

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 10.5 -00.3	S	23 01.2 -00.2	166 00.0 +03.9	S	18 35.0 -00.4	206 32.5 -38.2	S	23 55.2 +07.3	00			
01	194 10.2 -00.3	S	23 01.0 -00.2	181 03.9 +03.8	S	18 34.6 -00.5	220 54.3 -38.2	S	24 02.5 +07.1	01			
02	209 09.9 -00.3	S	23 00.8 -00.2	196 07.7 +03.9	S	18 34.1 -00.4	235 16.1 -38.3	S	24 09.6 +07.0	02			
03	224 09.6 -00.3	S	23 00.6 -00.2	211 11.6 +03.8	S	18 33.7 -00.4	249 37.8 -38.4	S	24 16.6 +06.8	03			
04	239 09.3 -00.3	S	23 00.4 -00.2	226 15.4 +03.9	S	18 33.3 -00.5	263 59.4 -38.5	S	24 23.4 +06.6	04			
05	254 09.0 -00.3	S	23 00.2 -00.2	241 19.3 +03.8	S	18 32.8 -00.4	278 20.9 -38.5	S	24 30.0 +06.4	05			
06	269 08.7 -00.3	S	22 60.0 -00.2	256 23.1 +03.9	S	18 32.4 -00.5	292 42.4 -38.7	S	24 36.4 +06.2	06			
07	284 08.4 -00.3	S	22 59.8 -00.2	271 27.0 +03.9	S	18 31.9 -00.4	307 03.7 -38.7	S	24 42.6 +06.0	07			
08	299 08.1 -00.3	S	22 59.6 -00.2	286 30.9 +03.8	S	18 31.5 -00.4	321 25.0 -38.9	S	24 48.6 +05.9	08			
09	314 07.8 -00.3	S	22 59.4 -00.2	301 34.7 +03.9	S	18 31.1 -00.5	335 46.1 -38.9	S	24 54.5 +05.7	09			
10	329 07.5 -00.3	S	22 59.2 -00.3	316 38.6 +03.9	S	18 30.6 -00.4	350 07.2 -38.9	S	25 00.2 +05.4	10			
11	344 07.2 -00.3	S	22 58.9 -00.2	331 42.5 +03.8	S	18 30.2 -00.4	4 28.3 -39.1	S	25 05.6 +05.3	11			
12	359 06.9 -00.3	S	22 58.7 -00.2	346 46.3 +03.9	S	18 29.8 -00.5	18 49.2 -39.1	S	25 10.9 +05.1	12			
13	14 06.6 -00.3	S	22 58.5 -00.2	1 50.2 +03.9	S	18 29.3 -00.4	33 10.1 -39.2	S	25 16.0 +04.9	13			
14	29 06.3 -00.3	S	22 58.3 -00.2	16 54.1 +03.9	S	18 28.9 -00.4	47 30.9 -39.2	S	25 20.9 +04.7	14			
15	44 06.0 -00.3	S	22 58.1 -00.2	31 58.0 +03.9	S	18 28.5 -00.5	61 51.7 -39.3	S	25 25.6 +04.6	15			
16	59 05.7 -00.2	S	22 57.9 -00.2	47 01.9 +03.9	S	18 28.0 -00.4	76 12.4 -39.4	S	25 30.2 +04.3	16			
17	74 05.5 -00.3	S	22 57.7 -00.2	62 05.8 +03.9	S	18 27.6 -00.4	90 33.0 -39.4	S	25 34.5 +04.1	17			
18	89 05.2 -00.3	S	22 57.5 -00.3	77 09.7 +03.9	S	18 27.2 -00.5	104 53.6 -39.5	S	25 38.6 +03.9	18			
19	104 04.9 -00.3	S	22 57.2 -00.2	92 13.6 +03.8	S	18 26.7 -00.4	119 14.1 -39.5	S	25 42.5 +03.7	19			
20	119 04.6 -00.3	S	22 57.0 -00.2	107 17.4 +03.9	S	18 26.3 -00.4	133 34.6 -39.6	S	25 46.2 +03.5	20			
21	134 04.3 -00.3	S	22 56.8 -00.2	122 21.3 +04.0	S	18 25.9 -00.5	147 55.0 -39.6	S	25 49.7 +03.3	21			
22	149 04.0 -00.3	S	22 56.6 -00.2	137 25.3 +03.9	S	18 25.4 -00.4	162 15.4 -39.6	S	25 53.0 +03.2	22			
23	164 03.7 -00.3	S	22 56.4 -00.3	152 29.2 +03.9	S	18 25.0 -00.4	176 35.8 -39.7	S	25 56.2 +02.9	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 00'5 00'5 00'5 00'5 00'5 00'5			SD 16'6 16'7 16'7 16'7 16'7 16'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'5 00'5 00'5			HP 61'1 61'1 61'2 61'2 61'2 61'2						
	SHA 078° 078° 078° 078° 078° 078°			SHA 065° 066° 066° 066° 066° 066°			SHA 105° 102° 099° 096° 094° 091°						
	Greenwich Culmination Time: 12:03			Greenwich Culmination Time: 12:52			Greenwich Culmination Time: 10:41						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	208 58.0 +00.6	S	22 30.0 +00.2	127 39.4 +02.0	S	12 12.7 -00.2	146 01.3 +02.2	S	18 00.6 +00.0	00			
01	223 58.6 +00.5	S	22 30.2 +00.3	142 41.4 +02.0	S	12 12.5 -00.2	161 03.5 +02.2	S	18 00.6 -00.1	01			
02	238 59.1 +00.6	S	22 30.5 +00.2	157 43.4 +02.0	S	12 12.3 -00.2	176 05.7 +02.2	S	18 00.5 -00.1	02			
03	253 59.7 +00.6	S	22 30.7 +00.3	172 45.4 +01.9	S	12 12.1 -00.1	191 07.9 +02.2	S	18 00.4 -00.1	03			
04	269 00.3 +00.5	S	22 31.0 +00.2	187 47.3 +02.0	S	12 12.0 -00.2	206 10.1 +02.2	S	18 00.3 +00.0	04			
05	284 00.8 +00.6	S	22 31.2 +00.3	202 49.3 +02.0	S	12 11.8 -00.2	221 12.3 +02.2	S	18 00.3 -00.1	05			
06	299 01.4 +00.5	S	22 31.5 +00.2	217 51.3 +02.0	S	12 11.6 -00.2	236 14.5 +02.1	S	18 00.2 -00.1	06			
07	314 01.9 +00.6	S	22 31.7 +00.3	232 53.3 +02.0	S	12 11.4 -00.1	251 16.6 +02.2	S	18 00.1 -00.1	07			
08	329 02.5 +00.6	S	22 32.0 +00.2	247 55.3 +02.0	S	12 11.3 -00.2	266 18.8 +02.2	S	18 00.0 +00.0	08			
09	344 03.1 +00.5	S	22 32.2 +00.3	262 57.3 +02.0	S	12 11.1 -00.2	281 21.0 +02.2	S	17 60.0 -00.1	09			
10	359 03.6 +00.6	S	22 32.5 +00.2	277 59.3 +02.0	S	12 10.9 -00.2	296 23.2 +02.2	S	17 59.9 -00.1	10			
11	14 04.2 +00.5	S	22 32.7 +00.3	293 01.3 +02.0	S	12 10.7 -00.2	311 25.4 +02.2	S	17 59.8 -00.1	11			
12	29 04.7 +00.6	S	22 33.0 +00.2	308 03.3 +02.0	S	12 10.5 -00.1	326 27.6 +02.2	S	17 59.7 +00.0	12			
13	44 05.3 +00.5	S	22 33.2 +00.3	323 05.3 +02.0	S	12 10.4 -00.2	341 29.8 +02.2	S	17 59.7 -00.1	13			
14	59 05.8 +00.6	S	22 33.5 +00.2	338 07.3 +02.0	S	12 10.2 -00.2	356 32.0 +02.2	S	17 59.6 -00.1	14			
15	74 06.4 +00.6	S	22 33.7 +00.2	353 09.3 +02.0	S	12 10.0 -00.2	11 34.2 +02.2	S	17 59.5 -00.1	15			
16	89 07.0 +00.5	S	22 33.9 +00.3	8 11.3 +02.0	S	12 09.8 -00.1	26 36.4 +02.1	S	17 59.4 +00.0	16			
17	104 07.5 +00.6	S	22 34.2 +00.2	23 13.3 +02.0	S	12 09.7 -00.2	41 38.5 +02.2	S	17 59.4 -00.1	17			
18	119 08.1 +00.5	S	22 34.4 +00.3	38 15.3 +02.0	S	12 09.5 -00.2	56 40.7 +02.2	S	17 59.3 -00.1	18			
19	134 08.6 +00.6	S	22 34.7 +00.2	53 17.3 +02.0	S	12 09.3 -00.2	71 42.9 +02.2	S	17 59.2 -00.1	19			
20	149 09.2 +00.5	S	22 34.9 +00.3	68 19.3 +02.0	S	12 09.1 -00.1	86 45.1 +02.2	S	17 59.1 +00.0	20			
21	164 09.7 +00.6	S	22 35.2 +00.2	83 21.3 +02.0	S	12 09.0 -00.2	101 47.3 +02.2	S	17 59.1 -00.1	21			
22	179 10.3 +00.5	S	22 35.4 +00.2	98 23.3 +02.0	S	12 08.8 -00.2	116 49.5 +02.2	S	17 59.0 -00.1	22			
23	194 10.8 +00.6	S	22 35.6 +00.3	113 25.3 +02.0	S	12 08.6 -00.2	131 51.7 +02.2	S	17 58.9 -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 00'1 00'1 00'1 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 108° 108° 108° 108° 108° 108°			SHA 027° 027° 027° 027° 027° 027°			SHA 045° 045° 045° 045° 045° 045°						
	Greenwich Culmination Time: 10:03			Greenwich Culmination Time: 15:27			Greenwich Culmination Time: 14:13						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	179 03.4 -00.3	S	22 56.1 -00.2	167 33.1 +03.9	S	18 24.6 -00.5	190 56.1 -39.7	S	25 59.1 +02.7	00			
01	194 03.1 -00.3	S	22 55.9 -00.2	182 37.0 +03.9	S	18 24.1 -00.4	205 16.4 -39.8	S	26 01.8 +02.5	01			
02	209 02.8 -00.3	S	22 55.7 -00.2	197 40.9 +03.9	S	18 23.7 -00.4	219 36.6 -39.7	S	26 04.3 +02.3	02			
03	224 02.5 -00.3	S	22 55.5 -00.2	212 44.8 +03.9	S	18 23.3 -00.5	233 56.9 -39.8	S	26 06.6 +02.1	03			
04	239 02.2 -00.3	S	22 55.3 -00.3	227 48.7 +03.9	S	18 22.8 -00.4	248 17.1 -39.9	S	26 08.7 +01.8	04			
05	254 01.9 -00.3	S	22 55.0 -00.2	242 52.6 +04.0	S	18 22.4 -00.4	262 37.2 -39.8	S	26 10.5 +01.7	05			
06	269 01.6 -00.3	S	22 54.8 -00.2	257 56.6 +03.9	S	18 22.0 -00.4	276 57.4 -39.9	S	26 12.2 +01.5	06			
07	284 01.3 -00.2	S	22 54.6 -00.2	273 00.5 +03.9	S	18 21.6 -00.5	291 17.5 -39.8	S	26 13.7 +01.2	07			
08	299 01.1 -00.3	S	22 54.4 -00.3	288 04.4 +04.0	S	18 21.1 -00.4	305 37.7 -39.9	S	26 14.9 +01.1	08			
09	314 00.8 -00.3	S	22 54.1 -00.2	303 08.4 +03.9	S	18 20.7 -00.4	319 57.8 -39.9	S	26 16.0 +00.8	09			
10	329 00.5 -00.3	S	22 53.9 -00.2	318 12.3 +03.9	S	18 20.3 -00.5	334 17.9 -39.9	S	26 16.8 +00.7	10			
11	344 00.2 -00.3	S	22 53.7 -00.3	333 16.2 +04.0	S	18 19.8 -00.4	348 38.0 -39.8	S	26 17.5 +00.4	11			
12	358 59.9 -00.3	S	22 53.4 -00.2	348 20.2 +03.9	S	18 19.4 -00.4	2 58.2 -39.9	S	26 17.9 +00.2	12			
13	13 59.6 -00.3	S	22 53.2 -00.2	3 24.1 +04.0	S	18 19.0 -00.4	17 18.3 -39.9	S	26 18.1 +00.1	13			
14	28 59.3 -00.3	S	22 53.0 -00.2	18 28.1 +03.9	S	18 18.6 -00.5	31 38.4 -39.8	S	26 18.2 -00.2	14			
15	43 59.0 -00.3	S	22 52.8 -00.3	33 32.0 +04.0	S	18 18.1 -00.4	45 58.6 -39.8	S	26 18.0 -00.4	15			
16	58 58.7 -00.3	S	22 52.5 -00.2	48 36.0 +03.9	S	18 17.7 -00.4	60 18.8 -39.9	S	26 17.6 -00.6	16			
17	73 58.4 -00.3	S	22 52.3 -00.2	63 39.9 +04.0	S	18 17.3 -00.4	74 38.9 -39.7	S	26 17.0 -00.8	17			
18	88 58.1 -00.3	S	22 52.1 -00.3	78 43.9 +03.9	S	18 16.9 -00.4	88 59.2 -39.8	S	26 16.2 -01.1	18			
19	103 57.8 -00.2	S	22 51.8 -00.2	93 47.8 +04.0	S	18 16.5 -00.5	103 19.4 -39.7	S	26 15.1 -01.2	19			
20	118 57.6 -00.3	S	22 51.6 -00.3	108 51.8 +03.9	S	18 16.0 -00.4	117 39.7 -39.7	S	26 13.9 -01.4	20			
21	133 57.3 -00.3	S	22 51.3 -00.2	123 55.7 +04.0	S	18 15.6 -00.4	131 60.0 -39.7	S	26 12.5 -01.6	21			
22	148 57.0 -00.3	S	22 51.1 -00.2	138 59.7 +04.0	S	18 15.2 -00.4	146 20.3 -39.6	S	26 10.9 -01.9	22			
23	163 56.7 -00.3	S	22 50.9 -00.3	154 03.7 +03.9	S	18 14.8 -00.4	160 40.7 -39.6	S	26 09.0 -02.0	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 00'5 00'5 00'5 00'5 00'5 00'5			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 00'5 00'5 00'5 00'5 00'5 00'5			HP 61'2 61'2 61'2 61'1 61'1 61'1						
	SHA 077° 077° 077° 077° 077° 076°			SHA 066° 066° 066° 066° 066° 066°			SHA 088° 085° 082° 079° 077° 074°						
	Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 12:46			Greenwich Culmination Time: 11:47						

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 11.4 +00.6	S	22 35.9 +00.2	128 27.3 +02.0	S	12 08.4 -00.2	146 53.9 +02.2	S	17 58.8 +00.0	00			
01	224 12.0 +00.5	S	22 36.1 +00.3	143 29.3 +02.0	S	12 08.2 -00.1	161 56.1 +02.2	S	17 58.8 -00.1	01			
02	239 12.5 +00.6	S	22 36.4 +00.2	158 31.3 +01.9	S	12 08.1 -00.2	176 58.3 +02.1	S	17 58.7 -00.1	02			
03	254 13.1 +00.5	S	22 36.6 +00.2	173 33.2 +02.0	S	12 07.9 -00.2	192 00.4 +02.2	S	17 58.6 -00.1	03			
04	269 13.6 +00.6	S	22 36.8 +00.3	188 35.2 +02.0	S	12 07.7 -00.2	207 02.6 +02.2	S	17 58.5 +00.0	04			
05	284 14.2 +00.5	S	22 37.1 +00.2	203 37.2 +02.0	S	12 07.5 -00.1	222 04.8 +02.2	S	17 58.5 -00.1	05			
06	299 14.7 +00.6	S	22 37.3 +00.3	218 39.2 +02.0	S	12 07.4 -00.2	237 07.0 +02.2	S	17 58.4 -00.1	06			
07	314 15.3 +00.5	S	22 37.6 +00.2	233 41.2 +02.0	S	12 07.2 -00.2	252 09.2 +02.2	S	17 58.3 -00.1	07			
08	329 15.8 +00.6	S	22 37.8 +00.2	248 43.2 +02.0	S	12 07.0 -00.2	267 11.4 +02.2	S	17 58.2 +00.0	08			
09	344 16.4 +00.5	S	22 38.0 +00.3	263 45.2 +02.0	S	12 06.8 -00.2	282 13.6 +02.2	S	17 58.2 -00.1	09			
10	359 16.9 +00.6	S	22 38.3 +00.2	278 47.2 +02.0	S	12 06.6 -00.1	297 15.8 +02.2	S	17 58.1 -00.1	10			
11	14 17.5 +00.5	S	22 38.5 +00.3	293 49.2 +02.0	S	12 06.5 -00.2	312 18.0 +02.1	S	17 58.0 -00.1	11			
12	29 18.0 +00.6	S	22 38.8 +00.2	308 51.2 +02.0	S	12 06.3 -00.2	327 20.1 +02.2	S	17 57.9 +00.0	12			
13	44 18.6 +00.6	S	22 39.0 +00.2	323 53.2 +02.0	S	12 06.1 -00.2	342 22.3 +02.2	S	17 57.9 -00.1	13			
14	59 19.2 +00.5	S	22 39.2 +00.3	338 55.2 +02.0	S	12 05.9 -00.2	357 24.5 +02.2	S	17 57.8 -00.1	14			
15	74 19.7 +00.6	S	22 39.5 +00.2	353 57.2 +02.0	S	12 05.7 -00.1	12 26.7 +02.2	S	17 57.7 -00.1	15			
16	89 20.3 +00.5	S	22 39.7 +00.2	8 59.2 +02.0	S	12 05.6 -00.2	27 28.9 +02.2	S	17 57.6 +00.0	16			
17	104 20.8 +00.6	S	22 39.9 +00.3	24 01.2 +01.9	S	12 05.4 -00.2	42 31.1 +02.2	S	17 57.6 -00.1	17			
18	119 21.4 +00.5	S	22 40.2 +00.2	39 03.1 +02.0	S	12 05.2 -00.2	57 33.3 +02.2	S	17 57.5 -00.1	18			
19	134 21.9 +00.6	S	22 40.4 +00.2	54 05.1 +02.0	S	12 05.0 -00.1	72 35.5 +02.1	S	17 57.4 -00.1	19			
20	149 22.5 +00.5	S	22 40.6 +00.3	69 07.1 +02.0	S	12 04.9 -00.2	87 37.6 +02.2	S	17 57.3 +00.0	20			
21	164 23.0 +00.6	S	22 40.9 +00.2	84 09.1 +02.0	S	12 04.7 -00.2	102 39.8 +02.2	S	17 57.3 -00.1	21			
22	179 23.6 +00.5	S	22 41.1 +00.2	99 11.1 +02.0	S	12 04.5 -00.2	117 42.0 +02.2	S	17 57.2 -00.1	22			
23	194 24.1 +00.6	S	22 41.3 +00.3	114 13.1 +02.0	S	12 04.3 -00.2	132 44.2 +02.2	S	17 57.1 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 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 108° 107° 107° 107° 107° 107°			SHA 027° 027° 027° 027° 027° 027°			SHA 045° 045° 045° 045° 045° 045°						
	Greenwich Culmination Time: 10:02			Greenwich Culmination Time: 15:24			Greenwich Culmination Time: 14:10						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 56.4 -00.3	S	22 50.6 -00.2	169 07.6 +04.0	S	18 14.4 -00.5	175 01.1 -39.6	S	26 07.0 -02.3	00			
01	193 56.1 -00.3	S	22 50.4 -00.2	184 11.6 +04.0	S	18 13.9 -00.4	189 21.5 -39.5	S	26 04.7 -02.4	01			
02	208 55.8 -00.3	S	22 50.2 -00.3	199 15.6 +04.0	S	18 13.5 -00.4	203 42.0 -39.4	S	26 02.3 -02.6	02			
03	223 55.5 -00.3	S	22 49.9 -00.2	214 19.6 +03.9	S	18 13.1 -00.4	218 02.6 -39.4	S	25 59.7 -02.9	03			
04	238 55.2 -00.3	S	22 49.7 -00.3	229 23.5 +04.0	S	18 12.7 -00.4	232 23.2 -39.3	S	25 56.8 -03.0	04			
05	253 54.9 -00.2	S	22 49.4 -00.2	244 27.5 +04.0	S	18 12.3 -00.5	246 43.9 -39.3	S	25 53.8 -03.3	05			
06	268 54.7 -00.3	S	22 49.2 -00.3	259 31.5 +04.0	S	18 11.8 -00.4	261 04.6 -39.2	S	25 50.5 -03.4	06			
07	283 54.4 -00.3	S	22 48.9 -00.2	274 35.5 +04.0	S	18 11.4 -00.4	275 25.4 -39.1	S	25 47.1 -03.6	07			
08	298 54.1 -00.3	S	22 48.7 -00.3	289 39.5 +04.0	S	18 11.0 -00.4	289 46.3 -39.1	S	25 43.5 -03.9	08			
09	313 53.8 -00.3	S	22 48.4 -00.2	304 43.5 +04.0	S	18 10.6 -00.4	304 07.2 -39.0	S	25 39.6 -04.0	09			
10	328 53.5 -00.3	S	22 48.2 -00.2	319 47.5 +04.0	S	18 10.2 -00.4	318 28.2 -38.9	S	25 35.6 -04.2	10			
11	343 53.2 -00.3	S	22 48.0 -00.3	334 51.5 +04.0	S	18 09.8 -00.4	332 49.3 -38.8	S	25 31.4 -04.4	11			
12	358 52.9 -00.3	S	22 47.7 -00.2	349 55.5 +04.0	S	18 09.4 -00.5	347 10.5 -38.8	S	25 27.0 -04.6	12			
13	13 52.6 -00.2	S	22 47.5 -00.3	4 59.5 +04.0	S	18 08.9 -00.4	1 31.7 -38.7	S	25 22.4 -04.8	13			
14	28 52.4 -00.3	S	22 47.2 -00.2	20 03.5 +04.0	S	18 08.5 -00.4	15 53.0 -38.5	S	25 17.6 -04.9	14			
15	43 52.1 -00.3	S	22 47.0 -00.3	35 07.5 +04.0	S	18 08.1 -00.4	30 14.5 -38.5	S	25 12.7 -05.2	15			
16	58 51.8 -00.3	S	22 46.7 -00.3	50 11.5 +04.0	S	18 07.7 -00.4	44 36.0 -38.5	S	25 07.5 -05.3	16			
17	73 51.5 -00.3	S	22 46.4 -00.2	65 15.5 +04.0	S	18 07.3 -00.4	58 57.5 -38.3	S	25 02.2 -05.5	17			
18	88 51.2 -00.3	S	22 46.2 -00.3	80 19.5 +04.0	S	18 06.9 -00.4	73 19.2 -38.2	S	24 56.7 -05.7	18			
19	103 50.9 -00.3	S	22 45.9 -00.2	95 23.5 +04.0	S	18 06.5 -00.4	87 41.0 -38.1	S	24 51.0 -05.9	19			
20	118 50.6 -00.3	S	22 45.7 -00.3	110 27.5 +04.0	S	18 06.1 -00.5	102 02.9 -38.1	S	24 45.1 -06.1	20			
21	133 50.3 -00.2	S	22 45.4 -00.2	125 31.5 +04.0	S	18 05.6 -00.4	116 24.8 -37.9	S	24 39.0 -06.2	21			
22	148 50.1 -00.3	S	22 45.2 -00.3	140 35.5 +04.0	S	18 05.2 -00.4	130 46.9 -37.8	S	24 32.8 -06.4	22			
23	163 49.8 -00.3	S	22 44.9 -00.2	155 39.5 +04.1	S	18 04.8 -00.4	145 09.1 -37.8	S	24 26.4 -06.6	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 00'5 00'5 00'5 00'5 00'5 00'5			SD 16'6 16'6 16'6 16'6 16'5 16'5						
	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 61'0 60'9 60'9 60'8 60'7 60'6						
	SHA 076° 076° 076° 076° 076° 075°			SHA 067° 067° 067° 067° 067° 067°			SHA 071° 068° 065° 063° 060° 057°						
	Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 12:40			Greenwich Culmination Time: 12:53						
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 24.7 +00.5	S	22 41.6 +00.2	129 15.1 +02.0	S	12 04.1 -00.1	147 46.4 +02.2	S	17 57.0 +00.0	00			
01	224 25.2 +00.6	S	22 41.8 +00.2	144 17.1 +02.0	S	12 04.0 -00.2	162 48.6 +02.2	S	17 57.0 -00.1	01			
02	239 25.8 +00.5	S	22 42.0 +00.3	159 19.1 +02.0	S	12 03.8 -00.2	177 50.8 +02.2	S	17 56.9 -00.1	02			
03	254 26.3 +00.6	S	22 42.3 +00.2	174 21.1 +02.0	S	12 03.6 -00.2	192 53.0 +02.1	S	17 56.8 -00.1	03			
04	269 26.9 +00.5	S	22 42.5 +00.2	189 23.1 +01.9	S	12 03.4 -00.2	207 55.1 +02.2	S	17 56.7 +00.0	04			
05	284 27.4 +00.6	S	22 42.7 +00.3	204 25.0 +02.0	S	12 03.2 -00.1	222 57.3 +02.2	S	17 56.7 -00.1	05			
06	299 28.0 +00.5	S	22 43.0 +00.2	219 27.0 +02.0	S	12 03.1 -00.2	237 59.5 +02.2	S	17 56.6 -00.1	06			
07	314 28.5 +00.6	S	22 43.2 +00.2	234 29.0 +02.0	S	12 02.9 -00.2	253 01.7 +02.2	S	17 56.5 -00.1	07			
08	329 29.1 +00.5	S	22 43.4 +00.2	249 31.0 +02.0	S	12 02.7 -00.2	268 03.9 +02.2	S	17 56.4 +00.0	08			
09	344 29.6 +00.6	S	22 43.6 +00.3	264 33.0 +02.0	S	12 02.5 -00.2	283 06.1 +02.2	S	17 56.4 -00.1	09			
10	359 30.2 +00.5	S	22 43.9 +00.2	279 35.0 +02.0	S	12 02.3 -00.1	298 08.3 +02.2	S	17 56.3 -00.1	10			
11	14 30.7 +00.6	S	22 44.1 +00.2	294 37.0 +02.0	S	12 02.2 -00.2	313 10.5 +02.1	S	17 56.2 -00.1	11			
12	29 31.3 +00.5	S	22 44.3 +00.3	309 39.0 +02.0	S	12 02.0 -00.2	328 12.6 +02.2	S	17 56.1 +00.0	12			
13	44 31.8 +00.6	S	22 44.6 +00.2	324 41.0 +02.0	S	12 01.8 -00.2	343 14.8 +02.2	S	17 56.1 -00.1	13			
14	59 32.4 +00.5	S	22 44.8 +00.2	339 43.0 +01.9	S	12 01.6 -00.2	358 17.0 +02.2	S	17 56.0 -00.1	14			
15	74 32.9 +00.6	S	22 45.0 +00.2	354 44.9 +02.0	S	12 01.4 -00.1	13 19.2 +02.2	S	17 55.9 -00.1	15			
16	89 33.5 +00.5	S	22 45.2 +00.3	9 46.9 +02.0	S	12 01.3 -00.2	28 21.4 +02.2	S	17 55.8 -00.1	16			
17	104 34.0 +00.6	S	22 45.5 +00.2	24 48.9 +02.0	S	12 01.1 -00.2	43 23.6 +02.2	S	17 55.7 +00.0	17			
18	119 34.6 +00.5	S	22 45.7 +00.2	39 50.9 +02.0	S	12 00.9 -00.2	58 25.8 +02.1	S	17 55.7 -00.1	18			
19	134 35.1 +00.5	S	22 45.9 +00.2	54 52.9 +02.0	S	12 00.7 -00.2	73 27.9 +02.2	S	17 55.6 -00.1	19			
20	149 35.6 +00.6	S	22 46.1 +00.3	69 54.9 +02.0	S	12 00.5 -00.1	88 30.1 +02.2	S	17 55.5 -00.1	20			
21	164 36.2 +00.5	S	22 46.4 +00.2	84 56.9 +02.0	S	12 00.4 -00.2	103 32.3 +02.2	S	17 55.4 +00.0	21			
22	179 36.7 +00.6	S	22 46.6 +00.2	99 58.9 +01.9	S	12 00.2 -00.2	118 34.5 +02.2	S	17 55.4 -00.1	22			
23	194 37.3 +00.5	S	22 46.8 +00.2	115 00.8 +02.0	S	12 00.0 -00.2	133 36.7 +02.2	S	17 55.3 -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 00'1 00'1 00'1 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 107° 107° 106° 106° 106° 106°			SHA 027° 027° 027° 027° 027° 026°			SHA 045° 045° 045° 045° 045° 045°						
	Greenwich Culmination Time: 10:01			Greenwich Culmination Time: 15:20			Greenwich Culmination Time: 14:06						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 49.5 -00.3	S	22 44.7 -00.3	170 43.6 +04.0	S	18 04.4 -00.4	159 31.3 -37.6	S	24 19.8 -06.7	00			
01	193 49.2 -00.3	S	22 44.4 -00.3	185 47.6 +04.0	S	18 04.0 -00.4	173 53.7 -37.5	S	24 13.1 -06.9	01			
02	208 48.9 -00.3	S	22 44.1 -00.2	200 51.6 +04.0	S	18 03.6 -00.4	188 16.2 -37.4	S	24 06.2 -07.1	02			
03	223 48.6 -00.3	S	22 43.9 -00.3	215 55.6 +04.1	S	18 03.2 -00.4	202 38.8 -37.3	S	23 59.1 -07.2	03			
04	238 48.3 -00.2	S	22 43.6 -00.2	230 59.7 +04.0	S	18 02.8 -00.4	217 01.5 -37.1	S	23 51.9 -07.4	04			
05	253 48.1 -00.3	S	22 43.4 -00.3	246 03.7 +04.0	S	18 02.4 -00.4	231 24.4 -37.1	S	23 44.5 -07.6	05			
06	268 47.8 -00.3	S	22 43.1 -00.3	261 07.7 +04.1	S	18 02.0 -00.4	245 47.3 -36.9	S	23 36.9 -07.7	06			
07	283 47.5 -00.3	S	22 42.8 -00.2	276 11.8 +04.0	S	18 01.6 -00.4	260 10.4 -36.9	S	23 29.2 -07.9	07			
08	298 47.2 -00.3	S	22 42.6 -00.3	291 15.8 +04.0	S	18 01.2 -00.4	274 33.5 -36.7	S	23 21.3 -08.1	08			
09	313 46.9 -00.3	S	22 42.3 -00.3	306 19.8 +04.1	S	18 00.8 -00.4	288 56.8 -36.6	S	23 13.2 -08.2	09			
10	328 46.6 -00.2	S	22 42.0 -00.2	321 23.9 +04.0	S	18 00.4 -00.4	303 20.2 -36.4	S	23 05.0 -08.3	10			
11	343 46.4 -00.3	S	22 41.8 -00.3	336 27.9 +04.1	S	17 60.0 -00.4	317 43.8 -36.4	S	22 56.7 -08.5	11			
12	358 46.1 -00.3	S	22 41.5 -00.3	351 32.0 +04.0	S	17 59.6 -00.4	332 07.4 -36.2	S	22 48.2 -08.6	12			
13	13 45.8 -00.3	S	22 41.2 -00.2	6 36.0 +04.1	S	17 59.2 -00.4	346 31.2 -36.1	S	22 39.6 -08.8	13			
14	28 45.5 -00.3	S	22 41.0 -00.3	21 40.1 +04.0	S	17 58.8 -00.4	0 55.1 -35.9	S	22 30.8 -08.9	14			
15	43 45.2 -00.3	S	22 40.7 -00.3	36 44.1 +04.1	S	17 58.4 -00.4	15 19.2 -35.9	S	22 21.9 -09.1	15			
16	58 44.9 -00.2	S	22 40.4 -00.2	51 48.2 +04.0	S	17 58.0 -00.4	29 43.3 -35.7	S	22 12.8 -09.2	16			
17	73 44.7 -00.3	S	22 40.2 -00.3	66 52.2 +04.1	S	17 57.6 -00.4	44 07.6 -35.6	S	22 03.6 -09.4	17			
18	88 44.4 -00.3	S	22 39.9 -00.3	81 56.3 +04.0	S	17 57.2 -00.4	58 32.0 -35.5	S	21 54.2 -09.4	18			
19	103 44.1 -00.3	S	22 39.6 -00.3	97 00.3 +04.1	S	17 56.8 -00.4	72 56.5 -35.3	S	21 44.8 -09.7	19			
20	118 43.8 -00.3	S	22 39.3 -00.2	112 04.4 +04.0	S	17 56.4 -00.4	87 21.2 -35.2	S	21 35.1 -09.7	20			
21	133 43.5 -00.3	S	22 39.1 -00.3	127 08.4 +04.1	S	17 56.0 -00.4	101 46.0 -35.1	S	21 25.4 -09.9	21			
22	148 43.2 -00.2	S	22 38.8 -00.3	142 12.5 +04.1	S	17 55.6 -00.4	116 10.9 -34.9	S	21 15.5 -10.0	22			
23	163 43.0 -00.3	S	22 38.5 -00.3	157 16.6 +04.0	S	17 55.2 -00.4	130 36.0 -34.9	S	21 05.5 -10.1	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 16'5 16'5 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 60'5 60'4 60'3 60'1 60'0 59'9						
	SHA 075° 075° 075° 075° 074° 074°			SHA 067° 067° 067° 068° 068° 068°			SHA 055° 052° 049° 047° 044° 042°						
	Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 12:33			Greenwich Culmination Time: 13:56						

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 37.8 +00.6	S	22 47.0 +00.3	130 02.8 +02.0	S	11 59.8 -00.2	148 38.9 +02.2	S	17 55.2 -00.1	00			
01	224 38.4 +00.5	S	22 47.3 +00.2	145 04.8 +02.0	S	11 59.6 -00.1	163 41.1 +02.2	S	17 55.1 +00.0	01			
02	239 38.9 +00.6	S	22 47.5 +00.2	160 06.8 +02.0	S	11 59.5 -00.2	178 43.3 +02.1	S	17 55.1 -00.1	02			
03	254 39.5 +00.5	S	22 47.7 +00.2	175 08.8 +02.0	S	11 59.3 -00.2	193 45.4 +02.2	S	17 55.0 -00.1	03			
04	269 40.0 +00.6	S	22 47.9 +00.3	190 10.8 +02.0	S	11 59.1 -00.2	208 47.6 +02.2	S	17 54.9 -00.1	04			
05	284 40.6 +00.5	S	22 48.2 +00.2	205 12.8 +02.0	S	11 58.9 -00.2	223 49.8 +02.2	S	17 54.8 +00.0	05			
06	299 41.1 +00.6	S	22 48.4 +00.2	220 14.8 +01.9	S	11 58.7 -00.1	238 52.0 +02.2	S	17 54.8 -00.1	06			
07	314 41.7 +00.5	S	22 48.6 +00.2	235 16.7 +02.0	S	11 58.6 -00.2	253 54.2 +02.2	S	17 54.7 -00.1	07			
08	329 42.2 +00.5	S	22 48.8 +00.2	250 18.7 +02.0	S	11 58.4 -00.2	268 56.4 +02.2	S	17 54.6 -00.1	08			
09	344 42.7 +00.6	S	22 49.0 +00.3	265 20.7 +02.0	S	11 58.2 -00.2	283 58.6 +02.1	S	17 54.5 +00.0	09			
10	359 43.3 +00.5	S	22 49.3 +00.2	280 22.7 +02.0	S	11 58.0 -00.2	299 00.7 +02.2	S	17 54.5 -00.1	10			
11	14 43.8 +00.6	S	22 49.5 +00.2	295 24.7 +02.0	S	11 57.8 -00.2	314 02.9 +02.2	S	17 54.4 -00.1	11			
12	29 44.4 +00.5	S	22 49.7 +00.2	310 26.7 +02.0	S	11 57.6 -00.1	329 05.1 +02.2	S	17 54.3 -00.1	12			
13	44 44.9 +00.6	S	22 49.9 +00.2	325 28.7 +02.0	S	11 57.5 -00.2	344 07.3 +02.2	S	17 54.2 -00.1	13			
14	59 45.5 +00.5	S	22 50.1 +00.3	340 30.7 +01.9	S	11 57.3 -00.2	359 09.5 +02.2	S	17 54.1 +00.0	14			
15	74 46.0 +00.6	S	22 50.4 +00.2	355 32.6 +02.0	S	11 57.1 -00.2	14 11.7 +02.1	S	17 54.1 -00.1	15			
16	89 46.6 +00.5	S	22 50.6 +00.2	10 34.6 +02.0	S	11 56.9 -00.2	29 13.8 +02.2	S	17 54.0 -00.1	16			
17	104 47.1 +00.5	S	22 50.8 +00.2	25 36.6 +02.0	S	11 56.7 -00.1	44 16.0 +02.2	S	17 53.9 -00.1	17			
18	119 47.6 +00.6	S	22 51.0 +00.2	40 38.6 +02.0	S	11 56.6 -00.2	59 18.2 +02.2	S	17 53.8 +00.0	18			
19	134 48.2 +00.5	S	22 51.2 +00.2	55 40.6 +02.0	S	11 56.4 -00.2	74 20.4 +02.2	S	17 53.8 -00.1	19			
20	149 48.7 +00.6	S	22 51.4 +00.3	70 42.6 +01.9	S	11 56.2 -00.2	89 22.6 +02.2	S	17 53.7 -00.1	20			
21	164 49.3 +00.5	S	22 51.7 +00.2	85 44.5 +02.0	S	11 56.0 -00.2	104 24.8 +02.2	S	17 53.6 -00.1	21			
22	179 49.8 +00.6	S	22 51.9 +00.2	100 46.5 +02.0	S	11 55.8 -00.2	119 27.0 +02.1	S	17 53.5 +00.0	22			
23	194 50.4 +00.5	S	22 52.1 +00.2	115 48.5 +02.0	S	11 55.6 -00.1	134 29.1 +02.2	S	17 53.5 -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 00'1 00'1 00'1 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 106° 106° 106° 106° 105° 105°			SHA 026° 026° 026° 026° 026° 026°			SHA 045° 045° 045° 045° 045° 045°						
	Greenwich Culmination Time: 10:01			Greenwich Culmination Time: 15:17			Greenwich Culmination Time: 14:03						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 42.7 -00.3	S 22 38.2 -00.2	172 20.6 +04.1	S 17 54.8 -00.4	145 01.1 -34.6	S 20 55.4 -10.2	00						
01	193 42.4 -00.3	S 22 38.0 -00.3	187 24.7 +04.1	S 17 54.4 -00.4	159 26.5 -34.6	S 20 45.2 -10.4	01						
02	208 42.1 -00.3	S 22 37.7 -00.3	202 28.8 +04.0	S 17 54.0 -00.4	173 51.9 -34.4	S 20 34.8 -10.5	02						
03	223 41.8 -00.2	S 22 37.4 -00.3	217 32.8 +04.1	S 17 53.6 -00.4	188 17.5 -34.3	S 20 24.3 -10.6	03						
04	238 41.6 -00.3	S 22 37.1 -00.3	232 36.9 +04.1	S 17 53.2 -00.4	202 43.2 -34.2	S 20 13.7 -10.7	04						
05	253 41.3 -00.3	S 22 36.8 -00.2	247 41.0 +04.0	S 17 52.8 -00.4	217 09.0 -34.0	S 20 03.0 -10.8	05						
06	268 41.0 -00.3	S 22 36.6 -00.3	262 45.0 +04.1	S 17 52.4 -00.4	231 35.0 -33.9	S 19 52.2 -10.9	06						
07	283 40.7 -00.3	S 22 36.3 -00.3	277 49.1 +04.1	S 17 52.0 -00.3	246 01.1 -33.8	S 19 41.3 -11.1	07						
08	298 40.4 -00.2	S 22 36.0 -00.3	292 53.2 +04.1	S 17 51.7 -00.4	260 27.3 -33.6	S 19 30.2 -11.1	08						
09	313 40.2 -00.3	S 22 35.7 -00.3	307 57.3 +04.0	S 17 51.3 -00.4	274 53.7 -33.6	S 19 19.1 -11.3	09						
10	328 39.9 -00.3	S 22 35.4 -00.3	323 01.3 +04.1	S 17 50.9 -00.4	289 20.1 -33.3	S 19 07.8 -11.3	10						
11	343 39.6 -00.3	S 22 35.1 -00.2	338 05.4 +04.1	S 17 50.5 -00.4	303 46.8 -33.3	S 18 56.5 -11.5	11						
12	358 39.3 -00.3	S 22 34.9 -00.3	353 09.5 +04.1	S 17 50.1 -00.4	318 13.5 -33.1	S 18 45.0 -11.5	12						
13	13 39.0 -00.2	S 22 34.6 -00.3	8 13.6 +04.1	S 17 49.7 -00.4	332 40.4 -33.0	S 18 33.5 -11.7	13						
14	28 38.8 -00.3	S 22 34.3 -00.3	23 17.7 +04.0	S 17 49.3 -00.4	347 07.4 -32.9	S 18 21.8 -11.7	14						
15	43 38.5 -00.3	S 22 34.0 -00.3	38 21.7 +04.1	S 17 48.9 -00.4	1 34.5 -32.7	S 18 10.1 -11.8	15						
16	58 38.2 -00.3	S 22 33.7 -00.3	53 25.8 +04.1	S 17 48.5 -00.3	16 01.8 -32.7	S 17 58.3 -11.9	16						
17	73 37.9 -00.2	S 22 33.4 -00.3	68 29.9 +04.1	S 17 48.2 -00.4	30 29.1 -32.4	S 17 46.4 -12.0	17						
18	88 37.7 -00.3	S 22 33.1 -00.3	83 34.0 +04.1	S 17 47.8 -00.4	44 56.7 -32.4	S 17 34.4 -12.1	18						
19	103 37.4 -00.3	S 22 32.8 -00.3	98 38.1 +04.1	S 17 47.4 -00.4	59 24.3 -32.2	S 17 22.3 -12.2	19						
20	118 37.1 -00.3	S 22 32.5 -00.2	113 42.2 +04.1	S 17 47.0 -00.4	73 52.1 -32.2	S 17 10.1 -12.3	20						
21	133 36.8 -00.3	S 22 32.3 -00.3	128 46.3 +04.1	S 17 46.6 -00.4	88 19.9 -32.0	S 16 57.8 -12.3	21						
22	148 36.5 -00.2	S 22 32.0 -00.3	143 50.4 +04.1	S 17 46.2 -00.3	102 47.9 -31.8	S 16 45.5 -12.4	22						
23	163 36.3 -00.3	S 22 31.7 -00.3	158 54.5 +04.1	S 17 45.9 -00.4	117 16.1 -31.8	S 16 33.1 -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 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'5 00'5 00'5 00'5 00'5 00'5		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 00'5 00'5 00'5 00'5 00'5 00'5		HP 59'7 59'6 59'5 59'3 59'1 59'0								
	SHA 074° 074° 074° 074° 073° 073°		SHA 068° 068° 068° 068° 068° 068°		SHA 039° 037° 034° 032° 030° 027°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 12:27		Greenwich Culmination Time: 14:53								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	209 50.9 +00.5	S 22 52.3 +00.2	130 50.5 +02.0	S 11 55.5 -00.2	149 31.3 +02.2	S 17 53.4 -00.1	00						
01	224 51.4 +00.6	S 22 52.5 +00.2	145 52.5 +02.0	S 11 55.3 -00.2	164 33.5 +02.2	S 17 53.3 -00.1	01						
02	239 52.0 +00.5	S 22 52.7 +00.2	160 54.5 +02.0	S 11 55.1 -00.2	179 35.7 +02.2	S 17 53.2 +00.0	02						
03	254 52.5 +00.6	S 22 52.9 +00.3	175 56.5 +01.9	S 11 54.9 -00.2	194 37.9 +02.2	S 17 53.2 -00.1	03						
04	269 53.1 +00.5	S 22 53.2 +00.2	190 58.4 +02.0	S 11 54.7 -00.1	209 40.1 +02.2	S 17 53.1 -00.1	04						
05	284 53.6 +00.6	S 22 53.4 +00.2	206 00.4 +02.0	S 11 54.6 -00.2	224 42.3 +02.1	S 17 53.0 -00.1	05						
06	299 54.2 +00.5	S 22 53.6 +00.2	221 02.4 +02.0	S 11 54.4 -00.2	239 44.4 +02.2	S 17 52.9 -00.1	06						
07	314 54.7 +00.5	S 22 53.8 +00.2	236 04.4 +02.0	S 11 54.2 -00.2	254 46.6 +02.2	S 17 52.8 +00.0	07						
08	329 55.2 +00.6	S 22 54.0 +00.2	251 06.4 +02.0	S 11 54.0 -00.2	269 48.8 +02.2	S 17 52.8 -00.1	08						
09	344 55.8 +00.5	S 22 54.2 +00.2	266 08.4 +01.9	S 11 53.8 -00.2	284 51.0 +02.2	S 17 52.7 -00.1	09						
10	359 56.3 +00.6	S 22 54.4 +00.2	281 10.3 +02.0	S 11 53.6 -00.1	299 53.2 +02.2	S 17 52.6 -00.1	10						
11	14 56.9 +00.5	S 22 54.6 +00.3	296 12.3 +02.0	S 11 53.5 -00.2	314 55.4 +02.1	S 17 52.5 +00.0	11						
12	29 57.4 +00.5	S 22 54.9 +00.2	311 14.3 +02.0	S 11 53.3 -00.2	329 57.5 +02.2	S 17 52.5 -00.1	12						
13	44 57.9 +00.6	S 22 55.1 +00.2	326 16.3 +02.0	S 11 53.1 -00.2	344 59.7 +02.2	S 17 52.4 -00.1	13						
14	59 58.5 +00.5	S 22 55.3 +00.2	341 18.3 +02.0	S 11 52.9 -00.2	0 01.9 +02.2	S 17 52.3 -00.1	14						
15	74 59.0 +00.6	S 22 55.5 +00.2	356 20.3 +01.9	S 11 52.7 -00.2	15 04.1 +02.2	S 17 52.2 +00.0	15						
16	89 59.6 +00.5	S 22 55.7 +00.2	11 22.2 +02.0	S 11 52.5 -00.1	30 06.3 +02.2	S 17 52.2 -00.1	16						
17	105 00.1 +00.5	S 22 55.9 +00.2	26 24.2 +02.0	S 11 52.4 -00.2	45 08.5 +02.1	S 17 52.1 -00.1	17						
18	120 00.6 +00.6	S 22 56.1 +00.2	41 26.2 +02.0	S 11 52.2 -00.2	60 10.6 +02.2	S 17 52.0 -00.1	18						
19	135 01.2 +00.5	S 22 56.3 +00.2	56 28.2 +02.0	S 11 52.0 -00.2	75 12.8 +02.2	S 17 51.9 -00.1	19						
20	150 01.7 +00.6	S 22 56.5 +00.2	71 30.2 +01.9	S 11 51.8 -00.2	90 15.0 +02.2	S 17 51.8 +00.0	20						
21	165 02.3 +00.5	S 22 56.7 +00.2	86 32.1 +02.0	S 11 51.6 -00.2	105 17.2 +02.2	S 17 51.8 -00.1	21						
22	180 02.8 +00.5	S 22 56.9 +00.2	101 34.1 +02.0	S 11 51.4 -00.1	120 19.4 +02.2	S 17 51.7 -00.1	22						
23	195 03.3 +00.6	S 22 57.1 +00.2	116 36.1 +02.0	S 11 51.3 -00.2	135 21.6 +02.1	S 17 51.6 -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 00'1 00'1 00'1 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 105° 105° 105° 105° 105° 105°		SHA 026° 026° 026° 026° 026° 026°		SHA 045° 045° 045° 045° 045° 045°								
	Greenwich Culmination Time: 10:00		Greenwich Culmination Time: 15:14		Greenwich Culmination Time: 13:59								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 36.0 -00.3	S	22 31.4 -00.3	173 58.6 +04.1	S	17 45.5 -00.4	131 44.3 -31.6	S	16 20.6 -12.6	00			
01	193 35.7 -00.3	S	22 31.1 -00.3	189 02.7 +04.1	S	17 45.1 -00.4	146 12.7 -31.5	S	16 08.0 -12.6	01			
02	208 35.4 -00.2	S	22 30.8 -00.3	204 06.8 +04.1	S	17 44.7 -00.4	160 41.2 -31.4	S	15 55.4 -12.7	02			
03	223 35.2 -00.3	S	22 30.5 -00.3	219 10.9 +04.1	S	17 44.3 -00.3	175 09.8 -31.2	S	15 42.7 -12.8	03			
04	238 34.9 -00.3	S	22 30.2 -00.3	234 15.0 +04.1	S	17 44.0 -00.4	189 38.6 -31.2	S	15 29.9 -12.8	04			
05	253 34.6 -00.3	S	22 29.9 -00.3	249 19.1 +04.1	S	17 43.6 -00.4	204 07.4 -31.0	S	15 17.1 -12.9	05			
06	268 34.3 -00.2	S	22 29.6 -00.3	264 23.2 +04.1	S	17 43.2 -00.4	218 36.4 -30.9	S	15 04.2 -13.0	06			
07	283 34.1 -00.3	S	22 29.3 -00.3	279 27.3 +04.1	S	17 42.8 -00.3	233 05.5 -30.8	S	14 51.2 -13.0	07			
08	298 33.8 -00.3	S	22 29.0 -00.3	294 31.4 +04.1	S	17 42.5 -00.4	247 34.7 -30.7	S	14 38.2 -13.1	08			
09	313 33.5 -00.3	S	22 28.7 -00.3	309 35.5 +04.1	S	17 42.1 -00.4	262 04.0 -30.6	S	14 25.1 -13.1	09			
10	328 33.2 -00.2	S	22 28.4 -00.3	324 39.6 +04.1	S	17 41.7 -00.4	276 33.4 -30.4	S	14 12.0 -13.3	10			
11	343 33.0 -00.3	S	22 28.1 -00.3	339 43.7 +04.1	S	17 41.3 -00.4	291 03.0 -30.4	S	13 58.7 -13.2	11			
12	358 32.7 -00.3	S	22 27.8 -00.3	354 47.8 +04.1	S	17 40.9 -00.3	305 32.6 -30.2	S	13 45.5 -13.3	12			
13	13 32.4 -00.3	S	22 27.5 -00.3	9 51.9 +04.1	S	17 40.6 -00.4	320 02.4 -30.1	S	13 32.2 -13.4	13			
14	28 32.1 -00.2	S	22 27.2 -00.4	24 56.0 +04.1	S	17 40.2 -00.4	334 32.3 -30.1	S	13 18.8 -13.4	14			
15	43 31.9 -00.3	S	22 26.8 -00.3	40 00.1 +04.1	S	17 39.8 -00.3	349 02.2 -29.9	S	13 05.4 -13.5	15			
16	58 31.6 -00.3	S	22 26.5 -00.3	55 04.2 +04.1	S	17 39.5 -00.4	3 32.3 -29.8	S	12 51.9 -13.5	16			
17	73 31.3 -00.3	S	22 26.2 -00.3	70 08.3 +04.1	S	17 39.1 -00.4	18 02.5 -29.7	S	12 38.4 -13.5	17			
18	88 31.0 -00.2	S	22 25.9 -00.3	85 12.4 +04.2	S	17 38.7 -00.4	32 32.8 -29.6	S	12 24.9 -13.6	18			
19	103 30.8 -00.3	S	22 25.6 -00.3	100 16.6 +04.1	S	17 38.3 -00.3	47 03.2 -29.5	S	12 11.3 -13.6	19			
20	118 30.5 -00.3	S	22 25.3 -00.3	115 20.7 +04.1	S	17 38.0 -00.4	61 33.7 -29.4	S	11 57.7 -13.7	20			
21	133 30.2 -00.2	S	22 25.0 -00.3	130 24.8 +04.1	S	17 37.6 -00.4	76 04.3 -29.3	S	11 44.0 -13.7	21			
22	148 30.0 -00.3	S	22 24.7 -00.3	145 28.9 +04.1	S	17 37.2 -00.3	90 35.0 -29.2	S	11 30.3 -13.8	22			
23	163 29.7 -00.3	S	22 24.4 -00.3	160 33.0 +04.1	S	17 36.9 -00.4	105 05.8 -29.1	S	11 16.5 -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 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 16'0 16'0 15'9 15'9 15'9 15'8						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'6 00'6 00'6			HP 58'8 58'7 58'5 58'4 58'2 58'0						
	SHA 073° 073° 073° 072° 072° 072°			SHA 068° 069° 069° 069° 069° 069°			SHA 025° 023° 021° 018° 016° 014°						
	Greenwich Culmination Time: 12:05			Greenwich Culmination Time: 12:20			Greenwich Culmination Time: 15:45						
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	210 03.9 +00.5	S	22 57.3 +00.3	131 38.1 +02.0	S	11 51.1 -00.2	150 23.7 +02.2	S	17 51.5 +00.0	00			
01	225 04.4 +00.6	S	22 57.6 +00.2	146 40.1 +02.0	S	11 50.9 -00.2	165 25.9 +02.2	S	17 51.5 -00.1	01			
02	240 05.0 +00.5	S	22 57.8 +00.2	161 42.1 +01.9	S	11 50.7 -00.2	180 28.1 +02.2	S	17 51.4 -00.1	02			
03	255 05.5 +00.5	S	22 58.0 +00.2	176 44.0 +02.0	S	11 50.5 -00.2	195 30.3 +02.2	S	17 51.3 -00.1	03			
04	270 06.0 +00.6	S	22 58.2 +00.2	191 46.0 +02.0	S	11 50.3 -00.1	210 32.5 +02.2	S	17 51.2 +00.0	04			
05	285 06.6 +00.5	S	22 58.4 +00.2	206 48.0 +02.0	S	11 50.2 -00.2	225 34.7 +02.1	S	17 51.2 -00.1	05			
06	300 07.1 +00.5	S	22 58.6 +00.2	221 50.0 +02.0	S	11 50.0 -00.2	240 36.8 +02.2	S	17 51.1 -00.1	06			
07	315 07.6 +00.6	S	22 58.8 +00.2	236 52.0 +01.9	S	11 49.8 -00.2	255 39.0 +02.2	S	17 51.0 -00.1	07			
08	330 08.2 +00.5	S	22 59.0 +00.2	251 53.9 +02.0	S	11 49.6 -00.2	270 41.2 +02.2	S	17 50.9 -00.1	08			
09	345 08.7 +00.6	S	22 59.2 +00.2	266 55.9 +02.0	S	11 49.4 -00.2	285 43.4 +02.2	S	17 50.8 +00.0	09			
10	0 09.3 +00.5	S	22 59.4 +00.2	281 57.9 +02.0	S	11 49.2 -00.1	300 45.6 +02.2	S	17 50.8 -00.1	10			
11	15 09.8 +00.5	S	22 59.6 +00.2	296 59.9 +02.0	S	11 49.1 -00.2	315 47.8 +02.1	S	17 50.7 -00.1	11			
12	30 10.3 +00.6	S	22 59.8 +00.2	312 01.9 +01.9	S	11 48.9 -00.2	330 49.9 +02.2	S	17 50.6 -00.1	12			
13	45 10.9 +00.5	S	22 60.0 +00.2	327 03.8 +02.0	S	11 48.7 -00.2	345 52.1 +02.2	S	17 50.5 +00.0	13			
14	60 11.4 +00.5	S	23 00.2 +00.2	342 05.8 +02.0	S	11 48.5 -00.2	0 54.3 +02.2	S	17 50.5 -00.1	14			
15	75 11.9 +00.6	S	23 00.4 +00.2	357 07.8 +02.0	S	11 48.3 -00.2	15 56.5 +02.2	S	17 50.4 -00.1	15			
16	90 12.5 +00.5	S	23 00.6 +00.2	12 09.8 +02.0	S	11 48.1 -00.2	30 58.7 +02.1	S	17 50.3 -00.1	16			
17	105 13.0 +00.5	S	23 00.8 +00.2	27 11.8 +01.9	S	11 47.9 -00.1	46 00.8 +02.2	S	17 50.2 -00.1	17			
18	120 13.5 +00.6	S	23 01.0 +00.2	42 13.7 +02.0	S	11 47.8 -00.2	61 03.0 +02.2	S	17 50.1 +00.0	18			
19	135 14.1 +00.5	S	23 01.2 +00.2	57 15.7 +02.0	S	11 47.6 -00.2	76 05.2 +02.2	S	17 50.1 -00.1	19			
20	150 14.6 +00.5	S	23 01.4 +00.2	72 17.7 +02.0	S	11 47.4 -00.2	91 07.4 +02.2	S	17 50.0 -00.1	20			
21	165 15.1 +00.6	S	23 01.6 +00.2	87 19.7 +01.9	S	11 47.2 -00.2	106 09.6 +02.2	S	17 49.9 -00.1	21			
22	180 15.7 +00.5	S	23 01.8 +00.2	102 21.6 +02.0	S	11 47.0 -00.2	121 11.8 +02.1	S	17 49.8 +00.0	22			
23	195 16.2 +00.5	S	23 02.0 +00.2	117 23.6 +02.0	S	11 46.8 -00.2	136 13.9 +02.2	S	17 49.8 -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 00'1 00'1 00'1 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 104° 104° 104° 104° 104° 104°			SHA 026° 026° 026° 026° 026° 026°			SHA 045° 045° 045° 045° 045° 045°						
	Greenwich Culmination Time: 09:59			Greenwich Culmination Time: 15:11			Greenwich Culmination Time: 13:56						

UT	Sun				Venus				Moon				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	178 29.4 -00.3	S	22 24.1 -00.4	175 37.1 +04.2	S	17 36.5 -00.4	119 36.7 -29.0	S	11 02.7 -13.8	00							
01	193 29.1 -00.2	S	22 23.7 -00.3	190 41.3 +04.1	S	17 36.1 -00.3	134 07.7 -28.9	S	10 48.9 -13.9	01							
02	208 28.9 -00.3	S	22 23.4 -00.3	205 45.4 +04.1	S	17 35.8 -00.4	148 38.8 -28.8	S	10 35.0 -13.8	02							
03	223 28.6 -00.3	S	22 23.1 -00.3	220 49.5 +04.1	S	17 35.4 -00.4	163 10.0 -28.8	S	10 21.2 -14.0	03							
04	238 28.3 -00.2	S	22 22.8 -00.3	235 53.6 +04.1	S	17 35.0 -00.3	177 41.2 -28.6	S	10 07.2 -13.9	04							
05	253 28.1 -00.3	S	22 22.5 -00.3	250 57.7 +04.1	S	17 34.7 -00.4	192 12.6 -28.5	S	09 53.3 -14.0	05							
06	268 27.8 -00.3	S	22 22.2 -00.4	266 01.8 +04.2	S	17 34.3 -00.3	206 44.1 -28.5	S	09 39.3 -14.0	06							
07	283 27.5 -00.3	S	22 21.8 -00.3	281 06.0 +04.1	S	17 34.0 -00.4	221 15.6 -28.4	S	09 25.3 -14.0	07							
08	298 27.2 -00.2	S	22 21.5 -00.3	296 10.1 +04.1	S	17 33.6 -00.4	235 47.2 -28.3	S	09 11.3 -14.0	08							
09	313 27.0 -00.3	S	22 21.2 -00.3	311 14.2 +04.1	S	17 33.2 -00.3	250 18.9 -28.2	S	08 57.3 -14.1	09							
10	328 26.7 -00.3	S	22 20.9 -00.3	326 18.3 +04.2	S	17 32.9 -00.4	264 50.7 -28.1	S	08 43.2 -14.1	10							
11	343 26.4 -00.2	S	22 20.6 -00.4	341 22.5 +04.1	S	17 32.5 -00.4	279 22.6 -28.0	S	08 29.1 -14.1	11							
12	358 26.2 -00.3	S	22 20.2 -00.3	356 26.6 +04.1	S	17 32.1 -00.3	293 54.6 -28.0	S	08 15.0 -14.1	12							
13	13 25.9 -00.3	S	22 19.9 -00.3	11 30.7 +04.1	S	17 31.8 -00.4	308 26.6 -27.9	S	08 00.9 -14.2	13							
14	28 25.6 -00.2	S	22 19.6 -00.3	26 34.8 +04.1	S	17 31.4 -00.3	322 58.7 -27.8	S	07 46.7 -14.1	14							
15	43 25.4 -00.3	S	22 19.3 -00.4	41 38.9 +04.2	S	17 31.1 -00.4	337 30.9 -27.7	S	07 32.6 -14.2	15							
16	58 25.1 -00.3	S	22 18.9 -00.3	56 43.1 +04.1	S	17 30.7 -00.3	352 03.2 -27.6	S	07 18.4 -14.2	16							
17	73 24.8 -00.2	S	22 18.6 -00.3	71 47.2 +04.1	S	17 30.4 -00.4	6 35.6 -27.6	S	07 04.2 -14.2	17							
18	88 24.6 -00.3	S	22 18.3 -00.4	86 51.3 +04.2	S	17 30.0 -00.3	21 08.0 -27.5	S	06 50.0 -14.2	18							
19	103 24.3 -00.3	S	22 17.9 -00.3	101 55.5 +04.1	S	17 29.7 -00.4	35 40.5 -27.5	S	06 35.8 -14.2	19							
20	118 24.0 -00.2	S	22 17.6 -00.3	116 59.6 +04.1	S	17 29.3 -00.4	50 13.0 -27.3	S	06 21.6 -14.2	20							
21	133 23.8 -00.3	S	22 17.3 -00.3	132 03.7 +04.1	S	17 28.9 -00.3	64 45.7 -27.3	S	06 07.4 -14.3	21							
22	148 23.5 -00.3	S	22 17.0 -00.4	147 07.8 +04.2	S	17 28.6 -00.4	79 18.4 -27.2	S	05 53.1 -14.2	22							
23	163 23.2 -00.2	S	22 16.6 -00.3	162 12.0 +04.1	S	17 28.2 -00.3	93 51.2 -27.2	S	05 38.9 -14.3	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
SD	16'3	16'3	16'3	16'3	16'3	16'3	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	00'6	00'6	00'6	00'6	00'6	00'6	HP			
SHA	072°	072°	071°	071°	071°	071°	SHA	069°	069°	069°	069°	070°	070°	SHA			
Greenwich Culmination Time: 12:06						Greenwich Culmination Time: 12:14						Greenwich Culmination Time: 16:32					

  

UT	Mars				Jupiter				Saturn				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	210 16.7 +00.6	S	23 02.2 +00.2	132 25.6 +02.0	S	11 46.6 -00.1	151 16.1 +02.2	S	17 49.7 -00.1	00							
01	225 17.3 +00.5	S	23 02.4 +00.2	147 27.6 +02.0	S	11 46.5 -00.2	166 18.3 +02.2	S	17 49.6 -00.1	01							
02	240 17.8 +00.6	S	23 02.6 +00.2	162 29.6 +01.9	S	11 46.3 -00.2	181 20.5 +02.2	S	17 49.5 +00.0	02							
03	255 18.4 +00.5	S	23 02.8 +00.2	177 31.5 +02.0	S	11 46.1 -00.2	196 22.7 +02.1	S	17 49.5 -00.1	03							
04	270 18.9 +00.5	S	23 03.0 +00.2	192 33.5 +02.0	S	11 45.9 -00.2	211 24.8 +02.2	S	17 49.4 -00.1	04							
05	285 19.4 +00.6	S	23 03.2 +00.2	207 35.5 +02.0	S	11 45.7 -00.2	226 27.0 +02.2	S	17 49.3 -00.1	05							
06	300 20.0 +00.5	S	23 03.4 +00.1	222 37.5 +01.9	S	11 45.5 -00.1	241 29.2 +02.2	S	17 49.2 -00.1	06							
07	315 20.5 +00.5	S	23 03.5 +00.2	237 39.4 +02.0	S	11 45.4 -00.2	256 31.4 +02.2	S	17 49.1 +00.0	07							
08	330 21.0 +00.6	S	23 03.7 +00.2	252 41.4 +02.0	S	11 45.2 -00.2	271 33.6 +02.2	S	17 49.1 -00.1	08							
09	345 21.6 +00.5	S	23 03.9 +00.2	267 43.4 +02.0	S	11 45.0 -00.2	286 35.8 +02.1	S	17 49.0 -00.1	09							
10	0 22.1 +00.5	S	23 04.1 +00.2	282 45.4 +02.0	S	11 44.8 -00.2	301 37.9 +02.2	S	17 48.9 -00.1	10							
11	15 22.6 +00.6	S	23 04.3 +00.2	297 47.4 +01.9	S	11 44.6 -00.2	316 40.1 +02.2	S	17 48.8 +00.0	11							
12	30 23.2 +00.5	S	23 04.5 +00.2	312 49.3 +02.0	S	11 44.4 -00.2	331 42.3 +02.2	S	17 48.8 -00.1	12							
13	45 23.7 +00.5	S	23 04.7 +00.2	327 51.3 +02.0	S	11 44.2 -00.1	346 44.5 +02.2	S	17 48.7 -00.1	13							
14	60 24.2 +00.6	S	23 04.9 +00.2	342 53.3 +02.0	S	11 44.1 -00.2	1 46.7 +02.1	S	17 48.6 -00.1	14							
15	75 24.8 +00.5	S	23 05.1 +00.2	357 55.3 +01.9	S	11 43.9 -00.2	16 48.8 +02.2	S	17 48.5 -00.1	15							
16	90 25.3 +00.5	S	23 05.3 +00.2	12 57.2 +02.0	S	11 43.7 -00.2	31 51.0 +02.2	S	17 48.4 +00.0	16							
17	105 25.8 +00.5	S	23 05.5 +00.2	27 59.2 +02.0	S	11 43.5 -00.2	46 53.2 +02.2	S	17 48.4 -00.1	17							
18	120 26.3 +00.6	S	23 05.7 +00.1	43 01.2 +02.0	S	11 43.3 -00.2	61 55.4 +02.2	S	17 48.3 -00.1	18							
19	135 26.9 +00.5	S	23 05.8 +00.2	58 03.2 +01.9	S	11 43.1 -00.2	76 57.6 +02.1	S	17 48.2 -00.1	19							
20	150 27.4 +00.5	S	23 06.0 +00.2	73 05.1 +02.0	S	11 42.9 -00.2	91 59.7 +02.2	S	17 48.1 -00.1	20							
21	165 27.9 +00.6	S	23 06.2 +00.2	88 07.1 +02.0	S	11 42.7 -00.1	107 01.9 +02.2	S	17 48.0 +00.0	21							
22	180 28.5 +00.5	S	23 06.4 +00.2	103 09.1 +02.0	S	11 42.6 -00.2	122 04.1 +02.2	S	17 48.0 -00.1	22							
23	195 29.0 +00.5	S	23 06.6 +00.2	118 11.1 +01.9	S	11 42.4 -00.2	137 06.3 +02.2	S	17 47.9 -00.1	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
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			
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	104°	104°	103°	103°	103°	103°	SHA	026°	026°	026°	026°	026°	026°	SHA			
Greenwich Culmination Time: 09:58						Greenwich Culmination Time: 15:08						Greenwich Culmination Time: 13:52					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 23.0 -00.3	S	22 16.3 -00.3	177 16.1 +04.1	S	17 27.9 -00.4	108 24.0 -27.1	S	05 24.6 -14.2	00			
01	193 22.7 -00.3	S	22 16.0 -00.4	192 20.2 +04.1	S	17 27.5 -00.3	122 56.9 -27.0	S	05 10.4 -14.3	01			
02	208 22.4 -00.2	S	22 15.6 -00.3	207 24.3 +04.2	S	17 27.2 -00.4	137 29.9 -27.0	S	04 56.1 -14.2	02			
03	223 22.2 -00.3	S	22 15.3 -00.3	222 28.5 +04.1	S	17 26.8 -00.3	152 02.9 -26.9	S	04 41.9 -14.3	03			
04	238 21.9 -00.3	S	22 15.0 -00.4	237 32.6 +04.1	S	17 26.5 -00.4	166 36.0 -26.9	S	04 27.6 -14.2	04			
05	253 21.6 -00.2	S	22 14.6 -00.3	252 36.7 +04.1	S	17 26.1 -00.3	181 09.1 -26.8	S	04 13.4 -14.3	05			
06	268 21.4 -00.3	S	22 14.3 -00.4	267 40.8 +04.2	S	17 25.8 -00.4	195 42.3 -26.7	S	03 59.1 -14.2	06			
07	283 21.1 -00.3	S	22 13.9 -00.3	282 45.0 +04.1	S	17 25.4 -00.3	210 15.6 -26.7	S	03 44.9 -14.3	07			
08	298 20.8 -00.2	S	22 13.6 -00.3	297 49.1 +04.1	S	17 25.1 -00.3	224 48.9 -26.6	S	03 30.6 -14.2	08			
09	313 20.6 -00.3	S	22 13.3 -00.4	312 53.2 +04.2	S	17 24.8 -00.4	239 22.3 -26.6	S	03 16.4 -14.3	09			
10	328 20.3 -00.3	S	22 12.9 -00.3	327 57.4 +04.1	S	17 24.4 -00.3	253 55.7 -26.5	S	03 02.1 -14.2	10			
11	343 20.0 -00.2	S	22 12.6 -00.3	343 01.5 +04.1	S	17 24.1 -00.4	268 29.2 -26.5	S	02 47.9 -14.3	11			
12	358 19.8 -00.3	S	22 12.3 -00.4	358 05.6 +04.1	S	17 23.7 -00.3	283 02.7 -26.4	S	02 33.6 -14.2	12			
13	13 19.5 -00.2	S	22 11.9 -00.3	13 09.7 +04.2	S	17 23.4 -00.4	297 36.3 -26.4	S	02 19.4 -14.2	13			
14	28 19.3 -00.3	S	22 11.6 -00.4	28 13.9 +04.1	S	17 23.0 -00.3	312 09.9 -26.3	S	02 05.2 -14.2	14			
15	43 19.0 -00.3	S	22 11.2 -00.3	43 18.0 +04.1	S	17 22.7 -00.4	326 43.6 -26.3	S	01 51.0 -14.2	15			
16	58 18.7 -00.2	S	22 10.9 -00.4	58 22.1 +04.2	S	17 22.3 -00.3	341 17.3 -26.3	S	01 36.8 -14.2	16			
17	73 18.5 -00.3	S	22 10.5 -00.3	73 26.3 +04.1	S	17 22.0 -00.3	355 51.0 -26.2	S	01 22.6 -14.1	17			
18	88 18.2 -00.3	S	22 10.2 -00.4	88 30.4 +04.1	S	17 21.7 -00.4	10 24.8 -26.1	S	01 08.5 -14.2	18			
19	103 17.9 -00.2	S	22 09.8 -00.3	103 34.5 +04.1	S	17 21.3 -00.3	24 58.7 -26.1	S	00 54.3 -14.1	19			
20	118 17.7 -00.3	S	22 09.5 -00.4	118 38.6 +04.2	S	17 21.0 -00.3	39 32.6 -26.1	S	00 40.2 -14.2	20			
21	133 17.4 -00.2	S	22 09.1 -00.3	133 42.8 +04.1	S	17 20.7 -00.4	54 06.5 -26.1	S	00 26.0 -14.1	21			
22	148 17.2 -00.3	S	22 08.8 -00.4	148 46.9 +04.1	S	17 20.3 -00.3	68 40.4 -26.0	S	00 11.9 -14.1	22			
23	163 16.9 -00.3	S	22 08.4 -00.3	163 51.0 +04.1	S	17 20.0 -00.4	83 14.4 -25.9	N	00 02.2 +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 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'5 00'5 00'5 00'5 00'5 00'5			SD 15'5 15'5 15'4 15'4 15'4 15'3						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'6 00'6 00'6 00'6 00'6 00'6			HP 56'9 56'8 56'6 56'5 56'3 56'2						
	SHA 071° 071° 070° 070° 070° 070°			SHA 070° 070° 070° 070° 070° 070°			SHA 360° 358° 356° 354° 352° 350°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 17:17						
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	210 29.5 +00.6	S	23 06.8 +00.2	133 13.0 +02.0	S	11 42.2 -00.2	152 08.5 +02.2	S	17 47.8 -00.1	00			
01	225 30.1 +00.5	S	23 07.0 +00.2	148 15.0 +02.0	S	11 42.0 -00.2	167 10.7 +02.1	S	17 47.7 +00.0	01			
02	240 30.6 +00.5	S	23 07.2 +00.1	163 17.0 +02.0	S	11 41.8 -00.2	182 12.8 +02.2	S	17 47.7 -00.1	02			
03	255 31.1 +00.6	S	23 07.3 +00.2	178 19.0 +01.9	S	11 41.6 -00.2	197 15.0 +02.2	S	17 47.6 -00.1	03			
04	270 31.7 +00.5	S	23 07.5 +00.2	193 20.9 +02.0	S	11 41.4 -00.1	212 17.2 +02.2	S	17 47.5 -00.1	04			
05	285 32.2 +00.5	S	23 07.7 +00.2	208 22.9 +02.0	S	11 41.3 -00.2	227 19.4 +02.2	S	17 47.4 -00.1	05			
06	300 32.7 +00.5	S	23 07.9 +00.2	223 24.9 +02.0	S	11 41.1 -00.2	242 21.6 +02.1	S	17 47.3 +00.0	06			
07	315 33.2 +00.6	S	23 08.1 +00.2	238 26.9 +01.9	S	11 40.9 -00.2	257 23.7 +02.2	S	17 47.3 -00.1	07			
08	330 33.8 +00.5	S	23 08.3 +00.2	253 28.8 +02.0	S	11 40.7 -00.2	272 25.9 +02.2	S	17 47.2 -00.1	08			
09	345 34.3 +00.5	S	23 08.5 +00.1	268 30.8 +02.0	S	11 40.5 -00.2	287 28.1 +02.2	S	17 47.1 -00.1	09			
10	0 34.8 +00.6	S	23 08.6 +00.2	283 32.8 +02.0	S	11 40.3 -00.2	302 30.3 +02.2	S	17 47.0 +00.0	10			
11	15 35.4 +00.5	S	23 08.8 +00.2	298 34.8 +01.9	S	11 40.1 -00.2	317 32.5 +02.1	S	17 47.0 -00.1	11			
12	30 35.9 +00.5	S	23 09.0 +00.2	313 36.7 +02.0	S	11 39.9 -00.1	332 34.6 +02.2	S	17 46.9 -00.1	12			
13	45 36.4 +00.5	S	23 09.2 +00.2	328 38.7 +02.0	S	11 39.8 -00.2	347 36.8 +02.2	S	17 46.8 -00.1	13			
14	60 36.9 +00.6	S	23 09.4 +00.2	343 40.7 +02.0	S	11 39.6 -00.2	2 39.0 +02.2	S	17 46.7 -00.1	14			
15	75 37.5 +00.5	S	23 09.6 +00.1	358 42.7 +01.9	S	11 39.4 -00.2	17 41.2 +02.2	S	17 46.6 +00.0	15			
16	90 38.0 +00.5	S	23 09.7 +00.2	13 44.6 +02.0	S	11 39.2 -00.2	32 43.4 +02.1	S	17 46.6 -00.1	16			
17	105 38.5 +00.6	S	23 09.9 +00.2	28 46.6 +02.0	S	11 39.0 -00.2	47 45.5 +02.2	S	17 46.5 -00.1	17			
18	120 39.1 +00.5	S	23 10.1 +00.2	43 48.6 +01.9	S	11 38.8 -00.2	62 47.7 +02.2	S	17 46.4 -00.1	18			
19	135 39.6 +00.5	S	23 10.3 +00.2	58 50.5 +02.0	S	11 38.6 -00.2	77 49.9 +02.2	S	17 46.3 -00.1	19			
20	150 40.1 +00.5	S	23 10.5 +00.1	73 52.5 +02.0	S	11 38.4 -00.1	92 52.1 +02.2	S	17 46.2 +00.0	20			
21	165 40.6 +00.6	S	23 10.6 +00.2	88 54.5 +02.0	S	11 38.3 -00.2	107 54.3 +02.1	S	17 46.2 -00.1	21			
22	180 41.2 +00.5	S	23 10.8 +00.2	103 56.5 +01.9	S	11 38.1 -00.2	122 56.4 +02.2	S	17 46.1 -00.1	22			
23	195 41.7 +00.5	S	23 11.0 +00.2	118 58.4 +02.0	S	11 37.9 -00.2	137 58.6 +02.2	S	17 46.0 -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 00'1 00'1 00'1 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 103° 103° 103° 103° 102° 102°			SHA 026° 026° 026° 026° 026° 026°			SHA 045° 045° 045° 045° 045° 045°						
	Greenwich Culmination Time: 09:57			Greenwich Culmination Time: 15:05			Greenwich Culmination Time: 13:49						



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 16.6 -00.2	S	22 08.1 -00.4	178 55.1 +04.2	S	17 19.6 -00.3	97 48.5 -26.0	N	00 16.2 +14.1				
01	193 16.4 -00.3	S	22 07.7 -00.3	193 59.3 +04.1	S	17 19.3 -00.3	112 22.5 -25.9	N	00 30.3 +14.0				
02	208 16.1 -00.2	S	22 07.4 -00.4	209 03.4 +04.1	S	17 19.0 -00.4	126 56.6 -25.9	N	00 44.3 +14.1				
03	223 15.9 -00.3	S	22 07.0 -00.3	224 07.5 +04.1	S	17 18.6 -00.3	141 30.7 -25.8	N	00 58.4 +13.9				
04	238 15.6 -00.3	S	22 06.7 -00.4	239 11.6 +04.2	S	17 18.3 -00.3	156 04.9 -25.8	N	01 12.3 +14.0				
05	253 15.3 -00.2	S	22 06.3 -00.3	254 15.8 +04.1	S	17 18.0 -00.4	170 39.1 -25.8	N	01 26.3 +14.0				
06	268 15.1 -00.3	S	22 06.0 -00.4	269 19.9 +04.1	S	17 17.6 -00.3	185 13.3 -25.8	N	01 40.3 +13.9				
07	283 14.8 -00.2	S	22 05.6 -00.3	284 24.0 +04.1	S	17 17.3 -00.3	199 47.5 -25.7	N	01 54.2 +13.9				
08	298 14.6 -00.3	S	22 05.3 -00.4	299 28.1 +04.2	S	17 17.0 -00.3	214 21.8 -25.7	N	02 08.1 +13.9				
09	313 14.3 -00.3	S	22 04.9 -00.3	314 32.3 +04.1	S	17 16.7 -00.4	228 56.1 -25.7	N	02 22.0 +13.9				
10	328 14.0 -00.2	S	22 04.6 -00.4	329 36.4 +04.1	S	17 16.3 -00.3	243 30.4 -25.7	N	02 35.9 +13.8				
11	343 13.8 -00.3	S	22 04.2 -00.4	344 40.5 +04.1	S	17 16.0 -00.3	258 04.7 -25.6	N	02 49.7 +13.8				
12	358 13.5 -00.2	S	22 03.8 -00.3	359 44.6 +04.1	S	17 15.7 -00.4	272 39.1 -25.7	N	03 03.5 +13.8				
13	13 13.3 -00.3	S	22 03.5 -00.4	14 48.7 +04.2	S	17 15.3 -00.3	287 13.4 -25.6	N	03 17.3 +13.7				
14	28 13.0 -00.2	S	22 03.1 -00.3	29 52.9 +04.1	S	17 15.0 -00.3	301 47.8 -25.6	N	03 31.0 +13.8				
15	43 12.8 -00.3	S	22 02.8 -00.4	44 57.0 +04.1	S	17 14.7 -00.3	316 22.2 -25.6	N	03 44.8 +13.6				
16	58 12.5 -00.3	S	22 02.4 -00.4	60 01.1 +04.1	S	17 14.4 -00.4	330 56.6 -25.5	N	03 58.4 +13.7				
17	73 12.2 -00.2	S	22 02.0 -00.3	75 05.2 +04.1	S	17 14.0 -00.3	345 31.1 -25.6	N	04 12.1 +13.6				
18	88 12.0 -00.3	S	22 01.7 -00.4	90 09.3 +04.2	S	17 13.7 -00.3	0 05.5 -25.5	N	04 25.7 +13.6				
19	103 11.7 -00.2	S	22 01.3 -00.4	105 13.5 +04.1	S	17 13.4 -00.3	14 40.0 -25.5	N	04 39.3 +13.6				
20	118 11.5 -00.3	S	22 00.9 -00.3	120 17.6 +04.1	S	17 13.1 -00.3	29 14.5 -25.6	N	04 52.9 +13.5				
21	133 11.2 -00.2	S	22 00.6 -00.4	135 21.7 +04.1	S	17 12.8 -00.4	43 48.9 -25.5	N	05 06.4 +13.5				
22	148 11.0 -00.3	S	22 00.2 -00.4	150 25.8 +04.1	S	17 12.4 -00.3	58 23.4 -25.5	N	05 19.9 +13.5				
23	163 10.7 -00.2	S	21 59.8 -00.3	165 29.9 +04.1	S	17 12.1 -00.3	72 57.9 -25.5	N	05 33.4 +13.4				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 16'3 16'3 16'3 16'3 16'3 16'3			SD 00'5 00'5 00'5 00'5 00'5 00'5				SD 15'3 15'2 15'2 15'2 15'1 15'1					
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'6 00'6 00'6 00'6 00'6 00'6				HP 56'1 55'9 55'8 55'7 55'6 55'5					
	SHA 070° 069° 069° 069° 069° 069°			SHA 070° 071° 071° 071° 071° 071°				SHA 348° 346° 345° 343° 341° 339°					
	Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 12:01				Greenwich Culmination Time: 17:59					

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	210 42.2 +00.6	S	23 11.2 +00.2	134 00.4 +02.0	S	11 37.7 -00.2	153 00.8 +02.2	S	17 45.9 +00.0				
01	225 42.8 +00.5	S	23 11.4 +00.1	149 02.4 +02.0	S	11 37.5 -00.2	168 03.0 +02.2	S	17 45.9 -00.1				
02	240 43.3 +00.5	S	23 11.5 +00.2	164 04.4 +01.9	S	11 37.3 -00.2	183 05.2 +02.1	S	17 45.8 -00.1				
03	255 43.8 +00.5	S	23 11.7 +00.2	179 06.3 +02.0	S	11 37.1 -00.2	198 07.3 +02.2	S	17 45.7 -00.1				
04	270 44.3 +00.6	S	23 11.9 +00.2	194 08.3 +02.0	S	11 36.9 -00.1	213 09.5 +02.2	S	17 45.6 -00.1				
05	285 44.9 +00.5	S	23 12.1 +00.1	209 10.3 +01.9	S	11 36.8 -00.2	228 11.7 +02.2	S	17 45.5 +00.0				
06	300 45.4 +00.5	S	23 12.2 +00.2	224 12.2 +02.0	S	11 36.6 -00.2	243 13.9 +02.1	S	17 45.5 -00.1				
07	315 45.9 +00.5	S	23 12.4 +00.2	239 14.2 +02.0	S	11 36.4 -00.2	258 16.0 +02.2	S	17 45.4 -00.1				
08	330 46.4 +00.6	S	23 12.6 +00.2	254 16.2 +02.0	S	11 36.2 -00.2	273 18.2 +02.2	S	17 45.3 -00.1				
09	345 47.0 +00.5	S	23 12.8 +00.1	269 18.2 +01.9	S	11 36.0 -00.2	288 20.4 +02.2	S	17 45.2 -00.1				
10	0 47.5 +00.5	S	23 12.9 +00.2	284 20.1 +02.0	S	11 35.8 -00.2	303 22.6 +02.2	S	17 45.1 +00.0				
11	15 48.0 +00.5	S	23 13.1 +00.2	299 22.1 +02.0	S	11 35.6 -00.2	318 24.8 +02.1	S	17 45.1 -00.1				
12	30 48.5 +00.6	S	23 13.3 +00.2	314 24.1 +01.9	S	11 35.4 -00.2	333 26.9 +02.2	S	17 45.0 -00.1				
13	45 49.1 +00.5	S	23 13.5 +00.1	329 26.0 +02.0	S	11 35.2 -00.1	348 29.1 +02.2	S	17 44.9 -00.1				
14	60 49.6 +00.5	S	23 13.6 +00.2	344 28.0 +02.0	S	11 35.1 -00.2	3 31.3 +02.2	S	17 44.8 +00.0				
15	75 50.1 +00.5	S	23 13.8 +00.2	359 30.0 +01.9	S	11 34.9 -00.2	18 33.5 +02.2	S	17 44.8 -00.1				
16	90 50.6 +00.6	S	23 14.0 +00.2	14 31.9 +02.0	S	11 34.7 -00.2	33 35.7 +02.1	S	17 44.7 -00.1				
17	105 51.2 +00.5	S	23 14.2 +00.1	29 33.9 +02.0	S	11 34.5 -00.2	48 37.8 +02.2	S	17 44.6 -00.1				
18	120 51.7 +00.5	S	23 14.3 +00.2	44 35.9 +02.0	S	11 34.3 -00.2	63 40.0 +02.2	S	17 44.5 -00.1				
19	135 52.2 +00.5	S	23 14.5 +00.2	59 37.9 +01.9	S	11 34.1 -00.2	78 42.2 +02.2	S	17 44.4 +00.0				
20	150 52.7 +00.6	S	23 14.7 +00.1	74 39.8 +02.0	S	11 33.9 -00.2	93 44.4 +02.1	S	17 44.4 -00.1				
21	165 53.3 +00.5	S	23 14.8 +00.2	89 41.8 +02.0	S	11 33.7 -00.2	108 46.5 +02.2	S	17 44.3 -00.1				
22	180 53.8 +00.5	S	23 15.0 +00.2	104 43.8 +01.9	S	11 33.5 -00.1	123 48.7 +02.2	S	17 44.2 -00.1				
23	195 54.3 +00.5	S	23 15.2 +00.2	119 45.7 +02.0	S	11 33.4 -00.2	138 50.9 +02.2	S	17 44.1 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22				UT 02 06 10 14 18 22					
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3				SD 00'1 00'1 00'1 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 102° 102° 102° 102° 102° 101°			SHA 025° 025° 025° 025° 025° 025°				SHA 044° 044° 044° 044° 044° 044°					
	Greenwich Culmination Time: 09:56			Greenwich Culmination Time: 15:01				Greenwich Culmination Time: 13:45					

