2 -00.2	294 08.2 +02.5	N	13 18.8 +00.0	75 22.4 +02.5	N	00 49.7 +00.0	00			
01	299 26.0 +01.8	N	11 39.0 -00.2	309 10.7 +02.4	N	13 18.8 +00.0	90 24.9 +02.4	N	00 49.7 +00.0	01			
02	314 27.8 +01.8	N	11 38.8 -00.2	324 13.1 +02.5	N	13 18.8 +00.0	105 27.3 +02.5	N	00 49.7 +00.1	02			
03	329 29.6 +01.8	N	11 38.6 -00.1	339 15.6 +02.5	N	13 18.8 +00.1	120 29.8 +02.4	N	00 49.8 +00.0	03			
04	344 31.4 +01.8	N	11 38.5 -00.2	354 18.1 +02.5	N	13 18.9 +00.0	135 32.2 +02.5	N	00 49.8 +00.0	04			
05	359 33.2 +01.8	N	11 38.3 -00.2	9 20.6 +02.5	N	13 18.9 +00.0	150 34.7 +02.4	N	00 49.8 +00.0	05			
06	14 35.0 +01.8	N	11 38.1 -00.2	24 23.1 +02.4	N	13 18.9 +00.0	165 37.1 +02.5	N	00 49.8 +00.0	06			
07	29 36.8 +01.7	N	11 37.9 -00.2	39 25.5 +02.5	N	13 18.9 +00.0	180 39.6 +02.4	N	00 49.8 +00.0	07			
08	44 38.5 +01.8	N	11 37.7 -00.2	54 28.0 +02.5	N	13 18.9 +00.0	195 42.0 +02.5	N	00 49.8 +00.1	08			
09	59 40.3 +01.8	N	11 37.5 -00.1	69 30.5 +02.5	N	13 18.9 +00.1	210 44.5 +02.4	N	00 49.9 +00.0	09			
10	74 42.1 +01.8	N	11 37.4 -00.2	84 33.0 +02.4	N	13 19.0 +00.0	225 46.9 +02.5	N	00 49.9 +00.0	10			
11	89 43.9 +01.8	N	11 37.2 -00.2	99 35.4 +02.5	N	13 19.0 +00.0	240 49.4 +02.4	N	00 49.9 +00.0	11			
12	104 45.7 +01.8	N	11 37.0 -00.2	114 37.9 +02.5	N	13 19.0 +00.0	255 51.8 +02.5	N	00 49.9 +00.0	12			
13	119 47.5 +01.8	N	11 36.8 -00.2	129 40.4 +02.5	N	13 19.0 +00.0	270 54.3 +02.4	N	00 49.9 +00.0	13			
14	134 49.3 +01.8	N	11 36.6 -00.1	144 42.9 +02.5	N	13 19.0 +00.0	285 56.7 +02.5	N	00 49.9 +00.1	14			
15	149 51.1 +01.8	N	11 36.5 -00.2	159 45.4 +02.4	N	13 19.0 +00.1	300 59.2 +02.4	N	00 50.0 +00.0	15			
16	164 52.9 +01.8	N	11 36.3 -00.2	174 47.8 +02.5	N	13 19.1 +00.0	316 01.6 +02.5	N	00 50.0 +00.0	16			
17	179 54.7 +01.8	N	11 36.1 -00.2	189 50.3 +02.5	N	13 19.1 +00.0	331 04.1 +02.4	N	00 50.0 +00.0	17			
18	194 56.5 +01.8	N	11 35.9 -00.2	204 52.8 +02.5	N	13 19.1 +00.0	346 06.5 +02.5	N	00 50.0 +00.0	18			
19	209 58.3 +01.8	N	11 35.7 -00.1	219 55.3 +02.5	N	13 19.1 +00.0	1 09.0 +02.4	N	00 50.0 +00.1	19			
20	225 00.1 +01.8	N	11 35.6 -00.2	234 57.8 +02.5	N	13 19.1 +00.0	16 11.4 +02.5	N	00 50.1 +00.0	20			
21	240 01.9 +01.8	N	11 35.4 -00.2	250 00.3 +02.4	N	13 19.1 +00.1	31 13.9 +02.4	N	00 50.1 +00.0	21			
22	255 03.7 +01.8	N	11 35.2 -00.2	265 02.7 +02.5	N	13 19.2 +00.0	46 16.3 +02.5	N	00 50.1 +00.0	22			
23	270 05.5 +01.8	N	11 35.0 -00.1	280 05.2 +02.5	N	13 19.2 +00.0	61 18.8 +02.4	N	00 50.1 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 201° 201° 201° 201° 201° 200°			SHA 210° 210° 210° 210° 210° 210°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 05:01			Greenwich Culmination Time: 04:22			Greenwich Culmination Time: 18:55						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 22%				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 09.5 -00.3	S	23 18.2 +00.1	227 25.2 +00.4	S	11 39.8 +00.5	103 51.2 -25.1	S	06 26.4 -14.0	00			
01	196 09.2 -00.3	S	23 18.3 +00.1	242 25.6 +00.3	S	11 40.3 +00.5	118 26.1 -25.2	S	06 12.4 -14.0	01			
02	211 08.9 -00.3	S	23 18.4 +00.1	257 25.9 +00.4	S	11 40.8 +00.5	133 00.9 -25.2	S	05 58.4 -14.1	02			
03	226 08.6 -00.3	S	23 18.5 +00.1	272 26.3 +00.4	S	11 41.3 +00.5	147 35.7 -25.1	S	05 44.3 -14.1	03			
04	241 08.3 -00.3	S	23 18.6 +00.1	287 26.7 +00.4	S	11 41.8 +00.6	162 10.6 -25.2	S	05 30.2 -14.1	04			
05	256 08.0 -00.3	S	23 18.7 +00.1	302 27.1 +00.4	S	11 42.4 +00.5	176 45.4 -25.2	S	05 16.1 -14.1	05			
06	271 07.7 -00.3	S	23 18.8 +00.2	317 27.5 +00.4	S	11 42.9 +00.5	191 20.2 -25.2	S	05 02.0 -14.2	06			
07	286 07.4 -00.3	S	23 19.0 +00.1	332 27.9 +00.4	S	11 43.4 +00.5	205 55.0 -25.2	S	04 47.8 -14.2	07			
08	301 07.1 -00.3	S	23 19.1 +00.1	347 28.3 +00.3	S	11 43.9 +00.5	220 29.8 -25.2	S	04 33.6 -14.3	08			
09	316 06.8 -00.3	S	23 19.2 +00.1	2 28.6 +00.4	S	11 44.4 +00.6	235 04.6 -25.2	S	04 19.3 -14.3	09			
10	331 06.5 -00.3	S	23 19.3 +00.1	17 29.0 +00.4	S	11 45.0 +00.5	249 39.4 -25.2	S	04 05.0 -14.3	10			
11	346 06.2 -00.3	S	23 19.4 +00.1	32 29.4 +00.4	S	11 45.5 +00.5	264 14.2 -25.3	S	03 50.7 -14.3	11			
12	1 05.9 -00.3	S	23 19.5 +00.1	47 29.8 +00.4	S	11 46.0 +00.5	278 48.9 -25.2	S	03 36.4 -14.4	12			
13	16 05.6 -00.3	S	23 19.6 +00.1	62 30.2 +00.3	S	11 46.5 +00.6	293 23.7 -25.3	S	03 22.0 -14.4	13			
14	31 05.3 -00.3	S	23 19.7 +00.1	77 30.5 +00.4	S	11 47.1 +00.5	307 58.4 -25.3	S	03 07.6 -14.4	14			
15	46 05.0 -00.3	S	23 19.8 +00.1	92 30.9 +00.4	S	11 47.6 +00.5	322 33.1 -25.3	S	02 53.2 -14.5	15			
16	61 04.7 -00.3	S	23 19.9 +00.1	107 31.3 +00.3	S	11 48.1 +00.5	337 07.8 -25.3	S	02 38.7 -14.4	16			
17	76 04.4 -00.3	S	23 20.0 +00.1	122 31.6 +00.4	S	11 48.6 +00.6	351 42.5 -25.3	S	02 24.3 -14.5	17			
18	91 04.1 -00.3	S	23 20.1 +00.1	137 32.0 +00.4	S	11 49.2 +00.5	6 17.2 -25.4	S	02 09.8 -14.6	18			
19	106 03.8 -00.3	S	23 20.2 +00.1	152 32.4 +00.3	S	11 49.7 +00.5	20 51.8 -25.4	S	01 55.2 -14.5	19			
20	121 03.5 -00.3	S	23 20.3 +00.1	167 32.7 +00.4	S	11 50.2 +00.5	35 26.4 -25.4	S	01 40.7 -14.6	20			
21	136 03.2 -00.3	S	23 20.4 +00.1	182 33.1 +00.4	S	11 50.7 +00.6	50 01.0 -25.4	S	01 26.1 -14.6	21			
22	151 02.9 -00.3	S	23 20.5 +00.1	197 33.5 +00.3	S	11 51.3 +00.5	64 35.6 -25.5	S	01 11.5 -14.6	22			
23	166 02.6 -00.3	S	23 20.6 +00.1	212 33.8 +00.4	S	11 51.8 +00.5	79 10.1 -25.4	S	00 56.9 -14.6	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 15'1 15'1 15'1 15'2 15'2 15'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 55'4 55'5 55'6 55'7 55'8 55'9						
	SHA 096° 096° 096° 096° 096° 095°			SHA 143° 143° 142° 142° 142° 142°			SHA 018° 016° 015° 013° 011° 009°						
	Greenwich Culmination Time: 11:55			Greenwich Culmination Time: 08:50			Greenwich Culmination Time: 17:34						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	285 07.3 +01.8	N	11 34.9 -00.2	295 07.7 +02.5	N	13 19.2 +00.0	76 21.2 +02.5	N	00 50.1 +00.0	00			
01	300 09.1 +01.8	N	11 34.7 -00.2	310 10.2 +02.5	N	13 19.2 +00.0	91 23.7 +02.4	N	00 50.1 +00.1	01			
02	315 10.9 +01.8	N	11 34.5 -00.2	325 12.7 +02.5	N	13 19.2 +00.1	106 26.1 +02.4	N	00 50.2 +00.0	02			
03	330 12.7 +01.8	N	11 34.3 -00.1	340 15.2 +02.4	N	13 19.3 +00.0	121 28.5 +02.5	N	00 50.2 +00.0	03			
04	345 14.5 +01.8	N	11 34.2 -00.2	355 17.6 +02.5	N	13 19.3 +00.0	136 31.0 +02.4	N	00 50.2 +00.0	04			
05	0 16.3 +01.9	N	11 34.0 -00.2	10 20.1 +02.5	N	13 19.3 +00.0	151 33.4 +02.5	N	00 50.2 +00.0	05			
06	15 18.2 +01.8	N	11 33.8 -00.2	25 22.6 +02.5	N	13 19.3 +00.0	166 35.9 +02.4	N	00 50.2 +00.1	06			
07	30 20.0 +01.8	N	11 33.6 -00.1	40 25.1 +02.5	N	13 19.3 +00.1	181 38.3 +02.5	N	00 50.3 +00.0	07			
08	45 21.8 +01.8	N	11 33.5 -00.2	55 27.6 +02.5	N	13 19.4 +00.0	196 40.8 +02.4	N	00 50.3 +00.0	08			
09	60 23.6 +01.8	N	11 33.3 -00.2	70 30.1 +02.5	N	13 19.4 +00.0	211 43.2 +02.5	N	00 50.3 +00.0	09			
10	75 25.4 +01.8	N	11 33.1 -00.2	85 32.6 +02.5	N	13 19.4 +00.0	226 45.7 +02.4	N	00 50.3 +00.0	10			
11	90 27.2 +01.8	N	11 32.9 -00.1	100 35.1 +02.4	N	13 19.4 +00.0	241 48.1 +02.5	N	00 50.3 +00.1	11			
12	105 29.0 +01.8	N	11 32.8 -00.2	115 37.5 +02.5	N	13 19.4 +00.0	256 50.6 +02.4	N	00 50.4 +00.0	12			
13	120 30.8 +01.9	N	11 32.6 -00.2	130 40.0 +02.5	N	13 19.4 +00.1	271 53.0 +02.4	N	00 50.4 +00.0	13			
14	135 32.7 +01.8	N	11 32.4 -00.1	145 42.5 +02.5	N	13 19.5 +00.0	286 55.4 +02.5	N	00 50.4 +00.0	14			
15	150 34.5 +01.8	N	11 32.3 -00.2	160 45.0 +02.5	N	13 19.5 +00.0	301 57.9 +02.4	N	00 50.4 +00.0	15			
16	165 36.3 +01.8	N	11 32.1 -00.2	175 47.5 +02.5	N	13 19.5 +00.0	317 00.3 +02.5	N	00 50.4 +00.1	16			
17	180 38.1 +01.8	N	11 31.9 -00.2	190 50.0 +02.5	N	13 19.5 +00.0	332 02.8 +02.4	N	00 50.5 +00.0	17			
18	195 39.9 +01.8	N	11 31.7 -00.1	205 52.5 +02.5	N	13 19.5 +00.1	347 05.2 +02.5	N	00 50.5 +00.0	18			
19	210 41.7 +01.9	N	11 31.6 -00.2	220 55.0 +02.5	N	13 19.6 +00.0	2 07.7 +02.4	N	00 50.5 +00.0	19			
20	225 43.6 +01.8	N	11 31.4 -00.2	235 57.5 +02.4	N	13 19.6 +00.0	17 10.1 +02.5	N	00 50.5 +00.0	20			
21	240 45.4 +01.8	N	11 31.2 -00.1	250 59.9 +02.5	N	13 19.6 +00.0	32 12.6 +02.4	N	00 50.5 +00.1	21			
22	255 47.2 +01.8	N	11 31.1 -00.2	266 02.4 +02.5	N	13 19.6 +00.1	47 15.0 +02.4	N	00 50.6 +00.0	22			
23	270 49.0 +01.9	N	11 30.9 -00.2	281 04.9 +02.5	N	13 19.7 +00.0	62 17.4 +02.5	N	00 50.6 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 200° 200° 200° 200° 200° 200°			SHA 210° 210° 210° 210° 210° 210°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 04:58			Greenwich Culmination Time: 04:18			Greenwich Culmination Time: 18:51						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	181 02.3 -00.4	S	23 20.7 +00.1	227 34.2 +00.4	S	11 52.3 +00.6	93 44.7 -25.6	S	00 42.3 -14.7	00			
01	196 01.9 -00.3	S	23 20.8 +00.1	242 34.6 +00.3	S	11 52.9 +00.5	108 19.1 -25.5	S	00 27.6 -14.7	01			
02	211 01.6 -00.3	S	23 20.9 +00.1	257 34.9 +00.4	S	11 53.4 +00.5	122 53.6 -25.6	S	00 12.9 -14.7	02			
03	226 01.3 -00.3	S	23 21.0 +00.1	272 35.3 +00.3	S	11 53.9 +00.6	137 28.0 -25.6	N	00 01.8 +14.7	03			
04	241 01.0 -00.3	S	23 21.1 +00.1	287 35.6 +00.4	S	11 54.5 +00.5	152 02.4 -25.6	N	00 16.5 +14.7	04			
05	256 00.7 -00.3	S	23 21.2 +00.0	302 36.0 +00.3	S	11 55.0 +00.5	166 36.8 -25.7	N	00 31.2 +14.7	05			
06	271 00.4 -00.3	S	23 21.2 +00.1	317 36.3 +00.4	S	11 55.5 +00.6	181 11.1 -25.7	N	00 45.9 +14.8	06			
07	286 00.1 -00.3	S	23 21.3 +00.1	332 36.7 +00.3	S	11 56.1 +00.5	195 45.4 -25.8	N	01 00.7 +14.7	07			
08	300 59.8 -00.3	S	23 21.4 +00.1	347 37.0 +00.4	S	11 56.6 +00.5	210 19.6 -25.8	N	01 15.4 +14.8	08			
09	315 59.5 -00.3	S	23 21.5 +00.1	2 37.4 +00.3	S	11 57.1 +00.6	224 53.8 -25.8	N	01 30.2 +14.8	09			
10	330 59.2 -00.3	S	23 21.6 +00.1	17 37.7 +00.4	S	11 57.7 +00.5	239 28.0 -25.9	N	01 45.0 +14.8	10			
11	345 58.9 -00.3	S	23 21.7 +00.1	32 38.1 +00.3	S	11 58.2 +00.5	254 02.1 -25.9	N	01 59.8 +14.8	11			
12	0 58.6 -00.3	S	23 21.8 +00.1	47 38.4 +00.4	S	11 58.7 +00.6	268 36.2 -26.0	N	02 14.6 +14.9	12			
13	15 58.3 -00.3	S	23 21.9 +00.0	62 38.8 +00.3	S	11 59.3 +00.5	283 10.2 -26.0	N	02 29.5 +14.8	13			
14	30 58.0 -00.3	S	23 21.9 +00.1	77 39.1 +00.4	S	11 59.8 +00.5	297 44.2 -26.1	N	02 44.3 +14.8	14			
15	45 57.7 -00.3	S	23 22.0 +00.1	92 39.5 +00.3	S	12 00.3 +00.6	312 18.1 -26.1	N	02 59.1 +14.9	15			
16	60 57.4 -00.3	S	23 22.1 +00.1	107 39.8 +00.3	S	12 00.9 +00.5	326 52.0 -26.1	N	03 14.0 +14.8	16			
17	75 57.1 -00.3	S	23 22.2 +00.1	122 40.1 +00.4	S	12 01.4 +00.6	341 25.9 -26.2	N	03 28.8 +14.9	17			
18	90 56.8 -00.3	S	23 22.3 +00.0	137 40.5 +00.3	S	12 02.0 +00.5	355 59.7 -26.3	N	03 43.7 +14.9	18			
19	105 56.5 -00.4	S	23 22.3 +00.1	152 40.8 +00.3	S	12 02.5 +00.5	10 33.4 -26.3	N	03 58.6 +14.8	19			
20	120 56.1 -00.3	S	23 22.4 +00.1	167 41.1 +00.4	S	12 03.0 +00.6	25 07.1 -26.4	N	04 13.4 +14.9	20			
21	135 55.8 -00.3	S	23 22.5 +00.1	182 41.5 +00.3	S	12 03.6 +00.5	39 40.7 -26.4	N	04 28.3 +14.8	21			
22	150 55.5 -00.3	S	23 22.6 +00.1	197 41.8 +00.3	S	12 04.1 +00.6	54 14.3 -26.5	N	04 43.1 +14.9	22			
23	165 55.2 -00.3	S	23 22.7 +00.0	212 42.1 +00.4	S	12 04.7 +00.5	68 47.8 -26.6	N	04 58.0 +14.9	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 15'3 15'3 15'4 15'4 15'4 15'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 56'1 56'2 56'3 56'5 56'6 56'8						
	SHA 095° 095° 095° 095° 095° 094°			SHA 142° 142° 142° 141° 141° 141°			SHA 007° 005° 003° 002° 360° 358°						
	Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 08:49			Greenwich Culmination Time: 18:16						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	285 50.9 +01.8	N	11 30.7 -00.1	296 07.4 +02.5	N	13 19.7 +00.0	77 19.9 +02.4	N	00 50.6 +00.0	00			
01	300 52.7 +01.8	N	11 30.6 -00.2	311 09.9 +02.5	N	13 19.7 +00.0	92 22.3 +02.5	N	00 50.6 +00.0	01			
02	315 54.5 +01.8	N	11 30.4 -00.2	326 12.4 +02.5	N	13 19.7 +00.0	107 24.8 +02.4	N	00 50.6 +00.1	02			
03	330 56.3 +01.9	N	11 30.2 -00.2	341 14.9 +02.5	N	13 19.7 +00.1	122 27.2 +02.5	N	00 50.7 +00.0	03			
04	345 58.2 +01.8	N	11 30.0 -00.1	356 17.4 +02.5	N	13 19.8 +00.0	137 29.7 +02.4	N	00 50.7 +00.0	04			
05	0 60.0 +01.8	N	11 29.9 -00.2	11 19.9 +02.5	N	13 19.8 +00.0	152 32.1 +02.4	N	00 50.7 +00.0	05			
06	16 01.8 +01.8	N	11 29.7 -00.2	26 22.4 +02.5	N	13 19.8 +00.0	167 34.5 +02.5	N	00 50.7 +00.1	06			
07	31 03.6 +01.9	N	11 29.5 -00.1	41 24.9 +02.5	N	13 19.8 +00.0	182 37.0 +02.4	N	00 50.8 +00.0	07			
08	46 05.5 +01.8	N	11 29.4 -00.2	56 27.4 +02.5	N	13 19.8 +00.1	197 39.4 +02.5	N	00 50.8 +00.0	08			
09	61 07.3 +01.8	N	11 29.2 -00.1	71 29.9 +02.5	N	13 19.9 +00.0	212 41.9 +02.4	N	00 50.8 +00.0	09			
10	76 09.1 +01.9	N	11 29.1 -00.2	86 32.4 +02.4	N	13 19.9 +00.0	227 44.3 +02.5	N	00 50.8 +00.0	10			
11	91 11.0 +01.8	N	11 28.9 -00.2	101 34.8 +02.5	N	13 19.9 +00.0	242 46.8 +02.4	N	00 50.8 +00.1	11			
12	106 12.8 +01.8	N	11 28.7 -00.1	116 37.3 +02.5	N	13 19.9 +00.1	257 49.2 +02.4	N	00 50.9 +00.0	12			
13	121 14.6 +01.9	N	11 28.6 -00.2	131 39.8 +02.5	N	13 20.0 +00.0	272 51.6 +02.5	N	00 50.9 +00.0	13			
14	136 16.5 +01.8	N	11 28.4 -00.2	146 42.3 +02.5	N	13 20.0 +00.0	287 54.1 +02.4	N	00 50.9 +00.0	14			
15	151 18.3 +01.8	N	11 28.2 -00.1	161 44.8 +02.5	N	13 20.0 +00.0	302 56.5 +02.5	N	00 50.9 +00.0	15			
16	166 20.1 +01.9	N	11 28.1 -00.2	176 47.3 +02.5	N	13 20.0 +00.0	317 59.0 +02.4	N	00 50.9 +00.1	16			
17	181 22.0 +01.8	N	11 27.9 -00.2	191 49.8 +02.5	N	13 20.0 +00.1	333 01.4 +02.4	N	00 51.0 +00.0	17			
18	196 23.8 +01.9	N	11 27.7 -00.1	206 52.3 +02.5	N	13 20.1 +00.0	348 03.8 +02.5	N	00 51.0 +00.0	18			
19	211 25.7 +01.8	N	11 27.6 -00.2	221 54.8 +02.5	N	13 20.1 +00.0	3 06.3 +02.4	N	00 51.0 +00.0	19			
20	226 27.5 +01.8	N	11 27.4 -00.1	236 57.3 +02.5	N	13 20.1 +00.0	18 08.7 +02.5	N	00 51.0 +00.1	20			
21	241 29.3 +01.9	N	11 27.3 -00.2	251 59.8 +02.5	N	13 20.1 +00.1	33 11.2 +02.4	N	00 51.1 +00.0	21			
22	256 31.2 +01.8	N	11 27.1 -00.2	267 02.3 +02.5	N	13 20.2 +00.0	48 13.6 +02.4	N	00 51.1 +00.0	22			
23	271 33.0 +01.9	N	11 26.9 -00.1	282 04.8 +02.5	N	13 20.2 +00.0	63 16.0 +02.5	N	00 51.1 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 200° 200° 200° 200° 200° 200°			SHA 210° 210° 210° 210° 210° 210°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 04:56			Greenwich Culmination Time: 04:14			Greenwich Culmination Time: 18:47						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 54.9 -00.3	S	23 22.7 +00.1	227 42.5 +00.3	S	12 05.2 +00.5	83 21.2 -26.6	N	05 12.9 +14.8	00			
01	195 54.6 -00.3	S	23 22.8 +00.1	242 42.8 +00.3	S	12 05.7 +00.6	97 54.6 -26.7	N	05 27.7 +14.9	01			
02	210 54.3 -00.3	S	23 22.9 +00.1	257 43.1 +00.4	S	12 06.3 +00.5	112 27.9 -26.7	N	05 42.6 +14.8	02			
03	225 54.0 -00.3	S	23 23.0 +00.0	272 43.5 +00.3	S	12 06.8 +00.6	127 01.2 -26.8	N	05 57.4 +14.9	03			
04	240 53.7 -00.3	S	23 23.0 +00.1	287 43.8 +00.3	S	12 07.4 +00.5	141 34.4 -26.9	N	06 12.3 +14.8	04			
05	255 53.4 -00.3	S	23 23.1 +00.1	302 44.1 +00.3	S	12 07.9 +00.6	156 07.5 -26.9	N	06 27.1 +14.9	05			
06	270 53.1 -00.3	S	23 23.2 +00.0	317 44.4 +00.3	S	12 08.5 +00.5	170 40.6 -27.1	N	06 42.0 +14.8	06			
07	285 52.8 -00.3	S	23 23.2 +00.1	332 44.7 +00.4	S	12 09.0 +00.5	185 13.5 -27.0	N	06 56.8 +14.8	07			
08	300 52.5 -00.3	S	23 23.3 +00.1	347 45.1 +00.3	S	12 09.5 +00.6	199 46.5 -27.2	N	07 11.6 +14.8	08			
09	315 52.2 -00.3	S	23 23.4 +00.1	2 45.4 +00.3	S	12 10.1 +00.5	214 19.3 -27.2	N	07 26.4 +14.8	09			
10	330 51.9 -00.3	S	23 23.5 +00.0	17 45.7 +00.3	S	12 10.6 +00.6	228 52.1 -27.3	N	07 41.2 +14.8	10			
11	345 51.6 -00.4	S	23 23.5 +00.1	32 46.0 +00.3	S	12 11.2 +00.5	243 24.8 -27.4	N	07 56.0 +14.7	11			
12	0 51.2 -00.3	S	23 23.6 +00.0	47 46.3 +00.3	S	12 11.7 +00.6	257 57.4 -27.5	N	08 10.7 +14.8	12			
13	15 50.9 -00.3	S	23 23.6 +00.1	62 46.6 +00.4	S	12 12.3 +00.5	272 29.9 -27.6	N	08 25.5 +14.7	13			
14	30 50.6 -00.3	S	23 23.7 +00.1	77 47.0 +00.3	S	12 12.8 +00.6	287 02.3 -27.6	N	08 40.2 +14.7	14			
15	45 50.3 -00.3	S	23 23.8 +00.0	92 47.3 +00.3	S	12 13.4 +00.5	301 34.7 -27.7	N	08 54.9 +14.7	15			
16	60 50.0 -00.3	S	23 23.8 +00.1	107 47.6 +00.3	S	12 13.9 +00.6	316 07.0 -27.8	N	09 09.6 +14.7	16			
17	75 49.7 -00.3	S	23 23.9 +00.1	122 47.9 +00.3	S	12 14.5 +00.5	330 39.2 -27.9	N	09 24.3 +14.6	17			
18	90 49.4 -00.3	S	23 24.0 +00.0	137 48.2 +00.3	S	12 15.0 +00.6	345 11.3 -27.9	N	09 38.9 +14.7	18			
19	105 49.1 -00.3	S	23 24.0 +00.1	152 48.5 +00.3	S	12 15.6 +00.5	359 43.4 -28.1	N	09 53.6 +14.6	19			
20	120 48.8 -00.3	S	23 24.1 +00.0	167 48.8 +00.3	S	12 16.1 +00.6	14 15.3 -28.2	N	10 08.2 +14.5	20			
21	135 48.5 -00.3	S	23 24.1 +00.1	182 49.1 +00.3	S	12 16.7 +00.5	28 47.1 -28.2	N	10 22.7 +14.6	21			
22	150 48.2 -00.3	S	23 24.2 +00.1	197 49.4 +00.3	S	12 17.2 +00.6	43 18.9 -28.3	N	10 37.3 +14.5	22			
23	165 47.9 -00.3	S	23 24.3 +00.0	212 49.7 +00.3	S	12 17.8 +00.5	57 50.6 -28.5	N	10 51.8 +14.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 15'5 15'6 15'6 15'6 15'7 15'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 56'9 57'1 57'2 57'4 57'5 57'7						
	SHA 094° 094° 094° 094° 093° 093°			SHA 141° 141° 141° 141° 140° 140°			SHA 356° 354° 352° 350° 348° 346°						
	Greenwich Culmination Time: 11:56			Greenwich Culmination Time: 08:48			Greenwich Culmination Time: 19:01						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	286 34.9 +01.8	N	11 26.8 -00.2	297 07.3 +02.5	N	13 20.2 +00.0	78 18.5 +02.4	N	00 51.1 +00.0	00			
01	301 36.7 +01.9	N	11 26.6 -00.2	312 09.8 +02.5	N	13 20.2 +00.1	93 20.9 +02.4	N	00 51.1 +00.1	01			
02	316 38.6 +01.8	N	11 26.4 -00.1	327 12.3 +02.5	N	13 20.3 +00.0	108 23.3 +02.5	N	00 51.2 +00.0	02			
03	331 40.4 +01.8	N	11 26.3 -00.2	342 14.8 +02.5	N	13 20.3 +00.0	123 25.8 +02.4	N	00 51.2 +00.0	03			
04	346 42.2 +01.9	N	11 26.1 -00.1	357 17.3 +02.5	N	13 20.3 +00.0	138 28.2 +02.5	N	00 51.2 +00.0	04			
05	1 44.1 +01.8	N	11 26.0 -00.2	12 19.8 +02.5	N	13 20.3 +00.1	153 30.7 +02.4	N	00 51.2 +00.1	05			
06	16 45.9 +01.9	N	11 25.8 -00.1	27 22.3 +02.5	N	13 20.4 +00.0	168 33.1 +02.4	N	00 51.3 +00.0	06			
07	31 47.8 +01.8	N	11 25.7 -00.2	42 24.8 +02.5	N	13 20.4 +00.0	183 35.5 +02.5	N	00 51.3 +00.0	07			
08	46 49.6 +01.9	N	11 25.5 -00.2	57 27.3 +02.5	N	13 20.4 +00.0	198 38.0 +02.4	N	00 51.3 +00.0	08			
09	61 51.5 +01.8	N	11 25.3 -00.1	72 29.8 +02.5	N	13 20.4 +00.1	213 40.4 +02.5	N	00 51.3 +00.0	09			
10	76 53.3 +01.9	N	11 25.2 -00.2	87 32.3 +02.5	N	13 20.5 +00.0	228 42.9 +02.4	N	00 51.3 +00.1	10			
11	91 55.2 +01.8	N	11 25.0 -00.1	102 34.8 +02.5	N	13 20.5 +00.0	243 45.3 +02.4	N	00 51.4 +00.0	11			
12	106 57.0 +01.9	N	11 24.9 -00.2	117 37.3 +02.5	N	13 20.5 +00.0	258 47.7 +02.5	N	00 51.4 +00.0	12			
13	121 58.9 +01.9	N	11 24.7 -00.1	132 39.8 +02.5	N	13 20.5 +00.1	273 50.2 +02.4	N	00 51.4 +00.0	13			
14	137 00.8 +01.8	N	11 24.6 -00.2	147 42.3 +02.5	N	13 20.6 +00.0	288 52.6 +02.4	N	00 51.4 +00.1	14			
15	152 02.6 +01.9	N	11 24.4 -00.2	162 44.8 +02.6	N	13 20.6 +00.0	303 55.0 +02.5	N	00 51.5 +00.0	15			
16	167 04.5 +01.8	N	11 24.2 -00.1	177 47.4 +02.5	N	13 20.6 +00.0	318 57.5 +02.4	N	00 51.5 +00.0	16			
17	182 06.3 +01.9	N	11 24.1 -00.2	192 49.9 +02.5	N	13 20.6 +00.1	333 59.9 +02.4	N	00 51.5 +00.0	17			
18	197 08.2 +01.8	N	11 23.9 -00.1	207 52.4 +02.5	N	13 20.7 +00.0	349 02.3 +02.5	N	00 51.5 +00.1	18			
19	212 10.0 +01.9	N	11 23.8 -00.2	222 54.9 +02.5	N	13 20.7 +00.0	4 04.8 +02.4	N	00 51.6 +00.0	19			
20	227 11.9 +01.9	N	11 23.6 -00.1	237 57.4 +02.5	N	13 20.7 +00.0	19 07.2 +02.4	N	00 51.6 +00.0	20			
21	242 13.8 +01.8	N	11 23.5 -00.2	252 59.9 +02.5	N	13 20.7 +00.1	34 09.6 +02.5	N	00 51.6 +00.0	21			
22	257 15.6 +01.9	N	11 23.3 -00.1	268 02.4 +02.5	N	13 20.8 +00.0	49 12.1 +02.4	N	00 51.6 +00.1	22			
23	272 17.5 +01.8	N	11 23.2 -00.2	283 04.9 +02.5	N	13 20.8 +00.0	64 14.5 +02.5	N	00 51.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 200° 200° 200° 200° 200° 200°			SHA 210° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 04:53			Greenwich Culmination Time: 04:10			Greenwich Culmination Time: 18:43						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 47.6 -00.4	S	23 24.3 +00.1	227 50.0 +00.3	S	12 18.3 +00.6	72 22.1 -28.5	N	11 06.3 +14.4	00			
01	195 47.2 -00.3	S	23 24.4 +00.0	242 50.3 +00.3	S	12 18.9 +00.5	86 53.6 -28.6	N	11 20.7 +14.4	01			
02	210 46.9 -00.3	S	23 24.4 +00.1	257 50.6 +00.3	S	12 19.4 +00.6	101 25.0 -28.7	N	11 35.1 +14.4	02			
03	225 46.6 -00.3	S	23 24.5 +00.0	272 50.9 +00.3	S	12 20.0 +00.5	115 56.3 -28.9	N	11 49.5 +14.4	03			
04	240 46.3 -00.3	S	23 24.5 +00.1	287 51.2 +00.3	S	12 20.5 +00.6	130 27.4 -28.9	N	12 03.9 +14.3	04			
05	255 46.0 -00.3	S	23 24.6 +00.0	302 51.5 +00.3	S	12 21.1 +00.5	144 58.5 -29.0	N	12 18.2 +14.3	05			
06	270 45.7 -00.3	S	23 24.6 +00.1	317 51.8 +00.3	S	12 21.6 +00.6	159 29.5 -29.2	N	12 32.5 +14.2	06			
07	285 45.4 -00.3	S	23 24.7 +00.0	332 52.1 +00.3	S	12 22.2 +00.6	174 00.3 -29.2	N	12 46.7 +14.2	07			
08	300 45.1 -00.3	S	23 24.7 +00.1	347 52.4 +00.2	S	12 22.8 +00.5	188 31.1 -29.3	N	13 00.9 +14.1	08			
09	315 44.8 -00.3	S	23 24.8 +00.0	2 52.6 +00.3	S	12 23.3 +00.6	203 01.8 -29.5	N	13 15.0 +14.1	09			
10	330 44.5 -00.3	S	23 24.8 +00.1	17 52.9 +00.3	S	12 23.9 +00.5	217 32.3 -29.6	N	13 29.1 +14.1	10			
11	345 44.2 -00.3	S	23 24.9 +00.0	32 53.2 +00.3	S	12 24.4 +00.6	232 02.7 -29.6	N	13 43.2 +14.0	11			
12	0 43.9 -00.3	S	23 24.9 +00.1	47 53.5 +00.3	S	12 25.0 +00.5	246 33.1 -29.8	N	13 57.2 +14.0	12			
13	15 43.6 -00.4	S	23 25.0 +00.0	62 53.8 +00.3	S	12 25.5 +00.6	261 03.3 -29.9	N	14 11.2 +13.9	13			
14	30 43.2 -00.3	S	23 25.0 +00.1	77 54.1 +00.2	S	12 26.1 +00.6	275 33.4 -30.1	N	14 25.1 +13.8	14			
15	45 42.9 -00.3	S	23 25.1 +00.0	92 54.3 +00.3	S	12 26.7 +00.5	290 03.3 -30.1	N	14 38.9 +13.8	15			
16	60 42.6 -00.3	S	23 25.1 +00.1	107 54.6 +00.3	S	12 27.2 +00.6	304 33.2 -30.2	N	14 52.7 +13.8	16			
17	75 42.3 -00.3	S	23 25.2 +00.0	122 54.9 +00.3	S	12 27.8 +00.5	319 03.0 -30.4	N	15 06.5 +13.6	17			
18	90 42.0 -00.3	S	23 25.2 +00.0	137 55.2 +00.3	S	12 28.3 +00.6	333 32.6 -30.5	N	15 20.1 +13.7	18			
19	105 41.7 -00.3	S	23 25.2 +00.1	152 55.5 +00.2	S	12 28.9 +00.5	348 02.1 -30.6	N	15 33.8 +13.5	19			
20	120 41.4 -00.3	S	23 25.3 +00.0	167 55.7 +00.3	S	12 29.4 +00.6	2 31.5 -30.8	N	15 47.3 +13.5	20			
21	135 41.1 -00.3	S	23 25.3 +00.1	182 56.0 +00.3	S	12 30.0 +00.6	17 00.7 -30.8	N	16 00.8 +13.4	21			
22	150 40.8 -00.3	S	23 25.4 +00.0	197 56.3 +00.2	S	12 30.6 +00.5	31 29.9 -31.0	N	16 14.2 +13.4	22			
23	165 40.5 -00.3	S	23 25.4 +00.0	212 56.5 +00.3	S	12 31.1 +00.6	45 58.9 -31.1	N	16 27.6 +13.3	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'3 00'2 00'2 00'2 00'2 00'2			SD 15'8 15'8 15'9 15'9 15'9 16'0						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 57'9 58'0 58'2 58'4 58'5 58'7						