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	178 10.5 -00.3	S	21 59.5 -00.4	180 34.0 +04.2	S	17 11.8 -00.3	87 32.4 -25.5	N	05 46.8 +13.4	00										
01	193 10.2 -00.2	S	21 59.1 -00.4	195 38.2 +04.1	S	17 11.5 -00.3	102 06.9 -25.4	N	06 00.2 +13.4	01										
02	208 10.0 -00.3	S	21 58.7 -00.3	210 42.3 +04.1	S	17 11.2 -00.3	116 41.5 -25.5	N	06 13.6 +13.3	02										
03	223 09.7 -00.3	S	21 58.4 -00.4	225 46.4 +04.1	S	17 10.9 -00.4	131 16.0 -25.5	N	06 26.9 +13.3	03										
04	238 09.4 -00.2	S	21 58.0 -00.4	240 50.5 +04.1	S	17 10.5 -00.3	145 50.5 -25.5	N	06 40.2 +13.2	04										
05	253 09.2 -00.3	S	21 57.6 -00.4	255 54.6 +04.1	S	17 10.2 -00.3	160 25.0 -25.5	N	06 53.4 +13.2	05										
06	268 08.9 -00.2	S	21 57.2 -00.3	270 58.7 +04.1	S	17 09.9 -00.3	174 59.5 -25.4	N	07 06.6 +13.2	06										
07	283 08.7 -00.3	S	21 56.9 -00.4	286 02.8 +04.1	S	17 09.6 -00.3	189 34.1 -25.5	N	07 19.8 +13.1	07										
08	298 08.4 -00.2	S	21 56.5 -00.4	301 06.9 +04.1	S	17 09.3 -00.3	204 08.6 -25.5	N	07 32.9 +13.1	08										
09	313 08.2 -00.3	S	21 56.1 -00.4	316 11.0 +04.1	S	17 09.0 -00.3	218 43.1 -25.5	N	07 46.0 +13.0	09										
10	328 07.9 -00.2	S	21 55.7 -00.3	331 15.1 +04.1	S	17 08.7 -00.4	233 17.6 -25.5	N	07 59.0 +13.0	10										
11	343 07.7 -00.3	S	21 55.4 -00.4	346 19.2 +04.1	S	17 08.3 -00.3	247 52.1 -25.5	N	08 12.0 +13.0	11										
12	358 07.4 -00.2	S	21 55.0 -00.4	1 23.3 +04.1	S	17 08.0 -00.3	262 26.6 -25.5	N	08 25.0 +12.9	12										
13	13 07.2 -00.3	S	21 54.6 -00.4	16 27.4 +04.2	S	17 07.7 -00.3	277 01.1 -25.5	N	08 37.9 +12.8	13										
14	28 06.9 -00.2	S	21 54.2 -00.3	31 31.6 +04.1	S	17 07.4 -00.3	291 35.6 -25.5	N	08 50.7 +12.8	14										
15	43 06.7 -00.3	S	21 53.9 -00.4	46 35.7 +04.1	S	17 07.1 -00.3	306 10.1 -25.6	N	09 03.5 +12.8	15										
16	58 06.4 -00.2	S	21 53.5 -00.4	61 39.8 +04.1	S	17 06.8 -00.3	320 44.5 -25.5	N	09 16.3 +12.7	16										
17	73 06.2 -00.3	S	21 53.1 -00.4	76 43.9 +04.0	S	17 06.5 -00.3	335 19.0 -25.6	N	09 29.0 +12.7	17										
18	88 05.9 -00.2	S	21 52.7 -00.4	91 47.9 +04.1	S	17 06.2 -00.3	349 53.4 -25.6	N	09 41.7 +12.6	18										
19	103 05.7 -00.3	S	21 52.3 -00.4	106 52.0 +04.1	S	17 05.9 -00.3	4 27.8 -25.6	N	09 54.3 +12.6	19										
20	118 05.4 -00.2	S	21 51.9 -00.3	121 56.1 +04.1	S	17 05.6 -00.3	19 02.2 -25.6	N	10 06.9 +12.6	20										
21	133 05.2 -00.3	S	21 51.6 -00.4	137 00.2 +04.1	S	17 05.3 -00.3	33 36.6 -25.6	N	10 19.5 +12.4	21										
22	148 04.9 -00.2	S	21 51.2 -00.4	152 04.3 +04.1	S	17 05.0 -00.3	48 11.0 -25.6	N	10 31.9 +12.5	22										
23	163 04.7 -00.3	S	21 50.8 -00.4	167 08.4 +04.1	S	17 04.7 -00.3	62 45.4 -25.7	N	10 44.4 +12.4	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
SD	16'3	16'3	16'3	16'3	16'3	16'3	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	00'6	00'6	00'5	00'5	00'5	00'5	HP						
SHA	069°	068°	068°	068°	068°	068°	SHA	071°	071°	071°	071°	072°	072°	SHA						
Greenwich Culmination Time: 12:07							Greenwich Culmination Time: 11:54							Greenwich Culmination Time: 18:41						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT							
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec								
00	210 54.8 +00.6	S	23 15.4 +00.1	134 47.7 +02.0	S	11 33.2 -00.2	153 53.1 +02.2	S	17 44.0 +00.0	00										
01	225 55.4 +00.5	S	23 15.5 +00.2	149 49.7 +01.9	S	11 33.0 -00.2	168 55.3 +02.1	S	17 44.0 -00.1	01										
02	240 55.9 +00.5	S	23 15.7 +00.2	164 51.6 +02.0	S	11 32.8 -00.2	183 57.4 +02.2	S	17 43.9 -00.1	02										
03	255 56.4 +00.5	S	23 15.9 +00.1	179 53.6 +02.0	S	11 32.6 -00.2	198 59.6 +02.2	S	17 43.8 -00.1	03										
04	270 56.9 +00.5	S	23 16.0 +00.2	194 55.6 +02.0	S	11 32.4 -00.2	214 01.8 +02.2	S	17 43.7 -00.1	04										
05	285 57.4 +00.6	S	23 16.2 +00.2	209 57.6 +01.9	S	11 32.2 -00.2	229 04.0 +02.2	S	17 43.6 +00.0	05										
06	300 58.0 +00.5	S	23 16.4 +00.1	224 59.5 +02.0	S	11 32.0 -00.2	244 06.2 +02.1	S	17 43.6 -00.1	06										
07	315 58.5 +00.5	S	23 16.5 +00.2	240 01.5 +02.0	S	11 31.8 -00.2	259 08.3 +02.2	S	17 43.5 -00.1	07										
08	330 59.0 +00.5	S	23 16.7 +00.2	255 03.5 +01.9	S	11 31.6 -00.1	274 10.5 +02.2	S	17 43.4 -00.1	08										
09	345 59.5 +00.6	S	23 16.9 +00.1	270 05.4 +02.0	S	11 31.5 -00.2	289 12.7 +02.2	S	17 43.3 -00.1	09										
10	1 00.1 +00.5	S	23 17.0 +00.2	285 07.4 +02.0	S	11 31.3 -00.2	304 14.9 +02.1	S	17 43.2 +00.0	10										
11	16 00.6 +00.5	S	23 17.2 +00.2	300 09.4 +01.9	S	11 31.1 -00.2	319 17.0 +02.2	S	17 43.2 -00.1	11										
12	31 01.1 +00.5	S	23 17.4 +00.1	315 11.3 +02.0	S	11 30.9 -00.2	334 19.2 +02.2	S	17 43.1 -00.1	12										
13	46 01.6 +00.5	S	23 17.5 +00.2	330 13.3 +02.0	S	11 30.7 -00.2	349 21.4 +02.2	S	17 43.0 -00.1	13										
14	61 02.1 +00.6	S	23 17.7 +00.1	345 15.3 +01.9	S	11 30.5 -00.2	4 23.6 +02.1	S	17 42.9 +00.0	14										
15	76 02.7 +00.5	S	23 17.8 +00.2	0 17.2 +02.0	S	11 30.3 -00.2	19 25.7 +02.2	S	17 42.9 -00.1	15										
16	91 03.2 +00.5	S	23 18.0 +00.2	15 19.2 +02.0	S	11 30.1 -00.2	34 27.9 +02.2	S	17 42.8 -00.1	16										
17	106 03.7 +00.5	S	23 18.2 +00.1	30 21.2 +01.9	S	11 29.9 -00.2	49 30.1 +02.2	S	17 42.7 -00.1	17										
18	121 04.2 +00.6	S	23 18.3 +00.2	45 23.1 +02.0	S	11 29.7 -00.1	64 32.3 +02.2	S	17 42.6 -00.1	18										
19	136 04.8 +00.5	S	23 18.5 +00.2	60 25.1 +02.0	S	11 29.6 -00.2	79 34.5 +02.1	S	17 42.5 +00.0	19										
20	151 05.3 +00.5	S	23 18.7 +00.1	75 27.1 +01.9	S	11 29.4 -00.2	94 36.6 +02.2	S	17 42.5 -00.1	20										
21	166 05.8 +00.5	S	23 18.8 +00.2	90 29.0 +02.0	S	11 29.2 -00.2	109 38.8 +02.2	S	17 42.4 -00.1	21										
22	181 06.3 +00.5	S	23 19.0 +00.1	105 31.0 +02.0	S	11 29.0 -00.2	124 41.0 +02.2	S	17 42.3 -00.1	22										
23	196 06.8 +00.6	S	23 19.1 +00.2	120 33.0 +01.9	S	11 28.8 -00.2	139 43.2 +02.1	S	17 42.2 -00.1	23										
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT						
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						
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	101°	101°	101°	101°	101°	101°	SHA	025°	025°	025°	025°	025°	025°	SHA						
Greenwich Culmination Time: 09:55							Greenwich Culmination Time: 14:58							Greenwich Culmination Time: 13:42						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 04.4 -00.2	S 21 50.4 -00.4	182 12.5 +04.1	S 17 04.4 -00.3	77 19.7 -25.6	N 10 56.8 +12.3	00						
01	193 04.2 -00.3	S 21 50.0 -00.4	197 16.6 +04.1	S 17 04.1 -00.3	91 54.1 -25.7	N 11 09.1 +12.3	01						
02	208 03.9 -00.2	S 21 49.6 -00.4	212 20.7 +04.1	S 17 03.8 -00.3	106 28.4 -25.7	N 11 21.4 +12.2	02						
03	223 03.7 -00.3	S 21 49.2 -00.3	227 24.8 +04.1	S 17 03.5 -00.3	121 02.7 -25.8	N 11 33.6 +12.1	03						
04	238 03.4 -00.2	S 21 48.9 -00.4	242 28.9 +04.1	S 17 03.2 -00.3	135 36.9 -25.7	N 11 45.7 +12.2	04						
05	253 03.2 -00.3	S 21 48.5 -00.4	257 33.0 +04.0	S 17 02.9 -00.3	150 11.2 -25.8	N 11 57.9 +12.0	05						
06	268 02.9 -00.2	S 21 48.1 -00.4	272 37.0 +04.1	S 17 02.6 -00.3	164 45.4 -25.8	N 12 09.9 +12.0	06						
07	283 02.7 -00.3	S 21 47.7 -00.4	287 41.1 +04.1	S 17 02.3 -00.3	179 19.6 -25.8	N 12 21.9 +12.0	07						
08	298 02.4 -00.2	S 21 47.3 -00.4	302 45.2 +04.1	S 17 02.0 -00.3	193 53.8 -25.9	N 12 33.9 +11.9	08						
09	313 02.2 -00.2	S 21 46.9 -00.4	317 49.3 +04.1	S 17 01.7 -00.3	208 27.9 -25.9	N 12 45.8 +11.8	09						
10	328 02.0 -00.3	S 21 46.5 -00.4	332 53.4 +04.0	S 17 01.4 -00.3	223 02.0 -25.9	N 12 57.6 +11.8	10						
11	343 01.7 -00.2	S 21 46.1 -00.4	347 57.4 +04.1	S 17 01.1 -00.3	237 36.1 -25.9	N 13 09.4 +11.7	11						
12	358 01.5 -00.3	S 21 45.7 -00.4	3 01.5 +04.1	S 17 00.8 -00.3	252 10.2 -26.0	N 13 21.1 +11.6	12						
13	13 01.2 -00.2	S 21 45.3 -00.4	18 05.6 +04.1	S 17 00.5 -00.3	266 44.2 -26.0	N 13 32.7 +11.6	13						
14	28 01.0 -00.3	S 21 44.9 -00.4	33 09.7 +04.0	S 17 00.2 -00.2	281 18.2 -26.0	N 13 44.3 +11.6	14						
15	43 00.7 -00.2	S 21 44.5 -00.4	48 13.7 +04.1	S 16 60.0 -00.3	295 52.2 -26.1	N 13 55.9 +11.4	15						
16	58 00.5 -00.3	S 21 44.1 -00.4	63 17.8 +04.1	S 16 59.7 -00.3	310 26.1 -26.1	N 14 07.3 +11.4	16						
17	73 00.2 -00.2	S 21 43.7 -00.4	78 21.9 +04.0	S 16 59.4 -00.3	325 00.0 -26.1	N 14 18.7 +11.4	17						
18	87 60.0 -00.2	S 21 43.3 -00.4	93 25.9 +04.1	S 16 59.1 -00.3	339 33.9 -26.2	N 14 30.1 +11.3	18						
19	102 59.8 -00.3	S 21 42.9 -00.4	108 30.0 +04.1	S 16 58.8 -00.3	354 07.7 -26.1	N 14 41.4 +11.2	19						
20	117 59.5 -00.2	S 21 42.5 -00.4	123 34.1 +04.0	S 16 58.5 -00.3	8 41.6 -26.3	N 14 52.6 +11.1	20						
21	132 59.3 -00.3	S 21 42.1 -00.4	138 38.1 +04.1	S 16 58.2 -00.2	23 15.3 -26.2	N 15 03.7 +11.1	21						
22	147 59.0 -00.2	S 21 41.7 -00.4	153 42.2 +04.0	S 16 58.0 -00.3	37 49.1 -26.3	N 15 14.8 +11.0	22						
23	162 58.8 -00.3	S 21 41.3 -00.4	168 46.2 +04.1	S 16 57.7 -00.3	52 22.8 -26.4	N 15 25.8 +11.0	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 00'5 00'5 00'5 00'5 00'5 00'5		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 00'5 00'5 00'5 00'5 00'5 00'5		HP 54'8 54'7 54'6 54'6 54'5 54'4								
	SHA 068° 067° 067° 067° 067° 067°		SHA 072° 072° 072° 072° 072° 072°		SHA 326° 324° 322° 320° 318° 316°								
	Greenwich Culmination Time: 12:07		Greenwich Culmination Time: 11:47		Greenwich Culmination Time: 19:24								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	211 07.4 +00.5	S 23 19.3 +00.2	135 34.9 +02.0	S 11 28.6 -00.2	154 45.3 +02.2	S 17 42.1 +00.0	00						
01	226 07.9 +00.5	S 23 19.5 +00.1	150 36.9 +02.0	S 11 28.4 -00.2	169 47.5 +02.2	S 17 42.1 -00.1	01						
02	241 08.4 +00.5	S 23 19.6 +00.2	165 38.9 +01.9	S 11 28.2 -00.2	184 49.7 +02.2	S 17 42.0 -00.1	02						
03	256 08.9 +00.5	S 23 19.8 +00.1	180 40.8 +02.0	S 11 28.0 -00.2	199 51.9 +02.2	S 17 41.9 -00.1	03						
04	271 09.4 +00.6	S 23 19.9 +00.2	195 42.8 +02.0	S 11 27.8 -00.2	214 54.1 +02.1	S 17 41.8 -00.1	04						
05	286 10.0 +00.5	S 23 20.1 +00.2	210 44.8 +01.9	S 11 27.6 -00.1	229 56.2 +02.2	S 17 41.7 +00.0	05						
06	301 10.5 +00.5	S 23 20.3 +00.1	225 46.7 +02.0	S 11 27.5 -00.2	244 58.4 +02.2	S 17 41.7 -00.1	06						
07	316 11.0 +00.5	S 23 20.4 +00.2	240 48.7 +02.0	S 11 27.3 -00.2	260 00.6 +02.2	S 17 41.6 -00.1	07						
08	331 11.5 +00.5	S 23 20.6 +00.1	255 50.7 +01.9	S 11 27.1 -00.2	275 02.8 +02.1	S 17 41.5 -00.1	08						
09	346 12.0 +00.5	S 23 20.7 +00.2	270 52.6 +02.0	S 11 26.9 -00.2	290 04.9 +02.2	S 17 41.4 -00.1	09						
10	1 12.5 +00.6	S 23 20.9 +00.1	285 54.6 +02.0	S 11 26.7 -00.2	305 07.1 +02.2	S 17 41.3 +00.0	10						
11	16 13.1 +00.5	S 23 21.0 +00.2	300 56.6 +01.9	S 11 26.5 -00.2	320 09.3 +02.2	S 17 41.3 -00.1	11						
12	31 13.6 +00.5	S 23 21.2 +00.1	315 58.5 +02.0	S 11 26.3 -00.2	335 11.5 +02.1	S 17 41.2 -00.1	12						
13	46 14.1 +00.5	S 23 21.3 +00.2	331 00.5 +02.0	S 11 26.1 -00.2	350 13.6 +02.2	S 17 41.1 -00.1	13						
14	61 14.6 +00.5	S 23 21.5 +00.2	346 02.5 +01.9	S 11 25.9 -00.2	5 15.8 +02.2	S 17 41.0 -00.1	14						
15	76 15.1 +00.6	S 23 21.7 +00.1	1 04.4 +02.0	S 11 25.7 -00.2	20 18.0 +02.2	S 17 40.9 +00.0	15						
16	91 15.7 +00.5	S 23 21.8 +00.2	16 06.4 +01.9	S 11 25.5 -00.2	35 20.2 +02.1	S 17 40.9 -00.1	16						
17	106 16.2 +00.5	S 23 22.0 +00.1	31 08.3 +02.0	S 11 25.3 -00.1	50 22.3 +02.2	S 17 40.8 -00.1	17						
18	121 16.7 +00.5	S 23 22.1 +00.2	46 10.3 +02.0	S 11 25.2 -00.2	65 24.5 +02.2	S 17 40.7 -00.1	18						
19	136 17.2 +00.5	S 23 22.3 +00.1	61 12.3 +01.9	S 11 25.0 -00.2	80 26.7 +02.2	S 17 40.6 -00.1	19						
20	151 17.7 +00.5	S 23 22.4 +00.2	76 14.2 +02.0	S 11 24.8 -00.2	95 28.9 +02.2	S 17 40.5 +00.0	20						
21	166 18.2 +00.6	S 23 22.6 +00.1	91 16.2 +02.0	S 11 24.6 -00.2	110 31.1 +02.1	S 17 40.5 -00.1	21						
22	181 18.8 +00.5	S 23 22.7 +00.2	106 18.2 +01.9	S 11 24.4 -00.2	125 33.2 +02.2	S 17 40.4 -00.1	22						
23	196 19.3 +00.5	S 23 22.9 +00.1	121 20.1 +02.0	S 11 24.2 -00.2	140 35.4 +02.2	S 17 40.3 -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 00'1 00'1 00'1 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 101° 100° 100° 100° 100° 100°		SHA 025° 025° 025° 025° 025° 025°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 09:55		Greenwich Culmination Time: 14:55		Greenwich Culmination Time: 13:38								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 58.5 -00.2	S 21 40.9 -00.4	183 50.3 +04.1	S 16 57.4 -00.3	66 56.4 -26.4	N 15 36.8 +10.9	00						
01	192 58.3 -00.2	S 21 40.5 -00.4	198 54.4 +04.0	S 16 57.1 -00.3	81 30.0 -26.4	N 15 47.7 +10.8	01						
02	207 58.1 -00.3	S 21 40.1 -00.4	213 58.4 +04.1	S 16 56.8 -00.3	96 03.6 -26.4	N 15 58.5 +10.7	02						
03	222 57.8 -00.2	S 21 39.7 -00.4	229 02.5 +04.0	S 16 56.5 -00.2	110 37.2 -26.5	N 16 09.2 +10.7	03						
04	237 57.6 -00.3	S 21 39.3 -00.4	244 06.5 +04.1	S 16 56.3 -00.3	125 10.7 -26.6	N 16 19.9 +10.6	04						
05	252 57.3 -00.2	S 21 38.9 -00.4	259 10.6 +04.0	S 16 56.0 -00.3	139 44.1 -26.5	N 16 30.5 +10.6	05						
06	267 57.1 -00.2	S 21 38.5 -00.4	274 14.6 +04.1	S 16 55.7 -00.3	154 17.6 -26.7	N 16 41.1 +10.4	06						
07	282 56.9 -00.3	S 21 38.1 -00.4	289 18.7 +04.0	S 16 55.4 -00.2	168 50.9 -26.6	N 16 51.5 +10.4	07						
08	297 56.6 -00.2	S 21 37.7 -00.4	304 22.7 +04.0	S 16 55.2 -00.3	183 24.3 -26.7	N 17 01.9 +10.3	08						
09	312 56.4 -00.3	S 21 37.3 -00.5	319 26.7 +04.1	S 16 54.9 -00.3	197 57.6 -26.8	N 17 12.2 +10.3	09						
10	327 56.1 -00.2	S 21 36.8 -00.4	334 30.8 +04.0	S 16 54.6 -00.3	212 30.8 -26.8	N 17 22.5 +10.2	10						
11	342 55.9 -00.2	S 21 36.4 -00.4	349 34.8 +04.1	S 16 54.3 -00.2	227 04.0 -26.8	N 17 32.7 +10.1	11						
12	357 55.7 -00.3	S 21 36.0 -00.4	4 38.9 +04.0	S 16 54.1 -00.3	241 37.2 -26.9	N 17 42.8 +10.0	12						
13	12 55.4 -00.2	S 21 35.6 -00.4	19 42.9 +04.0	S 16 53.8 -00.3	256 10.3 -26.9	N 17 52.8 +09.9	13						
14	27 55.2 -00.3	S 21 35.2 -00.4	34 46.9 +04.0	S 16 53.5 -00.3	270 43.4 -27.0	N 18 02.7 +09.9	14						
15	42 54.9 -00.2	S 21 34.8 -00.4	49 50.9 +04.1	S 16 53.2 -00.2	285 16.4 -27.0	N 18 12.6 +09.8	15						
16	57 54.7 -00.2	S 21 34.4 -00.4	64 55.0 +04.0	S 16 53.0 -00.3	299 49.4 -27.1	N 18 22.4 +09.7	16						
17	72 54.5 -00.3	S 21 34.0 -00.5	79 59.0 +04.0	S 16 52.7 -00.3	314 22.3 -27.1	N 18 32.1 +09.6	17						
18	87 54.2 -00.2	S 21 33.5 -00.4	95 03.0 +04.1	S 16 52.4 -00.2	328 55.2 -27.2	N 18 41.7 +09.6	18						
19	102 54.0 -00.2	S 21 33.1 -00.4	110 07.1 +04.0	S 16 52.2 -00.3	343 28.0 -27.2	N 18 51.3 +09.4	19						
20	117 53.8 -00.3	S 21 32.7 -00.4	125 11.1 +04.0	S 16 51.9 -00.3	358 00.8 -27.3	N 19 00.7 +09.4	20						
21	132 53.5 -00.2	S 21 32.3 -00.4	140 15.1 +04.0	S 16 51.6 -00.2	12 33.5 -27.3	N 19 10.1 +09.3	21						
22	147 53.3 -00.3	S 21 31.9 -00.5	155 19.1 +04.0	S 16 51.4 -00.3	27 06.2 -27.4	N 19 19.4 +09.2	22						
23	162 53.0 -00.2	S 21 31.4 -00.4	170 23.1 +04.0	S 16 51.1 -00.3	41 38.8 -27.4	N 19 28.6 +09.2	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 00'5 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 54'3 54'3 54'2 54'2 54'2								
	SHA 066° 066° 066° 066° 066° 066°		SHA 072° 073° 073° 073° 073° 073°		SHA 315° 313° 311° 309° 307° 305°								
	Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 11:41		Greenwich Culmination Time: 20:08								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	211 19.8 +00.5	S 23 23.0 +00.2	136 22.1 +02.0	S 11 24.0 -00.2	155 37.6 +02.2	S 17 40.2 -00.1	00						
01	226 20.3 +00.5	S 23 23.2 +00.1	151 24.1 +01.9	S 11 23.8 -00.2	170 39.8 +02.1	S 17 40.1 +00.0	01						
02	241 20.8 +00.5	S 23 23.3 +00.2	166 26.0 +02.0	S 11 23.6 -00.2	185 41.9 +02.2	S 17 40.1 -00.1	02						
03	256 21.3 +00.6	S 23 23.5 +00.1	181 28.0 +02.0	S 11 23.4 -00.2	200 44.1 +02.2	S 17 40.0 -00.1	03						
04	271 21.9 +00.5	S 23 23.6 +00.2	196 30.0 +01.9	S 11 23.2 -00.2	215 46.3 +02.2	S 17 39.9 -00.1	04						
05	286 22.4 +00.5	S 23 23.8 +00.1	211 31.9 +02.0	S 11 23.0 -00.2	230 48.5 +02.1	S 17 39.8 -00.1	05						
06	301 22.9 +00.5	S 23 23.9 +00.2	226 33.9 +01.9	S 11 22.8 -00.1	245 50.6 +02.2	S 17 39.7 +00.0	06						
07	316 23.4 +00.5	S 23 24.1 +00.1	241 35.8 +02.0	S 11 22.7 -00.2	260 52.8 +02.2	S 17 39.7 -00.1	07						
08	331 23.9 +00.5	S 23 24.2 +00.2	256 37.8 +02.0	S 11 22.5 -00.2	275 55.0 +02.2	S 17 39.6 -00.1	08						
09	346 24.4 +00.5	S 23 24.4 +00.1	271 39.8 +01.9	S 11 22.3 -00.2	290 57.2 +02.1	S 17 39.5 -00.1	09						
10	1 24.9 +00.6	S 23 24.5 +00.2	286 41.7 +02.0	S 11 22.1 -00.2	305 59.3 +02.2	S 17 39.4 -00.1	10						
11	16 25.5 +00.5	S 23 24.7 +00.1	301 43.7 +02.0	S 11 21.9 -00.2	321 01.5 +02.2	S 17 39.3 +00.0	11						
12	31 26.0 +00.5	S 23 24.8 +00.2	316 45.7 +01.9	S 11 21.7 -00.2	336 03.7 +02.2	S 17 39.3 -00.1	12						
13	46 26.5 +00.5	S 23 25.0 +00.1	331 47.6 +02.0	S 11 21.5 -00.2	351 05.9 +02.1	S 17 39.2 -00.1	13						
14	61 27.0 +00.5	S 23 25.1 +00.1	346 49.6 +01.9	S 11 21.3 -00.2	6 08.0 +02.2	S 17 39.1 -00.1	14						
15	76 27.5 +00.5	S 23 25.2 +00.2	1 51.5 +02.0	S 11 21.1 -00.2	21 10.2 +02.2	S 17 39.0 -00.1	15						
16	91 28.0 +00.6	S 23 25.4 +00.1	16 53.5 +02.0	S 11 20.9 -00.2	36 12.4 +02.2	S 17 38.9 +00.0	16						
17	106 28.6 +00.5	S 23 25.5 +00.2	31 55.5 +01.9	S 11 20.7 -00.2	51 14.6 +02.1	S 17 38.9 -00.1	17						
18	121 29.1 +00.5	S 23 25.7 +00.1	46 57.4 +02.0	S 11 20.5 -00.2	66 16.7 +02.2	S 17 38.8 -00.1	18						
19	136 29.6 +00.5	S 23 25.8 +00.2	61 59.4 +02.0	S 11 20.3 -00.2	81 18.9 +02.2	S 17 38.7 -00.1	19						
20	151 30.1 +00.5	S 23 26.0 +00.1	77 01.4 +01.9	S 11 20.1 -00.1	96 21.1 +02.2	S 17 38.6 -00.1	20						
21	166 30.6 +00.5	S 23 26.1 +00.1	92 03.3 +02.0	S 11 20.0 -00.2	111 23.3 +02.1	S 17 38.5 +00.0	21						
22	181 31.1 +00.5	S 23 26.2 +00.2	107 05.3 +01.9	S 11 19.8 -00.2	126 25.4 +02.2	S 17 38.5 -00.1	22						
23	196 31.6 +00.5	S 23 26.4 +00.1	122 07.2 +02.0	S 11 19.6 -00.2	141 27.6 +02.2	S 17 38.4 -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 00'1 00'1 00'1 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 100° 100° 100° 099° 099° 099°		SHA 025° 025° 025° 025° 025° 025°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 09:54		Greenwich Culmination Time: 14:52		Greenwich Culmination Time: 13:35								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 52.8 -00.2	S	21 31.0 -00.4	185 27.1 +04.0	S	16 50.8 -00.2	56 11.4 -27.4	N	19 37.8 +09.0				
01	192 52.6 -00.3	S	21 30.6 -00.4	200 31.1 +04.1	S	16 50.6 -00.3	70 44.0 -27.6	N	19 46.8 +09.0				
02	207 52.3 -00.2	S	21 30.2 -00.4	215 35.2 +04.0	S	16 50.3 -00.2	85 16.4 -27.5	N	19 55.8 +08.9				
03	222 52.1 -00.2	S	21 29.8 -00.5	230 39.2 +04.0	S	16 50.1 -00.3	99 48.9 -27.6	N	20 04.7 +08.8				
04	237 51.9 -00.3	S	21 29.3 -00.4	245 43.2 +04.0	S	16 49.8 -00.3	114 21.3 -27.7	N	20 13.5 +08.7				
05	252 51.6 -00.2	S	21 28.9 -00.4	260 47.2 +04.0	S	16 49.5 -00.2	128 53.6 -27.7	N	20 22.2 +08.6				
06	267 51.4 -00.2	S	21 28.5 -00.4	275 51.2 +04.0	S	16 49.3 -00.3	143 25.9 -27.8	N	20 30.8 +08.5				
07	282 51.2 -00.3	S	21 28.1 -00.5	290 55.2 +04.0	S	16 49.0 -00.2	157 58.1 -27.8	N	20 39.3 +08.5				
08	297 50.9 -00.2	S	21 27.6 -00.4	305 59.2 +04.0	S	16 48.8 -00.3	172 30.3 -27.9	N	20 47.8 +08.3				
09	312 50.7 -00.2	S	21 27.2 -00.4	321 03.2 +04.0	S	16 48.5 -00.2	187 02.4 -28.0	N	20 56.1 +08.3				
10	327 50.5 -00.3	S	21 26.8 -00.5	336 07.2 +03.9	S	16 48.3 -00.3	201 34.4 -27.9	N	21 04.4 +08.2				
11	342 50.2 -00.2	S	21 26.3 -00.4	351 11.1 +04.0	S	16 48.0 -00.2	216 06.5 -28.1	N	21 12.6 +08.1				
12	357 50.0 -00.2	S	21 25.9 -00.4	6 15.1 +04.0	S	16 47.8 -00.3	230 38.4 -28.1	N	21 20.7 +07.9				
13	12 49.8 -00.3	S	21 25.5 -00.4	21 19.1 +04.0	S	16 47.5 -00.3	245 10.3 -28.1	N	21 28.6 +07.9				
14	27 49.5 -00.2	S	21 25.1 -00.5	36 23.1 +04.0	S	16 47.2 -00.2	259 42.2 -28.2	N	21 36.5 +07.8				
15	42 49.3 -00.2	S	21 24.6 -00.4	51 27.1 +04.0	S	16 47.0 -00.3	274 14.0 -28.3	N	21 44.3 +07.7				
16	57 49.1 -00.3	S	21 24.2 -00.4	66 31.1 +03.9	S	16 46.7 -00.2	288 45.7 -28.3	N	21 52.0 +07.7				
17	72 48.8 -00.2	S	21 23.8 -00.5	81 35.0 +04.0	S	16 46.5 -00.3	303 17.4 -28.3	N	21 59.7 +07.5				
18	87 48.6 -00.2	S	21 23.3 -00.4	96 39.0 +04.0	S	16 46.2 -00.2	317 49.1 -28.4	N	22 07.2 +07.4				
19	102 48.4 -00.2	S	21 22.9 -00.4	111 43.0 +03.9	S	16 46.0 -00.2	332 20.7 -28.5	N	22 14.6 +07.3				
20	117 48.2 -00.3	S	21 22.5 -00.5	126 46.9 +04.0	S	16 45.8 -00.3	346 52.2 -28.5	N	22 21.9 +07.2				
21	132 47.9 -00.2	S	21 22.0 -00.4	141 50.9 +04.0	S	16 45.5 -00.2	1 23.7 -28.6	N	22 29.1 +07.1				
22	147 47.7 -00.2	S	21 21.6 -00.5	156 54.9 +03.9	S	16 45.3 -00.3	15 55.1 -28.6	N	22 36.2 +07.0				
23	162 47.5 -00.3	S	21 21.1 -00.4	171 58.8 +04.0	S	16 45.0 -00.2	30 26.5 -28.7	N	22 43.2 +07.0				
	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 00'5 00'5 00'5 00'5 00'5 00'5				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 54'1 54'1 54'0 54'0 54'0					
	SHA 065° 065° 065° 065° 065° 064°			SHA 073° 073° 073° 073° 073° 074°				SHA 303° 301° 299° 297° 295° 293°					
	Greenwich Culmination Time: 12:08			Greenwich Culmination Time: 11:35				Greenwich Culmination Time: 20:54					

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	211 32.1 +00.6	S	23 26.5 +00.2	137 09.2 +02.0	S	11 19.4 -00.2	156 29.8 +02.2	S	17 38.3 -00.1				
01	226 32.7 +00.5	S	23 26.7 +00.1	152 11.2 +01.9	S	11 19.2 -00.2	171 32.0 +02.1	S	17 38.2 -00.1				
02	241 33.2 +00.5	S	23 26.8 +00.2	167 13.1 +02.0	S	11 19.0 -00.2	186 34.1 +02.2	S	17 38.1 +00.0				
03	256 33.7 +00.5	S	23 27.0 +00.1	182 15.1 +01.9	S	11 18.8 -00.2	201 36.3 +02.2	S	17 38.1 -00.1				
04	271 34.2 +00.5	S	23 27.1 +00.1	197 17.0 +02.0	S	11 18.6 -00.2	216 38.5 +02.2	S	17 38.0 -00.1				
05	286 34.7 +00.5	S	23 27.2 +00.2	212 19.0 +02.0	S	11 18.4 -00.2	231 40.7 +02.1	S	17 37.9 -00.1				
06	301 35.2 +00.5	S	23 27.4 +00.1	227 21.0 +01.9	S	11 18.2 -00.2	246 42.8 +02.2	S	17 37.8 -00.1				
07	316 35.7 +00.5	S	23 27.5 +00.1	242 22.9 +02.0	S	11 18.0 -00.2	261 45.0 +02.2	S	17 37.7 -00.1				
08	331 36.2 +00.6	S	23 27.6 +00.2	257 24.9 +01.9	S	11 17.8 -00.2	276 47.2 +02.2	S	17 37.6 +00.0				
09	346 36.8 +00.5	S	23 27.8 +00.1	272 26.8 +02.0	S	11 17.6 -00.2	291 49.4 +02.1	S	17 37.6 -00.1				
10	1 37.3 +00.5	S	23 27.9 +00.2	287 28.8 +02.0	S	11 17.4 -00.2	306 51.5 +02.2	S	17 37.5 -00.1				
11	16 37.8 +00.5	S	23 28.1 +00.1	302 30.8 +01.9	S	11 17.2 -00.2	321 53.7 +02.2	S	17 37.4 -00.1				
12	31 38.3 +00.5	S	23 28.2 +00.1	317 32.7 +02.0	S	11 17.0 -00.2	336 55.9 +02.2	S	17 37.3 -00.1				
13	46 38.8 +00.5	S	23 28.3 +00.2	332 34.7 +01.9	S	11 16.8 -00.1	351 58.1 +02.1	S	17 37.2 +00.0				
14	61 39.3 +00.5	S	23 28.5 +00.1	347 36.6 +02.0	S	11 16.7 -00.2	7 00.2 +02.2	S	17 37.2 -00.1				
15	76 39.8 +00.5	S	23 28.6 +00.1	2 38.6 +02.0	S	11 16.5 -00.2	22 02.4 +02.2	S	17 37.1 -00.1				
16	91 40.3 +00.5	S	23 28.7 +00.2	17 40.6 +01.9	S	11 16.3 -00.2	37 04.6 +02.2	S	17 37.0 -00.1				
17	106 40.8 +00.6	S	23 28.9 +00.1	32 42.5 +02.0	S	11 16.1 -00.2	52 06.8 +02.1	S	17 36.9 -00.1				
18	121 41.4 +00.5	S	23 29.0 +00.1	47 44.5 +01.9	S	11 15.9 -00.2	67 08.9 +02.2	S	17 36.8 +00.0				
19	136 41.9 +00.5	S	23 29.1 +00.2	62 46.4 +02.0	S	11 15.7 -00.2	82 11.1 +02.2	S	17 36.8 -00.1				
20	151 42.4 +00.5	S	23 29.3 +00.1	77 48.4 +02.0	S	11 15.5 -00.2	97 13.3 +02.2	S	17 36.7 -00.1				
21	166 42.9 +00.5	S	23 29.4 +00.1	92 50.4 +01.9	S	11 15.3 -00.2	112 15.5 +02.1	S	17 36.6 -00.1				
22	181 43.4 +00.5	S	23 29.5 +00.2	107 52.3 +02.0	S	11 15.1 -00.2	127 17.6 +02.2	S	17 36.5 -00.1				
23	196 43.9 +00.5	S	23 29.7 +00.1	122 54.3 +01.9	S	11 14.9 -00.2	142 19.8 +02.2	S	17 36.4 +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 00'1 00'1 00'1 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 099° 099° 099° 099° 098° 098°			SHA 025° 025° 025° 025° 025° 025°				SHA 044° 044° 044° 044° 044° 044°					
	Greenwich Culmination Time: 09:53			Greenwich Culmination Time: 14:49				Greenwich Culmination Time: 13:32					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 47.2 -00.2	S 21 20.7 -00.4	187 02.8 +03.9	S 16 44.8 -00.3	44 57.8 -28.7	N 22 50.2 +06.8	00						
01	192 47.0 -00.2	S 21 20.3 -00.5	202 06.7 +04.0	S 16 44.5 -00.2	59 29.1 -28.8	N 22 57.0 +06.7	01						
02	207 46.8 -00.2	S 21 19.8 -00.4	217 10.7 +04.0	S 16 44.3 -00.2	74 00.3 -28.9	N 23 03.7 +06.6	02						
03	222 46.6 -00.3	S 21 19.4 -00.5	232 14.7 +03.9	S 16 44.1 -00.3	88 31.4 -28.8	N 23 10.3 +06.5	03						
04	237 46.3 -00.2	S 21 18.9 -00.4	247 18.6 +04.0	S 16 43.8 -00.2	103 02.6 -29.0	N 23 16.8 +06.4	04						
05	252 46.1 -00.2	S 21 18.5 -00.4	262 22.6 +03.9	S 16 43.6 -00.3	117 33.6 -29.0	N 23 23.2 +06.3	05						
06	267 45.9 -00.3	S 21 18.1 -00.5	277 26.5 +03.9	S 16 43.3 -00.2	132 04.6 -29.0	N 23 29.5 +06.2	06						
07	282 45.6 -00.2	S 21 17.6 -00.4	292 30.4 +04.0	S 16 43.1 -00.2	146 35.6 -29.1	N 23 35.7 +06.1	07						
08	297 45.4 -00.2	S 21 17.2 -00.5	307 34.4 +03.9	S 16 42.9 -00.3	161 06.5 -29.2	N 23 41.8 +06.0	08						
09	312 45.2 -00.2	S 21 16.7 -00.4	322 38.3 +03.9	S 16 42.6 -00.2	175 37.3 -29.2	N 23 47.8 +05.9	09						
10	327 45.0 -00.3	S 21 16.3 -00.5	337 42.2 +04.0	S 16 42.4 -00.2	190 08.1 -29.2	N 23 53.7 +05.7	10						
11	342 44.7 -00.2	S 21 15.8 -00.4	352 46.2 +03.9	S 16 42.2 -00.3	204 38.9 -29.3	N 23 59.4 +05.7	11						
12	357 44.5 -00.2	S 21 15.4 -00.5	7 50.1 +03.9	S 16 41.9 -00.2	219 09.6 -29.4	N 24 05.1 +05.6	12						
13	12 44.3 -00.2	S 21 14.9 -00.4	22 54.0 +04.0	S 16 41.7 -00.2	233 40.2 -29.4	N 24 10.7 +05.4	13						
14	27 44.1 -00.3	S 21 14.5 -00.5	37 58.0 +03.9	S 16 41.5 -00.3	248 10.8 -29.4	N 24 16.1 +05.3	14						
15	42 43.8 -00.2	S 21 14.0 -00.4	53 01.9 +03.9	S 16 41.2 -00.2	262 41.4 -29.5	N 24 21.4 +05.2	15						
16	57 43.6 -00.2	S 21 13.6 -00.5	68 05.8 +03.9	S 16 41.0 -00.2	277 11.9 -29.6	N 24 26.6 +05.1	16						
17	72 43.4 -00.2	S 21 13.1 -00.4	83 09.7 +03.9	S 16 40.8 -00.3	291 42.3 -29.6	N 24 31.7 +05.0	17						
18	87 43.2 -00.3	S 21 12.7 -00.5	98 13.6 +03.9	S 16 40.5 -00.2	306 12.7 -29.6	N 24 36.7 +04.9	18						
19	102 42.9 -00.2	S 21 12.2 -00.4	113 17.5 +03.9	S 16 40.3 -00.2	320 43.1 -29.7	N 24 41.6 +04.8	19						
20	117 42.7 -00.2	S 21 11.8 -00.5	128 21.4 +03.9	S 16 40.1 -00.2	335 13.4 -29.7	N 24 46.4 +04.6	20						
21	132 42.5 -00.2	S 21 11.3 -00.4	143 25.3 +03.9	S 16 39.9 -00.3	349 43.7 -29.8	N 24 51.0 +04.6	21						
22	147 42.3 -00.2	S 21 10.9 -00.5	158 29.2 +03.9	S 16 39.6 -00.2	4 13.9 -29.8	N 24 55.6 +04.4	22						
23	162 42.1 -00.3	S 21 10.4 -00.4	173 33.1 +03.9	S 16 39.4 -00.2	18 44.1 -29.9	N 25 00.0 +04.3	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 00'5 00'5 00'5 00'5 00'5 00'5		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 54'0 54'0 54'0 54'0 54'0 54'0								
	SHA 064° 064° 064° 064° 064° 063°		SHA 074° 074° 074° 074° 074° 074°		SHA 290° 288° 286° 284° 282° 280°								
	Greenwich Culmination Time: 12:09		Greenwich Culmination Time: 11:28		Greenwich Culmination Time: 21:42								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	211 44.4 +00.5	S 23 29.8 +00.1	137 56.2 +02.0	S 11 14.7 -00.2	157 22.0 +02.2	S 17 36.4 -00.1	00						
01	226 44.9 +00.5	S 23 29.9 +00.2	152 58.2 +01.9	S 11 14.5 -00.2	172 24.2 +02.1	S 17 36.3 -00.1	01						
02	241 45.4 +00.6	S 23 30.1 +00.1	168 00.1 +02.0	S 11 14.3 -00.2	187 26.3 +02.2	S 17 36.2 -00.1	02						
03	256 46.0 +00.5	S 23 30.2 +00.1	183 02.1 +02.0	S 11 14.1 -00.2	202 28.5 +02.2	S 17 36.1 -00.1	03						
04	271 46.5 +00.5	S 23 30.3 +00.2	198 04.1 +01.9	S 11 13.9 -00.2	217 30.7 +02.1	S 17 36.0 +00.0	04						
05	286 47.0 +00.5	S 23 30.5 +00.1	213 06.0 +02.0	S 11 13.7 -00.2	232 32.8 +02.2	S 17 36.0 -00.1	05						
06	301 47.5 +00.5	S 23 30.6 +00.1	228 08.0 +01.9	S 11 13.5 -00.2	247 35.0 +02.2	S 17 35.9 -00.1	06						
07	316 48.0 +00.5	S 23 30.7 +00.2	243 09.9 +02.0	S 11 13.3 -00.2	262 37.2 +02.2	S 17 35.8 -00.1	07						
08	331 48.5 +00.5	S 23 30.9 +00.1	258 11.9 +02.0	S 11 13.1 -00.1	277 39.4 +02.1	S 17 35.7 -00.1	08						
09	346 49.0 +00.5	S 23 31.0 +00.1	273 13.9 +01.9	S 11 13.0 -00.2	292 41.5 +02.2	S 17 35.6 -00.1	09						
10	1 49.5 +00.5	S 23 31.1 +00.1	288 15.8 +02.0	S 11 12.8 -00.2	307 43.7 +02.2	S 17 35.5 +00.0	10						
11	16 50.0 +00.5	S 23 31.2 +00.2	303 17.8 +01.9	S 11 12.6 -00.2	322 45.9 +02.2	S 17 35.5 -00.1	11						
12	31 50.5 +00.5	S 23 31.4 +00.1	318 19.7 +02.0	S 11 12.4 -00.2	337 48.1 +02.1	S 17 35.4 -00.1	12						
13	46 51.0 +00.5	S 23 31.5 +00.1	333 21.7 +01.9	S 11 12.2 -00.2	352 50.2 +02.2	S 17 35.3 -00.1	13						
14	61 51.5 +00.6	S 23 31.6 +00.1	348 23.6 +02.0	S 11 12.0 -00.2	7 52.4 +02.2	S 17 35.2 -00.1	14						
15	76 52.1 +00.5	S 23 31.7 +00.2	3 25.6 +02.0	S 11 11.8 -00.2	22 54.6 +02.2	S 17 35.1 +00.0	15						
16	91 52.6 +00.5	S 23 31.9 +00.1	18 27.6 +01.9	S 11 11.6 -00.2	37 56.8 +02.1	S 17 35.1 -00.1	16						
17	106 53.1 +00.5	S 23 32.0 +00.1	33 29.5 +02.0	S 11 11.4 -00.2	52 58.9 +02.2	S 17 35.0 -00.1	17						
18	121 53.6 +00.5	S 23 32.1 +00.1	48 31.5 +01.9	S 11 11.2 -00.2	68 01.1 +02.2	S 17 34.9 -00.1	18						
19	136 54.1 +00.5	S 23 32.2 +00.2	63 33.4 +02.0	S 11 11.0 -00.2	83 03.3 +02.1	S 17 34.8 -00.1	19						
20	151 54.6 +00.5	S 23 32.4 +00.1	78 35.4 +01.9	S 11 10.8 -00.2	98 05.4 +02.2	S 17 34.7 +00.0	20						
21	166 55.1 +00.5	S 23 32.5 +00.1	93 37.3 +02.0	S 11 10.6 -00.2	113 07.6 +02.2	S 17 34.7 -00.1	21						
22	181 55.6 +00.5	S 23 32.6 +00.1	108 39.3 +01.9	S 11 10.4 -00.2	128 09.8 +02.2	S 17 34.6 -00.1	22						
23	196 56.1 +00.5	S 23 32.7 +00.2	123 41.2 +02.0	S 11 10.2 -00.2	143 12.0 +02.1	S 17 34.5 -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 00'1 00'1 00'1 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 098° 098° 098° 098° 098° 098°		SHA 024° 024° 024° 024° 024° 024°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 09:52		Greenwich Culmination Time: 14:46		Greenwich Culmination Time: 13:28								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 41.8 -00.2	S 21 10.0 -00.5	188 37.0 +03.9	S 16 39.2 -00.2	33 14.2 -29.9	N 25 04.3 +04.2	00						
01	192 41.6 -00.2	S 21 09.5 -00.4	203 40.9 +03.9	S 16 39.0 -00.3	47 44.3 -30.0	N 25 08.5 +04.1	01						
02	207 41.4 -00.2	S 21 09.1 -00.5	218 44.8 +03.9	S 16 38.7 -00.2	62 14.3 -30.0	N 25 12.6 +03.9	02						
03	222 41.2 -00.2	S 21 08.6 -00.5	233 48.7 +03.9	S 16 38.5 -00.2	76 44.3 -30.0	N 25 16.5 +03.9	03						
04	237 41.0 -00.3	S 21 08.1 -00.4	248 52.6 +03.9	S 16 38.3 -00.2	91 14.3 -30.1	N 25 20.4 +03.7	04						
05	252 40.7 -00.2	S 21 07.7 -00.5	263 56.5 +03.8	S 16 38.1 -00.2	105 44.2 -30.1	N 25 24.1 +03.6	05						
06	267 40.5 -00.2	S 21 07.2 -00.4	279 00.3 +03.9	S 16 37.9 -00.3	120 14.1 -30.2	N 25 27.7 +03.5	06						
07	282 40.3 -00.2	S 21 06.8 -00.5	294 04.2 +03.9	S 16 37.6 -00.2	134 43.9 -30.2	N 25 31.2 +03.3	07						
08	297 40.1 -00.2	S 21 06.3 -00.5	309 08.1 +03.9	S 16 37.4 -00.2	149 13.7 -30.2	N 25 34.5 +03.3	08						
09	312 39.9 -00.3	S 21 05.8 -00.4	324 12.0 +03.8	S 16 37.2 -00.2	163 43.5 -30.3	N 25 37.8 +03.1	09						
10	327 39.6 -00.2	S 21 05.4 -00.5	339 15.8 +03.9	S 16 37.0 -00.2	178 13.2 -30.3	N 25 40.9 +03.0	10						
11	342 39.4 -00.2	S 21 04.9 -00.4	354 19.7 +03.9	S 16 36.8 -00.2	192 42.9 -30.4	N 25 43.9 +02.9	11						
12	357 39.2 -00.2	S 21 04.5 -00.5	9 23.6 +03.8	S 16 36.6 -00.2	207 12.5 -30.3	N 25 46.8 +02.7	12						
13	12 39.0 -00.2	S 21 04.0 -00.5	24 27.4 +03.9	S 16 36.4 -00.3	221 42.2 -30.4	N 25 49.5 +02.7	13						
14	27 38.8 -00.3	S 21 03.5 -00.4	39 31.3 +03.8	S 16 36.1 -00.2	236 11.8 -30.5	N 25 52.2 +02.5	14						
15	42 38.5 -00.2	S 21 03.1 -00.5	54 35.1 +03.9	S 16 35.9 -00.2	250 41.3 -30.5	N 25 54.7 +02.4	15						
16	57 38.3 -00.2	S 21 02.6 -00.5	69 39.0 +03.8	S 16 35.7 -00.2	265 10.8 -30.5	N 25 57.1 +02.2	16						
17	72 38.1 -00.2	S 21 02.1 -00.4	84 42.8 +03.9	S 16 35.5 -00.2	279 40.3 -30.5	N 25 59.3 +02.2	17						
18	87 37.9 -00.2	S 21 01.7 -00.5	99 46.7 +03.8	S 16 35.3 -00.2	294 09.8 -30.6	N 26 01.5 +02.0	18						
19	102 37.7 -00.2	S 21 01.2 -00.5	114 50.5 +03.8	S 16 35.1 -00.2	308 39.2 -30.6	N 26 03.5 +01.9	19						
20	117 37.5 -00.3	S 21 00.7 -00.4	129 54.3 +03.9	S 16 34.9 -00.2	323 08.6 -30.6	N 26 05.4 +01.7	20						
21	132 37.2 -00.2	S 21 00.3 -00.5	144 58.2 +03.8	S 16 34.7 -00.2	337 38.0 -30.7	N 26 07.1 +01.7	21						
22	147 37.0 -00.2	S 20 59.8 -00.5	160 02.0 +03.8	S 16 34.5 -00.2	352 07.3 -30.7	N 26 08.8 +01.5	22						
23	162 36.8 -00.2	S 20 59.3 -00.5	175 05.8 +03.9	S 16 34.3 -00.2	6 36.6 -30.7	N 26 10.3 +01.3	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 00'5 00'5 00'5 00'5 00'5 00'5		SD 14'7 14'7 14'7 14'7 14'7 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 54'0 54'1 54'1 54'1 54'1 54'1								
	SHA 063° 063° 063° 063° 062° 062°		SHA 074° 074° 074° 075° 075° 075°		SHA 278° 276° 273° 271° 269° 267°								
	Greenwich Culmination Time: 12:09		Greenwich Culmination Time: 11:22		Greenwich Culmination Time: 22:32								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	211 56.6 +00.5	S 23 32.9 +00.1	138 43.2 +02.0	S 11 10.0 -00.2	158 14.1 +02.2	S 17 34.4 -00.1	00						
01	226 57.1 +00.5	S 23 33.0 +00.1	153 45.2 +01.9	S 11 09.8 -00.2	173 16.3 +02.2	S 17 34.3 -00.1	01						
02	241 57.6 +00.5	S 23 33.1 +00.1	168 47.1 +02.0	S 11 09.6 -00.2	188 18.5 +02.2	S 17 34.2 +00.0	02						
03	256 58.1 +00.5	S 23 33.2 +00.1	183 49.1 +01.9	S 11 09.4 -00.2	203 20.7 +02.1	S 17 34.2 -00.1	03						
04	271 58.6 +00.6	S 23 33.3 +00.2	198 51.0 +02.0	S 11 09.2 -00.2	218 22.8 +02.2	S 17 34.1 -00.1	04						
05	286 59.2 +00.5	S 23 33.5 +00.1	213 53.0 +01.9	S 11 09.0 -00.2	233 25.0 +02.2	S 17 34.0 -00.1	05						
06	301 59.7 +00.5	S 23 33.6 +00.1	228 54.9 +02.0	S 11 08.8 -00.2	248 27.2 +02.1	S 17 33.9 -00.1	06						
07	317 00.2 +00.5	S 23 33.7 +00.1	243 56.9 +01.9	S 11 08.6 -00.2	263 29.3 +02.2	S 17 33.8 +00.0	07						
08	332 00.7 +00.5	S 23 33.8 +00.1	258 58.8 +02.0	S 11 08.4 -00.2	278 31.5 +02.2	S 17 33.8 -00.1	08						
09	347 01.2 +00.5	S 23 33.9 +00.2	274 00.8 +02.0	S 11 08.2 -00.1	293 33.7 +02.2	S 17 33.7 -00.1	09						
10	2 01.7 +00.5	S 23 34.1 +00.1	289 02.8 +01.9	S 11 08.1 -00.2	308 35.9 +02.1	S 17 33.6 -00.1	10						
11	17 02.2 +00.5	S 23 34.2 +00.1	304 04.7 +02.0	S 11 07.9 -00.2	323 38.0 +02.2	S 17 33.5 -00.1	11						
12	32 02.7 +00.5	S 23 34.3 +00.1	319 06.7 +01.9	S 11 07.7 -00.2	338 40.2 +02.2	S 17 33.4 +00.0	12						
13	47 03.2 +00.5	S 23 34.4 +00.1	334 08.6 +02.0	S 11 07.5 -00.2	353 42.4 +02.2	S 17 33.4 -00.1	13						
14	62 03.7 +00.5	S 23 34.5 +00.1	349 10.6 +01.9	S 11 07.3 -00.2	8 44.6 +02.1	S 17 33.3 -00.1	14						
15	77 04.2 +00.5	S 23 34.6 +00.2	4 12.5 +02.0	S 11 07.1 -00.2	23 46.7 +02.2	S 17 33.2 -00.1	15						
16	92 04.7 +00.5	S 23 34.8 +00.1	19 14.5 +01.9	S 11 06.9 -00.2	38 48.9 +02.2	S 17 33.1 -00.1	16						
17	107 05.2 +00.5	S 23 34.9 +00.1	34 16.4 +02.0	S 11 06.7 -00.2	53 51.1 +02.1	S 17 33.0 -00.1	17						
18	122 05.7 +00.5	S 23 35.0 +00.1	49 18.4 +01.9	S 11 06.5 -00.2	68 53.2 +02.2	S 17 32.9 +00.0	18						
19	137 06.2 +00.5	S 23 35.1 +00.1	64 20.3 +02.0	S 11 06.3 -00.2	83 55.4 +02.2	S 17 32.9 -00.1	19						
20	152 06.7 +00.5	S 23 35.2 +00.1	79 22.3 +02.0	S 11 06.1 -00.2	98 57.6 +02.2	S 17 32.8 -00.1	20						
21	167 07.2 +00.5	S 23 35.3 +00.2	94 24.3 +01.9	S 11 05.9 -00.2	113 59.8 +02.1	S 17 32.7 -00.1	21						
22	182 07.7 +00.5	S 23 35.5 +00.1	109 26.2 +02.0	S 11 05.7 -00.2	129 01.9 +02.2	S 17 32.6 -00.1	22						
23	197 08.2 +00.5	S 23 35.6 +00.1	124 28.2 +01.9	S 11 05.5 -00.2	144 04.1 +02.2	S 17 32.5 +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 00'1 00'1 00'1 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 097° 097° 097° 097° 097° 097°		SHA 024° 024° 024° 024° 024° 024°		SHA 044° 044° 044° 044° 044° 044°								
	Greenwich Culmination Time: 09:51		Greenwich Culmination Time: 14:43		Greenwich Culmination Time: 13:25								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 36.6 -00.2	S 20 58.8 -00.4	190 09.7 +03.8	S 16 34.1 -00.2	21 05.9 -30.7	N 26 11.6 +01.3	00						
01	192 36.4 -00.2	S 20 58.4 -00.5	205 13.5 +03.8	S 16 33.9 -00.2	35 35.2 -30.7	N 26 12.9 +01.1	01						
02	207 36.2 -00.2	S 20 57.9 -00.5	220 17.3 +03.8	S 16 33.7 -00.2	50 04.5 -30.8	N 26 14.0 +01.0	02						
03	222 36.0 -00.3	S 20 57.4 -00.5	235 21.1 +03.8	S 16 33.5 -00.2	64 33.7 -30.8	N 26 15.0 +00.9	03						
04	237 35.7 -00.2	S 20 56.9 -00.4	250 24.9 +03.8	S 16 33.3 -00.2	79 02.9 -30.8	N 26 15.9 +00.8	04						
05	252 35.5 -00.2	S 20 56.5 -00.5	265 28.7 +03.8	S 16 33.1 -00.2	93 32.1 -30.8	N 26 16.7 +00.6	05						
06	267 35.3 -00.2	S 20 56.0 -00.5	280 32.5 +03.8	S 16 32.9 -00.2	108 01.3 -30.9	N 26 17.3 +00.5	06						
07	282 35.1 -00.2	S 20 55.5 -00.5	295 36.3 +03.8	S 16 32.7 -00.2	122 30.4 -30.9	N 26 17.8 +00.3	07						
08	297 34.9 -00.2	S 20 55.0 -00.4	310 40.1 +03.8	S 16 32.5 -00.2	136 59.5 -30.8	N 26 18.1 +00.3	08						
09	312 34.7 -00.2	S 20 54.6 -00.5	325 43.9 +03.8	S 16 32.3 -00.2	151 28.7 -30.9	N 26 18.4 +00.1	09						
10	327 34.5 -00.2	S 20 54.1 -00.5	340 47.7 +03.8	S 16 32.1 -00.2	165 57.8 -30.9	N 26 18.5 -00.1	10						
11	342 34.3 -00.3	S 20 53.6 -00.5	355 51.5 +03.8	S 16 31.9 -00.2	180 26.9 -30.9	N 26 18.4 -00.1	11						
12	357 34.0 -00.2	S 20 53.1 -00.5	10 55.3 +03.8	S 16 31.7 -00.2	194 56.0 -31.0	N 26 18.3 -00.3	12						
13	12 33.8 -00.2	S 20 52.6 -00.4	25 59.1 +03.8	S 16 31.5 -00.2	209 25.0 -30.9	N 26 18.0 -00.4	13						
14	27 33.6 -00.2	S 20 52.2 -00.5	41 02.9 +03.7	S 16 31.3 -00.2	223 54.1 -30.9	N 26 17.6 -00.6	14						
15	42 33.4 -00.2	S 20 51.7 -00.5	56 06.6 +03.8	S 16 31.1 -00.1	238 23.2 -31.0	N 26 17.0 -00.6	15						
16	57 33.2 -00.2	S 20 51.2 -00.5	71 10.4 +03.8	S 16 31.0 -00.2	252 52.2 -30.9	N 26 16.4 -00.8	16						
17	72 33.0 -00.2	S 20 50.7 -00.5	86 14.2 +03.7	S 16 30.8 -00.2	267 21.3 -31.0	N 26 15.6 -01.0	17						
18	87 32.8 -00.2	S 20 50.2 -00.5	101 17.9 +03.8	S 16 30.6 -00.2	281 50.3 -31.0	N 26 14.6 -01.0	18						
19	102 32.6 -00.2	S 20 49.7 -00.4	116 21.7 +03.8	S 16 30.4 -00.2	296 19.3 -30.9	N 26 13.6 -01.2	19						
20	117 32.4 -00.2	S 20 49.3 -00.5	131 25.5 +03.7	S 16 30.2 -00.2	310 48.4 -31.0	N 26 12.4 -01.3	20						
21	132 32.2 -00.2	S 20 48.8 -00.5	146 29.2 +03.8	S 16 30.0 -00.2	325 17.4 -31.0	N 26 11.1 -01.5	21						
22	147 32.0 -00.3	S 20 48.3 -00.5	161 33.0 +03.7	S 16 29.8 -00.1	339 46.4 -30.9	N 26 09.6 -01.6	22						
23	162 31.7 -00.2	S 20 47.8 -00.5	176 36.7 +03.8	S 16 29.7 -00.2	354 15.5 -31.0	N 26 08.0 -01.7	23						
UT	02 06 10 14 18 22	SD 16'3 16'3 16'3 16'3 16'3 16'3	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 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 54'3 54'3 54'3		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 062° 062° 062° 062° 061° 061°		SHA 075° 075° 075° 075° 075° 075°		SHA 265° 262° 260° 258° 256° 253°		SHA 044° 044° 044° 044° 044° 044°						
	Greenwich Culmination Time: 12:09		Greenwich Culmination Time: 11:16		Greenwich Culmination Time: 23:23								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	212 08.7 +00.5	S 23 35.7 +00.1	139 30.1 +02.0	S 11 05.3 -00.2	159 06.3 +02.2	S 17 32.5 -00.1	00						
01	227 09.2 +00.6	S 23 35.8 +00.1	154 32.1 +01.9	S 11 05.1 -00.2	174 08.5 +02.1	S 17 32.4 -00.1	01						
02	242 09.8 +00.5	S 23 35.9 +00.1	169 34.0 +02.0	S 11 04.9 -00.2	189 10.6 +02.2	S 17 32.3 -00.1	02						
03	257 10.3 +00.5	S 23 36.0 +00.1	184 36.0 +01.9	S 11 04.7 -00.2	204 12.8 +02.2	S 17 32.2 -00.1	03						
04	272 10.8 +00.5	S 23 36.1 +00.1	199 37.9 +02.0	S 11 04.5 -00.2	219 15.0 +02.1	S 17 32.1 -00.1	04						
05	287 11.3 +00.5	S 23 36.2 +00.1	214 39.9 +01.9	S 11 04.3 -00.2	234 17.1 +02.2	S 17 32.0 +00.0	05						
06	302 11.8 +00.5	S 23 36.3 +00.2	229 41.8 +02.0	S 11 04.1 -00.2	249 19.3 +02.2	S 17 32.0 -00.1	06						
07	317 12.3 +00.5	S 23 36.5 +00.1	244 43.8 +01.9	S 11 03.9 -00.2	264 21.5 +02.2	S 17 31.9 -00.1	07						
08	332 12.8 +00.5	S 23 36.6 +00.1	259 45.7 +02.0	S 11 03.7 -00.2	279 23.7 +02.1	S 17 31.8 -00.1	08						
09	347 13.3 +00.5	S 23 36.7 +00.1	274 47.7 +01.9	S 11 03.5 -00.2	294 25.8 +02.2	S 17 31.7 -00.1	09						
10	2 13.8 +00.5	S 23 36.8 +00.1	289 49.6 +02.0	S 11 03.3 -00.2	309 28.0 +02.2	S 17 31.6 +00.0	10						
11	17 14.3 +00.5	S 23 36.9 +00.1	304 51.6 +02.0	S 11 03.1 -00.2	324 30.2 +02.1	S 17 31.6 -00.1	11						
12	32 14.8 +00.5	S 23 37.0 +00.1	319 53.6 +01.9	S 11 02.9 -00.2	339 32.3 +02.2	S 17 31.5 -00.1	12						
13	47 15.3 +00.5	S 23 37.1 +00.1	334 55.5 +02.0	S 11 02.7 -00.2	354 34.5 +02.2	S 17 31.4 -00.1	13						
14	62 15.8 +00.5	S 23 37.2 +00.1	349 57.5 +01.9	S 11 02.5 -00.2	9 36.7 +02.2	S 17 31.3 -00.1	14						
15	77 16.3 +00.5	S 23 37.3 +00.1	4 59.4 +02.0	S 11 02.3 -00.2	24 38.9 +02.1	S 17 31.2 -00.1	15						
16	92 16.8 +00.5	S 23 37.4 +00.1	20 01.4 +01.9	S 11 02.1 -00.2	39 41.0 +02.2	S 17 31.1 +00.0	16						
17	107 17.3 +00.5	S 23 37.5 +00.1	35 03.3 +02.0	S 11 01.9 -00.2	54 43.2 +02.2	S 17 31.1 -00.1	17						
18	122 17.8 +00.5	S 23 37.6 +00.2	50 05.3 +01.9	S 11 01.7 -00.2	69 45.4 +02.1	S 17 31.0 -00.1	18						
19	137 18.3 +00.5	S 23 37.8 +00.1	65 07.2 +02.0	S 11 01.5 -00.2	84 47.5 +02.2	S 17 30.9 -00.1	19						
20	152 18.8 +00.5	S 23 37.9 +00.1	80 09.2 +01.9	S 11 01.3 -00.2	99 49.7 +02.2	S 17 30.8 -00.1	20						
21	167 19.3 +00.5	S 23 38.0 +00.1	95 11.1 +02.0	S 11 01.1 -00.2	114 51.9 +02.2	S 17 30.7 +00.0	21						
22	182 19.8 +00.5	S 23 38.1 +00.1	110 13.1 +01.9	S 11 00.9 -00.2	129 54.1 +02.1	S 17 30.7 -00.1	22						
23	197 20.3 +00.5	S 23 38.2 +00.1	125 15.0 +02.0	S 11 00.7 -00.2	144 56.2 +02.2	S 17 30.6 -00.1	23						
UT	02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	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 00'1 00'1 00'1 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		HP 00'0 00'0 00'0 00'0 00'0 00'0						
	SHA 097° 097° 096° 096° 096° 096°		SHA 024° 024° 024° 024° 024° 024°		SHA 044° 044° 044° 044° 044° 044°		SHA 044° 044° 044° 044° 044° 044°						
	Greenwich Culmination Time: 09:51		Greenwich Culmination Time: 14:40		Greenwich Culmination Time: 13:21								



UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 31.5 -00.2	S 20 47.3 -00.5	191 40.5 +03.7	S 16 29.5 -00.2	8 44.5 -31.0	N 26 06.3 -01.8	00						
01	192 31.3 -00.2	S 20 46.8 -00.5	206 44.2 +03.7	S 16 29.3 -00.2	23 13.5 -30.9	N 26 04.5 -02.0	01						
02	207 31.1 -00.2	S 20 46.3 -00.5	221 47.9 +03.8	S 16 29.1 -00.2	37 42.6 -31.0	N 26 02.5 -02.1	02						
03	222 30.9 -00.2	S 20 45.8 -00.5	236 51.7 +03.7	S 16 28.9 -00.1	52 11.6 -30.9	N 26 00.4 -02.2	03						
04	237 30.7 -00.2	S 20 45.3 -00.4	251 55.4 +03.7	S 16 28.8 -00.2	66 40.7 -31.0	N 25 58.2 -02.4	04						
05	252 30.5 -00.2	S 20 44.9 -00.5	266 59.1 +03.7	S 16 28.6 -00.2	81 09.7 -30.9	N 25 55.8 -02.5	05						
06	267 30.3 -00.2	S 20 44.4 -00.5	282 02.8 +03.8	S 16 28.4 -00.2	95 38.8 -31.0	N 25 53.3 -02.6	06						
07	282 30.1 -00.2	S 20 43.9 -00.5	297 06.6 +03.7	S 16 28.2 -00.1	110 07.8 -30.9	N 25 50.7 -02.7	07						
08	297 29.9 -00.2	S 20 43.4 -00.5	312 10.3 +03.7	S 16 28.1 -00.2	124 36.9 -30.9	N 25 48.0 -02.9	08						
09	312 29.7 -00.2	S 20 42.9 -00.5	327 14.0 +03.7	S 16 27.9 -00.2	139 06.0 -30.9	N 25 45.1 -03.0	09						
10	327 29.5 -00.2	S 20 42.4 -00.5	342 17.7 +03.7	S 16 27.7 -00.2	153 35.1 -30.8	N 25 42.1 -03.1	10						
11	342 29.3 -00.2	S 20 41.9 -00.5	357 21.4 +03.7	S 16 27.5 -00.1	168 04.3 -30.9	N 25 39.0 -03.3	11						
12	357 29.1 -00.2	S 20 41.4 -00.5	12 25.1 +03.7	S 16 27.4 -00.2	182 33.4 -30.8	N 25 35.7 -03.4	12						
13	12 28.9 -00.2	S 20 40.9 -00.5	27 28.8 +03.7	S 16 27.2 -00.2	197 02.6 -30.9	N 25 32.3 -03.5	13						
14	27 28.7 -00.2	S 20 40.4 -00.5	42 32.5 +03.7	S 16 27.0 -00.1	211 31.7 -30.8	N 25 28.8 -03.6	14						
15	42 28.5 -00.2	S 20 39.9 -00.5	57 36.2 +03.7	S 16 26.9 -00.2	226 00.9 -30.8	N 25 25.2 -03.8	15						
16	57 28.3 -00.2	S 20 39.4 -00.5	72 39.9 +03.7	S 16 26.7 -00.2	240 30.1 -30.8	N 25 21.4 -03.9	16						
17	72 28.1 -00.2	S 20 38.9 -00.5	87 43.6 +03.7	S 16 26.5 -00.1	254 59.3 -30.7	N 25 17.5 -04.0	17						
18	87 27.9 -00.2	S 20 38.4 -00.5	102 47.3 +03.6	S 16 26.4 -00.2	269 28.6 -30.7	N 25 13.5 -04.1	18						
19	102 27.7 -00.3	S 20 37.9 -00.5	117 50.9 +03.7	S 16 26.2 -00.2	283 57.9 -30.8	N 25 09.4 -04.3	19						
20	117 27.4 -00.2	S 20 37.4 -00.5	132 54.6 +03.7	S 16 26.0 -00.1	298 27.1 -30.6	N 25 05.1 -04.4	20						
21	132 27.2 -00.2	S 20 36.9 -00.5	147 58.3 +03.6	S 16 25.9 -00.2	312 56.5 -30.7	N 25 00.7 -04.5	21						
22	147 27.0 -00.2	S 20 36.4 -00.5	163 01.9 +03.7	S 16 25.7 -00.2	327 25.8 -30.6	N 24 56.2 -04.7	22						
23	162 26.8 -00.2	S 20 35.9 -00.5	178 05.6 +03.7	S 16 25.5 -00.1	341 55.2 -30.7	N 24 51.5 -04.7	23						
	UT 02 06 10 14 18 22 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 SHA 061° 061° 061° 061° 060° 060° Greenwich Culmination Time: 12:10	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 075° 075° 075° 076° 076° 076° Greenwich Culmination Time: 11:10	UT 02 06 10 14 18 22 SD 14'8 14'8 14'8 14'9 14'9 14'9 HP 54'4 54'4 54'5 54'5 54'6 54'6 SHA 251° 249° 247° 245° 242° 240° Greenwich Culmination Time: -1:00										
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	212 20.8 +00.5	S 23 38.3 +00.1	140 17.0 +01.9	S 11 00.5 -00.2	159 58.4 +02.2	S 17 30.5 -00.1	00						
01	227 21.3 +00.5	S 23 38.4 +00.1	155 18.9 +02.0	S 11 00.3 -00.2	175 00.6 +02.1	S 17 30.4 -00.1	01						
02	242 21.8 +00.5	S 23 38.5 +00.1	170 20.9 +01.9	S 11 00.1 -00.2	190 02.7 +02.2	S 17 30.3 -00.1	02						
03	257 22.3 +00.5	S 23 38.6 +00.1	185 22.8 +02.0	S 10 59.9 -00.2	205 04.9 +02.2	S 17 30.2 +00.0	03						
04	272 22.8 +00.5	S 23 38.7 +00.1	200 24.8 +01.9	S 10 59.7 -00.2	220 07.1 +02.2	S 17 30.2 -00.1	04						
05	287 23.3 +00.5	S 23 38.8 +00.1	215 26.7 +02.0	S 10 59.5 -00.2	235 09.3 +02.1	S 17 30.1 -00.1	05						
06	302 23.8 +00.5	S 23 38.9 +00.1	230 28.7 +01.9	S 10 59.3 -00.2	250 11.4 +02.2	S 17 30.0 -00.1	06						
07	317 24.3 +00.5	S 23 39.0 +00.1	245 30.6 +02.0	S 10 59.1 -00.2	265 13.6 +02.2	S 17 29.9 -00.1	07						
08	332 24.8 +00.5	S 23 39.1 +00.1	260 32.6 +01.9	S 10 58.9 -00.2	280 15.8 +02.1	S 17 29.8 -00.1	08						
09	347 25.3 +00.5	S 23 39.2 +00.1	275 34.5 +02.0	S 10 58.7 -00.2	295 17.9 +02.2	S 17 29.7 +00.0	09						
10	2 25.8 +00.5	S 23 39.3 +00.1	290 36.5 +01.9	S 10 58.5 -00.2	310 20.1 +02.2	S 17 29.7 -00.1	10						
11	17 26.3 +00.5	S 23 39.4 +00.1	305 38.4 +02.0	S 10 58.3 -00.2	325 22.3 +02.2	S 17 29.6 -00.1	11						
12	32 26.8 +00.5	S 23 39.5 +00.1	320 40.4 +01.9	S 10 58.1 -00.2	340 24.5 +02.1	S 17 29.5 -00.1	12						
13	47 27.3 +00.5	S 23 39.6 +00.1	335 42.3 +02.0	S 10 57.9 -00.2	355 26.6 +02.2	S 17 29.4 -00.1	13						
14	62 27.8 +00.5	S 23 39.7 +00.1	350 44.3 +01.9	S 10 57.7 -00.2	10 28.8 +02.2	S 17 29.3 +00.0	14						
15	77 28.3 +00.5	S 23 39.8 +00.1	5 46.2 +02.0	S 10 57.5 -00.1	25 31.0 +02.1	S 17 29.3 -00.1	15						
16	92 28.8 +00.5	S 23 39.9 +00.1	20 48.2 +01.9	S 10 57.4 -00.2	40 33.1 +02.2	S 17 29.2 -00.1	16						
17	107 29.3 +00.5	S 23 40.0 +00.1	35 50.1 +02.0	S 10 57.2 -00.2	55 35.3 +02.2	S 17 29.1 -00.1	17						
18	122 29.8 +00.5	S 23 40.1 +00.1	50 52.1 +01.9	S 10 57.0 -00.2	70 37.5 +02.1	S 17 29.0 -00.1	18						
19	137 30.3 +00.5	S 23 40.2 +00.1	65 54.0 +02.0	S 10 56.8 -00.2	85 39.6 +02.2	S 17 28.9 -00.1	19						
20	152 30.8 +00.5	S 23 40.3 +00.1	80 56.0 +01.9	S 10 56.6 -00.2	100 41.8 +02.2	S 17 28.8 +00.0	20						
21	167 31.3 +00.5	S 23 40.4 +00.0	95 57.9 +02.0	S 10 56.4 -00.2	115 44.0 +02.2	S 17 28.8 -00.1	21						
22	182 31.8 +00.5	S 23 40.4 +00.1	110 59.9 +01.9	S 10 56.2 -00.2	130 46.2 +02.1	S 17 28.7 -00.1	22						
23	197 32.3 +00.5	S 23 40.5 +00.1	126 01.8 +02.0	S 10 56.0 -00.2	145 48.3 +02.2	S 17 28.6 -00.1	23						
	UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 096° 096° 096° 095° 095° 095° Greenwich Culmination Time: 09:50	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 024° 024° 024° 024° 024° 024° Greenwich Culmination Time: 14:36	UT 02 06 10 14 18 22 SD 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 SHA 044° 044° 044° 044° 043° 043° Greenwich Culmination Time: 13:18										