	SHA 093° 093° 093° 093° 092° 092°			SHA 140° 140° 140° 140° 140° 139°			SHA 344° 342° 340° 337° 335° 333°						
	Greenwich Culmination Time: 11:57			Greenwich Culmination Time: 08:48			Greenwich Culmination Time: 19:49						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	287 19.3 +01.9	N	11 23.0 -00.1	298 07.4 +02.5	N	13 20.8 +00.0	79 17.0 +02.4	N	00 51.7 +00.0	00			
01	302 21.2 +01.9	N	11 22.9 -00.2	313 09.9 +02.5	N	13 20.8 +00.1	94 19.4 +02.4	N	00 51.7 +00.0	01			
02	317 23.1 +01.8	N	11 22.7 -00.1	328 12.4 +02.5	N	13 20.9 +00.0	109 21.8 +02.5	N	00 51.7 +00.1	02			
03	332 24.9 +01.9	N	11 22.6 -00.2	343 14.9 +02.5	N	13 20.9 +00.0	124 24.3 +02.4	N	00 51.8 +00.0	03			
04	347 26.8 +01.9	N	11 22.4 -00.1	358 17.4 +02.5	N	13 20.9 +00.0	139 26.7 +02.4	N	00 51.8 +00.0	04			
05	2 28.7 +01.8	N	11 22.3 -00.2	13 19.9 +02.6	N	13 20.9 +00.1	154 29.1 +02.5	N	00 51.8 +00.0	05			
06	17 30.5 +01.9	N	11 22.1 -00.1	28 22.5 +02.5	N	13 21.0 +00.0	169 31.6 +02.4	N	00 51.8 +00.1	06			
07	32 32.4 +01.9	N	11 22.0 -00.2	43 25.0 +02.5	N	13 21.0 +00.0	184 34.0 +02.4	N	00 51.9 +00.0	07			
08	47 34.3 +01.9	N	11 21.8 -00.1	58 27.5 +02.5	N	13 21.0 +00.1	199 36.4 +02.5	N	00 51.9 +00.0	08			
09	62 36.2 +01.8	N	11 21.7 -00.2	73 30.0 +02.5	N	13 21.1 +00.0	214 38.9 +02.4	N	00 51.9 +00.0	09			
10	77 38.0 +01.9	N	11 21.5 -00.1	88 32.5 +02.5	N	13 21.1 +00.0	229 41.3 +02.4	N	00 51.9 +00.1	10			
11	92 39.9 +01.9	N	11 21.4 -00.2	103 35.0 +02.5	N	13 21.1 +00.0	244 43.7 +02.5	N	00 52.0 +00.0	11			
12	107 41.8 +01.8	N	11 21.2 -00.1	118 37.5 +02.5	N	13 21.1 +00.1	259 46.2 +02.4	N	00 52.0 +00.0	12			
13	122 43.6 +01.9	N	11 21.1 -00.2	133 40.0 +02.5	N	13 21.2 +00.0	274 48.6 +02.4	N	00 52.0 +00.0	13			
14	137 45.5 +01.9	N	11 20.9 -00.1	148 42.5 +02.6	N	13 21.2 +00.0	289 51.0 +02.5	N	00 52.0 +00.1	14			
15	152 47.4 +01.9	N	11 20.8 -00.2	163 45.1 +02.5	N	13 21.2 +00.0	304 53.5 +02.4	N	00 52.1 +00.0	15			
16	167 49.3 +01.9	N	11 20.6 -00.1	178 47.6 +02.5	N	13 21.2 +00.1	319 55.9 +02.4	N	00 52.1 +00.0	16			
17	182 51.2 +01.8	N	11 20.5 -00.2	193 50.1 +02.5	N	13 21.3 +00.0	334 58.3 +02.4	N	00 52.1 +00.0	17			
18	197 53.0 +01.9	N	11 20.3 -00.1	208 52.6 +02.5	N	13 21.3 +00.0	350 00.7 +02.5	N	00 52.1 +00.1	18			
19	212 54.9 +01.9	N	11 20.2 -00.2	223 55.1 +02.5	N	13 21.3 +00.1	5 03.2 +02.4	N	00 52.2 +00.0	19			
20	227 56.8 +01.9	N	11 20.0 -00.1	238 57.6 +02.5	N	13 21.4 +00.0	20 05.6 +02.4	N	00 52.2 +00.0	20			
21	242 58.7 +01.9	N	11 19.9 -00.2	254 00.1 +02.5	N	13 21.4 +00.0	35 08.0 +02.5	N	00 52.2 +00.0	21			
22	258 00.6 +01.8	N	11 19.7 -00.1	269 02.6 +02.6	N	13 21.4 +00.1	50 10.5 +02.4	N	00 52.2 +00.1	22			
23	273 02.4 +01.9	N	11 19.6 -00.1	284 05.2 +02.5	N	13 21.5 +00.0	65 12.9 +02.4	N	00 52.3 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 200° 200° 200° 200° 200° 199°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 04:50			Greenwich Culmination Time: 04:06			Greenwich Culmination Time: 18:39						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 40.2 -00.3	S	23 25.4 +00.1	227 56.8 +00.3	S	12 31.7 +00.5	60 27.8 -31.2	N	16 40.9 +13.2				
01	195 39.9 -00.4	S	23 25.5 +00.0	242 57.1 +00.2	S	12 32.2 +00.6	74 56.6 -31.4	N	16 54.1 +13.2				
02	210 39.5 -00.3	S	23 25.5 +00.0	257 57.3 +00.3	S	12 32.8 +00.6	89 25.2 -31.5	N	17 07.3 +13.0				
03	225 39.2 -00.3	S	23 25.5 +00.1	272 57.6 +00.3	S	12 33.4 +00.5	103 53.7 -31.6	N	17 20.3 +13.0				
04	240 38.9 -00.3	S	23 25.6 +00.0	287 57.9 +00.2	S	12 33.9 +00.6	118 22.1 -31.8	N	17 33.3 +12.9				
05	255 38.6 -00.3	S	23 25.6 +00.0	302 58.1 +00.3	S	12 34.5 +00.6	132 50.3 -31.9	N	17 46.2 +12.9				
06	270 38.3 -00.3	S	23 25.6 +00.1	317 58.4 +00.3	S	12 35.1 +00.5	147 18.4 -32.0	N	17 59.1 +12.7				
07	285 38.0 -00.3	S	23 25.7 +00.0	332 58.7 +00.2	S	12 35.6 +00.6	161 46.4 -32.1	N	18 11.8 +12.7				
08	300 37.7 -00.3	S	23 25.7 +00.0	347 58.9 +00.3	S	12 36.2 +00.6	176 14.3 -32.3	N	18 24.5 +12.6				
09	315 37.4 -00.3	S	23 25.7 +00.1	2 59.2 +00.2	S	12 36.8 +00.5	190 42.0 -32.5	N	18 37.1 +12.5				
10	330 37.1 -00.3	S	23 25.8 +00.0	17 59.4 +00.3	S	12 37.3 +00.6	205 09.5 -32.5	N	18 49.6 +12.4				
11	345 36.8 -00.3	S	23 25.8 +00.0	32 59.7 +00.2	S	12 37.9 +00.5	219 37.0 -32.7	N	19 02.0 +12.3				
12	0 36.5 -00.4	S	23 25.8 +00.0	47 59.9 +00.3	S	12 38.4 +00.6	234 04.3 -32.9	N	19 14.3 +12.2				
13	15 36.1 -00.3	S	23 25.8 +00.1	63 00.2 +00.3	S	12 39.0 +00.6	248 31.4 -32.9	N	19 26.5 +12.1				
14	30 35.8 -00.3	S	23 25.9 +00.0	78 00.5 +00.2	S	12 39.6 +00.5	262 58.5 -33.1	N	19 38.6 +12.0				
15	45 35.5 -00.3	S	23 25.9 +00.0	93 00.7 +00.3	S	12 40.1 +00.6	277 25.4 -33.3	N	19 50.6 +11.9				
16	60 35.2 -00.3	S	23 25.9 +00.0	108 01.0 +00.2	S	12 40.7 +00.6	291 52.1 -33.4	N	20 02.5 +11.8				
17	75 34.9 -00.3	S	23 25.9 +00.1	123 01.2 +00.2	S	12 41.3 +00.5	306 18.7 -33.5	N	20 14.3 +11.7				
18	90 34.6 -00.3	S	23 26.0 +00.0	138 01.4 +00.3	S	12 41.8 +00.6	320 45.2 -33.7	N	20 26.0 +11.6				
19	105 34.3 -00.3	S	23 26.0 +00.0	153 01.7 +00.2	S	12 42.4 +00.6	335 11.5 -33.8	N	20 37.6 +11.5				
20	120 34.0 -00.3	S	23 26.0 +00.0	168 01.9 +00.3	S	12 43.0 +00.6	349 37.7 -34.0	N	20 49.1 +11.4				
21	135 33.7 -00.3	S	23 26.0 +00.0	183 02.2 +00.2	S	12 43.6 +00.5	4 03.7 -34.1	N	21 00.5 +11.3				
22	150 33.4 -00.3	S	23 26.0 +00.1	198 02.4 +00.3	S	12 44.1 +00.6	18 29.6 -34.2	N	21 11.8 +11.1				
23	165 33.1 -00.4	S	23 26.1 +00.0	213 02.7 +00.2	S	12 44.7 +00.6	32 55.4 -34.4	N	21 22.9 +11.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 16'0 16'1 16'1 16'2 16'2 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 58'8 59'0 59'2 59'3 59'5 59'6						
	SHA 092° 092° 092° 091° 091° 091°			SHA 139° 139° 139° 139° 139° 139°			SHA 331° 328° 326° 324° 321° 319°						
	Greenwich Culmination Time: 11:57			Greenwich Culmination Time: 08:48			Greenwich Culmination Time: 20:43						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	288 04.3 +01.9	N	11 19.5 -00.2	299 07.7 +02.5	N	13 21.5 +00.0	80 15.3 +02.5	N	00 52.3 +00.0				
01	303 06.2 +01.9	N	11 19.3 -00.1	314 10.2 +02.5	N	13 21.5 +00.0	95 17.8 +02.4	N	00 52.3 +00.0				
02	318 08.1 +01.9	N	11 19.2 -00.2	329 12.7 +02.5	N	13 21.5 +00.1	110 20.2 +02.4	N	00 52.3 +00.1				
03	333 10.0 +01.9	N	11 19.0 -00.1	344 15.2 +02.5	N	13 21.6 +00.0	125 22.6 +02.5	N	00 52.4 +00.0				
04	348 11.9 +01.8	N	11 18.9 -00.2	359 17.7 +02.6	N	13 21.6 +00.0	140 25.1 +02.4	N	00 52.4 +00.0				
05	3 13.7 +01.9	N	11 18.7 -00.1	14 20.3 +02.5	N	13 21.6 +00.1	155 27.5 +02.4	N	00 52.4 +00.0				
06	18 15.6 +01.9	N	11 18.6 -00.1	29 22.8 +02.5	N	13 21.7 +00.0	170 29.9 +02.4	N	00 52.4 +00.1				
07	33 17.5 +01.9	N	11 18.5 -00.2	44 25.3 +02.5	N	13 21.7 +00.0	185 32.3 +02.5	N	00 52.5 +00.0				
08	48 19.4 +01.9	N	11 18.3 -00.1	59 27.8 +02.5	N	13 21.7 +00.0	200 34.8 +02.4	N	00 52.5 +00.0				
09	63 21.3 +01.9	N	11 18.2 -00.2	74 30.3 +02.5	N	13 21.7 +00.1	215 37.2 +02.4	N	00 52.5 +00.0				
10	78 23.2 +01.9	N	11 18.0 -00.1	89 32.8 +02.6	N	13 21.8 +00.0	230 39.6 +02.5	N	00 52.5 +00.1				
11	93 25.1 +01.9	N	11 17.9 -00.2	104 35.4 +02.5	N	13 21.8 +00.0	245 42.1 +02.4	N	00 52.6 +00.0				
12	108 27.0 +01.9	N	11 17.7 -00.1	119 37.9 +02.5	N	13 21.8 +00.1	260 44.5 +02.4	N	00 52.6 +00.0				
13	123 28.9 +01.9	N	11 17.6 -00.1	134 40.4 +02.5	N	13 21.9 +00.0	275 46.9 +02.4	N	00 52.6 +00.1				
14	138 30.8 +01.9	N	11 17.5 -00.2	149 42.9 +02.5	N	13 21.9 +00.0	290 49.3 +02.5	N	00 52.7 +00.0				
15	153 32.7 +01.9	N	11 17.3 -00.1	164 45.4 +02.6	N	13 21.9 +00.1	305 51.8 +02.4	N	00 52.7 +00.0				
16	168 34.6 +01.9	N	11 17.2 -00.1	179 48.0 +02.5	N	13 22.0 +00.0	320 54.2 +02.4	N	00 52.7 +00.0				
17	183 36.5 +01.9	N	11 17.1 -00.2	194 50.5 +02.5	N	13 22.0 +00.0	335 56.6 +02.5	N	00 52.7 +00.1				
18	198 38.4 +01.9	N	11 16.9 -00.1	209 53.0 +02.5	N	13 22.0 +00.1	350 59.1 +02.4	N	00 52.8 +00.0				
19	213 40.3 +01.9	N	11 16.8 -00.2	224 55.5 +02.6	N	13 22.1 +00.0	6 01.5 +02.4	N	00 52.8 +00.0				
20	228 42.2 +01.9	N	11 16.6 -00.1	239 58.1 +02.5	N	13 22.1 +00.0	21 03.9 +02.4	N	00 52.8 +00.0				
21	243 44.1 +01.9	N	11 16.5 -00.1	255 00.6 +02.5	N	13 22.1 +00.0	36 06.3 +02.5	N	00 52.8 +00.1				
22	258 46.0 +01.9	N	11 16.4 -00.2	270 03.1 +02.5	N	13 22.1 +00.1	51 08.8 +02.4	N	00 52.9 +00.0				
23	273 47.9 +01.9	N	11 16.2 -00.1	285 05.6 +02.5	N	13 22.2 +00.0	66 11.2 +02.4	N	00 52.9 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 199° 199° 199° 199° 199° 199°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 04:47			Greenwich Culmination Time: 04:02			Greenwich Culmination Time: 18:35						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 32.7 -00.3	S	23 26.1 +00.0	228 02.9 +00.2	S	12 45.3 +00.5	47 21.0 -34.5	N	21 33.9 +10.9				
01	195 32.4 -00.3	S	23 26.1 +00.0	243 03.1 +00.3	S	12 45.8 +00.6	61 46.5 -34.7	N	21 44.8 +10.8				
02	210 32.1 -00.3	S	23 26.1 +00.0	258 03.4 +00.2	S	12 46.4 +00.6	76 11.8 -34.8	N	21 55.6 +10.7				
03	225 31.8 -00.3	S	23 26.1 +00.0	273 03.6 +00.2	S	12 47.0 +00.5	90 37.0 -35.0	N	22 06.3 +10.5				
04	240 31.5 -00.3	S	23 26.1 +00.0	288 03.8 +00.3	S	12 47.5 +00.6	105 02.0 -35.1	N	22 16.8 +10.4				
05	255 31.2 -00.3	S	23 26.1 +00.1	303 04.1 +00.2	S	12 48.1 +00.6	119 26.9 -35.2	N	22 27.2 +10.2				
06	270 30.9 -00.3	S	23 26.2 +00.0	318 04.3 +00.2	S	12 48.7 +00.6	133 51.7 -35.4	N	22 37.4 +10.2				
07	285 30.6 -00.3	S	23 26.2 +00.0	333 04.5 +00.3	S	12 49.3 +00.5	148 16.3 -35.5	N	22 47.6 +10.0				
08	300 30.3 -00.3	S	23 26.2 +00.0	348 04.8 +00.2	S	12 49.8 +00.6	162 40.8 -35.7	N	22 57.6 +09.8				
09	315 30.0 -00.3	S	23 26.2 +00.0	3 05.0 +00.2	S	12 50.4 +00.6	177 05.1 -35.8	N	23 07.4 +09.7				
10	330 29.7 -00.4	S	23 26.2 +00.0	18 05.2 +00.3	S	12 51.0 +00.5	191 29.3 -35.9	N	23 17.1 +09.6				
11	345 29.3 -00.3	S	23 26.2 +00.0	33 05.5 +00.2	S	12 51.5 +00.6	205 53.4 -36.1	N	23 26.7 +09.4				
12	0 29.0 -00.3	S	23 26.2 +00.0	48 05.7 +00.2	S	12 52.1 +00.6	220 17.3 -36.2	N	23 36.1 +09.3				
13	15 28.7 -00.3	S	23 26.2 +00.0	63 05.9 +00.2	S	12 52.7 +00.6	234 41.1 -36.4	N	23 45.4 +09.1				
14	30 28.4 -00.3	S	23 26.2 +00.0	78 06.1 +00.3	S	12 53.3 +00.5	249 04.7 -36.5	N	23 54.5 +09.0				
15	45 28.1 -00.3	S	23 26.2 +00.0	93 06.4 +00.2	S	12 53.8 +00.6	263 28.2 -36.6	N	24 03.5 +08.8				
16	60 27.8 -00.3	S	23 26.2 +00.0	108 06.6 +00.2	S	12 54.4 +00.6	277 51.6 -36.8	N	24 12.3 +08.7				
17	75 27.5 -00.3	S	23 26.2 +00.0	123 06.8 +00.2	S	12 55.0 +00.6	292 14.8 -36.9	N	24 21.0 +08.5				
18	90 27.2 -00.3	S	23 26.2 +00.0	138 07.0 +00.2	S	12 55.6 +00.5	306 37.9 -37.0	N	24 29.5 +08.3				
19	105 26.9 -00.3	S	23 26.2 +00.0	153 07.2 +00.2	S	12 56.1 +00.6	321 00.9 -37.2	N	24 37.8 +08.2				
20	120 26.6 -00.4	S	23 26.2 +00.0	168 07.4 +00.3	S	12 56.7 +00.6	335 23.7 -37.3	N	24 46.0 +08.0				
21	135 26.2 -00.3	S	23 26.2 +00.0	183 07.7 +00.2	S	12 57.3 +00.6	349 46.4 -37.4	N	24 54.0 +07.8				
22	150 25.9 -00.3	S	23 26.2 +00.0	198 07.9 +00.2	S	12 57.9 +00.5	4 09.0 -37.6	N	25 01.8 +07.7				
23	165 25.6 -00.3	S	23 26.2 +00.0	213 08.1 +00.2	S	12 58.4 +00.6	18 31.4 -37.7	N	25 09.5 +07.5				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 16'3 16'3 16'4 16'4 16'4 16'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 59'8 59'9 60'1 60'2 60'3 60'5						
	SHA 091° 091° 091° 090° 090° 090°			SHA 138° 138° 138° 138° 138° 138°			SHA 317° 314° 311° 309° 306° 304°						
	Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 08:47			Greenwich Culmination Time: 21:42						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	288 49.8 +01.9	N	11 16.1 -00.1	300 08.1 +02.6	N	13 22.2 +00.0	81 13.6 +02.4	N	00 52.9 +00.1				
01	303 51.7 +01.9	N	11 16.0 -00.2	315 10.7 +02.5	N	13 22.2 +00.1	96 16.0 +02.5	N	00 53.0 +00.0				
02	318 53.6 +01.9	N	11 15.8 -00.1	330 13.2 +02.5	N	13 22.3 +00.0	111 18.5 +02.4	N	00 53.0 +00.0				
03	333 55.5 +01.9	N	11 15.7 -00.1	345 15.7 +02.5	N	13 22.3 +00.0	126 20.9 +02.4	N	00 53.0 +00.0				
04	348 57.4 +01.9	N	11 15.6 -00.2	0 18.2 +02.6	N	13 22.3 +00.1	141 23.3 +02.4	N	00 53.0 +00.1				
05	3 59.3 +01.9	N	11 15.4 -00.1	15 20.8 +02.5	N	13 22.4 +00.0	156 25.7 +02.5	N	00 53.1 +00.0				
06	19 01.2 +01.9	N	11 15.3 -00.1	30 23.3 +02.5	N	13 22.4 +00.0	171 28.2 +02.4	N	00 53.1 +00.0				
07	34 03.1 +01.9	N	11 15.2 -00.2	45 25.8 +02.5	N	13 22.4 +00.1	186 30.6 +02.4	N	00 53.1 +00.1				
08	49 05.0 +02.0	N	11 15.0 -00.1	60 28.3 +02.6	N	13 22.5 +00.0	201 33.0 +02.4	N	00 53.2 +00.0				
09	64 07.0 +01.9	N	11 14.9 -00.1	75 30.9 +02.5	N	13 22.5 +00.0	216 35.4 +02.5	N	00 53.2 +00.0				
10	79 08.9 +01.9	N	11 14.8 -00.2	90 33.4 +02.5	N	13 22.5 +00.1	231 37.9 +02.4	N	00 53.2 +00.0				
11	94 10.8 +01.9	N	11 14.6 -00.1	105 35.9 +02.5	N	13 22.6 +00.0	246 40.3 +02.4	N	00 53.2 +00.1				
12	109 12.7 +01.9	N	11 14.5 -00.1	120 38.4 +02.6	N	13 22.6 +00.0	261 42.7 +02.4	N	00 53.3 +00.0				
13	124 14.6 +01.9	N	11 14.4 -00.2	135 41.0 +02.5	N	13 22.6 +00.1	276 45.1 +02.5	N	00 53.3 +00.0				
14	139 16.5 +02.0	N	11 14.2 -00.1	150 43.5 +02.5	N	13 22.7 +00.0	291 47.6 +02.4	N	00 53.3 +00.1				
15	154 18.5 +01.9	N	11 14.1 -00.1	165 46.0 +02.6	N	13 22.7 +00.0	306 50.0 +02.4	N	00 53.4 +00.0				
16	169 20.4 +01.9	N	11 14.0 -00.2	180 48.6 +02.5	N	13 22.7 +00.1	321 52.4 +02.4	N	00 53.4 +00.0				
17	184 22.3 +01.9	N	11 13.8 -00.1	195 51.1 +02.5	N	13 22.8 +00.0	336 54.8 +02.5	N	00 53.4 +00.0				
18	199 24.2 +01.9	N	11 13.7 -00.1	210 53.6 +02.5	N	13 22.8 +00.0	351 57.3 +02.4	N	00 53.4 +00.1				
19	214 26.1 +02.0	N	11 13.6 -00.1	225 56.1 +02.6	N	13 22.8 +00.1	6 59.7 +02.4	N	00 53.5 +00.0				
20	229 28.1 +01.9	N	11 13.5 -00.2	240 58.7 +02.5	N	13 22.9 +00.0	22 02.1 +02.4	N	00 53.5 +00.0				
21	244 30.0 +01.9	N	11 13.3 -00.1	256 01.2 +02.5	N	13 22.9 +00.0	37 04.5 +02.5	N	00 53.5 +00.1				
22	259 31.9 +01.9	N	11 13.2 -00.1	271 03.7 +02.6	N	13 22.9 +00.1	52 07.0 +02.4	N	00 53.6 +00.0				
23	274 33.8 +02.0	N	11 13.1 -00.2	286 06.3 +02.5	N	13 23.0 +00.0	67 09.4 +02.4	N	00 53.6 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'2 00'2 00'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 199° 199° 199° 199° 199° 199°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 04:44			Greenwich Culmination Time: 03:58			Greenwich Culmination Time: 18:32						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 25.3 -00.3	S	23 26.2 +00.0	228 08.3 +00.2	S	12 59.0 +00.6	32 53.7 -37.8	N	25 17.0 +07.3				
01	195 25.0 -00.3	S	23 26.2 +00.0	243 08.5 +00.2	S	12 59.6 +00.6	47 15.9 -37.9	N	25 24.3 +07.2				
02	210 24.7 -00.3	S	23 26.2 +00.0	258 08.7 +00.2	S	13 00.2 +00.6	61 38.0 -38.0	N	25 31.5 +06.9				
03	225 24.4 -00.3	S	23 26.2 +00.0	273 08.9 +00.2	S	13 00.8 +00.5	75 60.0 -38.2	N	25 38.4 +06.8				
04	240 24.1 -00.3	S	23 26.2 +00.0	288 09.1 +00.2	S	13 01.3 +00.6	90 21.8 -38.3	N	25 45.2 +06.6				
05	255 23.8 -00.3	S	23 26.2 +00.0	303 09.3 +00.2	S	13 01.9 +00.6	104 43.5 -38.4	N	25 51.8 +06.5				
06	270 23.5 -00.4	S	23 26.2 +00.0	318 09.5 +00.2	S	13 02.5 +00.6	119 05.1 -38.5	N	25 58.3 +06.2				
07	285 23.1 -00.3	S	23 26.2 +00.0	333 09.7 +00.2	S	13 03.1 +00.6	133 26.6 -38.7	N	26 04.5 +06.1				
08	300 22.8 -00.3	S	23 26.2 +00.0	348 09.9 +00.2	S	13 03.7 +00.5	147 47.9 -38.7	N	26 10.6 +05.8				
09	315 22.5 -00.3	S	23 26.2 +00.0	3 10.1 +00.2	S	13 04.2 +00.6	162 09.2 -38.8	N	26 16.4 +05.7				
10	330 22.2 -00.3	S	23 26.2 +00.0	18 10.3 +00.2	S	13 04.8 +00.6	176 30.4 -39.0	N	26 22.1 +05.5				
11	345 21.9 -00.3	S	23 26.2 +00.0	33 10.5 +00.2	S	13 05.4 +00.6	190 51.4 -39.0	N	26 27.6 +05.3				
12	0 21.6 -00.3	S	23 26.2 -00.1	48 10.7 +00.2	S	13 06.0 +00.6	205 12.4 -39.2	N	26 32.9 +05.0				
13	15 21.3 -00.3	S	23 26.1 +00.0	63 10.9 +00.2	S	13 06.6 +00.5	219 33.2 -39.2	N	26 37.9 +04.9				
14	30 21.0 -00.3	S	23 26.1 +00.0	78 11.1 +00.2	S	13 07.1 +00.6	233 54.0 -39.4	N	26 42.8 +04.7				
15	45 20.7 -00.3	S	23 26.1 +00.0	93 11.3 +00.2	S	13 07.7 +00.6	248 14.6 -39.4	N	26 47.5 +04.5				
16	60 20.4 -00.3	S	23 26.1 +00.0	108 11.5 +00.2	S	13 08.3 +00.6	262 35.2 -39.5	N	26 52.0 +04.3				
17	75 20.1 -00.4	S	23 26.1 +00.0	123 11.7 +00.2	S	13 08.9 +00.6	276 55.7 -39.6	N	26 56.3 +04.1				
18	90 19.7 -00.3	S	23 26.1 -00.1	138 11.9 +00.2	S	13 09.5 +00.5	291 16.1 -39.7	N	27 00.4 +03.8				
19	105 19.4 -00.3	S	23 26.0 +00.0	153 12.1 +00.2	S	13 10.0 +00.6	305 36.4 -39.8	N	27 04.2 +03.7				
20	120 19.1 -00.3	S	23 26.0 +00.0	168 12.3 +00.2	S	13 10.6 +00.6	319 56.6 -39.8	N	27 07.9 +03.4				
21	135 18.8 -00.3	S	23 26.0 +00.0	183 12.5 +00.1	S	13 11.2 +00.6	334 16.8 -39.9	N	27 11.3 +03.3				
22	150 18.5 -00.3	S	23 26.0 +00.0	198 12.6 +00.2	S	13 11.8 +00.6	348 36.9 -40.0	N	27 14.6 +03.0				
23	165 18.2 -00.3	S	23 26.0 -00.1	213 12.8 +00.2	S	13 12.4 +00.6	2 56.9 -40.0	N	27 17.6 +02.8				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 16'5 16'5 16'6 16'6 16'6 16'6						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 60'6 60'7 60'8 60'9 61'0 61'1						
	SHA 090° 090° 089° 089° 089° 089°			SHA 137° 137° 137° 137° 137° 137°			SHA 301° 298° 296° 293° 290° 287°						
	Greenwich Culmination Time: 11:58			Greenwich Culmination Time: 08:47			Greenwich Culmination Time: 22:47						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	289 35.8 +01.9	N	11 12.9 -00.1	301 08.8 +02.5	N	13 23.0 +00.0	82 11.8 +02.4	N	00 53.6 +00.1				
01	304 37.7 +01.9	N	11 12.8 -00.1	316 11.3 +02.6	N	13 23.0 +00.1	97 14.2 +02.4	N	00 53.7 +00.0				
02	319 39.6 +01.9	N	11 12.7 -00.1	331 13.9 +02.5	N	13 23.1 +00.0	112 16.6 +02.5	N	00 53.7 +00.0				
03	334 41.5 +02.0	N	11 12.6 -00.2	346 16.4 +02.5	N	13 23.1 +00.1	127 19.1 +02.4	N	00 53.7 +00.0				
04	349 43.5 +01.9	N	11 12.4 -00.1	1 18.9 +02.6	N	13 23.2 +00.0	142 21.5 +02.4	N	00 53.7 +00.1				
05	4 45.4 +01.9	N	11 12.3 -00.1	16 21.5 +02.5	N	13 23.2 +00.0	157 23.9 +02.4	N	00 53.8 +00.0				
06	19 47.3 +02.0	N	11 12.2 -00.1	31 24.0 +02.5	N	13 23.2 +00.1	172 26.3 +02.5	N	00 53.8 +00.0				
07	34 49.3 +01.9	N	11 12.1 -00.2	46 26.5 +02.6	N	13 23.3 +00.0	187 28.8 +02.4	N	00 53.8 +00.1				
08	49 51.2 +01.9	N	11 11.9 -00.1	61 29.1 +02.5	N	13 23.3 +00.0	202 31.2 +02.4	N	00 53.9 +00.0				
09	64 53.1 +02.0	N	11 11.8 -00.1	76 31.6 +02.5	N	13 23.3 +00.1	217 33.6 +02.4	N	00 53.9 +00.0				
10	79 55.1 +01.9	N	11 11.7 -00.1	91 34.1 +02.6	N	13 23.4 +00.0	232 36.0 +02.4	N	00 53.9 +00.1				
11	94 57.0 +01.9	N	11 11.6 -00.2	106 36.7 +02.5	N	13 23.4 +00.0	247 38.4 +02.5	N	00 54.0 +00.0				
12	109 58.9 +02.0	N	11 11.4 -00.1	121 39.2 +02.5	N	13 23.4 +00.1	262 40.9 +02.4	N	00 54.0 +00.0				
13	125 00.9 +01.9	N	11 11.3 -00.1	136 41.7 +02.6	N	13 23.5 +00.0	277 43.3 +02.4	N	00 54.0 +00.0				
14	140 02.8 +01.9	N	11 11.2 -00.1	151 44.3 +02.5	N	13 23.5 +00.0	292 45.7 +02.4	N	00 54.0 +00.1				
15	155 04.7 +02.0	N	11 11.1 -00.1	166 46.8 +02.5	N	13 23.5 +00.1	307 48.1 +02.4	N	00 54.1 +00.0				
16	170 06.7 +01.9	N	11 11.0 -00.2	181 49.3 +02.6	N	13 23.6 +00.0	322 50.5 +02.5	N	00 54.1 +00.0				
17	185 08.6 +02.0	N	11 10.8 -00.1	196 51.9 +02.5	N	13 23.6 +00.1	337 53.0 +02.4	N	00 54.1 +00.1				
18	200 10.6 +01.9	N	11 10.7 -00.1	211 54.4 +02.5	N	13 23.7 +00.0	352 55.4 +02.4	N	00 54.2 +00.0				
19	215 12.5 +01.9	N	11 10.6 -00.1	226 56.9 +02.6	N	13 23.7 +00.0	7 57.8 +02.4	N	00 54.2 +00.0				
20	230 14.4 +02.0	N	11 10.5 -00.1	241 59.5 +02.5	N	13 23.7 +00.1	23 00.2 +02.4	N	00 54.2 +00.1				
21	245 16.4 +01.9	N	11 10.4 -00.2	257 02.0 +02.6	N	13 23.8 +00.0	38 02.6 +02.4	N	00 54.3 +00.0				
22	260 18.3 +02.0	N	11 10.2 -00.1	272 04.6 +02.5	N	13 23.8 +00.0	53 05.0 +02.5	N	00 54.3 +00.0				
23	275 20.3 +01.9	N	11 10.1 -00.1	287 07.1 +02.5	N	13 23.8 +00.1	68 07.5 +02.4	N	00 54.3 +00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'2 00'2 00'2 00'1 00'1 00'1						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 199° 199° 199° 199° 199° 199°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 04:41			Greenwich Culmination Time: 03:54			Greenwich Culmination Time: 18:28						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 10.5 -00.4	S	23 25.2 -00.1	228 17.0 +00.2	S	13 27.0 +00.6	1 05.1 -40.5	N	27 22.6 -02.7	00			
01	195 10.1 -00.3	S	23 25.1 +00.0	243 17.2 +00.2	S	13 27.6 +00.6	15 24.6 -40.5	N	27 19.9 -02.9	01			
02	210 09.8 -00.3	S	23 25.1 -00.1	258 17.4 +00.1	S	13 28.2 +00.6	29 44.1 -40.4	N	27 17.0 -03.1	02			
03	225 09.5 -00.3	S	23 25.0 +00.0	273 17.5 +00.2	S	13 28.8 +00.6	44 03.7 -40.5	N	27 13.9 -03.4	03			
04	240 09.2 -00.3	S	23 25.0 +00.0	288 17.7 +00.1	S	13 29.4 +00.6	58 23.2 -40.3	N	27 10.5 -03.5	04			
05	255 08.9 -00.3	S	23 25.0 -00.1	303 17.8 +00.2	S	13 30.0 +00.6	72 42.9 -40.4	N	27 07.0 -03.8	05			
06	270 08.6 -00.3	S	23 24.9 +00.0	318 18.0 +00.1	S	13 30.6 +00.6	87 02.5 -40.3	N	27 03.2 -04.0	06			
07	285 08.3 -00.3	S	23 24.9 -00.1	333 18.1 +00.1	S	13 31.2 +00.5	101 22.2 -40.2	N	26 59.2 -04.2	07			
08	300 08.0 -00.3	S	23 24.8 +00.0	348 18.2 +00.2	S	13 31.7 +00.6	115 42.0 -40.2	N	26 55.0 -04.4	08			
09	315 07.7 -00.3	S	23 24.8 -00.1	3 18.4 +00.1	S	13 32.3 +00.6	130 01.8 -40.1	N	26 50.6 -04.6	09			
10	330 07.4 -00.4	S	23 24.7 +00.0	18 18.5 +00.2	S	13 32.9 +00.6	144 21.7 -40.1	N	26 46.0 -04.9	10			
11	345 07.0 -00.3	S	23 24.7 -00.1	33 18.7 +00.1	S	13 33.5 +00.6	158 41.6 -40.0	N	26 41.1 -05.0	11			
12	0 06.7 -00.3	S	23 24.6 +00.0	48 18.8 +00.2	S	13 34.1 +00.6	173 01.6 -39.9	N	26 36.1 -05.3	12			
13	15 06.4 -00.3	S	23 24.6 -00.1	63 19.0 +00.1	S	13 34.7 +00.6	187 21.7 -39.9	N	26 30.8 -05.4	13			
14	30 06.1 -00.3	S	23 24.5 +00.0	78 19.1 +00.1	S	13 35.3 +00.6	201 41.8 -39.8	N	26 25.4 -05.7	14			
15	45 05.8 -00.3	S	23 24.5 -00.1	93 19.2 +00.2	S	13 35.9 +00.6	216 02.0 -39.7	N	26 19.7 -05.9	15			
16	60 05.5 -00.3	S	23 24.4 -00.1	108 19.4 +00.1	S	13 36.5 +00.6	230 22.3 -39.7	N	26 13.8 -06.1	16			
17	75 05.2 -00.3	S	23 24.3 +00.0	123 19.5 +00.1	S	13 37.1 +00.6	244 42.6 -39.5	N	26 07.7 -06.3	17			
18	90 04.9 -00.3	S	23 24.3 -00.1	138 19.6 +00.2	S	13 37.7 +00.6	259 03.1 -39.5	N	26 01.4 -06.5	18			
19	105 04.6 -00.3	S	23 24.2 +00.0	153 19.8 +00.1	S	13 38.3 +00.6	273 23.6 -39.4	N	25 54.9 -06.7	19			
20	120 04.3 -00.3	S	23 24.2 -00.1	168 19.9 +00.1	S	13 38.9 +00.5	287 44.2 -39.3	N	25 48.2 -06.8	20			
21	135 04.0 -00.4	S	23 24.1 +00.0	183 20.0 +00.2	S	13 39.4 +00.6	302 04.9 -39.2	N	25 41.4 -07.1	21			
22	150 03.6 -00.3	S	23 24.1 -00.1	198 20.2 +00.1	S	13 40.0 +00.6	316 25.7 -39.1	N	25 34.3 -07.3	22			
23	165 03.3 -00.3	S	23 24.0 -00.1	213 20.3 +00.1	S	13 40.6 +00.6	330 46.6 -39.0	N	25 27.0 -07.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 16'7 16'7 16'7 16'7 16'7 16'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 61'4 61'4 61'5 61'4 61'4 61'4						