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 26.6 -00.2	S 20 35.4 -00.5	193 09.3 +03.6	S 16 25.4 -00.2	356 24.5 -30.5	N 24 46.8 -04.9	00						
01	192 26.4 -00.2	S 20 34.9 -00.5	208 12.9 +03.7	S 16 25.2 -00.1	10 54.0 -30.6	N 24 41.9 -05.0	01						
02	207 26.2 -00.2	S 20 34.4 -00.5	223 16.6 +03.6	S 16 25.1 -00.2	25 23.4 -30.5	N 24 36.9 -05.2	02						
03	222 26.0 -00.2	S 20 33.9 -00.5	238 20.2 +03.7	S 16 24.9 -00.2	39 52.9 -30.5	N 24 31.7 -05.2	03						
04	237 25.8 -00.1	S 20 33.4 -00.6	253 23.9 +03.6	S 16 24.7 -00.1	54 22.4 -30.5	N 24 26.5 -05.4	04						
05	252 25.7 -00.2	S 20 32.8 -00.5	268 27.5 +03.6	S 16 24.6 -00.2	68 51.9 -30.4	N 24 21.1 -05.5	05						
06	267 25.5 -00.2	S 20 32.3 -00.5	283 31.1 +03.7	S 16 24.4 -00.1	83 21.5 -30.4	N 24 15.6 -05.7	06						
07	282 25.3 -00.2	S 20 31.8 -00.5	298 34.8 +03.6	S 16 24.3 -00.2	97 51.1 -30.4	N 24 09.9 -05.7	07						
08	297 25.1 -00.2	S 20 31.3 -00.5	313 38.4 +03.6	S 16 24.1 -00.1	112 20.7 -30.3	N 24 04.2 -05.9	08						
09	312 24.9 -00.2	S 20 30.8 -00.5	328 42.0 +03.6	S 16 24.0 -00.2	126 50.4 -30.4	N 23 58.3 -06.0	09						
10	327 24.7 -00.2	S 20 30.3 -00.5	343 45.6 +03.7	S 16 23.8 -00.1	141 20.0 -30.2	N 23 52.3 -06.1	10						
11	342 24.5 -00.2	S 20 29.8 -00.5	358 49.3 +03.6	S 16 23.7 -00.2	155 49.8 -30.3	N 23 46.2 -06.2	11						
12	357 24.3 -00.2	S 20 29.3 -00.5	13 52.9 +03.6	S 16 23.5 -00.1	170 19.5 -30.2	N 23 40.0 -06.3	12						
13	12 24.1 -00.2	S 20 28.8 -00.6	28 56.5 +03.6	S 16 23.4 -00.2	184 49.3 -30.1	N 23 33.7 -06.5	13						
14	27 23.9 -00.2	S 20 28.2 -00.5	44 00.1 +03.6	S 16 23.2 -00.1	199 19.2 -30.2	N 23 27.2 -06.6	14						
15	42 23.7 -00.2	S 20 27.7 -00.5	59 03.7 +03.6	S 16 23.1 -00.2	213 49.0 -30.1	N 23 20.6 -06.7	15						
16	57 23.5 -00.2	S 20 27.2 -00.5	74 07.3 +03.6	S 16 22.9 -00.1	228 18.9 -30.0	N 23 13.9 -06.8	16						
17	72 23.3 -00.2	S 20 26.7 -00.5	89 10.9 +03.6	S 16 22.8 -00.2	242 48.9 -30.0	N 23 07.1 -06.9	17						
18	87 23.1 -00.2	S 20 26.2 -00.5	104 14.5 +03.6	S 16 22.6 -00.1	257 18.9 -30.0	N 23 00.2 -07.0	18						
19	102 22.9 -00.2	S 20 25.7 -00.6	119 18.1 +03.5	S 16 22.5 -00.2	271 48.9 -29.9	N 22 53.2 -07.2	19						
20	117 22.7 -00.2	S 20 25.1 -00.5	134 21.6 +03.6	S 16 22.3 -00.1	286 19.0 -29.9	N 22 46.0 -07.3	20						
21	132 22.5 -00.2	S 20 24.6 -00.5	149 25.2 +03.6	S 16 22.2 -00.2	300 49.1 -29.9	N 22 38.7 -07.3	21						
22	147 22.3 -00.2	S 20 24.1 -00.5	164 28.4 +03.6	S 16 22.0 -00.1	315 19.2 -29.8	N 22 31.4 -07.5	22						
23	162 22.1 -00.2	S 20 23.6 -00.5	179 32.4 +03.5	S 16 21.9 -00.1	329 49.4 -29.8	N 22 23.9 -07.6	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 00'5 00'5 00'5 00'5 00'5 00'5		SD 14'9 14'9 14'9 14'9 15'0 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 54'7 54'7 54'8 54'9 54'9 55'0								
	SHA 060° 060° 060° 059° 059° 059°		SHA 076° 076° 076° 076° 076° 076°		SHA 238° 236° 234° 231° 229° 227°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 11:04		Greenwich Culmination Time: 00:14								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	212 32.8 +00.5	S 23 40.6 +00.1	141 03.8 +01.9	S 10 55.8 -00.2	160 50.5 +02.2	S 17 28.5 -00.1	00						
01	227 33.3 +00.5	S 23 40.7 +00.1	156 05.7 +02.0	S 10 55.6 -00.2	175 52.7 +02.1	S 17 28.4 -00.1	01						
02	242 33.8 +00.5	S 23 40.8 +00.1	171 07.7 +01.9	S 10 55.4 -00.2	190 54.8 +02.2	S 17 28.3 +00.0	02						
03	257 34.3 +00.5	S 23 40.9 +00.1	186 09.6 +02.0	S 10 55.2 -00.2	205 57.0 +02.2	S 17 28.3 -00.1	03						
04	272 34.8 +00.5	S 23 41.0 +00.1	201 11.6 +01.9	S 10 55.0 -00.2	220 59.2 +02.2	S 17 28.2 -00.1	04						
05	287 35.3 +00.5	S 23 41.1 +00.1	216 13.5 +02.0	S 10 54.8 -00.2	236 01.4 +02.1	S 17 28.1 -00.1	05						
06	302 35.8 +00.5	S 23 41.2 +00.1	231 15.5 +01.9	S 10 54.6 -00.2	251 03.5 +02.2	S 17 28.0 -00.1	06						
07	317 36.3 +00.5	S 23 41.3 +00.1	246 17.4 +02.0	S 10 54.4 -00.2	266 05.7 +02.2	S 17 27.9 +00.0	07						
08	332 36.8 +00.4	S 23 41.4 +00.1	261 19.4 +01.9	S 10 54.2 -00.2	281 07.9 +02.1	S 17 27.9 -00.1	08						
09	347 37.2 +00.5	S 23 41.5 +00.1	276 21.3 +02.0	S 10 54.0 -00.2	296 10.0 +02.2	S 17 27.8 -00.1	09						
10	2 37.7 +00.5	S 23 41.6 +00.0	291 23.3 +01.9	S 10 53.8 -00.2	311 12.2 +02.2	S 17 27.7 -00.1	10						
11	17 38.2 +00.5	S 23 41.6 +00.1	306 25.2 +01.9	S 10 53.6 -00.3	326 14.4 +02.1	S 17 27.6 -00.1	11						
12	32 38.7 +00.5	S 23 41.7 +00.1	321 27.1 +02.0	S 10 53.3 -00.2	341 16.5 +02.2	S 17 27.5 -00.1	12						
13	47 39.2 +00.5	S 23 41.8 +00.1	336 29.1 +01.9	S 10 53.1 -00.2	356 18.7 +02.2	S 17 27.4 +00.0	13						
14	62 39.7 +00.5	S 23 41.9 +00.1	351 31.0 +02.0	S 10 52.9 -00.2	11 20.9 +02.2	S 17 27.4 -00.1	14						
15	77 40.2 +00.5	S 23 42.0 +00.1	6 33.0 +01.9	S 10 52.7 -00.2	26 23.1 +02.1	S 17 27.3 -00.1	15						
16	92 40.7 +00.5	S 23 42.1 +00.1	21 34.9 +02.0	S 10 52.5 -00.2	41 25.2 +02.2	S 17 27.2 -00.1	16						
17	107 41.2 +00.5	S 23 42.2 +00.1	36 36.9 +01.9	S 10 52.3 -00.2	56 27.4 +02.2	S 17 27.1 -00.1	17						
18	122 41.7 +00.5	S 23 42.3 +00.0	51 38.8 +02.0	S 10 52.1 -00.2	71 29.6 +02.1	S 17 27.0 -00.1	18						
19	137 42.2 +00.5	S 23 42.3 +00.1	66 40.8 +01.9	S 10 51.9 -00.2	86 31.7 +02.2	S 17 26.9 +00.0	19						
20	152 42.7 +00.5	S 23 42.4 +00.1	81 42.7 +02.0	S 10 51.7 -00.2	101 33.9 +02.2	S 17 26.9 -00.1	20						
21	167 43.2 +00.5	S 23 42.5 +00.1	96 44.7 +01.9	S 10 51.5 -00.2	116 36.1 +02.1	S 17 26.8 -00.1	21						
22	182 43.7 +00.5	S 23 42.6 +00.1	111 46.6 +02.0	S 10 51.3 -00.2	131 38.2 +02.2	S 17 26.7 -00.1	22						
23	197 44.2 +00.5	S 23 42.7 +00.1	126 48.6 +01.9	S 10 51.1 -00.2	146 40.4 +02.2	S 17 26.6 -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 00'1 00'1 00'1 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 095° 095° 095° 095° 095° 094°		SHA 024° 024° 024° 024° 024° 023°		SHA 043° 043° 043° 043° 043° 043°								
	Greenwich Culmination Time: 09:49		Greenwich Culmination Time: 14:33		Greenwich Culmination Time: 13:14								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 21.9 -00.2	S 20 23.1 -00.6	194 35.9 +03.6	S 16 21.8 -00.2	344 19.6 -29.7	N 22 16.3 -07.7	00						
01	192 21.7 -00.1	S 20 22.5 -00.5	209 39.5 +03.5	S 16 21.6 -00.1	358 49.9 -29.7	N 22 08.6 -07.8	01						
02	207 21.6 -00.2	S 20 22.0 -00.5	224 43.0 +03.6	S 16 21.5 -00.1	13 20.2 -29.6	N 22 00.8 -08.0	02						
03	222 21.4 -00.2	S 20 21.5 -00.5	239 46.6 +03.6	S 16 21.4 -00.2	27 50.6 -29.7	N 21 52.8 -08.0	03						
04	237 21.2 -00.2	S 20 21.0 -00.6	254 50.2 +03.5	S 16 21.2 -00.1	42 20.9 -29.5	N 21 44.8 -08.2	04						
05	252 21.0 -00.2	S 20 20.4 -00.5	269 53.7 +03.5	S 16 21.1 -00.2	56 51.4 -29.5	N 21 36.6 -08.2	05						
06	267 20.8 -00.2	S 20 19.9 -00.5	284 57.2 +03.6	S 16 20.9 -00.1	71 21.9 -29.5	N 21 28.4 -08.4	06						
07	282 20.6 -00.2	S 20 19.4 -00.5	300 00.8 +03.5	S 16 20.8 -00.1	85 52.4 -29.4	N 21 20.0 -08.4	07						
08	297 20.4 -00.2	S 20 18.9 -00.6	315 04.3 +03.5	S 16 20.7 -00.2	100 23.0 -29.4	N 21 11.6 -08.6	08						
09	312 20.2 -00.2	S 20 18.3 -00.5	330 07.8 +03.6	S 16 20.5 -00.1	114 53.6 -29.4	N 21 03.0 -08.7	09						
10	327 20.0 -00.2	S 20 17.8 -00.5	345 11.4 +03.5	S 16 20.4 -00.1	129 24.2 -29.3	N 20 54.3 -08.7	10						
11	342 19.8 -00.2	S 20 17.3 -00.5	0 14.9 +03.5	S 16 20.3 -00.1	143 54.9 -29.2	N 20 45.6 -08.9	11						
12	357 19.6 -00.1	S 20 16.8 -00.6	15 18.4 +03.5	S 16 20.2 -00.2	158 25.7 -29.2	N 20 36.7 -09.0	12						
13	12 19.5 -00.2	S 20 16.2 -00.5	30 21.9 +03.5	S 16 20.0 -00.1	172 56.5 -29.2	N 20 27.7 -09.1	13						
14	27 19.3 -00.2	S 20 15.7 -00.5	45 25.4 +03.5	S 16 19.9 -00.1	187 27.3 -29.1	N 20 18.6 -09.2	14						
15	42 19.1 -00.2	S 20 15.2 -00.6	60 28.9 +03.5	S 16 19.8 -00.2	201 58.2 -29.1	N 20 09.4 -09.2	15						
16	57 18.9 -00.2	S 20 14.6 -00.5	75 32.4 +03.5	S 16 19.6 -00.1	216 29.1 -29.1	N 20 00.2 -09.4	16						
17	72 18.7 -00.2	S 20 14.1 -00.5	90 35.9 +03.5	S 16 19.5 -00.1	231 00.0 -28.9	N 19 50.8 -09.5	17						
18	87 18.5 -00.2	S 20 13.6 -00.6	105 39.4 +03.5	S 16 19.4 -00.1	245 31.1 -29.0	N 19 41.3 -09.6	18						
19	102 18.3 -00.1	S 20 13.0 -00.5	120 42.9 +03.5	S 16 19.3 -00.2	260 02.1 -28.9	N 19 31.7 -09.6	19						
20	117 18.2 -00.2	S 20 12.5 -00.5	135 46.4 +03.5	S 16 19.1 -00.1	274 33.2 -28.8	N 19 22.1 -09.8	20						
21	132 18.0 -00.2	S 20 12.0 -00.6	150 49.9 +03.5	S 16 19.0 -00.1	289 04.4 -28.9	N 19 12.3 -09.8	21						
22	147 17.8 -00.2	S 20 11.4 -00.5	165 53.4 +03.5	S 16 18.9 -00.1	303 35.5 -28.7	N 19 02.5 -10.0	22						
23	162 17.6 -00.2	S 20 10.9 -00.5	180 56.9 +03.4	S 16 18.8 -00.1	318 06.8 -28.7	N 18 52.5 -10.0	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 00'5 00'5 00'5 00'5 00'5 00'5		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 00'5 00'5 00'5 00'5 00'5 00'5		HP 55'0 55'1 55'2 55'2 55'3 55'4								
	SHA 059° 059° 059° 058° 058° 058°		SHA 076° 076° 076° 076° 077° 077°		SHA 225° 223° 221° 219° 216° 214°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 10:59		Greenwich Culmination Time: 01:04								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	212 44.7 +00.5	S 23 42.8 +00.0	141 50.5 +02.0	S 10 50.9 -00.2	161 42.6 +02.2	S 17 26.5 -00.1	00						
01	227 45.2 +00.5	S 23 42.8 +00.1	156 52.5 +01.9	S 10 50.7 -00.2	176 44.8 +02.1	S 17 26.4 +00.0	01						
02	242 45.7 +00.5	S 23 42.9 +00.1	171 54.4 +01.9	S 10 50.5 -00.2	191 46.9 +02.2	S 17 26.4 -00.1	02						
03	257 46.2 +00.5	S 23 43.0 +00.1	186 56.3 +02.0	S 10 50.3 -00.2	206 49.1 +02.2	S 17 26.3 -00.1	03						
04	272 46.7 +00.5	S 23 43.1 +00.1	201 58.3 +01.9	S 10 50.1 -00.2	221 51.3 +02.1	S 17 26.2 -00.1	04						
05	287 47.2 +00.5	S 23 43.2 +00.1	217 00.2 +02.0	S 10 49.9 -00.2	236 53.4 +02.2	S 17 26.1 -00.1	05						
06	302 47.7 +00.4	S 23 43.3 +00.0	232 02.2 +01.9	S 10 49.7 -00.2	251 55.6 +02.2	S 17 26.0 +00.0	06						
07	317 48.1 +00.5	S 23 43.3 +00.1	247 04.1 +02.0	S 10 49.5 -00.2	266 57.8 +02.1	S 17 26.0 -00.1	07						
08	332 48.6 +00.5	S 23 43.4 +00.1	262 06.1 +01.9	S 10 49.3 -00.2	281 59.9 +02.2	S 17 25.9 -00.1	08						
09	347 49.1 +00.5	S 23 43.5 +00.1	277 08.0 +02.0	S 10 49.1 -00.2	297 02.1 +02.2	S 17 25.8 -00.1	09						
10	2 49.6 +00.5	S 23 43.6 +00.1	292 10.0 +01.9	S 10 48.9 -00.2	312 04.3 +02.1	S 17 25.7 -00.1	10						
11	17 50.1 +00.5	S 23 43.7 +00.0	307 11.9 +02.0	S 10 48.7 -00.2	327 06.4 +02.2	S 17 25.6 -00.1	11						
12	32 50.6 +00.5	S 23 43.7 +00.1	322 13.9 +01.9	S 10 48.5 -00.2	342 08.6 +02.2	S 17 25.5 +00.0	12						
13	47 51.1 +00.5	S 23 43.8 +00.1	337 15.8 +02.0	S 10 48.3 -00.2	357 10.8 +02.2	S 17 25.5 -00.1	13						
14	62 51.6 +00.5	S 23 43.9 +00.1	352 17.8 +01.9	S 10 48.1 -00.2	12 13.0 +02.1	S 17 25.4 -00.1	14						
15	77 52.1 +00.5	S 23 44.0 +00.1	7 19.7 +01.9	S 10 47.9 -00.2	27 15.1 +02.2	S 17 25.3 -00.1	15						
16	92 52.6 +00.5	S 23 44.1 +00.0	22 21.6 +02.0	S 10 47.7 -00.2	42 17.3 +02.2	S 17 25.2 -00.1	16						
17	107 53.1 +00.5	S 23 44.1 +00.1	37 23.6 +01.9	S 10 47.5 -00.2	57 19.5 +02.1	S 17 25.1 -00.1	17						
18	122 53.6 +00.5	S 23 44.2 +00.1	52 25.5 +02.0	S 10 47.3 -00.2	72 21.6 +02.2	S 17 25.0 +00.0	18						
19	137 54.1 +00.5	S 23 44.3 +00.1	67 27.5 +01.9	S 10 47.1 -00.2	87 23.8 +02.2	S 17 25.0 -00.1	19						
20	152 54.6 +00.5	S 23 44.4 +00.0	82 29.4 +02.0	S 10 46.9 -00.2	102 26.0 +02.1	S 17 24.9 -00.1	20						
21	167 55.1 +00.4	S 23 44.4 +00.1	97 31.4 +01.9	S 10 46.7 -00.2	117 28.1 +02.2	S 17 24.8 -00.1	21						
22	182 55.5 +00.5	S 23 44.5 +00.1	112 33.3 +02.0	S 10 46.5 -00.2	132 30.3 +02.2	S 17 24.7 -00.1	22						
23	197 56.0 +00.5	S 23 44.6 +00.1	127 35.3 +01.9	S 10 46.3 -00.2	147 32.5 +02.1	S 17 24.6 -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 00'1 00'1 00'1 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 094° 094° 094° 094° 094° 094°		SHA 023° 023° 023° 023° 023° 023°		SHA 043° 043° 043° 043° 043° 043°								
	Greenwich Culmination Time: 09:48		Greenwich Culmination Time: 14:30		Greenwich Culmination Time: 13:11								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 17.4 -00.2	S 20 10.4 -00.6	196 00.3 +03.5	S 16 18.7 -00.2	332 38.1 -28.7	N 18 42.5 -10.2	00						
01	192 17.2 -00.2	S 20 09.8 -00.5	211 03.8 +03.4	S 16 18.5 -00.1	347 09.4 -28.7	N 18 32.3 -10.2	01						
02	207 17.0 -00.1	S 20 09.3 -00.6	226 07.2 +03.5	S 16 18.4 -00.1	1 40.7 -28.5	N 18 22.1 -10.3	02						
03	222 16.9 -00.2	S 20 08.7 -00.5	241 10.7 +03.5	S 16 18.3 -00.1	16 12.2 -28.6	N 18 11.8 -10.4	03						
04	237 16.7 -00.2	S 20 08.2 -00.5	256 14.2 +03.4	S 16 18.2 -00.1	30 43.6 -28.5	N 18 01.4 -10.5	04						
05	252 16.5 -00.2	S 20 07.7 -00.6	271 17.6 +03.4	S 16 18.1 -00.1	45 15.1 -28.5	N 17 50.9 -10.6	05						
06	267 16.3 -00.2	S 20 07.1 -00.5	286 21.0 +03.5	S 16 18.0 -00.2	59 46.6 -28.4	N 17 40.3 -10.7	06						
07	282 16.1 -00.2	S 20 06.6 -00.6	301 24.5 +03.4	S 16 17.8 -00.1	74 18.2 -28.4	N 17 29.6 -10.7	07						
08	297 15.9 -00.1	S 20 06.0 -00.5	316 27.9 +03.5	S 16 17.7 -00.1	88 49.8 -28.3	N 17 18.9 -10.9	08						
09	312 15.8 -00.2	S 20 05.5 -00.5	331 31.4 +03.4	S 16 17.6 -00.1	103 21.5 -28.3	N 17 08.0 -10.9	09						
10	327 15.6 -00.2	S 20 05.0 -00.6	346 34.8 +03.4	S 16 17.5 -00.1	117 53.2 -28.2	N 16 57.1 -11.0	10						
11	342 15.4 -00.2	S 20 04.4 -00.5	1 38.2 +03.4	S 16 17.4 -00.1	132 25.0 -28.2	N 16 46.1 -11.1	11						
12	357 15.2 -00.2	S 20 03.9 -00.6	16 41.6 +03.4	S 16 17.3 -00.1	146 56.8 -28.2	N 16 35.0 -11.2	12						
13	12 15.0 -00.1	S 20 03.3 -00.5	31 45.0 +03.5	S 16 17.2 -00.1	161 28.6 -28.1	N 16 23.8 -11.2	13						
14	27 14.9 -00.2	S 20 02.8 -00.6	46 48.5 +03.4	S 16 17.1 -00.1	176 00.5 -28.1	N 16 12.6 -11.4	14						
15	42 14.7 -00.2	S 20 02.2 -00.5	61 51.9 +03.4	S 16 17.0 -00.1	190 32.4 -28.1	N 16 01.2 -11.4	15						
16	57 14.5 -00.2	S 20 01.7 -00.6	76 55.3 +03.4	S 16 16.9 -00.1	205 04.3 -28.0	N 15 49.8 -11.5	16						
17	72 14.3 -00.2	S 20 01.1 -00.5	91 58.7 +03.4	S 16 16.8 -00.1	219 36.3 -28.0	N 15 38.3 -11.6	17						
18	87 14.1 -00.1	S 20 00.6 -00.6	107 02.1 +03.3	S 16 16.7 -00.1	234 08.3 -27.9	N 15 26.7 -11.6	18						
19	102 14.0 -00.2	S 20 00.0 -00.5	122 05.4 +03.4	S 16 16.6 -00.2	248 40.4 -27.9	N 15 15.1 -11.7	19						
20	117 13.8 -00.2	S 19 59.5 -00.6	137 08.8 +03.4	S 16 16.4 -00.1	263 12.5 -27.8	N 15 03.4 -11.8	20						
21	132 13.6 -00.2	S 19 58.9 -00.5	152 12.2 +03.4	S 16 16.3 -00.1	277 44.7 -27.9	N 14 51.6 -11.9	21						
22	147 13.4 -00.2	S 19 58.4 -00.6	167 15.6 +03.4	S 16 16.2 -00.1	292 16.8 -27.7	N 14 39.7 -12.0	22						
23	162 13.2 -00.1	S 19 57.8 -00.5	182 19.0 +03.3	S 16 16.1 -00.1	306 49.1 -27.8	N 14 27.7 -12.0	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 00'5 00'5 00'5 00'5 00'5 00'5		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 00'5 00'5 00'5 00'5 00'5 00'5		HP 55'4 55'5 55'6 55'7 55'7 55'8								
	SHA 058° 058° 057° 057° 057° 057°		SHA 077° 077° 077° 077° 077° 077°		SHA 212° 210° 208° 206° 204° 202°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 10:53		Greenwich Culmination Time: 01:53								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	212 56.5 +00.5	S 23 44.7 +00.0	142 37.2 +01.9	S 10 46.1 -00.2	162 34.6 +02.2	S 17 24.5 +00.0	00						
01	227 57.0 +00.5	S 23 44.7 +00.1	157 39.1 +02.0	S 10 45.9 -00.2	177 36.8 +02.2	S 17 24.5 -00.1	01						
02	242 57.5 +00.5	S 23 44.8 +00.1	172 41.1 +01.9	S 10 45.7 -00.2	192 39.0 +02.2	S 17 24.4 -00.1	02						
03	257 58.0 +00.5	S 23 44.9 +00.1	187 43.0 +02.0	S 10 45.5 -00.2	207 41.2 +02.1	S 17 24.3 -00.1	03						
04	272 58.5 +00.5	S 23 45.0 +00.0	202 45.0 +01.9	S 10 45.3 -00.2	222 43.3 +02.2	S 17 24.2 -00.1	04						
05	287 59.0 +00.5	S 23 45.0 +00.1	217 46.9 +02.0	S 10 45.1 -00.2	237 45.5 +02.2	S 17 24.1 -00.1	05						
06	302 59.5 +00.5	S 23 45.1 +00.1	232 48.9 +01.9	S 10 44.9 -00.2	252 47.7 +02.1	S 17 24.0 +00.0	06						
07	317 60.0 +00.5	S 23 45.2 +00.0	247 50.8 +01.9	S 10 44.7 -00.2	267 49.8 +02.2	S 17 24.0 -00.1	07						
08	333 00.5 +00.5	S 23 45.2 +00.1	262 52.7 +02.0	S 10 44.5 -00.2	282 52.0 +02.2	S 17 23.9 -00.1	08						
09	348 01.0 +00.5	S 23 45.3 +00.1	277 54.7 +01.9	S 10 44.3 -00.2	297 54.2 +02.1	S 17 23.8 -00.1	09						
10	3 01.5 +00.4	S 23 45.4 +00.1	292 56.6 +02.0	S 10 44.1 -00.2	312 56.3 +02.2	S 17 23.7 -00.1	10						
11	18 01.9 +00.5	S 23 45.5 +00.0	307 58.6 +01.9	S 10 43.9 -00.2	327 58.5 +02.2	S 17 23.6 -00.1	11						
12	33 02.4 +00.5	S 23 45.5 +00.1	323 00.5 +02.0	S 10 43.7 -00.2	343 00.7 +02.1	S 17 23.5 +00.0	12						
13	48 02.9 +00.5	S 23 45.6 +00.1	338 02.5 +01.9	S 10 43.5 -00.2	358 02.8 +02.2	S 17 23.5 -00.1	13						
14	63 03.4 +00.5	S 23 45.7 +00.0	353 04.4 +02.0	S 10 43.3 -00.2	13 05.0 +02.2	S 17 23.4 -00.1	14						
15	78 03.9 +00.5	S 23 45.7 +00.1	8 06.4 +01.9	S 10 43.1 -00.2	28 07.2 +02.1	S 17 23.3 -00.1	15						
16	93 04.4 +00.5	S 23 45.8 +00.1	23 08.3 +01.9	S 10 42.9 -00.2	43 09.3 +02.2	S 17 23.2 -00.1	16						
17	108 04.9 +00.5	S 23 45.9 +00.0	38 10.2 +02.0	S 10 42.7 -00.3	58 11.5 +02.2	S 17 23.1 -00.1	17						
18	123 05.4 +00.5	S 23 45.9 +00.1	53 12.2 +01.9	S 10 42.4 -00.2	73 13.7 +02.2	S 17 23.0 +00.0	18						
19	138 05.9 +00.5	S 23 46.0 +00.1	68 14.1 +02.0	S 10 42.2 -00.2	88 15.9 +02.1	S 17 23.0 -00.1	19						
20	153 06.4 +00.4	S 23 46.1 +00.0	83 16.1 +01.9	S 10 42.0 -00.2	103 18.0 +02.2	S 17 22.9 -00.1	20						
21	168 06.8 +00.5	S 23 46.1 +00.1	98 18.0 +01.9	S 10 41.8 -00.2	118 20.2 +02.2	S 17 22.8 -00.1	21						
22	183 07.3 +00.5	S 23 46.2 +00.1	113 19.9 +02.0	S 10 41.6 -00.2	133 22.4 +02.1	S 17 22.7 -00.1	22						
23	198 07.8 +00.5	S 23 46.3 +00.0	128 21.9 +01.9	S 10 41.4 -00.2	148 24.5 +02.2	S 17 22.6 -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 00'1 00'1 00'1 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 094° 093° 093° 093° 093° 093°		SHA 023° 023° 023° 023° 023° 023°		SHA 043° 043° 043° 043° 043° 043°								
	Greenwich Culmination Time: 09:47		Greenwich Culmination Time: 14:27		Greenwich Culmination Time: 13:07								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 13.1 -00.2	S 19 57.3 -00.6	197 22.3 +03.4	S 16 16.0 -00.1	321 21.3 -27.7	N 14 15.7 -12.1	00						
01	192 12.9 -00.2	S 19 56.7 -00.5	212 25.7 +03.4	S 16 15.9 -00.1	335 53.6 -27.7	N 14 03.6 -12.1	01						
02	207 12.7 -00.2	S 19 56.2 -00.6	227 29.1 +03.3	S 16 15.8 +00.0	350 25.9 -27.6	N 13 51.5 -12.2	02						
03	222 12.5 -00.1	S 19 55.6 -00.5	242 32.4 +03.4	S 16 15.8 -00.1	4 58.3 -27.6	N 13 39.3 -12.3	03						
04	237 12.4 -00.2	S 19 55.1 -00.6	257 35.8 +03.3	S 16 15.7 -00.1	19 30.7 -27.6	N 13 27.0 -12.4	04						
05	252 12.2 -00.2	S 19 54.5 -00.5	272 39.1 +03.3	S 16 15.6 -00.1	34 03.1 -27.6	N 13 14.6 -12.4	05						
06	267 12.0 -00.2	S 19 54.0 -00.6	287 42.4 +03.4	S 16 15.5 -00.1	48 35.5 -27.5	N 13 02.2 -12.5	06						
07	282 11.8 -00.1	S 19 53.4 -00.6	302 45.8 +03.3	S 16 15.4 -00.1	63 08.0 -27.5	N 12 49.7 -12.6	07						
08	297 11.7 -00.2	S 19 52.8 -00.5	317 49.1 +03.4	S 16 15.3 -00.1	77 40.5 -27.4	N 12 37.1 -12.6	08						
09	312 11.5 -00.2	S 19 52.3 -00.6	332 52.5 +03.3	S 16 15.2 -00.1	92 13.1 -27.5	N 12 24.5 -12.7	09						
10	327 11.3 -00.2	S 19 51.7 -00.5	347 55.8 +03.3	S 16 15.1 -00.1	106 45.6 -27.4	N 12 11.8 -12.8	10						
11	342 11.1 -00.1	S 19 51.2 -00.6	2 59.1 +03.3	S 16 15.0 -00.1	121 18.2 -27.3	N 11 59.0 -12.8	11						
12	357 11.0 -00.2	S 19 50.6 -00.6	18 02.4 +03.3	S 16 14.9 -00.1	135 50.9 -27.4	N 11 46.2 -12.8	12						
13	12 10.8 -00.2	S 19 50.0 -00.5	33 05.7 +03.3	S 16 14.8 -00.1	150 23.5 -27.3	N 11 33.4 -13.0	13						
14	27 10.6 -00.2	S 19 49.5 -00.6	48 09.0 +03.3	S 16 14.7 +00.0	164 56.2 -27.3	N 11 20.4 -13.0	14						
15	42 10.4 -00.1	S 19 48.9 -00.5	63 12.3 +03.3	S 16 14.7 -00.1	179 28.9 -27.2	N 11 07.4 -13.0	15						
16	57 10.3 -00.2	S 19 48.4 -00.6	78 15.6 +03.3	S 16 14.6 -00.1	194 01.7 -27.3	N 10 54.4 -13.1	16						
17	72 10.1 -00.2	S 19 47.8 -00.6	93 18.9 +03.3	S 16 14.5 -00.1	208 34.4 -27.2	N 10 41.3 -13.2	17						
18	87 09.9 -00.1	S 19 47.2 -00.5	108 22.2 +03.3	S 16 14.4 -00.1	223 07.2 -27.2	N 10 28.1 -13.2	18						
19	102 09.8 -00.2	S 19 46.7 -00.6	123 25.5 +03.3	S 16 14.3 -00.1	237 40.0 -27.2	N 10 14.9 -13.3	19						
20	117 09.6 -00.2	S 19 46.1 -00.6	138 28.8 +03.3	S 16 14.2 +00.0	252 12.8 -27.1	N 10 01.6 -13.3	20						
21	132 09.4 -00.2	S 19 45.5 -00.5	153 32.1 +03.2	S 16 14.2 -00.1	266 45.7 -27.2	N 09 48.3 -13.4	21						
22	147 09.2 -00.1	S 19 45.0 -00.6	168 35.3 +03.3	S 16 14.1 -00.1	281 18.5 -27.1	N 09 34.9 -13.4	22						
23	162 09.1 -00.2	S 19 44.4 -00.6	183 38.6 +03.3	S 16 14.0 -00.1	295 51.4 -27.1	N 09 21.5 -13.5	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 00'5 00'5 00'5 00'5 00'5 00'5		SD 15'2 15'3 15'3 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 55'9 56'0 56'1 56'1 56'2 56'3								
	SHA 057° 057° 056° 056° 056° 056°		SHA 077° 077° 077° 077° 077° 077°		SHA 200° 198° 196° 194° 192° 190°								
	Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 10:48		Greenwich Culmination Time: 02:39								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	213 08.3 +00.5	S 23 46.3 +00.1	143 23.8 +02.0	S 10 41.2 -00.2	163 26.7 +02.2	S 17 22.5 +00.0	00						
01	228 08.8 +00.5	S 23 46.4 +00.1	158 25.8 +01.9	S 10 41.0 -00.2	178 28.9 +02.1	S 17 22.5 -00.1	01						
02	243 09.3 +00.5	S 23 46.5 +00.0	173 27.7 +02.0	S 10 40.8 -00.2	193 31.0 +02.2	S 17 22.4 -00.1	02						
03	258 09.8 +00.5	S 23 46.5 +00.1	188 29.7 +01.9	S 10 40.6 -00.2	208 33.2 +02.2	S 17 22.3 -00.1	03						
04	273 10.3 +00.5	S 23 46.6 +00.0	203 31.6 +01.9	S 10 40.4 -00.2	223 35.4 +02.1	S 17 22.2 -00.1	04						
05	288 10.8 +00.5	S 23 46.6 +00.1	218 33.5 +02.0	S 10 40.2 -00.2	238 37.5 +02.2	S 17 22.1 -00.1	05						
06	303 11.3 +00.4	S 23 46.7 +00.1	233 35.5 +01.9	S 10 40.0 -00.2	253 39.7 +02.2	S 17 22.0 +00.0	06						
07	318 11.7 +00.5	S 23 46.8 +00.0	248 37.4 +02.0	S 10 39.8 -00.2	268 41.9 +02.1	S 17 22.0 -00.1	07						
08	333 12.2 +00.5	S 23 46.8 +00.1	263 39.4 +01.9	S 10 39.6 -00.2	283 44.0 +02.2	S 17 21.9 -00.1	08						
09	348 12.7 +00.5	S 23 46.9 +00.1	278 41.3 +01.9	S 10 39.4 -00.2	298 46.2 +02.2	S 17 21.8 -00.1	09						
10	3 13.2 +00.5	S 23 47.0 +00.0	293 43.2 +02.0	S 10 39.2 -00.2	313 48.4 +02.1	S 17 21.7 -00.1	10						
11	18 13.7 +00.5	S 23 47.0 +00.1	308 45.2 +01.9	S 10 39.0 -00.2	328 50.5 +02.2	S 17 21.6 -00.1	11						
12	33 14.2 +00.5	S 23 47.1 +00.0	323 47.1 +02.0	S 10 38.8 -00.2	343 52.7 +02.2	S 17 21.5 +00.0	12						
13	48 14.7 +00.5	S 23 47.1 +00.1	338 49.1 +01.9	S 10 38.6 -00.2	358 54.9 +02.1	S 17 21.5 -00.1	13						
14	63 15.2 +00.5	S 23 47.2 +00.1	353 51.0 +02.0	S 10 38.4 -00.2	13 57.0 +02.2	S 17 21.4 -00.1	14						
15	78 15.7 +00.4	S 23 47.3 +00.0	8 53.0 +01.9	S 10 38.2 -00.2	28 59.2 +02.2	S 17 21.3 -00.1	15						
16	93 16.1 +00.5	S 23 47.3 +00.1	23 54.9 +01.9	S 10 38.0 -00.2	44 01.4 +02.1	S 17 21.2 -00.1	16						
17	108 16.6 +00.5	S 23 47.4 +00.0	38 56.8 +02.0	S 10 37.8 -00.2	59 03.5 +02.2	S 17 21.1 -00.1	17						
18	123 17.1 +00.5	S 23 47.4 +00.1	53 58.8 +01.9	S 10 37.6 -00.2	74 05.7 +02.2	S 17 21.0 +00.0	18						
19	138 17.6 +00.5	S 23 47.5 +00.0	69 00.7 +02.0	S 10 37.4 -00.3	89 07.9 +02.2	S 17 21.0 -00.1	19						
20	153 18.1 +00.5	S 23 47.5 +00.1	84 02.7 +01.9	S 10 37.1 -00.2	104 10.1 +02.1	S 17 20.9 -00.1	20						
21	168 18.6 +00.5	S 23 47.6 +00.0	99 04.6 +01.9	S 10 36.9 -00.2	119 12.2 +02.2	S 17 20.8 -00.1	21						
22	183 19.1 +00.5	S 23 47.6 +00.1	114 06.5 +02.0	S 10 36.7 -00.2	134 14.4 +02.2	S 17 20.7 -00.1	22						
23	198 19.6 +00.4	S 23 47.7 +00.1	129 08.5 +01.9	S 10 36.5 -00.2	149 16.6 +02.1	S 17 20.6 -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 00'1 00'1 00'1 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 093° 093° 092° 092° 092° 092°		SHA 023° 023° 023° 023° 023° 023°		SHA 043° 043° 043° 043° 043° 043°								
	Greenwich Culmination Time: 09:47		Greenwich Culmination Time: 14:24		Greenwich Culmination Time: 13:04								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 08.9 -00.2	S 19 43.8 -00.5	198 41.9 +03.2	S 16 13.9 -00.1	310 24.3 -27.1	N 09 08.0 -13.5	00						
01	192 08.7 -00.1	S 19 43.3 -00.6	213 45.1 +03.3	S 16 13.8 +00.0	324 57.2 -27.1	N 08 54.5 -13.6	01						
02	207 08.6 -00.2	S 19 42.7 -00.6	228 48.4 +03.2	S 16 13.8 -00.1	339 30.1 -27.0	N 08 40.9 -13.6	02						
03	222 08.4 -00.2	S 19 42.1 -00.5	243 51.6 +03.3	S 16 13.7 -00.1	354 03.1 -27.0	N 08 27.3 -13.7	03						
04	237 08.2 -00.1	S 19 41.6 -00.6	258 54.9 +03.2	S 16 13.6 -00.1	8 36.1 -27.1	N 08 13.6 -13.7	04						
05	252 08.1 -00.2	S 19 41.0 -00.6	273 58.1 +03.3	S 16 13.5 +00.0	23 09.0 -27.0	N 07 59.9 -13.7	05						
06	267 07.9 -00.2	S 19 40.4 -00.6	289 01.4 +03.2	S 16 13.5 -00.1	37 42.0 -27.0	N 07 46.2 -13.8	06						
07	282 07.7 -00.1	S 19 39.8 -00.5	304 04.6 +03.2	S 16 13.4 -00.1	52 15.0 -27.0	N 07 32.4 -13.9	07						
08	297 07.6 -00.2	S 19 39.3 -00.6	319 07.8 +03.2	S 16 13.3 -00.1	66 48.0 -26.9	N 07 18.5 -13.9	08						
09	312 07.4 -00.2	S 19 38.7 -00.6	334 11.0 +03.3	S 16 13.2 +00.0	81 21.1 -27.0	N 07 04.6 -13.9	09						
10	327 07.2 -00.1	S 19 38.1 -00.6	349 14.3 +03.2	S 16 13.2 -00.1	95 54.1 -27.0	N 06 50.7 -14.0	10						
11	342 07.1 -00.2	S 19 37.5 -00.5	4 17.5 +03.2	S 16 13.1 -00.1	110 27.1 -26.9	N 06 36.7 -14.0	11						
12	357 06.9 -00.2	S 19 37.0 -00.6	19 20.7 +03.2	S 16 13.0 +00.0	125 00.2 -27.0	N 06 22.7 -14.0	12						
13	12 06.7 -00.1	S 19 36.4 -00.6	34 23.9 +03.2	S 16 13.0 -00.1	139 33.2 -26.9	N 06 08.7 -14.1	13						
14	27 06.6 -00.2	S 19 35.8 -00.6	49 27.1 +03.2	S 16 12.9 -00.1	154 06.3 -27.0	N 05 54.6 -14.1	14						
15	42 06.4 -00.2	S 19 35.2 -00.5	64 30.3 +03.2	S 16 12.8 -00.1	168 39.3 -26.9	N 05 40.5 -14.2	15						
16	57 06.2 -00.1	S 19 34.7 -00.6	79 33.5 +03.2	S 16 12.7 +00.0	183 12.4 -27.0	N 05 26.3 -14.2	16						
17	72 06.1 -00.2	S 19 34.1 -00.6	94 36.7 +03.2	S 16 12.7 -00.1	197 45.4 -26.9	N 05 12.1 -14.2	17						
18	87 05.9 -00.2	S 19 33.5 -00.6	109 39.9 +03.1	S 16 12.6 +00.0	212 18.5 -26.9	N 04 57.9 -14.3	18						
19	102 05.7 -00.1	S 19 32.9 -00.6	124 43.0 +03.2	S 16 12.6 -00.1	226 51.6 -27.0	N 04 43.6 -14.2	19						
20	117 05.6 -00.2	S 19 32.3 -00.5	139 46.2 +03.2	S 16 12.5 -00.1	241 24.6 -26.9	N 04 29.4 -14.4	20						
21	132 05.4 -00.1	S 19 31.8 -00.6	154 49.4 +03.1	S 16 12.4 +00.0	255 57.7 -27.0	N 04 15.0 -14.3	21						
22	147 05.3 -00.2	S 19 31.2 -00.6	169 52.5 +03.2	S 16 12.4 -00.1	270 30.7 -26.9	N 04 00.7 -14.4	22						
23	162 05.1 -00.2	S 19 30.6 -00.6	184 55.7 +03.2	S 16 12.3 -00.1	285 03.8 -27.0	N 03 46.3 -14.4	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'3 16'3 16'3 16'3 16'3 16'3		SD 00'5 00'5 00'5 00'5 00'5 00'5		SD 15'4 15'4 15'4 15'4 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 56'4 56'5 56'6 56'7 56'8 56'9								
	SHA 056° 056° 055° 055° 055° 055°		SHA 077° 077° 078° 078° 078° 078°		SHA 188° 186° 184° 182° 180° 178°								
	Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 10:42		Greenwich Culmination Time: 03:24								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	213 20.0 +00.5	S 23 47.8 +00.0	144 10.4 +02.0	S 10 36.3 -00.2	164 18.7 +02.2	S 17 20.5 -00.1	00						
01	228 20.5 +00.5	S 23 47.8 +00.1	159 12.4 +01.9	S 10 36.1 -00.2	179 20.9 +02.2	S 17 20.4 +00.0	01						
02	243 21.0 +00.5	S 23 47.9 +00.0	174 14.3 +01.9	S 10 35.9 -00.2	194 23.1 +02.1	S 17 20.4 -00.1	02						
03	258 21.5 +00.5	S 23 47.9 +00.1	189 16.2 +02.0	S 10 35.7 -00.2	209 25.2 +02.2	S 17 20.3 -00.1	03						
04	273 22.0 +00.5	S 23 48.0 +00.0	204 18.2 +01.9	S 10 35.5 -00.2	224 27.4 +02.2	S 17 20.2 -00.1	04						
05	288 22.5 +00.5	S 23 48.0 +00.1	219 20.1 +02.0	S 10 35.3 -00.2	239 29.6 +02.1	S 17 20.1 -00.1	05						
06	303 23.0 +00.5	S 23 48.1 +00.0	234 22.1 +01.9	S 10 35.1 -00.2	254 31.7 +02.2	S 17 20.0 -00.1	06						
07	318 23.5 +00.4	S 23 48.1 +00.1	249 24.0 +01.9	S 10 34.9 -00.2	269 33.9 +02.2	S 17 19.9 +00.0	07						
08	333 23.9 +00.5	S 23 48.2 +00.0	264 25.9 +02.0	S 10 34.7 -00.2	284 36.1 +02.1	S 17 19.9 -00.1	08						
09	348 24.4 +00.5	S 23 48.2 +00.1	279 27.9 +01.9	S 10 34.5 -00.2	299 38.2 +02.2	S 17 19.8 -00.1	09						
10	3 24.9 +00.5	S 23 48.3 +00.0	294 29.8 +02.0	S 10 34.3 -00.2	314 40.4 +02.2	S 17 19.7 -00.1	10						
11	18 25.4 +00.5	S 23 48.3 +00.1	309 31.8 +01.9	S 10 34.1 -00.2	329 42.6 +02.1	S 17 19.6 -00.1	11						
12	33 25.9 +00.5	S 23 48.4 +00.0	324 33.7 +01.9	S 10 33.9 -00.2	344 44.7 +02.2	S 17 19.5 -00.1	12						
13	48 26.4 +00.5	S 23 48.4 +00.1	339 35.6 +02.0	S 10 33.7 -00.2	359 46.9 +02.2	S 17 19.4 +00.0	13						
14	63 26.9 +00.4	S 23 48.5 +00.0	354 37.6 +01.9	S 10 33.5 -00.2	14 49.1 +02.1	S 17 19.4 -00.1	14						
15	78 27.3 +00.5	S 23 48.5 +00.1	9 39.5 +01.9	S 10 33.3 -00.2	29 51.2 +02.2	S 17 19.3 -00.1	15						
16	93 27.8 +00.5	S 23 48.6 +00.0	24 41.4 +02.0	S 10 33.1 -00.3	44 53.4 +02.2	S 17 19.2 -00.1	16						
17	108 28.3 +00.5	S 23 48.6 +00.1	39 43.4 +01.9	S 10 32.8 -00.2	59 55.6 +02.1	S 17 19.1 -00.1	17						
18	123 28.8 +00.5	S 23 48.7 +00.0	54 45.3 +02.0	S 10 32.6 -00.2	74 57.7 +02.2	S 17 19.0 -00.1	18						
19	138 29.3 +00.5	S 23 48.7 +00.1	69 47.3 +01.9	S 10 32.4 -00.2	89 59.9 +02.2	S 17 18.9 +00.0	19						
20	153 29.8 +00.5	S 23 48.8 +00.0	84 49.2 +01.9	S 10 32.2 -00.2	105 02.1 +02.1	S 17 18.9 -00.1	20						
21	168 30.3 +00.4	S 23 48.8 +00.1	99 51.1 +02.0	S 10 32.0 -00.2	120 04.2 +02.2	S 17 18.8 -00.1	21						
22	183 30.7 +00.5	S 23 48.9 +00.0	114 53.1 +01.9	S 10 31.8 -00.2	135 06.4 +02.2	S 17 18.7 -00.1	22						
23	198 31.2 +00.5	S 23 48.9 +00.1	129 55.0 +01.9	S 10 31.6 -00.2	150 08.6 +02.1	S 17 18.6 -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 00'1 00'1 00'1 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 092° 092° 092° 092° 091° 091°		SHA 023° 023° 023° 023° 023° 023°		SHA 043° 043° 043° 043° 043° 043°								
	Greenwich Culmination Time: 09:46		Greenwich Culmination Time: 14:21		Greenwich Culmination Time: 13:00								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 04.9 -00.1	S 19 30.0 -00.6	199 58.9 +03.1	S 16 12.2 +00.0	299 36.8 -26.9	N 03 31.9 -14.4	00						
01	192 04.8 -00.2	S 19 29.4 -00.6	215 02.0 +03.2	S 16 12.2 -00.1	314 09.9 -27.0	N 03 17.5 -14.5	01						
02	207 04.6 -00.2	S 19 28.8 -00.5	230 05.2 +03.1	S 16 12.1 +00.0	328 42.9 -27.0	N 03 03.0 -14.5	02						
03	222 04.4 -00.1	S 19 28.3 -00.6	245 08.3 +03.1	S 16 12.1 -00.1	343 15.9 -27.0	N 02 48.5 -14.5	03						
04	237 04.3 -00.2	S 19 27.7 -00.6	260 11.4 +03.2	S 16 12.0 +00.0	357 48.9 -27.0	N 02 34.0 -14.5	04						
05	252 04.1 -00.1	S 19 27.1 -00.6	275 14.6 +03.1	S 16 12.0 -00.1	12 21.9 -27.0	N 02 19.5 -14.5	05						
06	267 04.0 -00.2	S 19 26.5 -00.6	290 17.7 +03.1	S 16 11.9 -00.1	26 54.9 -27.0	N 02 05.0 -14.6	06						
07	282 03.8 -00.1	S 19 25.9 -00.6	305 20.8 +03.2	S 16 11.8 +00.0	41 27.9 -27.1	N 01 50.4 -14.6	07						
08	297 03.7 -00.2	S 19 25.3 -00.6	320 24.0 +03.1	S 16 11.8 -00.1	56 00.8 -27.0	N 01 35.8 -14.6	08						
09	312 03.5 -00.2	S 19 24.7 -00.6	335 27.1 +03.1	S 16 11.7 +00.0	70 33.8 -27.1	N 01 21.2 -14.6	09						
10	327 03.3 -00.1	S 19 24.1 -00.5	350 30.2 +03.1	S 16 11.7 -00.1	85 06.7 -27.1	N 01 06.6 -14.7	10						
11	342 03.2 -00.2	S 19 23.6 -00.6	5 33.3 +03.1	S 16 11.6 +00.0	99 39.6 -27.1	N 00 51.9 -14.6	11						
12	357 03.0 -00.1	S 19 23.0 -00.6	20 36.4 +03.1	S 16 11.6 -00.1	114 12.5 -27.2	N 00 37.3 -14.7	12						
13	12 02.9 -00.2	S 19 22.4 -00.6	35 39.5 +03.1	S 16 11.5 +00.0	128 45.3 -27.1	N 00 22.6 -14.7	13						
14	27 02.7 -00.2	S 19 21.8 -00.6	50 42.6 +03.1	S 16 11.5 -00.1	143 18.2 -27.2	N 00 07.9 -14.7	14						
15	42 02.5 -00.1	S 19 21.2 -00.6	65 45.7 +03.1	S 16 11.4 +00.0	157 51.0 -27.2	S 00 06.8 +14.7	15						
16	57 02.4 -00.2	S 19 20.6 -00.6	80 48.8 +03.0	S 16 11.4 -00.1	172 23.8 -27.3	S 00 21.5 +14.7	16						
17	72 02.2 -00.1	S 19 20.0 -00.6	95 51.8 +03.1	S 16 11.3 +00.0	186 56.5 -27.2	S 00 36.2 +14.8	17						
18	87 02.1 -00.2	S 19 19.4 -00.6	110 54.9 +03.1	S 16 11.3 -00.1	201 29.3 -27.3	S 00 51.0 +14.7	18						
19	102 01.9 -00.1	S 19 18.8 -00.6	125 58.0 +03.0	S 16 11.2 +00.0	216 02.0 -27.3	S 01 05.7 +14.7	19						
20	117 01.8 -00.2	S 19 18.2 -00.6	141 01.0 +03.1	S 16 11.2 +00.0	230 34.7 -27.4	S 01 20.4 +14.8	20						
21	132 01.6 -00.1	S 19 17.6 -00.6	156 04.1 +03.1	S 16 11.2 -00.1	245 07.3 -27.4	S 01 35.2 +14.8	21						
22	147 01.5 -00.2	S 19 17.0 -00.6	171 07.2 +03.0	S 16 11.1 +00.0	259 39.9 -27.4	S 01 50.0 +14.7	22						
23	162 01.3 -00.1	S 19 16.4 -00.6	186 10.2 +03.1	S 16 11.1 -00.1	274 12.5 -27.4	S 02 04.7 +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 16'3 16'3 16'2 16'2 16'2 16'2		SD 00'5 00'5 00'5 00'5 00'5 00'5		SD 15'5 15'5 15'6 15'6 15'6 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 57'0 57'0 57'1 57'2 57'3 57'4								
	SHA 055° 055° 054° 054° 054° 054°		SHA 078° 078° 078° 078° 078° 078°		SHA 176° 174° 172° 170° 168° 166°								
	Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 10:37		Greenwich Culmination Time: 04:09								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	213 31.7 +00.5	S 23 49.0 +00.0	144 56.9 +02.0	S 10 31.4 -00.2	165 10.7 +02.2	S 17 18.5 -00.1	00						
01	228 32.2 +00.5	S 23 49.0 +00.0	159 58.9 +01.9	S 10 31.2 -00.2	180 12.9 +02.2	S 17 18.4 -00.1	01						
02	243 32.7 +00.5	S 23 49.0 +00.1	175 00.8 +02.0	S 10 31.0 -00.2	195 15.1 +02.1	S 17 18.3 +00.0	02						
03	258 33.2 +00.4	S 23 49.1 +00.0	190 02.8 +01.9	S 10 30.8 -00.2	210 17.2 +02.2	S 17 18.3 -00.1	03						
04	273 33.6 +00.5	S 23 49.1 +00.1	205 04.7 +01.9	S 10 30.6 -00.2	225 19.4 +02.2	S 17 18.2 -00.1	04						
05	288 34.1 +00.5	S 23 49.2 +00.0	220 06.6 +02.0	S 10 30.4 -00.2	240 21.6 +02.1	S 17 18.1 -00.1	05						
06	303 34.6 +00.5	S 23 49.2 +00.1	235 08.6 +01.9	S 10 30.2 -00.2	255 23.7 +02.2	S 17 18.0 -00.1	06						
07	318 35.1 +00.5	S 23 49.3 +00.0	250 10.5 +01.9	S 10 30.0 -00.2	270 25.9 +02.2	S 17 17.9 -00.1	07						
08	333 35.6 +00.5	S 23 49.3 +00.0	265 12.4 +02.0	S 10 29.8 -00.2	285 28.1 +02.1	S 17 17.8 +00.0	08						
09	348 36.1 +00.5	S 23 49.3 +00.1	280 14.4 +01.9	S 10 29.6 -00.3	300 30.2 +02.2	S 17 17.8 -00.1	09						
10	3 36.6 +00.4	S 23 49.4 +00.0	295 16.3 +02.0	S 10 29.3 -00.2	315 32.4 +02.2	S 17 17.7 -00.1	10						
11	18 37.0 +00.5	S 23 49.4 +00.1	310 18.3 +01.9	S 10 29.1 -00.2	330 34.6 +02.1	S 17 17.6 -00.1	11						
12	33 37.5 +00.5	S 23 49.5 +00.0	325 20.2 +01.9	S 10 28.9 -00.2	345 36.7 +02.2	S 17 17.5 -00.1	12						
13	48 38.0 +00.5	S 23 49.5 +00.0	340 22.1 +02.0	S 10 28.7 -00.2	0 38.9 +02.2	S 17 17.4 -00.1	13						
14	63 38.5 +00.5	S 23 49.5 +00.1	355 24.1 +01.9	S 10 28.5 -00.2	15 41.1 +02.1	S 17 17.3 +00.0	14						
15	78 39.0 +00.5	S 23 49.6 +00.0	10 26.0 +01.9	S 10 28.3 -00.2	30 43.2 +02.2	S 17 17.3 -00.1	15						
16	93 39.5 +00.4	S 23 49.6 +00.1	25 27.9 +02.0	S 10 28.1 -00.2	45 45.4 +02.2	S 17 17.2 -00.1	16						
17	108 39.9 +00.5	S 23 49.7 +00.0	40 29.9 +01.9	S 10 27.9 -00.2	60 47.6 +02.1	S 17 17.1 -00.1	17						
18	123 40.4 +00.5	S 23 49.7 +00.0	55 31.8 +02.0	S 10 27.7 -00.2	75 49.7 +02.2	S 17 17.0 -00.1	18						
19	138 40.9 +00.5	S 23 49.7 +00.1	70 33.8 +01.9	S 10 27.5 -00.2	90 51.9 +02.2	S 17 16.9 -00.1	19						
20	153 41.4 +00.5	S 23 49.8 +00.0	85 35.7 +01.9	S 10 27.3 -00.2	105 54.1 +02.1	S 17 16.8 -00.1	20						
21	168 41.9 +00.5	S 23 49.8 +00.0	100 37.6 +02.0	S 10 27.1 -00.2	120 56.2 +02.2	S 17 16.7 +00.0	21						
22	183 42.4 +00.4	S 23 49.8 +00.1	115 39.6 +01.9	S 10 26.9 -00.2	135 58.4 +02.2	S 17 16.7 -00.1	22						
23	198 42.8 +00.5	S 23 49.9 +00.0	130 41.5 +01.9	S 10 26.7 -00.2	151 00.6 +02.1	S 17 16.6 -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 00'1 00'1 00'1 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 091° 091° 091° 091° 091° 090°		SHA 023° 023° 023° 023° 022° 022°		SHA 043° 043° 043° 043° 043° 043°								
	Greenwich Culmination Time: 09:45		Greenwich Culmination Time: 14:18		Greenwich Culmination Time: 12:57								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 01.2 -00.2	S 19 15.8 -00.6	201 13.3 +03.0	S 16 11.0 +00.0	288 45.1 -27.5	S 02 19.5 +14.8	00						
01	192 01.0 -00.2	S 19 15.2 -00.6	216 16.3 +03.1	S 16 11.0 -00.1	303 17.6 -27.5	S 02 34.3 +14.7	01						
02	207 00.8 -00.1	S 19 14.6 -00.6	231 19.4 +03.0	S 16 10.9 +00.0	317 50.1 -27.6	S 02 49.0 +14.8	02						
03	222 00.7 -00.2	S 19 14.0 -00.6	246 22.4 +03.0	S 16 10.9 +00.0	332 22.5 -27.6	S 03 03.8 +14.8	03						
04	237 00.5 -00.1	S 19 13.4 -00.6	261 25.4 +03.0	S 16 10.9 -00.1	346 54.9 -27.6	S 03 18.6 +14.7	04						
05	252 00.4 -00.2	S 19 12.8 -00.6	276 28.4 +03.1	S 16 10.8 +00.0	1 27.3 -27.7	S 03 33.3 +14.8	05						
06	267 00.2 -00.1	S 19 12.2 -00.6	291 31.5 +03.0	S 16 10.8 +00.0	15 59.6 -27.7	S 03 48.1 +14.7	06						
07	282 00.1 -00.2	S 19 11.6 -00.6	306 34.5 +03.0	S 16 10.8 -00.1	30 31.9 -27.8	S 04 02.8 +14.8	07						
08	296 59.9 -00.1	S 19 11.0 -00.6	321 37.5 +03.0	S 16 10.7 +00.0	45 04.1 -27.8	S 04 17.6 +14.7	08						
09	311 59.8 -00.2	S 19 10.4 -00.6	336 40.5 +03.0	S 16 10.7 +00.0	59 36.3 -27.8	S 04 32.3 +14.8	09						
10	326 59.6 -00.1	S 19 09.8 -00.6	351 43.5 +03.0	S 16 10.7 -00.1	74 08.5 -27.9	S 04 47.1 +14.7	10						
11	341 59.5 -00.2	S 19 09.2 -00.6	6 46.5 +03.0	S 16 10.6 +00.0	88 40.6 -28.0	S 05 01.8 +14.7	11						
12	356 59.3 -00.1	S 19 08.6 -00.6	21 49.5 +03.0	S 16 10.6 +00.0	103 12.6 -28.0	S 05 16.5 +14.7	12						
13	11 59.2 -00.2	S 19 08.0 -00.6	36 52.5 +03.0	S 16 10.6 -00.1	117 44.6 -28.1	S 05 31.2 +14.7	13						
14	26 59.0 -00.1	S 19 07.4 -00.6	51 55.5 +02.9	S 16 10.5 +00.0	132 16.5 -28.1	S 05 45.9 +14.7	14						
15	41 58.9 -00.2	S 19 06.8 -00.6	66 58.4 +03.0	S 16 10.5 +00.0	146 48.4 -28.1	S 06 00.6 +14.6	15						
16	56 58.7 -00.1	S 19 06.2 -00.6	82 01.4 +03.0	S 16 10.5 -00.1	161 20.3 -28.3	S 06 15.2 +14.7	16						
17	71 58.6 -00.2	S 19 05.6 -00.6	97 04.4 +03.0	S 16 10.4 +00.0	175 52.0 -28.2	S 06 29.9 +14.6	17						
18	86 58.4 -00.1	S 19 05.0 -00.6	112 07.4 +02.9	S 16 10.4 +00.0	190 23.8 -28.4	S 06 44.5 +14.6	18						
19	101 58.3 -00.2	S 19 04.4 -00.7	127 10.3 +03.0	S 16 10.4 +00.0	204 55.4 -28.4	S 06 59.1 +14.6	19						
20	116 58.1 -00.1	S 19 03.7 -00.6	142 13.3 +02.9	S 16 10.4 -00.1	219 27.0 -28.4	S 07 13.7 +14.5	20						
21	131 58.0 -00.1	S 19 03.1 -00.6	157 16.2 +03.0	S 16 10.3 +00.0	233 58.6 -28.5	S 07 28.2 +14.6	21						
22	146 57.9 -00.2	S 19 02.5 -00.6	172 19.2 +02.9	S 16 10.3 +00.0	248 30.1 -28.6	S 07 42.8 +14.5	22						
23	161 57.7 -00.1	S 19 01.9 -00.6	187 22.1 +03.0	S 16 10.3 +00.0	263 01.5 -28.6	S 07 57.3 +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	16'2 16'2 16'2 16'2 16'2 16'2		SD	00'5 00'5 00'5 00'5 00'5 00'5		SD	15'7 15'7 15'7 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	57'5 57'7 57'8 57'9 58'0 58'1						
SHA	054° 053° 053° 053° 053° 053°		SHA	078° 078° 078° 078° 078° 078°		SHA	164° 162° 160° 158° 156° 154°						
Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 10:32			Greenwich Culmination Time: 04:53							

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	213 43.3 +00.5	S 23 49.9 +00.0	145 43.4 +02.0	S 10 26.5 -00.3	166 02.7 +02.2	S 17 16.5 -00.1	00						
01	228 43.8 +00.5	S 23 49.9 +00.1	160 45.4 +01.9	S 10 26.2 -00.2	181 04.9 +02.2	S 17 16.4 -00.1	01						
02	243 44.3 +00.5	S 23 50.0 +00.0	175 47.3 +01.9	S 10 26.0 -00.2	196 07.1 +02.1	S 17 16.3 -00.1	02						
03	258 44.8 +00.4	S 23 50.0 +00.0	190 49.2 +02.0	S 10 25.8 -00.2	211 09.2 +02.2	S 17 16.2 +00.0	03						
04	273 45.2 +00.5	S 23 50.0 +00.1	205 51.2 +01.9	S 10 25.6 -00.2	226 11.4 +02.2	S 17 16.2 -00.1	04						
05	288 45.7 +00.5	S 23 50.1 +00.0	220 53.1 +01.9	S 10 25.4 -00.2	241 13.6 +02.1	S 17 16.1 -00.1	05						
06	303 46.2 +00.5	S 23 50.1 +00.0	235 55.0 +02.0	S 10 25.2 -00.2	256 15.7 +02.2	S 17 16.0 -00.1	06						
07	318 46.7 +00.5	S 23 50.1 +00.1	250 57.0 +01.9	S 10 25.0 -00.2	271 17.9 +02.2	S 17 15.9 -00.1	07						
08	333 47.2 +00.5	S 23 50.2 +00.0	265 58.9 +02.0	S 10 24.8 -00.2	286 20.1 +02.1	S 17 15.8 -00.1	08						
09	348 47.7 +00.4	S 23 50.2 +00.0	281 00.9 +01.9	S 10 24.6 -00.2	301 22.2 +02.2	S 17 15.7 +00.0	09						
10	3 48.1 +00.5	S 23 50.2 +00.1	296 02.8 +01.9	S 10 24.4 -00.2	316 24.4 +02.2	S 17 15.7 -00.1	10						
11	18 48.6 +00.5	S 23 50.3 +00.0	311 04.7 +02.0	S 10 24.2 -00.2	331 26.6 +02.1	S 17 15.6 -00.1	11						
12	33 49.1 +00.5	S 23 50.3 +00.0	326 06.7 +01.9	S 10 24.0 -00.2	346 28.7 +02.2	S 17 15.5 -00.1	12						
13	48 49.6 +00.5	S 23 50.3 +00.1	341 08.6 +01.9	S 10 23.8 -00.2	1 30.9 +02.2	S 17 15.4 -00.1	13						
14	63 50.1 +00.5	S 23 50.4 +00.0	356 10.5 +02.0	S 10 23.6 -00.3	16 33.1 +02.1	S 17 15.3 -00.1	14						
15	78 50.6 +00.4	S 23 50.4 +00.0	11 12.5 +01.9	S 10 23.3 -00.2	31 35.2 +02.2	S 17 15.2 -00.1	15						
16	93 51.0 +00.5	S 23 50.4 +00.0	26 14.4 +01.9	S 10 23.1 -00.2	46 37.4 +02.2	S 17 15.1 +00.0	16						
17	108 51.5 +00.5	S 23 50.4 +00.1	41 16.3 +02.0	S 10 22.9 -00.2	61 39.6 +02.1	S 17 15.1 -00.1	17						
18	123 52.0 +00.5	S 23 50.5 +00.0	56 18.3 +01.9	S 10 22.7 -00.2	76 41.7 +02.2	S 17 15.0 -00.1	18						
19	138 52.5 +00.5	S 23 50.5 +00.0	71 20.2 +01.9	S 10 22.5 -00.2	91 43.9 +02.2	S 17 14.9 -00.1	19						
20	153 53.0 +00.4	S 23 50.5 +00.1	86 22.1 +02.0	S 10 22.3 -00.2	106 46.1 +02.1	S 17 14.8 -00.1	20						
21	168 53.4 +00.5	S 23 50.6 +00.0	101 24.1 +01.9	S 10 22.1 -00.2	121 48.2 +02.2	S 17 14.7 -00.1	21						
22	183 53.9 +00.5	S 23 50.6 +00.0	116 26.0 +01.9	S 10 21.9 -00.2	136 50.4 +02.2	S 17 14.6 +00.0	22						
23	198 54.4 +00.5	S 23 50.6 +00.0	131 27.9 +02.0	S 10 21.7 -00.2	151 52.6 +02.1	S 17 14.6 -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	00'1 00'1 00'1 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	090° 090° 090° 090° 090° 090°		SHA	022° 022° 022° 022° 022° 022°		SHA	043° 043° 043° 043° 043° 043°						
Greenwich Culmination Time: 09:44			Greenwich Culmination Time: 14:15			Greenwich Culmination Time: 12:53							



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 57.6 -00.2	S 19 01.3 -00.6	202 25.1 +02.9	S 16 10.3 -00.1	277 32.9 -28.8	S 08 11.8 +14.5	00						
01	191 57.4 -00.1	S 19 00.7 -00.6	217 28.0 +02.9	S 16 10.2 +00.0	292 04.1 -28.7	S 08 26.3 +14.4	01						
02	206 57.3 -00.2	S 19 00.1 -00.6	232 30.9 +02.9	S 16 10.2 +00.0	306 35.4 -28.9	S 08 40.7 +14.4	02						
03	221 57.1 -00.1	S 18 59.5 -00.7	247 33.8 +03.0	S 16 10.2 +00.0	321 06.5 -28.9	S 08 55.1 +14.4	03						
04	236 57.0 -00.2	S 18 58.8 -00.6	262 36.8 +02.9	S 16 10.2 -00.1	335 37.6 -29.0	S 09 09.5 +14.3	04						
05	251 56.8 -00.1	S 18 58.2 -00.6	277 39.7 +02.9	S 16 10.1 +00.0	350 08.6 -29.0	S 09 23.8 +14.3	05						
06	266 56.7 -00.1	S 18 57.6 -00.6	292 42.6 +02.9	S 16 10.1 +00.0	4 39.6 -29.2	S 09 38.1 +14.3	06						
07	281 56.6 -00.2	S 18 57.0 -00.6	307 45.5 +02.9	S 16 10.1 +00.0	19 10.4 -29.2	S 09 52.4 +14.2	07						
08	296 56.4 -00.1	S 18 56.4 -00.6	322 48.4 +02.9	S 16 10.1 +00.0	33 41.2 -29.2	S 10 06.6 +14.2	08						
09	311 56.3 -00.2	S 18 55.8 -00.7	337 51.3 +02.9	S 16 10.1 -00.1	48 12.0 -29.4	S 10 20.8 +14.2	09						
10	326 56.1 -00.1	S 18 55.1 -00.6	352 54.2 +02.9	S 16 10.0 +00.0	62 42.6 -29.4	S 10 35.0 +14.1	10						
11	341 56.0 -00.2	S 18 54.5 -00.6	7 57.1 +02.9	S 16 10.0 +00.0	77 13.2 -29.5	S 10 49.1 +14.1	11						
12	356 55.8 -00.1	S 18 53.9 -00.6	22 60.0 +02.8	S 16 10.0 +00.0	91 43.7 -29.6	S 11 03.2 +14.0	12						
13	11 55.7 -00.1	S 18 53.3 -00.6	38 02.8 +02.9	S 16 10.0 +00.0	106 14.1 -29.7	S 11 17.2 +14.0	13						
14	26 55.6 -00.2	S 18 52.7 -00.7	53 05.7 +02.9	S 16 10.0 +00.0	120 44.4 -29.8	S 11 31.2 +14.0	14						
15	41 55.4 -00.1	S 18 52.0 -00.6	68 08.6 +02.8	S 16 10.0 +00.0	135 14.6 -29.8	S 11 45.2 +13.9	15						
16	56 55.3 -00.2	S 18 51.4 -00.6	83 11.4 +02.9	S 16 10.0 -00.1	149 44.8 -29.9	S 11 59.1 +13.8	16						
17	71 55.1 -00.1	S 18 50.8 -00.6	98 14.3 +02.9	S 16 09.9 +00.0	164 14.9 -30.0	S 12 12.9 +13.8	17						
18	86 55.0 -00.1	S 18 50.2 -00.7	113 17.2 +02.8	S 16 09.9 +00.0	178 44.9 -30.1	S 12 26.7 +13.8	18						
19	101 54.9 -00.2	S 18 49.5 -00.6	128 20.0 +02.9	S 16 09.9 +00.0	193 14.8 -30.2	S 12 40.5 +13.7	19						
20	116 54.7 -00.1	S 18 48.9 -00.6	143 22.9 +02.8	S 16 09.9 +00.0	207 44.6 -30.3	S 12 54.2 +13.6	20						
21	131 54.6 -00.2	S 18 48.3 -00.6	158 25.7 +02.8	S 16 09.9 +00.0	222 14.3 -30.3	S 13 07.8 +13.6	21						
22	146 54.4 -00.1	S 18 47.7 -00.7	173 28.5 +02.9	S 16 09.9 +00.0	236 44.0 -30.5	S 13 21.4 +13.5	22						
23	161 54.3 -00.1	S 18 47.0 -00.6	188 31.4 +02.8	S 16 09.9 +00.0	251 13.5 -30.6	S 13 34.9 +13.5	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 00'5 00'5 00'5 00'5 00'5 00'5		SD 15'9 15'9 15'9 15'9 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 58'2 58'3 58'4 58'5 58'6 58'7								
	SHA 053° 052° 052° 052° 052° 052°		SHA 078° 078° 078° 078° 078° 078°		SHA 152° 150° 148° 146° 144° 142°								
	Greenwich Culmination Time: 12:12		Greenwich Culmination Time: 10:28		Greenwich Culmination Time: 05:40								
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	213 54.9 +00.5	S 23 50.6 +00.1	146 29.9 +01.9	S 10 21.5 -00.2	166 54.7 +02.2	S 17 14.5 -00.1	00						
01	228 55.4 +00.4	S 23 50.7 +00.0	161 31.8 +01.9	S 10 21.3 -00.2	181 56.9 +02.2	S 17 14.4 -00.1	01						
02	243 55.8 +00.5	S 23 50.7 +00.0	176 33.7 +02.0	S 10 21.1 -00.2	196 59.1 +02.1	S 17 14.3 -00.1	02						
03	258 56.3 +00.5	S 23 50.7 +00.0	191 35.7 +01.9	S 10 20.9 -00.3	212 01.2 +02.2	S 17 14.2 -00.1	03						
04	273 56.8 +00.5	S 23 50.7 +00.1	206 37.6 +01.9	S 10 20.6 -00.2	227 03.4 +02.2	S 17 14.1 -00.1	04						
05	288 57.3 +00.5	S 23 50.8 +00.0	221 39.5 +02.0	S 10 20.4 -00.2	242 05.6 +02.1	S 17 14.0 +00.0	05						
06	303 57.8 +00.4	S 23 50.8 +00.0	236 41.5 +01.9	S 10 20.2 -00.2	257 07.7 +02.2	S 17 14.0 -00.1	06						
07	318 58.2 +00.5	S 23 50.8 +00.0	251 43.4 +01.9	S 10 20.0 -00.2	272 09.9 +02.2	S 17 13.9 -00.1	07						
08	333 58.7 +00.5	S 23 50.8 +00.0	266 45.3 +02.0	S 10 19.8 -00.2	287 12.1 +02.1	S 17 13.8 -00.1	08						
09	348 59.2 +00.5	S 23 50.8 +00.1	281 47.3 +01.9	S 10 19.6 -00.2	302 14.2 +02.2	S 17 13.7 -00.1	09						
10	3 59.7 +00.5	S 23 50.9 +00.0	296 49.2 +01.9	S 10 19.4 -00.2	317 16.4 +02.2	S 17 13.6 -00.1	10						
11	19 00.2 +00.4	S 23 50.9 +00.0	311 51.1 +02.0	S 10 19.2 -00.2	332 18.6 +02.1	S 17 13.5 -00.1	11						
12	34 00.6 +00.5	S 23 50.9 +00.0	326 53.1 +01.9	S 10 19.0 -00.2	347 20.7 +02.2	S 17 13.4 +00.0	12						
13	49 01.1 +00.5	S 23 50.9 +00.0	341 55.0 +01.9	S 10 18.8 -00.2	2 22.9 +02.2	S 17 13.4 -00.1	13						
14	64 01.6 +00.5	S 23 50.9 +00.1	356 56.9 +02.0	S 10 18.6 -00.2	17 25.1 +02.1	S 17 13.3 -00.1	14						
15	79 02.1 +00.5	S 23 51.0 +00.0	11 58.9 +01.9	S 10 18.4 -00.3	32 27.2 +02.2	S 17 13.2 -00.1	15						
16	94 02.6 +00.4	S 23 51.0 +00.0	27 00.8 +01.9	S 10 18.1 -00.2	47 29.4 +02.2	S 17 13.1 -00.1	16						
17	109 03.0 +00.5	S 23 51.0 +00.0	42 02.7 +02.0	S 10 17.9 -00.2	62 31.6 +02.1	S 17 13.0 -00.1	17						
18	124 03.5 +00.5	S 23 51.0 +00.0	57 04.7 +01.9	S 10 17.7 -00.2	77 33.7 +02.2	S 17 12.9 +00.0	18						
19	139 04.0 +00.5	S 23 51.0 +00.0	72 06.6 +01.9	S 10 17.5 -00.2	92 35.9 +02.2	S 17 12.9 -00.1	19						
20	154 04.5 +00.5	S 23 51.0 +00.1	87 08.5 +02.0	S 10 17.3 -00.2	107 38.1 +02.1	S 17 12.8 -00.1	20						
21	169 05.0 +00.4	S 23 51.1 +00.0	102 10.5 +01.9	S 10 17.1 -00.2	122 40.2 +02.2	S 17 12.7 -00.1	21						
22	184 05.4 +00.5	S 23 51.1 +00.0	117 12.4 +01.9	S 10 16.9 -00.2	137 42.4 +02.2	S 17 12.6 -00.1	22						
23	199 05.9 +00.5	S 23 51.1 +00.0	132 14.3 +02.0	S 10 16.7 -00.2	152 44.6 +02.1	S 17 12.5 -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 00'1 00'1 00'1 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 090° 089° 089° 089° 089° 089°		SHA 022° 022° 022° 022° 022° 022°		SHA 043° 043° 043° 043° 043° 043°								
	Greenwich Culmination Time: 09:44		Greenwich Culmination Time: 14:12		Greenwich Culmination Time: 12:50								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 54.2 -00.2	S	18 46.4 -00.6	203 34.2 +02.8	S	16 09.9 +00.0	265 42.9 -30.6	S	13 48.4 +13.4	00			
01	191 54.0 -00.1	S	18 45.8 -00.6	218 37.0 +02.8	S	16 09.9 +00.0	280 12.3 -30.7	S	14 01.8 +13.3	01			
02	206 53.9 -00.1	S	18 45.2 -00.7	233 39.8 +02.9	S	16 09.9 +00.0	294 41.6 -30.9	S	14 15.1 +13.3	02			
03	221 53.8 -00.2	S	18 44.5 -00.6	248 42.7 +02.8	S	16 09.9 +00.0	309 10.7 -30.9	S	14 28.4 +13.2	03			
04	236 53.6 -00.1	S	18 43.9 -00.6	263 45.5 +02.8	S	16 09.9 +00.0	323 39.8 -31.0	S	14 41.6 +13.1	04			
05	251 53.5 -00.2	S	18 43.3 -00.7	278 48.3 +02.8	S	16 09.9 +00.0	338 08.8 -31.2	S	14 54.7 +13.1	05			
06	266 53.3 -00.1	S	18 42.6 -00.6	293 51.1 +02.8	S	16 09.9 +00.0	352 37.6 -31.2	S	15 07.8 +13.0	06			
07	281 53.2 -00.1	S	18 42.0 -00.6	308 53.9 +02.8	S	16 09.9 -00.1	7 06.4 -31.3	S	15 20.8 +12.9	07			
08	296 53.1 -00.2	S	18 41.4 -00.7	323 56.7 +02.7	S	16 09.8 +00.0	21 35.1 -31.4	S	15 33.7 +12.9	08			
09	311 52.9 -00.1	S	18 40.7 -00.6	338 59.4 +02.8	S	16 09.8 +00.0	36 03.7 -31.6	S	15 46.6 +12.7	09			
10	326 52.8 -00.1	S	18 40.1 -00.6	354 02.2 +02.8	S	16 09.8 +00.0	50 32.1 -31.6	S	15 59.3 +12.7	10			
11	341 52.7 -00.2	S	18 39.5 -00.7	9 05.0 +02.8	S	16 09.8 +00.0	65 00.5 -31.7	S	16 12.0 +12.6	11			
12	356 52.5 -00.1	S	18 38.8 -00.6	24 07.8 +02.7	S	16 09.8 +00.0	79 28.8 -31.9	S	16 24.6 +12.6	12			
13	11 52.4 -00.1	S	18 38.2 -00.6	39 10.5 +02.8	S	16 09.8 +00.1	93 56.9 -31.9	S	16 37.2 +12.4	13			
14	26 52.3 -00.2	S	18 37.6 -00.7	54 13.3 +02.8	S	16 09.9 +00.0	108 25.0 -32.1	S	16 49.6 +12.4	14			
15	41 52.1 -00.1	S	18 36.9 -00.6	69 16.1 +02.7	S	16 09.9 +00.0	122 52.9 -32.1	S	17 02.0 +12.3	15			
16	56 52.0 -00.1	S	18 36.3 -00.6	84 18.8 +02.8	S	16 09.9 +00.0	137 20.8 -32.3	S	17 14.3 +12.2	16			
17	71 51.9 -00.2	S	18 35.7 -00.7	99 21.6 +02.7	S	16 09.9 +00.0	151 48.5 -32.4	S	17 26.5 +12.1	17			
18	86 51.7 -00.1	S	18 35.0 -00.6	114 24.3 +02.8	S	16 09.9 +00.0	166 16.1 -32.5	S	17 38.6 +12.0	18			
19	101 51.6 -00.1	S	18 34.4 -00.7	129 27.1 +02.7	S	16 09.9 +00.0	180 43.6 -32.6	S	17 50.6 +11.9	19			
20	116 51.5 -00.1	S	18 33.7 -00.6	144 29.8 +02.7	S	16 09.9 +00.0	195 11.0 -32.7	S	18 02.5 +11.8	20			
21	131 51.4 -00.2	S	18 33.1 -00.6	159 32.5 +02.8	S	16 09.9 +00.0	209 38.3 -32.8	S	18 14.3 +11.8	21			
22	146 51.2 -00.1	S	18 32.5 -00.7	174 35.3 +02.7	S	16 09.9 +00.0	224 05.5 -32.9	S	18 26.1 +11.6	22			
23	161 51.1 -00.1	S	18 31.8 -00.6	189 38.0 +02.7	S	16 09.9 +00.0	238 32.6 -33.0	S	18 37.7 +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 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'0 16'1 16'1 16'1 16'1 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 58'8 58'9 59'0 59'1 59'2 59'3						
	SHA 052° 051° 051° 051° 051° 051°			SHA 078° 078° 078° 078° 078° 078°			SHA 139° 137° 135° 133° 130° 128°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 10:23			Greenwich Culmination Time: 06:30						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	214 06.4 +00.5	S	23 51.1 +00.0	147 16.3 +01.9	S	10 16.5 -00.2	167 46.7 +02.2	S	17 12.4 -00.1	00			
01	229 06.9 +00.4	S	23 51.1 +00.0	162 18.2 +01.9	S	10 16.3 -00.2	182 48.9 +02.2	S	17 12.3 +00.0	01			
02	244 07.3 +00.5	S	23 51.1 +00.1	177 20.1 +02.0	S	10 16.1 -00.3	197 51.1 +02.1	S	17 12.3 -00.1	02			
03	259 07.8 +00.5	S	23 51.2 +00.0	192 22.1 +01.9	S	10 15.8 -00.2	212 53.2 +02.2	S	17 12.2 -00.1	03			
04	274 08.3 +00.5	S	23 51.2 +00.0	207 24.0 +01.9	S	10 15.6 -00.2	227 55.4 +02.1	S	17 12.1 -00.1	04			
05	289 08.8 +00.5	S	23 51.2 +00.0	222 25.9 +02.0	S	10 15.4 -00.2	242 57.5 +02.2	S	17 12.0 -00.1	05			
06	304 09.3 +00.4	S	23 51.2 +00.0	237 27.9 +01.9	S	10 15.2 -00.2	257 59.7 +02.2	S	17 11.9 -00.1	06			
07	319 09.7 +00.5	S	23 51.2 +00.0	252 29.8 +01.9	S	10 15.0 -00.2	273 01.9 +02.1	S	17 11.8 -00.1	07			
08	334 10.2 +00.5	S	23 51.2 +00.0	267 31.7 +01.9	S	10 14.8 -00.2	288 04.0 +02.2	S	17 11.7 +00.0	08			
09	349 10.7 +00.5	S	23 51.2 +00.0	282 33.6 +02.0	S	10 14.6 -00.2	303 06.2 +02.2	S	17 11.7 -00.1	09			
10	4 11.2 +00.4	S	23 51.2 +00.1	297 35.6 +01.9	S	10 14.4 -00.2	318 08.4 +02.1	S	17 11.6 -00.1	10			
11	19 11.6 +00.5	S	23 51.3 +00.0	312 37.5 +01.9	S	10 14.2 -00.2	333 10.5 +02.2	S	17 11.5 -00.1	11			
12	34 12.1 +00.5	S	23 51.3 +00.0	327 39.4 +02.0	S	10 14.0 -00.3	348 12.7 +02.2	S	17 11.4 -00.1	12			
13	49 12.6 +00.5	S	23 51.3 +00.0	342 41.4 +01.9	S	10 13.7 -00.2	3 14.9 +02.1	S	17 11.3 -00.1	13			
14	64 13.1 +00.5	S	23 51.3 +00.0	357 43.3 +01.9	S	10 13.5 -00.2	18 17.0 +02.2	S	17 11.2 +00.0	14			
15	79 13.6 +00.4	S	23 51.3 +00.0	12 45.2 +02.0	S	10 13.3 -00.2	33 19.2 +02.2	S	17 11.2 -00.1	15			
16	94 14.0 +00.5	S	23 51.3 +00.0	27 47.2 +01.9	S	10 13.1 -00.2	48 21.4 +02.1	S	17 11.1 -00.1	16			
17	109 14.5 +00.5	S	23 51.3 +00.0	42 49.1 +01.9	S	10 12.9 -00.2	63 23.5 +02.2	S	17 11.0 -00.1	17			
18	124 15.0 +00.5	S	23 51.3 +00.0	57 51.0 +02.0	S	10 12.7 -00.2	78 25.7 +02.2	S	17 10.9 -00.1	18			
19	139 15.5 +00.4	S	23 51.3 +00.0	72 53.0 +01.9	S	10 12.5 -00.2	93 27.9 +02.1	S	17 10.8 -00.1	19			
20	154 15.9 +00.5	S	23 51.3 +00.0	87 54.9 +01.9	S	10 12.3 -00.2	108 30.0 +02.2	S	17 10.7 -00.1	20			
21	169 16.4 +00.5	S	23 51.3 +00.0	102 56.8 +01.9	S	10 12.1 -00.2	123 32.2 +02.2	S	17 10.6 +00.0	21			
22	184 16.9 +00.5	S	23 51.3 +00.1	117 58.7 +02.0	S	10 11.9 -00.3	138 34.4 +02.1	S	17 10.6 -00.1	22			
23	199 17.4 +00.5	S	23 51.4 +00.0	133 00.7 +01.9	S	10 11.6 -00.2	153 36.5 +02.2	S	17 10.5 -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 00'1 00'1 00'1 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 089° 089° 089° 088° 088° 088°			SHA 022° 022° 022° 022° 022° 022°			SHA 043° 042° 042° 042° 042° 042°						
	Greenwich Culmination Time: 09:43			Greenwich Culmination Time: 14:09			Greenwich Culmination Time: 12:47						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 51.0 -00.2	S	18 31.2 -00.7	204 40.7 +02.7	S	16 09.9 +00.0	252 59.6 -33.2	S	18 49.2 +11.4	00			
01	191 50.8 -00.1	S	18 30.5 -00.6	219 43.4 +02.7	S	16 09.9 +00.0	267 26.4 -33.2	S	19 00.6 +11.3	01			
02	206 50.7 -00.1	S	18 29.9 -00.6	234 46.1 +02.7	S	16 09.9 +00.0	281 53.2 -33.4	S	19 11.9 +11.3	02			
03	221 50.6 -00.2	S	18 29.3 -00.7	249 48.8 +02.7	S	16 09.9 +00.0	296 19.8 -33.5	S	19 23.2 +11.1	03			
04	236 50.4 -00.1	S	18 28.6 -00.6	264 51.5 +02.7	S	16 09.9 +00.1	310 46.3 -33.6	S	19 34.3 +11.0	04			
05	251 50.3 -00.1	S	18 28.0 -00.7	279 54.2 +02.7	S	16 10.0 +00.0	325 12.7 -33.7	S	19 45.3 +10.8	05			
06	266 50.2 -00.1	S	18 27.3 -00.6	294 56.9 +02.7	S	16 10.0 +00.0	339 39.0 -33.8	S	19 56.1 +10.8	06			
07	281 50.1 -00.2	S	18 26.7 -00.7	309 59.6 +02.7	S	16 10.0 +00.0	354 05.2 -34.0	S	20 06.9 +10.7	07			
08	296 49.9 -00.1	S	18 26.0 -00.6	325 02.3 +02.7	S	16 10.0 +00.0	8 31.2 -34.0	S	20 17.6 +10.5	08			
09	311 49.8 -00.1	S	18 25.4 -00.7	340 05.0 +02.6	S	16 10.0 +00.0	22 57.2 -34.2	S	20 28.1 +10.4	09			
10	326 49.7 -00.1	S	18 24.7 -00.6	355 07.6 +02.7	S	16 10.0 +00.0	37 23.0 -34.2	S	20 38.5 +10.3	10			
11	341 49.6 -00.2	S	18 24.1 -00.7	10 10.3 +02.7	S	16 10.0 +00.1	51 48.8 -34.4	S	20 48.8 +10.2	11			
12	356 49.4 -00.1	S	18 23.4 -00.6	25 13.0 +02.6	S	16 10.1 +00.0	66 14.4 -34.5	S	20 59.0 +10.0	12			
13	11 49.3 -00.1	S	18 22.8 -00.7	40 15.6 +02.7	S	16 10.1 +00.0	80 39.9 -34.6	S	21 09.0 +10.0	13			
14	26 49.2 -00.1	S	18 22.1 -00.6	55 18.3 +02.6	S	16 10.1 +00.0	95 05.3 -34.8	S	21 19.0 +09.8	14			
15	41 49.1 -00.2	S	18 21.5 -00.7	70 20.9 +02.7	S	16 10.1 +00.0	109 30.5 -34.8	S	21 28.8 +09.6	15			
16	56 48.9 -00.1	S	18 20.8 -00.6	85 23.6 +02.6	S	16 10.1 +00.0	123 55.7 -35.0	S	21 38.4 +09.6	16			
17	71 48.8 -00.1	S	18 20.2 -00.7	100 26.2 +02.7	S	16 10.1 +00.1	138 20.7 -35.0	S	21 48.0 +09.4	17			
18	86 48.7 -00.1	S	18 19.5 -00.6	115 28.9 +02.6	S	16 10.2 +00.0	152 45.7 -35.2	S	21 57.4 +09.2	18			
19	101 48.6 -00.2	S	18 18.9 -00.7	130 31.5 +02.6	S	16 10.2 +00.0	167 10.5 -35.3	S	22 06.6 +09.2	19			
20	116 48.4 -00.1	S	18 18.2 -00.6	145 34.1 +02.6	S	16 10.2 +00.0	181 35.2 -35.4	S	22 15.8 +08.9	20			
21	131 48.3 -00.1	S	18 17.6 -00.7	160 36.7 +02.7	S	16 10.2 +00.0	195 59.8 -35.5	S	22 24.7 +08.9	21			
22	146 48.2 -00.1	S	18 16.9 -00.6	175 39.4 +02.6	S	16 10.2 +00.1	210 24.3 -35.6	S	22 33.6 +08.7	22			
23	161 48.1 -00.1	S	18 16.3 -00.7	190 42.0 +02.6	S	16 10.3 +00.0	224 48.7 -35.7	S	22 42.3 +08.6	23			
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		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 16'2 16'2 16'2 16'3 16'3 16'3		SD 16'2 16'2 16'2 16'3 16'3 16'3		SD 16'2 16'2 16'2 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 59'4 59'5 59'6 59'7 59'8 59'9		HP 59'4 59'5 59'6 59'7 59'8 59'9		HP 59'4 59'5 59'6 59'7 59'8 59'9				
	SHA 051° 050° 050° 050° 050° 050°		SHA 078° 078° 078° 078° 078° 078°		SHA 126° 123° 121° 118° 116° 113°		SHA 126° 123° 121° 118° 116° 113°		SHA 126° 123° 121° 118° 116° 113°				
	Greenwich Culmination Time: 12:12		Greenwich Culmination Time: 10:19		Greenwich Culmination Time: 07:24		Greenwich Culmination Time: 07:24		Greenwich Culmination Time: 07:24				

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	214 17.9 +00.4	S	23 51.4 +00.0	148 02.6 +01.9	S	10 11.4 -00.2	168 38.7 +02.2	S	17 10.4 -00.1	00			
01	229 18.3 +00.5	S	23 51.4 +00.0	163 04.5 +02.0	S	10 11.2 -00.2	183 40.9 +02.1	S	17 10.3 -00.1	01			
02	244 18.8 +00.5	S	23 51.4 +00.0	178 06.5 +01.9	S	10 11.0 -00.2	198 43.0 +02.2	S	17 10.2 -00.1	02			
03	259 19.3 +00.5	S	23 51.4 +00.0	193 08.4 +01.9	S	10 10.8 -00.2	213 45.2 +02.2	S	17 10.1 -00.1	03			
04	274 19.8 +00.4	S	23 51.4 +00.0	208 10.3 +02.0	S	10 10.6 -00.2	228 47.4 +02.1	S	17 10.0 +00.0	04			
05	289 20.2 +00.5	S	23 51.4 +00.0	223 12.3 +01.9	S	10 10.4 -00.2	243 49.5 +02.2	S	17 10.0 -00.1	05			
06	304 20.7 +00.5	S	23 51.4 +00.0	238 14.2 +01.9	S	10 10.2 -00.2	258 51.7 +02.1	S	17 09.9 -00.1	06			
07	319 21.2 +00.5	S	23 51.4 +00.0	253 16.1 +01.9	S	10 10.0 -00.2	273 53.8 +02.2	S	17 09.8 -00.1	07			
08	334 21.7 +00.4	S	23 51.4 +00.0	268 18.0 +02.0	S	10 09.8 -00.3	288 56.0 +02.2	S	17 09.7 -00.1	08			
09	349 22.1 +00.5	S	23 51.4 +00.0	283 20.0 +01.9	S	10 09.5 -00.2	303 58.2 +02.1	S	17 09.6 -00.1	09			
10	4 22.6 +00.5	S	23 51.4 +00.0	298 21.9 +01.9	S	10 09.3 -00.2	319 00.3 +02.2	S	17 09.5 -00.1	10			
11	19 23.1 +00.5	S	23 51.4 +00.0	313 23.8 +02.0	S	10 09.1 -00.2	334 02.5 +02.2	S	17 09.4 +00.0	11			
12	34 23.6 +00.4	S	23 51.4 +00.0	328 25.8 +01.9	S	10 08.9 -00.2	349 04.7 +02.1	S	17 09.4 -00.1	12			
13	49 24.0 +00.5	S	23 51.4 +00.0	343 27.7 +01.9	S	10 08.7 -00.2	4 06.8 +02.2	S	17 09.3 -00.1	13			
14	64 24.5 +00.5	S	23 51.4 +00.0	358 29.6 +01.9	S	10 08.5 -00.2	19 09.0 +02.2	S	17 09.2 -00.1	14			
15	79 25.0 +00.5	S	23 51.4 +00.0	13 31.5 +02.0	S	10 08.3 -00.2	34 11.2 +02.1	S	17 09.1 -00.1	15			
16	94 25.5 +00.4	S	23 51.4 +00.0	28 33.5 +01.9	S	10 08.1 -00.2	49 13.3 +02.2	S	17 09.0 -00.1	16			
17	109 25.9 +00.5	S	23 51.4 +00.0	43 35.4 +01.9	S	10 07.9 -00.3	64 15.5 +02.2	S	17 08.9 -00.1	17			
18	124 26.4 +00.5	S	23 51.4 +00.0	58 37.3 +02.0	S	10 07.6 -00.2	79 17.7 +02.1	S	17 08.8 +00.0	18			
19	139 26.9 +00.5	S	23 51.4 +00.0	73 39.3 +01.9	S	10 07.4 -00.2	94 19.8 +02.2	S	17 08.8 -00.1	19			
20	154 27.4 +00.5	S	23 51.4 +00.0	88 41.2 +01.9	S	10 07.2 -00.2	109 22.0 +02.2	S	17 08.7 -00.1	20			
21	169 27.9 +00.4	S	23 51.4 +00.0	103 43.1 +02.0	S	10 07.0 -00.2	124 24.2 +02.1	S	17 08.6 -00.1	21			
22	184 28.3 +00.5	S	23 51.4 +00.0	118 45.1 +01.9	S	10 06.8 -00.2	139 26.3 +02.2	S	17 08.5 -00.1	22			
23	199 28.8 +00.5	S	23 51.4 +00.0	133 47.0 +01.9	S	10 06.6 -00.2	154 28.5 +02.2	S	17 08.4 -00.1	23			
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		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		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		HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 088° 088° 088° 088° 087° 087°		SHA 022° 022° 022° 022° 022° 022°		SHA 042° 042° 042° 042° 042° 042°		SHA 042° 042° 042° 042° 042° 042°		SHA 042° 042° 042° 042° 042° 042°				
	Greenwich Culmination Time: 09:42		Greenwich Culmination Time: 14:06		Greenwich Culmination Time: 12:43		Greenwich Culmination Time: 12:43		Greenwich Culmination Time: 12:43				