	SHA 088° 087° 087° 087° 087° 087°			SHA 136° 136° 135° 135° 135° 135°			SHA 267° 264° 261° 259° 256° 253°						
	Greenwich Culmination Time: 11:59			Greenwich Culmination Time: 08:46			Greenwich Culmination Time: -1:00						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	291 09.2 +02.0	N	11 07.3 -00.1	303 10.7 +02.5	N	13 24.8 +00.0	84 07.9 +02.4	N	00 55.1 +00.1	00			
01	306 11.2 +02.0	N	11 07.2 -00.1	318 13.2 +02.6	N	13 24.8 +00.1	99 10.3 +02.4	N	00 55.2 +00.0	01			
02	321 13.2 +01.9	N	11 07.1 -00.2	333 15.8 +02.5	N	13 24.9 +00.0	114 12.7 +02.4	N	00 55.2 +00.0	02			
03	336 15.1 +02.0	N	11 06.9 -00.1	348 18.3 +02.5	N	13 24.9 +00.1	129 15.1 +02.4	N	00 55.2 +00.1	03			
04	351 17.1 +02.0	N	11 06.8 -00.1	3 20.8 +02.6	N	13 25.0 +00.0	144 17.5 +02.4	N	00 55.3 +00.0	04			
05	6 19.1 +02.0	N	11 06.7 -00.1	18 23.4 +02.5	N	13 25.0 +00.1	159 19.9 +02.4	N	00 55.3 +00.0	05			
06	21 21.1 +01.9	N	11 06.6 -00.1	33 25.9 +02.6	N	13 25.1 +00.0	174 22.3 +02.5	N	00 55.3 +00.1	06			
07	36 23.0 +02.0	N	11 06.5 -00.1	48 28.5 +02.5	N	13 25.1 +00.0	189 24.8 +02.4	N	00 55.4 +00.0	07			
08	51 25.0 +02.0	N	11 06.4 -00.1	63 31.0 +02.6	N	13 25.1 +00.1	204 27.2 +02.4	N	00 55.4 +00.0	08			
09	66 27.0 +02.0	N	11 06.3 -00.1	78 33.6 +02.5	N	13 25.2 +00.0	219 29.6 +02.4	N	00 55.4 +00.1	09			
10	81 29.0 +02.0	N	11 06.2 -00.1	93 36.1 +02.6	N	13 25.2 +00.1	234 32.0 +02.4	N	00 55.5 +00.0	10			
11	96 31.0 +01.9	N	11 06.1 -00.1	108 38.7 +02.5	N	13 25.3 +00.0	249 34.4 +02.4	N	00 55.5 +00.0	11			
12	111 32.9 +02.0	N	11 06.0 -00.1	123 41.2 +02.6	N	13 25.3 +00.0	264 36.8 +02.4	N	00 55.5 +00.1	12			
13	126 34.9 +02.0	N	11 05.9 -00.1	138 43.8 +02.5	N	13 25.3 +00.1	279 39.2 +02.4	N	00 55.6 +00.0	13			
14	141 36.9 +02.0	N	11 05.8 -00.1	153 46.3 +02.6	N	13 25.4 +00.0	294 41.6 +02.5	N	00 55.6 +00.0	14			
15	156 38.9 +02.0	N	11 05.7 -00.1	168 48.9 +02.5	N	13 25.4 +00.1	309 44.1 +02.4	N	00 55.6 +00.1	15			
16	171 40.9 +01.9	N	11 05.6 -00.1	183 51.4 +02.6	N	13 25.5 +00.0	324 46.5 +02.4	N	00 55.7 +00.0	16			
17	186 42.8 +02.0	N	11 05.5 -00.1	198 54.0 +02.5	N	13 25.5 +00.0	339 48.9 +02.4	N	00 55.7 +00.0	17			
18	201 44.8 +02.0	N	11 05.4 -00.1	213 56.5 +02.6	N	13 25.5 +00.1	354 51.3 +02.4	N	00 55.7 +00.1	18			
19	216 46.8 +02.0	N	11 05.3 -00.1	228 59.1 +02.6	N	13 25.6 +00.0	9 53.7 +02.4	N	00 55.8 +00.0	19			
20	231 48.8 +02.0	N	11 05.2 -00.1	244 01.7 +02.5	N	13 25.6 +00.1	24 56.1 +02.4	N	00 55.8 +00.0	20			
21	246 50.8 +02.0	N	11 05.1 -00.1	259 04.2 +02.6	N	13 25.7 +00.0	39 58.5 +02.4	N	00 55.8 +00.1	21			
22	261 52.8 +02.0	N	11 05.0 -00.1	274 06.8 +02.5	N	13 25.7 +00.1	55 00.9 +02.4	N	00 55.9 +00.0	22			
23	276 54.8 +02.0	N	11 04.9 -00.1	289 09.3 +02.6	N	13 25.8 +00.0	70 03.3 +02.5	N	00 55.9 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'3 00'3 00'3 00'3 00'3 00'4			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'1 00'1 00'2 00'2 00'2 00'2			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 199° 199° 199° 199° 198° 198°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 04:34			Greenwich Culmination Time: 03:46			Greenwich Culmination Time: 18:20						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	180 03.0 -00.3	S 23 23.9 +00.0	228 20.4 +00.2	S 13 41.2 +00.6	345 07.6 -38.9	N 25 19.5 -07.6	00						
01	195 02.7 -00.3	S 23 23.9 -00.1	243 20.6 +00.1	S 13 41.8 +00.6	359 28.7 -38.8	N 25 11.9 -07.9	01						
02	210 02.4 -00.3	S 23 23.8 +00.0	258 20.7 +00.1	S 13 42.4 +00.6	13 49.9 -38.7	N 25 04.0 -08.0	02						
03	225 02.1 -00.3	S 23 23.8 -00.1	273 20.8 +00.1	S 13 43.0 +00.6	28 11.2 -38.6	N 24 56.0 -08.3	03						
04	240 01.8 -00.3	S 23 23.7 -00.1	288 20.9 +00.2	S 13 43.6 +00.6	42 32.6 -38.5	N 24 47.7 -08.4	04						
05	255 01.5 -00.3	S 23 23.6 +00.0	303 21.1 +00.1	S 13 44.2 +00.6	56 54.1 -38.3	N 24 39.3 -08.5	05						
06	270 01.2 -00.3	S 23 23.6 -00.1	318 21.2 +00.1	S 13 44.8 +00.6	71 15.8 -38.3	N 24 30.8 -08.8	06						
07	285 00.9 -00.3	S 23 23.5 -00.1	333 21.3 +00.1	S 13 45.4 +00.6	85 37.5 -38.1	N 24 22.0 -09.0	07						
08	300 00.6 -00.4	S 23 23.4 +00.0	348 21.4 +00.1	S 13 46.0 +00.6	99 59.4 -38.1	N 24 13.0 -09.1	08						
09	315 00.2 -00.3	S 23 23.4 -00.1	3 21.5 +00.1	S 13 46.6 +00.6	114 21.3 -37.9	N 24 03.9 -09.3	09						
10	329 59.9 -00.3	S 23 23.3 -00.1	18 21.6 +00.2	S 13 47.2 +00.6	128 43.4 -37.8	N 23 54.6 -09.4	10						
11	344 59.6 -00.3	S 23 23.2 -00.1	33 21.8 +00.1	S 13 47.8 +00.6	143 05.6 -37.6	N 23 45.2 -09.7	11						
12	359 59.3 -00.3	S 23 23.1 +00.0	48 21.9 +00.1	S 13 48.4 +00.6	157 28.0 -37.6	N 23 35.5 -09.7	12						
13	14 59.0 -00.3	S 23 23.1 -00.1	63 22.0 +00.1	S 13 49.0 +00.5	171 50.4 -37.4	N 23 25.8 -10.0	13						
14	29 58.7 -00.3	S 23 23.0 -00.1	78 22.1 +00.1	S 13 49.5 +00.6	186 13.0 -37.3	N 23 15.8 -10.1	14						
15	44 58.4 -00.3	S 23 22.9 +00.0	93 22.2 +00.1	S 13 50.1 +00.6	200 35.7 -37.2	N 23 05.7 -10.3	15						
16	59 58.1 -00.3	S 23 22.9 -00.1	108 22.3 +00.1	S 13 50.7 +00.6	214 58.5 -37.0	N 22 55.4 -10.4	16						
17	74 57.8 -00.3	S 23 22.8 -00.1	123 22.4 +00.1	S 13 51.3 +00.6	229 21.5 -37.0	N 22 45.0 -10.6	17						
18	89 57.5 -00.3	S 23 22.7 -00.1	138 22.5 +00.1	S 13 51.9 +00.6	243 44.5 -36.8	N 22 34.4 -10.8	18						
19	104 57.2 -00.3	S 23 22.6 +00.0	153 22.6 +00.2	S 13 52.5 +00.6	258 07.7 -36.6	N 22 23.6 -10.9	19						
20	119 56.9 -00.4	S 23 22.6 -00.1	168 22.8 +00.1	S 13 53.1 +00.6	272 31.1 -36.6	N 22 12.7 -11.0	20						
21	134 56.5 -00.3	S 23 22.5 -00.1	183 22.9 +00.1	S 13 53.7 +00.6	286 54.5 -36.4	N 22 01.7 -11.2	21						
22	149 56.2 -00.3	S 23 22.4 -00.1	198 23.0 +00.1	S 13 54.3 +00.6	301 18.1 -36.2	N 21 50.5 -11.3	22						
23	164 55.9 -00.3	S 23 22.3 -00.1	213 23.1 +00.1	S 13 54.9 +00.6	315 41.9 -36.2	N 21 39.2 -11.5	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	16'3 16'3 16'3 16'3 16'3 16'3		SD	00'2 00'2 00'2 00'2 00'2 00'2		SD	16'7 16'7 16'7 16'7 16'7 16'6						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'2 00'2 00'2 00'2 00'2 00'2		HP	61'4 61'3 61'3 61'2 61'1 61'0						
SHA	086° 086° 086° 086° 086° 086°		SHA	135° 135° 134° 134° 134° 134°		SHA	250° 247° 245° 242° 239° 237°						
Greenwich Culmination Time: 12:00			Greenwich Culmination Time: 08:46			Greenwich Culmination Time: 01:02							

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	291 56.8 +02.0	N 11 04.8 -00.1	304 11.9 +02.5	N 13 25.8 +00.0	85 05.8 +02.4	N 00 55.9 +00.1	00						
01	306 58.8 +01.9	N 11 04.7 -00.1	319 14.4 +02.6	N 13 25.8 +00.1	100 08.2 +02.4	N 00 56.0 +00.0	01						
02	322 00.7 +02.0	N 11 04.6 -00.1	334 17.0 +02.5	N 13 25.9 +00.0	115 10.6 +02.4	N 00 56.0 +00.0	02						
03	337 02.7 +02.0	N 11 04.5 -00.1	349 19.5 +02.6	N 13 25.9 +00.1	130 13.0 +02.4	N 00 56.0 +00.1	03						
04	352 04.7 +02.0	N 11 04.4 -00.1	4 22.1 +02.5	N 13 26.0 +00.0	145 15.4 +02.4	N 00 56.1 +00.0	04						
05	7 06.7 +02.0	N 11 04.3 -00.1	19 24.6 +02.6	N 13 26.0 +00.1	160 17.8 +02.4	N 00 56.1 +00.1	05						
06	22 08.7 +02.0	N 11 04.2 -00.1	34 27.2 +02.6	N 13 26.1 +00.0	175 20.2 +02.4	N 00 56.2 +00.0	06						
07	37 10.7 +02.0	N 11 04.1 -00.1	49 29.8 +02.5	N 13 26.1 +00.0	190 22.6 +02.4	N 00 56.2 +00.0	07						
08	52 12.7 +02.0	N 11 04.0 -00.1	64 32.3 +02.6	N 13 26.1 +00.1	205 25.0 +02.4	N 00 56.2 +00.1	08						
09	67 14.7 +02.0	N 11 03.9 -00.1	79 34.9 +02.5	N 13 26.2 +00.0	220 27.4 +02.4	N 00 56.3 +00.0	09						
10	82 16.7 +02.0	N 11 03.8 -00.1	94 37.4 +02.6	N 13 26.2 +00.1	235 29.8 +02.4	N 00 56.3 +00.0	10						
11	97 18.7 +02.0	N 11 03.7 -00.1	109 40.0 +02.5	N 13 26.3 +00.0	250 32.2 +02.5	N 00 56.3 +00.1	11						
12	112 20.7 +02.0	N 11 03.6 -00.1	124 42.5 +02.6	N 13 26.3 +00.1	265 34.7 +02.4	N 00 56.4 +00.0	12						
13	127 22.7 +02.0	N 11 03.5 -00.1	139 45.1 +02.6	N 13 26.4 +00.0	280 37.1 +02.4	N 00 56.4 +00.0	13						
14	142 24.7 +02.0	N 11 03.4 -00.1	154 47.7 +02.5	N 13 26.4 +00.1	295 39.5 +02.4	N 00 56.4 +00.1	14						
15	157 26.7 +02.1	N 11 03.3 -00.1	169 50.2 +02.6	N 13 26.5 +00.0	310 41.9 +02.4	N 00 56.5 +00.0	15						
16	172 28.8 +02.0	N 11 03.2 -00.1	184 52.8 +02.5	N 13 26.5 +00.0	325 44.3 +02.4	N 00 56.5 +00.0	16						
17	187 30.8 +02.0	N 11 03.1 -00.1	199 55.3 +02.6	N 13 26.5 +00.1	340 46.7 +02.4	N 00 56.5 +00.1	17						
18	202 32.8 +02.0	N 11 03.0 -00.1	214 57.9 +02.6	N 13 26.6 +00.0	355 49.1 +02.4	N 00 56.6 +00.0	18						
19	217 34.8 +02.0	N 11 02.9 -00.1	230 00.5 +02.5	N 13 26.6 +00.1	10 51.5 +02.4	N 00 56.6 +00.1	19						
20	232 36.8 +02.0	N 11 02.8 +00.0	245 03.0 +02.6	N 13 26.7 +00.0	25 53.9 +02.4	N 00 56.7 +00.0	20						
21	247 38.8 +02.0	N 11 02.8 -00.1	260 05.6 +02.5	N 13 26.7 +00.1	40 56.3 +02.4	N 00 56.7 +00.0	21						
22	262 40.8 +02.0	N 11 02.7 -00.1	275 08.1 +02.6	N 13 26.8 +00.0	55 58.7 +02.4	N 00 56.7 +00.1	22						
23	277 42.8 +02.0	N 11 02.6 -00.1	290 10.7 +02.6	N 13 26.8 +00.1	71 01.1 +02.4	N 00 56.8 +00.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	00'1 00'1 00'1 00'1 00'1 00'1		SD	00'4 00'4 00'4 00'4 00'4 00'4		SD	00'1 00'1 00'1 00'1 00'1 00'1						
HP	00'2 00'2 00'2 00'2 00'2 00'2		HP	00'0 00'0 00'0 00'0 00'0 00'0		HP	00'0 00'0 00'0 00'0 00'0 00'0						
SHA	198° 198° 198° 198° 198° 198°		SHA	211° 211° 211° 211° 211° 211°		SHA	352° 352° 352° 352° 352° 352°						
Greenwich Culmination Time: 04:31			Greenwich Culmination Time: 03:42			Greenwich Culmination Time: 18:16							

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 55.6 -00.3	S	23 22.2 +00.0	228 23.2 +00.1	S	13 55.5 +00.6	330 05.7 -36.0	N	21 27.7 -11.6	00			
01	194 55.3 -00.3	S	23 22.2 -00.1	243 23.3 +00.1	S	13 56.1 +00.6	344 29.7 -35.9	N	21 16.1 -11.8	01			
02	209 55.0 -00.3	S	23 22.1 -00.1	258 23.4 +00.1	S	13 56.7 +00.6	358 53.8 -35.7	N	21 04.3 -11.8	02			
03	224 54.7 -00.3	S	23 22.0 -00.1	273 23.5 +00.1	S	13 57.3 +00.6	13 18.1 -35.6	N	20 52.5 -12.1	03			
04	239 54.4 -00.3	S	23 21.9 -00.1	288 23.6 +00.1	S	13 57.9 +00.6	27 42.5 -35.5	N	20 40.4 -12.1	04			
05	254 54.1 -00.3	S	23 21.8 -00.1	303 23.7 +00.1	S	13 58.5 +00.6	42 07.0 -35.3	N	20 28.3 -12.3	05			
06	269 53.8 -00.3	S	23 21.7 +00.0	318 23.8 +00.0	S	13 59.1 +00.6	56 31.7 -35.3	N	20 16.0 -12.4	06			
07	284 53.5 -00.3	S	23 21.7 -00.1	333 23.8 +00.1	S	13 59.7 +00.6	70 56.4 -35.0	N	20 03.6 -12.5	07			
08	299 53.2 -00.3	S	23 21.6 -00.1	348 23.9 +00.1	S	14 00.3 +00.6	85 21.4 -35.0	N	19 51.1 -12.6	08			
09	314 52.9 -00.4	S	23 21.5 -00.1	3 24.0 +00.1	S	14 00.9 +00.6	99 46.4 -34.8	N	19 38.5 -12.7	09			
10	329 52.5 -00.3	S	23 21.4 -00.1	18 24.1 +00.1	S	14 01.5 +00.6	114 11.6 -34.7	N	19 25.8 -12.9	10			
11	344 52.2 -00.3	S	23 21.3 -00.1	33 24.2 +00.1	S	14 02.1 +00.6	128 36.9 -34.5	N	19 12.9 -13.0	11			
12	359 51.9 -00.3	S	23 21.2 -00.1	48 24.3 +00.1	S	14 02.7 +00.6	143 02.4 -34.4	N	18 59.9 -13.1	12			
13	14 51.6 -00.3	S	23 21.1 -00.1	63 24.4 +00.1	S	14 03.3 +00.6	157 28.0 -34.3	N	18 46.8 -13.2	13			
14	29 51.3 -00.3	S	23 21.0 -00.1	78 24.5 +00.1	S	14 03.9 +00.6	171 53.7 -34.2	N	18 33.6 -13.3	14			
15	44 51.0 -00.3	S	23 20.9 -00.1	93 24.6 +00.0	S	14 04.5 +00.6	186 19.5 -34.0	N	18 20.3 -13.4	15			
16	59 50.7 -00.3	S	23 20.8 -00.1	108 24.6 +00.1	S	14 05.1 +00.6	200 45.5 -33.9	N	18 06.9 -13.5	16			
17	74 50.4 -00.3	S	23 20.7 -00.1	123 24.7 +00.1	S	14 05.7 +00.6	215 11.6 -33.7	N	17 53.4 -13.6	17			
18	89 50.1 -00.3	S	23 20.6 +00.0	138 24.8 +00.1	S	14 06.3 +00.6	229 37.9 -33.6	N	17 39.8 -13.6	18			
19	104 49.8 -00.3	S	23 20.6 -00.1	153 24.9 +00.1	S	14 06.9 +00.6	244 04.3 -33.5	N	17 26.2 -13.8	19			
20	119 49.5 -00.3	S	23 20.5 -00.1	168 25.0 +00.0	S	14 07.5 +00.6	258 30.8 -33.4	N	17 12.4 -13.9	20			
21	134 49.2 -00.3	S	23 20.4 -00.1	183 25.0 +00.1	S	14 08.1 +00.6	272 57.4 -33.2	N	16 58.5 -14.0	21			
22	149 48.9 -00.4	S	23 20.3 -00.1	198 25.1 +00.1	S	14 08.7 +00.6	287 24.2 -33.2	N	16 44.5 -14.0	22			
23	164 48.5 -00.3	S	23 20.2 -00.1	213 25.2 +00.1	S	14 09.3 +00.6	301 51.0 -32.9	N	16 30.5 -14.2	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 16'6 16'6 16'6 16'5 16'5 16'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 61'0 60'9 60'8 60'6 60'5 60'4						
	SHA 085° 085° 085° 085° 085° 084°			SHA 134° 134° 133° 133° 133° 133°			SHA 234° 232° 229° 227° 224° 222°						
	Greenwich Culmination Time: 12:00			Greenwich Culmination Time: 08:46			Greenwich Culmination Time: 02:04						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	292 44.8 +02.1	N	11 02.5 -00.1	305 13.3 +02.5	N	13 26.9 +00.0	86 03.5 +02.4	N	00 56.8 +00.0	00			
01	307 46.9 +02.0	N	11 02.4 -00.1	320 15.8 +02.6	N	13 26.9 +00.1	101 05.9 +02.4	N	00 56.8 +00.1	01			
02	322 48.9 +02.0	N	11 02.3 -00.1	335 18.4 +02.6	N	13 27.0 +00.0	116 08.3 +02.5	N	00 56.9 +00.0	02			
03	337 50.9 +02.0	N	11 02.2 -00.1	350 21.0 +02.5	N	13 27.0 +00.0	131 10.8 +02.4	N	00 56.9 +00.0	03			
04	352 52.9 +02.0	N	11 02.1 -00.1	5 23.5 +02.6	N	13 27.0 +00.1	146 13.2 +02.4	N	00 56.9 +00.1	04			
05	7 54.9 +02.0	N	11 02.0 -00.1	20 26.1 +02.5	N	13 27.1 +00.0	161 15.6 +02.4	N	00 57.0 +00.0	05			
06	22 56.9 +02.1	N	11 01.9 +00.0	35 28.6 +02.6	N	13 27.1 +00.1	176 18.0 +02.4	N	00 57.0 +00.1	06			
07	37 59.0 +02.0	N	11 01.9 -00.1	50 31.2 +02.6	N	13 27.2 +00.0	191 20.4 +02.4	N	00 57.1 +00.0	07			
08	53 01.0 +02.0	N	11 01.8 -00.1	65 33.8 +02.5	N	13 27.2 +00.1	206 22.8 +02.4	N	00 57.1 +00.0	08			
09	68 03.0 +02.0	N	11 01.7 -00.1	80 36.3 +02.6	N	13 27.3 +00.0	221 25.2 +02.4	N	00 57.1 +00.1	09			
10	83 05.0 +02.1	N	11 01.6 -00.1	95 38.9 +02.6	N	13 27.3 +00.1	236 27.6 +02.4	N	00 57.2 +00.0	10			
11	98 07.1 +02.0	N	11 01.5 -00.1	110 41.5 +02.5	N	13 27.4 +00.0	251 30.0 +02.4	N	00 57.2 +00.0	11			
12	113 09.1 +02.0	N	11 01.4 -00.1	125 44.0 +02.6	N	13 27.4 +00.1	266 32.4 +02.4	N	00 57.2 +00.1	12			
13	128 11.1 +02.0	N	11 01.3 +00.0	140 46.6 +02.6	N	13 27.5 +00.0	281 34.8 +02.4	N	00 57.3 +00.0	13			
14	143 13.1 +02.1	N	11 01.3 -00.1	155 49.2 +02.5	N	13 27.5 +00.1	296 37.2 +02.4	N	00 57.3 +00.1	14			
15	158 15.2 +02.0	N	11 01.2 -00.1	170 51.7 +02.6	N	13 27.6 +00.0	311 39.6 +02.4	N	00 57.4 +00.0	15			
16	173 17.2 +02.0	N	11 01.1 -00.1	185 54.3 +02.6	N	13 27.6 +00.1	326 42.0 +02.4	N	00 57.4 +00.0	16			
17	188 19.2 +02.1	N	11 01.0 -00.1	200 56.9 +02.5	N	13 27.7 +00.0	341 44.4 +02.4	N	00 57.4 +00.1	17			
18	203 21.3 +02.0	N	11 00.9 -00.1	215 59.4 +02.6	N	13 27.7 +00.0	356 46.8 +02.4	N	00 57.5 +00.0	18			
19	218 23.3 +02.0	N	11 00.8 +00.0	231 02.0 +02.6	N	13 27.7 +00.1	11 49.2 +02.4	N	00 57.5 +00.0	19			
20	233 25.3 +02.1	N	11 00.8 -00.1	246 04.6 +02.5	N	13 27.8 +00.0	26 51.6 +02.4	N	00 57.5 +00.1	20			
21	248 27.4 +02.0	N	11 00.7 -00.1	261 07.1 +02.6	N	13 27.8 +00.1	41 54.0 +02.4	N	00 57.6 +00.0	21			
22	263 29.4 +02.0	N	11 00.6 -00.1	276 09.7 +02.6	N	13 27.9 +00.0	56 56.4 +02.4	N	00 57.6 +00.1	22			
23	278 31.4 +02.1	N	11 00.5 -00.1	291 12.3 +02.5	N	13 27.9 +00.1	71 58.8 +02.4	N	00 57.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 198° 198° 198° 198° 198° 198°			SHA 211° 211° 211° 211° 211° 211°			SHA 352° 352° 352° 352° 352° 352°						
	Greenwich Culmination Time: 04:28			Greenwich Culmination Time: 03:38			Greenwich Culmination Time: 18:12						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 48.2 -00.3	S 23 20.1 -00.1	228 25.3 +00.0	S 14 09.9 +00.6	316 18.1 -32.9	N 16 16.3 -14.2	00						00
01	194 47.9 -00.3	S 23 20.0 -00.1	243 25.3 +00.1	S 14 10.5 +00.6	330 45.2 -32.7	N 16 02.1 -14.3	01						01
02	209 47.6 -00.3	S 23 19.9 -00.1	258 25.4 +00.1	S 14 11.1 +00.6	345 12.5 -32.7	N 15 47.8 -14.4	02						02
03	224 47.3 -00.3	S 23 19.8 -00.1	273 25.5 +00.1	S 14 11.7 +00.6	359 39.8 -32.4	N 15 33.4 -14.4	03						03
04	239 47.0 -00.3	S 23 19.7 -00.1	288 25.6 +00.0	S 14 12.3 +00.6	14 07.4 -32.4	N 15 19.0 -14.6	04						04
05	254 46.7 -00.3	S 23 19.6 -00.2	303 25.6 +00.1	S 14 12.9 +00.6	28 35.0 -32.3	N 15 04.4 -14.6	05						05
06	269 46.4 -00.3	S 23 19.4 -00.1	318 25.7 +00.1	S 14 13.5 +00.6	43 02.7 -32.1	N 14 49.8 -14.6	06						06
07	284 46.1 -00.3	S 23 19.3 -00.1	333 25.8 +00.0	S 14 14.1 +00.6	57 30.6 -32.0	N 14 35.2 -14.8	07						07
08	299 45.8 -00.3	S 23 19.2 -00.1	348 25.8 +00.1	S 14 14.7 +00.6	71 58.6 -31.9	N 14 20.4 -14.8	08						08
09	314 45.5 -00.3	S 23 19.1 -00.1	3 25.9 +00.1	S 14 15.3 +00.6	86 26.7 -31.8	N 14 05.6 -14.8	09						09
10	329 45.2 -00.3	S 23 19.0 -00.1	18 26.0 +00.0	S 14 15.9 +00.6	100 54.9 -31.6	N 13 50.8 -14.9	10						10
11	344 44.9 -00.3	S 23 18.9 -00.1	33 26.0 +00.1	S 14 16.5 +00.6	115 23.3 -31.6	N 13 35.9 -15.0	11						11
12	359 44.6 -00.3	S 23 18.8 -00.1	48 26.1 +00.1	S 14 17.1 +00.6	129 51.7 -31.4	N 13 20.9 -15.1	12						12
13	14 44.3 -00.4	S 23 18.7 -00.1	63 26.2 +00.0	S 14 17.7 +00.6	144 20.3 -31.3	N 13 05.8 -15.1	13						13
14	29 43.9 -00.3	S 23 18.6 -00.1	78 26.2 +00.1	S 14 18.3 +00.6	158 49.0 -31.3	N 12 50.7 -15.1	14						14
15	44 43.6 -00.3	S 23 18.5 -00.1	93 26.3 +00.0	S 14 18.9 +00.6	173 17.7 -31.1	N 12 35.6 -15.2	15						15
16	59 43.3 -00.3	S 23 18.4 -00.2	108 26.3 +00.1	S 14 19.5 +00.6	187 46.6 -30.9	N 12 20.4 -15.2	16						16
17	74 43.0 -00.3	S 23 18.2 -00.1	123 26.4 +00.0	S 14 20.1 +00.6	202 15.7 -30.9	N 12 05.2 -15.3	17						17
18	89 42.7 -00.3	S 23 18.1 -00.1	138 26.4 +00.1	S 14 20.7 +00.6	216 44.8 -30.8	N 11 49.9 -15.4	18						18
19	104 42.4 -00.3	S 23 18.0 -00.1	153 26.5 +00.1	S 14 21.3 +00.6	231 14.0 -30.7	N 11 34.5 -15.4	19						19
20	119 42.1 -00.3	S 23 17.9 -00.1	168 26.6 +00.0	S 14 21.9 +00.6	245 43.3 -30.6	N 11 19.1 -15.4	20						20
21	134 41.8 -00.3	S 23 17.8 -00.1	183 26.6 +00.1	S 14 22.5 +00.6	260 12.7 -30.4	N 11 03.7 -15.4	21						21
22	149 41.5 -00.3	S 23 17.7 -00.2	198 26.7 +00.0	S 14 23.1 +00.6	274 42.3 -30.4	N 10 48.3 -15.5	22						22
23	164 41.2 -00.3	S 23 17.5 -00.1	213 26.7 +00.1	S 14 23.7 +00.6	289 11.9 -30.3	N 10 32.8 -15.6	23						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 16'4 16'4 16'3 16'3 16'3 16'2								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 60'3 60'1 60'0 59'9 59'7 59'6								
	SHA 084° 084° 084° 084° 083° 083°		SHA 133° 133° 133° 132° 132° 132°		SHA 220° 217° 215° 213° 211° 208°								
	Greenwich Culmination Time: 12:01		Greenwich Culmination Time: 08:46		Greenwich Culmination Time: 03:01								

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	293 33.5 +02.0	N 11 00.4 +00.0	306 14.8 +02.6	N 13 28.0 +00.0	87 01.2 +02.4	N 00 57.7 +00.0	00						00
01	308 35.5 +02.0	N 11 00.4 -00.1	321 17.4 +02.6	N 13 28.0 +00.1	102 03.6 +02.4	N 00 57.7 +00.1	01						01
02	323 37.5 +02.1	N 11 00.3 -00.1	336 20.0 +02.6	N 13 28.1 +00.0	117 06.0 +02.4	N 00 57.8 +00.0	02						02
03	338 39.6 +02.0	N 11 00.2 -00.1	351 22.6 +02.5	N 13 28.1 +00.1	132 08.4 +02.4	N 00 57.8 +00.1	03						03
04	353 41.6 +02.1	N 11 00.1 -00.1	6 25.1 +02.6	N 13 28.2 +00.0	147 10.8 +02.4	N 00 57.9 +00.0	04						04
05	8 43.7 +02.0	N 11 00.0 +00.0	21 27.7 +02.6	N 13 28.2 +00.1	162 13.2 +02.4	N 00 57.9 +00.0	05						05
06	23 45.7 +02.1	N 10 60.0 -00.1	36 30.3 +02.5	N 13 28.3 +00.0	177 15.6 +02.4	N 00 57.9 +00.1	06						06
07	38 47.8 +02.0	N 10 59.9 -00.1	51 32.8 +02.6	N 13 28.3 +00.1	192 18.0 +02.4	N 00 58.0 +00.0	07						07
08	53 49.8 +02.0	N 10 59.8 -00.1	66 35.4 +02.6	N 13 28.4 +00.0	207 20.4 +02.4	N 00 58.0 +00.0	08						08
09	68 51.8 +02.1	N 10 59.7 -00.1	81 38.0 +02.6	N 13 28.4 +00.1	222 22.8 +02.4	N 00 58.0 +00.1	09						09
10	83 53.9 +02.0	N 10 59.6 +00.0	96 40.6 +02.5	N 13 28.5 +00.0	237 25.2 +02.4	N 00 58.1 +00.0	10						10
11	98 55.9 +02.1	N 10 59.6 -00.1	111 43.1 +02.6	N 13 28.5 +00.1	252 27.6 +02.4	N 00 58.1 +00.1	11						11
12	113 58.0 +02.0	N 10 59.5 -00.1	126 45.7 +02.6	N 13 28.6 +00.0	267 30.0 +02.4	N 00 58.2 +00.0	12						12
13	129 00.0 +02.1	N 10 59.4 -00.1	141 48.3 +02.6	N 13 28.6 +00.1	282 32.4 +02.4	N 00 58.2 +00.0	13						13
14	144 02.1 +02.0	N 10 59.3 +00.0	156 50.9 +02.5	N 13 28.7 +00.0	297 34.8 +02.4	N 00 58.2 +00.1	14						14
15	159 04.1 +02.1	N 10 59.3 -00.1	171 53.4 +02.6	N 13 28.7 +00.1	312 37.2 +02.4	N 00 58.3 +00.0	15						15
16	174 06.2 +02.1	N 10 59.2 -00.1	186 56.0 +02.6	N 13 28.8 +00.0	327 39.6 +02.4	N 00 58.3 +00.1	16						16
17	189 08.3 +02.0	N 10 59.1 +00.0	201 58.6 +02.6	N 13 28.8 +00.1	342 42.0 +02.4	N 00 58.4 +00.0	17						17
18	204 10.3 +02.1	N 10 59.1 -00.1	217 01.2 +02.5	N 13 28.9 +00.0	357 44.4 +02.4	N 00 58.4 +00.0	18						18
19	219 12.4 +02.0	N 10 59.0 -00.1	232 03.7 +02.6	N 13 28.9 +00.1	12 46.8 +02.4	N 00 58.4 +00.1	19						19
20	234 14.4 +02.1	N 10 58.9 -00.1	247 06.3 +02.6	N 13 29.0 +00.0	27 49.2 +02.4	N 00 58.5 +00.0	20						20
21	249 16.5 +02.0	N 10 58.8 +00.0	262 08.9 +02.6	N 13 29.0 +00.1	42 51.6 +02.4	N 00 58.5 +00.1	21						21
22	264 18.5 +02.1	N 10 58.8 -00.1	277 11.5 +02.5	N 13 29.1 +00.0	57 54.0 +02.4	N 00 58.6 +00.0	22						22
23	279 20.6 +02.1	N 10 58.7 -00.1	292 14.0 +02.6	N 13 29.1 +00.1	72 56.4 +02.4	N 00 58.6 +00.0	23						23
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 00'1 00'1 00'1 00'1 00'1 00'1								
	HP 00'2 00'2 00'2 00'2 00'2 00'2		HP 00'0 00'0 00'0 00'0 00'0 00'0		HP 00'0 00'0 00'0 00'0 00'0 00'0								
	SHA 198° 198° 198° 198° 198° 198°		SHA 211° 211° 211° 211° 211° 211°		SHA 352° 352° 352° 352° 352° 352°								
	Greenwich Culmination Time: 04:25		Greenwich Culmination Time: 03:34		Greenwich Culmination Time: 18:09								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i> A: 67%				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	179 40.9 -00.3	S	23 17.4 -00.1		228 26.8 +00.0	S	14 24.3 +00.6		303 41.6 -30.2	N	10 17.2 -15.5		00
01	194 40.6 -00.3	S	23 17.3 -00.1		243 26.8 +00.1	S	14 24.9 +00.6		318 11.4 -30.1	N	10 01.7 -15.6		01
02	209 40.3 -00.3	S	23 17.2 -00.1		258 26.9 +00.0	S	14 25.5 +00.6		332 41.3 -29.9	N	09 46.1 -15.7		02
03	224 40.0 -00.3	S	23 17.1 -00.2		273 26.9 +00.0	S	14 26.1 +00.6		347 11.4 -29.9	N	09 30.4 -15.6		03
04	239 39.7 -00.3	S	23 16.9 -00.1		288 26.9 +00.1	S	14 26.7 +00.6		1 41.5 -29.8	N	09 14.8 -15.7		04
05	254 39.4 -00.3	S	23 16.8 -00.1		303 27.0 +00.0	S	14 27.3 +00.6		16 11.7 -29.7	N	08 59.1 -15.7		05
06	269 39.1 -00.3	S	23 16.7 -00.1		318 27.0 +00.1	S	14 27.9 +00.6		30 42.0 -29.7	N	08 43.4 -15.8		06
07	284 38.8 -00.4	S	23 16.6 -00.2		333 27.1 +00.0	S	14 28.5 +00.6		45 12.3 -29.5	N	08 27.6 -15.7		07
08	299 38.4 -00.3	S	23 16.4 -00.1		348 27.1 +00.1	S	14 29.1 +00.6		59 42.8 -29.4	N	08 11.9 -15.8		08
09	314 38.1 -00.3	S	23 16.3 -00.1		3 27.2 +00.0	S	14 29.7 +00.6		74 13.4 -29.4	N	07 56.1 -15.8		09