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	176 48.0 -00.2	S 18 15.6 -00.6	205 44.6 +02.6	S 16 10.3 +00.0	239 13.0 -35.9	S 22 50.9 +08.4	00							
01	191 47.8 -00.1	S 18 15.0 -00.7	220 47.2 +02.6	S 16 10.3 +00.0	253 37.1 -35.9	S 22 59.3 +08.2	01							
02	206 47.7 -00.1	S 18 14.3 -00.7	235 49.8 +02.6	S 16 10.3 +00.1	268 01.2 -36.0	S 23 07.5 +08.1	02							
03	221 47.6 -00.1	S 18 13.6 -00.6	250 52.4 +02.6	S 16 10.4 +00.0	282 25.2 -36.2	S 23 15.6 +08.0	03							
04	236 47.5 -00.1	S 18 13.0 -00.7	265 55.0 +02.6	S 16 10.4 +00.0	296 49.0 -36.2	S 23 23.6 +07.8	04							
05	251 47.4 -00.2	S 18 12.3 -00.6	280 57.6 +02.5	S 16 10.4 +00.0	311 12.8 -36.4	S 23 31.4 +07.7	05							
06	266 47.2 -00.1	S 18 11.7 -00.7	296 00.1 +02.6	S 16 10.4 +00.1	325 36.4 -36.4	S 23 39.1 +07.5	06							
07	281 47.1 -00.1	S 18 11.0 -00.6	311 02.7 +02.6	S 16 10.5 +00.0	339 60.0 -36.6	S 23 46.6 +07.3	07							
08	296 47.0 -00.1	S 18 10.4 -00.7	326 05.3 +02.6	S 16 10.5 +00.0	354 23.4 -36.6	S 23 53.9 +07.2	08							
09	311 46.9 -00.1	S 18 09.7 -00.7	341 07.9 +02.5	S 16 10.5 +00.1	8 46.8 -36.8	S 24 01.1 +07.0	09							
10	326 46.8 -00.2	S 18 09.0 -00.6	356 10.4 +02.6	S 16 10.6 +00.0	23 10.0 -36.8	S 24 08.1 +06.9	10							
11	341 46.6 -00.1	S 18 08.4 -00.7	11 13.0 +02.6	S 16 10.6 +00.0	37 33.2 -37.0	S 24 15.0 +06.7	11							
12	356 46.5 -00.1	S 18 07.7 -00.7	26 15.6 +02.5	S 16 10.6 +00.0	51 56.2 -37.0	S 24 21.7 +06.5	12							
13	11 46.4 -00.1	S 18 07.0 -00.6	41 18.1 +02.5	S 16 10.6 +00.1	66 19.2 -37.1	S 24 28.2 +06.4	13							
14	26 46.3 -00.1	S 18 06.4 -00.7	56 20.6 +02.6	S 16 10.7 +00.0	80 42.1 -37.3	S 24 34.6 +06.1	14							
15	41 46.2 -00.1	S 18 05.7 -00.6	71 23.2 +02.5	S 16 10.7 +00.0	95 04.8 -37.3	S 24 40.7 +06.1	15							
16	56 46.1 -00.2	S 18 05.1 -00.7	86 25.7 +02.6	S 16 10.7 +00.1	109 27.5 -37.3	S 24 46.8 +05.8	16							
17	71 45.9 -00.1	S 18 04.4 -00.7	101 28.3 +02.5	S 16 10.8 +00.0	123 50.2 -37.5	S 24 52.6 +05.7	17							
18	86 45.8 -00.1	S 18 03.7 -00.6	116 30.8 +02.5	S 16 10.8 +00.0	138 12.7 -37.6	S 24 58.3 +05.5	18							
19	101 45.7 -00.1	S 18 03.1 -00.7	131 33.3 +02.5	S 16 10.8 +00.1	152 35.1 -37.6	S 25 03.8 +05.3	19							
20	116 45.6 -00.1	S 18 02.4 -00.7	146 35.8 +02.5	S 16 10.9 +00.0	166 57.5 -37.7	S 25 09.1 +05.1	20							
21	131 45.5 -00.1	S 18 01.7 -00.6	161 38.3 +02.6	S 16 10.9 +00.0	181 19.8 -37.8	S 25 14.2 +05.0	21							
22	146 45.4 -00.1	S 18 01.1 -00.7	176 40.9 +02.5	S 16 10.9 +00.1	195 42.0 -37.9	S 25 19.2 +04.8	22							
23	161 45.3 -00.2	S 18 00.4 -00.7	191 43.4 +02.5	S 16 11.0 +00.0	210 04.1 -37.9	S 25 24.0 +04.6	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 049° 049° 049° 049° 049° 049°	Greenwich Culmination Time: 12:12	UT 02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	HP 00'5 00'5 00'5 00'5 00'5 00'5	SHA 079° 079° 079° 079° 079° 079°	Greenwich Culmination Time: 10:15	UT 02 06 10 14 18 22	SD 16'3 16'4 16'4 16'4 16'4 16'4	HP 59'9 60'0 60'1 60'2 60'2 60'3	SHA 111° 108° 106° 103° 100° 098°	Greenwich Culmination Time: 08:23

  

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	214 29.3 +00.5	S 23 51.4 +00.0	148 48.9 +01.9	S 10 06.4 -00.2	169 30.7 +02.1	S 17 08.3 -00.1	00							
01	229 29.8 +00.4	S 23 51.4 -00.1	163 50.8 +02.0	S 10 06.2 -00.2	184 32.8 +02.2	S 17 08.2 +00.0	01							
02	244 30.2 +00.5	S 23 51.3 +00.0	178 52.8 +01.9	S 10 06.0 -00.3	199 35.0 +02.2	S 17 08.2 -00.1	02							
03	259 30.7 +00.5	S 23 51.3 +00.0	193 54.7 +01.9	S 10 05.7 -00.2	214 37.2 +02.1	S 17 08.1 -00.1	03							
04	274 31.2 +00.5	S 23 51.3 +00.0	208 56.6 +01.9	S 10 05.5 -00.2	229 39.3 +02.2	S 17 08.0 -00.1	04							
05	289 31.7 +00.4	S 23 51.3 +00.0	223 58.5 +02.0	S 10 05.3 -00.2	244 41.5 +02.1	S 17 07.9 -00.1	05							
06	304 32.1 +00.5	S 23 51.3 +00.0	239 00.5 +01.9	S 10 05.1 -00.2	259 43.6 +02.2	S 17 07.8 -00.1	06							
07	319 32.6 +00.5	S 23 51.3 +00.0	254 02.4 +01.9	S 10 04.9 -00.2	274 45.8 +02.2	S 17 07.7 -00.1	07							
08	334 33.1 +00.5	S 23 51.3 +00.0	269 04.3 +02.0	S 10 04.7 -00.2	289 48.0 +02.1	S 17 07.6 +00.0	08							
09	349 33.6 +00.4	S 23 51.3 +00.0	284 06.3 +01.9	S 10 04.5 -00.2	304 50.1 +02.2	S 17 07.6 -00.1	09							
10	4 34.0 +00.5	S 23 51.3 +00.0	299 08.2 +01.9	S 10 04.3 -00.2	319 52.3 +02.2	S 17 07.5 -00.1	10							
11	19 34.5 +00.5	S 23 51.3 +00.0	314 10.1 +01.9	S 10 04.1 -00.3	334 54.5 +02.1	S 17 07.4 -00.1	11							
12	34 35.0 +00.4	S 23 51.3 +00.0	329 12.0 +02.0	S 10 03.8 -00.2	349 56.6 +02.2	S 17 07.3 -00.1	12							
13	49 35.4 +00.5	S 23 51.3 +00.0	344 14.0 +01.9	S 10 03.6 -00.2	4 58.8 +02.2	S 17 07.2 -00.1	13							
14	64 35.9 +00.5	S 23 51.3 -00.1	359 15.9 +01.9	S 10 03.4 -00.2	20 01.0 +02.1	S 17 07.1 -00.1	14							
15	79 36.4 +00.5	S 23 51.2 +00.0	14 17.8 +02.0	S 10 03.2 -00.2	35 03.1 +02.2	S 17 07.0 +00.0	15							
16	94 36.9 +00.4	S 23 51.2 +00.0	29 19.8 +01.9	S 10 03.0 -00.2	50 05.3 +02.2	S 17 07.0 -00.1	16							
17	109 37.3 +00.5	S 23 51.2 +00.0	44 21.7 +01.9	S 10 02.8 -00.2	65 07.5 +02.1	S 17 06.9 -00.1	17							
18	124 37.8 +00.5	S 23 51.2 +00.0	59 23.6 +01.9	S 10 02.6 -00.2	80 09.6 +02.2	S 17 06.8 -00.1	18							
19	139 38.3 +00.5	S 23 51.2 +00.0	74 25.5 +02.0	S 10 02.4 -00.2	95 11.8 +02.2	S 17 06.7 -00.1	19							
20	154 38.8 +00.4	S 23 51.2 +00.0	89 27.5 +01.9	S 10 02.2 -00.3	110 14.0 +02.1	S 17 06.6 -00.1	20							
21	169 39.2 +00.5	S 23 51.2 +00.0	104 29.4 +01.9	S 10 01.9 -00.2	125 16.1 +02.2	S 17 06.5 -00.1	21							
22	184 39.7 +00.5	S 23 51.2 -00.1	119 31.3 +01.9	S 10 01.7 -00.2	140 18.3 +02.1	S 17 06.4 +00.0	22							
23	199 40.2 +00.5	S 23 51.1 +00.0	134 33.2 +02.0	S 10 01.5 -00.2	155 20.4 +02.2	S 17 06.4 -00.1	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 087° 087° 087° 087° 087° 087°	Greenwich Culmination Time: 09:41	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 022° 022° 021° 021° 021° 021°	Greenwich Culmination Time: 14:02	UT 02 06 10 14 18 22	SD 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	SHA 042° 042° 042° 042° 042° 042°	Greenwich Culmination Time: 12:40

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 45.1 -00.1	S	17 59.7 -00.7	206 45.9 +02.5	S	16 11.0 +00.1	224 26.2 -38.1	S	25 28.6 +04.4	00			
01	191 45.0 -00.1	S	17 59.0 -00.6	221 48.4 +02.5	S	16 11.1 +00.0	238 48.1 -38.0	S	25 33.0 +04.2	01			
02	206 44.9 -00.1	S	17 58.4 -00.7	236 50.9 +02.4	S	16 11.1 +00.0	253 10.1 -38.2	S	25 37.2 +04.1	02			
03	221 44.8 -00.1	S	17 57.7 -00.7	251 53.3 +02.5	S	16 11.1 +00.1	267 31.9 -38.2	S	25 41.3 +03.8	03			
04	236 44.7 -00.1	S	17 57.0 -00.6	266 55.8 +02.5	S	16 11.2 +00.0	281 53.7 -38.3	S	25 45.1 +03.7	04			
05	251 44.6 -00.1	S	17 56.4 -00.7	281 58.3 +02.5	S	16 11.2 +00.1	296 15.4 -38.3	S	25 48.8 +03.5	05			
06	266 44.5 -00.1	S	17 55.7 -00.7	297 00.8 +02.5	S	16 11.3 +00.0	310 37.1 -38.4	S	25 52.3 +03.3	06			
07	281 44.4 -00.1	S	17 55.0 -00.7	312 03.3 +02.4	S	16 11.3 +00.0	324 58.7 -38.4	S	25 55.6 +03.1	07			
08	296 44.3 -00.2	S	17 54.3 -00.6	327 05.7 +02.5	S	16 11.3 +00.1	339 20.3 -38.5	S	25 58.7 +02.9	08			
09	311 44.1 -00.1	S	17 53.7 -00.7	342 08.2 +02.4	S	16 11.4 +00.0	353 41.8 -38.6	S	26 01.6 +02.7	09			
10	326 44.0 -00.1	S	17 53.0 -00.7	357 10.6 +02.5	S	16 11.4 +00.1	8 03.2 -38.5	S	26 04.3 +02.6	10			
11	341 43.9 -00.1	S	17 52.3 -00.7	12 13.1 +02.4	S	16 11.5 +00.0	22 24.7 -38.7	S	26 06.9 +02.3	11			
12	356 43.8 -00.1	S	17 51.6 -00.6	27 15.5 +02.5	S	16 11.5 +00.0	36 46.0 -38.6	S	26 09.2 +02.2	12			
13	11 43.7 -00.1	S	17 51.0 -00.7	42 18.0 +02.4	S	16 11.5 +00.1	51 07.4 -38.7	S	26 11.4 +01.9	13			
14	26 43.6 -00.1	S	17 50.3 -00.7	57 20.4 +02.5	S	16 11.6 +00.0	65 28.7 -38.8	S	26 13.3 +01.8	14			
15	41 43.5 -00.1	S	17 49.6 -00.7	72 22.9 +02.4	S	16 11.6 +00.1	79 49.9 -38.8	S	26 15.1 +01.5	15			
16	56 43.4 -00.1	S	17 48.9 -00.6	87 25.3 +02.4	S	16 11.7 +00.0	94 11.1 -38.8	S	26 16.6 +01.4	16			
17	71 43.3 -00.1	S	17 48.3 -00.7	102 27.7 +02.4	S	16 11.7 +00.1	108 32.3 -38.8	S	26 18.0 +01.1	17			
18	86 43.2 -00.1	S	17 47.6 -00.7	117 30.1 +02.5	S	16 11.8 +00.0	122 53.5 -38.8	S	26 19.1 +01.0	18			
19	101 43.1 -00.1	S	17 46.9 -00.7	132 32.6 +02.4	S	16 11.8 +00.1	137 14.7 -38.9	S	26 20.1 +00.8	19			
20	116 43.0 -00.2	S	17 46.2 -00.7	147 35.0 +02.4	S	16 11.9 +00.0	151 35.8 -38.9	S	26 20.9 +00.6	20			
21	131 42.8 -00.1	S	17 45.5 -00.6	162 37.4 +02.4	S	16 11.9 +00.1	165 56.9 -38.9	S	26 21.5 +00.3	21			
22	146 42.7 -00.1	S	17 44.9 -00.7	177 39.8 +02.4	S	16 12.0 +00.0	180 18.0 -38.9	S	26 21.8 +00.2	22			
23	161 42.6 -00.1	S	17 44.2 -00.7	192 42.2 +02.4	S	16 12.0 +00.1	194 39.1 -38.9	S	26 22.0 +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 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 16'4 16'4 16'5 16'5 16'5 16'5						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'5 00'5 00'5 00'4 00'4 00'4			HP 60'3 60'4 60'4 60'4 60'5 60'5						
	SHA 048° 048° 048° 048° 048° 048°			SHA 079° 079° 079° 079° 079° 079°			SHA 095° 092° 089° 087° 084° 081°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:11			Greenwich Culmination Time: 09:26						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	214 40.7 +00.4	S	23 51.1 +00.0	149 35.2 +01.9	S	10 01.3 -00.2	170 22.6 +02.2	S	17 06.3 -00.1	00			
01	229 41.1 +00.5	S	23 51.1 +00.0	164 37.1 +01.9	S	10 01.1 -00.2	185 24.8 +02.1	S	17 06.2 -00.1	01			
02	244 41.6 +00.5	S	23 51.1 +00.0	179 39.0 +01.9	S	10 00.9 -00.2	200 26.9 +02.2	S	17 06.1 -00.1	02			
03	259 42.1 +00.5	S	23 51.1 +00.0	194 40.9 +02.0	S	10 00.7 -00.2	215 29.1 +02.2	S	17 06.0 -00.1	03			
04	274 42.6 +00.4	S	23 51.1 -00.1	209 42.9 +01.9	S	10 00.5 -00.3	230 31.3 +02.1	S	17 05.9 -00.1	04			
05	289 43.0 +00.5	S	23 51.0 +00.0	224 44.8 +01.9	S	10 00.2 -00.2	245 33.4 +02.2	S	17 05.8 +00.0	05			
06	304 43.5 +00.5	S	23 51.0 +00.0	239 46.7 +02.0	S	10 00.0 -00.2	260 35.6 +02.2	S	17 05.8 -00.1	06			
07	319 44.0 +00.4	S	23 51.0 +00.0	254 48.7 +01.9	S	09 59.8 -00.2	275 37.8 +02.1	S	17 05.7 -00.1	07			
08	334 44.4 +00.5	S	23 51.0 +00.0	269 50.6 +01.9	S	09 59.6 -00.2	290 39.9 +02.2	S	17 05.6 -00.1	08			
09	349 44.9 +00.5	S	23 51.0 +00.0	284 52.5 +01.9	S	09 59.4 -00.2	305 42.1 +02.2	S	17 05.5 -00.1	09			
10	4 45.4 +00.5	S	23 51.0 -00.1	299 54.4 +02.0	S	09 59.2 -00.2	320 44.3 +02.1	S	17 05.4 -00.1	10			
11	19 45.9 +00.4	S	23 50.9 +00.0	314 56.4 +01.9	S	09 59.0 -00.2	335 46.4 +02.2	S	17 05.3 -00.1	11			
12	34 46.3 +00.5	S	23 50.9 +00.0	329 58.3 +01.9	S	09 58.8 -00.3	350 48.6 +02.1	S	17 05.2 +00.0	12			
13	49 46.8 +00.5	S	23 50.9 +00.0	345 00.2 +01.9	S	09 58.5 -00.2	5 50.7 +02.2	S	17 05.2 -00.1	13			
14	64 47.3 +00.5	S	23 50.9 +00.0	0 02.1 +02.0	S	09 58.3 -00.2	20 52.9 +02.2	S	17 05.1 -00.1	14			
15	79 47.8 +00.4	S	23 50.9 -00.1	15 04.1 +01.9	S	09 58.1 -00.2	35 55.1 +02.1	S	17 05.0 -00.1	15			
16	94 48.2 +00.5	S	23 50.8 +00.0	30 06.0 +01.9	S	09 57.9 -00.2	50 57.2 +02.2	S	17 04.9 -00.1	16			
17	109 48.7 +00.5	S	23 50.8 +00.0	45 07.9 +01.9	S	09 57.7 -00.2	65 59.4 +02.2	S	17 04.8 -00.1	17			
18	124 49.2 +00.4	S	23 50.8 +00.0	60 09.8 +02.0	S	09 57.5 -00.2	81 01.6 +02.1	S	17 04.7 -00.1	18			
19	139 49.6 +00.5	S	23 50.8 -00.1	75 11.8 +01.9	S	09 57.3 -00.3	96 03.7 +02.2	S	17 04.6 +00.0	19			
20	154 50.1 +00.5	S	23 50.7 +00.0	90 13.7 +01.9	S	09 57.0 -00.2	111 05.9 +02.2	S	17 04.6 -00.1	20			
21	169 50.6 +00.5	S	23 50.7 +00.0	105 15.6 +01.9	S	09 56.8 -00.2	126 08.1 +02.1	S	17 04.5 -00.1	21			
22	184 51.1 +00.4	S	23 50.7 +00.0	120 17.5 +02.0	S	09 56.6 -00.2	141 10.2 +02.2	S	17 04.4 -00.1	22			
23	199 51.5 +00.5	S	23 50.7 -00.1	135 19.5 +01.9	S	09 56.4 -00.2	156 12.4 +02.2	S	17 04.3 -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 00'1 00'1 00'1 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 086° 086° 086° 086° 086° 086°			SHA 021° 021° 021° 021° 021° 021°			SHA 042° 042° 042° 042° 042° 042°						
	Greenwich Culmination Time: 09:40			Greenwich Culmination Time: 13:59			Greenwich Culmination Time: 12:36						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 42.5 -00.1	S	17 43.5 -00.7	207 44.6 +02.4	S	16 12.1 +00.0	209 00.2 -39.0	S	26 22.0 -00.2	00			
01	191 42.4 -00.1	S	17 42.8 -00.7	222 47.0 +02.4	S	16 12.1 +00.1	223 21.2 -38.9	S	26 21.8 -00.5	01			
02	206 42.3 -00.1	S	17 42.1 -00.7	237 49.4 +02.3	S	16 12.2 +00.0	237 42.3 -38.9	S	26 21.3 -00.6	02			
03	221 42.2 -00.1	S	17 41.4 -00.6	252 51.7 +02.4	S	16 12.2 +00.1	252 03.4 -39.0	S	26 20.7 -00.8	03			
04	236 42.1 -00.1	S	17 40.8 -00.7	267 54.1 +02.4	S	16 12.3 +00.0	266 24.4 -38.9	S	26 19.9 -01.0	04			
05	251 42.0 -00.1	S	17 40.1 -00.7	282 56.5 +02.4	S	16 12.3 +00.1	280 45.5 -38.9	S	26 18.9 -01.2	05			
06	266 41.9 -00.1	S	17 39.4 -00.7	297 58.9 +02.3	S	16 12.4 +00.0	295 06.6 -38.9	S	26 17.7 -01.5	06			
07	281 41.8 -00.1	S	17 38.7 -00.7	313 01.2 +02.4	S	16 12.4 +00.1	309 27.7 -38.9	S	26 16.2 -01.6	07			
08	296 41.7 -00.1	S	17 38.0 -00.7	328 03.6 +02.4	S	16 12.5 +00.0	323 48.8 -38.8	S	26 14.6 -01.8	08			
09	311 41.6 -00.1	S	17 37.3 -00.7	343 06.0 +02.3	S	16 12.5 +00.1	338 10.0 -38.9	S	26 12.8 -02.0	09			
10	326 41.5 -00.1	S	17 36.6 -00.6	358 08.3 +02.4	S	16 12.6 +00.0	352 31.1 -38.8	S	26 10.8 -02.2	10			
11	341 41.4 -00.1	S	17 36.0 -00.7	13 10.7 +02.3	S	16 12.6 +00.1	6 52.3 -38.8	S	26 08.6 -02.4	11			
12	356 41.3 -00.1	S	17 35.3 -00.7	28 13.0 +02.3	S	16 12.7 +00.0	21 13.5 -38.8	S	26 06.2 -02.6	12			
13	11 41.2 -00.1	S	17 34.6 -00.7	43 15.3 +02.4	S	16 12.7 +00.1	35 34.7 -38.7	S	26 03.6 -02.8	13			
14	26 41.1 -00.1	S	17 33.9 -00.7	58 17.7 +02.3	S	16 12.8 +00.1	49 56.0 -38.7	S	26 00.8 -03.0	14			
15	41 41.0 -00.1	S	17 33.2 -00.7	73 20.0 +02.3	S	16 12.9 +00.0	64 17.3 -38.6	S	25 57.8 -03.1	15			
16	56 40.9 -00.1	S	17 32.5 -00.7	88 22.3 +02.3	S	16 12.9 +00.1	78 38.7 -38.7	S	25 54.7 -03.4	16			
17	71 40.8 -00.1	S	17 31.8 -00.7	103 24.6 +02.4	S	16 13.0 +00.0	93 00.0 -38.5	S	25 51.3 -03.6	17			
18	86 40.7 -00.1	S	17 31.1 -00.7	118 27.0 +02.3	S	16 13.0 +00.1	107 21.5 -38.5	S	25 47.7 -03.7	18			
19	101 40.6 -00.1	S	17 30.4 -00.7	133 29.3 +02.3	S	16 13.1 +00.0	121 43.0 -38.5	S	25 44.0 -04.0	19			
20	116 40.5 -00.1	S	17 29.7 -00.7	148 31.6 +02.3	S	16 13.1 +00.1	136 04.5 -38.4	S	25 40.0 -04.1	20			
21	131 40.4 -00.1	S	17 29.0 -00.7	163 33.9 +02.3	S	16 13.2 +00.1	150 26.1 -38.4	S	25 35.9 -04.3	21			
22	146 40.3 -00.1	S	17 28.3 -00.6	178 36.2 +02.3	S	16 13.3 +00.0	164 47.7 -38.3	S	25 31.6 -04.6	22			
23	161 40.2 -00.1	S	17 27.7 -00.7	193 38.5 +02.3	S	16 13.3 +00.1	179 09.4 -38.3	S	25 27.0 -04.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'2 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 16'5 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 60'5 60'5 60'5 60'5 60'5 60'5						
	SHA 047° 047° 047° 047° 047° 047°			SHA 079° 079° 079° 079° 078° 078°			SHA 078° 076° 073° 070° 067° 065°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:07			Greenwich Culmination Time: 10:31						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	214 52.0 +00.5	S	23 50.6 +00.0	150 21.4 +01.9	S	09 56.2 -00.2	171 14.6 +02.1	S	17 04.2 -00.1	00			
01	229 52.5 +00.5	S	23 50.6 +00.0	165 23.3 +01.9	S	09 56.0 -00.2	186 16.7 +02.2	S	17 04.1 -00.1	01			
02	244 53.0 +00.4	S	23 50.6 +00.0	180 25.2 +02.0	S	09 55.8 -00.2	201 18.9 +02.2	S	17 04.0 +00.0	02			
03	259 53.4 +00.5	S	23 50.6 -00.1	195 27.2 +01.9	S	09 55.6 -00.3	216 21.1 +02.1	S	17 04.0 -00.1	03			
04	274 53.9 +00.5	S	23 50.5 +00.0	210 29.1 +01.9	S	09 55.3 -00.2	231 23.2 +02.2	S	17 03.9 -00.1	04			
05	289 54.4 +00.4	S	23 50.5 +00.0	225 31.0 +01.9	S	09 55.1 -00.2	246 25.4 +02.1	S	17 03.8 -00.1	05			
06	304 54.8 +00.5	S	23 50.5 +00.0	240 32.9 +02.0	S	09 54.9 -00.2	261 27.5 +02.2	S	17 03.7 -00.1	06			
07	319 55.3 +00.5	S	23 50.5 -00.1	255 34.9 +01.9	S	09 54.7 -00.2	276 29.7 +02.2	S	17 03.6 -00.1	07			
08	334 55.8 +00.5	S	23 50.4 +00.0	270 36.8 +01.9	S	09 54.5 -00.2	291 31.9 +02.1	S	17 03.5 -00.1	08			
09	349 56.3 +00.4	S	23 50.4 +00.0	285 38.7 +01.9	S	09 54.3 -00.2	306 34.0 +02.2	S	17 03.4 +00.0	09			
10	4 56.7 +00.5	S	23 50.4 +00.0	300 40.6 +02.0	S	09 54.1 -00.3	321 36.2 +02.2	S	17 03.4 -00.1	10			
11	19 57.2 +00.5	S	23 50.4 -00.1	315 42.6 +01.9	S	09 53.8 -00.2	336 38.4 +02.1	S	17 03.3 -00.1	11			
12	34 57.7 +00.4	S	23 50.3 +00.0	330 44.5 +01.9	S	09 53.6 -00.2	351 40.5 +02.2	S	17 03.2 -00.1	12			
13	49 58.1 +00.5	S	23 50.3 +00.0	345 46.4 +01.9	S	09 53.4 -00.2	6 42.7 +02.2	S	17 03.1 -00.1	13			
14	64 58.6 +00.5	S	23 50.3 -00.1	0 48.3 +02.0	S	09 53.2 -00.2	21 44.9 +02.1	S	17 03.0 -00.1	14			
15	79 59.1 +00.5	S	23 50.2 +00.0	15 50.3 +01.9	S	09 53.0 -00.2	36 47.0 +02.2	S	17 02.9 -00.1	15			
16	94 59.6 +00.4	S	23 50.2 +00.0	30 52.2 +01.9	S	09 52.8 -00.2	51 49.2 +02.2	S	17 02.8 +00.0	16			
17	110 00.0 +00.5	S	23 50.2 -00.1	45 54.1 +01.9	S	09 52.6 -00.2	66 51.4 +02.1	S	17 02.8 -00.1	17			
18	125 00.5 +00.5	S	23 50.1 +00.0	60 56.0 +01.9	S	09 52.4 -00.3	81 53.5 +02.2	S	17 02.7 -00.1	18			
19	140 01.0 +00.4	S	23 50.1 +00.0	75 57.9 +02.0	S	09 52.1 -00.2	96 55.7 +02.1	S	17 02.6 -00.1	19			
20	155 01.4 +00.5	S	23 50.1 -00.1	90 59.9 +01.9	S	09 51.9 -00.2	111 57.8 +02.2	S	17 02.5 -00.1	20			
21	170 01.9 +00.5	S	23 50.0 +00.0	106 01.8 +01.9	S	09 51.7 -00.2	127 00.0 +02.2	S	17 02.4 -00.1	21			
22	185 02.4 +00.5	S	23 50.0 +00.0	121 03.7 +01.9	S	09 51.5 -00.2	142 02.2 +02.1	S	17 02.3 -00.1	22			
23	200 02.9 +00.4	S	23 50.0 -00.1	136 05.6 +02.0	S	09 51.3 -00.2	157 04.3 +02.2	S	17 02.2 +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 00'1 00'1 00'1 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 086° 085° 085° 085° 085° 085°			SHA 021° 021° 021° 021° 021° 021°			SHA 042° 042° 042° 042° 042° 042°						
	Greenwich Culmination Time: 09:40			Greenwich Culmination Time: 13:56			Greenwich Culmination Time: 12:33						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 40.1 -00.1	S	17 27.0 -00.7	208 40.8 +02.3	S	16 13.4 +00.0	193 31.1 -38.2	S	25 22.3 -04.9	00			
01	191 40.0 -00.1	S	17 26.3 -00.7	223 43.1 +02.3	S	16 13.4 +00.1	207 52.9 -38.1	S	25 17.4 -05.0	01			
02	206 39.9 -00.1	S	17 25.6 -00.7	238 45.4 +02.2	S	16 13.5 +00.1	222 14.8 -38.0	S	25 12.4 -05.3	02			
03	221 39.8 -00.1	S	17 24.9 -00.7	253 47.6 +02.3	S	16 13.6 +00.0	236 36.8 -38.0	S	25 07.1 -05.4	03			
04	236 39.7 -00.1	S	17 24.2 -00.7	268 49.9 +02.3	S	16 13.6 +00.1	250 58.8 -37.9	S	25 01.7 -05.6	04			
05	251 39.6 +00.0	S	17 23.5 -00.7	283 52.2 +02.2	S	16 13.7 +00.1	265 20.9 -37.9	S	24 56.1 -05.8	05			
06	266 39.6 -00.1	S	17 22.8 -00.7	298 54.4 +02.3	S	16 13.8 +00.0	279 43.0 -37.7	S	24 50.3 -06.0	06			
07	281 39.5 -00.1	S	17 22.1 -00.7	313 56.7 +02.3	S	16 13.8 +00.1	294 05.3 -37.7	S	24 44.3 -06.2	07			
08	296 39.4 -00.1	S	17 21.4 -00.7	328 59.0 +02.2	S	16 13.9 +00.1	308 27.6 -37.6	S	24 38.1 -06.3	08			
09	311 39.3 -00.1	S	17 20.7 -00.7	344 01.2 +02.3	S	16 14.0 +00.0	322 50.0 -37.5	S	24 31.8 -06.5	09			
10	326 39.2 -00.1	S	17 20.0 -00.7	359 03.5 +02.2	S	16 14.0 +00.1	337 12.5 -37.5	S	24 25.3 -06.7	10			
11	341 39.1 -00.1	S	17 19.3 -00.7	14 05.7 +02.2	S	16 14.1 +00.0	351 35.0 -37.3	S	24 18.6 -06.8	11			
12	356 39.0 -00.1	S	17 18.6 -00.7	29 07.9 +02.3	S	16 14.1 +00.1	5 57.7 -37.3	S	24 11.8 -07.0	12			
13	11 38.9 -00.1	S	17 17.9 -00.7	44 10.2 +02.2	S	16 14.2 +00.1	20 20.4 -37.2	S	24 04.8 -07.2	13			
14	26 38.8 -00.1	S	17 17.2 -00.7	59 12.4 +02.2	S	16 14.3 +00.0	34 43.2 -37.0	S	23 57.6 -07.4	14			
15	41 38.7 -00.1	S	17 16.5 -00.7	74 14.6 +02.3	S	16 14.3 +00.1	49 06.2 -37.0	S	23 50.2 -07.5	15			
16	56 38.6 -00.1	S	17 15.8 -00.7	89 16.9 +02.2	S	16 14.4 +00.1	63 29.2 -36.9	S	23 42.7 -07.7	16			
17	71 38.5 -00.1	S	17 15.1 -00.8	104 19.1 +02.2	S	16 14.5 +00.1	77 52.3 -36.8	S	23 35.0 -07.8	17			
18	86 38.4 +00.0	S	17 14.3 -00.7	119 21.3 +02.2	S	16 14.6 +00.0	92 15.5 -36.7	S	23 27.2 -08.0	18			
19	101 38.4 -00.1	S	17 13.6 -00.7	134 23.5 +02.2	S	16 14.6 +00.1	106 38.8 -36.6	S	23 19.2 -08.2	19			
20	116 38.3 -00.1	S	17 12.9 -00.7	149 25.7 +02.2	S	16 14.7 +00.1	121 02.2 -36.5	S	23 11.0 -08.3	20			
21	131 38.2 -00.1	S	17 12.2 -00.7	164 27.9 +02.2	S	16 14.8 +00.0	135 25.7 -36.4	S	23 02.7 -08.5	21			
22	146 38.1 -00.1	S	17 11.5 -00.7	179 30.1 +02.2	S	16 14.8 +00.1	149 49.3 -36.3	S	22 54.2 -08.6	22			
23	161 38.0 -00.1	S	17 10.8 -00.7	194 32.3 +02.2	S	16 14.9 +00.1	164 13.0 -36.2	S	22 45.6 -08.8	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 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'5 16'5 16'4 16'4 16'4 16'4						
	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 60'4 60'4 60'3 60'3 60'2 60'2						
	SHA 046° 046° 046° 046° 046° 046°			SHA 078° 078° 078° 078° 078° 078°			SHA 062° 059° 057° 054° 051° 049°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:03			Greenwich Culmination Time: 11:35						
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	215 03.3 +00.5	S	23 49.9 +00.0	151 07.6 +01.9	S	09 51.1 -00.2	172 06.5 +02.2	S	17 02.2 -00.1	00			
01	230 03.8 +00.5	S	23 49.9 +00.0	166 09.5 +01.9	S	09 50.9 -00.3	187 08.7 +02.1	S	17 02.1 -00.1	01			
02	245 04.3 +00.4	S	23 49.9 -00.1	181 11.4 +01.9	S	09 50.6 -00.2	202 10.8 +02.2	S	17 02.0 -00.1	02			
03	260 04.7 +00.5	S	23 49.8 +00.0	196 13.3 +02.0	S	09 50.4 -00.2	217 13.0 +02.2	S	17 01.9 -00.1	03			
04	275 05.2 +00.5	S	23 49.8 +00.0	211 15.3 +01.9	S	09 50.2 -00.2	232 15.2 +02.1	S	17 01.8 -00.1	04			
05	290 05.7 +00.5	S	23 49.8 -00.1	226 17.2 +01.9	S	09 50.0 -00.2	247 17.3 +02.2	S	17 01.7 -00.1	05			
06	305 06.2 +00.4	S	23 49.7 +00.0	241 19.1 +01.9	S	09 49.8 -00.2	262 19.5 +02.2	S	17 01.6 -00.1	06			
07	320 06.6 +00.5	S	23 49.7 -00.1	256 21.0 +01.9	S	09 49.6 -00.2	277 21.7 +02.1	S	17 01.5 +00.0	07			
08	335 07.1 +00.5	S	23 49.6 +00.0	271 22.9 +02.0	S	09 49.4 -00.3	292 23.8 +02.2	S	17 01.5 -00.1	08			
09	350 07.6 +00.4	S	23 49.6 +00.0	286 24.9 +01.9	S	09 49.1 -00.2	307 26.0 +02.1	S	17 01.4 -00.1	09			
10	5 08.0 +00.5	S	23 49.6 -00.1	301 26.8 +01.9	S	09 48.9 -00.2	322 28.1 +02.2	S	17 01.3 -00.1	10			
11	20 08.5 +00.5	S	23 49.5 +00.0	316 28.7 +01.9	S	09 48.7 -00.2	337 30.3 +02.2	S	17 01.2 -00.1	11			
12	35 09.0 +00.4	S	23 49.5 -00.1	331 30.6 +02.0	S	09 48.5 -00.2	352 32.5 +02.1	S	17 01.1 -00.1	12			
13	50 09.4 +00.5	S	23 49.4 +00.0	346 32.6 +01.9	S	09 48.3 -00.2	7 34.6 +02.2	S	17 01.0 -00.1	13			
14	65 09.9 +00.5	S	23 49.4 +00.0	1 34.5 +01.9	S	09 48.1 -00.2	22 36.8 +02.2	S	17 00.9 +00.0	14			
15	80 10.4 +00.5	S	23 49.4 -00.1	16 36.4 +01.9	S	09 47.9 -00.3	37 39.0 +02.1	S	17 00.9 -00.1	15			
16	95 10.9 +00.4	S	23 49.3 +00.0	31 38.3 +02.0	S	09 47.6 -00.2	52 41.1 +02.2	S	17 00.8 -00.1	16			
17	110 11.3 +00.5	S	23 49.3 -00.1	46 40.3 +01.9	S	09 47.4 -00.2	67 43.3 +02.2	S	17 00.7 -00.1	17			
18	125 11.8 +00.5	S	23 49.2 +00.0	61 42.2 +01.9	S	09 47.2 -00.2	82 45.5 +02.1	S	17 00.6 -00.1	18			
19	140 12.3 +00.4	S	23 49.2 +00.0	76 44.1 +01.9	S	09 47.0 -00.2	97 47.6 +02.2	S	17 00.5 -00.1	19			
20	155 12.7 +00.5	S	23 49.2 -00.1	91 46.0 +01.9	S	09 46.8 -00.2	112 49.8 +02.1	S	17 00.4 -00.1	20			
21	170 13.2 +00.5	S	23 49.1 +00.0	106 47.9 +02.0	S	09 46.6 -00.3	127 51.9 +02.2	S	17 00.3 +00.0	21			
22	185 13.7 +00.5	S	23 49.1 -00.1	121 49.9 +01.9	S	09 46.3 -00.2	142 54.1 +02.2	S	17 00.3 -00.1	22			
23	200 14.2 +00.4	S	23 49.0 +00.0	136 51.8 +01.9	S	09 46.1 -00.2	157 56.3 +02.1	S	17 00.2 -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 00'1 00'1 00'1 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 085° 085° 085° 084° 084° 084°			SHA 021° 021° 021° 021° 021° 021°			SHA 042° 042° 042° 042° 042° 042°						
	Greenwich Culmination Time: 09:39			Greenwich Culmination Time: 13:53			Greenwich Culmination Time: 12:29						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 37.9 -00.1	S	17 10.1 -00.7	209 34.5 +02.2	S	16 15.0 +00.0	178 36.8 -36.1	S	22 36.8 -08.9	00			
01	191 37.8 -00.1	S	17 09.4 -00.7	224 36.7 +02.2	S	16 15.0 +00.1	193 00.7 -35.9	S	22 27.9 -09.1	01			
02	206 37.7 +00.0	S	17 08.7 -00.7	239 38.9 +02.1	S	16 15.1 +00.1	207 24.8 -35.9	S	22 18.8 -09.2	02			
03	221 37.7 -00.1	S	17 08.0 -00.7	254 41.0 +02.2	S	16 15.2 +00.1	221 48.9 -35.7	S	22 09.6 -09.3	03			
04	236 37.6 -00.1	S	17 07.3 -00.7	269 43.2 +02.2	S	16 15.3 +00.0	236 13.2 -35.7	S	22 00.3 -09.5	04			
05	251 37.5 -00.1	S	17 06.6 -00.8	284 45.4 +02.2	S	16 15.3 +00.1	250 37.5 -35.5	S	21 50.8 -09.7	05			
06	266 37.4 -00.1	S	17 05.8 -00.7	299 47.6 +02.1	S	16 15.4 +00.1	265 02.0 -35.5	S	21 41.1 -09.8	06			
07	281 37.3 -00.1	S	17 05.1 -00.7	314 49.7 +02.2	S	16 15.5 +00.0	279 26.5 -35.3	S	21 31.3 -09.9	07			
08	296 37.2 -00.1	S	17 04.4 -00.7	329 51.9 +02.1	S	16 15.5 +00.1	293 51.2 -35.2	S	21 21.4 -10.0	08			
09	311 37.1 +00.0	S	17 03.7 -00.7	344 54.0 +02.2	S	16 15.6 +00.1	308 16.0 -35.0	S	21 11.4 -10.2	09			
10	326 37.1 -00.1	S	17 03.0 -00.7	359 56.2 +02.1	S	16 15.7 +00.1	322 41.0 -35.0	S	21 01.2 -10.3	10			
11	341 37.0 -00.1	S	17 02.3 -00.7	14 58.3 +02.2	S	16 15.8 +00.0	337 06.0 -34.9	S	20 50.9 -10.4	11			
12	356 36.9 -00.1	S	17 01.6 -00.7	30 00.5 +02.1	S	16 15.8 +00.1	351 31.1 -34.7	S	20 40.5 -10.6	12			
13	11 36.8 -00.1	S	17 00.9 -00.8	45 02.6 +02.1	S	16 15.9 +00.1	5 56.4 -34.6	S	20 29.9 -10.7	13			
14	26 36.7 -00.1	S	17 00.1 -00.7	60 04.7 +02.2	S	16 16.0 +00.1	20 21.8 -34.6	S	20 19.2 -10.8	14			
15	41 36.6 +00.0	S	16 59.4 -00.7	75 06.9 +02.1	S	16 16.1 +00.0	34 47.2 -34.4	S	20 08.4 -10.9	15			
16	56 36.6 -00.1	S	16 58.7 -00.7	90 09.0 +02.1	S	16 16.1 +00.1	49 12.8 -34.2	S	19 57.5 -11.1	16			
17	71 36.5 -00.1	S	16 58.0 -00.7	105 11.1 +02.1	S	16 16.2 +00.1	63 38.6 -34.2	S	19 46.4 -11.1	17			
18	86 36.4 -00.1	S	16 57.3 -00.7	120 13.2 +02.1	S	16 16.3 +00.1	78 04.4 -34.0	S	19 35.3 -11.3	18			
19	101 36.3 -00.1	S	16 56.6 -00.8	135 15.3 +02.1	S	16 16.4 +00.1	92 30.4 -34.0	S	19 24.0 -11.4	19			
20	116 36.2 +00.0	S	16 55.8 -00.7	150 17.4 +02.1	S	16 16.5 +00.0	106 56.4 -33.8	S	19 12.6 -11.5	20			
21	131 36.2 -00.1	S	16 55.1 -00.7	165 19.5 +02.1	S	16 16.5 +00.1	121 22.6 -33.7	S	19 01.1 -11.6	21			
22	146 36.1 -00.1	S	16 54.4 -00.7	180 21.6 +02.1	S	16 16.6 +00.1	135 48.9 -33.6	S	18 49.5 -11.7	22			
23	161 36.0 -00.1	S	16 53.7 -00.7	195 23.7 +02.1	S	16 16.7 +00.1	150 15.3 -33.4	S	18 37.8 -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 16'2 16'2 16'2 16'2 16'2 16'2			SD 00'4 00'4 00'4 00'4 00'4 00'4			SD 16'4 16'4 16'3 16'3 16'3 16'2						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'4 00'4 00'4 00'4 00'4 00'4			HP 60'1 60'0 59'9 59'8 59'7 59'6						
	SHA 045° 045° 045° 045° 045° 045°			SHA 078° 078° 078° 078° 078° 078°			SHA 046° 044° 041° 039° 036° 034°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:00			Greenwich Culmination Time: 12:35						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	215 14.6 +00.5	S	23 49.0 -00.1	151 53.7 +01.9	S	09 45.9 -00.2	172 58.4 +02.2	S	17 00.1 -00.1	00			
01	230 15.1 +00.5	S	23 48.9 +00.0	166 55.6 +01.9	S	09 45.7 -00.2	188 00.6 +02.2	S	16 60.0 -00.1	01			
02	245 15.6 +00.4	S	23 48.9 -00.1	181 57.5 +02.0	S	09 45.5 -00.2	203 02.8 +02.1	S	16 59.9 -00.1	02			
03	260 16.0 +00.5	S	23 48.8 +00.0	196 59.5 +01.9	S	09 45.3 -00.2	218 04.9 +02.2	S	16 59.8 -00.1	03			
04	275 16.5 +00.5	S	23 48.8 -00.1	212 01.4 +01.9	S	09 45.1 -00.3	233 07.1 +02.2	S	16 59.7 -00.1	04			
05	290 17.0 +00.4	S	23 48.7 +00.0	227 03.3 +01.9	S	09 44.8 -00.2	248 09.3 +02.1	S	16 59.6 +00.0	05			
06	305 17.4 +00.5	S	23 48.7 +00.0	242 05.2 +02.0	S	09 44.6 -00.2	263 11.4 +02.2	S	16 59.6 -00.1	06			
07	320 17.9 +00.5	S	23 48.7 -00.1	257 07.2 +01.9	S	09 44.4 -00.2	278 13.6 +02.2	S	16 59.5 -00.1	07			
08	335 18.4 +00.5	S	23 48.6 +00.0	272 09.1 +01.9	S	09 44.2 -00.2	293 15.8 +02.1	S	16 59.4 -00.1	08			
09	350 18.9 +00.4	S	23 48.6 -00.1	287 11.0 +01.9	S	09 44.0 -00.2	308 17.9 +02.2	S	16 59.3 -00.1	09			
10	5 19.3 +00.5	S	23 48.5 +00.0	302 12.9 +01.9	S	09 43.8 -00.3	323 20.1 +02.1	S	16 59.2 -00.1	10			
11	20 19.8 +00.5	S	23 48.5 -00.1	317 14.8 +02.0	S	09 43.5 -00.2	338 22.2 +02.2	S	16 59.1 -00.1	11			
12	35 20.3 +00.4	S	23 48.4 +00.0	332 16.8 +01.9	S	09 43.3 -00.2	353 24.4 +02.2	S	16 59.0 +00.0	12			
13	50 20.7 +00.5	S	23 48.4 -00.1	347 18.7 +01.9	S	09 43.1 -00.2	8 26.6 +02.1	S	16 59.0 -00.1	13			
14	65 21.2 +00.5	S	23 48.3 +00.0	2 20.6 +01.9	S	09 42.9 -00.2	23 28.7 +02.2	S	16 58.9 -00.1	14			
15	80 21.7 +00.4	S	23 48.3 -00.1	17 22.5 +01.9	S	09 42.7 -00.2	38 30.9 +02.2	S	16 58.8 -00.1	15			
16	95 22.1 +00.5	S	23 48.2 +00.0	32 24.4 +02.0	S	09 42.5 -00.2	53 33.1 +02.1	S	16 58.7 -00.1	16			
17	110 22.6 +00.5	S	23 48.2 -00.1	47 26.4 +01.9	S	09 42.3 -00.3	68 35.2 +02.2	S	16 58.6 -00.1	17			
18	125 23.1 +00.4	S	23 48.1 -00.1	62 28.3 +01.9	S	09 42.0 -00.2	83 37.4 +02.2	S	16 58.5 -00.1	18			
19	140 23.5 +00.5	S	23 48.0 +00.0	77 30.2 +01.9	S	09 41.8 -00.2	98 39.6 +02.1	S	16 58.4 +00.0	19			
20	155 24.0 +00.5	S	23 48.0 -00.1	92 32.1 +01.9	S	09 41.6 -00.2	113 41.7 +02.2	S	16 58.4 -00.1	20			
21	170 24.5 +00.5	S	23 47.9 +00.0	107 34.0 +02.0	S	09 41.4 -00.2	128 43.9 +02.2	S	16 58.3 -00.1	21			
22	185 25.0 +00.4	S	23 47.9 -00.1	122 36.0 +01.9	S	09 41.2 -00.2	143 46.1 +02.1	S	16 58.2 -00.1	22			
23	200 25.4 +00.5	S	23 47.8 +00.0	137 37.9 +01.9	S	09 41.0 -00.3	158 48.2 +02.2	S	16 58.1 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 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 084° 084° 084° 084° 083° 083°			SHA 021° 021° 021° 021° 021° 021°			SHA 042° 042° 042° 042° 042° 042°						
	Greenwich Culmination Time: 09:38			Greenwich Culmination Time: 13:50			Greenwich Culmination Time: 12:26						



UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 35.9 -00.1	S 16 53.0 -00.8	210 25.8 +02.1	S 16 16.8 +00.1	164 41.9 -33.4	S 18 26.0 -11.9	00						
01	191 35.8 +00.0	S 16 52.2 -00.7	225 27.9 +02.1	S 16 16.9 +00.0	179 08.5 -33.2	S 18 14.1 -12.0	01						
02	206 35.8 -00.1	S 16 51.5 -00.7	240 30.0 +02.1	S 16 16.9 +00.1	193 35.3 -33.1	S 18 02.1 -12.1	02						
03	221 35.7 -00.1	S 16 50.8 -00.7	255 32.1 +02.0	S 16 17.0 +00.1	208 02.2 -33.0	S 17 50.0 -12.2	03						
04	236 35.6 -00.1	S 16 50.1 -00.8	270 34.1 +02.1	S 16 17.1 +00.1	222 29.2 -32.9	S 17 37.8 -12.3	04						
05	251 35.5 -00.1	S 16 49.3 -00.7	285 36.2 +02.1	S 16 17.2 +00.1	236 56.3 -32.8	S 17 25.5 -12.4	05						
06	266 35.4 +00.0	S 16 48.6 -00.7	300 38.3 +02.0	S 16 17.3 +00.0	251 23.5 -32.6	S 17 13.1 -12.5	06						
07	281 35.4 -00.1	S 16 47.9 -00.7	315 40.3 +02.1	S 16 17.3 +00.1	265 50.9 -32.6	S 17 00.6 -12.6	07						
08	296 35.3 -00.1	S 16 47.2 -00.8	330 42.4 +02.0	S 16 17.4 +00.1	280 18.3 -32.4	S 16 48.0 -12.6	08						
09	311 35.2 -00.1	S 16 46.4 -00.7	345 44.4 +02.1	S 16 17.5 +00.1	294 45.9 -32.3	S 16 35.4 -12.8	09						
10	326 35.1 +00.0	S 16 45.7 -00.7	0 46.5 +02.0	S 16 17.6 +00.1	309 13.6 -32.2	S 16 22.6 -12.8	10						
11	341 35.1 -00.1	S 16 45.0 -00.7	15 48.5 +02.1	S 16 17.7 +00.1	323 41.4 -32.1	S 16 09.8 -12.9	11						
12	356 35.0 -00.1	S 16 44.3 -00.8	30 50.6 +02.0	S 16 17.8 +00.0	338 09.3 -32.0	S 15 56.9 -13.0	12						
13	11 34.9 -00.1	S 16 43.5 -00.7	45 52.6 +02.0	S 16 17.8 +00.1	352 37.3 -31.8	S 15 43.9 -13.0	13						
14	26 34.8 +00.0	S 16 42.8 -00.7	60 54.6 +02.1	S 16 17.9 +00.1	7 05.5 -31.8	S 15 30.9 -13.2	14						
15	41 34.8 -00.1	S 16 42.1 -00.7	75 56.7 +02.0	S 16 18.0 +00.1	21 33.7 -31.6	S 15 17.7 -13.2	15						
16	56 34.7 -00.1	S 16 41.4 -00.8	90 58.7 +02.0	S 16 18.1 +00.1	36 02.1 -31.6	S 15 04.5 -13.2	16						
17	71 34.6 -00.1	S 16 40.6 -00.7	106 00.7 +02.0	S 16 18.2 +00.1	50 30.5 -31.4	S 14 51.3 -13.4	17						
18	86 34.5 +00.0	S 16 39.9 -00.7	121 02.7 +02.1	S 16 18.3 +00.0	64 59.1 -31.3	S 14 37.9 -13.4	18						
19	101 34.5 -00.1	S 16 39.2 -00.8	136 04.8 +02.0	S 16 18.3 +00.1	79 27.8 -31.2	S 14 24.5 -13.4	19						
20	116 34.4 -00.1	S 16 38.4 -00.7	151 06.8 +02.0	S 16 18.4 +00.1	93 56.6 -31.1	S 14 11.1 -13.6	20						
21	131 34.3 +00.0	S 16 37.7 -00.7	166 08.8 +02.0	S 16 18.5 +00.1	108 25.5 -31.0	S 13 57.5 -13.6	21						
22	146 34.3 -00.1	S 16 37.0 -00.8	181 10.8 +02.0	S 16 18.6 +00.1	122 54.5 -30.9	S 13 43.9 -13.6	22						
23	161 34.2 -00.1	S 16 36.2 -00.7	196 12.8 +02.0	S 16 18.7 +00.1	137 23.6 -30.8	S 13 30.3 -13.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 16'2 16'2 16'2 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 59'5 59'4 59'3 59'2 59'0 58'9								
	SHA 044° 044° 044° 044° 044° 043°		SHA 078° 078° 078° 078° 078° 078°		SHA 031° 029° 027° 024° 022° 020°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 09:56		Greenwich Culmination Time: 13:30								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	215 25.9 +00.5	S 23 47.8 -00.1	152 39.8 +01.9	S 09 40.7 -00.2	173 50.4 +02.1	S 16 58.0 -00.1	00						
01	230 26.4 +00.4	S 23 47.7 +00.0	167 41.7 +02.0	S 09 40.5 -00.2	188 52.5 +02.2	S 16 57.9 -00.1	01						
02	245 26.8 +00.5	S 23 47.7 -00.1	182 43.7 +01.9	S 09 40.3 -00.2	203 54.7 +02.2	S 16 57.8 -00.1	02						
03	260 27.3 +00.5	S 23 47.6 +00.0	197 45.6 +01.9	S 09 40.1 -00.2	218 56.9 +02.1	S 16 57.7 +00.0	03						
04	275 27.8 +00.4	S 23 47.6 -00.1	212 47.5 +01.9	S 09 39.9 -00.2	233 59.0 +02.2	S 16 57.7 -00.1	04						
05	290 28.2 +00.5	S 23 47.5 -00.1	227 49.4 +01.9	S 09 39.7 -00.3	249 01.2 +02.2	S 16 57.6 -00.1	05						
06	305 28.7 +00.5	S 23 47.4 +00.0	242 51.3 +02.0	S 09 39.4 -00.2	264 03.4 +02.1	S 16 57.5 -00.1	06						
07	320 29.2 +00.4	S 23 47.4 -00.1	257 53.3 +01.9	S 09 39.2 -00.2	279 05.5 +02.2	S 16 57.4 -00.1	07						
08	335 29.6 +00.5	S 23 47.3 +00.0	272 55.2 +01.9	S 09 39.0 -00.2	294 07.7 +02.2	S 16 57.3 -00.1	08						
09	350 30.1 +00.5	S 23 47.3 -00.1	287 57.1 +01.9	S 09 38.8 -00.2	309 09.9 +02.1	S 16 57.2 -00.1	09						
10	5 30.6 +00.4	S 23 47.2 -00.1	302 59.0 +01.9	S 09 38.6 -00.2	324 12.0 +02.2	S 16 57.1 +00.0	10						
11	20 31.0 +00.5	S 23 47.1 +00.0	318 00.9 +02.0	S 09 38.4 -00.3	339 14.2 +02.1	S 16 57.1 -00.1	11						
12	35 31.5 +00.5	S 23 47.1 -00.1	333 02.9 +01.9	S 09 38.1 -00.2	354 16.3 +02.2	S 16 57.0 -00.1	12						
13	50 32.0 +00.5	S 23 47.0 +00.0	348 04.8 +01.9	S 09 37.9 -00.2	9 18.5 +02.2	S 16 56.9 -00.1	13						
14	65 32.5 +00.4	S 23 47.0 -00.1	3 06.7 +01.9	S 09 37.7 -00.2	24 20.7 +02.1	S 16 56.8 -00.1	14						
15	80 32.9 +00.5	S 23 46.9 -00.1	18 08.6 +01.9	S 09 37.5 -00.2	39 22.8 +02.2	S 16 56.7 -00.1	15						
16	95 33.4 +00.5	S 23 46.8 +00.0	33 10.5 +01.9	S 09 37.3 -00.2	54 25.0 +02.2	S 16 56.6 -00.1	16						
17	110 33.9 +00.4	S 23 46.8 -00.1	48 12.4 +02.0	S 09 37.1 -00.2	69 27.2 +02.1	S 16 56.5 -00.1	17						
18	125 34.3 +00.5	S 23 46.7 +00.0	63 14.4 +01.9	S 09 36.9 -00.3	84 29.3 +02.2	S 16 56.4 +00.0	18						
19	140 34.8 +00.5	S 23 46.7 -00.1	78 16.3 +01.9	S 09 36.6 -00.2	99 31.5 +02.2	S 16 56.4 -00.1	19						
20	155 35.3 +00.4	S 23 46.6 -00.1	93 18.2 +01.9	S 09 36.4 -00.2	114 33.7 +02.1	S 16 56.3 -00.1	20						
21	170 35.7 +00.5	S 23 46.5 +00.0	108 20.1 +01.9	S 09 36.2 -00.2	129 35.8 +02.2	S 16 56.2 -00.1	21						
22	185 36.2 +00.5	S 23 46.5 -00.1	123 22.0 +02.0	S 09 36.0 -00.2	144 38.0 +02.2	S 16 56.1 -00.1	22						
23	200 36.7 +00.4	S 23 46.4 -00.1	138 24.0 +01.9	S 09 35.8 -00.3	159 40.2 +02.1	S 16 56.0 -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 00'1 00'1 00'1 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 083° 083° 083° 083° 083° 083°		SHA 020° 020° 020° 020° 020° 020°		SHA 042° 042° 042° 042° 042° 042°								
	Greenwich Culmination Time: 09:37		Greenwich Culmination Time: 13:47		Greenwich Culmination Time: 12:22								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 34.1 -00.1	S 16 35.5 -00.7	211 14.8 +01.9	S 16 18.8 +00.1	151 52.8 -30.7	S 13 16.6 -13.8	00						
01	191 34.0 +00.0	S 16 34.8 -00.8	226 16.7 +02.0	S 16 18.9 +00.1	166 22.1 -30.6	S 13 02.8 -13.8	01						
02	206 34.0 -00.1	S 16 34.0 -00.7	241 18.7 +02.0	S 16 19.0 +00.0	180 51.5 -30.5	S 12 49.0 -13.9	02						
03	221 33.9 -00.1	S 16 33.3 -00.7	256 20.7 +02.0	S 16 19.0 +00.1	195 21.0 -30.4	S 12 35.1 -13.9	03						
04	236 33.8 +00.0	S 16 32.6 -00.8	271 22.7 +02.0	S 16 19.1 +00.1	209 50.6 -30.3	S 12 21.2 -14.0	04						
05	251 33.8 -00.1	S 16 31.8 -00.7	286 24.7 +01.9	S 16 19.2 +00.1	224 20.3 -30.2	S 12 07.2 -14.0	05						
06	266 33.7 -00.1	S 16 31.1 -00.7	301 26.6 +02.0	S 16 19.3 +00.1	238 50.1 -30.1	S 11 53.2 -14.1	06						
07	281 33.6 +00.0	S 16 30.4 -00.8	316 28.6 +02.0	S 16 19.4 +00.1	253 20.0 -30.0	S 11 39.1 -14.1	07						
08	296 33.6 -00.1	S 16 29.6 -00.7	331 30.6 +01.9	S 16 19.5 +00.1	267 50.0 -29.9	S 11 25.0 -14.1	08						
09	311 33.5 -00.1	S 16 28.9 -00.7	346 32.5 +02.0	S 16 19.6 +00.1	282 20.1 -29.8	S 11 10.9 -14.2	09						
10	326 33.4 +00.0	S 16 28.2 -00.8	1 34.5 +01.9	S 16 19.7 +00.1	296 50.3 -29.7	S 10 56.7 -14.2	10						
11	341 33.4 -00.1	S 16 27.4 -00.7	16 36.4 +02.0	S 16 19.8 +00.0	311 20.6 -29.7	S 10 42.5 -14.3	11						
12	356 33.3 -00.1	S 16 26.7 -00.8	31 38.4 +01.9	S 16 19.8 +00.1	325 50.9 -29.5	S 10 28.2 -14.3	12						
13	11 33.2 +00.0	S 16 25.9 -00.7	46 40.3 +01.9	S 16 19.9 +00.1	340 21.4 -29.5	S 10 13.9 -14.3	13						
14	26 33.2 -00.1	S 16 25.2 -00.7	61 42.2 +02.0	S 16 20.0 +00.1	354 51.9 -29.3	S 09 59.6 -14.4	14						
15	41 33.1 -00.1	S 16 24.5 -00.8	76 44.2 +01.9	S 16 20.1 +00.1	9 22.6 -29.3	S 09 45.2 -14.4	15						
16	56 33.0 +00.0	S 16 23.7 -00.7	91 46.1 +01.9	S 16 20.2 +00.1	23 53.3 -29.2	S 09 30.8 -14.4	16						
17	71 33.0 -00.1	S 16 23.0 -00.8	106 48.0 +02.0	S 16 20.3 +00.1	38 24.1 -29.1	S 09 16.4 -14.5	17						
18	86 32.9 -00.1	S 16 22.2 -00.7	121 50.0 +01.9	S 16 20.4 +00.1	52 55.0 -29.0	S 09 01.9 -14.5	18						
19	101 32.8 +00.0	S 16 21.5 -00.8	136 51.9 +01.9	S 16 20.5 +00.1	67 26.0 -29.0	S 08 47.4 -14.5	19						
20	116 32.8 -00.1	S 16 20.7 -00.7	151 53.8 +01.9	S 16 20.6 +00.1	81 57.0 -28.8	S 08 32.9 -14.5	20						
21	131 32.7 -00.1	S 16 20.0 -00.7	166 55.7 +01.9	S 16 20.7 +00.1	96 28.2 -28.8	S 08 18.4 -14.6	21						
22	146 32.6 +00.0	S 16 19.3 -00.8	181 57.6 +01.9	S 16 20.8 +00.1	110 59.4 -28.7	S 08 03.8 -14.5	22						
23	161 32.6 -00.1	S 16 18.5 -00.7	196 59.5 +01.9	S 16 20.9 +00.1	125 30.7 -28.6	S 07 49.3 -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 16'0 16'0 15'9 15'9 15'9 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 58'8 58'6 58'5 58'4 58'2 58'1								
	SHA 043° 043° 043° 043° 043° 042°		SHA 078° 078° 078° 078° 078° 078°		SHA 018° 015° 013° 011° 009° 007°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 09:53		Greenwich Culmination Time: 14:21								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	215 37.1 +00.5	S 23 46.3 +00.0	153 25.9 +01.9	S 09 35.5 -00.2	174 42.3 +02.2	S 16 55.9 -00.1	00						
01	230 37.6 +00.5	S 23 46.3 -00.1	168 27.8 +01.9	S 09 35.3 -00.2	189 44.5 +02.1	S 16 55.8 +00.0	01						
02	245 38.1 +00.4	S 23 46.2 -00.1	183 29.7 +01.9	S 09 35.1 -00.2	204 46.6 +02.2	S 16 55.8 -00.1	02						
03	260 38.5 +00.5	S 23 46.1 +00.0	198 31.6 +02.0	S 09 34.9 -00.2	219 48.8 +02.2	S 16 55.7 -00.1	03						
04	275 39.0 +00.5	S 23 46.1 -00.1	213 33.6 +01.9	S 09 34.7 -00.2	234 51.0 +02.1	S 16 55.6 -00.1	04						
05	290 39.5 +00.5	S 23 46.0 -00.1	228 35.5 +01.9	S 09 34.5 -00.3	249 53.1 +02.2	S 16 55.5 -00.1	05						
06	305 40.0 +00.4	S 23 45.9 +00.0	243 37.4 +01.9	S 09 34.2 -00.2	264 55.3 +02.2	S 16 55.4 -00.1	06						
07	320 40.4 +00.5	S 23 45.9 -00.1	258 39.3 +01.9	S 09 34.0 -00.2	279 57.5 +02.1	S 16 55.3 -00.1	07						
08	335 40.9 +00.5	S 23 45.8 -00.1	273 41.2 +01.9	S 09 33.8 -00.2	294 59.6 +02.2	S 16 55.2 +00.0	08						
09	350 41.4 +00.4	S 23 45.7 +00.0	288 43.1 +02.0	S 09 33.6 -00.2	310 01.8 +02.2	S 16 55.2 -00.1	09						
10	5 41.8 +00.5	S 23 45.7 -00.1	303 45.1 +01.9	S 09 33.4 -00.2	325 04.0 +02.1	S 16 55.1 -00.1	10						
11	20 42.3 +00.5	S 23 45.6 -00.1	318 47.0 +01.9	S 09 33.2 -00.3	340 06.1 +02.2	S 16 55.0 -00.1	11						
12	35 42.8 +00.4	S 23 45.5 +00.0	333 48.9 +01.9	S 09 32.9 -00.2	355 08.3 +02.1	S 16 54.9 -00.1	12						
13	50 43.2 +00.5	S 23 45.5 -00.1	348 50.8 +01.9	S 09 32.7 -00.2	10 10.4 +02.2	S 16 54.8 -00.1	13						
14	65 43.7 +00.5	S 23 45.4 -00.1	3 52.7 +02.0	S 09 32.5 -00.2	25 12.6 +02.2	S 16 54.7 -00.1	14						
15	80 44.2 +00.4	S 23 45.3 -00.1	18 54.7 +01.9	S 09 32.3 -00.2	40 14.8 +02.1	S 16 54.6 -00.1	15						
16	95 44.6 +00.5	S 23 45.2 +00.0	33 56.6 +01.9	S 09 32.1 -00.2	55 16.9 +02.2	S 16 54.5 +00.0	16						
17	110 45.1 +00.5	S 23 45.2 -00.1	48 58.5 +01.9	S 09 31.9 -00.3	70 19.1 +02.2	S 16 54.5 -00.1	17						
18	125 45.6 +00.4	S 23 45.1 -00.1	64 00.4 +01.9	S 09 31.6 -00.2	85 21.3 +02.1	S 16 54.4 -00.1	18						
19	140 46.0 +00.5	S 23 45.0 +00.0	79 02.3 +01.9	S 09 31.4 -00.2	100 23.4 +02.2	S 16 54.3 -00.1	19						
20	155 46.5 +00.5	S 23 45.0 -00.1	94 04.2 +02.0	S 09 31.2 -00.2	115 25.6 +02.2	S 16 54.2 -00.1	20						
21	170 47.0 +00.4	S 23 44.9 -00.1	109 06.2 +01.9	S 09 31.0 -00.2	130 27.8 +02.1	S 16 54.1 -00.1	21						
22	185 47.4 +00.5	S 23 44.8 -00.1	124 08.1 +01.9	S 09 30.8 -00.2	145 29.9 +02.2	S 16 54.0 -00.1	22						
23	200 47.9 +00.5	S 23 44.7 +00.0	139 10.0 +01.9	S 09 30.6 -00.3	160 32.1 +02.1	S 16 53.9 +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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 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 082° 082° 082° 082° 082° 082°		SHA 020° 020° 020° 020° 020° 020°		SHA 042° 042° 042° 041° 041° 041°								
	Greenwich Culmination Time: 09:37		Greenwich Culmination Time: 13:44		Greenwich Culmination Time: 12:19								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 32.5 +00.0	S 16 17.8 -00.8	212 01.4 +01.9	S 16 21.0 +00.0	140 02.1 -28.6	S 07 34.7 -14.6	00						
01	191 32.5 -00.1	S 16 17.0 -00.7	227 03.3 +01.9	S 16 21.0 +00.1	154 33.5 -28.4	S 07 20.1 -14.6	01						
02	206 32.4 -00.1	S 16 16.3 -00.8	242 05.2 +01.9	S 16 21.1 +00.1	169 05.1 -28.4	S 07 05.5 -14.7	02						
03	221 32.3 +00.0	S 16 15.5 -00.7	257 07.1 +01.9	S 16 21.2 +00.1	183 36.7 -28.3	S 06 50.8 -14.6	03						
04	236 32.3 -00.1	S 16 14.8 -00.8	272 09.0 +01.8	S 16 21.3 +00.1	198 08.4 -28.3	S 06 36.2 -14.7	04						
05	251 32.2 +00.0	S 16 14.0 -00.7	287 10.8 +01.9	S 16 21.4 +00.1	212 40.1 -28.2	S 06 21.5 -14.7	05						
06	266 32.2 -00.1	S 16 13.3 -00.8	302 12.7 +01.9	S 16 21.5 +00.1	227 11.9 -28.1	S 06 06.8 -14.7	06						
07	281 32.1 -00.1	S 16 12.5 -00.7	317 14.6 +01.9	S 16 21.6 +00.1	241 43.8 -28.0	S 05 52.1 -14.7	07						
08	296 32.0 +00.0	S 16 11.8 -00.8	332 16.5 +01.8	S 16 21.7 +00.1	256 15.8 -28.0	S 05 37.4 -14.7	08						
09	311 32.0 -00.1	S 16 11.0 -00.7	347 18.3 +01.9	S 16 21.8 +00.1	270 47.8 -27.9	S 05 22.7 -14.7	09						
10	326 31.9 +00.0	S 16 10.3 -00.8	2 20.2 +01.8	S 16 21.9 +00.1	285 19.9 -27.8	S 05 08.0 -14.7	10						
11	341 31.9 -00.1	S 16 09.5 -00.7	17 22.0 +01.9	S 16 22.0 +00.1	299 52.1 -27.8	S 04 53.3 -14.7	11						
12	356 31.8 -00.1	S 16 08.8 -00.8	32 23.9 +01.8	S 16 22.1 +00.1	314 24.3 -27.7	S 04 38.6 -14.7	12						
13	11 31.7 +00.0	S 16 08.0 -00.7	47 25.7 +01.9	S 16 22.2 +00.1	328 56.6 -27.7	S 04 23.9 -14.7	13						
14	26 31.7 -00.1	S 16 07.3 -00.8	62 27.6 +01.8	S 16 22.3 +00.1	343 28.9 -27.6	S 04 09.2 -14.7	14						
15	41 31.6 +00.0	S 16 06.5 -00.7	77 29.4 +01.9	S 16 22.4 +00.1	358 01.3 -27.5	S 03 54.5 -14.7	15						
16	56 31.6 -00.1	S 16 05.8 -00.8	92 31.3 +01.8	S 16 22.5 +00.1	12 33.8 -27.5	S 03 39.8 -14.7	16						
17	71 31.5 +00.0	S 16 05.0 -00.7	107 33.1 +01.8	S 16 22.6 +00.1	27 06.3 -27.5	S 03 25.1 -14.8	17						
18	86 31.5 -00.1	S 16 04.3 -00.8	122 34.9 +01.9	S 16 22.7 +00.1	41 38.8 -27.3	S 03 10.3 -14.7	18						
19	101 31.4 +00.0	S 16 03.5 -00.7	137 36.8 +01.8	S 16 22.8 +00.1	56 11.5 -27.3	S 02 55.6 -14.6	19						
20	116 31.4 -00.1	S 16 02.8 -00.8	152 38.6 +01.8	S 16 22.9 +00.1	70 44.2 -27.3	S 02 41.0 -14.7	20						
21	131 31.3 -00.1	S 16 02.0 -00.7	167 40.4 +01.8	S 16 23.0 +00.1	85 16.9 -27.2	S 02 26.3 -14.7	21						
22	146 31.2 +00.0	S 16 01.3 -00.8	182 42.2 +01.8	S 16 23.1 +00.1	99 49.7 -27.2	S 02 11.6 -14.7	22						
23	161 31.2 -00.1	S 16 00.5 -00.7	197 44.0 +01.8	S 16 23.2 +00.1	114 22.5 -27.1	S 01 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 16'2 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 15'7 15'7 15'7 15'6 15'6								
	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 57'9 57'8 57'6 57'5 57'3 57'2								
	SHA 042° 042° 042° 042° 042° 041°		SHA 078° 078° 078° 078° 078° 078°		SHA 005° 003° 001° 359° 357° 355°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 09:50		Greenwich Culmination Time: 15:08								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	215 48.4 +00.4	S 23 44.7 -00.1	154 11.9 +01.9	S 09 30.3 -00.2	175 34.2 +02.2	S 16 53.9 -00.1	00						
01	230 48.8 +00.5	S 23 44.6 -00.1	169 13.8 +02.0	S 09 30.1 -00.2	190 36.4 +02.2	S 16 53.8 -00.1	01						
02	245 49.3 +00.5	S 23 44.5 -00.1	184 15.8 +01.9	S 09 29.9 -00.2	205 38.6 +02.1	S 16 53.7 -00.1	02						
03	260 49.8 +00.4	S 23 44.4 +00.0	199 17.7 +01.9	S 09 29.7 -00.2	220 40.7 +02.2	S 16 53.6 -00.1	03						
04	275 50.2 +00.5	S 23 44.4 -00.1	214 19.6 +01.9	S 09 29.5 -00.3	235 42.9 +02.2	S 16 53.5 -00.1	04						
05	290 50.7 +00.5	S 23 44.3 -00.1	229 21.5 +01.9	S 09 29.2 -00.2	250 45.1 +02.1	S 16 53.4 -00.1	05						
06	305 51.2 +00.4	S 23 44.2 -00.1	244 23.4 +01.9	S 09 29.0 -00.2	265 47.2 +02.2	S 16 53.3 -00.1	06						
07	320 51.6 +00.5	S 23 44.1 -00.1	259 25.3 +02.0	S 09 28.8 -00.2	280 49.4 +02.2	S 16 53.2 +00.0	07						
08	335 52.1 +00.5	S 23 44.0 +00.0	274 27.3 +01.9	S 09 28.6 -00.2	295 51.6 +02.1	S 16 53.2 -00.1	08						
09	350 52.6 +00.5	S 23 44.0 -00.1	289 29.2 +01.9	S 09 28.4 -00.2	310 53.7 +02.2	S 16 53.1 -00.1	09						
10	5 53.1 +00.4	S 23 43.9 -00.1	304 31.1 +01.9	S 09 28.2 -00.3	325 55.9 +02.2	S 16 53.0 -00.1	10						
11	20 53.5 +00.5	S 23 43.8 -00.1	319 33.0 +01.9	S 09 27.9 -00.2	340 58.1 +02.1	S 16 52.9 -00.1	11						
12	35 54.0 +00.5	S 23 43.7 -00.1	334 34.9 +01.9	S 09 27.7 -00.2	356 00.2 +02.2	S 16 52.8 -00.1	12						
13	50 54.5 +00.4	S 23 43.6 +00.0	349 36.8 +02.0	S 09 27.5 -00.2	11 02.4 +02.1	S 16 52.7 -00.1	13						
14	65 54.9 +00.5	S 23 43.6 -00.1	4 38.8 +01.9	S 09 27.3 -00.2	26 04.5 +02.2	S 16 52.6 +00.0	14						
15	80 55.4 +00.5	S 23 43.5 -00.1	19 40.7 +01.9	S 09 27.1 -00.3	41 06.7 +02.2	S 16 52.6 -00.1	15						
16	95 55.9 +00.4	S 23 43.4 -00.1	34 42.6 +01.9	S 09 26.8 -00.2	56 08.9 +02.1	S 16 52.5 -00.1	16						
17	110 56.3 +00.5	S 23 43.3 -00.1	49 44.5 +01.9	S 09 26.6 -00.2	71 11.0 +02.2	S 16 52.4 -00.1	17						
18	125 56.8 +00.5	S 23 43.2 +00.0	64 46.4 +01.9	S 09 26.4 -00.2	86 13.2 +02.2	S 16 52.3 -00.1	18						
19	140 57.3 +00.4	S 23 43.2 -00.1	79 48.3 +02.0	S 09 26.2 -00.2	101 15.4 +02.1	S 16 52.2 -00.1	19						
20	155 57.7 +00.5	S 23 43.1 -00.1	94 50.3 +01.9	S 09 26.0 -00.2	116 17.5 +02.2	S 16 52.1 -00.1	20						
21	170 58.2 +00.5	S 23 43.0 -00.1	109 52.2 +01.9	S 09 25.8 -00.3	131 19.7 +02.2	S 16 52.0 -00.1	21						
22	185 58.7 +00.4	S 23 42.9 -00.1	124 54.1 +01.9	S 09 25.5 -00.2	146 21.9 +02.1	S 16 51.9 +00.0	22						
23	200 59.1 +00.5	S 23 42.8 -00.1	139 56.0 +01.9	S 09 25.3 -00.2	161 24.0 +02.2	S 16 51.9 -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 00'1 00'1 00'1 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 082° 081° 081° 081° 081° 081°		SHA 020° 020° 020° 020° 020° 020°		SHA 041° 041° 041° 041° 041° 041°								
	Greenwich Culmination Time: 09:36		Greenwich Culmination Time: 13:41		Greenwich Culmination Time: 12:15								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 31.1 +00.0	S 15 59.8 -00.8	212 45.8 +01.8	S 16 23.3 +00.1	128 55.4 -27.1	S 01 42.3 -14.7	00						
01	191 31.1 -00.1	S 15 59.0 -00.8	227 47.6 +01.8	S 16 23.4 +00.1	143 28.3 -27.0	S 01 27.6 -14.6	01						
02	206 31.0 +00.0	S 15 58.2 -00.7	242 49.4 +01.8	S 16 23.5 +00.1	158 01.3 -27.0	S 01 13.0 -14.6	02						
03	221 31.0 -00.1	S 15 57.5 -00.8	257 51.2 +01.8	S 16 23.6 +00.1	172 34.3 -26.9	S 00 58.4 -14.6	03						
04	236 30.9 +00.0	S 15 56.7 -00.7	272 53.0 +01.8	S 16 23.7 +00.1	187 07.4 -26.9	S 00 43.8 -14.6	04						
05	251 30.9 -00.1	S 15 56.0 -00.8	287 54.8 +01.8	S 16 23.8 +00.1	201 40.5 -26.8	S 00 29.2 -14.6	05						
06	266 30.8 +00.0	S 15 55.2 -00.8	302 56.6 +01.8	S 16 23.9 +00.1	216 13.7 -26.8	S 00 14.6 -14.5	06						
07	281 30.8 -00.1	S 15 54.4 -00.7	317 58.4 +01.7	S 16 24.0 +00.1	230 46.9 -26.8	S 00 00.1 -14.6	07						
08	296 30.7 +00.0	S 15 53.7 -00.8	333 00.1 +01.8	S 16 24.1 +00.1	245 20.1 -26.7	N 00 14.5 +14.5	08						
09	311 30.7 -00.1	S 15 52.9 -00.7	348 01.9 +01.8	S 16 24.2 +00.1	259 53.4 -26.7	N 00 29.0 +14.5	09						
10	326 30.6 +00.0	S 15 52.2 -00.8	3 03.7 +01.8	S 16 24.3 +00.1	274 26.7 -26.7	N 00 43.5 +14.4	10						
11	341 30.6 -00.1	S 15 51.4 -00.8	18 05.5 +01.7	S 16 24.4 +00.1	289 00.0 -26.6	N 00 57.9 +14.5	11						
12	356 30.5 +00.0	S 15 50.6 -00.7	33 07.2 +01.8	S 16 24.5 +00.1	303 33.4 -26.6	N 01 12.4 +14.4	12						
13	11 30.5 -00.1	S 15 49.9 -00.8	48 09.0 +01.7	S 16 24.6 +00.1	318 06.8 -26.6	N 01 26.8 +14.4	13						
14	26 30.4 +00.0	S 15 49.1 -00.8	63 10.7 +01.8	S 16 24.7 +00.1	332 40.2 -26.5	N 01 41.2 +14.4	14						
15	41 30.4 -00.1	S 15 48.3 -00.7	78 12.5 +01.7	S 16 24.8 +00.1	347 13.7 -26.5	N 01 55.6 +14.3	15						
16	56 30.3 +00.0	S 15 47.6 -00.8	93 14.2 +01.8	S 16 24.9 +00.1	1 47.2 -26.5	N 02 09.9 +14.3	16						
17	71 30.3 -00.1	S 15 46.8 -00.7	108 16.0 +01.7	S 16 25.0 +00.1	16 20.7 -26.4	N 02 24.2 +14.3	17						
18	86 30.2 +00.0	S 15 46.1 -00.8	123 17.7 +01.7	S 16 25.1 +00.1	30 54.3 -26.4	N 02 38.5 +14.3	18						
19	101 30.2 -00.1	S 15 45.3 -00.8	138 19.4 +01.8	S 16 25.2 +00.1	45 27.9 -26.4	N 02 52.8 +14.2	19						
20	116 30.1 +00.0	S 15 44.5 -00.7	153 21.2 +01.7	S 16 25.3 +00.1	60 01.5 -26.4	N 03 07.0 +14.2	20						
21	131 30.1 +00.0	S 15 43.8 -00.8	168 22.9 +01.7	S 16 25.4 +00.1	74 35.1 -26.3	N 03 21.2 +14.2	21						
22	146 30.1 -00.1	S 15 43.0 -00.8	183 24.6 +01.8	S 16 25.5 +00.1	89 08.8 -26.4	N 03 35.4 +14.1	22						
23	161 30.0 +00.0	S 15 42.2 -00.7	198 26.4 +01.7	S 16 25.6 +00.1	103 42.4 -26.3	N 03 49.5 +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 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'4 00'4 00'4 00'4 00'4 00'4		SD 15'5 15'5 15'5 15'4 15'4 15'4								
	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 57'1 56'9 56'8 56'6 56'5 56'4								
	SHA 041° 041° 041° 041° 041° 040°		SHA 078° 078° 078° 077° 077° 077°		SHA 353° 351° 349° 347° 345° 343°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 09:47		Greenwich Culmination Time: 15:52								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	215 59.6 +00.5	S 23 42.7 -00.1	154 57.9 +01.9	S 09 25.1 -00.2	176 26.2 +02.2	S 16 51.8 -00.1	00						
01	231 00.1 +00.4	S 23 42.6 +00.0	169 59.8 +02.0	S 09 24.9 -00.2	191 28.4 +02.1	S 16 51.7 -00.1	01						
02	246 00.5 +00.5	S 23 42.6 -00.1	185 01.8 +01.9	S 09 24.7 -00.3	206 30.5 +02.2	S 16 51.6 -00.1	02						
03	261 01.0 +00.5	S 23 42.5 -00.1	200 03.7 +01.9	S 09 24.4 -00.2	221 32.7 +02.2	S 16 51.5 -00.1	03						
04	276 01.5 +00.4	S 23 42.4 -00.1	215 05.6 +01.9	S 09 24.2 -00.2	236 34.9 +02.1	S 16 51.4 -00.1	04						
05	291 01.9 +00.5	S 23 42.3 -00.1	230 07.5 +01.9	S 09 24.0 -00.2	251 37.0 +02.2	S 16 51.3 -00.1	05						
06	306 02.4 +00.5	S 23 42.2 -00.1	245 09.4 +01.9	S 09 23.8 -00.2	266 39.2 +02.1	S 16 51.2 +00.0	06						
07	321 02.9 +00.4	S 23 42.1 -00.1	260 11.3 +02.0	S 09 23.6 -00.2	281 41.3 +02.2	S 16 51.2 -00.1	07						
08	336 03.3 +00.5	S 23 42.0 +00.0	275 13.3 +01.9	S 09 23.4 -00.3	296 43.5 +02.2	S 16 51.1 -00.1	08						
09	351 03.8 +00.5	S 23 42.0 -00.1	290 15.2 +01.9	S 09 23.1 -00.2	311 45.7 +02.1	S 16 51.0 -00.1	09						
10	6 04.3 +00.4	S 23 41.9 -00.1	305 17.1 +01.9	S 09 22.9 -00.2	326 47.8 +02.2	S 16 50.9 -00.1	10						
11	21 04.7 +00.5	S 23 41.8 -00.1	320 19.0 +01.9	S 09 22.7 -00.2	341 50.0 +02.2	S 16 50.8 -00.1	11						
12	36 05.2 +00.5	S 23 41.7 -00.1	335 20.9 +01.9	S 09 22.5 -00.2	356 52.2 +02.1	S 16 50.7 -00.1	12						
13	51 05.7 +00.4	S 23 41.6 -00.1	350 22.8 +02.0	S 09 22.3 -00.3	11 54.3 +02.2	S 16 50.6 +00.0	13						
14	66 06.1 +00.5	S 23 41.5 -00.1	5 24.8 +01.9	S 09 22.0 -00.2	26 56.5 +02.2	S 16 50.6 -00.1	14						
15	81 06.6 +00.5	S 23 41.4 -00.1	20 26.7 +01.9	S 09 21.8 -00.2	41 58.7 +02.1	S 16 50.5 -00.1	15						
16	96 07.1 +00.4	S 23 41.3 -00.1	35 28.6 +01.9	S 09 21.6 -00.2	57 00.8 +02.2	S 16 50.4 -00.1	16						
17	111 07.5 +00.5	S 23 41.2 -00.1	50 30.5 +01.9	S 09 21.4 -00.2	72 03.0 +02.2	S 16 50.3 -00.1	17						
18	126 08.0 +00.5	S 23 41.1 -00.1	65 32.4 +01.9	S 09 21.2 -00.3	87 05.2 +02.1	S 16 50.2 -00.1	18						
19	141 08.5 +00.4	S 23 41.0 -00.1	80 34.3 +01.9	S 09 20.9 -00.2	102 07.3 +02.2	S 16 50.1 -00.1	19						
20	156 08.9 +00.5	S 23 40.9 +00.0	95 36.2 +02.0	S 09 20.7 -00.2	117 09.5 +02.1	S 16 50.0 -00.1	20						
21	171 09.4 +00.5	S 23 40.9 -00.1	110 38.2 +01.9	S 09 20.5 -00.2	132 11.6 +02.2	S 16 49.9 +00.0	21						
22	186 09.9 +00.4	S 23 40.8 -00.1	125 40.1 +01.9	S 09 20.3 -00.2	147 13.8 +02.2	S 16 49.9 -00.1	22						
23	201 10.3 +00.5	S 23 40.7 -00.1	140 42.0 +01.9	S 09 20.1 -00.3	162 16.0 +02.1	S 16 49.8 -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 00'1 00'1 00'1 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 081° 081° 081° 080° 080° 080°		SHA 020° 020° 020° 020° 020° 020°		SHA 041° 041° 041° 041° 041° 041°								
	Greenwich Culmination Time: 09:35		Greenwich Culmination Time: 13:38		Greenwich Culmination Time: 12:12								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	176 30.0 -00.1	S 15 41.5 -00.8	213 28.1 +01.7	S 16 25.7 +00.1	118 16.1 -26.2	N 04 03.6 +14.1	00								
01	191 29.9 +00.0	S 15 40.7 -00.8	228 29.8 +01.7	S 16 25.8 +00.1	132 49.9 -26.3	N 04 17.7 +14.0	01								
02	206 29.9 -00.1	S 15 39.9 -00.8	243 31.5 +01.7	S 16 25.9 +00.1	147 23.6 -26.2	N 04 31.7 +14.0	02								
03	221 29.8 +00.0	S 15 39.1 -00.7	258 33.2 +01.7	S 16 26.0 +00.1	161 57.4 -26.3	N 04 45.7 +13.9	03								
04	236 29.8 -00.1	S 15 38.4 -00.8	273 34.9 +01.7	S 16 26.1 +00.1	176 31.1 -26.2	N 04 59.6 +14.0	04								
05	251 29.7 +00.0	S 15 37.6 -00.8	288 36.6 +01.7	S 16 26.2 +00.1	191 04.9 -26.2	N 05 13.6 +13.8	05								
06	266 29.7 +00.0	S 15 36.8 -00.7	303 38.3 +01.7	S 16 26.3 +00.1	205 38.7 -26.2	N 05 27.4 +13.9	06								
07	281 29.7 -00.1	S 15 36.1 -00.8	318 40.0 +01.7	S 16 26.4 +00.1	220 12.5 -26.2	N 05 41.3 +13.8	07								
08	296 29.6 +00.0	S 15 35.3 -00.8	333 41.7 +01.7	S 16 26.5 +00.1	234 46.3 -26.1	N 05 55.1 +13.8	08								
09	311 29.6 -00.1	S 15 34.5 -00.7	348 43.4 +01.6	S 16 26.6 +00.1	249 20.2 -26.2	N 06 08.9 +13.7	09								
10	326 29.5 +00.0	S 15 33.8 -00.8	3 45.0 +01.7	S 16 26.7 +00.1	263 54.0 -26.1	N 06 22.6 +13.6	10								
11	341 29.5 -00.1	S 15 33.0 -00.8	18 46.7 +01.7	S 16 26.8 +00.1	278 27.9 -26.2	N 06 36.2 +13.7	11								
12	356 29.4 +00.0	S 15 32.2 -00.8	33 48.4 +01.7	S 16 26.9 +00.1	293 01.7 -26.1	N 06 49.9 +13.6	12								
13	11 29.4 +00.0	S 15 31.4 -00.7	48 50.1 +01.6	S 16 27.0 +00.1	307 35.6 -26.1	N 07 03.5 +13.5	13								
14	26 29.4 -00.1	S 15 30.7 -00.8	63 51.7 +01.7	S 16 27.1 +00.1	322 09.5 -26.2	N 07 17.0 +13.5	14								
15	41 29.3 +00.0	S 15 29.9 -00.8	78 53.4 +01.7	S 16 27.2 +00.1	336 43.3 -26.1	N 07 30.5 +13.5	15								
16	56 29.3 -00.1	S 15 29.1 -00.8	93 55.1 +01.6	S 16 27.3 +00.2	351 17.2 -26.1	N 07 44.0 +13.4	16								
17	71 29.2 +00.0	S 15 28.3 -00.7	108 56.7 +01.7	S 16 27.5 +00.1	5 51.1 -26.1	N 07 57.4 +13.3	17								
18	86 29.2 +00.0	S 15 27.6 -00.8	123 58.4 +01.6	S 16 27.6 +00.1	20 25.0 -26.1	N 08 10.7 +13.3	18								
19	101 29.2 -00.1	S 15 26.8 -00.8	139 00.0 +01.7	S 16 27.7 +00.1	34 58.9 -26.2	N 08 24.0 +13.3	19								
20	116 29.1 +00.0	S 15 26.0 -00.8	154 01.7 +01.6	S 16 27.8 +00.1	49 32.7 -26.1	N 08 37.3 +13.2	20								
21	131 29.1 +00.0	S 15 25.2 -00.8	169 03.3 +01.6	S 16 27.9 +00.1	64 06.6 -26.1	N 08 50.5 +13.2	21								
22	146 29.1 -00.1	S 15 24.4 -00.7	184 04.9 +01.7	S 16 28.0 +00.1	78 40.5 -26.1	N 09 03.7 +13.1	22								
23	161 29.0 +00.0	S 15 23.7 -00.8	199 06.6 +01.6	S 16 28.1 +00.1	93 14.4 -26.2	N 09 16.8 +13.0	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 040° 040° 040° 040° 040° 039°	Greenwich Culmination Time: 12:14	UT 02 06 10 14 18 22	SD 00'4 00'4 00'4 00'4 00'4 00'4	HP 00'4 00'4 00'4 00'4 00'4 00'4	SHA 077° 077° 077° 077° 077° 077°	Greenwich Culmination Time: 09:45	UT 02 06 10 14 18 22	SD 15'3 15'3 15'2 15'2 15'2 15'1	HP 56'2 56'1 56'0 55'8 55'7 55'6	SHA 341° 339° 337° 335° 334° 332°	Greenwich Culmination Time: 16:35