10	329 37.8 -00.3	S	23 16.2 -00.1		18 27.2 +00.0	S	14 30.3 +00.6		88 44.0 -29.3	N	07 40.3 -15.8		10
11	344 37.5 -00.3	S	23 16.1 -00.2		33 27.2 +00.1	S	14 30.9 +00.6		103 14.7 -29.2	N	07 24.5 -15.9		11
12	359 37.2 -00.3	S	23 15.9 -00.1		48 27.3 +00.0	S	14 31.5 +00.6		117 45.5 -29.1	N	07 08.6 -15.8		12
13	14 36.9 -00.3	S	23 15.8 -00.1		63 27.3 +00.0	S	14 32.1 +00.6		132 16.4 -29.0	N	06 52.8 -15.9		13
14	29 36.6 -00.3	S	23 15.7 -00.2		78 27.3 +00.1	S	14 32.7 +00.6		146 47.4 -29.0	N	06 36.9 -15.8		14
15	44 36.3 -00.3	S	23 15.5 -00.1		93 27.4 +00.0	S	14 33.3 +00.6		161 18.4 -28.9	N	06 21.1 -15.9		15
16	59 36.0 -00.3	S	23 15.4 -00.1		108 27.4 +00.0	S	14 33.9 +00.6		175 49.5 -28.8	N	06 05.2 -15.9		16
17	74 35.7 -00.3	S	23 15.3 -00.2		123 27.4 +00.1	S	14 34.5 +00.6		190 20.7 -28.7	N	05 49.3 -15.9		17
18	89 35.4 -00.3	S	23 15.1 -00.1		138 27.5 +00.0	S	14 35.1 +00.6		204 52.0 -28.7	N	05 33.4 -15.9		18
19	104 35.1 -00.3	S	23 15.0 -00.1		153 27.5 +00.0	S	14 35.7 +00.6		219 23.3 -28.6	N	05 17.5 -15.9		19
20	119 34.8 -00.3	S	23 14.9 -00.2		168 27.5 +00.1	S	14 36.3 +00.6		233 54.7 -28.5	N	05 01.6 -15.9		20
21	134 34.5 -00.3	S	23 14.7 -00.1		183 27.6 +00.0	S	14 36.9 +00.6		248 26.2 -28.5	N	04 45.7 -15.9		21
22	149 34.2 -00.3	S	23 14.6 -00.2		198 27.6 +00.0	S	14 37.5 +00.6		262 57.7 -28.4	N	04 29.8 -15.9		22
23	164 33.9 -00.3	S	23 14.4 -00.1		213 27.6 +00.0	S	14 38.1 +00.6		277 29.3 -28.3	N	04 13.9 -15.9		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 16'3 16'3 16'3 16'3 16'3 16'3				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 16'2 16'1 16'1 16'1 16'0 16'0				
	HP 00'1 00'1 00'1 00'1 00'1 00'1				HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 59'4 59'3 59'1 59'0 58'8 58'6				
	SHA 083° 083° 083° 083° 082° 082°				SHA 132° 132° 132° 131° 131° 131°				SHA 206° 204° 202° 200° 198° 196°				
	Greenwich Culmination Time: 12:01				Greenwich Culmination Time: 08:46				Greenwich Culmination Time: 03:53				

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	GHA ° / ' / "	ddGHA	Dec ° / ' / "	dDec	
00	294 22.7 +02.0	N	10 58.6 +00.0		307 16.6 +02.6	N	13 29.2 +00.0		87 58.8 +02.4	N	00 58.6 +00.1		00
01	309 24.7 +02.1	N	10 58.6 -00.1		322 19.2 +02.6	N	13 29.2 +00.1		103 01.2 +02.4	N	00 58.7 +00.0		01
02	324 26.8 +02.1	N	10 58.5 -00.1		337 21.8 +02.5	N	13 29.3 +00.0		118 03.6 +02.4	N	00 58.7 +00.1		02
03	339 28.9 +02.0	N	10 58.4 -00.1		352 24.3 +02.6	N	13 29.3 +00.1		133 06.0 +02.4	N	00 58.8 +00.0		03
04	354 30.9 +02.1	N	10 58.3 +00.0		7 26.9 +02.6	N	13 29.4 +00.0		148 08.4 +02.4	N	00 58.8 +00.0		04
05	9 33.0 +02.0	N	10 58.3 -00.1		22 29.5 +02.6	N	13 29.4 +00.1		163 10.8 +02.4	N	00 58.8 +00.1		05
06	24 35.0 +02.1	N	10 58.2 -00.1		37 32.1 +02.6	N	13 29.5 +00.0		178 13.2 +02.4	N	00 58.9 +00.0		06
07	39 37.1 +02.1	N	10 58.1 +00.0		52 34.7 +02.5	N	13 29.5 +00.1		193 15.6 +02.4	N	00 58.9 +00.1		07
08	54 39.2 +02.1	N	10 58.1 -00.1		67 37.2 +02.6	N	13 29.6 +00.0		208 18.0 +02.4	N	00 59.0 +00.0		08
09	69 41.3 +02.0	N	10 58.0 -00.1		82 39.8 +02.6	N	13 29.6 +00.1		223 20.4 +02.4	N	00 59.0 +00.0		09
10	84 43.3 +02.1	N	10 57.9 +00.0		97 42.4 +02.6	N	13 29.7 +00.0		238 22.8 +02.4	N	00 59.0 +00.1		10
11	99 45.4 +02.1	N	10 57.9 -00.1		112 45.0 +02.6	N	13 29.7 +00.1		253 25.2 +02.4	N	00 59.1 +00.0		11
12	114 47.5 +02.0	N	10 57.8 -00.1		127 47.6 +02.5	N	13 29.8 +00.0		268 27.6 +02.4	N	00 59.1 +00.1		12
13	129 49.5 +02.1	N	10 57.7 +00.0		142 50.1 +02.6	N	13 29.8 +00.1		283 30.0 +02.4	N	00 59.2 +00.0		13
14	144 51.6 +02.1	N	10 57.7 -00.1		157 52.7 +02.6	N	13 29.9 +00.0		298 32.4 +02.4	N	00 59.2 +00.0		14
15	159 53.7 +02.1	N	10 57.6 -00.1		172 55.3 +02.6	N	13 29.9 +00.1		313 34.8 +02.4	N	00 59.2 +00.1		15
16	174 55.8 +02.1	N	10 57.5 +00.0		187 57.9 +02.6	N	13 30.0 +00.1		328 37.2 +02.4	N	00 59.3 +00.0		16
17	189 57.9 +02.0	N	10 57.5 -00.1		203 00.5 +02.6	N	13 30.1 +00.0		343 39.6 +02.3	N	00 59.3 +00.1		17
18	204 59.9 +02.1	N	10 57.4 +00.0		218 03.1 +02.5	N	13 30.1 +00.1		358 41.9 +02.4	N	00 59.4 +00.0		18
19	220 02.0 +02.1	N	10 57.4 -00.1		233 05.6 +02.6	N	13 30.2 +00.0		13 44.3 +02.4	N	00 59.4 +00.1		19
20	235 04.1 +02.1	N	10 57.3 -00.1		248 08.2 +02.6	N	13 30.2 +00.1		28 46.7 +02.4	N	00 59.5 +00.0		20
21	250 06.2 +02.1	N	10 57.2 +00.0		263 10.8 +02.6	N	13 30.3 +00.0		43 49.1 +02.4	N	00 59.5 +00.0		21
22	265 08.3 +02.0	N	10 57.2 -00.1		278 13.4 +02.6	N	13 30.3 +00.1		58 51.5 +02.4	N	00 59.5 +00.1		22
23	280 10.3 +02.1	N	10 57.1 -00.1		293 16.0 +02.6	N	13 30.4 +00.0		73 53.9 +02.4	N	00 59.6 +00.0		23
	UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				UT 02 06 10 14 18 22				
	SD 00'1 00'1 00'1 00'1 00'1 00'1				SD 00'4 00'4 00'4 00'4 00'4 00'4				SD 00'1 00'1 00'1 00'1 00'1 00'1				
	HP 00'2 00'2 00'2 00'2 00'2 00'2				HP 00'0 00'0 00'0 00'0 00'0 00'0				HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 198° 198° 198° 198° 198° 198°				SHA 211° 211° 211° 211° 211° 211°				SHA 351° 351° 351° 351° 351° 351°				
	Greenwich Culmination Time: 04:21				Greenwich Culmination Time: 03:30				Greenwich Culmination Time: 18:05				

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UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 33.6 -00.3	S	23 14.3 -00.1	228 27.6 +00.1	S	14 38.7 +00.6	292 01.0 -28.3	N	03 58.0 -15.9				
01	194 33.3 -00.3	S	23 14.2 -00.2	243 27.7 +00.0	S	14 39.3 +00.6	306 32.7 -28.2	N	03 42.1 -15.9				
02	209 33.0 -00.3	S	23 14.0 -00.1	258 27.7 +00.0	S	14 39.9 +00.6	321 04.5 -28.1	N	03 26.2 -15.9				
03	224 32.7 -00.3	S	23 13.9 -00.2	273 27.7 +00.0	S	14 40.5 +00.6	335 36.4 -28.1	N	03 10.3 -15.9				
04	239 32.4 -00.3	S	23 13.7 -00.1	288 27.7 +00.0	S	14 41.1 +00.6	350 08.3 -28.0	N	02 54.4 -15.9				
05	254 32.1 -00.3	S	23 13.6 -00.1	303 27.7 +00.1	S	14 41.7 +00.6	4 40.3 -28.0	N	02 38.5 -15.8				
06	269 31.8 -00.4	S	23 13.5 -00.2	318 27.8 +00.0	S	14 42.3 +00.7	19 12.3 -27.9	N	02 22.7 -15.9				
07	284 31.4 -00.3	S	23 13.3 -00.1	333 27.8 +00.0	S	14 43.0 +00.6	33 44.4 -27.9	N	02 06.8 -15.8				
08	299 31.1 -00.3	S	23 13.2 -00.2	348 27.8 +00.0	S	14 43.6 +00.6	48 16.5 -27.8	N	01 51.0 -15.8				
09	314 30.8 -00.3	S	23 13.0 -00.1	3 27.8 +00.0	S	14 44.2 +00.6	62 48.7 -27.8	N	01 35.2 -15.9				
10	329 30.5 -00.3	S	23 12.9 -00.2	18 27.8 +00.0	S	14 44.8 +00.6	77 20.9 -27.7	N	01 19.3 -15.7				
11	344 30.2 -00.3	S	23 12.7 -00.1	33 27.8 +00.0	S	14 45.4 +00.6	91 53.2 -27.6	N	01 03.6 -15.8				
12	359 29.9 -00.3	S	23 12.6 -00.2	48 27.8 +00.1	S	14 46.0 +00.6	106 25.6 -27.7	N	00 47.8 -15.8				
13	14 29.6 -00.3	S	23 12.4 -00.1	63 27.9 +00.0	S	14 46.6 +00.6	120 57.9 -27.5	N	00 32.0 -15.7				
14	29 29.3 -00.3	S	23 12.3 -00.2	78 27.9 +00.0	S	14 47.2 +00.6	135 30.4 -27.6	N	00 16.3 -15.8				
15	44 29.0 -00.3	S	23 12.1 -00.1	93 27.9 +00.0	S	14 47.8 +00.6	150 02.8 -27.5	N	00 00.5 -15.7				
16	59 28.7 -00.3	S	23 12.0 -00.2	108 27.9 +00.0	S	14 48.4 +00.6	164 35.3 -27.4	S	00 15.2 +15.6				
17	74 28.4 -00.3	S	23 11.8 -00.1	123 27.9 +00.0	S	14 49.0 +00.6	179 07.9 -27.4	S	00 30.8 +15.7				
18	89 28.1 -00.3	S	23 11.7 -00.2	138 27.9 +00.0	S	14 49.6 +00.6	193 40.5 -27.4	S	00 46.5 +15.6				
19	104 27.8 -00.3	S	23 11.5 -00.1	153 27.9 +00.0	S	14 50.2 +00.6	208 13.1 -27.4	S	01 02.1 +15.6				
20	119 27.5 -00.3	S	23 11.4 -00.2	168 27.9 +00.0	S	14 50.8 +00.6	222 45.7 -27.3	S	01 17.7 +15.6				
21	134 27.2 -00.3	S	23 11.2 -00.1	183 27.9 +00.0	S	14 51.4 +00.6	237 18.4 -27.2	S	01 33.3 +15.5				
22	149 26.9 -00.3	S	23 11.1 -00.2	198 27.9 +00.0	S	14 52.0 +00.6	251 51.2 -27.3	S	01 48.8 +15.6				
23	164 26.6 -00.3	S	23 10.9 -00.2	213 27.9 +00.0	S	14 52.6 +00.6	266 23.9 -27.2	S	02 04.4 +15.5				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'9 15'9 15'8 15'8 15'8 15'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 58'5 58'3 58'2 58'0 57'9 57'7						
	SHA 082° 082° 082° 081° 081° 081°			SHA 131° 131° 131° 130° 130° 130°			SHA 194° 191° 189° 187° 185° 183°						
	Greenwich Culmination Time: 12:02			Greenwich Culmination Time: 08:46			Greenwich Culmination Time: 04:40						
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	295 12.4 +02.1	N	10 57.0 +00.0	308 18.6 +02.5	N	13 30.4 +00.1	88 56.3 +02.4	N	00 59.6 +00.1				
01	310 14.5 +02.1	N	10 57.0 -00.1	323 21.1 +02.6	N	13 30.5 +00.0	103 58.7 +02.4	N	00 59.7 +00.0				
02	325 16.6 +02.1	N	10 56.9 +00.0	338 23.7 +02.6	N	13 30.5 +00.1	119 01.1 +02.4	N	00 59.7 +00.0				
03	340 18.7 +02.1	N	10 56.9 -00.1	353 26.3 +02.6	N	13 30.6 +00.0	134 03.5 +02.4	N	00 59.7 +00.1				
04	355 20.8 +02.1	N	10 56.8 +00.0	8 28.9 +02.6	N	13 30.6 +00.1	149 05.9 +02.4	N	00 59.8 +00.0				
05	10 22.9 +02.1	N	10 56.8 -00.1	23 31.5 +02.6	N	13 30.7 +00.0	164 08.3 +02.4	N	00 59.8 +00.1				
06	25 25.0 +02.1	N	10 56.7 -00.1	38 34.1 +02.6	N	13 30.7 +00.1	179 10.7 +02.4	N	00 59.9 +00.0				
07	40 27.1 +02.1	N	10 56.6 +00.0	53 36.7 +02.5	N	13 30.8 +00.1	194 13.1 +02.4	N	00 59.9 +00.1				
08	55 29.2 +02.0	N	10 56.6 -00.1	68 39.2 +02.6	N	13 30.9 +00.0	209 15.5 +02.3	N	00 60.0 +00.0				
09	70 31.2 +02.1	N	10 56.5 +00.0	83 41.8 +02.6	N	13 30.9 +00.1	224 17.8 +02.4	N	00 60.0 +00.0				
10	85 33.3 +02.1	N	10 56.5 -00.1	98 44.4 +02.6	N	13 31.0 +00.0	239 20.2 +02.4	N	01 00.0 +00.1				
11	100 35.4 +02.1	N	10 56.4 +00.0	113 47.0 +02.6	N	13 31.0 +00.1	254 22.6 +02.4	N	01 00.1 +00.0				
12	115 37.5 +02.1	N	10 56.4 -00.1	128 49.6 +02.6	N	13 31.1 +00.0	269 25.0 +02.4	N	01 00.1 +00.1				
13	130 39.6 +02.1	N	10 56.3 -00.1	143 52.2 +02.6	N	13 31.1 +00.1	284 27.4 +02.4	N	01 00.2 +00.0				
14	145 41.7 +02.1	N	10 56.2 +00.0	158 54.8 +02.6	N	13 31.2 +00.0	299 29.8 +02.4	N	01 00.2 +00.0				
15	160 43.8 +02.1	N	10 56.2 -00.1	173 57.4 +02.6	N	13 31.2 +00.1	314 32.2 +02.4	N	01 00.2 +00.1				
16	175 45.9 +02.1	N	10 56.1 +00.0	188 60.0 +02.5	N	13 31.3 +00.0	329 34.6 +02.4	N	01 00.3 +00.0				
17	190 48.0 +02.1	N	10 56.1 -00.1	204 02.5 +02.6	N	13 31.3 +00.1	344 37.0 +02.4	N	01 00.3 +00.1				
18	205 50.1 +02.2	N	10 56.0 +00.0	219 05.1 +02.6	N	13 31.4 +00.1	359 39.4 +02.4	N	01 00.4 +00.0				
19	220 52.3 +02.1	N	10 56.0 -00.1	234 07.7 +02.6	N	13 31.5 +00.0	14 41.8 +02.4	N	01 00.4 +00.1				
20	235 54.4 +02.1	N	10 55.9 +00.0	249 10.3 +02.6	N	13 31.5 +00.1	29 44.2 +02.3	N	01 00.5 +00.0				
21	250 56.5 +02.1	N	10 55.9 -00.1	264 12.9 +02.6	N	13 31.6 +00.0	44 46.5 +02.4	N	01 00.5 +00.0				
22	265 58.6 +02.1	N	10 55.8 +00.0	279 15.5 +02.6	N	13 31.6 +00.1	59 48.9 +02.4	N	01 00.5 +00.1				
23	281 00.7 +02.1	N	10 55.8 -00.1	294 18.1 +02.6	N	13 31.7 +00.0	74 51.3 +02.4	N	01 00.6 +00.0				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 198° 198° 198° 198° 198° 198°			SHA 211° 211° 211° 211° 211° 211°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 04:18			Greenwich Culmination Time: 03:26			Greenwich Culmination Time: 18:01						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 26.3 -00.3	S	23 10.7 -00.1	228 27.9 +00.0	S	14 53.2 +00.6	280 56.7 -27.2	S	02 19.9 +15.4	00			
01	194 26.0 -00.3	S	23 10.6 -00.2	243 27.9 +00.0	S	14 53.8 +00.6	295 29.5 -27.1	S	02 35.3 +15.4	01			
02	209 25.7 -00.3	S	23 10.4 -00.1	258 27.9 +00.0	S	14 54.4 +00.6	310 02.4 -27.2	S	02 50.7 +15.4	02			
03	224 25.4 -00.3	S	23 10.3 -00.2	273 27.9 +00.0	S	14 55.0 +00.6	324 35.2 -27.1	S	03 06.1 +15.4	03			
04	239 25.1 -00.3	S	23 10.1 -00.2	288 27.9 +00.0	S	14 55.6 +00.6	339 08.1 -27.0	S	03 21.5 +15.3	04			
05	254 24.8 -00.3	S	23 09.9 -00.1	303 27.9 +00.0	S	14 56.2 +00.6	353 41.1 -27.1	S	03 36.8 +15.3	05			
06	269 24.5 -00.3	S	23 09.8 -00.2	318 27.9 +00.0	S	14 56.8 +00.6	8 14.0 -27.0	S	03 52.1 +15.2	06			
07	284 24.2 -00.3	S	23 09.6 -00.2	333 27.9 +00.0	S	14 57.4 +00.6	22 47.0 -27.1	S	04 07.3 +15.3	07			
08	299 23.9 -00.3	S	23 09.4 -00.1	348 27.9 +00.0	S	14 58.0 +00.6	37 19.9 -26.9	S	04 22.6 +15.1	08			
09	314 23.6 -00.3	S	23 09.3 -00.2	3 27.9 +00.0	S	14 58.6 +00.6	51 53.0 -27.0	S	04 37.7 +15.2	09			
10	329 23.3 -00.3	S	23 09.1 -00.2	18 27.9 -00.1	S	14 59.2 +00.6	66 26.0 -27.0	S	04 52.9 +15.0	10			
11	344 23.0 -00.3	S	23 08.9 -00.1	33 27.8 +00.0	S	14 59.8 +00.6	80 59.0 -26.9	S	05 07.9 +15.1	11			
12	359 22.7 -00.3	S	23 08.8 -00.2	48 27.8 +00.0	S	15 00.4 +00.6	95 32.1 -27.0	S	05 23.0 +15.0	12			
13	14 22.4 -00.3	S	23 08.6 -00.2	63 27.8 +00.0	S	15 01.0 +00.6	110 05.1 -26.9	S	05 38.0 +15.0	13			
14	29 22.1 -00.3	S	23 08.4 -00.1	78 27.8 +00.0	S	15 01.6 +00.6	124 38.2 -26.9	S	05 53.0 +14.9	14			
15	44 21.8 -00.3	S	23 08.3 -00.2	93 27.8 +00.0	S	15 02.2 +00.6	139 11.3 -26.9	S	06 07.9 +14.9	15			
16	59 21.5 -00.3	S	23 08.1 -00.2	108 27.8 +00.0	S	15 02.8 +00.6	153 44.4 -26.9	S	06 22.8 +14.8	16			
17	74 21.2 -00.3	S	23 07.9 -00.2	123 27.8 -00.1	S	15 03.4 +00.6	168 17.5 -26.9	S	06 37.6 +14.8	17			
18	89 20.9 -00.3	S	23 07.7 -00.1	138 27.7 +00.0	S	15 04.0 +00.6	182 50.6 -26.9	S	06 52.4 +14.7	18			
19	104 20.6 -00.3	S	23 07.6 -00.2	153 27.7 +00.0	S	15 04.6 +00.6	197 23.7 -26.8	S	07 07.1 +14.7	19			
20	119 20.3 -00.3	S	23 07.4 -00.2	168 27.7 +00.0	S	15 05.2 +00.6	211 56.9 -26.9	S	07 21.8 +14.6	20			
21	134 20.0 -00.3	S	23 07.2 -00.2	183 27.7 +00.0	S	15 05.8 +00.6	226 30.0 -26.9	S	07 36.4 +14.6	21			
22	149 19.7 -00.3	S	23 07.0 -00.1	198 27.7 -00.1	S	15 06.4 +00.6	241 03.1 -26.8	S	07 51.0 +14.5	22			
23	164 19.4 -00.3	S	23 06.9 -00.2	213 27.6 +00.0	S	15 07.0 +00.6	255 36.3 -26.9	S	08 05.5 +14.5	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'7 15'6 15'6 15'6 15'5 15'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 57'6 57'4 57'3 57'1 57'0 56'8						
	SHA 081° 081° 081° 080° 080° 080°			SHA 130° 130° 130° 129° 129° 129°			SHA 182° 180° 178° 176° 174° 172°						
	Greenwich Culmination Time: 12:02			Greenwich Culmination Time: 08:46			Greenwich Culmination Time: 05:26						

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	296 02.8 +02.1	N	10 55.7 +00.0	309 20.7 +02.6	N	13 31.7 +00.1	89 53.7 +02.4	N	01 00.6 +00.1	00			
01	311 04.9 +02.1	N	10 55.7 -00.1	324 23.3 +02.6	N	13 31.8 +00.1	104 56.1 +02.4	N	01 00.7 +00.0	01			
02	326 07.0 +02.1	N	10 55.6 +00.0	339 25.9 +02.6	N	13 31.9 +00.0	119 58.5 +02.4	N	01 00.7 +00.1	02			
03	341 09.1 +02.1	N	10 55.6 -00.1	354 28.5 +02.6	N	13 31.9 +00.1	135 00.9 +02.4	N	01 00.8 +00.0	03			
04	356 11.2 +02.2	N	10 55.5 +00.0	9 31.1 +02.6	N	13 32.0 +00.0	150 03.3 +02.4	N	01 00.8 +00.1	04			
05	11 13.4 +02.1	N	10 55.5 -00.1	24 33.7 +02.5	N	13 32.0 +00.1	165 05.7 +02.3	N	01 00.9 +00.0	05			
06	26 15.5 +02.1	N	10 55.4 +00.0	39 36.2 +02.6	N	13 32.1 +00.0	180 08.0 +02.4	N	01 00.9 +00.0	06			
07	41 17.6 +02.1	N	10 55.4 -00.1	54 38.8 +02.6	N	13 32.1 +00.1	195 10.4 +02.4	N	01 00.9 +00.1	07			
08	56 19.7 +02.1	N	10 55.3 +00.0	69 41.4 +02.6	N	13 32.2 +00.0	210 12.8 +02.4	N	01 01.0 +00.0	08			
09	71 21.8 +02.2	N	10 55.3 -00.1	84 44.0 +02.6	N	13 32.2 +00.1	225 15.2 +02.4	N	01 01.0 +00.1	09			
10	86 24.0 +02.1	N	10 55.2 +00.0	99 46.6 +02.6	N	13 32.3 +00.1	240 17.6 +02.4	N	01 01.1 +00.0	10			
11	101 26.1 +02.1	N	10 55.2 +00.0	114 49.2 +02.6	N	13 32.4 +00.0	255 20.0 +02.4	N	01 01.1 +00.1	11			
12	116 28.2 +02.1	N	10 55.2 -00.1	129 51.8 +02.6	N	13 32.4 +00.1	270 22.4 +02.4	N	01 01.2 +00.0	12			
13	131 30.3 +02.1	N	10 55.1 +00.0	144 54.4 +02.6	N	13 32.5 +00.0	285 24.8 +02.3	N	01 01.2 +00.0	13			
14	146 32.4 +02.2	N	10 55.1 -00.1	159 57.0 +02.6	N	13 32.5 +00.1	300 27.1 +02.4	N	01 01.2 +00.1	14			
15	161 34.6 +02.1	N	10 55.0 +00.0	174 59.6 +02.6	N	13 32.6 +00.0	315 29.5 +02.4	N	01 01.3 +00.0	15			
16	176 36.7 +02.1	N	10 55.0 -00.1	190 02.2 +02.6	N	13 32.6 +00.1	330 31.9 +02.4	N	01 01.3 +00.1	16			
17	191 38.8 +02.2	N	10 54.9 +00.0	205 04.8 +02.6	N	13 32.7 +00.1	345 34.3 +02.4	N	01 01.4 +00.0	17			
18	206 41.0 +02.1	N	10 54.9 +00.0	220 07.4 +02.6	N	13 32.8 +00.0	0 36.7 +02.4	N	01 01.4 +00.1	18			
19	221 43.1 +02.1	N	10 54.9 -00.1	235 10.0 +02.6	N	13 32.8 +00.1	15 39.1 +02.4	N	01 01.5 +00.0	19			
20	236 45.2 +02.2	N	10 54.8 +00.0	250 12.6 +02.6	N	13 32.9 +00.0	30 41.5 +02.4	N	01 01.5 +00.1	20			
21	251 47.4 +02.1	N	10 54.8 -00.1	265 15.2 +02.6	N	13 32.9 +00.1	45 43.9 +02.3	N	01 01.6 +00.0	21			
22	266 49.5 +02.1	N	10 54.7 +00.0	280 17.8 +02.6	N	13 33.0 +00.1	60 46.2 +02.4	N	01 01.6 +00.1	22			
23	281 51.6 +02.2	N	10 54.7 -00.1	295 20.4 +02.6	N	13 33.1 +00.0	75 48.6 +02.4	N	01 01.7 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 198° 198° 198° 198° 197° 197°			SHA 211° 211° 211° 211° 211° 211°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 04:15			Greenwich Culmination Time: 03:22			Greenwich Culmination Time: 17:57						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 19.1 -00.3	S	23 06.7 -00.2	228 27.6 +00.0	S	15 07.6 +00.6	270 09.4 -26.9	S	08 20.0 +14.4	00			
01	194 18.8 -00.3	S	23 06.5 -00.2	243 27.6 +00.0	S	15 08.2 +00.6	284 42.5 -26.8	S	08 34.4 +14.4	01			
02	209 18.5 -00.3	S	23 06.3 -00.1	258 27.6 -00.1	S	15 08.8 +00.6	299 15.7 -26.9	S	08 48.8 +14.3	02			
03	224 18.2 -00.3	S	23 06.2 -00.2	273 27.5 +00.0	S	15 09.4 +00.6	313 48.8 -26.9	S	09 03.1 +14.2	03			
04	239 17.9 -00.3	S	23 06.0 -00.2	288 27.5 +00.0	S	15 10.0 +00.6	328 21.9 -26.8	S	09 17.3 +14.2	04			
05	254 17.6 -00.3	S	23 05.8 -00.2	303 27.5 -00.1	S	15 10.6 +00.6	342 55.1 -26.9	S	09 31.5 +14.2	05			
06	269 17.3 -00.3	S	23 05.6 -00.2	318 27.4 +00.0	S	15 11.2 +00.6	357 28.2 -26.9	S	09 45.7 +14.1	06			
07	284 17.0 -00.3	S	23 05.4 -00.2	333 27.4 +00.0	S	15 11.8 +00.6	12 01.3 -26.9	S	09 59.8 +14.0	07			
08	299 16.7 -00.3	S	23 05.2 -00.1	348 27.4 -00.1	S	15 12.4 +00.6	26 34.4 -26.9	S	10 13.8 +14.0	08			
09	314 16.4 -00.3	S	23 05.1 -00.2	3 27.3 +00.0	S	15 13.0 +00.6	41 07.5 -26.9	S	10 27.8 +13.9	09			
10	329 16.1 -00.3	S	23 04.9 -00.2	18 27.3 +00.0	S	15 13.6 +00.6	55 40.6 -27.0	S	10 41.7 +13.8	10			
11	344 15.8 -00.3	S	23 04.7 -00.2	33 27.3 -00.1	S	15 14.2 +00.6	70 13.6 -26.9	S	10 55.5 +13.8	11			
12	359 15.5 -00.3	S	23 04.5 -00.2	48 27.2 +00.0	S	15 14.8 +00.6	84 46.7 -27.0	S	11 09.3 +13.7	12			
13	14 15.2 -00.3	S	23 04.3 -00.2	63 27.2 +00.0	S	15 15.4 +00.6	99 19.7 -26.9	S	11 23.0 +13.7	13			
14	29 14.9 -00.3	S	23 04.1 -00.2	78 27.2 -00.1	S	15 16.0 +00.6	113 52.8 -27.0	S	11 36.7 +13.5	14			
15	44 14.6 -00.3	S	23 03.9 -00.2	93 27.1 +00.0	S	15 16.6 +00.6	128 25.8 -27.0	S	11 50.2 +13.6	15			
16	59 14.3 -00.3	S	23 03.7 -00.1	108 27.1 -00.1	S	15 17.2 +00.6	142 58.8 -27.0	S	12 03.8 +13.4	16			
17	74 14.0 -00.3	S	23 03.6 -00.2	123 27.0 +00.0	S	15 17.8 +00.6	157 31.8 -27.1	S	12 17.2 +13.4	17			
18	89 13.7 -00.3	S	23 03.4 -00.2	138 27.0 +00.0	S	15 18.4 +00.6	172 04.7 -27.0	S	12 30.6 +13.3	18			
19	104 13.4 -00.3	S	23 03.2 -00.2	153 27.0 -00.1	S	15 19.0 +00.6	186 37.7 -27.1	S	12 43.9 +13.3	19			
20	119 13.1 -00.3	S	23 03.0 -00.2	168 26.9 +00.0	S	15 19.6 +00.6	201 10.6 -27.1	S	12 57.2 +13.2	20			
21	134 12.8 -00.3	S	23 02.8 -00.2	183 26.9 -00.1	S	15 20.2 +00.6	215 43.5 -27.1	S	13 10.4 +13.1	21			
22	149 12.5 -00.3	S	23 02.6 -00.2	198 26.8 +00.0	S	15 20.8 +00.6	230 16.4 -27.2	S	13 23.5 +13.0	22			
23	164 12.2 -00.3	S	23 02.4 -00.2	213 26.8 -00.1	S	15 21.4 +00.6	244 49.2 -27.1	S	13 36.5 +13.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'4 15'4 15'4 15'3 15'3 15'3						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 56'7 56'6 56'4 56'3 56'2 56'0						
	SHA 080° 080° 079° 079° 079° 079°			SHA 129° 129° 129° 128° 128° 128°			SHA 170° 168° 166° 164° 162° 160°						
	Greenwich Culmination Time: 12:02			Greenwich Culmination Time: 08:46			Greenwich Culmination Time: 06:10						

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	296 53.8 +02.1	N	10 54.6 +00.0	310 23.0 +02.6	N	13 33.1 +00.1	90 51.0 +02.4	N	01 01.7 +00.0	00			
01	311 55.9 +02.1	N	10 54.6 +00.0	325 25.6 +02.6	N	13 33.2 +00.0	105 53.4 +02.4	N	01 01.7 +00.1	01			
02	326 58.0 +02.2	N	10 54.6 -00.1	340 28.2 +02.6	N	13 33.2 +00.1	120 55.8 +02.4	N	01 01.8 +00.0	02			
03	342 00.2 +02.1	N	10 54.5 +00.0	355 30.8 +02.6	N	13 33.3 +00.0	135 58.2 +02.4	N	01 01.8 +00.1	03			
04	357 02.3 +02.1	N	10 54.5 +00.0	10 33.4 +02.6	N	13 33.3 +00.1	151 00.6 +02.3	N	01 01.9 +00.0	04			
05	12 04.4 +02.2	N	10 54.5 -00.1	25 36.0 +02.6	N	13 33.4 +00.1	166 02.9 +02.4	N	01 01.9 +00.1	05			
06	27 06.6 +02.1	N	10 54.4 +00.0	40 38.6 +02.6	N	13 33.5 +00.0	181 05.3 +02.4	N	01 02.0 +00.0	06			
07	42 08.7 +02.2	N	10 54.4 -00.1	55 41.2 +02.6	N	13 33.5 +00.1	196 07.7 +02.4	N	01 02.0 +00.1	07			
08	57 10.9 +02.1	N	10 54.3 +00.0	70 43.8 +02.6	N	13 33.6 +00.0	211 10.1 +02.4	N	01 02.1 +00.0	08			
09	72 13.0 +02.2	N	10 54.3 +00.0	85 46.4 +02.6	N	13 33.6 +00.1	226 12.5 +02.4	N	01 02.1 +00.1	09			
10	87 15.2 +02.1	N	10 54.3 -00.1	100 49.0 +02.6	N	13 33.7 +00.1	241 14.9 +02.3	N	01 02.2 +00.0	10			
11	102 17.3 +02.2	N	10 54.2 +00.0	115 51.6 +02.6	N	13 33.8 +00.0	256 17.2 +02.4	N	01 02.2 +00.0	11			
12	117 19.5 +02.1	N	10 54.2 +00.0	130 54.2 +02.6	N	13 33.8 +00.1	271 19.6 +02.4	N	01 02.2 +00.1	12			
13	132 21.6 +02.2	N	10 54.2 -00.1	145 56.8 +02.6	N	13 33.9 +00.0	286 22.0 +02.4	N	01 02.3 +00.0	13			
14	147 23.8 +02.1	N	10 54.1 +00.0	160 59.4 +02.6	N	13 33.9 +00.1	301 24.4 +02.4	N	01 02.3 +00.1	14			
15	162 25.9 +02.2	N	10 54.1 +00.0	176 02.0 +02.6	N	13 34.0 +00.1	316 26.8 +02.4	N	01 02.4 +00.0	15			
16	177 28.1 +02.1	N	10 54.1 -00.1	191 04.6 +02.6	N	13 34.1 +00.0	331 29.2 +02.3	N	01 02.4 +00.1	16			
17	192 30.2 +02.2	N	10 54.0 +00.0	206 07.2 +02.6	N	13 34.1 +00.1	346 31.5 +02.4	N	01 02.5 +00.0	17			
18	207 32.4 +02.1	N	10 54.0 +00.0	221 09.8 +02.7	N	13 34.2 +00.0	1 33.9 +02.4	N	01 02.5 +00.1	18			
19	222 34.5 +02.2	N	10 54.0 -00.1	236 12.5 +02.6	N	13 34.2 +00.1	16 36.3 +02.4	N	01 02.6 +00.0	19			
20	237 36.7 +02.1	N	10 53.9 +00.0	251 15.1 +02.6	N	13 34.3 +00.1	31 38.7 +02.4	N	01 02.6 +00.1	20			
21	252 38.8 +02.2	N	10 53.9 +00.0	266 17.7 +02.6	N	13 34.4 +00.0	46 41.1 +02.3	N	01 02.7 +00.0	21			
22	267 41.0 +02.2	N	10 53.9 +00.0	281 20.3 +02.6	N	13 34.4 +00.1	61 43.4 +02.4	N	01 02.7 +00.1	22			
23	282 43.2 +02.1	N	10 53.9 -00.1	296 22.9 +02.6	N	13 34.5 +00.0	76 45.8 +02.4	N	01 02.8 +00.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'1 00'1 00'1 00'1 00'1 00'1			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 00'1 00'1 00'1 00'1 00'1 00'1						
	HP 00'2 00'2 00'2 00'2 00'2 00'2			HP 00'0 00'0 00'0 00'0 00'0 00'0			HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 197° 197° 197° 197° 197° 197°			SHA 211° 211° 211° 211° 211° 211°			SHA 351° 351° 351° 351° 351° 351°						
	Greenwich Culmination Time: 04:11			Greenwich Culmination Time: 03:17			Greenwich Culmination Time: 17:53						