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	216 10.8 +00.5	S 23 40.6 -00.1	155 43.9 +01.9	S 09 19.8 -00.2	177 18.1 +02.2	S 16 49.7 -00.1	00								
01	231 11.3 +00.4	S 23 40.5 -00.1	170 45.8 +01.9	S 09 19.6 -00.2	192 20.3 +02.2	S 16 49.6 -00.1	01								
02	246 11.7 +00.5	S 23 40.4 -00.1	185 47.7 +01.9	S 09 19.4 -00.2	207 22.5 +02.1	S 16 49.5 -00.1	02								
03	261 12.2 +00.5	S 23 40.3 -00.1	200 49.6 +02.0	S 09 19.2 -00.2	222 24.6 +02.2	S 16 49.4 -00.1	03								
04	276 12.7 +00.4	S 23 40.2 -00.1	215 51.6 +01.9	S 09 19.0 -00.3	237 26.8 +02.2	S 16 49.3 -00.1	04								
05	291 13.1 +00.5	S 23 40.1 -00.1	230 53.5 +01.9	S 09 18.7 -00.2	252 29.0 +02.1	S 16 49.2 +00.0	05								
06	306 13.6 +00.5	S 23 40.0 -00.1	245 55.4 +01.9	S 09 18.5 -00.2	267 31.1 +02.2	S 16 49.2 -00.1	06								
07	321 14.1 +00.4	S 23 39.9 -00.1	260 57.3 +01.9	S 09 18.3 -00.2	282 33.3 +02.2	S 16 49.1 -00.1	07								
08	336 14.5 +00.5	S 23 39.8 -00.1	275 59.2 +01.9	S 09 18.1 -00.2	297 35.5 +02.1	S 16 49.0 -00.1	08								
09	351 15.0 +00.5	S 23 39.7 -00.1	291 01.1 +02.0	S 09 17.9 -00.2	312 37.6 +02.2	S 16 48.9 -00.1	09								
10	6 15.5 +00.4	S 23 39.6 -00.1	306 03.1 +01.9	S 09 17.7 -00.3	327 39.8 +02.1	S 16 48.8 -00.1	10								
11	21 15.9 +00.5	S 23 39.5 -00.1	321 05.0 +01.9	S 09 17.4 -00.2	342 41.9 +02.2	S 16 48.7 -00.1	11								
12	36 16.4 +00.5	S 23 39.4 -00.1	336 06.9 +01.9	S 09 17.2 -00.2	357 44.1 +02.2	S 16 48.6 -00.1	12								
13	51 16.9 +00.4	S 23 39.3 -00.1	351 08.8 +01.9	S 09 17.0 -00.2	12 46.3 +02.1	S 16 48.5 +00.0	13								
14	66 17.3 +00.5	S 23 39.2 -00.1	6 10.7 +01.9	S 09 16.8 -00.2	27 48.4 +02.2	S 16 48.5 -00.1	14								
15	81 17.8 +00.5	S 23 39.1 -00.1	21 12.6 +01.9	S 09 16.6 -00.3	42 50.6 +02.2	S 16 48.4 -00.1	15								
16	96 18.3 +00.4	S 23 39.0 -00.1	36 14.5 +02.0	S 09 16.3 -00.2	57 52.8 +02.1	S 16 48.3 -00.1	16								
17	111 18.7 +00.5	S 23 38.9 -00.1	51 16.5 +01.9	S 09 16.1 -00.2	72 54.9 +02.2	S 16 48.2 -00.1	17								
18	126 19.2 +00.5	S 23 38.8 -00.1	66 18.4 +01.9	S 09 15.9 -00.2	87 57.1 +02.2	S 16 48.1 -00.1	18								
19	141 19.7 +00.4	S 23 38.7 -00.1	81 20.3 +01.9	S 09 15.7 -00.2	102 59.3 +02.1	S 16 48.0 -00.1	19								
20	156 20.1 +00.5	S 23 38.6 -00.1	96 22.2 +01.9	S 09 15.5 -00.3	118 01.4 +02.2	S 16 47.9 +00.0	20								
21	171 20.6 +00.5	S 23 38.5 -00.1	111 24.1 +01.9	S 09 15.2 -00.2	133 03.6 +02.2	S 16 47.9 -00.1	21								
22	186 21.1 +00.4	S 23 38.4 -00.1	126 26.0 +01.9	S 09 15.0 -00.2	148 05.8 +02.1	S 16 47.8 -00.1	22								
23	201 21.5 +00.5	S 23 38.3 -00.1	141 27.9 +02.0	S 09 14.8 -00.2	163 07.9 +02.2	S 16 47.7 -00.1	23								
	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 080° 080° 080° 080° 079° 079°	Greenwich Culmination Time: 09:34	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 020° 020° 020° 019° 019° 019°	Greenwich Culmination Time: 13:35	UT 02 06 10 14 18 22	SD 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	SHA 041° 041° 041° 041° 041° 041°	Greenwich Culmination Time: 12:09

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 29.0 -00.1	S 15 22.9 -00.8	214 08.2 +01.6	S 16 28.2 +00.1	107 48.2 -26.1	N 09 29.8 +13.1	00						
01	191 28.9 +00.0	S 15 22.1 -00.8	229 09.8 +01.7	S 16 28.3 +00.1	122 22.1 -26.1	N 09 42.9 +12.9	01						
02	206 28.9 +00.0	S 15 21.3 -00.7	244 11.5 +01.6	S 16 28.4 +00.1	136 56.0 -26.2	N 09 55.8 +12.9	02						
03	221 28.9 -00.1	S 15 20.6 -00.8	259 13.1 +01.6	S 16 28.5 +00.1	151 29.8 -26.2	N 10 08.7 +12.9	03						
04	236 28.8 +00.0	S 15 19.8 -00.8	274 14.7 +01.6	S 16 28.6 +00.1	166 03.6 -26.1	N 10 21.6 +12.7	04						
05	251 28.8 +00.0	S 15 19.0 -00.8	289 16.3 +01.6	S 16 28.7 +00.1	180 37.5 -26.2	N 10 34.3 +12.8	05						
06	266 28.8 -00.1	S 15 18.2 -00.8	304 17.9 +01.6	S 16 28.8 +00.1	195 11.3 -26.2	N 10 47.1 +12.7	06						
07	281 28.7 +00.0	S 15 17.4 -00.8	319 19.5 +01.6	S 16 28.9 +00.1	209 45.1 -26.2	N 10 59.8 +12.6	07						
08	296 28.7 +00.0	S 15 16.6 -00.7	334 21.1 +01.6	S 16 29.0 +00.1	224 18.9 -26.2	N 11 12.4 +12.5	08						
09	311 28.7 -00.1	S 15 15.9 -00.8	349 22.7 +01.6	S 16 29.1 +00.1	238 52.7 -26.2	N 11 24.9 +12.5	09						
10	326 28.6 +00.0	S 15 15.1 -00.8	4 24.3 +01.6	S 16 29.2 +00.2	253 26.5 -26.3	N 11 37.4 +12.5	10						
11	341 28.6 +00.0	S 15 14.3 -00.8	19 25.9 +01.6	S 16 29.4 +00.1	268 00.2 -26.2	N 11 49.9 +12.4	11						
12	356 28.6 -00.1	S 15 13.5 -00.8	34 27.5 +01.6	S 16 29.5 +00.1	282 34.0 -26.3	N 12 02.3 +12.3	12						
13	11 28.5 +00.0	S 15 12.7 -00.8	49 29.1 +01.6	S 16 29.6 +00.1	297 07.7 -26.3	N 12 14.6 +12.3	13						
14	26 28.5 +00.0	S 15 11.9 -00.7	64 30.7 +01.5	S 16 29.7 +00.1	311 41.4 -26.3	N 12 26.9 +12.2	14						
15	41 28.5 -00.1	S 15 11.2 -00.8	79 32.2 +01.6	S 16 29.8 +00.1	326 15.1 -26.4	N 12 39.1 +12.1	15						
16	56 28.4 +00.0	S 15 10.4 -00.8	94 33.8 +01.6	S 16 29.9 +00.1	340 48.7 -26.3	N 12 51.2 +12.1	16						
17	71 28.4 +00.0	S 15 09.6 -00.8	109 35.4 +01.6	S 16 30.0 +00.1	355 22.4 -26.4	N 13 03.3 +12.0	17						
18	86 28.4 +00.0	S 15 08.8 -00.8	124 37.0 +01.5	S 16 30.1 +00.1	9 56.0 -26.4	N 13 15.3 +11.9	18						
19	101 28.4 -00.1	S 15 08.0 -00.8	139 38.5 +01.6	S 16 30.2 +00.1	24 29.6 -26.4	N 13 27.2 +11.9	19						
20	116 28.3 +00.0	S 15 07.2 -00.8	154 40.1 +01.5	S 16 30.3 +00.1	39 03.2 -26.5	N 13 39.1 +11.8	20						
21	131 28.3 +00.0	S 15 06.4 -00.8	169 41.6 +01.6	S 16 30.4 +00.1	53 36.7 -26.4	N 13 50.9 +11.8	21						
22	146 28.3 -00.1	S 15 05.6 -00.7	184 43.2 +01.6	S 16 30.5 +00.1	68 10.3 -26.5	N 14 02.7 +11.6	22						
23	161 28.2 +00.0	S 15 04.9 -00.8	199 44.8 +01.5	S 16 30.6 +00.1	82 43.8 -26.5	N 14 14.3 +11.7	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'2 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 15'1 15'1 15'0 15'0 15'0								
	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 55'5 55'4 55'3 55'2 55'1 55'0								
	SHA 039° 039° 039° 039° 039° 038°		SHA 077° 077° 077° 077° 077° 077°		SHA 330° 328° 326° 324° 322° 320°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:42		Greenwich Culmination Time: 17:19								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	216 22.0 +00.5	S 23 38.2 -00.1	156 29.9 +01.9	S 09 14.6 -00.2	178 10.1 +02.1	S 16 47.6 -00.1	00						
01	231 22.5 +00.4	S 23 38.1 -00.1	171 31.8 +01.9	S 09 14.4 -00.3	193 12.2 +02.2	S 16 47.5 -00.1	01						
02	246 22.9 +00.5	S 23 38.0 -00.2	186 33.7 +01.9	S 09 14.1 -00.2	208 14.4 +02.2	S 16 47.4 -00.1	02						
03	261 23.4 +00.5	S 23 37.8 -00.1	201 35.6 +01.9	S 09 13.9 -00.2	223 16.6 +02.1	S 16 47.3 -00.1	03						
04	276 23.9 +00.4	S 23 37.7 -00.1	216 37.5 +01.9	S 09 13.7 -00.2	238 18.7 +02.2	S 16 47.2 +00.0	04						
05	291 24.3 +00.5	S 23 37.6 -00.1	231 39.4 +01.9	S 09 13.5 -00.3	253 20.9 +02.2	S 16 47.2 -00.1	05						
06	306 24.8 +00.5	S 23 37.5 -00.1	246 41.3 +01.9	S 09 13.2 -00.2	268 23.1 +02.1	S 16 47.1 -00.1	06						
07	321 25.3 +00.4	S 23 37.4 -00.1	261 43.2 +02.0	S 09 13.0 -00.2	283 25.2 +02.2	S 16 47.0 -00.1	07						
08	336 25.7 +00.5	S 23 37.3 -00.1	276 45.2 +01.9	S 09 12.8 -00.2	298 27.4 +02.2	S 16 46.9 -00.1	08						
09	351 26.2 +00.5	S 23 37.2 -00.1	291 47.1 +01.9	S 09 12.6 -00.2	313 29.6 +02.1	S 16 46.8 -00.1	09						
10	6 26.7 +00.4	S 23 37.1 -00.1	306 49.0 +01.9	S 09 12.4 -00.3	328 31.7 +02.2	S 16 46.7 -00.1	10						
11	21 27.1 +00.5	S 23 37.0 -00.1	321 50.9 +01.9	S 09 12.1 -00.2	343 33.9 +02.2	S 16 46.6 -00.1	11						
12	36 27.6 +00.5	S 23 36.9 -00.1	336 52.8 +01.9	S 09 11.9 -00.2	358 36.1 +02.1	S 16 46.5 +00.0	12						
13	51 28.1 +00.4	S 23 36.8 -00.2	351 54.7 +01.9	S 09 11.7 -00.2	13 38.2 +02.2	S 16 46.5 -00.1	13						
14	66 28.5 +00.5	S 23 36.6 -00.1	6 56.6 +02.0	S 09 11.5 -00.2	28 40.4 +02.2	S 16 46.4 -00.1	14						
15	81 29.0 +00.5	S 23 36.5 -00.1	21 58.6 +01.9	S 09 11.3 -00.3	43 42.6 +02.1	S 16 46.3 -00.1	15						
16	96 29.5 +00.4	S 23 36.4 -00.1	37 00.5 +01.9	S 09 11.0 -00.2	58 44.7 +02.2	S 16 46.2 -00.1	16						
17	111 29.9 +00.5	S 23 36.3 -00.1	52 02.4 +01.9	S 09 10.8 -00.2	73 46.9 +02.1	S 16 46.1 -00.1	17						
18	126 30.4 +00.5	S 23 36.2 -00.1	67 04.3 +01.9	S 09 10.6 -00.2	88 49.0 +02.2	S 16 46.0 -00.1	18						
19	141 30.9 +00.5	S 23 36.1 -00.1	82 06.2 +01.9	S 09 10.4 -00.2	103 51.2 +02.2	S 16 45.9 -00.1	19						
20	156 31.4 +00.4	S 23 36.0 -00.1	97 08.1 +01.9	S 09 10.2 -00.3	118 53.4 +02.1	S 16 45.8 +00.0	20						
21	171 31.8 +00.5	S 23 35.9 -00.2	112 10.0 +01.9	S 09 09.9 -00.2	133 55.5 +02.2	S 16 45.8 -00.1	21						
22	186 32.3 +00.5	S 23 35.7 -00.1	127 11.9 +02.0	S 09 09.7 -00.2	148 57.7 +02.2	S 16 45.7 -00.1	22						
23	201 32.8 +00.4	S 23 35.6 -00.1	142 13.9 +01.9	S 09 09.5 -00.2	163 59.9 +02.1	S 16 45.6 -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 00'1 00'1 00'1 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 079° 079° 079° 079° 079° 079°		SHA 019° 019° 019° 019° 019° 019°		SHA 041° 041° 041° 041° 041° 041°								
	Greenwich Culmination Time: 09:34		Greenwich Culmination Time: 13:32		Greenwich Culmination Time: 12:05								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 28.2 +00.0	S 15 04.1 -00.8	214 46.3 +01.5	S 16 30.7 +00.1	97 17.3 -26.6	N 14 26.0 +11.5	00						
01	191 28.2 +00.0	S 15 03.3 -00.8	229 47.8 +01.6	S 16 30.8 +00.2	111 50.7 -26.6	N 14 37.5 +11.5	01						
02	206 28.2 -00.1	S 15 02.5 -00.8	244 49.4 +01.5	S 16 31.0 +00.1	126 24.1 -26.6	N 14 49.0 +11.4	02						
03	221 28.1 +00.0	S 15 01.7 -00.8	259 50.9 +01.6	S 16 31.1 +00.1	140 57.5 -26.6	N 15 00.4 +11.3	03						
04	236 28.1 +00.0	S 15 00.9 -00.8	274 52.5 +01.5	S 16 31.2 +00.1	155 30.9 -26.6	N 15 11.7 +11.3	04						
05	251 28.1 +00.0	S 15 00.1 -00.8	289 54.0 +01.5	S 16 31.3 +00.1	170 04.3 -26.7	N 15 23.0 +11.2	05						
06	266 28.1 -00.1	S 14 59.3 -00.8	304 55.5 +01.5	S 16 31.4 +00.1	184 37.6 -26.7	N 15 34.2 +11.1	06						
07	281 28.0 +00.0	S 14 58.5 -00.8	319 57.0 +01.6	S 16 31.5 +00.1	199 10.9 -26.8	N 15 45.3 +11.0	07						
08	296 28.0 +00.0	S 14 57.7 -00.8	334 58.6 +01.5	S 16 31.6 +00.1	213 44.1 -26.8	N 15 56.3 +11.0	08						
09	311 28.0 +00.0	S 14 56.9 -00.7	350 00.1 +01.5	S 16 31.7 +00.1	228 17.3 -26.8	N 16 07.3 +10.9	09						
10	326 28.0 -00.1	S 14 56.2 -00.8	5 01.6 +01.5	S 16 31.8 +00.1	242 50.5 -26.8	N 16 18.2 +10.8	10						
11	341 27.9 +00.0	S 14 55.4 -00.8	20 03.1 +01.5	S 16 31.9 +00.1	257 23.7 -26.9	N 16 29.0 +10.8	11						
12	356 27.9 +00.0	S 14 54.6 -00.8	35 04.6 +01.5	S 16 32.0 +00.1	271 56.8 -27.0	N 16 39.8 +10.7	12						
13	11 27.9 +00.0	S 14 53.8 -00.8	50 06.1 +01.5	S 16 32.1 +00.1	286 29.8 -26.9	N 16 50.5 +10.6	13						
14	26 27.9 -00.1	S 14 53.0 -00.8	65 07.6 +01.5	S 16 32.2 +00.2	301 02.9 -27.0	N 17 01.1 +10.5	14						
15	41 27.8 +00.0	S 14 52.2 -00.8	80 09.1 +01.5	S 16 32.4 +00.1	315 35.9 -27.0	N 17 11.6 +10.4	15						
16	56 27.8 +00.0	S 14 51.4 -00.8	95 10.6 +01.5	S 16 32.5 +00.1	330 08.9 -27.1	N 17 22.0 +10.4	16						
17	71 27.8 +00.0	S 14 50.6 -00.8	110 12.1 +01.5	S 16 32.6 +00.1	344 41.8 -27.1	N 17 32.4 +10.3	17						
18	86 27.8 -00.1	S 14 49.8 -00.8	125 13.6 +01.4	S 16 32.7 +00.1	359 14.7 -27.1	N 17 42.7 +10.2	18						
19	101 27.7 +00.0	S 14 49.0 -00.8	140 15.0 +01.5	S 16 32.8 +00.1	13 47.6 -27.2	N 17 52.9 +10.1	19						
20	116 27.7 +00.0	S 14 48.2 -00.8	155 16.5 +01.5	S 16 32.9 +00.1	28 20.4 -27.2	N 18 03.0 +10.0	20						
21	131 27.7 +00.0	S 14 47.4 -00.8	170 18.0 +01.5	S 16 33.0 +00.1	42 53.2 -27.3	N 18 13.0 +10.0	21						
22	146 27.7 +00.0	S 14 46.6 -00.8	185 19.5 +01.4	S 16 33.1 +00.1	57 25.9 -27.3	N 18 23.0 +09.9	22						
23	161 27.7 -00.1	S 14 45.8 -00.8	200 20.9 +01.5	S 16 33.2 +00.1	71 58.6 -27.3	N 18 32.9 +09.8	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 00'4 00'4 00'4 00'4 00'4 00'4		SD 15'0 14'9 14'9 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'4 00'4 00'4 00'4 00'4 00'4		HP 54'9 54'8 54'7 54'7 54'6 54'5								
	SHA 038° 038° 038° 038° 038° 037°		SHA 077° 077° 077° 076° 076° 076°		SHA 318° 316° 314° 312° 310° 308°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:39		Greenwich Culmination Time: 18:03								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	216 33.2 +00.5	S 23 35.5 -00.1	157 15.8 +01.9	S 09 09.3 -00.2	179 02.0 +02.2	S 16 45.5 -00.1	00						
01	231 33.7 +00.5	S 23 35.4 -00.1	172 17.7 +01.9	S 09 09.1 -00.3	194 04.2 +02.2	S 16 45.4 -00.1	01						
02	246 34.2 +00.4	S 23 35.3 -00.1	187 19.6 +01.9	S 09 08.8 -00.2	209 06.4 +02.1	S 16 45.3 -00.1	02						
03	261 34.6 +00.5	S 23 35.2 -00.2	202 21.5 +01.9	S 09 08.6 -00.2	224 08.5 +02.2	S 16 45.2 -00.1	03						
04	276 35.1 +00.5	S 23 35.0 -00.1	217 23.4 +01.9	S 09 08.4 -00.2	239 10.7 +02.2	S 16 45.1 +00.0	04						
05	291 35.6 +00.4	S 23 34.9 -00.1	232 25.3 +02.0	S 09 08.2 -00.2	254 12.9 +02.1	S 16 45.1 -00.1	05						
06	306 36.0 +00.5	S 23 34.8 -00.1	247 27.3 +01.9	S 09 08.0 -00.3	269 15.0 +02.2	S 16 45.0 -00.1	06						
07	321 36.5 +00.5	S 23 34.7 -00.1	262 29.2 +01.9	S 09 07.7 -00.2	284 17.2 +02.2	S 16 44.9 -00.1	07						
08	336 37.0 +00.4	S 23 34.6 -00.1	277 31.1 +01.9	S 09 07.5 -00.2	299 19.4 +02.1	S 16 44.8 -00.1	08						
09	351 37.4 +00.5	S 23 34.5 -00.2	292 33.0 +01.9	S 09 07.3 -00.2	314 21.5 +02.2	S 16 44.7 -00.1	09						
10	6 37.9 +00.5	S 23 34.3 -00.1	307 34.9 +01.9	S 09 07.1 -00.3	329 23.7 +02.1	S 16 44.6 -00.1	10						
11	21 38.4 +00.4	S 23 34.2 -00.1	322 36.8 +01.9	S 09 06.8 -00.2	344 25.8 +02.2	S 16 44.5 -00.1	11						
12	36 38.8 +00.5	S 23 34.1 -00.1	337 38.7 +01.9	S 09 06.6 -00.2	359 28.0 +02.2	S 16 44.4 +00.0	12						
13	51 39.3 +00.5	S 23 34.0 -00.1	352 40.6 +02.0	S 09 06.4 -00.2	14 30.2 +02.1	S 16 44.4 -00.1	13						
14	66 39.8 +00.4	S 23 33.9 -00.2	7 42.6 +01.9	S 09 06.2 -00.2	29 32.3 +02.2	S 16 44.3 -00.1	14						
15	81 40.2 +00.5	S 23 33.7 -00.1	22 44.5 +01.9	S 09 06.0 -00.3	44 34.5 +02.2	S 16 44.2 -00.1	15						
16	96 40.7 +00.5	S 23 33.6 -00.1	37 46.4 +01.9	S 09 05.7 -00.2	59 36.7 +02.1	S 16 44.1 -00.1	16						
17	111 41.2 +00.4	S 23 33.5 -00.1	52 48.3 +01.9	S 09 05.5 -00.2	74 38.8 +02.2	S 16 44.0 -00.1	17						
18	126 41.6 +00.5	S 23 33.4 -00.2	67 50.2 +01.9	S 09 05.3 -00.2	89 41.0 +02.2	S 16 43.9 -00.1	18						
19	141 42.1 +00.5	S 23 33.2 -00.1	82 52.1 +01.9	S 09 05.1 -00.2	104 43.2 +02.1	S 16 43.8 +00.0	19						
20	156 42.6 +00.4	S 23 33.1 -00.1	97 54.0 +01.9	S 09 04.9 -00.3	119 45.3 +02.2	S 16 43.8 -00.1	20						
21	171 43.0 +00.5	S 23 33.0 -00.1	112 55.9 +01.9	S 09 04.6 -00.2	134 47.5 +02.2	S 16 43.7 -00.1	21						
22	186 43.5 +00.5	S 23 32.9 -00.1	127 57.8 +02.0	S 09 04.4 -00.2	149 49.7 +02.1	S 16 43.6 -00.1	22						
23	201 44.0 +00.4	S 23 32.8 -00.2	142 59.8 +01.9	S 09 04.2 -00.2	164 51.8 +02.2	S 16 43.5 -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 00'1 00'1 00'1 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 078° 078° 078° 078° 078° 078°		SHA 019° 019° 019° 019° 019° 019°		SHA 041° 041° 041° 041° 041° 041°								
	Greenwich Culmination Time: 09:33		Greenwich Culmination Time: 13:29		Greenwich Culmination Time: 12:02								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.6 +00.0	S 14 45.0 -00.8	215 22.4 +01.5	S 16 33.3 +00.1	86 31.3 -27.4	N 18 42.7 +09.7	00						
01	191 27.6 +00.0	S 14 44.2 -00.8	230 23.9 +01.4	S 16 33.4 +00.1	101 03.9 -27.4	N 18 52.4 +09.6	01						
02	206 27.6 +00.0	S 14 43.4 -00.8	245 25.3 +01.5	S 16 33.5 +00.1	115 36.5 -27.5	N 19 02.0 +09.5	02						
03	221 27.6 +00.0	S 14 42.6 -00.8	260 26.8 +01.4	S 16 33.6 +00.2	130 09.0 -27.5	N 19 11.5 +09.5	03						
04	236 27.6 +00.0	S 14 41.8 -00.8	275 28.2 +01.5	S 16 33.8 +00.1	144 41.5 -27.6	N 19 21.0 +09.4	04						
05	251 27.6 -00.1	S 14 41.0 -00.8	290 29.7 +01.4	S 16 33.9 +00.1	159 13.9 -27.6	N 19 30.4 +09.2	05						
06	266 27.5 +00.0	S 14 40.2 -00.8	305 31.1 +01.5	S 16 34.0 +00.1	173 46.3 -27.6	N 19 39.6 +09.2	06						
07	281 27.5 +00.0	S 14 39.4 -00.8	320 32.6 +01.4	S 16 34.1 +00.1	188 18.7 -27.7	N 19 48.8 +09.1	07						
08	296 27.5 +00.0	S 14 38.6 -00.8	335 34.0 +01.5	S 16 34.2 +00.1	202 51.0 -27.7	N 19 57.9 +09.1	08						
09	311 27.5 +00.0	S 14 37.8 -00.8	350 35.5 +01.4	S 16 34.3 +00.1	217 23.3 -27.8	N 20 07.0 +08.9	09						
10	326 27.5 +00.0	S 14 37.0 -00.8	5 36.9 +01.4	S 16 34.4 +00.1	231 55.5 -27.8	N 20 15.9 +08.8	10						
11	341 27.5 -00.1	S 14 36.2 -00.8	20 38.3 +01.4	S 16 34.5 +00.1	246 27.7 -27.9	N 20 24.7 +08.8	11						
12	356 27.4 +00.0	S 14 35.4 -00.8	35 39.7 +01.5	S 16 34.6 +00.1	260 59.8 -27.9	N 20 33.5 +08.6	12						
13	11 27.4 +00.0	S 14 34.6 -00.9	50 41.2 +01.4	S 16 34.7 +00.1	275 31.9 -28.0	N 20 42.1 +08.6	13						
14	26 27.4 +00.0	S 14 33.7 -00.8	65 42.6 +01.4	S 16 34.8 +00.1	290 03.9 -28.0	N 20 50.7 +08.4	14						
15	41 27.4 +00.0	S 14 32.9 -00.8	80 44.0 +01.4	S 16 34.9 +00.1	304 35.9 -28.0	N 20 59.1 +08.4	15						
16	56 27.4 +00.0	S 14 32.1 -00.8	95 45.4 +01.4	S 16 35.0 +00.1	319 07.9 -28.1	N 21 07.5 +08.3	16						
17	71 27.4 +00.0	S 14 31.3 -00.8	110 46.8 +01.4	S 16 35.1 +00.2	333 39.8 -28.2	N 21 15.8 +08.2	17						
18	86 27.4 -00.1	S 14 30.5 -00.8	125 48.2 +01.4	S 16 35.3 +00.1	348 11.6 -28.2	N 21 24.0 +08.1	18						
19	101 27.3 +00.0	S 14 29.7 -00.8	140 49.6 +01.4	S 16 35.4 +00.1	2 43.4 -28.2	N 21 32.1 +08.0	19						
20	116 27.3 +00.0	S 14 28.9 -00.8	155 51.0 +01.4	S 16 35.5 +00.1	17 15.2 -28.3	N 21 40.1 +07.9	20						
21	131 27.3 +00.0	S 14 28.1 -00.8	170 52.4 +01.4	S 16 35.6 +00.1	31 46.9 -28.3	N 21 48.0 +07.8	21						
22	146 27.3 +00.0	S 14 27.3 -00.8	185 53.8 +01.4	S 16 35.7 +00.1	46 18.6 -28.4	N 21 55.8 +07.7	22						
23	161 27.3 +00.0	S 14 26.5 -00.8	200 55.2 +01.4	S 16 35.8 +00.1	60 50.2 -28.4	N 22 03.5 +07.6	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	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	54'5 54'4 54'4 54'3 54'3 54'2						
SHA	037° 037° 037° 037° 037° 036°		SHA	076° 076° 076° 076° 076° 076°		SHA	306° 304° 302° 300° 298° 296°						
Greenwich Culmination Time: 12:14				Greenwich Culmination Time: 09:37				Greenwich Culmination Time: 18:48					

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	216 44.4 +00.5	S 23 32.6 -00.1	158 01.7 +01.9	S 09 04.0 -00.3	179 54.0 +02.2	S 16 43.4 -00.1	00						
01	231 44.9 +00.5	S 23 32.5 -00.1	173 03.6 +01.9	S 09 03.7 -00.2	194 56.2 +02.1	S 16 43.3 -00.1	01						
02	246 45.4 +00.4	S 23 32.4 -00.2	188 05.5 +01.9	S 09 03.5 -00.2	209 58.3 +02.2	S 16 43.2 -00.1	02						
03	261 45.8 +00.5	S 23 32.2 -00.1	203 07.4 +01.9	S 09 03.3 -00.2	225 00.5 +02.1	S 16 43.1 +00.0	03						
04	276 46.3 +00.5	S 23 32.1 -00.1	218 09.3 +01.9	S 09 03.1 -00.2	240 02.6 +02.2	S 16 43.1 -00.1	04						
05	291 46.8 +00.4	S 23 32.0 -00.1	233 11.2 +01.9	S 09 02.9 -00.3	255 04.8 +02.2	S 16 43.0 -00.1	05						
06	306 47.2 +00.5	S 23 31.9 -00.2	248 13.1 +02.0	S 09 02.6 -00.2	270 07.0 +02.1	S 16 42.9 -00.1	06						
07	321 47.7 +00.5	S 23 31.7 -00.1	263 15.1 +01.9	S 09 02.4 -00.2	285 09.1 +02.2	S 16 42.8 -00.1	07						
08	336 48.2 +00.4	S 23 31.6 -00.1	278 17.0 +01.9	S 09 02.2 -00.2	300 11.3 +02.2	S 16 42.7 -00.1	08						
09	351 48.6 +00.5	S 23 31.5 -00.1	293 18.9 +01.9	S 09 02.0 -00.3	315 13.5 +02.1	S 16 42.6 -00.1	09						
10	6 49.1 +00.5	S 23 31.4 -00.2	308 20.8 +01.9	S 09 01.7 -00.2	330 15.6 +02.2	S 16 42.5 -00.1	10						
11	21 49.6 +00.4	S 23 31.2 -00.1	323 22.7 +01.9	S 09 01.5 -00.2	345 17.8 +02.2	S 16 42.4 +00.0	11						
12	36 50.0 +00.5	S 23 31.1 -00.1	338 24.6 +01.9	S 09 01.3 -00.2	0 20.0 +02.1	S 16 42.4 -00.1	12						
13	51 50.5 +00.5	S 23 31.0 -00.2	353 26.5 +01.9	S 09 01.1 -00.2	15 22.1 +02.2	S 16 42.3 -00.1	13						
14	66 51.0 +00.4	S 23 30.8 -00.1	8 28.4 +01.9	S 09 00.9 -00.3	30 24.3 +02.2	S 16 42.2 -00.1	14						
15	81 51.4 +00.5	S 23 30.7 -00.1	23 30.3 +02.0	S 09 00.6 -00.2	45 26.5 +02.1	S 16 42.1 -00.1	15						
16	96 51.9 +00.5	S 23 30.6 -00.2	38 32.3 +01.9	S 09 00.4 -00.2	60 28.6 +02.2	S 16 42.0 -00.1	16						
17	111 52.4 +00.4	S 23 30.4 -00.1	53 34.2 +01.9	S 09 00.2 -00.2	75 30.8 +02.2	S 16 41.9 -00.1	17						
18	126 52.8 +00.5	S 23 30.3 -00.1	68 36.1 +01.9	S 08 60.0 -00.2	90 33.0 +02.1	S 16 41.8 -00.1	18						
19	141 53.3 +00.5	S 23 30.2 -00.2	83 38.0 +01.9	S 08 59.8 -00.3	105 35.1 +02.2	S 16 41.7 +00.0	19						
20	156 53.8 +00.4	S 23 30.0 -00.1	98 39.9 +01.9	S 08 59.5 -00.2	120 37.3 +02.2	S 16 41.7 -00.1	20						
21	171 54.2 +00.5	S 23 29.9 -00.1	113 41.8 +01.9	S 08 59.3 -00.2	135 39.5 +02.1	S 16 41.6 -00.1	21						
22	186 54.7 +00.5	S 23 29.8 -00.2	128 43.7 +01.9	S 08 59.1 -00.2	150 41.6 +02.2	S 16 41.5 -00.1	22						
23	201 55.2 +00.4	S 23 29.6 -00.1	143 45.6 +01.9	S 08 58.9 -00.3	165 43.8 +02.2	S 16 41.4 -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	00'1 00'1 00'1 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	078° 077° 077° 077° 077° 077°		SHA	019° 019° 019° 019° 019° 019°		SHA	041° 041° 041° 041° 041° 041°						
Greenwich Culmination Time: 09:32				Greenwich Culmination Time: 13:26				Greenwich Culmination Time: 11:58					



UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.3 +00.0	S 14 25.7 -00.8	215 56.6 +01.4	S 16 35.9 +00.1	75 21.8 -28.5	N 22 11.1 +07.5	00						
01	191 27.3 +00.0	S 14 24.9 -00.9	230 58.0 +01.4	S 16 36.0 +00.1	89 53.3 -28.6	N 22 18.6 +07.4	01						
02	206 27.3 -00.1	S 14 24.0 -00.8	245 59.4 +01.4	S 16 36.1 +00.1	104 24.7 -28.5	N 22 26.0 +07.3	02						
03	221 27.2 +00.0	S 14 23.2 -00.8	261 00.8 +01.3	S 16 36.2 +00.1	118 56.2 -28.7	N 22 33.3 +07.2	03						
04	236 27.2 +00.0	S 14 22.4 -00.8	276 02.1 +01.4	S 16 36.3 +00.1	133 27.5 -28.6	N 22 40.5 +07.1	04						
05	251 27.2 +00.0	S 14 21.6 -00.8	291 03.5 +01.4	S 16 36.4 +00.1	147 58.9 -28.8	N 22 47.6 +07.0	05						
06	266 27.2 +00.0	S 14 20.8 -00.8	306 04.9 +01.3	S 16 36.5 +00.1	162 30.1 -28.7	N 22 54.6 +06.9	06						
07	281 27.2 +00.0	S 14 20.0 -00.8	321 06.2 +01.4	S 16 36.6 +00.2	177 01.4 -28.9	N 23 01.5 +06.8	07						
08	296 27.2 +00.0	S 14 19.2 -00.8	336 07.6 +01.4	S 16 36.8 +00.1	191 32.5 -28.8	N 23 08.3 +06.7	08						
09	311 27.2 +00.0	S 14 18.4 -00.9	351 09.0 +01.3	S 16 36.9 +00.1	206 03.7 -28.9	N 23 15.0 +06.6	09						
10	326 27.2 +00.0	S 14 17.5 -00.8	6 10.3 +01.4	S 16 37.0 +00.1	220 34.8 -29.0	N 23 21.6 +06.5	10						
11	341 27.2 +00.0	S 14 16.7 -00.8	21 11.7 +01.3	S 16 37.1 +00.1	235 05.8 -29.0	N 23 28.1 +06.3	11						
12	356 27.2 +00.0	S 14 15.9 -00.8	36 13.0 +01.4	S 16 37.2 +00.1	249 36.8 -29.1	N 23 34.4 +06.3	12						
13	11 27.2 +00.0	S 14 15.1 -00.8	51 14.4 +01.3	S 16 37.3 +00.1	264 07.7 -29.1	N 23 40.7 +06.2	13						
14	26 27.2 -00.1	S 14 14.3 -00.8	66 15.7 +01.3	S 16 37.4 +00.1	278 38.6 -29.1	N 23 46.9 +06.0	14						
15	41 27.1 +00.0	S 14 13.5 -00.8	81 17.0 +01.4	S 16 37.5 +00.1	293 09.5 -29.2	N 23 52.9 +06.0	15						
16	56 27.1 +00.0	S 14 12.7 -00.9	96 18.4 +01.3	S 16 37.6 +00.1	307 40.3 -29.3	N 23 58.9 +05.8	16						
17	71 27.1 +00.0	S 14 11.8 -00.8	111 19.7 +01.3	S 16 37.7 +00.1	322 11.0 -29.3	N 24 04.7 +05.7	17						
18	86 27.1 +00.0	S 14 11.0 -00.8	126 21.0 +01.4	S 16 37.8 +00.1	336 41.7 -29.3	N 24 10.4 +05.6	18						
19	101 27.1 +00.0	S 14 10.2 -00.8	141 22.4 +01.3	S 16 37.9 +00.1	351 12.4 -29.4	N 24 16.0 +05.5	19						
20	116 27.1 +00.0	S 14 09.4 -00.8	156 23.7 +01.3	S 16 38.0 +00.1	5 43.0 -29.5	N 24 21.5 +05.4	20						
21	131 27.1 +00.0	S 14 08.6 -00.9	171 25.0 +01.3	S 16 38.1 +00.1	20 13.5 -29.4	N 24 26.9 +05.3	21						
22	146 27.1 +00.0	S 14 07.7 -00.8	186 26.3 +01.4	S 16 38.2 +00.1	34 44.1 -29.6	N 24 32.2 +05.2	22						
23	161 27.1 +00.0	S 14 06.9 -00.8	201 27.7 +01.3	S 16 38.3 +00.1	49 14.5 -29.5	N 24 37.4 +05.0	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 00'4 00'4 00'4 00'4 00'3 00'3		SD 14'8 14'8 14'8 14'8 14'8 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 54'2 54'2 54'2 54'2 54'1 54'1								
	SHA 036° 036° 036° 036° 036° 035°		SHA 076° 076° 076° 076° 076° 075°		SHA 294° 292° 290° 288° 286° 284°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:35		Greenwich Culmination Time: 19:36								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	216 55.6 +00.5	S 23 29.5 -00.1	158 47.5 +02.0	S 08 58.6 -00.2	180 46.0 +02.1	S 16 41.3 -00.1	00						
01	231 56.1 +00.5	S 23 29.4 -00.2	173 49.5 +01.9	S 08 58.4 -00.2	195 48.1 +02.2	S 16 41.2 -00.1	01						
02	246 56.6 +00.4	S 23 29.2 -00.1	188 51.4 +01.9	S 08 58.2 -00.2	210 50.3 +02.1	S 16 41.1 -00.1	02						
03	261 57.0 +00.5	S 23 29.1 -00.1	203 53.3 +01.9	S 08 58.0 -00.3	225 52.4 +02.2	S 16 41.0 +00.0	03						
04	276 57.5 +00.5	S 23 29.0 -00.2	218 55.2 +01.9	S 08 57.7 -00.2	240 54.6 +02.2	S 16 41.0 -00.1	04						
05	291 58.0 +00.4	S 23 28.8 -00.1	233 57.1 +01.9	S 08 57.5 -00.2	255 56.8 +02.1	S 16 40.9 -00.1	05						
06	306 58.4 +00.5	S 23 28.7 -00.2	248 59.0 +01.9	S 08 57.3 -00.2	270 58.9 +02.2	S 16 40.8 -00.1	06						
07	321 58.9 +00.5	S 23 28.5 -00.1	264 00.9 +01.9	S 08 57.1 -00.2	286 01.1 +02.2	S 16 40.7 -00.1	07						
08	336 59.4 +00.4	S 23 28.4 -00.1	279 02.8 +01.9	S 08 56.9 -00.3	301 03.3 +02.1	S 16 40.6 -00.1	08						
09	351 59.8 +00.5	S 23 28.3 -00.2	294 04.7 +01.9	S 08 56.6 -00.2	316 05.4 +02.2	S 16 40.5 -00.1	09						
10	7 00.3 +00.5	S 23 28.1 -00.1	309 06.6 +02.0	S 08 56.4 -00.2	331 07.6 +02.2	S 16 40.4 -00.1	10						
11	22 00.8 +00.4	S 23 28.0 -00.2	324 08.6 +01.9	S 08 56.2 -00.2	346 09.8 +02.1	S 16 40.3 +00.0	11						
12	37 01.2 +00.5	S 23 27.8 -00.1	339 10.5 +01.9	S 08 56.0 -00.3	1 11.9 +02.2	S 16 40.3 -00.1	12						
13	52 01.7 +00.5	S 23 27.7 -00.1	354 12.4 +01.9	S 08 55.7 -00.2	16 14.1 +02.2	S 16 40.2 -00.1	13						
14	67 02.2 +00.4	S 23 27.6 -00.2	9 14.3 +01.9	S 08 55.5 -00.2	31 16.3 +02.1	S 16 40.1 -00.1	14						
15	82 02.6 +00.5	S 23 27.4 -00.1	24 16.2 +01.9	S 08 55.3 -00.2	46 18.4 +02.2	S 16 40.0 -00.1	15						
16	97 03.1 +00.5	S 23 27.3 -00.2	39 18.1 +01.9	S 08 55.1 -00.2	61 20.6 +02.2	S 16 39.9 -00.1	16						
17	112 03.6 +00.4	S 23 27.1 -00.1	54 20.0 +01.9	S 08 54.9 -00.3	76 22.8 +02.1	S 16 39.8 -00.1	17						
18	127 04.0 +00.5	S 23 27.0 -00.2	69 21.9 +01.9	S 08 54.6 -00.2	91 24.9 +02.2	S 16 39.7 -00.1	18						
19	142 04.5 +00.5	S 23 26.8 -00.1	84 23.8 +02.0	S 08 54.4 -00.2	106 27.1 +02.2	S 16 39.6 +00.0	19						
20	157 05.0 +00.4	S 23 26.7 -00.1	99 25.8 +01.9	S 08 54.2 -00.2	121 29.3 +02.1	S 16 39.6 -00.1	20						
21	172 05.4 +00.5	S 23 26.6 -00.2	114 27.7 +01.9	S 08 54.0 -00.3	136 31.4 +02.2	S 16 39.5 -00.1	21						
22	187 05.9 +00.5	S 23 26.4 -00.1	129 29.6 +01.9	S 08 53.7 -00.2	151 33.6 +02.2	S 16 39.4 -00.1	22						
23	202 06.4 +00.4	S 23 26.3 -00.2	144 31.5 +01.9	S 08 53.5 -00.2	166 35.8 +02.1	S 16 39.3 -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 00'1 00'1 00'1 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 077° 077° 077° 076° 076° 076°		SHA 019° 019° 019° 019° 019° 019°		SHA 041° 041° 041° 041° 041° 041°								
	Greenwich Culmination Time: 09:31		Greenwich Culmination Time: 13:23		Greenwich Culmination Time: 11:55								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.1 +00.0	S	14 06.1 -00.8	216 29.0 +01.3	S	16 38.4 +00.1	63 45.0 -29.6	N	24 42.4 +05.0				
01	191 27.1 +00.0	S	14 05.3 -00.8	231 30.3 +01.3	S	16 38.5 +00.2	78 15.4 -29.7	N	24 47.4 +04.8				
02	206 27.1 +00.0	S	14 04.5 -00.9	246 31.6 +01.3	S	16 38.7 +00.1	92 45.7 -29.7	N	24 52.2 +04.7				
03	221 27.1 +00.0	S	14 03.6 -00.8	261 32.9 +01.3	S	16 38.8 +00.1	107 16.0 -29.7	N	24 56.9 +04.6				
04	236 27.1 +00.0	S	14 02.8 -00.8	276 34.2 +01.3	S	16 38.9 +00.1	121 46.3 -29.8	N	25 01.5 +04.5				
05	251 27.1 +00.0	S	14 02.0 -00.8	291 35.5 +01.3	S	16 39.0 +00.1	136 16.5 -29.9	N	25 06.0 +04.4				
06	266 27.1 +00.0	S	14 01.2 -00.8	306 36.8 +01.3	S	16 39.1 +00.1	150 46.6 -29.8	N	25 10.4 +04.2				
07	281 27.1 +00.0	S	14 00.4 -00.9	321 38.1 +01.2	S	16 39.2 +00.1	165 16.8 -30.0	N	25 14.6 +04.2				
08	296 27.1 +00.0	S	13 59.5 -00.8	336 39.3 +01.3	S	16 39.3 +00.1	179 46.8 -29.9	N	25 18.8 +04.0				
09	311 27.1 +00.0	S	13 58.7 -00.8	351 40.6 +01.3	S	16 39.4 +00.1	194 16.9 -30.0	N	25 22.8 +03.9				
10	326 27.1 +00.0	S	13 57.9 -00.8	6 41.9 +01.3	S	16 39.5 +00.1	208 46.9 -30.0	N	25 26.7 +03.8				
11	341 27.1 +00.0	S	13 57.1 -00.9	21 43.2 +01.3	S	16 39.6 +00.1	223 16.9 -30.1	N	25 30.5 +03.6				
12	356 27.1 +00.0	S	13 56.2 -00.8	36 44.5 +01.2	S	16 39.7 +00.1	237 46.8 -30.1	N	25 34.1 +03.6				
13	11 27.1 +00.0	S	13 55.4 -00.8	51 45.7 +01.3	S	16 39.8 +00.1	252 16.7 -30.2	N	25 37.7 +03.4				
14	26 27.1 +00.0	S	13 54.6 -00.8	66 47.0 +01.3	S	16 39.9 +00.1	266 46.5 -30.1	N	25 41.1 +03.3				
15	41 27.1 +00.0	S	13 53.8 -00.9	81 48.3 +01.2	S	16 40.0 +00.1	281 16.4 -30.3	N	25 44.4 +03.2				
16	56 27.1 +00.0	S	13 52.9 -00.8	96 49.5 +01.3	S	16 40.1 +00.1	295 46.1 -30.2	N	25 47.6 +03.0				
17	71 27.1 +00.0	S	13 52.1 -00.8	111 50.8 +01.2	S	16 40.2 +00.1	310 15.9 -30.3	N	25 50.6 +03.0				
18	86 27.1 +00.0	S	13 51.3 -00.8	126 52.0 +01.3	S	16 40.3 +00.1	324 45.6 -30.4	N	25 53.6 +02.8				
19	101 27.1 +00.0	S	13 50.5 -00.9	141 53.3 +01.3	S	16 40.4 +00.1	339 15.2 -30.3	N	25 56.4 +02.7				
20	116 27.1 +00.0	S	13 49.6 -00.8	156 54.6 +01.2	S	16 40.5 +00.1	353 44.9 -30.4	N	25 59.1 +02.5				
21	131 27.1 +00.0	S	13 48.8 -00.8	171 55.8 +01.2	S	16 40.6 +00.1	8 14.5 -30.4	N	26 01.6 +02.5				
22	146 27.1 +00.0	S	13 48.0 -00.9	186 57.0 +01.3	S	16 40.7 +00.1	22 44.1 -30.5	N	26 04.1 +02.3				
23	161 27.1 +00.0	S	13 47.1 -00.8	201 58.3 +01.2	S	16 40.8 +00.1	37 13.6 -30.5	N	26 06.4 +02.2				
	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 14'7 14'7 14'7 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 54'1 54'1 54'1 54'1 54'2 54'2						
	SHA 035° 035° 035° 035° 035° 035°			SHA 075° 075° 075° 075° 075° 075°			SHA 282° 279° 277° 275° 273° 271°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 09:33			Greenwich Culmination Time: 20:25						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	217 06.8 +00.5	S	23 26.1 -00.1	159 33.4 +01.9	S	08 53.3 -00.2	181 37.9 +02.2	S	16 39.2 -00.1				
01	232 07.3 +00.5	S	23 26.0 -00.2	174 35.3 +01.9	S	08 53.1 -00.3	196 40.1 +02.2	S	16 39.1 -00.1				
02	247 07.8 +00.4	S	23 25.8 -00.1	189 37.2 +01.9	S	08 52.8 -00.2	211 42.3 +02.1	S	16 39.0 -00.1				
03	262 08.2 +00.5	S	23 25.7 -00.2	204 39.1 +01.9	S	08 52.6 -00.2	226 44.4 +02.2	S	16 38.9 +00.0				
04	277 08.7 +00.5	S	23 25.5 -00.1	219 41.0 +01.9	S	08 52.4 -00.2	241 46.6 +02.2	S	16 38.9 -00.1				
05	292 09.2 +00.4	S	23 25.4 -00.2	234 42.9 +02.0	S	08 52.2 -00.2	256 48.8 +02.1	S	16 38.8 -00.1				
06	307 09.6 +00.5	S	23 25.2 -00.1	249 44.9 +01.9	S	08 52.0 -00.3	271 50.9 +02.2	S	16 38.7 -00.1				
07	322 10.1 +00.5	S	23 25.1 -00.1	264 46.8 +01.9	S	08 51.7 -00.2	286 53.1 +02.2	S	16 38.6 -00.1				
08	337 10.6 +00.4	S	23 25.0 -00.2	279 48.7 +01.9	S	08 51.5 -00.2	301 55.3 +02.1	S	16 38.5 -00.1				
09	352 11.0 +00.5	S	23 24.8 -00.1	294 50.6 +01.9	S	08 51.3 -00.2	316 57.4 +02.2	S	16 38.4 -00.1				
10	7 11.5 +00.5	S	23 24.7 -00.2	309 52.5 +01.9	S	08 51.1 -00.3	331 59.6 +02.1	S	16 38.3 -00.1				
11	22 12.0 +00.4	S	23 24.5 -00.1	324 54.4 +01.9	S	08 50.8 -00.2	347 01.7 +02.2	S	16 38.2 +00.0				
12	37 12.4 +00.5	S	23 24.4 -00.2	339 56.3 +01.9	S	08 50.6 -00.2	2 03.9 +02.2	S	16 38.2 -00.1				
13	52 12.9 +00.5	S	23 24.2 -00.1	354 58.2 +01.9	S	08 50.4 -00.2	17 06.1 +02.1	S	16 38.1 -00.1				
14	67 13.4 +00.4	S	23 24.1 -00.2	10 00.1 +01.9	S	08 50.2 -00.3	32 08.2 +02.2	S	16 38.0 -00.1				
15	82 13.8 +00.5	S	23 23.9 -00.2	25 02.0 +01.9	S	08 49.9 -00.2	47 10.4 +02.2	S	16 37.9 -00.1				
16	97 14.3 +00.5	S	23 23.7 -00.1	40 03.9 +02.0	S	08 49.7 -00.2	62 12.6 +02.1	S	16 37.8 -00.1				
17	112 14.8 +00.4	S	23 23.6 -00.2	55 05.9 +01.9	S	08 49.5 -00.2	77 14.7 +02.2	S	16 37.7 -00.1				
18	127 15.2 +00.5	S	23 23.4 -00.1	70 07.8 +01.9	S	08 49.3 -00.2	92 16.9 +02.2	S	16 37.6 -00.1				
19	142 15.7 +00.5	S	23 23.3 -00.2	85 09.7 +01.9	S	08 49.1 -00.3	107 19.1 +02.1	S	16 37.5 +00.0				
20	157 16.2 +00.4	S	23 23.1 -00.1	100 11.6 +01.9	S	08 48.8 -00.2	122 21.2 +02.2	S	16 37.5 -00.1				
21	172 16.6 +00.5	S	23 23.0 -00.2	115 13.5 +01.9	S	08 48.6 -00.2	137 23.4 +02.2	S	16 37.4 -00.1				
22	187 17.1 +00.5	S	23 22.8 -00.1	130 15.4 +01.9	S	08 48.4 -00.2	152 25.6 +02.1	S	16 37.3 -00.1				
23	202 17.6 +00.4	S	23 22.7 -00.2	145 17.3 +01.9	S	08 48.2 -00.3	167 27.7 +02.2	S	16 37.2 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 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 076° 076° 076° 076° 075° 075°			SHA 018° 018° 018° 018° 018° 018°			SHA 041° 041° 041° 041° 041° 040°						
	Greenwich Culmination Time: 09:31			Greenwich Culmination Time: 13:20			Greenwich Culmination Time: 11:51						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.1 +00.0	S 13 46.3 -00.8	216 59.5 +01.3	S 16 40.9 +00.1	51 43.1 -30.5	N 26 08.6 +02.1	00						
01	191 27.1 +00.0	S 13 45.5 -00.9	232 00.8 +01.2	S 16 41.0 +00.1	66 12.6 -30.5	N 26 10.7 +01.9	01						
02	206 27.1 +00.1	S 13 44.6 -00.8	247 02.0 +01.2	S 16 41.1 +00.1	80 42.1 -30.6	N 26 12.6 +01.8	02						
03	221 27.2 +00.0	S 13 43.8 -00.8	262 03.2 +01.2	S 16 41.2 +00.1	95 11.5 -30.6	N 26 14.4 +01.7	03						
04	236 27.2 +00.0	S 13 43.0 -00.8	277 04.4 +01.3	S 16 41.3 +00.1	109 40.9 -30.7	N 26 16.1 +01.6	04						
05	251 27.2 +00.0	S 13 42.2 -00.9	292 05.7 +01.2	S 16 41.4 +00.1	124 10.2 -30.6	N 26 17.7 +01.4	05						
06	266 27.2 +00.0	S 13 41.3 -00.8	307 06.9 +01.2	S 16 41.5 +00.1	138 39.6 -30.7	N 26 19.1 +01.3	06						
07	281 27.2 +00.0	S 13 40.5 -00.8	322 08.1 +01.2	S 16 41.6 +00.1	153 08.9 -30.7	N 26 20.4 +01.2	07						
08	296 27.2 +00.0	S 13 39.7 -00.9	337 09.3 +01.2	S 16 41.7 +00.1	167 38.2 -30.7	N 26 21.6 +01.1	08						
09	311 27.2 +00.0	S 13 38.8 -00.8	352 10.5 +01.2	S 16 41.8 +00.1	182 07.5 -30.8	N 26 22.7 +00.9	09						
10	326 27.2 +00.0	S 13 38.0 -00.8	7 11.7 +01.3	S 16 41.9 +00.2	196 36.7 -30.7	N 26 23.6 +00.8	10						
11	341 27.2 +00.0	S 13 37.2 -00.9	22 13.0 +01.2	S 16 42.1 +00.1	211 06.0 -30.8	N 26 24.4 +00.7	11						
12	356 27.2 +00.0	S 13 36.3 -00.8	37 14.2 +01.2	S 16 42.2 +00.1	225 35.2 -30.8	N 26 25.1 +00.6	12						
13	11 27.2 +00.0	S 13 35.5 -00.8	52 15.4 +01.2	S 16 42.3 +00.1	240 04.4 -30.9	N 26 25.7 +00.4	13						
14	26 27.2 +00.0	S 13 34.7 -00.9	67 16.6 +01.1	S 16 42.4 +00.1	254 33.5 -30.8	N 26 26.1 +00.3	14						
15	41 27.2 +00.1	S 13 33.8 -00.8	82 17.7 +01.2	S 16 42.5 +00.1	269 02.7 -30.9	N 26 26.4 +00.1	15						
16	56 27.3 +00.0	S 13 33.0 -00.8	97 18.9 +01.2	S 16 42.6 +00.1	283 31.8 -30.8	N 26 26.5 +00.1	16						
17	71 27.3 +00.0	S 13 32.2 -00.9	112 20.1 +01.2	S 16 42.7 +00.1	298 01.0 -30.9	N 26 26.6 -00.1	17						
18	86 27.3 +00.0	S 13 31.3 -00.8	127 21.3 +01.2	S 16 42.8 +00.0	312 30.1 -30.9	N 26 26.5 -00.3	18						
19	101 27.3 +00.0	S 13 30.5 -00.9	142 22.5 +01.2	S 16 42.8 +00.1	326 59.2 -30.9	N 26 26.2 -00.3	19						
20	116 27.3 +00.0	S 13 29.6 -00.8	157 23.7 +01.1	S 16 42.9 +00.1	341 28.3 -31.0	N 26 25.9 -00.5	20						
21	131 27.3 +00.0	S 13 28.8 -00.8	172 24.8 +01.2	S 16 43.0 +00.1	355 57.3 -30.9	N 26 25.4 -00.6	21						
22	146 27.3 +00.0	S 13 28.0 -00.9	187 26.0 +01.2	S 16 43.1 +00.1	10 26.4 -31.0	N 26 24.8 -00.8	22						
23	161 27.3 +00.1	S 13 27.1 -00.8	202 27.2 +01.2	S 16 43.2 +00.1	24 55.4 -30.9	N 26 24.0 -00.8	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 14'8 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 54'3 54'3 54'3 54'4								
	SHA 034° 034° 034° 034° 034° 034°		SHA 075° 075° 075° 075° 075° 075°		SHA 269° 266° 264° 262° 260° 258°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:31		Greenwich Culmination Time: 21:16								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	217 18.0 +00.5	S 23 22.5 -00.1	160 19.2 +01.9	S 08 47.9 -00.2	182 29.9 +02.2	S 16 37.1 -00.1	00						
01	232 18.5 +00.5	S 23 22.4 -00.2	175 21.1 +01.9	S 08 47.7 -00.2	197 32.1 +02.1	S 16 37.0 -00.1	01						
02	247 19.0 +00.4	S 23 22.2 -00.1	190 23.0 +01.9	S 08 47.5 -00.2	212 34.2 +02.2	S 16 36.9 +00.0	02						
03	262 19.4 +00.5	S 23 22.1 -00.2	205 24.9 +02.0	S 08 47.3 -00.3	227 36.4 +02.2	S 16 36.9 -00.1	03						
04	277 19.9 +00.5	S 23 21.9 -00.2	220 26.9 +01.9	S 08 47.0 -00.2	242 38.6 +02.1	S 16 36.8 -00.1	04						
05	292 20.4 +00.5	S 23 21.7 -00.1	235 28.8 +01.9	S 08 46.8 -00.2	257 40.7 +02.2	S 16 36.7 -00.1	05						
06	307 20.9 +00.4	S 23 21.6 -00.2	250 30.7 +01.9	S 08 46.6 -00.2	272 42.9 +02.2	S 16 36.6 -00.1	06						
07	322 21.3 +00.5	S 23 21.4 -00.1	265 32.6 +01.9	S 08 46.4 -00.3	287 45.1 +02.1	S 16 36.5 -00.1	07						
08	337 21.8 +00.5	S 23 21.3 -00.2	280 34.5 +01.9	S 08 46.1 -00.2	302 47.2 +02.2	S 16 36.4 -00.1	08						
09	352 22.3 +00.4	S 23 21.1 -00.2	295 36.4 +01.9	S 08 45.9 -00.2	317 49.4 +02.2	S 16 36.3 -00.1	09						
10	7 22.7 +00.5	S 23 20.9 -00.1	310 38.3 +01.9	S 08 45.7 -00.2	332 51.6 +02.1	S 16 36.2 +00.0	10						
11	22 23.2 +00.5	S 23 20.8 -00.2	325 40.2 +01.9	S 08 45.5 -00.3	347 53.7 +02.2	S 16 36.2 -00.1	11						
12	37 23.7 +00.4	S 23 20.6 -00.1	340 42.1 +01.9	S 08 45.2 -00.2	2 55.9 +02.2	S 16 36.1 -00.1	12						
13	52 24.1 +00.5	S 23 20.5 -00.2	355 44.0 +01.9	S 08 45.0 -00.2	17 58.1 +02.1	S 16 36.0 -00.1	13						
14	67 24.6 +00.5	S 23 20.3 -00.2	10 45.9 +02.0	S 08 44.8 -00.2	33 00.2 +02.2	S 16 35.9 -00.1	14						
15	82 25.1 +00.4	S 23 20.1 -00.1	25 47.9 +01.9	S 08 44.6 -00.2	48 02.4 +02.2	S 16 35.8 -00.1	15						
16	97 25.5 +00.5	S 23 20.0 -00.2	40 49.8 +01.9	S 08 44.4 -00.3	63 04.6 +02.1	S 16 35.7 -00.1	16						
17	112 26.0 +00.5	S 23 19.8 -00.1	55 51.7 +01.9	S 08 44.1 -00.2	78 06.7 +02.2	S 16 35.6 -00.1	17						
18	127 26.5 +00.4	S 23 19.7 -00.2	70 53.6 +01.9	S 08 43.9 -00.2	93 08.9 +02.2	S 16 35.5 +00.0	18						
19	142 26.9 +00.5	S 23 19.5 -00.2	85 55.5 +01.9	S 08 43.7 -00.2	108 11.1 +02.1	S 16 35.5 -00.1	19						
20	157 27.4 +00.5	S 23 19.3 -00.1	100 57.4 +01.9	S 08 43.5 -00.3	123 13.2 +02.2	S 16 35.4 -00.1	20						
21	172 27.9 +00.4	S 23 19.2 -00.2	115 59.3 +01.9	S 08 43.2 -00.2	138 15.4 +02.2	S 16 35.3 -00.1	21						
22	187 28.3 +00.5	S 23 19.0 -00.2	131 01.2 +01.9	S 08 43.0 -00.2	153 17.6 +02.1	S 16 35.2 -00.1	22						
23	202 28.8 +00.5	S 23 18.8 -00.1	146 03.1 +01.9	S 08 42.8 -00.2	168 19.7 +02.2	S 16 35.1 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 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 075° 075° 075° 075° 075° 075°		SHA 018° 018° 018° 018° 018° 018°		SHA 040° 040° 040° 040° 040° 040°								
	Greenwich Culmination Time: 09:30		Greenwich Culmination Time: 13:17		Greenwich Culmination Time: 11:48								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.4 +00.0	S 13 26.3 -00.9	217 28.4 +01.1	S 16 43.3 +00.1	39 24.5 -31.0	N 26 23.2 -01.0	00						
01	191 27.4 +00.0	S 13 25.4 -00.8	232 29.5 +01.2	S 16 43.4 +00.1	53 53.5 -31.0	N 26 22.2 -01.2	01						
02	206 27.4 +00.0	S 13 24.6 -00.8	247 30.7 +01.1	S 16 43.5 +00.1	68 22.5 -30.9	N 26 21.0 -01.2	02						
03	221 27.4 +00.0	S 13 23.8 -00.9	262 31.8 +01.2	S 16 43.6 +00.1	82 51.6 -31.0	N 26 19.8 -01.4	03						
04	236 27.4 +00.0	S 13 22.9 -00.8	277 33.0 +01.2	S 16 43.7 +00.1	97 20.6 -31.0	N 26 18.4 -01.6	04						
05	251 27.4 +00.0	S 13 22.1 -00.9	292 34.2 +01.1	S 16 43.8 +00.1	111 49.6 -31.0	N 26 16.8 -01.6	05						
06	266 27.4 +00.1	S 13 21.2 -00.8	307 35.3 +01.2	S 16 43.9 +00.1	126 18.6 -31.0	N 26 15.2 -01.8	06						
07	281 27.5 +00.0	S 13 20.4 -00.8	322 36.5 +01.1	S 16 44.0 +00.1	140 47.6 -30.9	N 26 13.4 -01.9	07						
08	296 27.5 +00.0	S 13 19.6 -00.9	337 37.6 +01.1	S 16 44.1 +00.1	155 16.7 -31.0	N 26 11.5 -02.1	08						
09	311 27.5 +00.0	S 13 18.7 -00.8	352 38.7 +01.2	S 16 44.2 +00.1	169 45.7 -31.0	N 26 09.4 -02.1	09						
10	326 27.5 +00.0	S 13 17.9 -00.9	7 39.9 +01.1	S 16 44.3 +00.1	184 14.7 -31.0	N 26 07.3 -02.3	10						
11	341 27.5 +00.0	S 13 17.0 -00.8	22 41.0 +01.2	S 16 44.4 +00.1	198 43.7 -31.0	N 26 05.0 -02.5	11						
12	356 27.5 +00.1	S 13 16.2 -00.8	37 42.2 +01.1	S 16 44.5 +00.1	213 12.7 -31.0	N 26 02.5 -02.6	12						
13	11 27.6 +00.0	S 13 15.4 -00.9	52 43.3 +01.1	S 16 44.6 +00.1	227 41.7 -30.9	N 25 59.9 -02.7	13						
14	26 27.6 +00.0	S 13 14.5 -00.8	67 44.4 +01.1	S 16 44.7 +00.1	242 10.8 -31.0	N 25 57.2 -02.8	14						
15	41 27.6 +00.0	S 13 13.7 -00.9	82 45.5 +01.2	S 16 44.8 +00.1	256 39.8 -30.9	N 25 54.4 -02.9	15						
16	56 27.6 +00.0	S 13 12.8 -00.8	97 46.7 +01.1	S 16 44.9 +00.1	271 08.9 -31.0	N 25 51.5 -03.1	16						
17	71 27.6 +00.0	S 13 12.0 -00.9	112 47.8 +01.1	S 16 45.0 +00.1	285 37.9 -30.9	N 25 48.4 -03.2	17						
18	86 27.6 +00.1	S 13 11.1 -00.8	127 48.9 +01.1	S 16 45.1 +00.1	300 07.0 -30.9	N 25 45.2 -03.4	18						
19	101 27.7 +00.0	S 13 10.3 -00.9	142 50.0 +01.1	S 16 45.2 +00.1	314 36.1 -31.0	N 25 41.8 -03.5	19						
20	116 27.7 +00.0	S 13 09.4 -00.8	157 51.1 +01.1	S 16 45.3 +00.1	329 05.1 -30.9	N 25 38.3 -03.6	20						
21	131 27.7 +00.0	S 13 08.6 -00.9	172 52.2 +01.1	S 16 45.4 +00.1	343 34.2 -30.8	N 25 34.7 -03.7	21						
22	146 27.7 +00.0	S 13 07.7 -00.8	187 53.3 +01.1	S 16 45.5 +00.1	358 03.4 -30.9	N 25 31.0 -03.9	22						
23	161 27.7 +00.1	S 13 06.9 -00.9	202 54.4 +01.1	S 16 45.6 +00.0	12 32.5 -30.9	N 25 27.1 -04.0	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 14'8 14'8 14'9 14'9 14'9 14'9								
	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 54'4 54'5 54'5 54'6 54'6 54'7								
	SHA 033° 033° 033° 033° 033° 033°		SHA 074° 074° 074° 074° 074° 074°		SHA 255° 253° 251° 249° 246° 244°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:29		Greenwich Culmination Time: 22:08								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	217 29.3 +00.4	S 23 18.7 -00.2	161 05.0 +01.9	S 08 42.6 -00.3	183 21.9 +02.2	S 16 35.0 -00.1	00						
01	232 29.7 +00.5	S 23 18.5 -00.2	176 06.9 +01.9	S 08 42.3 -00.2	198 24.1 +02.1	S 16 34.9 -00.1	01						
02	247 30.2 +00.5	S 23 18.3 -00.1	191 08.8 +02.0	S 08 42.1 -00.2	213 26.2 +02.2	S 16 34.8 +00.0	02						
03	262 30.7 +00.4	S 23 18.2 -00.2	206 10.8 +01.9	S 08 41.9 -00.2	228 28.4 +02.2	S 16 34.8 -00.1	03						
04	277 31.1 +00.5	S 23 18.0 -00.2	221 12.7 +01.9	S 08 41.7 -00.3	243 30.6 +02.1	S 16 34.7 -00.1	04						
05	292 31.6 +00.5	S 23 17.8 -00.1	236 14.6 +01.9	S 08 41.4 -00.2	258 32.7 +02.2	S 16 34.6 -00.1	05						
06	307 32.1 +00.4	S 23 17.7 -00.2	251 16.5 +01.9	S 08 41.2 -00.2	273 34.9 +02.2	S 16 34.5 -00.1	06						
07	322 32.5 +00.5	S 23 17.5 -00.2	266 18.4 +01.9	S 08 41.0 -00.2	288 37.1 +02.1	S 16 34.4 -00.1	07						
08	337 33.0 +00.5	S 23 17.3 -00.1	281 20.3 +01.9	S 08 40.8 -00.3	303 39.2 +02.2	S 16 34.3 -00.1	08						
09	352 33.5 +00.5	S 23 17.2 -00.2	296 22.2 +01.9	S 08 40.5 -00.2	318 41.4 +02.2	S 16 34.2 -00.1	09						
10	7 34.0 +00.4	S 23 17.0 -00.2	311 24.1 +01.9	S 08 40.3 -00.2	333 43.6 +02.1	S 16 34.1 +00.0	10						
11	22 34.4 +00.5	S 23 16.8 -00.1	326 26.0 +01.9	S 08 40.1 -00.2	348 45.7 +02.2	S 16 34.1 -00.1	11						
12	37 34.9 +00.5	S 23 16.7 -00.2	341 27.9 +01.9	S 08 39.9 -00.3	3 47.9 +02.2	S 16 34.0 -00.1	12						
13	52 35.4 +00.4	S 23 16.5 -00.2	356 29.8 +01.9	S 08 39.6 -00.2	18 50.1 +02.1	S 16 33.9 -00.1	13						
14	67 35.8 +00.5	S 23 16.3 -00.2	11 31.7 +01.9	S 08 39.4 -00.2	33 52.2 +02.2	S 16 33.8 -00.1	14						
15	82 36.3 +00.5	S 23 16.1 -00.1	26 33.6 +02.0	S 08 39.2 -00.2	48 54.4 +02.2	S 16 33.7 -00.1	15						
16	97 36.8 +00.4	S 23 16.0 -00.2	41 35.6 +01.9	S 08 39.0 -00.3	63 56.6 +02.1	S 16 33.6 -00.1	16						
17	112 37.2 +00.5	S 23 15.8 -00.2	56 37.5 +01.9	S 08 38.7 -00.2	78 58.7 +02.2	S 16 33.5 -00.1	17						
18	127 37.7 +00.5	S 23 15.6 -00.1	71 39.4 +01.9	S 08 38.5 -00.2	94 00.9 +02.2	S 16 33.4 +00.0	18						
19	142 38.2 +00.4	S 23 15.5 -00.2	86 41.3 +01.9	S 08 38.3 -00.2	109 03.1 +02.1	S 16 33.4 -00.1	19						
20	157 38.6 +00.5	S 23 15.3 -00.2	101 43.2 +01.9	S 08 38.1 -00.3	124 05.2 +02.2	S 16 33.3 -00.1	20						
21	172 39.1 +00.5	S 23 15.1 -00.2	116 45.1 +01.9	S 08 37.8 -00.2	139 07.4 +02.2	S 16 33.2 -00.1	21						
22	187 39.6 +00.4	S 23 14.9 -00.1	131 47.0 +01.9	S 08 37.6 -00.2	154 09.6 +02.1	S 16 33.1 -00.1	22						
23	202 40.0 +00.5	S 23 14.8 -00.2	146 48.9 +01.9	S 08 37.4 -00.2	169 11.7 +02.2	S 16 33.0 -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 00'1 00'1 00'1 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 074° 074° 074° 074° 074° 074°		SHA 018° 018° 018° 018° 018° 018°		SHA 040° 040° 040° 040° 040° 040°								
	Greenwich Culmination Time: 09:29		Greenwich Culmination Time: 13:13		Greenwich Culmination Time: 11:44								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 27.8 +00.0	S 13 06.0 -00.8	217 55.5 +01.1	S 16 45.6 +00.1	27 01.6 -30.8	N 25 23.1 -04.1	00						
01	191 27.8 +00.0	S 13 05.2 -00.8	232 56.6 +01.1	S 16 45.7 +00.1	41 30.8 -30.8	N 25 19.0 -04.2	01						
02	206 27.8 +00.0	S 13 04.4 -00.9	247 57.7 +01.1	S 16 45.8 +00.1	55 60.0 -30.8	N 25 14.8 -04.4	02						
03	221 27.8 +00.0	S 13 03.5 -00.8	262 58.8 +01.1	S 16 45.9 +00.1	70 29.2 -30.8	N 25 10.4 -04.5	03						
04	236 27.8 +00.1	S 13 02.7 -00.9	277 59.9 +01.1	S 16 46.0 +00.1	84 58.4 -30.8	N 25 05.9 -04.6	04						
05	251 27.9 +00.0	S 13 01.8 -00.8	293 01.0 +01.1	S 16 46.1 +00.1	99 27.6 -30.7	N 25 01.3 -04.8	05						
06	266 27.9 +00.0	S 13 01.0 -00.9	308 02.1 +01.1	S 16 46.2 +00.1	113 56.9 -30.8	N 24 56.5 -04.9	06						
07	281 27.9 +00.0	S 13 00.1 -00.8	323 03.2 +01.0	S 16 46.3 +00.1	128 26.1 -30.7	N 24 51.6 -05.0	07						
08	296 27.9 +00.1	S 12 59.3 -00.9	338 04.2 +01.1	S 16 46.4 +00.1	142 55.4 -30.7	N 24 46.6 -05.1	08						
09	311 28.0 +00.0	S 12 58.4 -00.8	353 05.3 +01.1	S 16 46.5 +00.1	157 24.7 -30.6	N 24 41.5 -05.3	09						
10	326 28.0 +00.0	S 12 57.6 -00.9	8 06.4 +01.0	S 16 46.6 +00.1	171 54.1 -30.7	N 24 36.2 -05.3	10						
11	341 28.0 +00.0	S 12 56.7 -00.8	23 07.4 +01.1	S 16 46.7 +00.0	186 23.4 -30.6	N 24 30.9 -05.5	11						
12	356 28.0 +00.1	S 12 55.9 -00.9	38 08.5 +01.1	S 16 46.7 +00.1	200 52.8 -30.5	N 24 25.4 -05.7	12						
13	11 28.1 +00.0	S 12 55.0 -00.9	53 09.6 +01.0	S 16 46.8 +00.1	215 22.3 -30.6	N 24 19.7 -05.7	13						
14	26 28.1 +00.0	S 12 54.1 -00.8	68 10.6 +01.1	S 16 46.9 +00.1	229 51.7 -30.5	N 24 14.0 -05.9	14						
15	41 28.1 +00.0	S 12 53.3 -00.9	83 11.7 +01.1	S 16 47.0 +00.1	244 21.2 -30.5	N 24 08.1 -06.0	15						
16	56 28.1 +00.1	S 12 52.4 -00.8	98 12.8 +01.0	S 16 47.1 +00.1	258 50.7 -30.5	N 24 02.1 -06.1	16						
17	71 28.2 +00.0	S 12 51.6 -00.9	113 13.8 +01.1	S 16 47.2 +00.1	273 20.2 -30.4	N 23 56.0 -06.3	17						
18	86 28.2 +00.0	S 12 50.7 -00.8	128 14.9 +01.0	S 16 47.3 +00.1	287 49.8 -30.4	N 23 49.7 -06.3	18						
19	101 28.2 +00.0	S 12 49.9 -00.9	143 15.9 +01.1	S 16 47.4 +00.1	302 19.4 -30.4	N 23 43.4 -06.5	19						
20	116 28.2 +00.1	S 12 49.0 -00.8	158 17.0 +01.0	S 16 47.5 +00.1	316 49.0 -30.4	N 23 36.9 -06.6	20						
21	131 28.3 +00.0	S 12 48.2 -00.9	173 18.0 +01.0	S 16 47.6 +00.0	331 18.6 -30.3	N 23 30.3 -06.7	21						
22	146 28.3 +00.0	S 12 47.3 -00.8	188 19.0 +01.1	S 16 47.6 +00.1	345 48.3 -30.3	N 23 23.6 -06.9	22						
23	161 28.3 +00.1	S 12 46.5 -00.9	203 20.1 +01.0	S 16 47.7 +00.1	0 18.0 -30.2	N 23 16.7 -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 14'9 14'9 14'9 15'0 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 54'7 54'8 54'9 54'9 55'0 55'1								
	SHA 032° 032° 032° 032° 032° 032°		SHA 074° 074° 074° 074° 074° 073°		SHA 242° 240° 237° 235° 233° 231°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:27		Greenwich Culmination Time: 22:58								

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	217 40.5 +00.5	S 23 14.6 -00.2	161 50.8 +01.9	S 08 37.2 -00.3	184 13.9 +02.2	S 16 32.9 -00.1	00						
01	232 41.0 +00.4	S 23 14.4 -00.2	176 52.7 +01.9	S 08 36.9 -00.2	199 16.1 +02.1	S 16 32.8 -00.1	01						
02	247 41.4 +00.5	S 23 14.2 -00.1	191 54.6 +01.9	S 08 36.7 -00.2	214 18.2 +02.2	S 16 32.7 +00.0	02						
03	262 41.9 +00.5	S 23 14.1 -00.2	206 56.5 +01.9	S 08 36.5 -00.2	229 20.4 +02.2	S 16 32.7 -00.1	03						
04	277 42.4 +00.5	S 23 13.9 -00.2	221 58.4 +02.0	S 08 36.3 -00.3	244 22.6 +02.1	S 16 32.6 -00.1	04						
05	292 42.9 +00.4	S 23 13.7 -00.2	237 00.4 +01.9	S 08 36.0 -00.2	259 24.7 +02.2	S 16 32.5 -00.1	05						
06	307 43.3 +00.5	S 23 13.5 -00.2	252 02.3 +01.9	S 08 35.8 -00.2	274 26.9 +02.2	S 16 32.4 -00.1	06						
07	322 43.8 +00.5	S 23 13.3 -00.1	267 04.2 +01.9	S 08 35.6 -00.2	289 29.1 +02.1	S 16 32.3 -00.1	07						
08	337 44.3 +00.4	S 23 13.2 -00.2	282 06.1 +01.9	S 08 35.4 -00.3	304 31.2 +02.2	S 16 32.2 -00.1	08						
09	352 44.7 +00.5	S 23 13.0 -00.2	297 08.0 +01.9	S 08 35.1 -00.2	319 33.4 +02.2	S 16 32.1 -00.1	09						
10	7 45.2 +00.5	S 23 12.8 -00.2	312 09.9 +01.9	S 08 34.9 -00.2	334 35.6 +02.1	S 16 32.0 +00.0	10						
11	22 45.7 +00.4	S 23 12.6 -00.1	327 11.8 +01.9	S 08 34.7 -00.2	349 37.7 +02.2	S 16 32.0 -00.1	11						
12	37 46.1 +00.5	S 23 12.5 -00.2	342 13.7 +01.9	S 08 34.5 -00.3	4 39.9 +02.2	S 16 31.9 -00.1	12						
13	52 46.6 +00.5	S 23 12.3 -00.2	357 15.6 +01.9	S 08 34.2 -00.2	19 42.1 +02.1	S 16 31.8 -00.1	13						
14	67 47.1 +00.4	S 23 12.1 -00.2	12 17.5 +01.9	S 08 34.0 -00.2	34 44.2 +02.2	S 16 31.7 -00.1	14						
15	82 47.5 +00.5	S 23 11.9 -00.2	27 19.4 +01.9	S 08 33.8 -00.2	49 46.4 +02.2	S 16 31.6 -00.1	15						
16	97 48.0 +00.5	S 23 11.7 -00.2	42 21.3 +01.9	S 08 33.6 -00.3	64 48.6 +02.1	S 16 31.5 -00.1	16						
17	112 48.5 +00.4	S 23 11.5 -00.1	57 23.2 +01.9	S 08 33.3 -00.2	79 50.7 +02.2	S 16 31.4 -00.1	17						
18	127 48.9 +00.5	S 23 11.4 -00.2	72 25.1 +02.0	S 08 33.1 -00.2	94 52.9 +02.2	S 16 31.3 +00.0	18						
19	142 49.4 +00.5	S 23 11.2 -00.2	87 27.1 +01.9	S 08 32.9 -00.2	109 55.1 +02.1	S 16 31.3 -00.1	19						
20	157 49.9 +00.5	S 23 11.0 -00.2	102 29.0 +01.9	S 08 32.7 -00.3	124 57.2 +02.2	S 16 31.2 -00.1	20						
21	172 50.4 +00.4	S 23 10.8 -00.2	117 30.9 +01.9	S 08 32.4 -00.2	139 59.4 +02.2	S 16 31.1 -00.1	21						
22	187 50.8 +00.5	S 23 10.6 -00.2	132 32.8 +01.9	S 08 32.2 -00.2	155 01.6 +02.1	S 16 31.0 -00.1	22						
23	202 51.3 +00.5	S 23 10.4 -00.1	147 34.7 +01.9	S 08 32.0 -00.2	170 03.7 +02.2	S 16 30.9 -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 00'1 00'1 00'1 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 074° 073° 073° 073° 073° 073°		SHA 018° 018° 018° 018° 018° 018°		SHA 040° 040° 040° 040° 040° 040°								
	Greenwich Culmination Time: 09:29		Greenwich Culmination Time: 13:10		Greenwich Culmination Time: 11:41								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 28.4 +00.0	S	12 45.6 -00.9	218 21.1 +01.0	S	16 47.8 +00.1	14 47.8 -30.2	N	23 09.7 -07.0	00			
01	191 28.4 +00.0	S	12 44.7 -00.8	233 22.1 +01.1	S	16 47.9 +00.1	29 17.6 -30.2	N	23 02.7 -07.2	01			
02	206 28.4 +00.0	S	12 43.9 -00.9	248 23.2 +01.0	S	16 48.0 +00.1	43 47.4 -30.2	N	22 55.5 -07.3	02			
03	221 28.4 +00.1	S	12 43.0 -00.8	263 24.2 +01.0	S	16 48.1 +00.1	58 17.2 -30.1	N	22 48.2 -07.5	03			
04	236 28.5 +00.0	S	12 42.2 -00.9	278 25.2 +01.0	S	16 48.2 +00.1	72 47.1 -30.1	N	22 40.7 -07.5	04			
05	251 28.5 +00.0	S	12 41.3 -00.8	293 26.2 +01.1	S	16 48.3 +00.0	87 17.0 -30.0	N	22 33.2 -07.7	05			
06	266 28.5 +00.1	S	12 40.5 -00.9	308 27.3 +01.0	S	16 48.3 +00.1	101 47.0 -30.0	N	22 25.5 -07.8	06			
07	281 28.6 +00.0	S	12 39.6 -00.9	323 28.3 +01.0	S	16 48.4 +00.1	116 17.0 -30.0	N	22 17.7 -07.8	07			
08	296 28.6 +00.0	S	12 38.7 -00.8	338 29.3 +01.0	S	16 48.5 +00.1	130 47.0 -29.9	N	22 09.9 -08.1	08			
09	311 28.6 +00.1	S	12 37.9 -00.9	353 30.3 +01.0	S	16 48.6 +00.1	145 17.1 -29.9	N	22 01.8 -08.1	09			
10	326 28.7 +00.0	S	12 37.0 -00.8	8 31.3 +01.0	S	16 48.7 +00.1	159 47.2 -29.9	N	21 53.7 -08.2	10			
11	341 28.7 +00.0	S	12 36.2 -00.9	23 32.3 +01.0	S	16 48.8 +00.0	174 17.3 -29.8	N	21 45.5 -08.3	11			
12	356 28.7 +00.1	S	12 35.3 -00.9	38 33.3 +01.0	S	16 48.8 +00.1	188 47.5 -29.8	N	21 37.2 -08.5	12			
13	11 28.8 +00.0	S	12 34.4 -00.8	53 34.3 +01.0	S	16 48.9 +00.1	203 17.7 -29.7	N	21 28.7 -08.5	13			
14	26 28.8 +00.0	S	12 33.6 -00.9	68 35.3 +01.0	S	16 49.0 +00.1	217 48.0 -29.7	N	21 20.2 -08.7	14			
15	41 28.8 +00.1	S	12 32.7 -00.8	83 36.3 +01.0	S	16 49.1 +00.1	232 18.3 -29.7	N	21 11.5 -08.8	15			
16	56 28.9 +00.0	S	12 31.9 -00.9	98 37.3 +01.0	S	16 49.2 +00.1	246 48.6 -29.6	N	21 02.7 -08.9	16			
17	71 28.9 +00.0	S	12 31.0 -00.9	113 38.3 +01.0	S	16 49.3 +00.0	261 19.0 -29.6	N	20 53.8 -08.9	17			
18	86 28.9 +00.1	S	12 30.1 -00.8	128 39.3 +00.9	S	16 49.3 +00.1	275 49.4 -29.5	N	20 44.9 -09.1	18			
19	101 29.0 +00.0	S	12 29.3 -00.9	143 40.2 +01.0	S	16 49.4 +00.1	290 19.9 -29.5	N	20 35.8 -09.2	19			
20	116 29.0 +00.0	S	12 28.4 -00.9	158 41.2 +01.0	S	16 49.5 +00.1	304 50.4 -29.5	N	20 26.6 -09.4	20			
21	131 29.0 +00.1	S	12 27.5 -00.8	173 42.2 +01.0	S	16 49.6 +00.1	319 20.9 -29.4	N	20 17.2 -09.4	21			
22	146 29.1 +00.0	S	12 26.7 -00.9	188 43.2 +01.0	S	16 49.7 +00.1	333 51.5 -29.4	N	20 07.8 -09.5	22			
23	161 29.1 +00.0	S	12 25.8 -00.9	203 44.2 +00.9	S	16 49.8 +00.0	348 22.1 -29.3	N	19 58.3 -09.6	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	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 15'1 15'1 15'1 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 55'1 55'2 55'3 55'4 55'5 55'5						
	SHA 031° 031° 031° 031° 031° 031°			SHA 073° 073° 073° 073° 073° 073°			SHA 229° 227° 224° 222° 220° 218°						
	Greenwich Culmination Time: 12:14			Greenwich Culmination Time: 09:25			Greenwich Culmination Time: 23:48						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	217 51.8 +00.4	S	23 10.3 -00.2	162 36.6 +01.9	S	08 31.8 -00.3	185 05.9 +02.2	S	16 30.8 -00.1	00			
01	232 52.2 +00.5	S	23 10.1 -00.2	177 38.5 +01.9	S	08 31.5 -00.2	200 08.1 +02.2	S	16 30.7 +00.0	01			
02	247 52.7 +00.5	S	23 09.9 -00.2	192 40.4 +01.9	S	08 31.3 -00.2	215 10.3 +02.1	S	16 30.7 -00.1	02			
03	262 53.2 +00.4	S	23 09.7 -00.2	207 42.3 +01.9	S	08 31.1 -00.2	230 12.4 +02.2	S	16 30.6 -00.1	03			
04	277 53.6 +00.5	S	23 09.5 -00.2	222 44.2 +01.9	S	08 30.9 -00.3	245 14.6 +02.2	S	16 30.5 -00.1	04			
05	292 54.1 +00.5	S	23 09.3 -00.2	237 46.1 +01.9	S	08 30.6 -00.2	260 16.8 +02.1	S	16 30.4 -00.1	05			
06	307 54.6 +00.4	S	23 09.1 -00.1	252 48.0 +01.9	S	08 30.4 -00.2	275 18.9 +02.2	S	16 30.3 -00.1	06			
07	322 55.0 +00.5	S	23 09.0 -00.2	267 49.9 +01.9	S	08 30.2 -00.2	290 21.1 +02.2	S	16 30.2 -00.1	07			
08	337 55.5 +00.5	S	23 08.8 -00.2	282 51.8 +01.9	S	08 30.0 -00.3	305 23.3 +02.1	S	16 30.1 -00.1	08			
09	352 56.0 +00.5	S	23 08.6 -00.2	297 53.7 +02.0	S	08 29.7 -00.2	320 25.4 +02.2	S	16 30.0 +00.0	09			
10	7 56.5 +00.4	S	23 08.4 -00.2	312 55.7 +01.9	S	08 29.5 -00.2	335 27.6 +02.2	S	16 30.0 -00.1	10			
11	22 56.9 +00.5	S	23 08.2 -00.2	327 57.6 +01.9	S	08 29.3 -00.2	350 29.8 +02.1	S	16 29.9 -00.1	11			
12	37 57.4 +00.5	S	23 08.0 -00.2	342 59.5 +01.9	S	08 29.1 -00.3	5 31.9 +02.2	S	16 29.8 -00.1	12			
13	52 57.9 +00.4	S	23 07.8 -00.2	358 01.4 +01.9	S	08 28.8 -00.2	20 34.1 +02.2	S	16 29.7 -00.1	13			
14	67 58.3 +00.5	S	23 07.6 -00.2	13 03.3 +01.9	S	08 28.6 -00.2	35 36.3 +02.1	S	16 29.6 -00.1	14			
15	82 58.8 +00.5	S	23 07.4 -00.2	28 05.2 +01.9	S	08 28.4 -00.3	50 38.4 +02.2	S	16 29.5 -00.1	15			
16	97 59.3 +00.4	S	23 07.2 -00.1	43 07.1 +01.9	S	08 28.1 -00.2	65 40.6 +02.2	S	16 29.4 -00.1	16			
17	112 59.7 +00.5	S	23 07.1 -00.2	58 09.0 +01.9	S	08 27.9 -00.2	80 42.8 +02.1	S	16 29.3 +00.0	17			
18	128 00.2 +00.5	S	23 06.9 -00.2	73 10.9 +01.9	S	08 27.7 -00.2	95 44.9 +02.2	S	16 29.3 -00.1	18			
19	143 00.7 +00.5	S	23 06.7 -00.2	88 12.8 +01.9	S	08 27.5 -00.3	110 47.1 +02.2	S	16 29.2 -00.1	19			
20	158 01.2 +00.4	S	23 06.5 -00.2	103 14.7 +01.9	S	08 27.2 -00.2	125 49.3 +02.1	S	16 29.1 -00.1	20			
21	173 01.6 +00.5	S	23 06.3 -00.2	118 16.6 +01.9	S	08 27.0 -00.2	140 51.4 +02.2	S	16 29.0 -00.1	21			
22	188 02.1 +00.5	S	23 06.1 -00.2	133 18.5 +01.9	S	08 26.8 -00.2	155 53.6 +02.2	S	16 28.9 -00.1	22			
23	203 02.6 +00.4	S	23 05.9 -00.2	148 20.4 +01.9	S	08 26.6 -00.3	170 55.8 +02.1	S	16 28.8 -00.1	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	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 00'1 00'1 00'1 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 073° 073° 073° 072° 072° 072°			SHA 018° 018° 018° 017° 017° 017°			SHA 040° 040° 040° 040° 040° 040°						
	Greenwich Culmination Time: 09:28			Greenwich Culmination Time: 13:07			Greenwich Culmination Time: 11:37						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 29.1 +00.1	S 12 24.9 -00.8	218 45.1 +01.0	S 16 49.8 +00.1	2 52.8 -29.3	N 19 48.7 -09.7	00						
01	191 29.2 +00.0	S 12 24.1 -00.9	233 46.1 +01.0	S 16 49.9 +00.1	17 23.5 -29.3	N 19 39.0 -09.8	01						
02	206 29.2 +00.0	S 12 23.2 -00.9	248 47.1 +00.9	S 16 50.0 +00.1	31 54.2 -29.2	N 19 29.2 -09.9	02						
03	221 29.2 +00.1	S 12 22.3 -00.8	263 48.0 +01.0	S 16 50.1 +00.1	46 25.0 -29.1	N 19 19.3 -10.0	03						
04	236 29.3 +00.0	S 12 21.5 -00.9	278 49.0 +00.9	S 16 50.2 +00.0	60 55.9 -29.2	N 19 09.3 -10.2	04						
05	251 29.3 +00.1	S 12 20.6 -00.9	293 49.9 +01.0	S 16 50.2 +00.1	75 26.7 -29.1	N 18 59.1 -10.2	05						
06	266 29.4 +00.0	S 12 19.7 -00.8	308 50.9 +01.0	S 16 50.3 +00.1	89 57.6 -29.0	N 18 48.9 -10.3	06						
07	281 29.4 +00.0	S 12 18.9 -00.9	323 51.9 +00.9	S 16 50.4 +00.1	104 28.6 -29.0	N 18 38.6 -10.4	07						
08	296 29.4 +00.1	S 12 18.0 -00.9	338 52.8 +01.0	S 16 50.5 +00.0	118 59.6 -29.0	N 18 28.2 -10.5	08						
09	311 29.5 +00.0	S 12 17.1 -00.8	353 53.8 +00.9	S 16 50.5 +00.1	133 30.6 -29.0	N 18 17.7 -10.6	09						
10	326 29.5 +00.1	S 12 16.3 -00.9	8 54.7 +00.9	S 16 50.6 +00.1	148 01.6 -28.8	N 18 07.1 -10.7	10						
11	341 29.6 +00.0	S 12 15.4 -00.9	23 55.6 +01.0	S 16 50.7 +00.1	162 32.8 -28.9	N 17 56.4 -10.7	11						
12	356 29.6 +00.0	S 12 14.5 -00.8	38 56.6 +00.9	S 16 50.8 +00.1	177 03.9 -28.8	N 17 45.7 -10.9	12						
13	11 29.6 +00.1	S 12 13.7 -00.9	53 57.5 +01.0	S 16 50.9 +00.0	191 35.1 -28.8	N 17 34.8 -11.0	13						
14	26 29.7 +00.0	S 12 12.8 -00.9	68 58.5 +00.9	S 16 50.9 +00.1	206 06.3 -28.7	N 17 23.8 -11.0	14						
15	41 29.7 +00.1	S 12 11.9 -00.8	83 59.4 +00.9	S 16 51.0 +00.1	220 37.6 -28.7	N 17 12.8 -11.1	15						
16	56 29.8 +00.0	S 12 11.1 -00.9	99 00.3 +00.9	S 16 51.1 +00.1	235 08.9 -28.7	N 17 01.7 -11.3	16						
17	71 29.8 +00.0	S 12 10.2 -00.9	114 01.2 +01.0	S 16 51.2 +00.0	249 40.2 -28.6	N 16 50.4 -11.3	17						
18	86 29.8 +00.1	S 12 09.3 -00.8	129 02.2 +00.9	S 16 51.2 +00.1	264 11.6 -28.6	N 16 39.1 -11.4	18						
19	101 29.9 +00.0	S 12 08.5 -00.9	144 03.1 +00.9	S 16 51.3 +00.1	278 43.0 -28.5	N 16 27.7 -11.5	19						
20	116 29.9 +00.1	S 12 07.6 -00.9	159 04.0 +00.9	S 16 51.4 +00.1	293 14.5 -28.5	N 16 16.2 -11.5	20						
21	131 30.0 +00.0	S 12 06.7 -00.9	174 04.9 +00.9	S 16 51.5 +00.0	307 46.0 -28.5	N 16 04.7 -11.7	21						
22	146 30.0 +00.0	S 12 05.8 -00.8	189 05.8 +01.0	S 16 51.5 +00.1	322 17.5 -28.4	N 15 53.0 -11.7	22						
23	161 30.0 +00.1	S 12 05.0 -00.9	204 06.8 +00.9	S 16 51.6 +00.1	336 49.1 -28.4	N 15 41.3 -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 16'2 16'2 16'2 16'2 16'2 16'2		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 15'2 15'2 15'2 15'2 15'2 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 55'6 55'7 55'8 55'9 55'9 56'0								
	SHA 030° 030° 030° 030° 030° 030°		SHA 073° 073° 073° 072° 072° 072°		SHA 216° 214° 212° 210° 207° 205°								
	Greenwich Culmination Time: 12:14		Greenwich Culmination Time: 09:24		Greenwich Culmination Time: -1:00								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	218 03.0 +00.5	S 23 05.7 -00.2	163 22.3 +01.9	S 08 26.3 -00.2	185 57.9 +02.2	S 16 28.7 -00.1	00						
01	233 03.5 +00.5	S 23 05.5 -00.2	178 24.2 +01.9	S 08 26.1 -00.2	201 00.1 +02.2	S 16 28.6 +00.0	01						
02	248 04.0 +00.4	S 23 05.3 -00.2	193 26.1 +02.0	S 08 25.9 -00.2	216 02.3 +02.2	S 16 28.6 -00.1	02						
03	263 04.4 +00.5	S 23 05.1 -00.2	208 28.1 +01.9	S 08 25.7 -00.3	231 04.5 +02.1	S 16 28.5 -00.1	03						
04	278 04.9 +00.5	S 23 04.9 -00.2	223 30.0 +01.9	S 08 25.4 -00.2	246 06.6 +02.2	S 16 28.4 -00.1	04						
05	293 05.4 +00.5	S 23 04.7 -00.2	238 31.9 +01.9	S 08 25.2 -00.2	261 08.8 +02.2	S 16 28.3 -00.1	05						
06	308 05.9 +00.4	S 23 04.5 -00.2	253 33.8 +01.9	S 08 25.0 -00.2	276 11.0 +02.1	S 16 28.2 -00.1	06						
07	323 06.3 +00.5	S 23 04.3 -00.2	268 35.7 +01.9	S 08 24.8 -00.3	291 13.1 +02.2	S 16 28.1 -00.1	07						
08	338 06.8 +00.5	S 23 04.1 -00.2	283 37.6 +01.9	S 08 24.5 -00.2	306 15.3 +02.2	S 16 28.0 -00.1	08						
09	353 07.3 +00.4	S 23 03.9 -00.2	298 39.5 +01.9	S 08 24.3 -00.2	321 17.5 +02.1	S 16 27.9 +00.0	09						
10	8 07.7 +00.5	S 23 03.7 -00.2	313 41.4 +01.9	S 08 24.1 -00.2	336 19.6 +02.2	S 16 27.9 -00.1	10						
11	23 08.2 +00.5	S 23 03.5 -00.2	328 43.3 +01.9	S 08 23.9 -00.3	351 21.8 +02.2	S 16 27.8 -00.1	11						
12	38 08.7 +00.4	S 23 03.3 -00.2	343 45.2 +01.9	S 08 23.6 -00.2	6 24.0 +02.1	S 16 27.7 -00.1	12						
13	53 09.1 +00.5	S 23 03.1 -00.2	358 47.1 +01.9	S 08 23.4 -00.2	21 26.1 +02.2	S 16 27.6 -00.1	13						
14	68 09.6 +00.5	S 23 02.9 -00.2	13 49.0 +01.9	S 08 23.2 -00.3	36 28.3 +02.2	S 16 27.5 -00.1	14						
15	83 10.1 +00.5	S 23 02.7 -00.2	28 50.9 +01.9	S 08 22.9 -00.2	51 30.5 +02.1	S 16 27.4 -00.1	15						
16	98 10.6 +00.4	S 23 02.5 -00.2	43 52.8 +01.9	S 08 22.7 -00.2	66 32.6 +02.2	S 16 27.3 -00.1	16						
17	113 11.0 +00.5	S 23 02.3 -00.2	58 54.7 +01.9	S 08 22.5 -00.2	81 34.8 +02.2	S 16 27.2 +00.0	17						
18	128 11.5 +00.5	S 23 02.1 -00.2	73 56.6 +01.9	S 08 22.3 -00.3	96 37.0 +02.1	S 16 27.2 -00.1	18						
19	143 12.0 +00.4	S 23 01.9 -00.2	88 58.5 +02.0	S 08 22.0 -00.2	111 39.1 +02.2	S 16 27.1 -00.1	19						
20	158 12.4 +00.5	S 23 01.7 -00.2	104 00.5 +01.9	S 08 21.8 -00.2	126 41.3 +02.2	S 16 27.0 -00.1	20						
21	173 12.9 +00.5	S 23 01.5 -00.2	119 02.4 +01.9	S 08 21.6 -00.2	141 43.5 +02.2	S 16 26.9 -00.1	21						
22	188 13.4 +00.5	S 23 01.3 -00.2	134 04.3 +01.9	S 08 21.4 -00.3	156 45.7 +02.1	S 16 26.8 -00.1	22						
23	203 13.9 +00.4	S 23 01.1 -00.2	149 06.2 +01.9	S 08 21.1 -00.2	171 47.8 +02.2	S 16 26.7 -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 00'1 00'1 00'1 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 072° 072° 072° 072° 071° 071°		SHA 017° 017° 017° 017° 017° 017°		SHA 040° 040° 040° 040° 040° 040°								
	Greenwich Culmination Time: 09:27		Greenwich Culmination Time: 13:04		Greenwich Culmination Time: 11:34								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 30.1 +00.0	S	12 04.1 -00.9	219 07.7 +00.9	S	16 51.7 +00.0	351 20.7 -28.4	N	15 29.5 -11.9	00			
01	191 30.1 +00.1	S	12 03.2 -00.9	234 08.6 +00.9	S	16 51.7 +00.1	5 52.3 -28.3	N	15 17.6 -12.0	01			
02	206 30.2 +00.0	S	12 02.3 -00.8	249 09.5 +00.9	S	16 51.8 +00.1	20 24.0 -28.3	N	15 05.6 -12.0	02			
03	221 30.2 +00.1	S	12 01.5 -00.9	264 10.4 +00.9	S	16 51.9 +00.1	34 55.7 -28.2	N	14 53.6 -12.2	03			
04	236 30.3 +00.0	S	12 00.6 -00.9	279 11.3 +00.9	S	16 52.0 +00.0	49 27.5 -28.2	N	14 41.4 -12.2	04			
05	251 30.3 +00.1	S	11 59.7 -00.9	294 12.2 +00.9	S	16 52.0 +00.1	63 59.3 -28.2	N	14 29.2 -12.2	05			
06	266 30.4 +00.0	S	11 58.8 -00.8	309 13.1 +00.9	S	16 52.1 +00.1	78 31.1 -28.1	N	14 17.0 -12.4	06			
07	281 30.4 +00.0	S	11 58.0 -00.9	324 14.0 +00.9	S	16 52.2 +00.0	93 03.0 -28.2	N	14 04.6 -12.4	07			
08	296 30.4 +00.1	S	11 57.1 -00.9	339 14.9 +00.9	S	16 52.2 +00.1	107 34.8 -28.0	N	13 52.2 -12.5	08			
09	311 30.5 +00.0	S	11 56.2 -00.9	354 15.8 +00.8	S	16 52.3 +00.1	122 06.8 -28.1	N	13 39.7 -12.6	09			
10	326 30.5 +00.1	S	11 55.3 -00.8	9 16.6 +00.9	S	16 52.4 +00.0	136 38.7 -28.0	N	13 27.1 -12.7	10			
11	341 30.6 +00.0	S	11 54.5 -00.9	24 17.5 +00.9	S	16 52.4 +00.1	151 10.7 -28.0	N	13 14.4 -12.7	11			
12	356 30.6 +00.1	S	11 53.6 -00.9	39 18.4 +00.9	S	16 52.5 +00.1	165 42.7 -27.9	N	13 01.7 -12.7	12			
13	11 30.7 +00.0	S	11 52.7 -00.9	54 19.3 +00.9	S	16 52.6 +00.1	180 14.8 -28.0	N	12 49.0 -12.9	13			
14	26 30.7 +00.1	S	11 51.8 -00.8	69 20.2 +00.8	S	16 52.7 +00.0	194 46.8 -27.9	N	12 36.1 -12.9	14			
15	41 30.8 +00.0	S	11 51.0 -00.9	84 21.0 +00.9	S	16 52.7 +00.1	209 18.9 -27.8	N	12 23.2 -13.0	15			
16	56 30.8 +00.1	S	11 50.1 -00.9	99 21.9 +00.9	S	16 52.8 +00.1	223 51.1 -27.9	N	12 10.2 -13.0	16			
17	71 30.9 +00.0	S	11 49.2 -00.9	114 22.8 +00.8	S	16 52.9 +00.0	238 23.2 -27.8	N	11 57.2 -13.2	17			
18	86 30.9 +00.1	S	11 48.3 -00.9	129 23.6 +00.9	S	16 52.9 +00.1	252 55.4 -27.8	N	11 44.0 -13.1	18			
19	101 31.0 +00.0	S	11 47.4 -00.8	144 24.5 +00.9	S	16 53.0 +00.1	267 27.6 -27.7	N	11 30.9 -13.3	19			
20	116 31.0 +00.1	S	11 46.6 -00.9	159 25.4 +00.8	S	16 53.1 +00.0	281 59.9 -27.7	N	11 17.6 -13.3	20			
21	131 31.1 +00.0	S	11 45.7 -00.9	174 26.2 +00.9	S	16 53.1 +00.1	296 32.2 -27.8	N	11 04.3 -13.3	21			
22	146 31.1 +00.1	S	11 44.8 -00.9	189 27.1 +00.8	S	16 53.2 +00.0	311 04.4 -27.6	N	10 51.0 -13.4	22			
23	161 31.2 +00.0	S	11 43.9 -00.9	204 27.9 +00.9	S	16 53.2 +00.1	325 36.8 -27.7	N	10 37.6 -13.5	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 15'3 15'3 15'4 15'4 15'4						
	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 56'4 56'5 56'5						
	SHA 029° 029° 029° 029° 029° 029°			SHA 072° 072° 072° 072° 072° 072°			SHA 203° 201° 199° 197° 195° 193°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:22			Greenwich Culmination Time: 00:35						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	218 14.3 +00.5	S	23 00.9 -00.2	164 08.1 +01.9	S	08 20.9 -00.2	186 50.0 +02.2	S	16 26.6 +00.0	00			
01	233 14.8 +00.5	S	23 00.7 -00.2	179 10.0 +01.9	S	08 20.7 -00.2	201 52.2 +02.1	S	16 26.6 -00.1	01			
02	248 15.3 +00.4	S	23 00.5 -00.2	194 11.9 +01.9	S	08 20.5 -00.3	216 54.3 +02.2	S	16 26.5 -00.1	02			
03	263 15.7 +00.5	S	23 00.3 -00.2	209 13.8 +01.9	S	08 20.2 -00.2	231 56.5 +02.2	S	16 26.4 -00.1	03			
04	278 16.2 +00.5	S	23 00.1 -00.2	224 15.7 +01.9	S	08 20.0 -00.2	246 58.7 +02.1	S	16 26.3 -00.1	04			
05	293 16.7 +00.5	S	22 59.9 -00.2	239 17.6 +01.9	S	08 19.8 -00.3	262 00.8 +02.2	S	16 26.2 -00.1	05			
06	308 17.2 +00.4	S	22 59.7 -00.2	254 19.5 +01.9	S	08 19.5 -00.2	277 03.0 +02.2	S	16 26.1 -00.1	06			
07	323 17.6 +00.5	S	22 59.5 -00.2	269 21.4 +01.9	S	08 19.3 -00.2	292 05.2 +02.1	S	16 26.0 -00.1	07			
08	338 18.1 +00.5	S	22 59.3 -00.3	284 23.3 +01.9	S	08 19.1 -00.2	307 07.3 +02.2	S	16 25.9 +00.0	08			
09	353 18.6 +00.4	S	22 59.0 -00.2	299 25.2 +01.9	S	08 18.9 -00.3	322 09.5 +02.2	S	16 25.9 -00.1	09			
10	8 19.0 +00.5	S	22 58.8 -00.2	314 27.1 +01.9	S	08 18.6 -00.2	337 11.7 +02.1	S	16 25.8 -00.1	10			
11	23 19.5 +00.5	S	22 58.6 -00.2	329 29.0 +01.9	S	08 18.4 -00.2	352 13.8 +02.2	S	16 25.7 -00.1	11			
12	38 20.0 +00.5	S	22 58.4 -00.2	344 30.9 +01.9	S	08 18.2 -00.2	7 16.0 +02.2	S	16 25.6 -00.1	12			
13	53 20.5 +00.4	S	22 58.2 -00.2	359 32.8 +01.9	S	08 18.0 -00.3	22 18.2 +02.2	S	16 25.5 -00.1	13			
14	68 20.9 +00.5	S	22 58.0 -00.2	14 34.7 +02.0	S	08 17.7 -00.2	37 20.4 +02.1	S	16 25.4 -00.1	14			
15	83 21.4 +00.5	S	22 57.8 -00.2	29 36.7 +01.9	S	08 17.5 -00.2	52 22.5 +02.2	S	16 25.3 -00.1	15			
16	98 21.9 +00.4	S	22 57.6 -00.2	44 38.6 +01.9	S	08 17.3 -00.2	67 24.7 +02.2	S	16 25.2 +00.0	16			
17	113 22.3 +00.5	S	22 57.4 -00.3	59 40.5 +01.9	S	08 17.1 -00.3	82 26.9 +02.1	S	16 25.2 -00.1	17			
18	128 22.8 +00.5	S	22 57.1 -00.2	74 42.4 +01.9	S	08 16.8 -00.2	97 29.0 +02.2	S	16 25.1 -00.1	18			
19	143 23.3 +00.5	S	22 56.9 -00.2	89 44.3 +01.9	S	08 16.6 -00.2	112 31.2 +02.2	S	16 25.0 -00.1	19			
20	158 23.8 +00.4	S	22 56.7 -00.2	104 46.2 +01.9	S	08 16.4 -00.3	127 33.4 +02.1	S	16 24.9 -00.1	20			
21	173 24.2 +00.5	S	22 56.5 -00.2	119 48.1 +01.9	S	08 16.1 -00.2	142 35.5 +02.2	S	16 24.8 -00.1	21			
22	188 24.7 +00.5	S	22 56.3 -00.2	134 50.0 +01.9	S	08 15.9 -00.2	157 37.7 +02.2	S	16 24.7 -00.1	22			
23	203 25.2 +00.4	S	22 56.1 -00.2	149 51.9 +01.9	S	08 15.7 -00.2	172 39.9 +02.2	S	16 24.6 -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 00'1 00'1 00'1 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 071° 071° 071° 071° 071° 071°			SHA 017° 017° 017° 017° 017° 017°			SHA 040° 040° 040° 040° 040° 040°						
	Greenwich Culmination Time: 09:26			Greenwich Culmination Time: 13:01			Greenwich Culmination Time: 11:31						



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 31.2 +00.1	S 11 43.0 -00.8	219 28.8 +00.8	S 16 53.3 +00.1	340 09.1 -27.6	N 10 24.1 -13.5	00						
01	191 31.3 +00.0	S 11 42.2 -00.9	234 29.6 +00.9	S 16 53.4 +00.0	354 41.5 -27.6	N 10 10.6 -13.6	01						
02	206 31.3 +00.1	S 11 41.3 -00.9	249 30.5 +00.8	S 16 53.4 +00.1	9 13.9 -27.6	N 09 57.0 -13.7	02						
03	221 31.4 +00.0	S 11 40.4 -00.9	264 31.3 +00.9	S 16 53.5 +00.1	23 46.3 -27.6	N 09 43.3 -13.7	03						
04	236 31.4 +00.1	S 11 39.5 -00.9	279 32.2 +00.8	S 16 53.6 +00.0	38 18.7 -27.6	N 09 29.6 -13.7	04						
05	251 31.5 +00.0	S 11 38.6 -00.8	294 33.0 +00.8	S 16 53.6 +00.1	52 51.1 -27.5	N 09 15.9 -13.8	05						
06	266 31.5 +00.1	S 11 37.8 -00.9	309 33.8 +00.9	S 16 53.7 +00.0	67 23.6 -27.5	N 09 02.1 -13.8	06						
07	281 31.6 +00.0	S 11 36.9 -00.9	324 34.7 +00.8	S 16 53.7 +00.1	81 56.1 -27.5	N 08 48.3 -13.9	07						
08	296 31.6 +00.1	S 11 36.0 -00.9	339 35.5 +00.8	S 16 53.8 +00.1	96 28.6 -27.5	N 08 34.4 -14.0	08						
09	311 31.7 +00.0	S 11 35.1 -00.9	354 36.3 +00.9	S 16 53.9 +00.0	111 01.1 -27.5	N 08 20.4 -14.0	09						
10	326 31.7 +00.1	S 11 34.2 -00.9	9 37.2 +00.8	S 16 53.9 +00.1	125 33.6 -27.4	N 08 06.4 -14.0	10						
11	341 31.8 +00.1	S 11 33.3 -00.8	24 38.0 +00.8	S 16 54.0 +00.0	140 06.2 -27.5	N 07 52.4 -14.1	11						
12	356 31.9 +00.0	S 11 32.5 -00.9	39 38.8 +00.8	S 16 54.0 +00.1	154 38.7 -27.4	N 07 38.3 -14.1	12						
13	11 31.9 +00.1	S 11 31.6 -00.9	54 39.6 +00.9	S 16 54.1 +00.1	169 11.3 -27.4	N 07 24.2 -14.2	13						
14	26 32.0 +00.0	S 11 30.7 -00.9	69 40.5 +00.8	S 16 54.2 +00.0	183 43.9 -27.4	N 07 10.0 -14.2	14						
15	41 32.0 +00.1	S 11 29.8 -00.9	84 41.3 +00.8	S 16 54.2 +00.1	198 16.5 -27.4	N 06 55.8 -14.3	15						
16	56 32.1 +00.0	S 11 28.9 -00.9	99 42.1 +00.8	S 16 54.3 +00.0	212 49.1 -27.4	N 06 41.5 -14.3	16						
17	71 32.1 +00.1	S 11 28.0 -00.9	114 42.9 +00.8	S 16 54.3 +00.1	227 21.7 -27.3	N 06 27.2 -14.3	17						
18	86 32.2 +00.0	S 11 27.1 -00.8	129 43.7 +00.8	S 16 54.4 +00.1	241 54.4 -27.4	N 06 12.9 -14.4	18						
19	101 32.2 +00.1	S 11 26.3 -00.9	144 44.5 +00.8	S 16 54.5 +00.0	256 27.0 -27.3	N 05 58.5 -14.4	19						
20	116 32.3 +00.1	S 11 25.4 -00.9	159 45.3 +00.8	S 16 54.5 +00.1	270 59.7 -27.4	N 05 44.1 -14.4	20						
21	131 32.4 +00.0	S 11 24.5 -00.9	174 46.1 +00.8	S 16 54.6 +00.0	285 32.3 -27.3	N 05 29.7 -14.5	21						
22	146 32.4 +00.1	S 11 23.6 -00.9	189 46.9 +00.8	S 16 54.6 +00.1	300 05.0 -27.4	N 05 15.2 -14.5	22						
23	161 32.5 +00.0	S 11 22.7 -00.9	204 47.7 +00.8	S 16 54.7 +00.0	314 37.6 -27.3	N 05 00.7 -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 16'2 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 15'5 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 56'6 56'7 56'8 56'9 56'9 57'0								
	SHA 029° 028° 028° 028° 028° 028°		SHA 071° 071° 071° 071° 071° 071°		SHA 191° 189° 187° 185° 183° 181°								
	Greenwich Culmination Time: 12:13		Greenwich Culmination Time: 09:21		Greenwich Culmination Time: 01:21								
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	218 25.6 +00.5	S 22 55.9 -00.2	164 53.8 +01.9	S 08 15.5 -00.3	187 42.1 +02.1	S 16 24.5 +00.0	00						
01	233 26.1 +00.5	S 22 55.7 -00.3	179 55.7 +01.9	S 08 15.2 -00.2	202 44.2 +02.2	S 16 24.5 -00.1	01						
02	248 26.6 +00.5	S 22 55.4 -00.2	194 57.6 +01.9	S 08 15.0 -00.2	217 46.4 +02.2	S 16 24.4 -00.1	02						
03	263 27.1 +00.4	S 22 55.2 -00.2	209 59.5 +01.9	S 08 14.8 -00.2	232 48.6 +02.1	S 16 24.3 -00.1	03						
04	278 27.5 +00.5	S 22 55.0 -00.2	225 01.4 +01.9	S 08 14.6 -00.3	247 50.7 +02.2	S 16 24.2 -00.1	04						
05	293 28.0 +00.5	S 22 54.8 -00.2	240 03.3 +01.9	S 08 14.3 -00.2	262 52.9 +02.2	S 16 24.1 -00.1	05						
06	308 28.5 +00.4	S 22 54.6 -00.2	255 05.2 +01.9	S 08 14.1 -00.2	277 55.1 +02.1	S 16 24.0 -00.1	06						
07	323 28.9 +00.5	S 22 54.4 -00.3	270 07.1 +01.9	S 08 13.9 -00.3	292 57.2 +02.2	S 16 23.9 +00.0	07						
08	338 29.4 +00.5	S 22 54.1 -00.2	285 09.0 +01.9	S 08 13.6 -00.2	307 59.4 +02.2	S 16 23.9 -00.1	08						
09	353 29.9 +00.5	S 22 53.9 -00.2	300 10.9 +01.9	S 08 13.4 -00.2	323 01.6 +02.1	S 16 23.8 -00.1	09						
10	8 30.4 +00.4	S 22 53.7 -00.2	315 12.8 +01.9	S 08 13.2 -00.2	338 03.7 +02.2	S 16 23.7 -00.1	10						
11	23 30.8 +00.5	S 22 53.5 -00.2	330 14.7 +02.0	S 08 13.0 -00.3	353 05.9 +02.2	S 16 23.6 -00.1	11						
12	38 31.3 +00.5	S 22 53.3 -00.3	345 16.7 +01.9	S 08 12.7 -00.2	8 08.1 +02.2	S 16 23.5 -00.1	12						
13	53 31.8 +00.5	S 22 53.0 -00.2	0 18.6 +01.9	S 08 12.5 -00.2	23 10.3 +02.1	S 16 23.4 -00.1	13						
14	68 32.3 +00.4	S 22 52.8 -00.2	15 20.5 +01.9	S 08 12.3 -00.2	38 12.4 +02.2	S 16 23.3 -00.1	14						
15	83 32.7 +00.5	S 22 52.6 -00.2	30 22.4 +01.9	S 08 12.1 -00.3	53 14.6 +02.2	S 16 23.2 +00.0	15						
16	98 33.2 +00.5	S 22 52.4 -00.2	45 24.3 +01.9	S 08 11.8 -00.2	68 16.8 +02.1	S 16 23.2 -00.1	16						
17	113 33.7 +00.4	S 22 52.2 -00.3	60 26.2 +01.9	S 08 11.6 -00.2	83 18.9 +02.2	S 16 23.1 -00.1	17						
18	128 34.1 +00.5	S 22 51.9 -00.2	75 28.1 +01.9	S 08 11.4 -00.3	98 21.1 +02.2	S 16 23.0 -00.1	18						
19	143 34.6 +00.5	S 22 51.7 -00.2	90 30.0 +01.9	S 08 11.1 -00.2	113 23.3 +02.1	S 16 22.9 -00.1	19						
20	158 35.1 +00.5	S 22 51.5 -00.2	105 31.9 +01.9	S 08 10.9 -00.2	128 25.4 +02.2	S 16 22.8 -00.1	20						
21	173 35.6 +00.4	S 22 51.3 -00.3	120 33.8 +01.9	S 08 10.7 -00.2	143 27.6 +02.2	S 16 22.7 -00.1	21						
22	188 36.0 +00.5	S 22 51.0 -00.2	135 35.7 +01.9	S 08 10.5 -00.3	158 29.8 +02.2	S 16 22.6 -00.1	22						
23	203 36.5 +00.5	S 22 50.8 -00.2	150 37.6 +01.9	S 08 10.2 -00.2	173 32.0 +02.1	S 16 22.5 +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 00'1 00'1 00'1 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 070° 070° 070° 070° 070° 070°		SHA 017° 017° 017° 017° 017° 017°		SHA 040° 040° 040° 040° 040° 040°								
	Greenwich Culmination Time: 09:25		Greenwich Culmination Time: 12:58		Greenwich Culmination Time: 11:27								

UT	Sun				Venus				Moon <span style="float:right">A: 59%</span>				UT
	GHA ° / '	ddGHA	Dec ° / '	dDec	GHA ° / '	ddGHA	Dec ° / '	dDec	GHA ° / '	ddGHA	Dec ° / '	dDec	
00	176 32.5 +00.1	S	11 21.8 -00.9	219 48.5 +00.8	S	16 54.7 +00.1	329 10.3 -27.4	N	04 46.2 -14.6	00			
01	191 32.6 +00.0	S	11 20.9 -00.9	234 49.3 +00.8	S	16 54.8 +00.0	343 42.9 -27.3	N	04 31.6 -14.6	01			
02	206 32.6 +00.1	S	11 20.0 -00.9	249 50.1 +00.8	S	16 54.8 +00.1	358 15.6 -27.3	N	04 17.0 -14.6	02			
03	221 32.7 +00.1	S	11 19.1 -00.8	264 50.9 +00.8	S	16 54.9 +00.0	12 48.3 -27.4	N	04 02.4 -14.7	03			
04	236 32.8 +00.0	S	11 18.3 -00.9	279 51.7 +00.8	S	16 54.9 +00.1	27 20.9 -27.3	N	03 47.7 -14.7	04			
05	251 32.8 +00.1	S	11 17.4 -00.9	294 52.5 +00.7	S	16 55.0 +00.0	41 53.6 -27.3	N	03 33.0 -14.7	05			
06	266 32.9 +00.0	S	11 16.5 -00.9	309 53.2 +00.8	S	16 55.0 +00.1	56 26.3 -27.4	N	03 18.3 -14.7	06			
07	281 32.9 +00.1	S	11 15.6 -00.9	324 54.0 +00.8	S	16 55.1 +00.1	70 58.9 -27.3	N	03 03.6 -14.8	07			
08	296 33.0 +00.1	S	11 14.7 -00.9	339 54.8 +00.8	S	16 55.2 +00.0	85 31.6 -27.4	N	02 48.8 -14.8	08			
09	311 33.1 +00.0	S	11 13.8 -00.9	354 55.6 +00.7	S	16 55.2 +00.1	100 04.2 -27.3	N	02 34.0 -14.8	09			
10	326 33.1 +00.1	S	11 12.9 -00.9	9 56.3 +00.8	S	16 55.3 +00.0	114 36.9 -27.4	N	02 19.2 -14.8	10			
11	341 33.2 +00.0	S	11 12.0 -00.9	24 57.1 +00.8	S	16 55.3 +00.1	129 09.5 -27.4	N	02 04.4 -14.8	11			
12	356 33.2 +00.1	S	11 11.1 -00.9	39 57.9 +00.8	S	16 55.4 +00.0	143 42.1 -27.4	N	01 49.6 -14.9	12			
13	11 33.3 +00.1	S	11 10.2 -00.9	54 58.7 +00.7	S	16 55.4 +00.0	158 14.7 -27.4	N	01 34.7 -14.9	13			
14	26 33.4 +00.0	S	11 09.3 -00.8	69 59.4 +00.8	S	16 55.4 +00.1	172 47.3 -27.4	N	01 19.8 -14.9	14			
15	41 33.4 +00.1	S	11 08.5 -00.9	85 00.2 +00.7	S	16 55.5 +00.0	187 19.9 -27.4	N	01 04.9 -14.9	15			
16	56 33.5 +00.0	S	11 07.6 -00.9	100 00.9 +00.8	S	16 55.5 +00.1	201 52.5 -27.4	N	00 50.0 -14.9	16			
17	71 33.5 +00.1	S	11 06.7 -00.9	115 01.7 +00.7	S	16 55.6 +00.0	216 25.1 -27.5	N	00 35.1 -14.9	17			
18	86 33.6 +00.1	S	11 05.8 -00.9	130 02.4 +00.8	S	16 55.6 +00.1	230 57.6 -27.5	N	00 20.2 -14.9	18			
19	101 33.7 +00.0	S	11 04.9 -00.9	145 03.2 +00.8	S	16 55.7 +00.0	245 30.1 -27.4	N	00 05.3 -15.0	19			
20	116 33.7 +00.1	S	11 04.0 -00.9	160 04.0 +00.7	S	16 55.7 +00.1	260 02.7 -27.5	S	00 09.7 +15.0	20			
21	131 33.8 +00.1	S	11 03.1 -00.9	175 04.7 +00.7	S	16 55.8 +00.0	274 35.2 -27.6	S	00 24.7 +14.9	21			
22	146 33.9 +00.0	S	11 02.2 -00.9	190 05.4 +00.8	S	16 55.8 +00.1	289 07.6 -27.5	S	00 39.6 +15.0	22			
23	161 33.9 +00.1	S	11 01.3 -00.9	205 06.2 +00.7	S	16 55.9 +00.0	303 40.1 -27.6	S	00 54.6 +15.0	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 028° 027° 027° 027° 027° 027° Greenwich Culmination Time: 12:13		UT 02 06 10 14 18 22 SD 00'3 00'3 00'3 00'3 00'3 00'3 HP 00'3 00'3 00'3 00'3 00'3 00'3 SHA 071° 071° 071° 070° 070° 070° Greenwich Culmination Time: 09:20		UT 02 06 10 14 18 22 SD 15'6 15'6 15'6 15'6 15'6 15'7 HP 57'1 57'2 57'3 57'3 57'4 57'5 SHA 179° 177° 175° 173° 171° 169° Greenwich Culmination Time: 02:07								
UT	Mars				Jupiter				Saturn				UT
	GHA ° / '	ddGHA	Dec ° / '	dDec	GHA ° / '	ddGHA	Dec ° / '	dDec	GHA ° / '	ddGHA	Dec ° / '	dDec	
00	218 37.0 +00.5	S	22 50.6 -00.2	165 39.5 +01.9	S	08 10.0 -00.2	188 34.1 +02.2	S	16 22.5 -00.1	00			
01	233 37.5 +00.4	S	22 50.4 -00.2	180 41.4 +01.9	S	08 09.8 -00.3	203 36.3 +02.2	S	16 22.4 -00.1	01			
02	248 37.9 +00.5	S	22 50.2 -00.3	195 43.3 +01.9	S	08 09.5 -00.2	218 38.5 +02.1	S	16 22.3 -00.1	02			
03	263 38.4 +00.5	S	22 49.9 -00.2	210 45.2 +01.9	S	08 09.3 -00.2	233 40.6 +02.2	S	16 22.2 -00.1	03			
04	278 38.9 +00.4	S	22 49.7 -00.2	225 47.1 +01.9	S	08 09.1 -00.2	248 42.8 +02.2	S	16 22.1 -00.1	04			
05	293 39.3 +00.5	S	22 49.5 -00.3	240 49.0 +01.9	S	08 08.9 -00.3	263 45.0 +02.1	S	16 22.0 -00.1	05			
06	308 39.8 +00.5	S	22 49.2 -00.2	255 50.9 +01.9	S	08 08.6 -00.2	278 47.1 +02.2	S	16 21.9 +00.0	06			
07	323 40.3 +00.5	S	22 49.0 -00.2	270 52.8 +01.9	S	08 08.4 -00.2	293 49.3 +02.2	S	16 21.9 -00.1	07			
08	338 40.8 +00.4	S	22 48.8 -00.2	285 54.7 +01.9	S	08 08.2 -00.2	308 51.5 +02.2	S	16 21.8 -00.1	08			
09	353 41.2 +00.5	S	22 48.6 -00.3	300 56.6 +01.9	S	08 08.0 -00.3	323 53.7 +02.1	S	16 21.7 -00.1	09			
10	8 41.7 +00.5	S	22 48.3 -00.2	315 58.5 +02.0	S	08 07.7 -00.2	338 55.8 +02.2	S	16 21.6 -00.1	10			
11	23 42.2 +00.5	S	22 48.1 -00.2	331 00.5 +01.9	S	08 07.5 -00.2	353 58.0 +02.2	S	16 21.5 -00.1	11			
12	38 42.7 +00.4	S	22 47.9 -00.3	346 02.4 +01.9	S	08 07.3 -00.3	9 00.2 +02.1	S	16 21.4 -00.1	12			
13	53 43.1 +00.5	S	22 47.6 -00.2	1 04.3 +01.9	S	08 07.0 -00.2	24 02.3 +02.2	S	16 21.3 -00.1	13			
14	68 43.6 +00.5	S	22 47.4 -00.2	16 06.2 +01.9	S	08 06.8 -00.2	39 04.5 +02.2	S	16 21.2 +00.0	14			
15	83 44.1 +00.5	S	22 47.2 -00.2	31 08.1 +01.9	S	08 06.6 -00.2	54 06.7 +02.2	S	16 21.2 -00.1	15			
16	98 44.6 +00.4	S	22 47.0 -00.3	46 10.0 +01.9	S	08 06.4 -00.3	69 08.9 +02.1	S	16 21.1 -00.1	16			
17	113 45.0 +00.5	S	22 46.7 -00.2	61 11.9 +01.9	S	08 06.1 -00.2	84 11.0 +02.2	S	16 21.0 -00.1	17			
18	128 45.5 +00.5	S	22 46.5 -00.2	76 13.8 +01.9	S	08 05.9 -00.2	99 13.2 +02.2	S	16 20.9 -00.1	18			
19	143 46.0 +00.5	S	22 46.3 -00.3	91 15.7 +01.9	S	08 05.7 -00.3	114 15.4 +02.1	S	16 20.8 -00.1	19			
20	158 46.5 +00.4	S	22 46.0 -00.2	106 17.6 +01.9	S	08 05.4 -00.2	129 17.5 +02.2	S	16 20.7 -00.1	20			
21	173 46.9 +00.5	S	22 45.8 -00.2	121 19.5 +01.9	S	08 05.2 -00.2	144 19.7 +02.2	S	16 20.6 -00.1	21			
22	188 47.4 +00.5	S	22 45.6 -00.3	136 21.4 +01.9	S	08 05.0 -00.2	159 21.9 +02.2	S	16 20.5 +00.0	22			
23	203 47.9 +00.4	S	22 45.3 -00.2	151 23.3 +01.9	S	08 04.8 -00.3	174 24.1 +02.1	S	16 20.5 -00.1	23			
	UT 02 06 10 14 18 22 SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 070° 069° 069° 069° 069° 069° Greenwich Culmination Time: 09:25		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 017° 017° 017° 017° 017° 017° Greenwich Culmination Time: 12:55		UT 02 06 10 14 18 22 SD 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 SHA 040° 040° 040° 040° 040° 040° Greenwich Culmination Time: 11:24								



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 35.6 +00.1	S 10	38.8 -00.9	220 24.1 +00.7	S 16	56.8 +00.1	307 01.7 -28.5	S 07	07.3 +14.7	00			
01	191 35.7 +00.1	S 10	37.9 -00.9	235 24.8 +00.7	S 16	56.9 +00.0	321 33.2 -28.5	S 07	22.0 +14.7	01			
02	206 35.8 +00.0	S 10	37.0 -00.9	250 25.5 +00.6	S 16	56.9 +00.0	336 04.7 -28.5	S 07	36.7 +14.6	02			
03	221 35.8 +00.1	S 10	36.1 -00.9	265 26.1 +00.7	S 16	56.9 +00.1	350 36.2 -28.7	S 07	51.3 +14.7	03			
04	236 35.9 +00.1	S 10	35.2 -00.9	280 26.8 +00.7	S 16	57.0 +00.0	5 07.5 -28.6	S 08	06.0 +14.5	04			
05	251 36.0 +00.1	S 10	34.3 -00.9	295 27.5 +00.7	S 16	57.0 +00.0	19 38.9 -28.7	S 08	20.5 +14.6	05			
06	266 36.1 +00.0	S 10	33.4 -00.9	310 28.2 +00.7	S 16	57.0 +00.0	34 10.2 -28.8	S 08	35.1 +14.5	06			
07	281 36.1 +00.1	S 10	32.5 -00.9	325 28.9 +00.6	S 16	57.0 +00.1	48 41.4 -28.9	S 08	49.6 +14.5	07			
08	296 36.2 +00.1	S 10	31.6 -00.9	340 29.5 +00.7	S 16	57.1 +00.0	63 12.5 -28.9	S 09	04.1 +14.4	08			
09	311 36.3 +00.0	S 10	30.7 -00.9	355 30.2 +00.7	S 16	57.1 +00.0	77 43.6 -28.9	S 09	18.5 +14.4	09			
10	326 36.3 +00.1	S 10	29.8 -00.9	10 30.9 +00.6	S 16	57.1 +00.1	92 14.7 -29.0	S 09	32.9 +14.4	10			
11	341 36.4 +00.1	S 10	28.9 -00.9	25 31.5 +00.7	S 16	57.2 +00.0	106 45.7 -29.1	S 09	47.3 +14.3	11			
12	356 36.5 +00.1	S 10	28.0 -00.9	40 32.2 +00.7	S 16	57.2 +00.0	121 16.6 -29.2	S 10	01.6 +14.3	12			
13	11 36.6 +00.0	S 10	27.1 -00.9	55 32.9 +00.6	S 16	57.2 +00.0	135 47.4 -29.2	S 10	15.9 +14.3	13			
14	26 36.6 +00.1	S 10	26.2 -01.0	70 33.5 +00.7	S 16	57.2 +00.1	150 18.2 -29.2	S 10	30.2 +14.2	14			
15	41 36.7 +00.1	S 10	25.2 -00.9	85 34.2 +00.6	S 16	57.3 +00.0	164 49.0 -29.4	S 10	44.4 +14.1	15			
16	56 36.8 +00.1	S 10	24.3 -00.9	100 34.8 +00.7	S 16	57.3 +00.0	179 19.6 -29.4	S 10	58.5 +14.1	16			
17	71 36.9 +00.0	S 10	23.4 -00.9	115 35.5 +00.6	S 16	57.3 +00.0	193 50.2 -29.4	S 11	12.6 +14.1	17			
18	86 36.9 +00.1	S 10	22.5 -00.9	130 36.1 +00.7	S 16	57.3 +00.1	208 20.8 -29.6	S 11	26.7 +14.0	18			
19	101 37.0 +00.1	S 10	21.6 -00.9	145 36.8 +00.6	S 16	57.4 +00.0	222 51.2 -29.6	S 11	40.7 +13.9	19			
20	116 37.1 +00.1	S 10	20.7 -00.9	160 37.4 +00.7	S 16	57.4 +00.0	237 21.6 -29.7	S 11	54.6 +13.9	20			
21	131 37.2 +00.1	S 10	19.8 -00.9	175 38.1 +00.6	S 16	57.4 +00.0	251 51.9 -29.7	S 12	08.5 +13.9	21			
22	146 37.3 +00.0	S 10	18.9 -00.9	190 38.7 +00.7	S 16	57.4 +00.0	266 22.2 -29.9	S 12	22.4 +13.8	22			
23	161 37.3 +00.1	S 10	18.0 -00.9	205 39.4 +00.6	S 16	57.4 +00.1	280 52.3 -29.8	S 12	36.2 +13.7	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	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 15'9 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 58'0 58'1 58'2 58'2 58'3 58'4						
	SHA 026° 025° 025° 025° 025° 025°			SHA 069° 069° 069° 069° 069° 069°			SHA 155° 153° 151° 149° 147° 145°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:17			Greenwich Culmination Time: 03:38						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	218 59.7 +00.5	S 22	39.4 -00.3	167 10.9 +01.9	S 07	59.1 -00.3	190 18.3 +02.2	S 16	18.3 -00.1	00			
01	234 00.2 +00.5	S 22	39.1 -00.2	182 12.8 +01.9	S 07	58.8 -00.2	205 20.5 +02.2	S 16	18.2 -00.1	01			
02	249 00.7 +00.5	S 22	38.9 -00.3	197 14.7 +01.9	S 07	58.6 -00.2	220 22.7 +02.2	S 16	18.1 -00.1	02			
03	264 01.2 +00.4	S 22	38.6 -00.2	212 16.6 +01.9	S 07	58.4 -00.3	235 24.9 +02.1	S 16	18.0 -00.1	03			
04	279 01.6 +00.5	S 22	38.4 -00.3	227 18.5 +01.9	S 07	58.1 -00.2	250 27.0 +02.2	S 16	17.9 +00.0	04			
05	294 02.1 +00.5	S 22	38.1 -00.2	242 20.4 +01.9	S 07	57.9 -00.2	265 29.2 +02.2	S 16	17.9 -00.1	05			
06	309 02.6 +00.5	S 22	37.9 -00.3	257 22.3 +01.9	S 07	57.7 -00.2	280 31.4 +02.1	S 16	17.8 -00.1	06			
07	324 03.1 +00.4	S 22	37.6 -00.2	272 24.2 +01.9	S 07	57.5 -00.3	295 33.5 +02.2	S 16	17.7 -00.1	07			
08	339 03.5 +00.5	S 22	37.4 -00.3	287 26.1 +01.9	S 07	57.2 -00.2	310 35.7 +02.2	S 16	17.6 -00.1	08			
09	354 04.0 +00.5	S 22	37.1 -00.2	302 28.0 +01.9	S 07	57.0 -00.2	325 37.9 +02.2	S 16	17.5 -00.1	09			
10	9 04.5 +00.5	S 22	36.9 -00.2	317 29.9 +01.9	S 07	56.8 -00.3	340 40.1 +02.1	S 16	17.4 -00.1	10			
11	24 05.0 +00.5	S 22	36.7 -00.3	332 31.8 +01.9	S 07	56.5 -00.2	355 42.2 +02.2	S 16	17.3 -00.1	11			
12	39 05.5 +00.4	S 22	36.4 -00.2	347 33.7 +01.9	S 07	56.3 -00.2	10 44.4 +02.2	S 16	17.2 +00.0	12			
13	54 05.9 +00.5	S 22	36.2 -00.3	2 35.6 +01.9	S 07	56.1 -00.2	25 46.6 +02.1	S 16	17.2 -00.1	13			
14	69 06.4 +00.5	S 22	35.9 -00.2	17 37.5 +01.9	S 07	55.9 -00.3	40 48.7 +02.2	S 16	17.1 -00.1	14			
15	84 06.9 +00.5	S 22	35.7 -00.3	32 39.4 +01.9	S 07	55.6 -00.2	55 50.9 +02.2	S 16	17.0 -00.1	15			
16	99 07.4 +00.4	S 22	35.4 -00.2	47 41.3 +01.9	S 07	55.4 -00.2	70 53.1 +02.2	S 16	16.9 -00.1	16			
17	114 07.8 +00.5	S 22	35.2 -00.3	62 43.2 +01.9	S 07	55.2 -00.3	85 55.3 +02.1	S 16	16.8 -00.1	17			
18	129 08.3 +00.5	S 22	34.9 -00.2	77 45.1 +01.9	S 07	54.9 -00.2	100 57.4 +02.2	S 16	16.7 -00.1	18			
19	144 08.8 +00.5	S 22	34.7 -00.3	92 47.0 +01.9	S 07	54.7 -00.2	115 59.6 +02.2	S 16	16.6 +00.0	19			
20	159 09.3 +00.4	S 22	34.4 -00.3	107 48.9 +01.9	S 07	54.5 -00.3	131 01.8 +02.2	S 16	16.6 -00.1	20			
21	174 09.7 +00.5	S 22	34.1 -00.2	122 50.8 +02.0	S 07	54.2 -00.2	146 04.0 +02.1	S 16	16.5 -00.1	21			
22	189 10.2 +00.5	S 22	33.9 -00.3	137 52.8 +01.9	S 07	54.0 -00.2	161 06.1 +02.2	S 16	16.4 -00.1	22			
23	204 10.7 +00.5	S 22	33.6 -00.2	152 54.7 +01.9	S 07	53.8 -00.2	176 08.3 +02.2	S 16	16.3 -00.1	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>						
	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 00'1 00'1 00'1 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 068° 068° 068° 068° 068° 067°			SHA 016° 016° 016° 016° 016° 016°			SHA 039° 039° 039° 039° 039° 039°						
	Greenwich Culmination Time: 09:23			Greenwich Culmination Time: 12:49			Greenwich Culmination Time: 11:17						



UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 39.3 +00.1	S	09 55.2 -00.9	220 54.8 +00.6	S	16 57.8 +00.0	283 00.4 -32.0	S	17 58.3 +11.8	00			
01	191 39.4 +00.1	S	09 54.3 -01.0	235 55.4 +00.6	S	16 57.8 +00.0	297 28.4 -32.2	S	18 10.1 +11.7	01			
02	206 39.5 +00.1	S	09 53.3 -00.9	250 56.0 +00.6	S	16 57.8 +00.0	311 56.2 -32.2	S	18 21.8 +11.6	02			
03	221 39.6 +00.1	S	09 52.4 -00.9	265 56.6 +00.5	S	16 57.8 +00.0	326 24.0 -32.3	S	18 33.4 +11.5	03			
04	236 39.7 +00.1	S	09 51.5 -00.9	280 57.1 +00.6	S	16 57.8 +00.0	340 51.7 -32.4	S	18 44.9 +11.4	04			
05	251 39.8 +00.1	S	09 50.6 -00.9	295 57.7 +00.6	S	16 57.8 +00.0	355 19.3 -32.5	S	18 56.3 +11.3	05			
06	266 39.9 +00.0	S	09 49.7 -01.0	310 58.3 +00.6	S	16 57.8 +00.0	9 46.8 -32.6	S	19 07.6 +11.2	06			
07	281 39.9 +00.1	S	09 48.7 -00.9	325 58.9 +00.6	S	16 57.8 +00.1	24 14.2 -32.6	S	19 18.8 +11.1	07			
08	296 40.0 +00.1	S	09 47.8 -00.9	340 59.5 +00.5	S	16 57.9 +00.0	38 41.6 -32.8	S	19 29.9 +11.0	08			
09	311 40.1 +00.1	S	09 46.9 -00.9	356 00.0 +00.6	S	16 57.9 +00.0	53 08.8 -32.9	S	19 40.9 +10.8	09			
10	326 40.2 +00.1	S	09 46.0 -00.9	11 00.6 +00.6	S	16 57.9 +00.0	67 35.9 -33.0	S	19 51.7 +10.8	10			
11	341 40.3 +00.1	S	09 45.1 -00.9	26 01.2 +00.6	S	16 57.9 +00.0	82 02.9 -33.0	S	20 02.5 +10.6	11			
12	356 40.4 +00.1	S	09 44.2 -01.0	41 01.8 +00.5	S	16 57.9 +00.0	96 29.9 -33.2	S	20 13.1 +10.6	12			
13	11 40.5 +00.0	S	09 43.2 -00.9	56 02.3 +00.6	S	16 57.9 +00.0	110 56.7 -33.3	S	20 23.7 +10.4	13			
14	26 40.5 +00.1	S	09 42.3 -00.9	71 02.9 +00.6	S	16 57.9 +00.0	125 23.4 -33.3	S	20 34.1 +10.3	14			
15	41 40.6 +00.1	S	09 41.4 -00.9	86 03.5 +00.5	S	16 57.9 +00.0	139 50.1 -33.5	S	20 44.4 +10.2	15			
16	56 40.7 +00.1	S	09 40.5 -00.9	101 04.0 +00.6	S	16 57.9 +00.0	154 16.6 -33.5	S	20 54.6 +10.0	16			
17	71 40.8 +00.1	S	09 39.6 -01.0	116 04.6 +00.5	S	16 57.9 +00.0	168 43.1 -33.7	S	21 04.6 +10.0	17			
18	86 40.9 +00.1	S	09 38.6 -00.9	131 05.1 +00.6	S	16 57.9 +00.0	183 09.4 -33.7	S	21 14.6 +09.8	18			
19	101 41.0 +00.1	S	09 37.7 -00.9	146 05.7 +00.6	S	16 57.9 +00.0	197 35.7 -33.9	S	21 24.4 +09.6	19			
20	116 41.1 +00.1	S	09 36.8 -00.9	161 06.3 +00.5	S	16 57.9 +00.0	212 01.8 -33.9	S	21 34.0 +09.6	20			
21	131 41.2 +00.1	S	09 35.9 -01.0	176 06.8 +00.6	S	16 57.9 -00.1	226 27.9 -34.1	S	21 43.6 +09.4	21			
22	146 41.3 +00.0	S	09 34.9 -00.9	191 07.4 +00.5	S	16 57.8 +00.0	240 53.8 -34.1	S	21 53.0 +09.3	22			
23	161 41.3 +00.1	S	09 34.0 -00.9	206 07.9 +00.6	S	16 57.8 +00.0	255 19.7 -34.2	S	22 02.3 +09.2	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 16'0 16'0 16'0 16'1 16'1 16'1						
	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 58'8 58'8 58'9 59'0 59'0 59'1						
	SHA 024° 024° 023° 023° 023° 023°			SHA 068° 068° 068° 068° 067° 067°			SHA 129° 127° 124° 122° 120° 117°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:15			Greenwich Culmination Time: 05:19						

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	219 22.6 +00.5	S	22 27.2 -00.3	168 42.2 +01.9	S	07 48.1 -00.3	192 02.6 +02.2	S	16 14.1 -00.1	00			
01	234 23.1 +00.5	S	22 26.9 -00.2	183 44.1 +01.9	S	07 47.8 -00.2	207 04.8 +02.2	S	16 14.0 +00.0	01			
02	249 23.6 +00.5	S	22 26.7 -00.3	198 46.0 +01.9	S	07 47.6 -00.2	222 07.0 +02.1	S	16 14.0 -00.1	02			
03	264 24.1 +00.4	S	22 26.4 -00.3	213 47.9 +01.9	S	07 47.4 -00.3	237 09.1 +02.2	S	16 13.9 -00.1	03			
04	279 24.5 +00.5	S	22 26.1 -00.2	228 49.8 +01.9	S	07 47.1 -00.2	252 11.3 +02.2	S	16 13.8 -00.1	04			
05	294 25.0 +00.5	S	22 25.9 -00.3	243 51.7 +01.9	S	07 46.9 -00.2	267 13.5 +02.2	S	16 13.7 -00.1	05			
06	309 25.5 +00.5	S	22 25.6 -00.3	258 53.6 +01.9	S	07 46.7 -00.2	282 15.7 +02.1	S	16 13.6 -00.1	06			
07	324 26.0 +00.5	S	22 25.3 -00.2	273 55.5 +01.9	S	07 46.5 -00.3	297 17.8 +02.2	S	16 13.5 -00.1	07			
08	339 26.5 +00.4	S	22 25.1 -00.3	288 57.4 +01.9	S	07 46.2 -00.2	312 20.0 +02.2	S	16 13.4 -00.1	08			
09	354 26.9 +00.5	S	22 24.8 -00.3	303 59.3 +01.9	S	07 46.0 -00.2	327 22.2 +02.2	S	16 13.3 +00.0	09			
10	9 27.4 +00.5	S	22 24.5 -00.2	319 01.2 +01.9	S	07 45.8 -00.3	342 24.4 +02.1	S	16 13.3 -00.1	10			
11	24 27.9 +00.5	S	22 24.3 -00.3	334 03.1 +02.0	S	07 45.5 -00.2	357 26.5 +02.2	S	16 13.2 -00.1	11			
12	39 28.4 +00.5	S	22 24.0 -00.3	349 05.1 +01.9	S	07 45.3 -00.2	12 28.7 +02.2	S	16 13.1 -00.1	12			
13	54 28.9 +00.4	S	22 23.7 -00.2	4 07.0 +01.9	S	07 45.1 -00.3	27 30.9 +02.2	S	16 13.0 -00.1	13			
14	69 29.3 +00.5	S	22 23.5 -00.3	19 08.9 +01.9	S	07 44.8 -00.2	42 33.1 +02.1	S	16 12.9 -00.1	14			
15	84 29.8 +00.5	S	22 23.2 -00.3	34 10.8 +01.9	S	07 44.6 -00.2	57 35.2 +02.2	S	16 12.8 -00.1	15			
16	99 30.3 +00.5	S	22 22.9 -00.2	49 12.7 +01.9	S	07 44.4 -00.2	72 37.4 +02.2	S	16 12.7 +00.0	16			
17	114 30.8 +00.5	S	22 22.7 -00.3	64 14.6 +01.9	S	07 44.2 -00.3	87 39.6 +02.2	S	16 12.7 -00.1	17			
18	129 31.3 +00.4	S	22 22.4 -00.3	79 16.5 +01.9	S	07 43.9 -00.2	102 41.8 +02.1	S	16 12.6 -00.1	18			
19	144 31.7 +00.5	S	22 22.1 -00.3	94 18.4 +01.9	S	07 43.7 -00.2	117 43.9 +02.2	S	16 12.5 -00.1	19			
20	159 32.2 +00.5	S	22 21.8 -00.2	109 20.3 +01.9	S	07 43.5 -00.3	132 46.1 +02.2	S	16 12.4 -00.1	20			
21	174 32.7 +00.5	S	22 21.6 -00.3	124 22.2 +01.9	S	07 43.2 -00.2	147 48.3 +02.1	S	16 12.3 -00.1	21			
22	189 33.2 +00.5	S	22 21.3 -00.3	139 24.1 +01.9	S	07 43.0 -00.2	162 50.4 +02.2	S	16 12.2 -00.1	22			
23	204 33.7 +00.4	S	22 21.0 -00.2	154 26.0 +01.9	S	07 42.8 -00.3	177 52.6 +02.2	S	16 12.1 +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 00'1 00'1 00'1 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 066° 066° 066° 066° 066° 066°			SHA 016° 016° 016° 016° 016° 016°			SHA 039° 039° 039° 039° 039° 039°						
	Greenwich Culmination Time: 09:22			Greenwich Culmination Time: 12:43			Greenwich Culmination Time: 11:10						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 41.4 +00.1	S	09 33.1 -00.9	221 08.5 +00.5	S	16 57.8 +00.0	269 45.5 -34.3	S	22 11.5 +09.0	00			
01	191 41.5 +00.1	S	09 32.2 -00.9	236 09.0 +00.5	S	16 57.8 +00.0	284 11.2 -34.5	S	22 20.5 +08.9	01			
02	206 41.6 +00.1	S	09 31.3 -01.0	251 09.5 +00.6	S	16 57.8 +00.0	298 36.7 -34.5	S	22 29.4 +08.8	02			
03	221 41.7 +00.1	S	09 30.3 -00.9	266 10.1 +00.5	S	16 57.8 +00.0	313 02.2 -34.6	S	22 38.2 +08.6	03			
04	236 41.8 +00.1	S	09 29.4 -00.9	281 10.6 +00.6	S	16 57.8 +00.0	327 27.6 -34.7	S	22 46.8 +08.5	04			
05	251 41.9 +00.1	S	09 28.5 -00.9	296 11.2 +00.5	S	16 57.8 +00.0	341 52.9 -34.8	S	22 55.3 +08.3	05			
06	266 42.0 +00.1	S	09 27.6 -01.0	311 11.7 +00.5	S	16 57.8 +00.0	356 18.1 -34.9	S	23 03.6 +08.2	06			
07	281 42.1 +00.1	S	09 26.6 -00.9	326 12.2 +00.6	S	16 57.8 +00.0	10 43.2 -34.9	S	23 11.8 +08.1	07			
08	296 42.2 +00.1	S	09 25.7 -00.9	341 12.8 +00.5	S	16 57.8 +00.0	25 08.3 -35.1	S	23 19.9 +07.9	08			
09	311 42.3 +00.1	S	09 24.8 -00.9	356 13.3 +00.5	S	16 57.8 +00.0	39 33.2 -35.1	S	23 27.8 +07.8	09			
10	326 42.3 +00.1	S	09 23.9 -01.0	11 13.8 +00.6	S	16 57.8 -00.1	53 58.1 -35.3	S	23 35.6 +07.6	10			
11	341 42.4 +00.1	S	09 22.9 -00.9	26 14.4 +00.5	S	16 57.7 +00.0	68 22.8 -35.3	S	23 43.2 +07.5	11			
12	356 42.5 +00.1	S	09 22.0 -00.9	41 14.9 +00.5	S	16 57.7 +00.0	82 47.5 -35.4	S	23 50.7 +07.3	12			
13	11 42.6 +00.1	S	09 21.1 -00.9	56 15.4 +00.5	S	16 57.7 +00.0	97 12.1 -35.5	S	23 58.0 +07.1	13			
14	26 42.7 +00.1	S	09 20.2 -01.0	71 15.9 +00.6	S	16 57.7 +00.0	111 36.6 -35.6	S	24 05.1 +07.0	14			
15	41 42.8 +00.1	S	09 19.2 -00.9	86 16.5 +00.5	S	16 57.7 +00.0	126 01.0 -35.7	S	24 12.1 +06.9	15			
16	56 42.9 +00.1	S	09 18.3 -00.9	101 17.0 +00.5	S	16 57.7 +00.0	140 25.3 -35.7	S	24 19.0 +06.7	16			
17	71 43.0 +00.1	S	09 17.4 -00.9	116 17.5 +00.5	S	16 57.7 -00.1	154 49.6 -35.9	S	24 25.7 +06.5	17			
18	86 43.1 +00.1	S	09 16.5 -01.0	131 18.0 +00.5	S	16 57.6 +00.0	169 13.7 -35.9	S	24 32.2 +06.4	18			
19	101 43.2 +00.1	S	09 15.5 -00.9	146 18.5 +00.5	S	16 57.6 +00.0	183 37.8 -36.0	S	24 38.6 +06.2	19			
20	116 43.3 +00.1	S	09 14.6 -00.9	161 19.0 +00.5	S	16 57.6 +00.0	198 01.8 -36.0	S	24 44.8 +06.1	20			
21	131 43.4 +00.1	S	09 13.7 -00.9	176 19.5 +00.5	S	16 57.6 +00.0	212 25.8 -36.2	S	24 50.9 +05.9	21			
22	146 43.5 +00.1	S	09 12.8 -01.0	191 20.0 +00.6	S	16 57.6 +00.0	226 49.6 -36.2	S	24 56.8 +05.7	22			
23	161 43.6 +00.1	S	09 11.8 -00.9	206 20.6 +00.5	S	16 57.6 -00.1	241 13.4 -36.3	S	25 02.5 +05.6	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>					
	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 16'1 16'1 16'1 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 59'1 59'2 59'2 59'3 59'3 59'3					
	SHA 023° 023° 022° 022° 022° 022°			SHA 067° 067° 067° 067° 067° 067°				SHA 115° 112° 110° 107° 105° 102°					
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:15				Greenwich Culmination Time: 06:15					

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	219 34.1 +00.5	S	22 20.8 -00.3	169 27.9 +01.9	S	07 42.5 -00.2	192 54.8 +02.2	S	16 12.1 -00.1	00			
01	234 34.6 +00.5	S	22 20.5 -00.3	184 29.8 +01.9	S	07 42.3 -00.2	207 57.0 +02.1	S	16 12.0 -00.1	01			
02	249 35.1 +00.5	S	22 20.2 -00.3	199 31.7 +01.9	S	07 42.1 -00.2	222 59.1 +02.2	S	16 11.9 -00.1	02			
03	264 35.6 +00.5	S	22 19.9 -00.2	214 33.6 +01.9	S	07 41.9 -00.3	238 01.3 +02.2	S	16 11.8 -00.1	03			
04	279 36.1 +00.4	S	22 19.7 -00.3	229 35.5 +01.9	S	07 41.6 -00.2	253 03.5 +02.2	S	16 11.7 -00.1	04			
05	294 36.5 +00.5	S	22 19.4 -00.3	244 37.4 +01.9	S	07 41.4 -00.2	268 05.7 +02.1	S	16 11.6 -00.1	05			
06	309 37.0 +00.5	S	22 19.1 -00.3	259 39.3 +01.9	S	07 41.2 -00.3	283 07.8 +02.2	S	16 11.5 -00.1	06			
07	324 37.5 +00.5	S	22 18.8 -00.2	274 41.2 +01.9	S	07 40.9 -00.2	298 10.0 +02.2	S	16 11.4 +00.0	07			
08	339 38.0 +00.5	S	22 18.6 -00.3	289 43.1 +01.9	S	07 40.7 -00.2	313 12.2 +02.2	S	16 11.4 -00.1	08			
09	354 38.5 +00.4	S	22 18.3 -00.3	304 45.0 +01.9	S	07 40.5 -00.3	328 14.4 +02.1	S	16 11.3 -00.1	09			
10	9 38.9 +00.5	S	22 18.0 -00.3	319 46.9 +01.9	S	07 40.2 -00.2	343 16.5 +02.2	S	16 11.2 -00.1	10			
11	24 39.4 +00.5	S	22 17.7 -00.2	334 48.8 +01.9	S	07 40.0 -00.2	358 18.7 +02.2	S	16 11.1 -00.1	11			
12	39 39.9 +00.5	S	22 17.5 -00.3	349 50.7 +01.9	S	07 39.8 -00.2	13 20.9 +02.2	S	16 11.0 -00.1	12			
13	54 40.4 +00.5	S	22 17.2 -00.3	4 52.6 +01.9	S	07 39.6 -00.3	28 23.1 +02.1	S	16 10.9 -00.1	13			
14	69 40.9 +00.4	S	22 16.9 -00.3	19 54.5 +01.9	S	07 39.3 -00.2	43 25.2 +02.2	S	16 10.8 +00.0	14			
15	84 41.3 +00.5	S	22 16.6 -00.3	34 56.4 +01.9	S	07 39.1 -00.2	58 27.4 +02.2	S	16 10.8 -00.1	15			
16	99 41.8 +00.5	S	22 16.3 -00.2	49 58.3 +01.9	S	07 38.9 -00.3	73 29.6 +02.2	S	16 10.7 -00.1	16			
17	114 42.3 +00.5	S	22 16.1 -00.3	65 00.2 +01.9	S	07 38.6 -00.2	88 31.8 +02.1	S	16 10.6 -00.1	17			
18	129 42.8 +00.5	S	22 15.8 -00.3	80 02.1 +01.9	S	07 38.4 -00.2	103 33.9 +02.2	S	16 10.5 -00.1	18			
19	144 43.3 +00.5	S	22 15.5 -00.3	95 04.0 +01.9	S	07 38.2 -00.3	118 36.1 +02.2	S	16 10.4 -00.1	19			
20	159 43.8 +00.4	S	22 15.2 -00.3	110 05.9 +01.9	S	07 37.9 -00.2	133 38.3 +02.2	S	16 10.3 -00.1	20			
21	174 44.2 +00.5	S	22 14.9 -00.2	125 07.8 +01.9	S	07 37.7 -00.2	148 40.5 +02.1	S	16 10.2 +00.0	21			
22	189 44.7 +00.5	S	22 14.7 -00.3	140 09.7 +01.9	S	07 37.5 -00.2	163 42.6 +02.2	S	16 10.2 -00.1	22			
23	204 45.2 +00.5	S	22 14.4 -00.3	155 11.6 +01.9	S	07 37.3 -00.3	178 44.8 +02.2	S	16 10.1 -00.1	23			
	<b>UT 02 06 10 14 18 22</b>			<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>					
	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 00'1 00'1 00'1 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 066° 066° 065° 065° 065° 065°			SHA 016° 016° 016° 015° 015° 015°				SHA 039° 039° 039° 039° 039° 039°					
	Greenwich Culmination Time: 09:21			Greenwich Culmination Time: 12:40				Greenwich Culmination Time: 11:06					

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 43.7 +00.1	S	09 10.9 -00.9	221 21.1 +00.5	S	16 57.5 +00.0	255 37.1 -36.4	S	25 08.1 +05.4				
01	191 43.8 +00.1	S	09 10.0 -01.0	236 21.6 +00.5	S	16 57.5 +00.0	270 00.7 -36.4	S	25 13.5 +05.2				
02	206 43.9 +00.1	S	09 09.0 -00.9	251 22.1 +00.5	S	16 57.5 +00.0	284 24.3 -36.5	S	25 18.7 +05.1				
03	221 44.0 +00.1	S	09 08.1 -00.9	266 22.6 +00.5	S	16 57.5 +00.0	298 47.8 -36.6	S	25 23.8 +04.9				
04	236 44.1 +00.1	S	09 07.2 -00.9	281 23.1 +00.5	S	16 57.5 -00.1	313 11.2 -36.6	S	25 28.7 +04.7				
05	251 44.2 +00.0	S	09 06.3 -01.0	296 23.6 +00.5	S	16 57.4 +00.0	327 34.6 -36.7	S	25 33.4 +04.5				
06	266 44.2 +00.1	S	09 05.3 -00.9	311 24.1 +00.4	S	16 57.4 +00.0	341 57.9 -36.8	S	25 37.9 +04.4				
07	281 44.3 +00.1	S	09 04.4 -00.9	326 24.5 +00.5	S	16 57.4 +00.0	356 21.1 -36.8	S	25 42.3 +04.2				
08	296 44.4 +00.1	S	09 03.5 -01.0	341 25.0 +00.5	S	16 57.4 -00.1	10 44.3 -36.9	S	25 46.5 +04.0				
09	311 44.5 +00.1	S	09 02.5 -00.9	356 25.5 +00.5	S	16 57.3 +00.0	25 07.4 -36.9	S	25 50.5 +03.9				
10	326 44.6 +00.1	S	09 01.6 -00.9	11 26.0 +00.5	S	16 57.3 +00.0	39 30.5 -37.0	S	25 54.4 +03.7				
11	341 44.7 +00.1	S	09 00.7 -01.0	26 26.5 +00.5	S	16 57.3 +00.0	53 53.5 -37.1	S	25 58.1 +03.5				
12	356 44.8 +00.1	S	08 59.7 -00.9	41 27.0 +00.5	S	16 57.3 -00.1	68 16.4 -37.1	S	26 01.6 +03.3				
13	11 44.9 +00.1	S	08 58.8 -00.9	56 27.5 +00.4	S	16 57.2 +00.0	82 39.3 -37.1	S	26 04.9 +03.1				
14	26 45.0 +00.1	S	08 57.9 -01.0	71 27.9 +00.5	S	16 57.2 +00.0	97 02.2 -37.2	S	26 08.0 +03.0				
15	41 45.1 +00.1	S	08 56.9 -00.9	86 28.4 +00.5	S	16 57.2 +00.0	111 25.0 -37.2	S	26 11.0 +02.8				
16	56 45.2 +00.1	S	08 56.0 -00.9	101 28.9 +00.5	S	16 57.2 -00.1	125 47.8 -37.3	S	26 13.8 +02.6				
17	71 45.3 +00.1	S	08 55.1 -01.0	116 29.4 +00.4	S	16 57.1 +00.0	140 10.5 -37.3	S	26 16.4 +02.4				
18	86 45.4 +00.1	S	08 54.1 -00.9	131 29.8 +00.5	S	16 57.1 +00.0	154 33.2 -37.3	S	26 18.8 +02.2				
19	101 45.5 +00.1	S	08 53.2 -00.9	146 30.3 +00.5	S	16 57.1 -00.1	168 55.9 -37.4	S	26 21.0 +02.1				
20	116 45.6 +00.1	S	08 52.3 -01.0	161 30.8 +00.5	S	16 57.0 +00.0	183 18.5 -37.4	S	26 23.1 +01.8				
21	131 45.7 +00.1	S	08 51.3 -00.9	176 31.3 +00.4	S	16 57.0 +00.0	197 41.1 -37.5	S	26 24.9 +01.7				
22	146 45.8 +00.1	S	08 50.4 -00.9	191 31.7 +00.5	S	16 57.0 -00.1	212 03.6 -37.5	S	26 26.6 +01.5				
23	161 45.9 +00.1	S	08 49.5 -01.0	206 32.2 +00.4	S	16 56.9 +00.0	226 26.1 -37.5	S	26 28.1 +01.3				
	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 00'3 00'3 00'3 00'3 00'3 00'3			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 00'3 00'3 00'3 00'3 00'3 00'3			HP 59'4 59'4 59'4 59'5 59'5 59'5						
	SHA 022° 022° 021° 021° 021° 021°			SHA 066° 066° 066° 066° 066° 066°			SHA 099° 097° 094° 092° 089° 086°						
	Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 09:14			Greenwich Culmination Time: 07:15						

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	219 45.7 +00.5	S	22 14.1 -00.3	170 13.5 +01.9	S	07 37.0 -00.2	193 47.0 +02.2	S	16 10.0 -00.1				
01	234 46.2 +00.4	S	22 13.8 -00.3	185 15.4 +01.9	S	07 36.8 -00.2	208 49.2 +02.1	S	16 09.9 -00.1				
02	249 46.6 +00.5	S	22 13.5 -00.3	200 17.3 +01.9	S	07 36.6 -00.3	223 51.3 +02.2	S	16 09.8 -00.1				
03	264 47.1 +00.5	S	22 13.2 -00.2	215 19.2 +01.9	S	07 36.3 -00.2	238 53.5 +02.2	S	16 09.7 -00.1				
04	279 47.6 +00.5	S	22 13.0 -00.3	230 21.1 +01.9	S	07 36.1 -00.2	253 55.7 +02.2	S	16 09.6 +00.0				
05	294 48.1 +00.5	S	22 12.7 -00.3	245 23.0 +01.9	S	07 35.9 -00.3	268 57.9 +02.1	S	16 09.6 -00.1				
06	309 48.6 +00.5	S	22 12.4 -00.3	260 24.9 +01.9	S	07 35.6 -00.2	284 00.0 +02.2	S	16 09.5 -00.1				
07	324 49.1 +00.4	S	22 12.1 -00.3	275 26.8 +01.9	S	07 35.4 -00.2	299 02.2 +02.2	S	16 09.4 -00.1				
08	339 49.5 +00.5	S	22 11.8 -00.3	290 28.7 +01.9	S	07 35.2 -00.3	314 04.4 +02.2	S	16 09.3 -00.1				
09	354 50.0 +00.5	S	22 11.5 -00.2	305 30.6 +01.9	S	07 34.9 -00.2	329 06.6 +02.2	S	16 09.2 -00.1				
10	9 50.5 +00.5	S	22 11.3 -00.3	320 32.5 +01.9	S	07 34.7 -00.2	344 08.8 +02.1	S	16 09.1 -00.1				
11	24 51.0 +00.5	S	22 11.0 -00.3	335 34.4 +01.9	S	07 34.5 -00.2	359 10.9 +02.2	S	16 09.0 -00.1				
12	39 51.5 +00.4	S	22 10.7 -00.3	350 36.3 +01.9	S	07 34.3 -00.3	14 13.1 +02.2	S	16 08.9 +00.0				
13	54 51.9 +00.5	S	22 10.4 -00.3	5 38.2 +01.9	S	07 34.0 -00.2	29 15.3 +02.2	S	16 08.9 -00.1				
14	69 52.4 +00.5	S	22 10.1 -00.3	20 40.1 +02.0	S	07 33.8 -00.2	44 17.5 +02.1	S	16 08.8 -00.1				
15	84 52.9 +00.5	S	22 09.8 -00.3	35 42.1 +01.9	S	07 33.6 -00.3	59 19.6 +02.2	S	16 08.7 -00.1				
16	99 53.4 +00.5	S	22 09.5 -00.3	50 44.0 +01.9	S	07 33.3 -00.2	74 21.8 +02.2	S	16 08.6 -00.1				
17	114 53.9 +00.5	S	22 09.2 -00.2	65 45.9 +01.9	S	07 33.1 -00.2	89 24.0 +02.2	S	16 08.5 -00.1				
18	129 54.4 +00.4	S	22 09.0 -00.3	80 47.8 +01.9	S	07 32.9 -00.3	104 26.2 +02.1	S	16 08.4 -00.1				
19	144 54.8 +00.5	S	22 08.7 -00.3	95 49.7 +01.9	S	07 32.6 -00.2	119 28.3 +02.2	S	16 08.3 +00.0				
20	159 55.3 +00.5	S	22 08.4 -00.3	110 51.6 +01.9	S	07 32.4 -00.2	134 30.5 +02.2	S	16 08.3 -00.1				
21	174 55.8 +00.5	S	22 08.1 -00.3	125 53.5 +01.9	S	07 32.2 -00.2	149 32.7 +02.2	S	16 08.2 -00.1				
22	189 56.3 +00.5	S	22 07.8 -00.3	140 55.4 +01.9	S	07 32.0 -00.3	164 34.9 +02.1	S	16 08.1 -00.1				
23	204 56.8 +00.5	S	22 07.5 -00.3	155 57.3 +01.9	S	07 31.7 -00.2	179 37.0 +02.2	S	16 08.0 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 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 065° 065° 065° 064° 064° 064°			SHA 015° 015° 015° 015° 015° 015°			SHA 039° 039° 039° 039° 039° 039°						
	Greenwich Culmination Time: 09:20			Greenwich Culmination Time: 12:37			Greenwich Culmination Time: 11:03						



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 46.0 +00.1	S	08 48.5 -00.9	221 32.6 +00.5	S	16 56.9 +00.0	240 48.6 -37.5	S	26 29.4 +01.1	00			
01	191 46.1 +00.1	S	08 47.6 -00.9	236 33.1 +00.5	S	16 56.9 -00.1	255 11.1 -37.5	S	26 30.5 +01.0	01			
02	206 46.2 +00.1	S	08 46.7 -01.0	251 33.6 +00.4	S	16 56.8 +00.0	269 33.6 -37.6	S	26 31.5 +00.7	02			
03	221 46.3 +00.2	S	08 45.7 -00.9	266 34.0 +00.5	S	16 56.8 +00.0	283 56.0 -37.6	S	26 32.2 +00.6	03			
04	236 46.5 +00.1	S	08 44.8 -00.9	281 34.5 +00.4	S	16 56.8 -00.1	298 18.4 -37.6	S	26 32.8 +00.4	04			
05	251 46.6 +00.1	S	08 43.9 -01.0	296 34.9 +00.5	S	16 56.7 +00.0	312 40.8 -37.6	S	26 33.2 +00.2	05			
06	266 46.7 +00.1	S	08 42.9 -00.9	311 35.4 +00.4	S	16 56.7 +00.0	327 03.2 -37.6	S	26 33.4 +00.0	06			
07	281 46.8 +00.1	S	08 42.0 -00.9	326 35.8 +00.5	S	16 56.7 -00.1	341 25.6 -37.6	S	26 33.4 -00.2	07			
08	296 46.9 +00.1	S	08 41.1 -01.0	341 36.3 +00.4	S	16 56.6 +00.0	355 48.0 -37.7	S	26 33.2 -00.4	08			
09	311 47.0 +00.1	S	08 40.1 -00.9	356 36.7 +00.5	S	16 56.6 -00.1	10 10.3 -37.6	S	26 32.8 -00.5	09			
10	326 47.1 +00.1	S	08 39.2 -00.9	11 37.2 +00.4	S	16 56.5 +00.0	24 32.7 -37.6	S	26 32.3 -00.8	10			
11	341 47.2 +00.1	S	08 38.3 -01.0	26 37.6 +00.5	S	16 56.5 +00.0	38 55.1 -37.6	S	26 31.5 -00.9	11			
12	356 47.3 +00.1	S	08 37.3 -00.9	41 38.1 +00.4	S	16 56.5 -00.1	53 17.5 -37.7	S	26 30.6 -01.1	12			
13	11 47.4 +00.1	S	08 36.4 -00.9	56 38.5 +00.5	S	16 56.4 +00.0	67 39.8 -37.6	S	26 29.5 -01.3	13			
14	26 47.5 +00.1	S	08 35.5 -01.0	71 39.0 +00.4	S	16 56.4 -00.1	82 02.2 -37.6	S	26 28.2 -01.5	14			
15	41 47.6 +00.1	S	08 34.5 -00.9	86 39.4 +00.4	S	16 56.3 +00.0	96 24.6 -37.6	S	26 26.7 -01.7	15			
16	56 47.7 +00.1	S	08 33.6 -01.0	101 39.8 +00.5	S	16 56.3 -00.1	110 47.0 -37.5	S	26 25.0 -01.8	16			
17	71 47.8 +00.1	S	08 32.6 -00.9	116 40.3 +00.4	S	16 56.2 +00.0	125 09.5 -37.6	S	26 23.2 -02.1	17			
18	86 47.9 +00.1	S	08 31.7 -00.9	131 40.7 +00.4	S	16 56.2 -00.1	139 31.9 -37.5	S	26 21.1 -02.2	18			
19	101 48.0 +00.1	S	08 30.8 -01.0	146 41.1 +00.5	S	16 56.1 +00.0	153 54.4 -37.5	S	26 18.9 -02.4	19			
20	116 48.1 +00.1	S	08 29.8 -00.9	161 41.6 +00.4	S	16 56.1 +00.0	168 16.9 -37.5	S	26 16.5 -02.6	20			
21	131 48.2 +00.1	S	08 28.9 -01.0	176 42.0 +00.4	S	16 56.1 -00.1	182 39.4 -37.5	S	26 13.9 -02.8	21			
22	146 48.3 +00.1	S	08 27.9 -00.9	191 42.4 +00.4	S	16 56.0 +00.0	197 01.9 -37.4	S	26 11.1 -03.0	22			
23	161 48.4 +00.2	S	08 27.0 -00.9	206 42.8 +00.5	S	16 56.0 -00.1	211 24.5 -37.4	S	26 08.1 -03.2	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 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 00'3 00'3 00'3 00'3 00'3 00'3			HP 59'5 59'6 59'6 59'6 59'6 59'6						
	SHA 021° 021° 021° 020° 020° 020°			SHA 066° 066° 065° 065° 065° 065°			SHA 084° 081° 078° 076° 073° 070°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 09:13			Greenwich Culmination Time: 08:17						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	219 57.3 +00.4	S	22 07.2 -00.3	170 59.2 +01.9	S	07 31.5 -00.2	194 39.2 +02.2	S	16 07.9 -00.1	00			
01	234 57.7 +00.5	S	22 06.9 -00.3	186 01.1 +01.9	S	07 31.3 -00.3	209 41.4 +02.2	S	16 07.8 -00.1	01			
02	249 58.2 +00.5	S	22 06.6 -00.3	201 03.0 +01.9	S	07 31.0 -00.2	224 43.6 +02.1	S	16 07.7 +00.0	02			
03	264 58.7 +00.5	S	22 06.3 -00.3	216 04.9 +01.9	S	07 30.8 -00.2	239 45.7 +02.2	S	16 07.7 -00.1	03			
04	279 59.2 +00.5	S	22 06.0 -00.3	231 06.8 +01.9	S	07 30.6 -00.3	254 47.9 +02.2	S	16 07.6 -00.1	04			
05	294 59.7 +00.5	S	22 05.7 -00.2	246 08.7 +01.9	S	07 30.3 -00.2	269 50.1 +02.2	S	16 07.5 -00.1	05			
06	310 00.2 +00.4	S	22 05.5 -00.3	261 10.6 +01.9	S	07 30.1 -00.2	284 52.3 +02.2	S	16 07.4 -00.1	06			
07	325 00.6 +00.5	S	22 05.2 -00.3	276 12.5 +01.9	S	07 29.9 -00.3	299 54.5 +02.1	S	16 07.3 -00.1	07			
08	340 01.1 +00.5	S	22 04.9 -00.3	291 14.4 +01.9	S	07 29.6 -00.2	314 56.6 +02.2	S	16 07.2 -00.1	08			
09	355 01.6 +00.5	S	22 04.6 -00.3	306 16.3 +01.9	S	07 29.4 -00.2	329 58.8 +02.2	S	16 07.1 +00.0	09			
10	10 02.1 +00.5	S	22 04.3 -00.3	321 18.2 +01.9	S	07 29.2 -00.2	345 01.0 +02.2	S	16 07.1 -00.1	10			
11	25 02.6 +00.5	S	22 04.0 -00.3	336 20.1 +01.9	S	07 29.0 -00.3	0 03.2 +02.1	S	16 07.0 -00.1	11			
12	40 03.1 +00.5	S	22 03.7 -00.3	351 22.0 +01.9	S	07 28.7 -00.2	15 05.3 +02.2	S	16 06.9 -00.1	12			
13	55 03.6 +00.4	S	22 03.4 -00.3	6 23.9 +01.9	S	07 28.5 -00.2	30 07.5 +02.2	S	16 06.8 -00.1	13			
14	70 04.0 +00.5	S	22 03.1 -00.3	21 25.8 +01.9	S	07 28.3 -00.3	45 09.7 +02.2	S	16 06.7 -00.1	14			
15	85 04.5 +00.5	S	22 02.8 -00.3	36 27.7 +01.9	S	07 28.0 -00.2	60 11.9 +02.1	S	16 06.6 -00.1	15			
16	100 05.0 +00.5	S	22 02.5 -00.3	51 29.6 +01.9	S	07 27.8 -00.2	75 14.0 +02.2	S	16 06.5 +00.0	16			
17	115 05.5 +00.5	S	22 02.2 -00.3	66 31.5 +01.9	S	07 27.6 -00.3	90 16.2 +02.2	S	16 06.5 -00.1	17			
18	130 06.0 +00.5	S	22 01.9 -00.3	81 33.4 +01.9	S	07 27.3 -00.2	105 18.4 +02.2	S	16 06.4 -00.1	18			
19	145 06.5 +00.5	S	22 01.6 -00.3	96 35.3 +01.9	S	07 27.1 -00.2	120 20.6 +02.2	S	16 06.3 -00.1	19			
20	160 07.0 +00.4	S	22 01.3 -00.3	111 37.2 +01.9	S	07 26.9 -00.3	135 22.8 +02.1	S	16 06.2 -00.1	20			
21	175 07.4 +00.5	S	22 01.0 -00.3	126 39.1 +01.9	S	07 26.6 -00.2	150 24.9 +02.2	S	16 06.1 -00.1	21			
22	190 07.9 +00.5	S	22 00.7 -00.3	141 41.0 +01.9	S	07 26.4 -00.2	165 27.1 +02.2	S	16 06.0 -00.1	22			
23	205 08.4 +00.5	S	22 00.4 -00.3	156 42.9 +01.9	S	07 26.2 -00.2	180 29.3 +02.2	S	16 05.9 +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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 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 064° 064° 064° 064° 064° 063°			SHA 015° 015° 015° 015° 015° 015°			SHA 039° 039° 039° 039° 039° 039°						
	Greenwich Culmination Time: 09:19			Greenwich Culmination Time: 12:34			Greenwich Culmination Time: 10:59						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 48.6 +00.1	S	08 26.1 -01.0	221 43.3 +00.4	S	16 55.9 +00.0	225 47.1 -37.4	S	26 04.9 -03.3	00			
01	191 48.7 +00.1	S	08 25.1 -00.9	236 43.7 +00.4	S	16 55.9 -00.1	240 09.7 -37.3	S	26 01.6 -03.5	01			
02	206 48.8 +00.1	S	08 24.2 -01.0	251 44.1 +00.4	S	16 55.8 +00.0	254 32.4 -37.3	S	25 58.1 -03.7	02			
03	221 48.9 +00.1	S	08 23.2 -00.9	266 44.5 +00.5	S	16 55.8 -00.1	268 55.1 -37.2	S	25 54.4 -03.9	03			
04	236 49.0 +00.1	S	08 22.3 -00.9	281 45.0 +00.4	S	16 55.7 +00.0	283 17.9 -37.2	S	25 50.5 -04.1	04			
05	251 49.1 +00.1	S	08 21.4 -01.0	296 45.4 +00.4	S	16 55.7 -00.1	297 40.7 -37.2	S	25 46.4 -04.2	05			
06	266 49.2 +00.1	S	08 20.4 -00.9	311 45.8 +00.4	S	16 55.6 +00.0	312 03.5 -37.1	S	25 42.2 -04.4	06			
07	281 49.3 +00.1	S	08 19.5 -01.0	326 46.2 +00.4	S	16 55.6 -00.1	326 26.4 -37.0	S	25 37.8 -04.6	07			
08	296 49.4 +00.1	S	08 18.5 -00.9	341 46.6 +00.4	S	16 55.5 -00.1	340 49.4 -37.0	S	25 33.2 -04.8	08			
09	311 49.5 +00.1	S	08 17.6 -00.9	356 47.0 +00.4	S	16 55.4 +00.0	355 12.4 -37.0	S	25 28.4 -05.0	09			
10	326 49.6 +00.1	S	08 16.7 -01.0	11 47.4 +00.4	S	16 55.4 -00.1	9 35.4 -36.9	S	25 23.4 -05.1	10			
11	341 49.7 +00.2	S	08 15.7 -00.9	26 47.8 +00.4	S	16 55.3 +00.0	23 58.5 -36.8	S	25 18.3 -05.3	11			
12	356 49.9 +00.1	S	08 14.8 -01.0	41 48.2 +00.4	S	16 55.3 -00.1	38 21.7 -36.8	S	25 13.0 -05.5	12			
13	11 50.0 +00.1	S	08 13.8 -00.9	56 48.6 +00.4	S	16 55.2 +00.0	52 44.9 -36.7	S	25 07.5 -05.6	13			
14	26 50.1 +00.1	S	08 12.9 -00.9	71 49.0 +00.4	S	16 55.2 -00.1	67 08.2 -36.7	S	25 01.9 -05.8	14			
15	41 50.2 +00.1	S	08 12.0 -01.0	86 49.4 +00.4	S	16 55.1 -00.1	81 31.5 -36.6	S	24 56.1 -06.0	15			
16	56 50.3 +00.1	S	08 11.0 -00.9	101 49.8 +00.4	S	16 55.0 +00.0	95 54.9 -36.5	S	24 50.1 -06.2	16			
17	71 50.4 +00.1	S	08 10.1 -01.0	116 50.2 +00.4	S	16 55.0 -00.1	110 18.4 -36.4	S	24 43.9 -06.3	17			
18	86 50.5 +00.1	S	08 09.1 -00.9	131 50.6 +00.4	S	16 54.9 +00.0	124 42.0 -36.4	S	24 37.6 -06.5	18			
19	101 50.6 +00.1	S	08 08.2 -01.0	146 51.0 +00.4	S	16 54.9 -00.1	139 05.6 -36.3	S	24 31.1 -06.6	19			
20	116 50.7 +00.2	S	08 07.2 -00.9	161 51.4 +00.4	S	16 54.8 -00.1	153 29.3 -36.3	S	24 24.5 -06.9	20			
21	131 50.9 +00.1	S	08 06.3 -01.0	176 51.8 +00.4	S	16 54.7 +00.0	167 53.0 -36.1	S	24 17.6 -06.9	21			
22	146 51.0 +00.1	S	08 05.3 -00.9	191 52.2 +00.4	S	16 54.7 -00.1	182 16.9 -36.1	S	24 10.7 -07.2	22			
23	161 51.1 +00.1	S	08 04.4 -00.9	206 52.6 +00.4	S	16 54.6 +00.0	196 40.8 -36.0	S	24 03.5 -07.3	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 16'1 16'1 16'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			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 00'3 00'3 00'3 00'3 00'3 00'3			HP 59'6 59'6 59'6 59'6 59'5 59'5						
	SHA 020° 020° 020° 019° 019° 019°			SHA 065° 065° 065° 064° 064° 064°			SHA 068° 065° 062° 060° 057° 055°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 09:12			Greenwich Culmination Time: 09:19						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	220 08.9 +00.5	S	22 00.1 -00.3	171 44.8 +01.9	S	07 26.0 -00.3	195 31.5 +02.1	S	16 05.9 -00.1	00			
01	235 09.4 +00.5	S	21 59.8 -00.3	186 46.7 +01.9	S	07 25.7 -00.2	210 33.6 +02.2	S	16 05.8 -00.1	01			
02	250 09.9 +00.5	S	21 59.5 -00.3	201 48.6 +01.9	S	07 25.5 -00.2	225 35.8 +02.2	S	16 05.7 -00.1	02			
03	265 10.4 +00.4	S	21 59.2 -00.3	216 50.5 +01.9	S	07 25.3 -00.3	240 38.0 +02.2	S	16 05.6 -00.1	03			
04	280 10.8 +00.5	S	21 58.9 -00.3	231 52.4 +01.9	S	07 25.0 -00.2	255 40.2 +02.2	S	16 05.5 -00.1	04			
05	295 11.3 +00.5	S	21 58.6 -00.3	246 54.3 +01.9	S	07 24.8 -00.2	270 42.4 +02.1	S	16 05.4 -00.1	05			
06	310 11.8 +00.5	S	21 58.3 -00.3	261 56.2 +01.9	S	07 24.6 -00.3	285 44.5 +02.2	S	16 05.3 +00.0	06			
07	325 12.3 +00.5	S	21 58.0 -00.3	276 58.1 +01.9	S	07 24.3 -00.2	300 46.7 +02.2	S	16 05.3 -00.1	07			
08	340 12.8 +00.5	S	21 57.7 -00.3	292 00.0 +01.9	S	07 24.1 -00.2	315 48.9 +02.2	S	16 05.2 -00.1	08			
09	355 13.3 +00.5	S	21 57.4 -00.3	307 01.9 +01.9	S	07 23.9 -00.3	330 51.1 +02.1	S	16 05.1 -00.1	09			
10	10 13.8 +00.4	S	21 57.1 -00.3	322 03.8 +01.9	S	07 23.6 -00.2	345 53.2 +02.2	S	16 05.0 -00.1	10			
11	25 14.2 +00.5	S	21 56.8 -00.3	337 05.7 +01.9	S	07 23.4 -00.2	0 55.4 +02.2	S	16 04.9 -00.1	11			
12	40 14.7 +00.5	S	21 56.5 -00.4	352 07.6 +01.9	S	07 23.2 -00.3	15 57.6 +02.2	S	16 04.8 -00.1	12			
13	55 15.2 +00.5	S	21 56.1 -00.3	7 09.5 +01.9	S	07 22.9 -00.2	30 59.8 +02.2	S	16 04.7 +00.0	13			
14	70 15.7 +00.5	S	21 55.8 -00.3	22 11.4 +01.9	S	07 22.7 -00.2	46 02.0 +02.1	S	16 04.7 -00.1	14			
15	85 16.2 +00.5	S	21 55.5 -00.3	37 13.3 +01.9	S	07 22.5 -00.2	61 04.1 +02.2	S	16 04.6 -00.1	15			
16	100 16.7 +00.5	S	21 55.2 -00.3	52 15.2 +01.9	S	07 22.3 -00.3	76 06.3 +02.2	S	16 04.5 -00.1	16			
17	115 17.2 +00.5	S	21 54.9 -00.3	67 17.1 +01.9	S	07 22.0 -00.2	91 08.5 +02.2	S	16 04.4 -00.1	17			
18	130 17.7 +00.4	S	21 54.6 -00.3	82 19.0 +01.9	S	07 21.8 -00.2	106 10.7 +02.1	S	16 04.3 -00.1	18			
19	145 18.1 +00.5	S	21 54.3 -00.3	97 20.9 +01.9	S	07 21.6 -00.3	121 12.8 +02.2	S	16 04.2 -00.1	19			
20	160 18.6 +00.5	S	21 54.0 -00.3	112 22.8 +01.9	S	07 21.3 -00.2	136 15.0 +02.2	S	16 04.1 +00.0	20			
21	175 19.1 +00.5	S	21 53.7 -00.3	127 24.7 +01.9	S	07 21.1 -00.2	151 17.2 +02.2	S	16 04.1 -00.1	21			
22	190 19.6 +00.5	S	21 53.4 -00.3	142 26.6 +01.9	S	07 20.9 -00.3	166 19.4 +02.2	S	16 04.0 -00.1	22			
23	205 20.1 +00.5	S	21 53.1 -00.3	157 28.5 +01.9	S	07 20.6 -00.2	181 21.6 +02.1	S	16 03.9 -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 00'1 00'1 00'1 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 063° 063° 063° 063° 063° 063°			SHA 015° 015° 015° 015° 015° 015°			SHA 039° 039° 039° 039° 039° 039°						
	Greenwich Culmination Time: 09:19			Greenwich Culmination Time: 12:31			Greenwich Culmination Time: 10:56						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 51.2 +00.1	S	08 03.5 -01.0	221 53.0 +00.4	S	16 54.6 -00.1	211 04.8 -35.9	S	23 56.2 -07.4	00			
01	191 51.3 +00.1	S	08 02.5 -00.9	236 53.4 +00.3	S	16 54.5 -00.1	225 28.9 -35.9	S	23 48.8 -07.7	01			
02	206 51.4 +00.1	S	08 01.6 -01.0	251 53.7 +00.4	S	16 54.4 +00.0	239 53.0 -35.7	S	23 41.1 -07.7	02			
03	221 51.5 +00.1	S	08 00.6 -00.9	266 54.1 +00.4	S	16 54.4 -00.1	254 17.3 -35.7	S	23 33.4 -08.0	03			
04	236 51.6 +00.2	S	07 59.7 -01.0	281 54.5 +00.4	S	16 54.3 -00.1	268 41.6 -35.6	S	23 25.4 -08.0	04			
05	251 51.8 +00.1	S	07 58.7 -00.9	296 54.9 +00.4	S	16 54.2 +00.0	283 06.0 -35.5	S	23 17.4 -08.3	05			
06	266 51.9 +00.1	S	07 57.8 -01.0	311 55.3 +00.3	S	16 54.2 -00.1	297 30.5 -35.4	S	23 09.1 -08.4	06			
07	281 52.0 +00.1	S	07 56.8 -00.9	326 55.6 +00.4	S	16 54.1 -00.1	311 55.1 -35.4	S	23 00.7 -08.5	07			
08	296 52.1 +00.1	S	07 55.9 -00.9	341 56.0 +00.4	S	16 54.0 -00.1	326 19.7 -35.2	S	22 52.2 -08.7	08			
09	311 52.2 +00.1	S	07 55.0 -01.0	356 56.4 +00.4	S	16 53.9 +00.0	340 44.5 -35.2	S	22 43.5 -08.8	09			
10	326 52.3 +00.1	S	07 54.0 -00.9	11 56.8 +00.3	S	16 53.9 -00.1	355 09.3 -35.0	S	22 34.7 -08.9	10			
11	341 52.4 +00.2	S	07 53.1 -01.0	26 57.1 +00.4	S	16 53.8 -00.1	9 34.3 -35.0	S	22 25.8 -09.2	11			
12	356 52.6 +00.1	S	07 52.1 -00.9	41 57.5 +00.4	S	16 53.7 +00.0	23 59.3 -34.9	S	22 16.6 -09.2	12			
13	11 52.7 +00.1	S	07 51.2 -01.0	56 57.9 +00.3	S	16 53.7 -00.1	38 24.4 -34.8	S	22 07.4 -09.4	13			
14	26 52.8 +00.1	S	07 50.2 -00.9	71 58.2 +00.4	S	16 53.6 -00.1	52 49.6 -34.7	S	21 58.0 -09.5	14			
15	41 52.9 +00.1	S	07 49.3 -01.0	86 58.6 +00.4	S	16 53.5 -00.1	67 14.9 -34.6	S	21 48.5 -09.7	15			
16	56 53.0 +00.1	S	07 48.3 -00.9	101 59.0 +00.3	S	16 53.4 +00.0	81 40.3 -34.5	S	21 38.8 -09.8	16			
17	71 53.1 +00.2	S	07 47.4 -01.0	116 59.3 +00.4	S	16 53.4 -00.1	96 05.8 -34.4	S	21 29.0 -09.9	17			
18	86 53.3 +00.1	S	07 46.4 -00.9	131 59.7 +00.3	S	16 53.3 -00.1	110 31.4 -34.3	S	21 19.1 -10.0	18			
19	101 53.4 +00.1	S	07 45.5 -01.0	147 00.0 +00.4	S	16 53.2 -00.1	124 57.1 -34.2	S	21 09.1 -10.2	19			
20	116 53.5 +00.1	S	07 44.5 -00.9	162 00.4 +00.3	S	16 53.1 +00.0	139 22.9 -34.1	S	20 58.9 -10.3	20			
21	131 53.6 +00.1	S	07 43.6 -01.0	177 00.7 +00.4	S	16 53.1 -00.1	153 48.8 -34.0	S	20 48.6 -10.5	21			
22	146 53.7 +00.1	S	07 42.6 -00.9	192 01.1 +00.4	S	16 53.0 -00.1	168 14.8 -34.0	S	20 38.1 -10.5	22			
23	161 53.8 +00.2	S	07 41.7 -01.0	207 01.5 +00.3	S	16 52.9 -00.1	182 40.8 -33.8	S	20 27.6 -10.7	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			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 00'3 00'3 00'3 00'3 00'3 00'3			HP 59'5 59'5 59'4 59'4 59'3 59'3						
	SHA 019° 019° 019° 019° 018° 018°			SHA 064° 064° 064° 064° 063° 063°			SHA 052° 049° 047° 044° 042° 040°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 09:12			Greenwich Culmination Time: 10:20						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	220 20.6 +00.5	S	21 52.8 -00.4	172 30.4 +01.9	S	07 20.4 -00.2	196 23.7 +02.2	S	16 03.8 -00.1	00			
01	235 21.1 +00.5	S	21 52.4 -00.3	187 32.3 +01.9	S	07 20.2 -00.3	211 25.9 +02.2	S	16 03.7 -00.1	01			
02	250 21.6 +00.4	S	21 52.1 -00.3	202 34.2 +01.9	S	07 19.9 -00.2	226 28.1 +02.2	S	16 03.6 -00.1	02			
03	265 22.0 +00.5	S	21 51.8 -00.3	217 36.1 +01.9	S	07 19.7 -00.2	241 30.3 +02.2	S	16 03.5 +00.0	03			
04	280 22.5 +00.5	S	21 51.5 -00.3	232 38.0 +01.9	S	07 19.5 -00.3	256 32.5 +02.1	S	16 03.5 -00.1	04			
05	295 23.0 +00.5	S	21 51.2 -00.3	247 39.9 +01.9	S	07 19.2 -00.2	271 34.6 +02.2	S	16 03.4 -00.1	05			
06	310 23.5 +00.5	S	21 50.9 -00.3	262 41.8 +01.9	S	07 19.0 -00.2	286 36.8 +02.2	S	16 03.3 -00.1	06			
07	325 24.0 +00.5	S	21 50.6 -00.3	277 43.7 +01.9	S	07 18.8 -00.2	301 39.0 +02.2	S	16 03.2 -00.1	07			
08	340 24.5 +00.5	S	21 50.3 -00.4	292 45.6 +01.9	S	07 18.6 -00.3	316 41.2 +02.1	S	16 03.1 -00.1	08			
09	355 25.0 +00.5	S	21 49.9 -00.3	307 47.5 +01.9	S	07 18.3 -00.2	331 43.3 +02.2	S	16 03.0 -00.1	09			
10	10 25.5 +00.4	S	21 49.6 -00.3	322 49.4 +01.9	S	07 18.1 -00.2	346 45.5 +02.2	S	16 02.9 +00.0	10			
11	25 25.9 +00.5	S	21 49.3 -00.3	337 51.3 +01.9	S	07 17.9 -00.3	1 47.7 +02.2	S	16 02.9 -00.1	11			
12	40 26.4 +00.5	S	21 49.0 -00.3	352 53.2 +02.0	S	07 17.6 -00.2	16 49.9 +02.2	S	16 02.8 -00.1	12			
13	55 26.9 +00.5	S	21 48.7 -00.3	7 55.2 +01.9	S	07 17.4 -00.2	31 52.1 +02.1	S	16 02.7 -00.1	13			
14	70 27.4 +00.5	S	21 48.4 -00.3	22 57.1 +01.9	S	07 17.2 -00.3	46 54.2 +02.2	S	16 02.6 -00.1	14			
15	85 27.9 +00.5	S	21 48.1 -00.4	37 59.0 +01.9	S	07 16.9 -00.2	61 56.4 +02.2	S	16 02.5 -00.1	15			
16	100 28.4 +00.5	S	21 47.7 -00.3	53 00.9 +01.9	S	07 16.7 -00.2	76 58.6 +02.2	S	16 02.4 -00.1	16			
17	115 28.9 +00.5	S	21 47.4 -00.3	68 02.8 +01.9	S	07 16.5 -00.3	92 00.8 +02.2	S	16 02.3 +00.0	17			
18	130 29.4 +00.5	S	21 47.1 -00.3	83 04.7 +01.9	S	07 16.2 -00.2	107 03.0 +02.1	S	16 02.3 -00.1	18			
19	145 29.9 +00.4	S	21 46.8 -00.3	98 06.6 +01.9	S	07 16.0 -00.2	122 05.1 +02.2	S	16 02.2 -00.1	19			
20	160 30.3 +00.5	S	21 46.5 -00.3	113 08.5 +01.9	S	07 15.8 -00.3	137 07.3 +02.2	S	16 02.1 -00.1	20			
21	175 30.8 +00.5	S	21 46.2 -00.4	128 10.4 +01.9	S	07 15.5 -00.2	152 09.5 +02.2	S	16 02.0 -00.1	21			
22	190 31.3 +00.5	S	21 45.8 -00.3	143 12.3 +01.9	S	07 15.3 -00.2	167 11.7 +02.2	S	16 01.9 -00.1	22			
23	205 31.8 +00.5	S	21 45.5 -00.3	158 14.2 +01.9	S	07 15.1 -00.3	182 13.9 +02.1	S	16 01.8 +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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 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 062° 062° 062° 062° 062° 062°			SHA 015° 015° 015° 015° 015° 015°			SHA 039° 039° 039° 039° 039° 038°						
	Greenwich Culmination Time: 09:18			Greenwich Culmination Time: 12:28			Greenwich Culmination Time: 10:52						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 54.0 +00.1	S	07 40.7 -00.9	222 01.8 +00.4	S	16 52.8 -00.1	197 07.0 -33.7	S	20 16.9 -10.8	00			
01	191 54.1 +00.1	S	07 39.8 -01.0	237 02.2 +00.3	S	16 52.7 +00.0	211 33.3 -33.6	S	20 06.1 -10.9	01			
02	206 54.2 +00.1	S	07 38.8 -00.9	252 02.5 +00.3	S	16 52.7 -00.1	225 59.7 -33.5	S	19 55.2 -11.1	02			
03	221 54.3 +00.1	S	07 37.9 -01.0	267 02.8 +00.4	S	16 52.6 -00.1	240 26.2 -33.5	S	19 44.1 -11.1	03			
04	236 54.4 +00.2	S	07 36.9 -00.9	282 03.2 +00.3	S	16 52.5 -00.1	254 52.7 -33.3	S	19 33.0 -11.3	04			
05	251 54.6 +00.1	S	07 36.0 -01.0	297 03.5 +00.4	S	16 52.4 -00.1	269 19.4 -33.2	S	19 21.7 -11.4	05			
06	266 54.7 +00.1	S	07 35.0 -00.9	312 03.9 +00.3	S	16 52.3 -00.1	283 46.2 -33.1	S	19 10.3 -11.5	06			
07	281 54.8 +00.1	S	07 34.1 -01.0	327 04.2 +00.4	S	16 52.2 -00.1	298 13.1 -33.1	S	18 58.8 -11.6	07			
08	296 54.9 +00.1	S	07 33.1 -00.9	342 04.6 +00.3	S	16 52.1 +00.0	312 40.0 -32.9	S	18 47.2 -11.7	08			
09	311 55.0 +00.2	S	07 32.2 -01.0	357 04.9 +00.3	S	16 52.1 -00.1	327 07.1 -32.8	S	18 35.5 -11.8	09			
10	326 55.2 +00.1	S	07 31.2 -00.9	12 05.2 +00.4	S	16 52.0 -00.1	341 34.3 -32.7	S	18 23.7 -11.9	10			
11	341 55.3 +00.1	S	07 30.3 -01.0	27 05.6 +00.3	S	16 51.9 -00.1	356 01.6 -32.7	S	18 11.8 -12.0	11			
12	356 55.4 +00.1	S	07 29.3 -00.9	42 05.9 +00.3	S	16 51.8 -00.1	10 28.9 -32.5	S	17 59.8 -12.1	12			
13	11 55.5 +00.1	S	07 28.4 -01.0	57 06.2 +00.4	S	16 51.7 -00.1	24 56.4 -32.4	S	17 47.7 -12.2	13			
14	26 55.6 +00.2	S	07 27.4 -00.9	72 06.6 +00.3	S	16 51.6 -00.1	39 24.0 -32.4	S	17 35.5 -12.3	14			
15	41 55.8 +00.1	S	07 26.5 -01.0	87 06.9 +00.3	S	16 51.5 -00.1	53 51.6 -32.2	S	17 23.2 -12.4	15			
16	56 55.9 +00.1	S	07 25.5 -00.9	102 07.2 +00.4	S	16 51.4 -00.1	68 19.4 -32.1	S	17 10.8 -12.5	16			
17	71 56.0 +00.1	S	07 24.6 -01.0	117 07.6 +00.3	S	16 51.3 +00.0	82 47.3 -32.1	S	16 58.3 -12.5	17			
18	86 56.1 +00.2	S	07 23.6 -00.9	132 07.9 +00.3	S	16 51.3 -00.1	97 15.2 -31.9	S	16 45.8 -12.7	18			
19	101 56.3 +00.1	S	07 22.7 -01.0	147 08.2 +00.3	S	16 51.2 -00.1	111 43.3 -31.8	S	16 33.1 -12.7	19			
20	116 56.4 +00.1	S	07 21.7 -00.9	162 08.5 +00.3	S	16 51.1 -00.1	126 11.5 -31.8	S	16 20.4 -12.9	20			
21	131 56.5 +00.1	S	07 20.8 -01.0	177 08.8 +00.4	S	16 51.0 -00.1	140 39.7 -31.6	S	16 07.5 -12.9	21			
22	146 56.6 +00.1	S	07 19.8 -00.9	192 09.2 +00.3	S	16 50.9 -00.1	155 08.1 -31.6	S	15 54.6 -13.0	22			
23	161 56.7 +00.2	S	07 18.9 -01.0	207 09.5 +00.3	S	16 50.8 -00.1	169 36.5 -31.4	S	15 41.6 -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 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 16'1 16'1 16'1 16'1 16'1 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 59'2 59'2 59'1 59'0 59'0 58'9						
	SHA 018° 018° 018° 018° 017° 017°			SHA 063° 063° 063° 063° 063° 062°			SHA 037° 035° 032° 030° 028° 025°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 09:11			Greenwich Culmination Time: 11:16						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	220 32.3 +00.5	S	21 45.2 -00.3	173 16.1 +01.9	S	07 14.8 -00.2	197 16.0 +02.2	S	16 01.8 -00.1	00			
01	235 32.8 +00.5	S	21 44.9 -00.3	188 18.0 +01.9	S	07 14.6 -00.2	212 18.2 +02.2	S	16 01.7 -00.1	01			
02	250 33.3 +00.5	S	21 44.6 -00.4	203 19.9 +01.9	S	07 14.4 -00.2	227 20.4 +02.2	S	16 01.6 -00.1	02			
03	265 33.8 +00.5	S	21 44.2 -00.3	218 21.8 +01.9	S	07 14.2 -00.3	242 22.6 +02.2	S	16 01.5 -00.1	03			
04	280 34.3 +00.5	S	21 43.9 -00.3	233 23.7 +01.9	S	07 13.9 -00.2	257 24.8 +02.1	S	16 01.4 -00.1	04			
05	295 34.8 +00.5	S	21 43.6 -00.3	248 25.6 +01.9	S	07 13.7 -00.2	272 26.9 +02.2	S	16 01.3 -00.1	05			
06	310 35.3 +00.4	S	21 43.3 -00.4	263 27.5 +01.9	S	07 13.5 -00.3	287 29.1 +02.2	S	16 01.2 +00.0	06			
07	325 35.7 +00.5	S	21 42.9 -00.3	278 29.4 +01.9	S	07 13.2 -00.2	302 31.3 +02.2	S	16 01.2 -00.1	07			
08	340 36.2 +00.5	S	21 42.6 -00.3	293 31.3 +01.9	S	07 13.0 -00.2	317 33.5 +02.2	S	16 01.1 -00.1	08			
09	355 36.7 +00.5	S	21 42.3 -00.3	308 33.2 +01.9	S	07 12.8 -00.3	332 35.7 +02.1	S	16 01.0 -00.1	09			
10	10 37.2 +00.5	S	21 42.0 -00.3	323 35.1 +01.9	S	07 12.5 -00.2	347 37.8 +02.2	S	16 00.9 -00.1	10			
11	25 37.7 +00.5	S	21 41.7 -00.4	338 37.0 +01.9	S	07 12.3 -00.2	2 40.0 +02.2	S	16 00.8 -00.1	11			
12	40 38.2 +00.5	S	21 41.3 -00.3	353 38.9 +01.9	S	07 12.1 -00.3	17 42.2 +02.2	S	16 00.7 -00.1	12			
13	55 38.7 +00.5	S	21 41.0 -00.3	8 40.8 +01.9	S	07 11.8 -00.2	32 44.4 +02.2	S	16 00.6 +00.0	13			
14	70 39.2 +00.5	S	21 40.7 -00.3	23 42.7 +01.9	S	07 11.6 -00.2	47 46.6 +02.1	S	16 00.6 -00.1	14			
15	85 39.7 +00.5	S	21 40.4 -00.4	38 44.6 +01.9	S	07 11.4 -00.3	62 48.7 +02.2	S	16 00.5 -00.1	15			
16	100 40.2 +00.5	S	21 40.0 -00.3	53 46.5 +01.9	S	07 11.1 -00.2	77 50.9 +02.2	S	16 00.4 -00.1	16			
17	115 40.7 +00.4	S	21 39.7 -00.3	68 48.4 +01.9	S	07 10.9 -00.2	92 53.1 +02.2	S	16 00.3 -00.1	17			
18	130 41.1 +00.5	S	21 39.4 -00.3	83 50.3 +01.9	S	07 10.7 -00.3	107 55.3 +02.2	S	16 00.2 -00.1	18			
19	145 41.6 +00.5	S	21 39.1 -00.4	98 52.2 +01.9	S	07 10.4 -00.2	122 57.5 +02.1	S	16 00.1 -00.1	19			
20	160 42.1 +00.5	S	21 38.7 -00.3	113 54.1 +01.9	S	07 10.2 -00.2	137 59.6 +02.2	S	16 00.0 +00.0	20			
21	175 42.6 +00.5	S	21 38.4 -00.3	128 56.0 +01.9	S	07 10.0 -00.2	153 01.8 +02.2	S	15 60.0 -00.1	21			
22	190 43.1 +00.5	S	21 38.1 -00.4	143 57.9 +01.9	S	07 09.8 -00.3	168 04.0 +02.2	S	15 59.9 -00.1	22			
23	205 43.6 +00.5	S	21 37.7 -00.3	158 59.8 +01.9	S	07 09.5 -00.2	183 06.2 +02.2	S	15 59.8 -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 00'1 00'1 00'1 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 062° 062° 061° 061° 061° 061°			SHA 014° 014° 014° 014° 014° 014°			SHA 038° 038° 038° 038° 038° 038°						
	Greenwich Culmination Time: 09:17			Greenwich Culmination Time: 12:25			Greenwich Culmination Time: 10:49						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 56.9 +00.1	S	07 17.9 -01.0	222 09.8 +00.3	S	16 50.7 -00.1	184 05.1 -31.4	S	15 28.6 -13.2	00			
01	191 57.0 +00.1	S	07 16.9 -00.9	237 10.1 +00.3	S	16 50.6 -00.1	198 33.7 -31.3	S	15 15.4 -13.2	01			
02	206 57.1 +00.1	S	07 16.0 -01.0	252 10.4 +00.3	S	16 50.5 -00.1	213 02.4 -31.2	S	15 02.2 -13.3	02			
03	221 57.2 +00.2	S	07 15.0 -00.9	267 10.7 +00.4	S	16 50.4 -00.1	227 31.2 -31.0	S	14 48.9 -13.4	03			
04	236 57.4 +00.1	S	07 14.1 -01.0	282 11.1 +00.3	S	16 50.3 -00.1	242 00.2 -31.0	S	14 35.5 -13.4	04			
05	251 57.5 +00.1	S	07 13.1 -00.9	297 11.4 +00.3	S	16 50.2 -00.1	256 29.2 -30.9	S	14 22.1 -13.6	05			
06	266 57.6 +00.1	S	07 12.2 -01.0	312 11.7 +00.3	S	16 50.1 -00.1	270 58.3 -30.8	S	14 08.5 -13.5	06			
07	281 57.7 +00.2	S	07 11.2 -00.9	327 12.0 +00.3	S	16 50.0 -00.1	285 27.5 -30.8	S	13 55.0 -13.7	07			
08	296 57.9 +00.1	S	07 10.3 -01.0	342 12.3 +00.3	S	16 49.9 -00.1	299 56.7 -30.6	S	13 41.3 -13.7	08			
09	311 58.0 +00.1	S	07 09.3 -01.0	357 12.6 +00.3	S	16 49.8 -00.1	314 26.1 -30.5	S	13 27.6 -13.8	09			
10	326 58.1 +00.1	S	07 08.3 -00.9	12 12.9 +00.3	S	16 49.7 -00.1	328 55.6 -30.5	S	13 13.8 -13.8	10			
11	341 58.2 +00.2	S	07 07.4 -01.0	27 13.2 +00.3	S	16 49.6 -00.1	343 25.1 -30.3	S	13 00.0 -13.9	11			
12	356 58.4 +00.1	S	07 06.4 -00.9	42 13.5 +00.3	S	16 49.5 -00.1	357 54.8 -30.3	S	12 46.1 -13.9	12			
13	11 58.5 +00.1	S	07 05.5 -01.0	57 13.8 +00.3	S	16 49.4 -00.1	12 24.5 -30.2	S	12 32.2 -14.0	13			
14	26 58.6 +00.1	S	07 04.5 -00.9	72 14.1 +00.3	S	16 49.3 -00.1	26 54.3 -30.1	S	12 18.2 -14.1	14			
15	41 58.7 +00.2	S	07 03.6 -01.0	87 14.4 +00.3	S	16 49.2 -00.2	41 24.2 -30.1	S	12 04.1 -14.1	15			
16	56 58.9 +00.1	S	07 02.6 -00.9	102 14.7 +00.3	S	16 49.0 -00.1	55 54.1 -29.9	S	11 50.0 -14.2	16			
17	71 59.0 +00.1	S	07 01.7 -01.0	117 15.0 +00.3	S	16 48.9 -00.1	70 24.2 -29.9	S	11 35.8 -14.2	17			
18	86 59.1 +00.1	S	07 00.7 -01.0	132 15.3 +00.3	S	16 48.8 -00.1	84 54.3 -29.7	S	11 21.6 -14.2	18			
19	101 59.2 +00.2	S	06 59.7 -00.9	147 15.6 +00.3	S	16 48.7 -00.1	99 24.6 -29.7	S	11 07.4 -14.3	19			
20	116 59.4 +00.1	S	06 58.8 -01.0	162 15.9 +00.2	S	16 48.6 -00.1	113 54.9 -29.7	S	10 53.1 -14.3	20			
21	131 59.5 +00.1	S	06 57.8 -00.9	177 16.1 +00.3	S	16 48.5 -00.1	128 25.2 -29.5	S	10 38.8 -14.4	21			
22	146 59.6 +00.2	S	06 56.9 -01.0	192 16.4 +00.3	S	16 48.4 -00.1	142 55.7 -29.5	S	10 24.4 -14.5	22			
23	161 59.8 +00.1	S	06 55.9 -00.9	207 16.7 +00.3	S	16 48.3 -00.1	157 26.2 -29.4	S	10 09.9 -14.4	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 00'3 00'3 00'3 00'3 00'3 00'3			SD 16'0 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 58'8 58'7 58'6 58'5 58'4 58'3						
	SHA 017° 017° 017° 017° 016° 016°			SHA 062° 062° 062° 062° 062° 062°			SHA 023° 021° 019° 017° 014° 012°						
	Greenwich Culmination Time: 12:12			Greenwich Culmination Time: 09:11			Greenwich Culmination Time: 12:08						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	220 44.1 +00.5	S	21 37.4 -00.3	174 01.7 +01.9	S	07 09.3 -00.2	198 08.4 +02.2	S	15 59.7 -00.1	00			
01	235 44.6 +00.5	S	21 37.1 -00.3	189 03.6 +01.9	S	07 09.1 -00.3	213 10.6 +02.1	S	15 59.6 -00.1	01			
02	250 45.1 +00.5	S	21 36.8 -00.4	204 05.5 +01.9	S	07 08.8 -00.2	228 12.7 +02.2	S	15 59.5 +00.0	02			
03	265 45.6 +00.5	S	21 36.4 -00.3	219 07.4 +01.9	S	07 08.6 -00.2	243 14.9 +02.2	S	15 59.5 -00.1	03			
04	280 46.1 +00.5	S	21 36.1 -00.3	234 09.3 +01.9	S	07 08.4 -00.3	258 17.1 +02.2	S	15 59.4 -00.1	04			
05	295 46.6 +00.5	S	21 35.8 -00.4	249 11.2 +01.9	S	07 08.1 -00.2	273 19.3 +02.2	S	15 59.3 -00.1	05			
06	310 47.1 +00.4	S	21 35.4 -00.3	264 13.1 +01.9	S	07 07.9 -00.2	288 21.5 +02.1	S	15 59.2 -00.1	06			
07	325 47.5 +00.5	S	21 35.1 -00.3	279 15.0 +01.9	S	07 07.7 -00.3	303 23.6 +02.2	S	15 59.1 -00.1	07			
08	340 48.0 +00.5	S	21 34.8 -00.4	294 16.9 +01.9	S	07 07.4 -00.2	318 25.8 +02.2	S	15 59.0 -00.1	08			
09	355 48.5 +00.5	S	21 34.4 -00.3	309 18.8 +01.9	S	07 07.2 -00.2	333 28.0 +02.2	S	15 58.9 +00.0	09			
10	10 49.0 +00.5	S	21 34.1 -00.3	324 20.7 +01.9	S	07 07.0 -00.3	348 30.2 +02.2	S	15 58.9 -00.1	10			
11	25 49.5 +00.5	S	21 33.8 -00.4	339 22.6 +01.9	S	07 06.7 -00.2	3 32.4 +02.1	S	15 58.8 -00.1	11			
12	40 50.0 +00.5	S	21 33.4 -00.3	354 24.5 +01.9	S	07 06.5 -00.2	18 34.5 +02.2	S	15 58.7 -00.1	12			
13	55 50.5 +00.5	S	21 33.1 -00.3	9 26.4 +01.9	S	07 06.3 -00.3	33 36.7 +02.2	S	15 58.6 -00.1	13			
14	70 51.0 +00.5	S	21 32.8 -00.4	24 28.3 +01.9	S	07 06.0 -00.2	48 38.9 +02.2	S	15 58.5 -00.1	14			
15	85 51.5 +00.5	S	21 32.4 -00.3	39 30.2 +01.9	S	07 05.8 -00.2	63 41.1 +02.2	S	15 58.4 +00.0	15			
16	100 52.0 +00.5	S	21 32.1 -00.3	54 32.1 +01.9	S	07 05.6 -00.3	78 43.3 +02.2	S	15 58.4 -00.1	16			
17	115 52.5 +00.5	S	21 31.8 -00.4	69 34.0 +01.9	S	07 05.3 -00.2	93 45.5 +02.1	S	15 58.3 -00.1	17			
18	130 53.0 +00.5	S	21 31.4 -00.3	84 35.9 +01.9	S	07 05.1 -00.2	108 47.6 +02.2	S	15 58.2 -00.1	18			
19	145 53.5 +00.5	S	21 31.1 -00.3	99 37.8 +01.9	S	07 04.9 -00.2	123 49.8 +02.2	S	15 58.1 -00.1	19			
20	160 54.0 +00.5	S	21 30.8 -00.4	114 39.7 +01.9	S	07 04.7 -00.3	138 52.0 +02.2	S	15 58.0 -00.1	20			
21	175 54.5 +00.5	S	21 30.4 -00.3	129 41.6 +01.9	S	07 04.4 -00.2	153 54.2 +02.2	S	15 57.9 -00.1	21			
22	190 55.0 +00.5	S	21 30.1 -00.4	144 43.5 +01.9	S	07 04.2 -00.2	168 56.4 +02.1	S	15 57.8 +00.0	22			
23	205 55.5 +00.4	S	21 29.7 -00.3	159 45.4 +01.9	S	07 04.0 -00.3	183 58.5 +02.2	S	15 57.8 -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 00'1 00'1 00'1 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 061° 061° 061° 061° 060° 060°			SHA 014° 014° 014° 014° 014° 014°			SHA 038° 038° 038° 038° 038° 038°						
	Greenwich Culmination Time: 09:16			Greenwich Culmination Time: 12:22			Greenwich Culmination Time: 10:45						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	176 59.9 +00.1	S	06 55.0 -01.0	222 17.0 +00.3	S	16 48.2 -00.2	171 56.8 -29.3	S	09 55.5 -14.5	00			
01	192 00.0 +00.1	S	06 54.0 -01.0	237 17.3 +00.3	S	16 48.0 -00.1	186 27.5 -29.2	S	09 41.0 -14.6	01			
02	207 00.1 +00.2	S	06 53.0 -00.9	252 17.6 +00.3	S	16 47.9 -00.1	200 58.3 -29.2	S	09 26.4 -14.5	02			
03	222 00.3 +00.1	S	06 52.1 -01.0	267 17.9 +00.2	S	16 47.8 -00.1	215 29.1 -29.1	S	09 11.9 -14.6	03			
04	237 00.4 +00.1	S	06 51.1 -00.9	282 18.1 +00.3	S	16 47.7 -00.1	230 00.0 -29.0	S	08 57.3 -14.7	04			
05	252 00.5 +00.2	S	06 50.2 -01.0	297 18.4 +00.3	S	16 47.6 -00.1	244 31.0 -28.9	S	08 42.6 -14.6	05			
06	267 00.7 +00.1	S	06 49.2 -01.0	312 18.7 +00.3	S	16 47.5 -00.2	259 02.1 -28.9	S	08 28.0 -14.7	06			
07	282 00.8 +00.1	S	06 48.2 -00.9	327 19.0 +00.2	S	16 47.3 -00.1	273 33.2 -28.8	S	08 13.3 -14.7	07			
08	297 00.9 +00.2	S	06 47.3 -01.0	342 19.2 +00.3	S	16 47.2 -00.1	288 04.4 -28.8	S	07 58.6 -14.8	08			
09	312 01.1 +00.1	S	06 46.3 -00.9	357 19.5 +00.3	S	16 47.1 -00.1	302 35.6 -28.6	S	07 43.8 -14.8	09			
10	327 01.2 +00.1	S	06 45.4 -01.0	12 19.8 +00.3	S	16 47.0 -00.1	317 07.0 -28.7	S	07 29.0 -14.7	10			
11	342 01.3 +00.1	S	06 44.4 -01.0	27 20.1 +00.2	S	16 46.9 -00.2	331 38.3 -28.5	S	07 14.3 -14.9	11			
12	357 01.4 +00.2	S	06 43.4 -00.9	42 20.3 +00.3	S	16 46.7 -00.1	346 09.8 -28.5	S	06 59.4 -14.8	12			
13	12 01.6 +00.1	S	06 42.5 -01.0	57 20.6 +00.3	S	16 46.6 -00.1	0 41.3 -28.4	S	06 44.6 -14.8	13			
14	27 01.7 +00.1	S	06 41.5 -00.9	72 20.9 +00.2	S	16 46.5 -00.1	15 12.9 -28.4	S	06 29.8 -14.9	14			
15	42 01.8 +00.2	S	06 40.6 -01.0	87 21.1 +00.3	S	16 46.4 -00.2	29 44.5 -28.3	S	06 14.9 -14.9	15			
16	57 02.0 +00.1	S	06 39.6 -01.0	102 21.4 +00.3	S	16 46.2 -00.1	44 16.2 -28.2	S	06 00.0 -14.9	16			
17	72 02.1 +00.1	S	06 38.6 -00.9	117 21.7 +00.2	S	16 46.1 -00.1	58 48.0 -28.2	S	05 45.1 -14.9	17			
18	87 02.2 +00.2	S	06 37.7 -01.0	132 21.9 +00.3	S	16 46.0 -00.1	73 19.8 -28.1	S	05 30.2 -14.9	18			
19	102 02.4 +00.1	S	06 36.7 -00.9	147 22.2 +00.2	S	16 45.9 -00.2	87 51.7 -28.1	S	05 15.3 -14.9	19			
20	117 02.5 +00.1	S	06 35.8 -01.0	162 22.4 +00.3	S	16 45.7 -00.1	102 23.6 -28.0	S	05 00.4 -15.0	20			
21	132 02.6 +00.2	S	06 34.8 -01.0	177 22.7 +00.3	S	16 45.6 -00.1	116 55.6 -27.9	S	04 45.4 -14.9	21			
22	147 02.8 +00.1	S	06 33.8 -00.9	192 23.0 +00.2	S	16 45.5 -00.1	131 27.7 -28.0	S	04 30.5 -15.0	22			
23	162 02.9 +00.1	S	06 32.9 -01.0	207 23.2 +00.3	S	16 45.4 -00.2	145 59.7 -27.8	S	04 15.5 -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 00'3 00'3 00'3 00'3 00'3 00'3			SD 15'9 15'8 15'8 15'8 15'7 15'7						
	HP 00'1 00'1 00'1 00'1 00'1 00'1			HP 00'3 00'3 00'3 00'3 00'3 00'3			HP 58'2 58'1 58'0 57'9 57'8 57'7						
	SHA 016° 016° 016° 016° 016° 015°			SHA 061° 061° 061° 061° 061° 061°			SHA 010° 008° 006° 004° 002° 360°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:10			Greenwich Culmination Time: 12:57						
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	220 55.9 +00.5	S	21 29.4 -00.3	174 47.3 +01.9	S	07 03.7 -00.2	199 00.7 +02.2	S	15 57.7 -00.1	00			
01	235 56.4 +00.5	S	21 29.1 -00.4	189 49.2 +01.9	S	07 03.5 -00.2	214 02.9 +02.2	S	15 57.6 -00.1	01			
02	250 56.9 +00.5	S	21 28.7 -00.3	204 51.1 +01.9	S	07 03.3 -00.3	229 05.1 +02.2	S	15 57.5 -00.1	02			
03	265 57.4 +00.5	S	21 28.4 -00.3	219 53.0 +01.9	S	07 03.0 -00.2	244 07.3 +02.2	S	15 57.4 -00.1	03			
04	280 57.9 +00.5	S	21 28.1 -00.4	234 54.9 +01.9	S	07 02.8 -00.2	259 09.5 +02.1	S	15 57.3 +00.0	04			
05	295 58.4 +00.5	S	21 27.7 -00.3	249 56.8 +01.9	S	07 02.6 -00.3	274 11.6 +02.2	S	15 57.3 -00.1	05			
06	310 58.9 +00.5	S	21 27.4 -00.4	264 58.7 +01.9	S	07 02.3 -00.2	289 13.8 +02.2	S	15 57.2 -00.1	06			
07	325 59.4 +00.5	S	21 27.0 -00.3	280 00.6 +01.9	S	07 02.1 -00.2	304 16.0 +02.2	S	15 57.1 -00.1	07			
08	340 59.9 +00.5	S	21 26.7 -00.3	295 02.5 +01.9	S	07 01.9 -00.3	319 18.2 +02.2	S	15 57.0 -00.1	08			
09	356 00.4 +00.5	S	21 26.4 -00.4	310 04.4 +01.9	S	07 01.6 -00.2	334 20.4 +02.2	S	15 56.9 -00.1	09			
10	11 00.9 +00.5	S	21 26.0 -00.3	325 06.3 +01.9	S	07 01.4 -00.2	349 22.6 +02.1	S	15 56.8 -00.1	10			
11	26 01.4 +00.5	S	21 25.7 -00.4	340 08.2 +01.9	S	07 01.2 -00.3	4 24.7 +02.2	S	15 56.7 +00.0	11			
12	41 01.9 +00.5	S	21 25.3 -00.3	355 10.1 +01.9	S	07 00.9 -00.2	19 26.9 +02.2	S	15 56.7 -00.1	12			
13	56 02.4 +00.5	S	21 25.0 -00.4	10 12.0 +01.9	S	07 00.7 -00.2	34 29.1 +02.2	S	15 56.6 -00.1	13			
14	71 02.9 +00.5	S	21 24.6 -00.3	25 13.9 +01.9	S	07 00.5 -00.3	49 31.3 +02.2	S	15 56.5 -00.1	14			
15	86 03.4 +00.5	S	21 24.3 -00.3	40 15.8 +01.9	S	07 00.2 -00.2	64 33.5 +02.2	S	15 56.4 -00.1	15			
16	101 03.9 +00.5	S	21 24.0 -00.4	55 17.7 +01.9	S	07 00.0 -00.2	79 35.7 +02.1	S	15 56.3 -00.1	16			
17	116 04.4 +00.5	S	21 23.6 -00.3	70 19.6 +01.9	S	06 59.8 -00.3	94 37.8 +02.2	S	15 56.2 +00.0	17			
18	131 04.9 +00.5	S	21 23.3 -00.4	85 21.5 +01.9	S	06 59.5 -00.2	109 40.0 +02.2	S	15 56.2 -00.1	18			
19	146 05.4 +00.5	S	21 22.9 -00.3	100 23.4 +01.9	S	06 59.3 -00.2	124 42.2 +02.2	S	15 56.1 -00.1	19			
20	161 05.9 +00.5	S	21 22.6 -00.4	115 25.3 +01.9	S	06 59.1 -00.2	139 44.4 +02.2	S	15 56.0 -00.1	20			
21	176 06.4 +00.5	S	21 22.2 -00.3	130 27.2 +01.9	S	06 58.9 -00.3	154 46.6 +02.2	S	15 55.9 -00.1	21			
22	191 06.9 +00.5	S	21 21.9 -00.4	145 29.1 +01.9	S	06 58.6 -00.2	169 48.8 +02.1	S	15 55.8 -00.1	22			
23	206 07.4 +00.5	S	21 21.5 -00.3	160 31.0 +01.9	S	06 58.4 -00.2	184 50.9 +02.2	S	15 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 00'1 00'1 00'1 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 060° 060° 060° 060° 060° 059°			SHA 014° 014° 014° 014° 014° 014°			SHA 038° 038° 038° 038° 038° 038°						
	Greenwich Culmination Time: 09:15			Greenwich Culmination Time: 12:19			Greenwich Culmination Time: 10:42						

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 03.0 +00.2	S	06 31.9 -00.9	222 23.5 +00.2	S	16 45.2 -00.1	160 31.9 -27.8	S	04 00.6 -15.0	00			
01	192 03.2 +00.1	S	06 31.0 -01.0	237 23.7 +00.3	S	16 45.1 -00.1	175 04.1 -27.8	S	03 45.6 -14.9	01			
02	207 03.3 +00.1	S	06 30.0 -01.0	252 24.0 +00.2	S	16 45.0 -00.2	189 36.3 -27.7	S	03 30.7 -15.0	02			
03	222 03.4 +00.2	S	06 29.0 -00.9	267 24.2 +00.3	S	16 44.8 -00.1	204 08.6 -27.6	S	03 15.7 -15.0	03			
04	237 03.6 +00.1	S	06 28.1 -01.0	282 24.5 +00.2	S	16 44.7 -00.1	218 41.0 -27.6	S	03 00.7 -14.9	04			
05	252 03.7 +00.1	S	06 27.1 -01.0	297 24.7 +00.3	S	16 44.6 -00.2	233 13.4 -27.6	S	02 45.8 -15.0	05			
06	267 03.8 +00.2	S	06 26.1 -00.9	312 25.0 +00.2	S	16 44.4 -00.1	247 45.8 -27.5	S	02 30.8 -14.9	06			
07	282 04.0 +00.1	S	06 25.2 -01.0	327 25.2 +00.3	S	16 44.3 -00.1	262 18.3 -27.5	S	02 15.9 -15.0	07			
08	297 04.1 +00.1	S	06 24.2 -01.0	342 25.5 +00.2	S	16 44.2 -00.2	276 50.8 -27.4	S	02 00.9 -14.9	08			
09	312 04.2 +00.2	S	06 23.2 -00.9	357 25.7 +00.2	S	16 44.0 -00.1	291 23.4 -27.4	S	01 46.0 -14.9	09			
10	327 04.4 +00.1	S	06 22.3 -01.0	12 25.9 +00.3	S	16 43.9 -00.2	305 56.0 -27.4	S	01 31.1 -15.0	10			
11	342 04.5 +00.1	S	06 21.3 -00.9	27 26.2 +00.2	S	16 43.7 -00.1	320 28.6 -27.3	S	01 16.1 -14.9	11			
12	357 04.6 +00.2	S	06 20.4 -01.0	42 26.4 +00.3	S	16 43.6 -00.1	335 01.3 -27.3	S	01 01.2 -14.9	12			
13	12 04.8 +00.1	S	06 19.4 -01.0	57 26.7 +00.2	S	16 43.5 -00.2	349 34.0 -27.2	S	00 46.3 -14.9	13			
14	27 04.9 +00.2	S	06 18.4 -00.9	72 26.9 +00.2	S	16 43.3 -00.1	4 06.8 -27.2	S	00 31.4 -14.8	14			
15	42 05.1 +00.1	S	06 17.5 -01.0	87 27.1 +00.3	S	16 43.2 -00.2	18 39.6 -27.2	S	00 16.6 -14.9	15			
16	57 05.2 +00.1	S	06 16.5 -01.0	102 27.4 +00.2	S	16 43.0 -00.1	33 12.4 -27.2	S	00 01.7 -14.8	16			
17	72 05.3 +00.2	S	06 15.5 -00.9	117 27.6 +00.2	S	16 42.9 -00.1	47 45.2 -27.1	N	00 13.1 +14.9	17			
18	87 05.5 +00.1	S	06 14.6 -01.0	132 27.8 +00.3	S	16 42.8 -00.2	62 18.1 -27.0	N	00 28.0 +14.8	18			
19	102 05.6 +00.1	S	06 13.6 -01.0	147 28.1 +00.2	S	16 42.6 -00.1	76 51.1 -27.1	N	00 42.8 +14.7	19			
20	117 05.7 +00.2	S	06 12.6 -00.9	162 28.3 +00.2	S	16 42.5 -00.2	91 24.0 -27.0	N	00 57.5 +14.8	20			
21	132 05.9 +00.1	S	06 11.7 -01.0	177 28.5 +00.2	S	16 42.3 -00.1	105 57.0 -27.0	N	01 12.3 +14.8	21			
22	147 06.0 +00.1	S	06 10.7 -01.0	192 28.7 +00.3	S	16 42.2 -00.2	120 30.0 -26.9	N	01 27.1 +14.7	22			
23	162 06.1 +00.2	S	06 09.7 -00.9	207 29.0 +00.2	S	16 42.0 -00.1	135 03.1 -27.0	N	01 41.8 +14.7	23			
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		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 00'3 00'3 00'3 00'3 00'2 00'2		SD 15'7 15'6 15'6 15'6 15'6 15'5		SD 00'1 00'1 00'1 00'1 00'1 00'1		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		HP 00'3 00'3 00'3 00'3 00'3 00'3		HP 57'6 57'4 57'3 57'2 57'1 57'0		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 015° 015° 015° 015° 015° 014°		SHA 061° 060° 060° 060° 060° 060°		SHA 358° 356° 354° 352° 350° 348°		SHA 059° 059° 059° 059° 059° 059°		SHA 038° 038° 038° 038° 038° 038°				
	Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 09:10		Greenwich Culmination Time: 13:43		Greenwich Culmination Time: 09:15		Greenwich Culmination Time: 10:38				

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	221 07.9 +00.5	S	21 21.2 -00.4	175 32.9 +02.0	S	06 58.2 -00.3	199 53.1 +02.2	S	15 55.6 +00.0	00			
01	236 08.4 +00.5	S	21 20.8 -00.3	190 34.9 +01.9	S	06 57.9 -00.2	214 55.3 +02.2	S	15 55.6 -00.1	01			
02	251 08.9 +00.4	S	21 20.5 -00.4	205 36.8 +01.9	S	06 57.7 -00.2	229 57.5 +02.2	S	15 55.5 -00.1	02			
03	266 09.3 +00.5	S	21 20.1 -00.3	220 38.7 +01.9	S	06 57.5 -00.3	244 59.7 +02.2	S	15 55.4 -00.1	03			
04	281 09.8 +00.5	S	21 19.8 -00.3	235 40.6 +01.9	S	06 57.2 -00.2	260 01.9 +02.1	S	15 55.3 -00.1	04			
05	296 10.3 +00.5	S	21 19.5 -00.4	250 42.5 +01.9	S	06 57.0 -00.2	275 04.0 +02.2	S	15 55.2 -00.1	05			
06	311 10.8 +00.5	S	21 19.1 -00.3	265 44.4 +01.9	S	06 56.8 -00.3	290 06.2 +02.2	S	15 55.1 +00.0	06			
07	326 11.3 +00.5	S	21 18.8 -00.4	280 46.3 +01.9	S	06 56.5 -00.2	305 08.4 +02.2	S	15 55.1 -00.1	07			
08	341 11.8 +00.5	S	21 18.4 -00.3	295 48.2 +01.9	S	06 56.3 -00.2	320 10.6 +02.2	S	15 55.0 -00.1	08			
09	356 12.3 +00.5	S	21 18.1 -00.4	310 50.1 +01.9	S	06 56.1 -00.3	335 12.8 +02.2	S	15 54.9 -00.1	09			
10	11 12.8 +00.5	S	21 17.7 -00.4	325 52.0 +01.9	S	06 55.8 -00.2	350 15.0 +02.1	S	15 54.8 -00.1	10			
11	26 13.3 +00.5	S	21 17.3 -00.3	340 53.9 +01.9	S	06 55.6 -00.2	5 17.1 +02.2	S	15 54.7 -00.1	11			
12	41 13.8 +00.5	S	21 17.0 -00.4	355 55.8 +01.9	S	06 55.4 -00.3	20 19.3 +02.2	S	15 54.6 +00.0	12			
13	56 14.3 +00.5	S	21 16.6 -00.3	10 57.7 +01.9	S	06 55.1 -00.2	35 21.5 +02.2	S	15 54.6 -00.1	13			
14	71 14.8 +00.5	S	21 16.3 -00.4	25 59.6 +01.9	S	06 54.9 -00.2	50 23.7 +02.2	S	15 54.5 -00.1	14			
15	86 15.3 +00.5	S	21 15.9 -00.3	41 01.5 +01.9	S	06 54.7 -00.3	65 25.9 +02.2	S	15 54.4 -00.1	15			
16	101 15.8 +00.5	S	21 15.6 -00.4	56 03.4 +01.9	S	06 54.4 -00.2	80 28.1 +02.2	S	15 54.3 -00.1	16			
17	116 16.3 +00.5	S	21 15.2 -00.3	71 05.3 +01.9	S	06 54.2 -00.2	95 30.3 +02.1	S	15 54.2 -00.1	17			
18	131 16.8 +00.5	S	21 14.9 -00.4	86 07.2 +01.9	S	06 54.0 -00.3	110 32.4 +02.2	S	15 54.1 -00.1	18			
19	146 17.3 +00.5	S	21 14.5 -00.3	101 09.1 +01.9	S	06 53.7 -00.2	125 34.6 +02.2	S	15 54.0 +00.0	19			
20	161 17.8 +00.5	S	21 14.2 -00.4	116 11.0 +01.9	S	06 53.5 -00.2	140 36.8 +02.2	S	15 54.0 -00.1	20			
21	176 18.3 +00.5	S	21 13.8 -00.3	131 12.9 +01.9	S	06 53.3 -00.3	155 39.0 +02.2	S	15 53.9 -00.1	21			
22	191 18.8 +00.5	S	21 13.5 -00.4	146 14.8 +01.9	S	06 53.0 -00.2	170 41.2 +02.2	S	15 53.8 -00.1	22			
23	206 19.3 +00.5	S	21 13.1 -00.3	161 16.7 +01.9	S	06 52.8 -00.2	185 43.4 +02.1	S	15 53.7 -00.1	23			
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		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 00'1 00'1 00'1 00'1 00'1 00'1		SD 00'1 00'1 00'1 00'1 00'1 00'1		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		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		HP 00'0 00'0 00'0 00'0 00'0 00'0				
	SHA 059° 059° 059° 059° 059° 059°		SHA 014° 014° 014° 014° 014° 014°		SHA 038° 038° 038° 038° 038° 038°		SHA 038° 038° 038° 038° 038° 038°		SHA 038° 038° 038° 038° 038° 038°				
	Greenwich Culmination Time: 09:15		Greenwich Culmination Time: 12:16		Greenwich Culmination Time: 10:38		Greenwich Culmination Time: 10:38		Greenwich Culmination Time: 10:38				

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 06.3 +00.1	S	06 08.8 -01.0	222 29.2 +00.2	S	16 41.9 -00.2	149 36.1 -26.9	N	01 56.5 +14.7	00			
01	192 06.4 +00.2	S	06 07.8 -01.0	237 29.4 +00.2	S	16 41.7 -00.1	164 09.2 -26.9	N	02 11.2 +14.6	01			
02	207 06.6 +00.1	S	06 06.8 -00.9	252 29.6 +00.3	S	16 41.6 -00.2	178 42.3 -26.8	N	02 25.8 +14.6	02			
03	222 06.7 +00.1	S	06 05.9 -01.0	267 29.9 +00.2	S	16 41.4 -00.1	193 15.5 -26.9	N	02 40.4 +14.6	03			
04	237 06.8 +00.2	S	06 04.9 -00.9	282 30.1 +00.2	S	16 41.3 -00.2	207 48.6 -26.8	N	02 55.0 +14.6	04			
05	252 07.0 +00.1	S	06 04.0 -01.0	297 30.3 +00.2	S	16 41.1 -00.1	222 21.8 -26.8	N	03 09.6 +14.5	05			
06	267 07.1 +00.2	S	06 03.0 -01.0	312 30.5 +00.2	S	16 41.0 -00.2	236 55.0 -26.8	N	03 24.1 +14.5	06			
07	282 07.3 +00.1	S	06 02.0 -00.9	327 30.7 +00.3	S	16 40.8 -00.1	251 28.2 -26.7	N	03 38.6 +14.5	07			
08	297 07.4 +00.1	S	06 01.1 -01.0	342 31.0 +00.2	S	16 40.7 -00.2	266 01.5 -26.8	N	03 53.1 +14.4	08			
09	312 07.5 +00.2	S	06 00.1 -01.0	357 31.2 +00.2	S	16 40.5 -00.1	280 34.7 -26.7	N	04 07.5 +14.4	09			
10	327 07.7 +00.1	S	05 59.1 -00.9	12 31.4 +00.2	S	16 40.4 -00.2	295 08.0 -26.7	N	04 21.9 +14.4	10			
11	342 07.8 +00.2	S	05 58.2 -01.0	27 31.6 +00.2	S	16 40.2 -00.2	309 41.3 -26.7	N	04 36.3 +14.3	11			
12	357 08.0 +00.1	S	05 57.2 -01.0	42 31.8 +00.2	S	16 40.0 -00.1	324 14.6 -26.7	N	04 50.6 +14.3	12			
13	12 08.1 +00.1	S	05 56.2 -01.0	57 32.0 +00.2	S	16 39.9 -00.2	338 47.9 -26.7	N	05 04.9 +14.3	13			
14	27 08.2 +00.2	S	05 55.2 -00.9	72 32.2 +00.2	S	16 39.7 -00.1	353 21.2 -26.7	N	05 19.2 +14.2	14			
15	42 08.4 +00.1	S	05 54.3 -01.0	87 32.4 +00.2	S	16 39.6 -00.2	7 54.5 -26.6	N	05 33.4 +14.2	15			
16	57 08.5 +00.2	S	05 53.3 -01.0	102 32.6 +00.3	S	16 39.4 -00.2	22 27.9 -26.7	N	05 47.6 +14.1	16			
17	72 08.7 +00.1	S	05 52.3 -00.9	117 32.9 +00.2	S	16 39.2 -00.1	37 01.2 -26.6	N	06 01.7 +14.1	17			
18	87 08.8 +00.1	S	05 51.4 -01.0	132 33.1 +00.2	S	16 39.1 -00.2	51 34.6 -26.7	N	06 15.8 +14.1	18			
19	102 08.9 +00.2	S	05 50.4 -01.0	147 33.3 +00.2	S	16 38.9 -00.1	66 07.9 -26.6	N	06 29.9 +14.0	19			
20	117 09.1 +00.1	S	05 49.4 -00.9	162 33.5 +00.2	S	16 38.8 -00.2	80 41.3 -26.6	N	06 43.9 +14.0	20			
21	132 09.2 +00.2	S	05 48.5 -01.0	177 33.7 +00.2	S	16 38.6 -00.2	95 14.7 -26.6	N	06 57.9 +13.9	21			
22	147 09.4 +00.1	S	05 47.5 -01.0	192 33.9 +00.2	S	16 38.4 -00.1	109 48.1 -26.7	N	07 11.8 +13.9	22			
23	162 09.5 +00.2	S	05 46.5 -00.9	207 34.1 +00.2	S	16 38.3 -00.2	124 21.4 -26.6	N	07 25.7 +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 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'5 15'5 15'4 15'4 15'4 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 56'8 56'7 56'6 56'5 56'4 56'2						
	SHA 014° 014° 014° 014° 014° 014°			SHA 060° 060° 059° 059° 059° 059°			SHA 346° 344° 342° 340° 338° 336°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:09			Greenwich Culmination Time: 14:27						

  

UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	221 19.8 +00.5	S	21 12.8 -00.4	176 18.6 +01.9	S	06 52.6 -00.2	200 45.5 +02.2	S	15 53.6 -00.1	00			
01	236 20.3 +00.5	S	21 12.4 -00.4	191 20.5 +01.9	S	06 52.4 -00.3	215 47.7 +02.2	S	15 53.5 +00.0	01			
02	251 20.8 +00.5	S	21 12.0 -00.3	206 22.4 +01.9	S	06 52.1 -00.2	230 49.9 +02.2	S	15 53.5 -00.1	02			
03	266 21.3 +00.5	S	21 11.7 -00.4	221 24.3 +01.9	S	06 51.9 -00.2	245 52.1 +02.2	S	15 53.4 -00.1	03			
04	281 21.8 +00.5	S	21 11.3 -00.3	236 26.2 +01.9	S	06 51.7 -00.3	260 54.3 +02.2	S	15 53.3 -00.1	04			
05	296 22.3 +00.5	S	21 11.0 -00.4	251 28.1 +01.9	S	06 51.4 -00.2	275 56.5 +02.2	S	15 53.2 -00.1	05			
06	311 22.8 +00.5	S	21 10.6 -00.3	266 30.0 +01.9	S	06 51.2 -00.2	290 58.7 +02.1	S	15 53.1 -00.1	06			
07	326 23.3 +00.5	S	21 10.3 -00.4	281 31.9 +01.9	S	06 51.0 -00.3	306 00.8 +02.2	S	15 53.0 +00.0	07			
08	341 23.8 +00.5	S	21 09.9 -00.4	296 33.8 +01.9	S	06 50.7 -00.2	321 03.0 +02.2	S	15 53.0 -00.1	08			
09	356 24.3 +00.5	S	21 09.5 -00.3	311 35.7 +01.9	S	06 50.5 -00.2	336 05.2 +02.2	S	15 52.9 -00.1	09			
10	11 24.8 +00.5	S	21 09.2 -00.4	326 37.6 +01.9	S	06 50.3 -00.3	351 07.4 +02.2	S	15 52.8 -00.1	10			
11	26 25.3 +00.5	S	21 08.8 -00.3	341 39.5 +01.9	S	06 50.0 -00.2	6 09.6 +02.2	S	15 52.7 -00.1	11			
12	41 25.8 +00.5	S	21 08.5 -00.4	356 41.4 +01.9	S	06 49.8 -00.2	21 11.8 +02.2	S	15 52.6 -00.1	12			
13	56 26.3 +00.5	S	21 08.1 -00.4	11 43.3 +01.9	S	06 49.6 -00.3	36 14.0 +02.1	S	15 52.5 -00.1	13			
14	71 26.8 +00.5	S	21 07.7 -00.3	26 45.2 +01.9	S	06 49.3 -00.2	51 16.1 +02.2	S	15 52.4 +00.0	14			
15	86 27.3 +00.5	S	21 07.4 -00.4	41 47.1 +01.9	S	06 49.1 -00.2	66 18.3 +02.2	S	15 52.4 -00.1	15			
16	101 27.8 +00.5	S	21 07.0 -00.4	56 49.0 +01.9	S	06 48.9 -00.3	81 20.5 +02.2	S	15 52.3 -00.1	16			
17	116 28.3 +00.6	S	21 06.6 -00.3	71 50.9 +01.9	S	06 48.6 -00.2	96 22.7 +02.2	S	15 52.2 -00.1	17			
18	131 28.9 +00.5	S	21 06.3 -00.4	86 52.8 +01.9	S	06 48.4 -00.2	111 24.9 +02.2	S	15 52.1 -00.1	18			
19	146 29.4 +00.5	S	21 05.9 -00.3	101 54.7 +01.9	S	06 48.2 -00.3	126 27.1 +02.2	S	15 52.0 -00.1	19			
20	161 29.9 +00.5	S	21 05.6 -00.4	116 56.6 +01.9	S	06 47.9 -00.2	141 29.3 +02.1	S	15 51.9 +00.0	20			
21	176 30.4 +00.5	S	21 05.2 -00.4	131 58.5 +01.9	S	06 47.7 -00.2	156 31.4 +02.2	S	15 51.9 -00.1	21			
22	191 30.9 +00.5	S	21 04.8 -00.3	147 00.4 +01.9	S	06 47.5 -00.3	171 33.6 +02.2	S	15 51.8 -00.1	22			
23	206 31.4 +00.5	S	21 04.5 -00.4	162 02.3 +01.9	S	06 47.2 -00.2	186 35.8 +02.2	S	15 51.7 -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 00'1 00'1 00'1 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 059° 058° 058° 058° 058° 058°			SHA 014° 014° 013° 013° 013° 013°			SHA 038° 038° 038° 038° 038° 038°						
	Greenwich Culmination Time: 09:14			Greenwich Culmination Time: 12:13			Greenwich Culmination Time: 10:35						



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 09.7 +00.1	S 05 45.6 -01.0	222 34.3 +00.2	S 16 38.1 -00.2	138 54.8 -26.6	N 07 39.5 +13.8	00						
01	192 09.8 +00.1	S 05 44.6 -01.0	237 34.5 +00.2	S 16 37.9 -00.1	153 28.2 -26.6	N 07 53.3 +13.7	01						
02	207 09.9 +00.2	S 05 43.6 -00.9	252 34.7 +00.2	S 16 37.8 -00.2	168 01.6 -26.6	N 08 07.0 +13.7	02						
03	222 10.1 +00.1	S 05 42.7 -01.0	267 34.9 +00.1	S 16 37.6 -00.2	182 35.0 -26.6	N 08 20.7 +13.6	03						
04	237 10.2 +00.2	S 05 41.7 -01.0	282 35.0 +00.2	S 16 37.4 -00.1	197 08.4 -26.7	N 08 34.3 +13.6	04						
05	252 10.4 +00.1	S 05 40.7 -01.0	297 35.2 +00.2	S 16 37.3 -00.2	211 41.7 -26.6	N 08 47.9 +13.6	05						
06	267 10.5 +00.2	S 05 39.7 -00.9	312 35.4 +00.2	S 16 37.1 -00.2	226 15.1 -26.6	N 09 01.5 +13.4	06						
07	282 10.7 +00.1	S 05 38.8 -01.0	327 35.6 +00.2	S 16 36.9 -00.2	240 48.5 -26.6	N 09 14.9 +13.5	07						
08	297 10.8 +00.1	S 05 37.8 -01.0	342 35.8 +00.2	S 16 36.7 -00.1	255 21.9 -26.7	N 09 28.4 +13.3	08						
09	312 10.9 +00.2	S 05 36.8 -00.9	357 36.0 +00.2	S 16 36.6 -00.2	269 55.2 -26.6	N 09 41.7 +13.4	09						
10	327 11.1 +00.1	S 05 35.9 -01.0	12 36.2 +00.2	S 16 36.4 -00.2	284 28.6 -26.7	N 09 55.1 +13.2	10						
11	342 11.2 +00.2	S 05 34.9 -01.0	27 36.4 +00.2	S 16 36.2 -00.1	299 01.9 -26.6	N 10 08.3 +13.2	11						
12	357 11.4 +00.1	S 05 33.9 -00.9	42 36.6 +00.1	S 16 36.1 -00.2	313 35.3 -26.7	N 10 21.5 +13.2	12						
13	12 11.5 +00.2	S 05 33.0 -01.0	57 36.7 +00.2	S 16 35.9 -00.2	328 08.6 -26.7	N 10 34.7 +13.1	13						
14	27 11.7 +00.1	S 05 32.0 -01.0	72 36.9 +00.2	S 16 35.7 -00.2	342 41.9 -26.7	N 10 47.8 +13.0	14						
15	42 11.8 +00.2	S 05 31.0 -01.0	87 37.1 +00.2	S 16 35.5 -00.2	357 15.2 -26.7	N 11 00.8 +13.0	15						
16	57 12.0 +00.1	S 05 30.0 -00.9	102 37.3 +00.2	S 16 35.3 -00.1	11 48.5 -26.7	N 11 13.8 +12.9	16						
17	72 12.1 +00.2	S 05 29.1 -01.0	117 37.5 +00.1	S 16 35.2 -00.2	26 21.8 -26.7	N 11 26.7 +12.8	17						
18	87 12.3 +00.1	S 05 28.1 -01.0	132 37.6 +00.2	S 16 35.0 -00.2	40 55.1 -26.8	N 11 39.5 +12.8	18						
19	102 12.4 +00.1	S 05 27.1 -00.9	147 37.8 +00.2	S 16 34.8 -00.2	55 28.3 -26.7	N 11 52.3 +12.7	19						
20	117 12.5 +00.2	S 05 26.2 -01.0	162 38.0 +00.2	S 16 34.6 -00.2	70 01.6 -26.8	N 12 05.0 +12.7	20						
21	132 12.7 +00.1	S 05 25.2 -01.0	177 38.2 +00.1	S 16 34.4 -00.1	84 34.8 -26.8	N 12 17.7 +12.6	21						
22	147 12.8 +00.2	S 05 24.2 -01.0	192 38.3 +00.2	S 16 34.3 -00.2	99 08.0 -26.8	N 12 30.3 +12.5	22						
23	162 13.0 +00.1	S 05 23.2 -00.9	207 38.5 +00.2	S 16 34.1 -00.2	113 41.2 -26.8	N 12 42.8 +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 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'3 15'3 15'2 15'2 15'2 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 56'1 56'0 55'9 55'8 55'7 55'6								
	SHA 013° 013° 013° 013° 013° 013°		SHA 059° 059° 058° 058° 058° 058°		SHA 334° 332° 330° 328° 326° 325°								
	Greenwich Culmination Time: 12:11		Greenwich Culmination Time: 09:09		Greenwich Culmination Time: 15:11								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	221 31.9 +00.5	S 21 04.1 -00.4	177 04.2 +01.9	S 06 47.0 -00.2	201 38.0 +02.2	S 15 51.6 -00.1	00						
01	236 32.4 +00.5	S 21 03.7 -00.3	192 06.1 +01.9	S 06 46.8 -00.3	216 40.2 +02.2	S 15 51.5 -00.1	01						
02	251 32.9 +00.5	S 21 03.4 -00.4	207 08.0 +01.9	S 06 46.5 -00.2	231 42.4 +02.2	S 15 51.4 +00.0	02						
03	266 33.4 +00.5	S 21 03.0 -00.4	222 09.9 +01.9	S 06 46.3 -00.2	246 44.6 +02.2	S 15 51.4 -00.1	03						
04	281 33.9 +00.5	S 21 02.6 -00.3	237 11.8 +01.9	S 06 46.1 -00.3	261 46.8 +02.1	S 15 51.3 -00.1	04						
05	296 34.4 +00.5	S 21 02.3 -00.4	252 13.7 +01.9	S 06 45.8 -00.2	276 48.9 +02.2	S 15 51.2 -00.1	05						
06	311 34.9 +00.5	S 21 01.9 -00.4	267 15.6 +01.9	S 06 45.6 -00.2	291 51.1 +02.2	S 15 51.1 -00.1	06						
07	326 35.4 +00.5	S 21 01.5 -00.3	282 17.5 +01.9	S 06 45.4 -00.3	306 53.3 +02.2	S 15 51.0 -00.1	07						
08	341 35.9 +00.5	S 21 01.2 -00.4	297 19.4 +01.9	S 06 45.1 -00.2	321 55.5 +02.2	S 15 50.9 +00.0	08						
09	356 36.4 +00.5	S 21 00.8 -00.4	312 21.3 +01.9	S 06 44.9 -00.2	336 57.7 +02.2	S 15 50.9 -00.1	09						
10	11 36.9 +00.5	S 21 00.4 -00.3	327 23.2 +01.9	S 06 44.7 -00.3	351 59.9 +02.2	S 15 50.8 -00.1	10						
11	26 37.4 +00.5	S 21 00.1 -00.4	342 25.1 +01.9	S 06 44.4 -00.2	7 02.1 +02.1	S 15 50.7 -00.1	11						
12	41 37.9 +00.5	S 20 59.7 -00.4	357 27.0 +01.9	S 06 44.2 -00.2	22 04.2 +02.2	S 15 50.6 -00.1	12						
13	56 38.4 +00.5	S 20 59.3 -00.3	12 28.9 +01.9	S 06 44.0 -00.2	37 06.4 +02.2	S 15 50.5 -00.1	13						
14	71 38.9 +00.5	S 20 59.0 -00.4	27 30.8 +02.0	S 06 43.8 -00.3	52 08.6 +02.2	S 15 50.4 +00.0	14						
15	86 39.4 +00.5	S 20 58.6 -00.4	42 32.8 +01.9	S 06 43.5 -00.2	67 10.8 +02.2	S 15 50.4 -00.1	15						
16	101 39.9 +00.5	S 20 58.2 -00.4	57 34.7 +01.9	S 06 43.3 -00.2	82 13.0 +02.2	S 15 50.3 -00.1	16						
17	116 40.4 +00.5	S 20 57.8 -00.3	72 36.6 +01.9	S 06 43.1 -00.3	97 15.2 +02.2	S 15 50.2 -00.1	17						
18	131 40.9 +00.5	S 20 57.5 -00.4	87 38.5 +01.9	S 06 42.8 -00.2	112 17.4 +02.2	S 15 50.1 -00.1	18						
19	146 41.4 +00.5	S 20 57.1 -00.4	102 40.4 +01.9	S 06 42.6 -00.2	127 19.6 +02.1	S 15 50.0 -00.1	19						
20	161 41.9 +00.6	S 20 56.7 -00.3	117 42.3 +01.9	S 06 42.4 -00.3	142 21.7 +02.2	S 15 49.9 +00.0	20						
21	176 42.5 +00.5	S 20 56.4 -00.4	132 44.2 +01.9	S 06 42.1 -00.2	157 23.9 +02.2	S 15 49.9 -00.1	21						
22	191 43.0 +00.5	S 20 56.0 -00.4	147 46.1 +01.9	S 06 41.9 -00.2	172 26.1 +02.2	S 15 49.8 -00.1	22						
23	206 43.5 +00.5	S 20 55.6 -00.4	162 48.0 +01.9	S 06 41.7 -00.3	187 28.3 +02.2	S 15 49.7 -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 00'1 00'1 00'1 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 058° 058° 057° 057° 057° 057°		SHA 013° 013° 013° 013° 013° 013°		SHA 038° 038° 038° 038° 038° 038°								
	Greenwich Culmination Time: 09:13		Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 10:31								

UT	<i>Sun</i>				<i>Venus</i>				<i>Moon</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 13.1 +00.2	S	05 22.3 -01.0	222 38.7 +00.2	S	16 33.9 -00.2	128 14.4 -26.9	N	12 55.3 +12.4				
01	192 13.3 +00.1	S	05 21.3 -01.0	237 38.9 +00.1	S	16 33.7 -00.2	142 47.5 -26.9	N	13 07.7 +12.3				
02	207 13.4 +00.2	S	05 20.3 -00.9	252 39.0 +00.2	S	16 33.5 -00.2	157 20.6 -26.8	N	13 20.0 +12.3				
03	222 13.6 +00.1	S	05 19.4 -01.0	267 39.2 +00.2	S	16 33.3 -00.1	171 53.8 -27.0	N	13 32.3 +12.2				
04	237 13.7 +00.2	S	05 18.4 -01.0	282 39.4 +00.1	S	16 33.2 -00.2	186 26.8 -26.9	N	13 44.5 +12.1				
05	252 13.9 +00.1	S	05 17.4 -01.0	297 39.5 +00.2	S	16 33.0 -00.2	200 59.9 -26.9	N	13 56.6 +12.1				
06	267 14.0 +00.2	S	05 16.4 -00.9	312 39.7 +00.2	S	16 32.8 -00.2	215 33.0 -27.0	N	14 08.7 +11.9				
07	282 14.2 +00.1	S	05 15.5 -01.0	327 39.9 +00.1	S	16 32.6 -00.2	230 06.0 -27.0	N	14 20.6 +12.0				
08	297 14.3 +00.2	S	05 14.5 -01.0	342 40.0 +00.2	S	16 32.4 -00.2	244 39.0 -27.1	N	14 32.6 +11.8				
09	312 14.5 +00.1	S	05 13.5 -01.0	357 40.2 +00.1	S	16 32.2 -00.2	259 11.9 -27.0	N	14 44.4 +11.8				
10	327 14.6 +00.2	S	05 12.5 -00.9	12 40.3 +00.2	S	16 32.0 -00.2	273 44.9 -27.1	N	14 56.2 +11.7				
11	342 14.8 +00.1	S	05 11.6 -01.0	27 40.5 +00.2	S	16 31.8 -00.2	288 17.8 -27.1	N	15 07.9 +11.6				
12	357 14.9 +00.2	S	05 10.6 -01.0	42 40.7 +00.1	S	16 31.6 -00.2	302 50.7 -27.1	N	15 19.5 +11.5				
13	12 15.1 +00.1	S	05 09.6 -01.0	57 40.8 +00.2	S	16 31.4 -00.2	317 23.6 -27.2	N	15 31.0 +11.5				
14	27 15.2 +00.2	S	05 08.6 -00.9	72 41.0 +00.1	S	16 31.2 -00.2	331 56.4 -27.2	N	15 42.5 +11.4				
15	42 15.4 +00.1	S	05 07.7 -01.0	87 41.1 +00.2	S	16 31.0 -00.1	346 29.2 -27.2	N	15 53.9 +11.3				
16	57 15.5 +00.2	S	05 06.7 -01.0	102 41.3 +00.1	S	16 30.9 -00.2	1 02.0 -27.2	N	16 05.2 +11.2				
17	72 15.7 +00.1	S	05 05.7 -00.9	117 41.4 +00.2	S	16 30.7 -00.2	15 34.8 -27.3	N	16 16.4 +11.2				
18	87 15.8 +00.2	S	05 04.8 -01.0	132 41.6 +00.1	S	16 30.5 -00.2	30 07.5 -27.3	N	16 27.6 +11.0				
19	102 16.0 +00.1	S	05 03.8 -01.0	147 41.7 +00.2	S	16 30.3 -00.2	44 40.2 -27.4	N	16 38.6 +11.0				
20	117 16.1 +00.2	S	05 02.8 -01.0	162 41.9 +00.1	S	16 30.1 -00.2	59 12.8 -27.3	N	16 49.6 +11.0				
21	132 16.3 +00.1	S	05 01.8 -00.9	177 42.0 +00.2	S	16 29.9 -00.2	73 45.5 -27.4	N	17 00.6 +10.8				
22	147 16.4 +00.2	S	05 00.9 -01.0	192 42.2 +00.1	S	16 29.7 -00.2	88 18.1 -27.5	N	17 11.4 +10.7				
23	162 16.6 +00.1	S	04 59.9 -01.0	207 42.3 +00.2	S	16 29.5 -00.2	102 50.6 -27.5	N	17 22.1 +10.7				
	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 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'1 15'1 15'1 15'0 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 55'3 55'2 55'1 55'0						
	SHA 012° 012° 012° 012° 012° 012°			SHA 058° 058° 058° 057° 057° 057°			SHA 323° 321° 319° 317° 315° 313°						
	Greenwich Culmination Time: 12:11			Greenwich Culmination Time: 09:09			Greenwich Culmination Time: 15:55						
UT	<i>Mars</i>				<i>Jupiter</i>				<i>Saturn</i>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	221 44.0 +00.5	S	20 55.2 -00.3	177 49.9 +01.9	S	06 41.4 -00.2	202 30.5 +02.2	S	15 49.6 -00.1				
01	236 44.5 +00.5	S	20 54.9 -00.4	192 51.8 +01.9	S	06 41.2 -00.2	217 32.7 +02.2	S	15 49.5 -00.1				
02	251 45.0 +00.5	S	20 54.5 -00.4	207 53.7 +01.9	S	06 41.0 -00.3	232 34.9 +02.2	S	15 49.4 +00.0				
03	266 45.5 +00.5	S	20 54.1 -00.4	222 55.6 +01.9	S	06 40.7 -00.2	247 37.1 +02.1	S	15 49.4 -00.1				
04	281 46.0 +00.5	S	20 53.7 -00.3	237 57.5 +01.9	S	06 40.5 -00.2	262 39.2 +02.2	S	15 49.3 -00.1				
05	296 46.5 +00.5	S	20 53.4 -00.4	252 59.4 +01.9	S	06 40.3 -00.3	277 41.4 +02.2	S	15 49.2 -00.1				
06	311 47.0 +00.5	S	20 53.0 -00.4	268 01.3 +01.9	S	06 40.0 -00.2	292 43.6 +02.2	S	15 49.1 -00.1				
07	326 47.5 +00.5	S	20 52.6 -00.4	283 03.2 +01.9	S	06 39.8 -00.2	307 45.8 +02.2	S	15 49.0 -00.1				
08	341 48.0 +00.5	S	20 52.2 -00.3	298 05.1 +01.9	S	06 39.6 -00.3	322 48.0 +02.2	S	15 48.9 +00.0				
09	356 48.5 +00.5	S	20 51.9 -00.4	313 07.0 +01.9	S	06 39.3 -00.2	337 50.2 +02.2	S	15 48.9 -00.1				
10	11 49.0 +00.5	S	20 51.5 -00.4	328 08.9 +01.9	S	06 39.1 -00.2	352 52.4 +02.2	S	15 48.8 -00.1				
11	26 49.5 +00.5	S	20 51.1 -00.4	343 10.8 +01.9	S	06 38.9 -00.3	7 54.6 +02.2	S	15 48.7 -00.1				
12	41 50.0 +00.6	S	20 50.7 -00.4	358 12.7 +01.9	S	06 38.6 -00.2	22 56.8 +02.1	S	15 48.6 -00.1				
13	56 50.6 +00.5	S	20 50.3 -00.3	13 14.6 +01.9	S	06 38.4 -00.2	37 58.9 +02.2	S	15 48.5 -00.1				
14	71 51.1 +00.5	S	20 50.0 -00.4	28 16.5 +01.9	S	06 38.2 -00.3	53 01.1 +02.2	S	15 48.4 +00.0				
15	86 51.6 +00.5	S	20 49.6 -00.4	43 18.4 +01.9	S	06 37.9 -00.2	68 03.3 +02.2	S	15 48.4 -00.1				
16	101 52.1 +00.5	S	20 49.2 -00.4	58 20.3 +01.9	S	06 37.7 -00.2	83 05.5 +02.2	S	15 48.3 -00.1				
17	116 52.6 +00.5	S	20 48.8 -00.4	73 22.2 +01.9	S	06 37.5 -00.3	98 07.7 +02.2	S	15 48.2 -00.1				
18	131 53.1 +00.5	S	20 48.4 -00.3	88 24.1 +01.9	S	06 37.2 -00.2	113 09.9 +02.2	S	15 48.1 -00.1				
19	146 53.6 +00.5	S	20 48.1 -00.4	103 26.0 +01.9	S	06 37.0 -00.2	128 12.1 +02.2	S	15 48.0 -00.1				
20	161 54.1 +00.5	S	20 47.7 -00.4	118 27.9 +01.9	S	06 36.8 -00.3	143 14.3 +02.2	S	15 47.9 +00.0				
21	176 54.6 +00.5	S	20 47.3 -00.4	133 29.8 +01.9	S	06 36.5 -00.2	158 16.5 +02.1	S	15 47.9 -00.1				
22	191 55.1 +00.5	S	20 46.9 -00.4	148 31.7 +01.9	S	06 36.3 -00.2	173 18.6 +02.2	S	15 47.8 -00.1				
23	206 55.6 +00.5	S	20 46.5 -00.3	163 33.6 +01.9	S	06 36.1 -00.3	188 20.8 +02.2	S	15 47.7 -00.1				
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 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 057° 057° 057° 057° 056° 056°			SHA 013° 013° 013° 013° 013° 013°			SHA 038° 038° 038° 038° 038° 038°						
	Greenwich Culmination Time: 09:12			Greenwich Culmination Time: 12:07			Greenwich Culmination Time: 10:28						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 16.7 +00.2	S 04 58.9 -01.0	222 42.5 +00.1	S 16 29.3 -00.2	117 23.1 -27.5	N 17 32.8 +10.6	00						
01	192 16.9 +00.1	S 04 57.9 -00.9	237 42.6 +00.2	S 16 29.1 -00.3	131 55.6 -27.5	N 17 43.4 +10.5	01						
02	207 17.0 +00.2	S 04 57.0 -01.0	252 42.8 +00.1	S 16 28.8 -00.2	146 28.1 -27.6	N 17 53.9 +10.4	02						
03	222 17.2 +00.1	S 04 56.0 -01.0	267 42.9 +00.2	S 16 28.6 -00.2	161 00.5 -27.6	N 18 04.3 +10.3	03						
04	237 17.3 +00.2	S 04 55.0 -01.0	282 43.1 +00.1	S 16 28.4 -00.2	175 32.9 -27.6	N 18 14.6 +10.3	04						
05	252 17.5 +00.1	S 04 54.0 -00.9	297 43.2 +00.1	S 16 28.2 -00.2	190 05.3 -27.7	N 18 24.9 +10.1	05						
06	267 17.6 +00.2	S 04 53.1 -01.0	312 43.3 +00.2	S 16 28.0 -00.2	204 37.6 -27.7	N 18 35.0 +10.1	06						
07	282 17.8 +00.1	S 04 52.1 -01.0	327 43.5 +00.1	S 16 27.8 -00.2	219 09.9 -27.8	N 18 45.1 +10.0	07						
08	297 17.9 +00.2	S 04 51.1 -01.0	342 43.6 +00.2	S 16 27.6 -00.2	233 42.1 -27.8	N 18 55.1 +09.9	08						
09	312 18.1 +00.1	S 04 50.1 -00.9	357 43.8 +00.1	S 16 27.4 -00.2	248 14.3 -27.8	N 19 05.0 +09.8	09						
10	327 18.2 +00.2	S 04 49.2 -01.0	12 43.9 +00.1	S 16 27.2 -00.2	262 46.5 -27.9	N 19 14.8 +09.7	10						
11	342 18.4 +00.1	S 04 48.2 -01.0	27 44.0 +00.2	S 16 27.0 -00.2	277 18.6 -27.9	N 19 24.5 +09.6	11						
12	357 18.5 +00.2	S 04 47.2 -01.0	42 44.2 +00.1	S 16 26.8 -00.2	291 50.7 -27.9	N 19 34.1 +09.6	12						
13	12 18.7 +00.1	S 04 46.2 -01.0	57 44.3 +00.1	S 16 26.6 -00.3	306 22.8 -28.0	N 19 43.7 +09.4	13						
14	27 18.8 +00.2	S 04 45.2 -00.9	72 44.4 +00.2	S 16 26.3 -00.2	320 54.8 -28.1	N 19 53.1 +09.3	14						
15	42 19.0 +00.2	S 04 44.3 -01.0	87 44.6 +00.1	S 16 26.1 -00.2	335 26.7 -28.0	N 20 02.4 +09.3	15						
16	57 19.2 +00.1	S 04 43.3 -01.0	102 44.7 +00.1	S 16 25.9 -00.2	349 58.7 -28.1	N 20 11.7 +09.2	16						
17	72 19.3 +00.2	S 04 42.3 -01.0	117 44.8 +00.2	S 16 25.7 -00.2	4 30.6 -28.2	N 20 20.9 +09.0	17						
18	87 19.5 +00.1	S 04 41.3 -00.9	132 45.0 +00.1	S 16 25.5 -00.2	19 02.4 -28.2	N 20 29.9 +09.0	18						
19	102 19.6 +00.2	S 04 40.4 -01.0	147 45.1 +00.1	S 16 25.3 -00.2	33 34.2 -28.2	N 20 38.9 +08.9	19						
20	117 19.8 +00.1	S 04 39.4 -01.0	162 45.2 +00.1	S 16 25.1 -00.3	48 06.0 -28.3	N 20 47.8 +08.7	20						
21	132 19.9 +00.2	S 04 38.4 -01.0	177 45.3 +00.2	S 16 24.8 -00.2	62 37.7 -28.3	N 20 56.5 +08.7	21						
22	147 20.1 +00.1	S 04 37.4 -00.9	192 45.5 +00.1	S 16 24.6 -00.2	77 09.4 -28.3	N 21 05.2 +08.6	22						
23	162 20.2 +00.2	S 04 36.5 -01.0	207 45.6 +00.1	S 16 24.4 -00.2	91 41.1 -28.4	N 21 13.8 +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 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'0 14'9 14'9 14'9 14'9 14'9								
	HP 00'1 00'1 00'1 00'1 00'1 00'1		HP 00'3 00'3 00'3 00'2 00'2 00'2		HP 54'9 54'8 54'8 54'7 54'6 54'6								
	SHA 012° 011° 011° 011° 011° 011°		SHA 057° 057° 057° 056° 056° 056°		SHA 311° 309° 307° 305° 303° 301°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 09:09		Greenwich Culmination Time: 16:41								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	221 56.1 +00.6	S 20 46.2 -00.4	178 35.5 +01.9	S 06 35.8 -00.2	203 23.0 +02.2	S 15 47.6 -00.1	00						
01	236 56.7 +00.5	S 20 45.8 -00.4	193 37.4 +01.9	S 06 35.6 -00.2	218 25.2 +02.2	S 15 47.5 -00.1	01						
02	251 57.2 +00.5	S 20 45.4 -00.4	208 39.3 +01.9	S 06 35.4 -00.3	233 27.4 +02.2	S 15 47.4 +00.0	02						
03	266 57.7 +00.5	S 20 45.0 -00.4	223 41.2 +01.9	S 06 35.1 -00.2	248 29.6 +02.2	S 15 47.4 -00.1	03						
04	281 58.2 +00.5	S 20 44.6 -00.4	238 43.1 +01.9	S 06 34.9 -00.2	263 31.8 +02.2	S 15 47.3 -00.1	04						
05	296 58.7 +00.5	S 20 44.2 -00.3	253 45.0 +01.9	S 06 34.7 -00.3	278 34.0 +02.2	S 15 47.2 -00.1	05						
06	311 59.2 +00.5	S 20 43.9 -00.4	268 46.9 +01.9	S 06 34.4 -00.2	293 36.2 +02.2	S 15 47.1 -00.1	06						
07	326 59.7 +00.5	S 20 43.5 -00.4	283 48.8 +01.9	S 06 34.2 -00.2	308 38.4 +02.1	S 15 47.0 -00.1	07						
08	342 00.2 +00.5	S 20 43.1 -00.4	298 50.7 +01.9	S 06 34.0 -00.3	323 40.5 +02.2	S 15 46.9 +00.0	08						
09	357 00.7 +00.5	S 20 42.7 -00.4	313 52.6 +01.9	S 06 33.7 -00.2	338 42.7 +02.2	S 15 46.9 -00.1	09						
10	12 01.2 +00.5	S 20 42.3 -00.4	328 54.5 +01.9	S 06 33.5 -00.2	353 44.9 +02.2	S 15 46.8 -00.1	10						
11	27 01.7 +00.6	S 20 41.9 -00.4	343 56.4 +01.9	S 06 33.3 -00.3	8 47.1 +02.2	S 15 46.7 -00.1	11						
12	42 02.3 +00.5	S 20 41.5 -00.3	358 58.3 +01.9	S 06 33.0 -00.2	23 49.3 +02.2	S 15 46.6 -00.1	12						
13	57 02.8 +00.5	S 20 41.2 -00.4	14 00.2 +02.0	S 06 32.8 -00.2	38 51.5 +02.2	S 15 46.5 -00.1	13						
14	72 03.3 +00.5	S 20 40.8 -00.4	29 02.2 +01.9	S 06 32.6 -00.3	53 53.7 +02.2	S 15 46.4 +00.0	14						
15	87 03.8 +00.5	S 20 40.4 -00.4	44 04.1 +01.9	S 06 32.3 -00.2	68 55.9 +02.2	S 15 46.4 -00.1	15						
16	102 04.3 +00.5	S 20 40.0 -00.4	59 06.0 +01.9	S 06 32.1 -00.2	83 58.1 +02.2	S 15 46.3 -00.1	16						
17	117 04.8 +00.5	S 20 39.6 -00.4	74 07.9 +01.9	S 06 31.9 -00.3	99 00.3 +02.1	S 15 46.2 -00.1	17						
18	132 05.3 +00.5	S 20 39.2 -00.4	89 09.8 +01.9	S 06 31.6 -00.2	114 02.4 +02.2	S 15 46.1 -00.1	18						
19	147 05.8 +00.5	S 20 38.8 -00.4	104 11.7 +01.9	S 06 31.4 -00.2	129 04.6 +02.2	S 15 46.0 +00.0	19						
20	162 06.3 +00.6	S 20 38.4 -00.4	119 13.6 +01.9	S 06 31.2 -00.3	144 06.8 +02.2	S 15 46.0 -00.1	20						
21	177 06.9 +00.5	S 20 38.0 -00.3	134 15.5 +01.9	S 06 30.9 -00.2	159 09.0 +02.2	S 15 45.9 -00.1	21						
22	192 07.4 +00.5	S 20 37.7 -00.4	149 17.4 +01.9	S 06 30.7 -00.2	174 11.2 +02.2	S 15 45.8 -00.1	22						
23	207 07.9 +00.5	S 20 37.3 -00.4	164 19.3 +01.9	S 06 30.5 -00.2	189 13.4 +02.2	S 15 45.7 -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 00'1 00'1 00'1 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 056° 056° 056° 056° 056° 056°		SHA 013° 013° 013° 013° 013° 013°		SHA 038° 038° 038° 038° 038° 038°								
	Greenwich Culmination Time: 09:11		Greenwich Culmination Time: 12:04		Greenwich Culmination Time: 10:24								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 20.4 +00.1	S 04 35.5 -01.0	222 45.7 +00.1	S 16 24.2 -00.2	106 12.7 -28.5	N 21 22.3 +08.4	00						
01	192 20.5 +00.2	S 04 34.5 -01.0	237 45.8 +00.2	S 16 24.0 -00.3	120 44.2 -28.5	N 21 30.7 +08.3	01						
02	207 20.7 +00.2	S 04 33.5 -01.0	252 46.0 +00.1	S 16 23.7 -00.2	135 15.7 -28.5	N 21 39.0 +08.2	02						
03	222 20.9 +00.1	S 04 32.5 -00.9	267 46.1 +00.1	S 16 23.5 -00.2	149 47.2 -28.5	N 21 47.2 +08.0	03						
04	237 21.0 +00.2	S 04 31.6 -01.0	282 46.2 +00.1	S 16 23.3 -00.2	164 18.7 -28.7	N 21 55.2 +08.0	04						
05	252 21.2 +00.1	S 04 30.6 -01.0	297 46.3 +00.1	S 16 23.1 -00.3	178 50.0 -28.6	N 22 03.2 +07.9	05						
06	267 21.3 +00.2	S 04 29.6 -01.0	312 46.4 +00.1	S 16 22.8 -00.2	193 21.4 -28.7	N 22 11.1 +07.8	06						
07	282 21.5 +00.1	S 04 28.6 -00.9	327 46.5 +00.2	S 16 22.6 -00.2	207 52.7 -28.7	N 22 18.9 +07.7	07						
08	297 21.6 +00.2	S 04 27.7 -01.0	342 46.7 +00.1	S 16 22.4 -00.2	222 24.0 -28.8	N 22 26.6 +07.5	08						
09	312 21.8 +00.1	S 04 26.7 -01.0	357 46.8 +00.1	S 16 22.2 -00.3	236 55.2 -28.8	N 22 34.1 +07.5	09						
10	327 21.9 +00.2	S 04 25.7 -01.0	12 46.9 +00.1	S 16 21.9 -00.2	251 26.4 -28.9	N 22 41.6 +07.4	10						
11	342 22.1 +00.2	S 04 24.7 -01.0	27 47.0 +00.1	S 16 21.7 -00.2	265 57.5 -28.9	N 22 49.0 +07.2	11						
12	357 22.3 +00.1	S 04 23.7 -00.9	42 47.1 +00.1	S 16 21.5 -00.3	280 28.6 -28.9	N 22 56.2 +07.2	12						
13	12 22.4 +00.2	S 04 22.8 -01.0	57 47.2 +00.1	S 16 21.2 -00.2	294 59.7 -29.0	N 23 03.4 +07.0	13						
14	27 22.6 +00.1	S 04 21.8 -01.0	72 47.3 +00.1	S 16 21.0 -00.2	309 30.7 -29.1	N 23 10.4 +07.0	14						
15	42 22.7 +00.2	S 04 20.8 -01.0	87 47.4 +00.2	S 16 20.8 -00.3	324 01.6 -29.0	N 23 17.4 +06.8	15						
16	57 22.9 +00.1	S 04 19.8 -01.0	102 47.6 +00.1	S 16 20.5 -00.2	338 32.6 -29.1	N 23 24.2 +06.8	16						
17	72 23.0 +00.2	S 04 18.8 -00.9	117 47.7 +00.1	S 16 20.3 -00.2	353 03.5 -29.2	N 23 31.0 +06.6	17						
18	87 23.2 +00.2	S 04 17.9 -01.0	132 47.8 +00.1	S 16 20.1 -00.3	7 34.3 -29.2	N 23 37.6 +06.5	18						
19	102 23.4 +00.1	S 04 16.9 -01.0	147 47.9 +00.1	S 16 19.8 -00.2	22 05.1 -29.2	N 23 44.1 +06.4	19						
20	117 23.5 +00.2	S 04 15.9 -01.0	162 48.0 +00.1	S 16 19.6 -00.2	36 35.9 -29.3	N 23 50.5 +06.3	20						
21	132 23.7 +00.1	S 04 14.9 -01.0	177 48.1 +00.1	S 16 19.4 -00.3	51 06.6 -29.3	N 23 56.8 +06.1	21						
22	147 23.8 +00.2	S 04 13.9 -00.9	192 48.2 +00.1	S 16 19.1 -00.2	65 37.3 -29.4	N 24 02.9 +06.1	22						
23	162 24.0 +00.2	S 04 13.0 -01.0	207 48.3 +00.1	S 16 18.9 -00.3	80 07.9 -29.4	N 24 09.0 +06.0	23						
UT	02 06 10 14 18 22		UT	02 06 10 14 18 22		UT	02 06 10 14 18 22						
SD	16'1 16'1 16'1 16'1 16'1 16'1		SD	00'2 00'2 00'2 00'2 00'2 00'2		SD	14'9 14'8 14'8 14'8 14'8 14'8						
HP	00'1 00'1 00'1 00'1 00'1 00'1		HP	00'2 00'2 00'2 00'2 00'2 00'2		HP	54'5 54'5 54'4 54'4 54'3 54'3						
SHA	011° 010° 010° 010° 010° 010°		SHA	056° 056° 056° 056° 055° 055°		SHA	299° 296° 294° 292° 290° 288°						
Greenwich Culmination Time: 12:10			Greenwich Culmination Time: 09:08			Greenwich Culmination Time: 17:28							

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	222 08.4 +00.5	S 20 36.9 -00.4	179 21.2 +01.9	S 06 30.3 -00.3	204 15.6 +02.2	S 15 45.6 -00.1	00						
01	237 08.9 +00.5	S 20 36.5 -00.4	194 23.1 +01.9	S 06 30.0 -00.2	219 17.8 +02.2	S 15 45.5 +00.0	01						
02	252 09.4 +00.5	S 20 36.1 -00.4	209 25.0 +01.9	S 06 29.8 -00.2	234 20.0 +02.2	S 15 45.5 -00.1	02						
03	267 09.9 +00.5	S 20 35.7 -00.4	224 26.9 +01.9	S 06 29.6 -00.3	249 22.2 +02.2	S 15 45.4 -00.1	03						
04	282 10.4 +00.5	S 20 35.3 -00.4	239 28.8 +01.9	S 06 29.3 -00.2	264 24.4 +02.1	S 15 45.3 -00.1	04						
05	297 10.9 +00.6	S 20 34.9 -00.4	254 30.7 +01.9	S 06 29.1 -00.2	279 26.5 +02.2	S 15 45.2 -00.1	05						
06	312 11.5 +00.5	S 20 34.5 -00.4	269 32.6 +01.9	S 06 28.9 -00.3	294 28.7 +02.2	S 15 45.1 -00.1	06						
07	327 12.0 +00.5	S 20 34.1 -00.4	284 34.5 +01.9	S 06 28.6 -00.2	309 30.9 +02.2	S 15 45.0 +00.0	07						
08	342 12.5 +00.5	S 20 33.7 -00.4	299 36.4 +01.9	S 06 28.4 -00.2	324 33.1 +02.2	S 15 45.0 -00.1	08						
09	357 13.0 +00.5	S 20 33.3 -00.4	314 38.3 +01.9	S 06 28.2 -00.3	339 35.3 +02.2	S 15 44.9 -00.1	09						
10	12 13.5 +00.5	S 20 32.9 -00.3	329 40.2 +01.9	S 06 27.9 -00.2	354 37.5 +02.2	S 15 44.8 -00.1	10						
11	27 14.0 +00.5	S 20 32.6 -00.4	344 42.1 +01.9	S 06 27.7 -00.2	9 39.7 +02.2	S 15 44.7 -00.1	11						
12	42 14.5 +00.6	S 20 32.2 -00.4	359 44.0 +01.9	S 06 27.5 -00.3	24 41.9 +02.2	S 15 44.6 -00.1	12						
13	57 15.1 +00.5	S 20 31.8 -00.4	14 45.9 +01.9	S 06 27.2 -00.2	39 44.1 +02.2	S 15 44.5 +00.0	13						
14	72 15.6 +00.5	S 20 31.4 -00.4	29 47.8 +01.9	S 06 27.0 -00.2	54 46.3 +02.2	S 15 44.5 -00.1	14						
15	87 16.1 +00.5	S 20 31.0 -00.4	44 49.7 +01.9	S 06 26.8 -00.3	69 48.5 +02.2	S 15 44.4 -00.1	15						
16	102 16.6 +00.5	S 20 30.6 -00.4	59 51.6 +01.9	S 06 26.5 -00.2	84 50.7 +02.1	S 15 44.3 -00.1	16						
17	117 17.1 +00.5	S 20 30.2 -00.4	74 53.5 +01.9	S 06 26.3 -00.2	99 52.8 +02.2	S 15 44.2 -00.1	17						
18	132 17.6 +00.5	S 20 29.8 -00.4	89 55.4 +01.9	S 06 26.1 -00.3	114 55.0 +02.2	S 15 44.1 +00.0	18						
19	147 18.1 +00.5	S 20 29.4 -00.4	104 57.3 +01.9	S 06 25.8 -00.2	129 57.2 +02.2	S 15 44.1 -00.1	19						
20	162 18.6 +00.6	S 20 29.0 -00.4	119 59.2 +01.9	S 06 25.6 -00.2	144 59.4 +02.2	S 15 44.0 -00.1	20						
21	177 19.2 +00.5	S 20 28.6 -00.4	135 01.1 +01.9	S 06 25.4 -00.3	160 01.6 +02.2	S 15 43.9 -00.1	21						
22	192 19.7 +00.5	S 20 28.2 -00.4	150 03.0 +01.9	S 06 25.1 -00.2	175 03.8 +02.2	S 15 43.8 -00.1	22						
23	207 20.2 +00.5	S 20 27.8 -00.4	165 04.9 +01.9	S 06 24.9 -00.2	190 06.0 +02.2	S 15 43.7 -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	00'1 00'1 00'1 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	055° 055° 055° 055° 055° 055°		SHA	013° 013° 013° 013° 013° 012°		SHA	038° 038° 038° 038° 038° 037°						
Greenwich Culmination Time: 09:11			Greenwich Culmination Time: 12:01			Greenwich Culmination Time: 10:21							

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 24.2 +00.1	S 04 12.0 -01.0	222 48.4 +00.1	S 16 18.6 -00.2	94 38.5 -29.5	N 24 15.0 +05.8	00						
01	192 24.3 +00.2	S 04 11.0 -01.0	237 48.5 +00.1	S 16 18.4 -00.2	109 09.0 -29.4	N 24 20.8 +05.7	01						
02	207 24.5 +00.1	S 04 10.0 -00.9	252 48.6 +00.1	S 16 18.2 -00.3	123 39.6 -29.6	N 24 26.5 +05.6	02						
03	222 24.6 +00.2	S 04 09.1 -01.0	267 48.7 +00.1	S 16 17.9 -00.2	138 10.0 -29.5	N 24 32.1 +05.6	03						
04	237 24.8 +00.2	S 04 08.1 -01.0	282 48.8 +00.1	S 16 17.7 -00.3	152 40.5 -29.6	N 24 37.7 +05.3	04						
05	252 25.0 +00.1	S 04 07.1 -01.0	297 48.9 +00.1	S 16 17.4 -00.2	167 10.9 -29.7	N 24 43.0 +05.3	05						
06	267 25.1 +00.2	S 04 06.1 -01.0	312 49.0 +00.1	S 16 17.2 -00.3	181 41.2 -29.7	N 24 48.3 +05.2	06						
07	282 25.3 +00.1	S 04 05.1 -00.9	327 49.1 +00.1	S 16 16.9 -00.2	196 11.5 -29.7	N 24 53.5 +05.0	07						
08	297 25.4 +00.2	S 04 04.2 -01.0	342 49.2 +00.1	S 16 16.7 -00.2	210 41.8 -29.7	N 24 58.5 +04.9	08						
09	312 25.6 +00.2	S 04 03.2 -01.0	357 49.3 +00.0	S 16 16.5 -00.3	225 12.1 -29.8	N 25 03.4 +04.8	09						
10	327 25.8 +00.1	S 04 02.2 -01.0	12 49.3 +00.1	S 16 16.2 -00.2	239 42.3 -29.9	N 25 08.2 +04.7	10						
11	342 25.9 +00.2	S 04 01.2 -01.0	27 49.4 +00.1	S 16 16.0 -00.3	254 12.4 -29.8	N 25 12.9 +04.6	11						
12	357 26.1 +00.1	S 04 00.2 -01.0	42 49.5 +00.1	S 16 15.7 -00.2	268 42.6 -30.0	N 25 17.5 +04.5	12						
13	12 26.2 +00.2	S 03 59.2 -00.9	57 49.6 +00.1	S 16 15.5 -00.3	283 12.6 -29.9	N 25 22.0 +04.3	13						
14	27 26.4 +00.2	S 03 58.3 -01.0	72 49.7 +00.1	S 16 15.2 -00.2	297 42.7 -30.0	N 25 26.3 +04.2	14						
15	42 26.6 +00.1	S 03 57.3 -01.0	87 49.8 +00.1	S 16 15.0 -00.3	312 12.7 -30.0	N 25 30.5 +04.1	15						
16	57 26.7 +00.2	S 03 56.3 -01.0	102 49.9 +00.1	S 16 14.7 -00.2	326 42.7 -30.0	N 25 34.6 +04.0	16						
17	72 26.9 +00.1	S 03 55.3 -01.0	117 50.0 +00.1	S 16 14.5 -00.3	341 12.7 -30.1	N 25 38.6 +03.9	17						
18	87 27.0 +00.2	S 03 54.3 -00.9	132 50.1 +00.0	S 16 14.2 -00.3	355 42.6 -30.1	N 25 42.5 +03.7	18						
19	102 27.2 +00.2	S 03 53.4 -01.0	147 50.1 +00.1	S 16 13.9 -00.2	10 12.5 -30.2	N 25 46.2 +03.6	19						
20	117 27.4 +00.1	S 03 52.4 -01.0	162 50.2 +00.1	S 16 13.7 -00.3	24 42.3 -30.1	N 25 49.8 +03.5	20						
21	132 27.5 +00.2	S 03 51.4 -01.0	177 50.3 +00.1	S 16 13.4 -00.2	39 12.2 -30.3	N 25 53.3 +03.4	21						
22	147 27.7 +00.2	S 03 50.4 -01.0	192 50.4 +00.1	S 16 13.2 -00.3	53 41.9 -30.2	N 25 56.7 +03.2	22						
23	162 27.9 +00.1	S 03 49.4 -00.9	207 50.5 +00.0	S 16 12.9 -00.2	68 11.7 -30.3	N 25 59.9 +03.2	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 00'2 00'2 00'2 00'2 00'2 00'2		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 00'2 00'2 00'2 00'2 00'2 00'2		HP 54'3 54'3 54'2 54'2 54'2 54'2								
	SHA 010° 010° 009° 009° 009° 009°		SHA 055° 055° 055° 055° 054° 054°		SHA 286° 284° 282° 279° 277° 275°								
	Greenwich Culmination Time: 12:10		Greenwich Culmination Time: 09:08		Greenwich Culmination Time: 18:17								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	222 20.7 +00.5	S 20 27.4 -00.4	180 06.8 +01.9	S 06 24.7 -00.3	205 08.2 +02.2	S 15 43.6 +00.0	00						
01	237 21.2 +00.5	S 20 27.0 -00.4	195 08.7 +01.9	S 06 24.4 -00.2	220 10.4 +02.2	S 15 43.6 -00.1	01						
02	252 21.7 +00.6	S 20 26.6 -00.4	210 10.6 +02.0	S 06 24.2 -00.2	235 12.6 +02.2	S 15 43.5 -00.1	02						
03	267 22.3 +00.5	S 20 26.2 -00.4	225 12.6 +01.9	S 06 24.0 -00.3	250 14.8 +02.2	S 15 43.4 -00.1	03						
04	282 22.8 +00.5	S 20 25.8 -00.4	240 14.5 +01.9	S 06 23.7 -00.2	265 17.0 +02.2	S 15 43.3 -00.1	04						
05	297 23.3 +00.5	S 20 25.4 -00.4	255 16.4 +01.9	S 06 23.5 -00.2	280 19.2 +02.1	S 15 43.2 +00.0	05						
06	312 23.8 +00.5	S 20 25.0 -00.4	270 18.3 +01.9	S 06 23.3 -00.3	295 21.3 +02.2	S 15 43.2 -00.1	06						
07	327 24.3 +00.5	S 20 24.6 -00.4	285 20.2 +01.9	S 06 23.0 -00.2	310 23.5 +02.2	S 15 43.1 -00.1	07						
08	342 24.8 +00.5	S 20 24.2 -00.4	300 22.1 +01.9	S 06 22.8 -00.2	325 25.7 +02.2	S 15 43.0 -00.1	08						
09	357 25.3 +00.6	S 20 23.8 -00.4	315 24.0 +01.9	S 06 22.6 -00.3	340 27.9 +02.2	S 15 42.9 -00.1	09						
10	12 25.9 +00.5	S 20 23.4 -00.4	330 25.9 +01.9	S 06 22.3 -00.2	355 30.1 +02.2	S 15 42.8 -00.1	10						
11	27 26.4 +00.5	S 20 23.0 -00.4	345 27.8 +01.9	S 06 22.1 -00.2	10 32.3 +02.2	S 15 42.7 +00.0	11						
12	42 26.9 +00.5	S 20 22.6 -00.4	0 29.7 +01.9	S 06 21.9 -00.3	25 34.5 +02.2	S 15 42.7 -00.1	12						
13	57 27.4 +00.5	S 20 22.2 -00.4	15 31.6 +01.9	S 06 21.6 -00.2	40 36.7 +02.2	S 15 42.6 -00.1	13						
14	72 27.9 +00.5	S 20 21.8 -00.5	30 33.5 +01.9	S 06 21.4 -00.2	55 38.9 +02.2	S 15 42.5 -00.1	14						
15	87 28.4 +00.6	S 20 21.3 -00.4	45 35.4 +01.9	S 06 21.2 -00.3	70 41.1 +02.2	S 15 42.4 -00.1	15						
16	102 29.0 +00.5	S 20 20.9 -00.4	60 37.3 +01.9	S 06 20.9 -00.2	85 43.3 +02.2	S 15 42.3 -00.1	16						
17	117 29.5 +00.5	S 20 20.5 -00.4	75 39.2 +01.9	S 06 20.7 -00.2	100 45.5 +02.2	S 15 42.2 +00.0	17						
18	132 30.0 +00.5	S 20 20.1 -00.4	90 41.1 +01.9	S 06 20.5 -00.3	115 47.7 +02.2	S 15 42.2 -00.1	18						
19	147 30.5 +00.5	S 20 19.7 -00.4	105 43.0 +01.9	S 06 20.2 -00.2	130 49.9 +02.2	S 15 42.1 -00.1	19						
20	162 31.0 +00.5	S 20 19.3 -00.4	120 44.9 +01.9	S 06 20.0 -00.2	145 52.1 +02.1	S 15 42.0 -00.1	20						
21	177 31.5 +00.6	S 20 18.9 -00.4	135 46.8 +01.9	S 06 19.8 -00.3	160 54.2 +02.2	S 15 41.9 -00.1	21						
22	192 32.1 +00.5	S 20 18.5 -00.4	150 48.7 +01.9	S 06 19.5 -00.2	175 56.4 +02.2	S 15 41.8 +00.0	22						
23	207 32.6 +00.5	S 20 18.1 -00.4	165 50.6 +01.9	S 06 19.3 -00.2	190 58.6 +02.2	S 15 41.8 -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 00'1 00'1 00'1 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 055° 054° 054° 054° 054° 054°		SHA 012° 012° 012° 012° 012° 012°		SHA 037° 037° 037° 037° 037° 037°								
	Greenwich Culmination Time: 09:10		Greenwich Culmination Time: 11:58		Greenwich Culmination Time: 10:17								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 28.0 +00.2	S	03 48.5 -01.0	222 50.5 +00.1	S	16 12.7 -00.3	82 41.4 -30.3	N	26 03.1 +03.0	00			
01	192 28.2 +00.1	S	03 47.5 -01.0	237 50.6 +00.1	S	16 12.4 -00.3	97 11.1 -30.3	N	26 06.1 +02.8	01			
02	207 28.3 +00.2	S	03 46.5 -01.0	252 50.7 +00.1	S	16 12.1 -00.2	111 40.8 -30.3	N	26 08.9 +02.8	02			
03	222 28.5 +00.2	S	03 45.5 -01.0	267 50.8 +00.1	S	16 11.9 -00.3	126 10.5 -30.4	N	26 11.7 +02.6	03			
04	237 28.7 +00.1	S	03 44.5 -01.0	282 50.9 +00.0	S	16 11.6 -00.2	140 40.1 -30.4	N	26 14.3 +02.5	04			
05	252 28.8 +00.2	S	03 43.5 -00.9	297 50.9 +00.1	S	16 11.4 -00.3	155 09.7 -30.5	N	26 16.8 +02.4	05			
06	267 29.0 +00.2	S	03 42.6 -01.0	312 51.0 +00.1	S	16 11.1 -00.3	169 39.2 -30.4	N	26 19.2 +02.3	06			
07	282 29.2 +00.1	S	03 41.6 -01.0	327 51.1 +00.0	S	16 10.8 -00.2	184 08.8 -30.5	N	26 21.5 +02.1	07			
08	297 29.3 +00.2	S	03 40.6 -01.0	342 51.1 +00.1	S	16 10.6 -00.3	198 38.3 -30.5	N	26 23.6 +02.0	08			
09	312 29.5 +00.2	S	03 39.6 -01.0	357 51.2 +00.1	S	16 10.3 -00.3	213 07.8 -30.6	N	26 25.6 +01.9	09			
10	327 29.7 +00.1	S	03 38.6 -00.9	12 51.3 +00.1	S	16 10.0 -00.2	227 37.2 -30.5	N	26 27.5 +01.8	10			
11	342 29.8 +00.2	S	03 37.7 -01.0	27 51.4 +00.0	S	16 09.8 -00.3	242 06.7 -30.6	N	26 29.3 +01.6	11			
12	357 30.0 +00.1	S	03 36.7 -01.0	42 51.4 +00.1	S	16 09.5 -00.3	256 36.1 -30.6	N	26 30.9 +01.5	12			
13	12 30.1 +00.2	S	03 35.7 -01.0	57 51.5 +00.1	S	16 09.2 -00.2	271 05.5 -30.6	N	26 32.4 +01.4	13			
14	27 30.3 +00.2	S	03 34.7 -01.0	72 51.6 +00.0	S	16 09.0 -00.3	285 34.9 -30.7	N	26 33.8 +01.2	14			
15	42 30.5 +00.1	S	03 33.7 -01.0	87 51.6 +00.1	S	16 08.7 -00.3	300 04.2 -30.6	N	26 35.0 +01.1	15			
16	57 30.6 +00.2	S	03 32.7 -00.9	102 51.7 +00.1	S	16 08.4 -00.2	314 33.6 -30.7	N	26 36.1 +01.0	16			
17	72 30.8 +00.2	S	03 31.8 -01.0	117 51.8 +00.0	S	16 08.2 -00.3	329 02.9 -30.7	N	26 37.1 +00.9	17			
18	87 31.0 +00.1	S	03 30.8 -01.0	132 51.8 +00.1	S	16 07.9 -00.3	343 32.2 -30.7	N	26 38.0 +00.7	18			
19	102 31.1 +00.2	S	03 29.8 -01.0	147 51.9 +00.1	S	16 07.6 -00.3	358 01.5 -30.7	N	26 38.7 +00.6	19			
20	117 31.3 +00.2	S	03 28.8 -01.0	162 52.0 +00.0	S	16 07.3 -00.2	12 30.8 -30.8	N	26 39.3 +00.5	20			
21	132 31.5 +00.1	S	03 27.8 -01.0	177 52.0 +00.1	S	16 07.1 -00.3	27 00.0 -30.7	N	26 39.8 +00.4	21			
22	147 31.6 +00.2	S	03 26.8 -00.9	192 52.1 +00.0	S	16 06.8 -00.3	41 29.3 -30.8	N	26 40.2 +00.2	22			
23	162 31.8 +00.2	S	03 25.9 -01.0	207 52.1 +00.1	S	16 06.5 -00.3	55 58.5 -30.8	N	26 40.4 +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 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2			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 00'2 00'2 00'2 00'2 00'2 00'2			HP 54'2 54'2 54'2 54'2 54'3 54'3						
	SHA 009° 009° 008° 008° 008° 008°			SHA 054° 054° 054° 054° 053° 053°			SHA 273° 271° 269° 266° 264° 262°						
	Greenwich Culmination Time: 12:09			Greenwich Culmination Time: 09:08			Greenwich Culmination Time: 19:08						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	222 33.1 +00.5	S	20 17.7 -00.4	180 52.5 +01.9	S	06 19.1 -00.3	206 00.8 +02.2	S	15 41.7 -00.1	00			
01	237 33.6 +00.5	S	20 17.3 -00.4	195 54.4 +01.9	S	06 18.8 -00.2	221 03.0 +02.2	S	15 41.6 -00.1	01			
02	252 34.1 +00.5	S	20 16.9 -00.4	210 56.3 +01.9	S	06 18.6 -00.2	236 05.2 +02.2	S	15 41.5 -00.1	02			
03	267 34.6 +00.6	S	20 16.5 -00.4	225 58.2 +01.9	S	06 18.4 -00.3	251 07.4 +02.2	S	15 41.4 -00.1	03			
04	282 35.2 +00.5	S	20 16.1 -00.5	241 00.1 +01.9	S	06 18.1 -00.2	266 09.6 +02.2	S	15 41.3 +00.0	04			
05	297 35.7 +00.5	S	20 15.6 -00.4	256 02.0 +01.9	S	06 17.9 -00.2	281 11.8 +02.2	S	15 41.3 -00.1	05			
06	312 36.2 +00.5	S	20 15.2 -00.4	271 03.9 +01.9	S	06 17.7 -00.3	296 14.0 +02.2	S	15 41.2 -00.1	06			
07	327 36.7 +00.5	S	20 14.8 -00.4	286 05.8 +01.9	S	06 17.4 -00.2	311 16.2 +02.2	S	15 41.1 -00.1	07			
08	342 37.2 +00.6	S	20 14.4 -00.4	301 07.7 +01.9	S	06 17.2 -00.2	326 18.4 +02.2	S	15 41.0 -00.1	08			
09	357 37.8 +00.5	S	20 14.0 -00.4	316 09.6 +02.0	S	06 17.0 -00.3	341 20.6 +02.2	S	15 40.9 +00.0	09			
10	12 38.3 +00.5	S	20 13.6 -00.4	331 11.6 +01.9	S	06 16.7 -00.2	356 22.8 +02.2	S	15 40.9 -00.1	10			
11	27 38.8 +00.5	S	20 13.2 -00.4	346 13.5 +01.9	S	06 16.5 -00.2	11 25.0 +02.2	S	15 40.8 -00.1	11			
12	42 39.3 +00.5	S	20 12.8 -00.4	1 15.4 +01.9	S	06 16.3 -00.3	26 27.2 +02.2	S	15 40.7 -00.1	12			
13	57 39.8 +00.6	S	20 12.4 -00.5	16 17.3 +01.9	S	06 16.0 -00.2	41 29.4 +02.2	S	15 40.6 -00.1	13			
14	72 40.4 +00.5	S	20 11.9 -00.4	31 19.2 +01.9	S	06 15.8 -00.2	56 31.6 +02.2	S	15 40.5 +00.0	14			
15	87 40.9 +00.5	S	20 11.5 -00.4	46 21.1 +01.9	S	06 15.6 -00.3	71 33.8 +02.1	S	15 40.5 -00.1	15			
16	102 41.4 +00.5	S	20 11.1 -00.4	61 23.0 +01.9	S	06 15.3 -00.2	86 35.9 +02.2	S	15 40.4 -00.1	16			
17	117 41.9 +00.5	S	20 10.7 -00.4	76 24.9 +01.9	S	06 15.1 -00.2	101 38.1 +02.2	S	15 40.3 -00.1	17			
18	132 42.4 +00.6	S	20 10.3 -00.4	91 26.8 +01.9	S	06 14.9 -00.2	116 40.3 +02.2	S	15 40.2 -00.1	18			
19	147 43.0 +00.5	S	20 09.9 -00.4	106 28.7 +01.9	S	06 14.7 -00.3	131 42.5 +02.2	S	15 40.1 -00.1	19			
20	162 43.5 +00.5	S	20 09.5 -00.5	121 30.6 +01.9	S	06 14.4 -00.2	146 44.7 +02.2	S	15 40.0 +00.0	20			
21	177 44.0 +00.5	S	20 09.0 -00.4	136 32.5 +01.9	S	06 14.2 -00.2	161 46.9 +02.2	S	15 40.0 -00.1	21			
22	192 44.5 +00.5	S	20 08.6 -00.4	151 34.4 +01.9	S	06 14.0 -00.3	176 49.1 +02.2	S	15 39.9 -00.1	22			
23	207 45.0 +00.6	S	20 08.2 -00.4	166 36.3 +01.9	S	06 13.7 -00.2	191 51.3 +02.2	S	15 39.8 -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 00'1 00'1 00'1 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 054° 054° 054° 053° 053° 053°			SHA 012° 012° 012° 012° 012° 012°			SHA 037° 037° 037° 037° 037° 037°						
	Greenwich Culmination Time: 09:09			Greenwich Culmination Time: 11:54			Greenwich Culmination Time: 10:14						

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 32.0 +00.1	S	03 24.9 -01.0	222 52.2 +00.1	S	16 06.2 -00.3	70 27.7 -30.7	N	26 40.5 +00.0	00			
01	192 32.1 +00.2	S	03 23.9 -01.0	237 52.3 +00.0	S	16 05.9 -00.2	84 57.0 -30.8	N	26 40.5 -00.2	01			
02	207 32.3 +00.2	S	03 22.9 -01.0	252 52.3 +00.1	S	16 05.7 -00.3	99 26.2 -30.8	N	26 40.3 -00.3	02			
03	222 32.5 +00.1	S	03 21.9 -01.0	267 52.4 +00.0	S	16 05.4 -00.3	113 55.4 -30.9	N	26 40.0 -00.4	03			
04	237 32.6 +00.2	S	03 20.9 -00.9	282 52.4 +00.1	S	16 05.1 -00.3	128 24.5 -30.8	N	26 39.6 -00.6	04			
05	252 32.8 +00.2	S	03 20.0 -01.0	297 52.5 +00.0	S	16 04.8 -00.3	142 53.7 -30.8	N	26 39.0 -00.7	05			
06	267 33.0 +00.1	S	03 19.0 -01.0	312 52.5 +00.1	S	16 04.5 -00.2	157 22.9 -30.9	N	26 38.3 -00.8	06			
07	282 33.1 +00.2	S	03 18.0 -01.0	327 52.6 +00.1	S	16 04.3 -00.3	171 52.0 -30.8	N	26 37.5 -00.9	07			
08	297 33.3 +00.2	S	03 17.0 -01.0	342 52.7 +00.0	S	16 04.0 -00.3	186 21.2 -30.8	N	26 36.6 -01.1	08			
09	312 33.5 +00.1	S	03 16.0 -01.0	357 52.7 +00.1	S	16 03.7 -00.3	200 50.4 -30.9	N	26 35.5 -01.2	09			
10	327 33.6 +00.2	S	03 15.0 -00.9	12 52.8 +00.0	S	16 03.4 -00.3	215 19.5 -30.8	N	26 34.3 -01.3	10			
11	342 33.8 +00.2	S	03 14.1 -01.0	27 52.8 +00.1	S	16 03.1 -00.3	229 48.7 -30.9	N	26 33.0 -01.5	11			
12	357 34.0 +00.1	S	03 13.1 -01.0	42 52.9 +00.0	S	16 02.8 -00.3	244 17.8 -30.8	N	26 31.5 -01.6	12			
13	12 34.1 +00.2	S	03 12.1 -01.0	57 52.9 +00.1	S	16 02.5 -00.2	258 47.0 -30.9	N	26 29.9 -01.7	13			
14	27 34.3 +00.2	S	03 11.1 -01.0	72 53.0 +00.0	S	16 02.3 -00.3	273 16.1 -30.8	N	26 28.2 -01.8	14			
15	42 34.5 +00.1	S	03 10.1 -01.0	87 53.0 +00.0	S	16 02.0 -00.3	287 45.3 -30.9	N	26 26.4 -02.0	15			
16	57 34.6 +00.2	S	03 09.1 -01.0	102 53.0 +00.1	S	16 01.7 -00.3	302 14.4 -30.8	N	26 24.4 -02.1	16			
17	72 34.8 +00.2	S	03 08.1 -00.9	117 53.1 +00.0	S	16 01.4 -00.3	316 43.6 -30.9	N	26 22.3 -02.3	17			
18	87 35.0 +00.1	S	03 07.2 -01.0	132 53.1 +00.1	S	16 01.1 -00.3	331 12.7 -30.8	N	26 20.0 -02.3	18			
19	102 35.1 +00.2	S	03 06.2 -01.0	147 53.2 +00.0	S	16 00.8 -00.3	345 41.9 -30.8	N	26 17.7 -02.5	19			
20	117 35.3 +00.2	S	03 05.2 -01.0	162 53.2 +00.1	S	16 00.5 -00.3	0 11.1 -30.9	N	26 15.2 -02.7	20			
21	132 35.5 +00.1	S	03 04.2 -01.0	177 53.3 +00.0	S	16 00.2 -00.3	14 40.2 -30.8	N	26 12.5 -02.7	21			
22	147 35.6 +00.2	S	03 03.2 -01.0	192 53.3 +00.1	S	15 59.9 -00.3	29 09.4 -30.8	N	26 09.8 -02.9	22			
23	162 35.8 +00.2	S	03 02.2 -00.9	207 53.4 +00.0	S	15 59.6 -00.3	43 38.6 -30.8	N	26 06.9 -03.0	23			
UT	02 06 10 14 18 22			UT	02 06 10 14 18 22			UT	02 06 10 14 18 22				
SD	16'1 16'1 16'1 16'1 16'1 16'1			SD	00'2 00'2 00'2 00'2 00'2 00'2			SD	14'8 14'8 14'8 14'8 14'8 14'9				
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	54'3 54'4 54'4 54'4 54'5 54'5				
SHA	008° 008° 008° 007° 007° 007°			SHA	053° 053° 053° 053° 053° 052°			SHA	260° 258° 255° 253° 251° 249°				
Greenwich Culmination Time: 12:09				Greenwich Culmination Time: 09:08				Greenwich Culmination Time: 19:59					

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	222 45.6 +00.5	S	20 07.8 -00.4	181 38.2 +01.9	S	06 13.5 -00.2	206 53.5 +02.2	S	15 39.7 -00.1	00			
01	237 46.1 +00.5	S	20 07.4 -00.4	196 40.1 +01.9	S	06 13.3 -00.3	221 55.7 +02.2	S	15 39.6 +00.0	01			
02	252 46.6 +00.5	S	20 07.0 -00.5	211 42.0 +01.9	S	06 13.0 -00.2	236 57.9 +02.2	S	15 39.6 -00.1	02			
03	267 47.1 +00.5	S	20 06.5 -00.4	226 43.9 +01.9	S	06 12.8 -00.2	252 00.1 +02.2	S	15 39.5 -00.1	03			
04	282 47.6 +00.6	S	20 06.1 -00.4	241 45.8 +01.9	S	06 12.6 -00.3	267 02.3 +02.2	S	15 39.4 -00.1	04			
05	297 48.2 +00.5	S	20 05.7 -00.4	256 47.7 +01.9	S	06 12.3 -00.2	282 04.5 +02.2	S	15 39.3 -00.1	05			
06	312 48.7 +00.5	S	20 05.3 -00.4	271 49.6 +01.9	S	06 12.1 -00.2	297 06.7 +02.2	S	15 39.2 -00.1	06			
07	327 49.2 +00.5	S	20 04.9 -00.5	286 51.5 +01.9	S	06 11.9 -00.3	312 08.9 +02.2	S	15 39.1 +00.0	07			
08	342 49.7 +00.6	S	20 04.4 -00.4	301 53.4 +01.9	S	06 11.6 -00.2	327 11.1 +02.2	S	15 39.1 -00.1	08			
09	357 50.3 +00.5	S	20 04.0 -00.4	316 55.3 +01.9	S	06 11.4 -00.2	342 13.3 +02.2	S	15 39.0 -00.1	09			
10	12 50.8 +00.5	S	20 03.6 -00.4	331 57.2 +01.9	S	06 11.2 -00.3	357 15.5 +02.2	S	15 38.9 -00.1	10			
11	27 51.3 +00.5	S	20 03.2 -00.4	346 59.1 +02.0	S	06 10.9 -00.2	12 17.7 +02.2	S	15 38.8 -00.1	11			
12	42 51.8 +00.5	S	20 02.8 -00.5	2 01.1 +01.9	S	06 10.7 -00.2	27 19.9 +02.2	S	15 38.7 +00.0	12			
13	57 52.3 +00.6	S	20 02.3 -00.4	17 03.0 +01.9	S	06 10.5 -00.3	42 22.1 +02.2	S	15 38.7 -00.1	13			
14	72 52.9 +00.5	S	20 01.9 -00.4	32 04.9 +01.9	S	06 10.2 -00.2	57 24.3 +02.2	S	15 38.6 -00.1	14			
15	87 53.4 +00.5	S	20 01.5 -00.4	47 06.8 +01.9	S	06 10.0 -00.2	72 26.5 +02.2	S	15 38.5 -00.1	15			
16	102 53.9 +00.5	S	20 01.1 -00.4	62 08.7 +01.9	S	06 09.8 -00.3	87 28.7 +02.2	S	15 38.4 -00.1	16			
17	117 54.4 +00.6	S	20 00.7 -00.5	77 10.6 +01.9	S	06 09.5 -00.2	102 30.9 +02.1	S	15 38.3 +00.0	17			
18	132 55.0 +00.5	S	20 00.2 -00.4	92 12.5 +01.9	S	06 09.3 -00.2	117 33.0 +02.2	S	15 38.3 -00.1	18			
19	147 55.5 +00.5	S	19 59.8 -00.4	107 14.4 +01.9	S	06 09.1 -00.3	132 35.2 +02.2	S	15 38.2 -00.1	19			
20	162 56.0 +00.5	S	19 59.4 -00.4	122 16.3 +01.9	S	06 08.8 -00.2	147 37.4 +02.2	S	15 38.1 -00.1	20			
21	177 56.5 +00.5	S	19 59.0 -00.5	137 18.2 +01.9	S	06 08.6 -00.2	162 39.6 +02.2	S	15 38.0 -00.1	21			
22	192 57.0 +00.6	S	19 58.5 -00.4	152 20.1 +01.9	S	06 08.4 -00.3	177 41.8 +02.2	S	15 37.9 +00.0	22			
23	207 57.6 +00.5	S	19 58.1 -00.4	167 22.0 +01.9	S	06 08.1 -00.2	192 44.0 +02.2	S	15 37.9 -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	00'1 00'1 00'1 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	053° 053° 053° 053° 053° 052°			SHA	012° 012° 012° 012° 012° 012°			SHA	037° 037° 037° 037° 037° 037°				
Greenwich Culmination Time: 09:08				Greenwich Culmination Time: 11:51				Greenwich Culmination Time: 10:10					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 36.0 +00.2	S 03 01.3 -01.0	222 53.4 +00.0	S 15 59.3 -00.3	58 07.8 -30.8	N 26 03.9 -03.2	00						
01	192 36.2 +00.1	S 03 00.3 -01.0	237 53.4 +00.1	S 15 59.0 -00.3	72 37.0 -30.8	N 26 00.7 -03.2	01						
02	207 36.3 +00.2	S 02 59.3 -01.0	252 53.5 +00.0	S 15 58.7 -00.3	87 06.2 -30.7	N 25 57.5 -03.4	02						
03	222 36.5 +00.2	S 02 58.3 -01.0	267 53.5 +00.1	S 15 58.4 -00.3	101 35.5 -30.8	N 25 54.1 -03.6	03						
04	237 36.7 +00.1	S 02 57.3 -01.0	282 53.6 +00.0	S 15 58.1 -00.3	116 04.7 -30.8	N 25 50.5 -03.6	04						
05	252 36.8 +00.2	S 02 56.3 -01.0	297 53.6 +00.0	S 15 57.8 -00.3	130 33.9 -30.7	N 25 46.9 -03.8	05						
06	267 37.0 +00.2	S 02 55.3 -00.9	312 53.6 +00.1	S 15 57.5 -00.3	145 03.2 -30.7	N 25 43.1 -03.9	06						
07	282 37.2 +00.1	S 02 54.4 -01.0	327 53.7 +00.0	S 15 57.2 -00.3	159 32.5 -30.7	N 25 39.2 -04.1	07						
08	297 37.3 +00.2	S 02 53.4 -01.0	342 53.7 +00.0	S 15 56.9 -00.3	174 01.8 -30.7	N 25 35.1 -04.2	08						
09	312 37.5 +00.2	S 02 52.4 -01.0	357 53.7 +00.1	S 15 56.6 -00.3	188 31.1 -30.7	N 25 30.9 -04.3	09						
10	327 37.7 +00.2	S 02 51.4 -01.0	12 53.8 +00.0	S 15 56.3 -00.3	203 00.4 -30.6	N 25 26.6 -04.4	10						
11	342 37.9 +00.1	S 02 50.4 -01.0	27 53.8 +00.0	S 15 56.0 -00.3	217 29.8 -30.6	N 25 22.2 -04.5	11						
12	357 38.0 +00.2	S 02 49.4 -01.0	42 53.8 +00.1	S 15 55.7 -00.3	231 59.2 -30.7	N 25 17.7 -04.7	12						
13	12 38.2 +00.2	S 02 48.4 -00.9	57 53.9 +00.0	S 15 55.4 -00.3	246 28.5 -30.6	N 25 13.0 -04.8	13						
14	27 38.4 +00.1	S 02 47.5 -01.0	72 53.9 +00.0	S 15 55.1 -00.3	260 57.9 -30.5	N 25 08.2 -05.0	14						
15	42 38.5 +00.2	S 02 46.5 -01.0	87 53.9 +00.0	S 15 54.8 -00.3	275 27.4 -30.6	N 25 03.2 -05.0	15						
16	57 38.7 +00.2	S 02 45.5 -01.0	102 53.9 +00.1	S 15 54.5 -00.3	289 56.8 -30.5	N 24 58.2 -05.2	16						
17	72 38.9 +00.1	S 02 44.5 -01.0	117 54.0 +00.0	S 15 54.2 -00.3	304 26.3 -30.5	N 24 53.0 -05.3	17						
18	87 39.0 +00.2	S 02 43.5 -01.0	132 54.0 +00.0	S 15 53.9 -00.4	318 55.8 -30.5	N 24 47.7 -05.4	18						
19	102 39.2 +00.2	S 02 42.5 -01.0	147 54.0 +00.1	S 15 53.5 -00.3	333 25.3 -30.5	N 24 42.3 -05.6	19						
20	117 39.4 +00.2	S 02 41.5 -00.9	162 54.1 +00.0	S 15 53.2 -00.3	347 54.8 -30.4	N 24 36.7 -05.7	20						
21	132 39.6 +00.1	S 02 40.6 -01.0	177 54.1 +00.0	S 15 52.9 -00.3	2 24.4 -30.4	N 24 31.0 -05.8	21						
22	147 39.7 +00.2	S 02 39.6 -01.0	192 54.1 +00.0	S 15 52.6 -00.3	16 54.0 -30.4	N 24 25.2 -05.9	22						
23	162 39.9 +00.2	S 02 38.6 -01.0	207 54.1 +00.0	S 15 52.3 -00.3	31 23.6 -30.4	N 24 19.3 -06.0	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'1 16'1 16'1 16'1 16'1 16'1		SD 00'2 00'2 00'2 00'2 00'2 00'2		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 00'2 00'2 00'2 00'2 00'2 00'2		HP 54'6 54'7 54'7 54'8 54'9 54'9								
	SHA 007° 007° 007° 006° 006° 006°		SHA 052° 052° 052° 052° 052° 051°		SHA 246° 244° 242° 240° 238° 235°								
	Greenwich Culmination Time: 12:09		Greenwich Culmination Time: 09:08		Greenwich Culmination Time: 20:50								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	222 58.1 +00.5	S 19 57.7 -00.4	182 23.9 +01.9	S 06 07.9 -00.2	207 46.2 +02.2	S 15 37.8 -00.1	00						
01	237 58.6 +00.5	S 19 57.3 -00.5	197 25.8 +01.9	S 06 07.7 -00.3	222 48.4 +02.2	S 15 37.7 -00.1	01						
02	252 59.1 +00.6	S 19 56.8 -00.4	212 27.7 +01.9	S 06 07.4 -00.2	237 50.6 +02.2	S 15 37.6 -00.1	02						
03	267 59.7 +00.5	S 19 56.4 -00.4	227 29.6 +01.9	S 06 07.2 -00.2	252 52.8 +02.2	S 15 37.5 -00.1	03						
04	283 00.2 +00.5	S 19 56.0 -00.4	242 31.5 +01.9	S 06 07.0 -00.3	267 55.0 +02.2	S 15 37.4 +00.0	04						
05	298 00.7 +00.5	S 19 55.6 -00.5	257 33.4 +01.9	S 06 06.7 -00.2	282 57.2 +02.2	S 15 37.4 -00.1	05						
06	313 01.2 +00.6	S 19 55.1 -00.4	272 35.3 +01.9	S 06 06.5 -00.2	297 59.4 +02.2	S 15 37.3 -00.1	06						
07	328 01.8 +00.5	S 19 54.7 -00.4	287 37.2 +01.9	S 06 06.3 -00.3	313 01.6 +02.2	S 15 37.2 -00.1	07						
08	343 02.3 +00.5	S 19 54.3 -00.4	302 39.1 +01.9	S 06 06.0 -00.2	328 03.8 +02.2	S 15 37.1 -00.1	08						
09	358 02.8 +00.5	S 19 53.9 -00.5	317 41.0 +01.9	S 06 05.8 -00.2	343 06.0 +02.2	S 15 37.0 +00.0	09						
10	13 03.3 +00.6	S 19 53.4 -00.4	332 42.9 +02.0	S 06 05.6 -00.3	358 08.2 +02.2	S 15 37.0 -00.1	10						
11	28 03.9 +00.5	S 19 53.0 -00.4	347 44.9 +01.9	S 06 05.3 -00.2	13 10.4 +02.2	S 15 36.9 -00.1	11						
12	43 04.4 +00.5	S 19 52.6 -00.5	2 46.8 +01.9	S 06 05.1 -00.2	28 12.6 +02.2	S 15 36.8 -00.1	12						
13	58 04.9 +00.5	S 19 52.1 -00.4	17 48.7 +01.9	S 06 04.9 -00.3	43 14.8 +02.2	S 15 36.7 -00.1	13						
14	73 05.4 +00.6	S 19 51.7 -00.4	32 50.6 +01.9	S 06 04.6 -00.2	58 17.0 +02.2	S 15 36.6 +00.0	14						
15	88 06.0 +00.5	S 19 51.3 -00.5	47 52.5 +01.9	S 06 04.4 -00.2	73 19.2 +02.2	S 15 36.6 -00.1	15						
16	103 06.5 +00.5	S 19 50.8 -00.4	62 54.4 +01.9	S 06 04.2 -00.3	88 21.4 +02.2	S 15 36.5 -00.1	16						
17	118 07.0 +00.6	S 19 50.4 -00.4	77 56.3 +01.9	S 06 03.9 -00.2	103 23.6 +02.2	S 15 36.4 -00.1	17						
18	133 07.6 +00.5	S 19 50.0 -00.4	92 58.2 +01.9	S 06 03.7 -00.2	118 25.8 +02.2	S 15 36.3 -00.1	18						
19	148 08.1 +00.5	S 19 49.6 -00.5	108 00.1 +01.9	S 06 03.5 -00.3	133 28.0 +02.2	S 15 36.2 +00.0	19						
20	163 08.6 +00.5	S 19 49.1 -00.4	123 02.0 +01.9	S 06 03.2 -00.2	148 30.2 +02.2	S 15 36.2 -00.1	20						
21	178 09.1 +00.6	S 19 48.7 -00.4	138 03.9 +01.9	S 06 03.0 -00.2	163 32.4 +02.2	S 15 36.1 -00.1	21						
22	193 09.7 +00.5	S 19 48.3 -00.5	153 05.8 +01.9	S 06 02.8 -00.3	178 34.6 +02.2	S 15 36.0 -00.1	22						
23	208 10.2 +00.5	S 19 47.8 -00.4	168 07.7 +01.9	S 06 02.5 -00.2	193 36.8 +02.2	S 15 35.9 -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 00'1 00'1 00'1 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 052° 052° 052° 052° 052° 052°		SHA 012° 012° 012° 012° 012° 012°		SHA 037° 037° 037° 037° 037° 037°								
	Greenwich Culmination Time: 09:07		Greenwich Culmination Time: 11:48		Greenwich Culmination Time: 10:07								



UT	Sun				Venus				Moon				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	177 40.1 +00.2	S	02 37.6 -01.0	222 54.1 +00.1	S	15 52.0 -00.3	45 53.2 -30.3	N	24 13.3 -06.2	00							
01	192 40.3 +00.1	S	02 36.6 -01.0	237 54.2 +00.0	S	15 51.7 -00.4	60 22.9 -30.3	N	24 07.1 -06.3	01							
02	207 40.4 +00.2	S	02 35.6 -01.0	252 54.2 +00.0	S	15 51.3 -00.3	74 52.6 -30.3	N	24 00.8 -06.4	02							
03	222 40.6 +00.2	S	02 34.6 -00.9	267 54.2 +00.0	S	15 51.0 -00.3	89 22.3 -30.3	N	23 54.4 -06.6	03							
04	237 40.8 +00.1	S	02 33.7 -01.0	282 54.2 +00.1	S	15 50.7 -00.3	103 52.0 -30.2	N	23 47.8 -06.6	04							
05	252 40.9 +00.2	S	02 32.7 -01.0	297 54.3 +00.0	S	15 50.4 -00.3	118 21.8 -30.2	N	23 41.2 -06.8	05							
06	267 41.1 +00.2	S	02 31.7 -01.0	312 54.3 +00.0	S	15 50.1 -00.4	132 51.6 -30.2	N	23 34.4 -06.9	06							
07	282 41.3 +00.2	S	02 30.7 -01.0	327 54.3 +00.0	S	15 49.7 -00.3	147 21.4 -30.1	N	23 27.5 -07.0	07							
08	297 41.5 +00.1	S	02 29.7 -01.0	342 54.3 +00.0	S	15 49.4 -00.3	161 51.3 -30.1	N	23 20.5 -07.1	08							
09	312 41.6 +00.2	S	02 28.7 -01.0	357 54.3 +00.0	S	15 49.1 -00.3	176 21.2 -30.1	N	23 13.4 -07.3	09							
10	327 41.8 +00.2	S	02 27.7 -00.9	12 54.3 +00.1	S	15 48.8 -00.3	190 51.1 -30.0	N	23 06.1 -07.4	10							
11	342 42.0 +00.2	S	02 26.8 -01.0	27 54.4 +00.0	S	15 48.5 -00.4	205 21.1 -30.0	N	22 58.7 -07.4	11							
12	357 42.2 +00.1	S	02 25.8 -01.0	42 54.4 +00.0	S	15 48.1 -00.3	219 51.1 -30.0	N	22 51.3 -07.6	12							
13	12 42.3 +00.2	S	02 24.8 -01.0	57 54.4 +00.0	S	15 47.8 -00.3	234 21.1 -30.0	N	22 43.7 -07.8	13							
14	27 42.5 +00.2	S	02 23.8 -01.0	72 54.4 +00.0	S	15 47.5 -00.4	248 51.1 -29.9	N	22 35.9 -07.8	14							
15	42 42.7 +00.1	S	02 22.8 -01.0	87 54.4 +00.0	S	15 47.1 -00.3	263 21.2 -29.9	N	22 28.1 -07.9	15							
16	57 42.8 +00.2	S	02 21.8 -01.0	102 54.4 +00.0	S	15 46.8 -00.3	277 51.3 -29.8	N	22 20.2 -08.1	16							
17	72 43.0 +00.2	S	02 20.8 -01.0	117 54.4 +00.0	S	15 46.5 -00.3	292 21.5 -29.9	N	22 12.1 -08.2	17							
18	87 43.2 +00.2	S	02 19.8 -00.9	132 54.4 +00.0	S	15 46.2 -00.4	306 51.6 -29.7	N	22 03.9 -08.3	18							
19	102 43.4 +00.1	S	02 18.9 -01.0	147 54.4 +00.1	S	15 45.8 -00.3	321 21.9 -29.8	N	21 55.6 -08.4	19							
20	117 43.5 +00.2	S	02 17.9 -01.0	162 54.5 +00.0	S	15 45.5 -00.3	335 52.1 -29.7	N	21 47.2 -08.5	20							
21	132 43.7 +00.2	S	02 16.9 -01.0	177 54.5 +00.0	S	15 45.2 -00.4	350 22.4 -29.7	N	21 38.7 -08.6	21							
22	147 43.9 +00.2	S	02 15.9 -01.0	192 54.5 +00.0	S	15 44.8 -00.3	4 52.7 -29.7	N	21 30.1 -08.8	22							
23	162 44.1 +00.1	S	02 14.9 -01.0	207 54.5 +00.0	S	15 44.5 -00.3	19 23.0 -29.6	N	21 21.3 -08.8	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	00'2	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	00'2	00'2	00'2	00'2	00'2	00'2	HP			
SHA	006°	006°	006°	006°	005°	005°	SHA	051°	051°	051°	051°	051°	050°	SHA			
Greenwich Culmination Time: 12:09						Greenwich Culmination Time: 09:08						Greenwich Culmination Time: 21:39					

  

UT	Mars				Jupiter				Saturn				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	223 10.7 +00.5	S	19 47.4 -00.4	183 09.6 +01.9	S	06 02.3 -00.2	208 39.0 +02.2	S	15 35.8 +00.0	00							
01	238 11.2 +00.6	S	19 47.0 -00.5	198 11.5 +01.9	S	06 02.1 -00.3	223 41.2 +02.2	S	15 35.8 -00.1	01							
02	253 11.8 +00.5	S	19 46.5 -00.4	213 13.4 +01.9	S	06 01.8 -00.2	238 43.4 +02.2	S	15 35.7 -00.1	02							
03	268 12.3 +00.5	S	19 46.1 -00.4	228 15.3 +01.9	S	06 01.6 -00.2	253 45.6 +02.2	S	15 35.6 -00.1	03							
04	283 12.8 +00.6	S	19 45.7 -00.5	243 17.2 +01.9	S	06 01.4 -00.3	268 47.8 +02.2	S	15 35.5 -00.1	04							
05	298 13.4 +00.5	S	19 45.2 -00.4	258 19.1 +01.9	S	06 01.1 -00.2	283 50.0 +02.2	S	15 35.4 +00.0	05							
06	313 13.9 +00.5	S	19 44.8 -00.4	273 21.0 +02.0	S	06 00.9 -00.2	298 52.2 +02.2	S	15 35.4 -00.1	06							
07	328 14.4 +00.5	S	19 44.4 -00.5	288 23.0 +01.9	S	06 00.7 -00.2	313 54.4 +02.2	S	15 35.3 -00.1	07							
08	343 14.9 +00.6	S	19 43.9 -00.4	303 24.9 +01.9	S	06 00.5 -00.3	328 56.6 +02.2	S	15 35.2 -00.1	08							
09	358 15.5 +00.5	S	19 43.5 -00.5	318 26.8 +01.9	S	06 00.2 -00.2	343 58.8 +02.2	S	15 35.1 -00.1	09							
10	13 16.0 +00.5	S	19 43.0 -00.4	333 28.7 +01.9	S	05 60.0 -00.2	359 01.0 +02.2	S	15 35.0 +00.0	10							
11	28 16.5 +00.5	S	19 42.6 -00.4	348 30.6 +01.9	S	05 59.8 -00.3	14 03.2 +02.2	S	15 35.0 -00.1	11							
12	43 17.0 +00.6	S	19 42.2 -00.5	3 32.5 +01.9	S	05 59.5 -00.2	29 05.4 +02.2	S	15 34.9 -00.1	12							
13	58 17.6 +00.5	S	19 41.7 -00.4	18 34.4 +01.9	S	05 59.3 -00.2	44 07.6 +02.2	S	15 34.8 -00.1	13							
14	73 18.1 +00.5	S	19 41.3 -00.4	33 36.3 +01.9	S	05 59.1 -00.3	59 09.8 +02.2	S	15 34.7 -00.1	14							
15	88 18.6 +00.6	S	19 40.9 -00.5	48 38.2 +01.9	S	05 58.8 -00.2	74 12.0 +02.2	S	15 34.6 +00.0	15							
16	103 19.2 +00.5	S	19 40.4 -00.4	63 40.1 +01.9	S	05 58.6 -00.2	89 14.2 +02.2	S	15 34.6 -00.1	16							
17	118 19.7 +00.5	S	19 40.0 -00.5	78 42.0 +01.9	S	05 58.4 -00.3	104 16.4 +02.2	S	15 34.5 -00.1	17							
18	133 20.2 +00.6	S	19 39.5 -00.4	93 43.9 +01.9	S	05 58.1 -00.2	119 18.6 +02.2	S	15 34.4 -00.1	18							
19	148 20.8 +00.5	S	19 39.1 -00.4	108 45.8 +01.9	S	05 57.9 -00.2	134 20.8 +02.2	S	15 34.3 -00.1	19							
20	163 21.3 +00.5	S	19 38.7 -00.5	123 47.7 +01.9	S	05 57.7 -00.3	149 23.0 +02.2	S	15 34.2 +00.0	20							
21	178 21.8 +00.5	S	19 38.2 -00.4	138 49.6 +01.9	S	05 57.4 -00.2	164 25.2 +02.2	S	15 34.2 -00.1	21							
22	193 22.3 +00.6	S	19 37.8 -00.5	153 51.5 +01.9	S	05 57.2 -00.2	179 27.4 +02.2	S	15 34.1 -00.1	22							
23	208 22.9 +00.5	S	19 37.3 -00.4	168 53.4 +01.9	S	05 57.0 -00.3	194 29.6 +02.2	S	15 34.0 -00.1	23							
UT	02	06	10	14	18	22	UT	02	06	10	14	18	22	UT			
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			
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	052°	051°	051°	051°	051°	051°	SHA	012°	012°	011°	011°	011°	011°	SHA			
Greenwich Culmination Time: 09:06						Greenwich Culmination Time: 11:45						Greenwich Culmination Time: 10:03					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 44.2 +00.2	S 02 13.9 -01.0	222 54.5 +00.0	S 15 44.2 -00.4	33 53.4 -29.6	N 21 12.5 -09.0	00						
01	192 44.4 +00.2	S 02 12.9 -00.9	237 54.5 +00.0	S 15 43.8 -00.3	48 23.8 -29.5	N 21 03.5 -09.0	01						
02	207 44.6 +00.2	S 02 12.0 -01.0	252 54.5 +00.0	S 15 43.5 -00.4	62 54.3 -29.5	N 20 54.5 -09.2	02						
03	222 44.8 +00.1	S 02 11.0 -01.0	267 54.5 +00.0	S 15 43.1 -00.3	77 24.8 -29.5	N 20 45.3 -09.3	03						
04	237 44.9 +00.2	S 02 10.0 -01.0	282 54.5 +00.0	S 15 42.8 -00.3	91 55.3 -29.4	N 20 36.0 -09.4	04						
05	252 45.1 +00.2	S 02 09.0 -01.0	297 54.5 +00.0	S 15 42.5 -00.4	106 25.9 -29.5	N 20 26.6 -09.5	05						
06	267 45.3 +00.2	S 02 08.0 -01.0	312 54.5 +00.0	S 15 42.1 -00.3	120 56.4 -29.3	N 20 17.1 -09.6	06						
07	282 45.5 +00.1	S 02 07.0 -01.0	327 54.5 +00.0	S 15 41.8 -00.4	135 27.1 -29.4	N 20 07.5 -09.7	07						
08	297 45.6 +00.2	S 02 06.0 -01.0	342 54.5 +00.0	S 15 41.4 -00.3	149 57.7 -29.3	N 19 57.8 -09.8	08						
09	312 45.8 +00.2	S 02 05.0 -00.9	357 54.5 +00.0	S 15 41.1 -00.3	164 28.4 -29.3	N 19 48.0 -09.9	09						
10	327 46.0 +00.2	S 02 04.1 -01.0	12 54.5 +00.0	S 15 40.8 -00.4	178 59.1 -29.2	N 19 38.1 -10.0	10						
11	342 46.2 +00.1	S 02 03.1 -01.0	27 54.5 +00.0	S 15 40.4 -00.3	193 29.9 -29.2	N 19 28.1 -10.1	11						
12	357 46.3 +00.2	S 02 02.1 -01.0	42 54.5 +00.0	S 15 40.1 -00.4	208 00.7 -29.2	N 19 18.0 -10.3	12						
13	12 46.5 +00.2	S 02 01.1 -01.0	57 54.5 +00.0	S 15 39.7 -00.3	222 31.5 -29.1	N 19 07.7 -10.3	13						
14	27 46.7 +00.2	S 02 00.1 -01.0	72 54.5 +00.0	S 15 39.4 -00.4	237 02.4 -29.1	N 18 57.4 -10.4	14						
15	42 46.9 +00.2	S 01 59.1 -01.0	87 54.5 +00.0	S 15 39.0 -00.3	251 33.3 -29.0	N 18 47.0 -10.5	15						
16	57 47.1 +00.1	S 01 58.1 -01.0	102 54.5 +00.0	S 15 38.7 -00.4	266 04.3 -29.1	N 18 36.5 -10.6	16						
17	72 47.2 +00.2	S 01 57.1 -00.9	117 54.5 +00.0	S 15 38.3 -00.3	280 35.2 -29.0	N 18 25.9 -10.8	17						
18	87 47.4 +00.2	S 01 56.2 -01.0	132 54.5 +00.0	S 15 38.0 -00.4	295 06.2 -28.9	N 18 15.1 -10.8	18						
19	102 47.6 +00.2	S 01 55.2 -01.0	147 54.5 +00.0	S 15 37.6 -00.3	309 37.3 -29.0	N 18 04.3 -10.9	19						
20	117 47.8 +00.1	S 01 54.2 -01.0	162 54.5 +00.0	S 15 37.3 -00.4	324 08.3 -28.9	N 17 53.4 -11.0	20						
21	132 47.9 +00.2	S 01 53.2 -01.0	177 54.5 +00.0	S 15 36.9 -00.3	338 39.4 -28.8	N 17 42.4 -11.1	21						
22	147 48.1 +00.2	S 01 52.2 -01.0	192 54.4 +00.0	S 15 36.6 -00.4	353 10.6 -28.8	N 17 31.3 -11.2	22						
23	162 48.3 +00.2	S 01 51.2 -01.0	207 54.4 +00.0	S 15 36.2 -00.3	7 41.8 -28.8	N 17 20.1 -11.2	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 00'2 00'2 00'2 00'2 00'2 00'2		SD 15'1 15'2 15'2 15'2 15'2 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 55'5 55'6 55'7 55'8 55'9 56'0								
	SHA 005° 005° 005° 005° 004° 004°		SHA 050° 050° 050° 050° 050° 049°		SHA 220° 218° 216° 214° 212° 210°								
	Greenwich Culmination Time: 12:08		Greenwich Culmination Time: 09:08		Greenwich Culmination Time: 22:28								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	223 23.4 +00.5	S 19 36.9 -00.4	183 55.3 +01.9	S 05 56.7 -00.2	209 31.8 +02.2	S 15 33.9 -00.1	00						
01	238 23.9 +00.6	S 19 36.5 -00.5	198 57.2 +02.0	S 05 56.5 -00.2	224 34.0 +02.2	S 15 33.8 +00.0	01						
02	253 24.5 +00.5	S 19 36.0 -00.4	213 59.2 +01.9	S 05 56.3 -00.3	239 36.2 +02.2	S 15 33.8 -00.1	02						
03	268 25.0 +00.5	S 19 35.6 -00.5	229 01.1 +01.9	S 05 56.0 -00.2	254 38.4 +02.2	S 15 33.7 -00.1	03						
04	283 25.5 +00.6	S 19 35.1 -00.4	244 03.0 +01.9	S 05 55.8 -00.2	269 40.6 +02.2	S 15 33.6 -00.1	04						
05	298 26.1 +00.5	S 19 34.7 -00.5	259 04.9 +01.9	S 05 55.6 -00.3	284 42.8 +02.2	S 15 33.5 -00.1	05						
06	313 26.6 +00.5	S 19 34.2 -00.4	274 06.8 +01.9	S 05 55.3 -00.2	299 45.0 +02.2	S 15 33.4 +00.0	06						
07	328 27.1 +00.6	S 19 33.8 -00.4	289 08.7 +01.9	S 05 55.1 -00.2	314 47.2 +02.2	S 15 33.4 -00.1	07						
08	343 27.7 +00.5	S 19 33.4 -00.5	304 10.6 +01.9	S 05 54.9 -00.3	329 49.4 +02.2	S 15 33.3 -00.1	08						
09	358 28.2 +00.5	S 19 32.9 -00.4	319 12.5 +01.9	S 05 54.6 -00.2	344 51.6 +02.2	S 15 33.2 -00.1	09						
10	13 28.7 +00.5	S 19 32.5 -00.5	334 14.4 +01.9	S 05 54.4 -00.2	359 53.8 +02.2	S 15 33.1 -00.1	10						
11	28 29.2 +00.6	S 19 32.0 -00.4	349 16.3 +01.9	S 05 54.2 -00.3	14 56.0 +02.2	S 15 33.0 +00.0	11						
12	43 29.8 +00.5	S 19 31.6 -00.5	4 18.2 +01.9	S 05 53.9 -00.2	29 58.2 +02.2	S 15 33.0 -00.1	12						
13	58 30.3 +00.5	S 19 31.1 -00.4	19 20.1 +01.9	S 05 53.7 -00.2	45 00.4 +02.2	S 15 32.9 -00.1	13						
14	73 30.8 +00.6	S 19 30.7 -00.5	34 22.0 +01.9	S 05 53.5 -00.3	60 02.6 +02.2	S 15 32.8 -00.1	14						
15	88 31.4 +00.5	S 19 30.2 -00.4	49 23.9 +01.9	S 05 53.2 -00.2	75 04.8 +02.2	S 15 32.7 -00.1	15						
16	103 31.9 +00.5	S 19 29.8 -00.5	64 25.8 +01.9	S 05 53.0 -00.2	90 07.0 +02.2	S 15 32.6 +00.0	16						
17	118 32.4 +00.6	S 19 29.3 -00.4	79 27.7 +01.9	S 05 52.8 -00.3	105 09.2 +02.2	S 15 32.6 -00.1	17						
18	133 33.0 +00.5	S 19 28.9 -00.4	94 29.6 +02.0	S 05 52.5 -00.2	120 11.4 +02.2	S 15 32.5 -00.1	18						
19	148 33.5 +00.5	S 19 28.5 -00.5	109 31.6 +01.9	S 05 52.3 -00.2	135 13.6 +02.2	S 15 32.4 -00.1	19						
20	163 34.0 +00.6	S 19 28.0 -00.4	124 33.5 +01.9	S 05 52.1 -00.3	150 15.8 +02.2	S 15 32.3 -00.1	20						
21	178 34.6 +00.5	S 19 27.6 -00.5	139 35.4 +01.9	S 05 51.8 -00.2	165 18.0 +02.2	S 15 32.2 +00.0	21						
22	193 35.1 +00.5	S 19 27.1 -00.4	154 37.3 +01.9	S 05 51.6 -00.2	180 20.2 +02.2	S 15 32.2 -00.1	22						
23	208 35.6 +00.6	S 19 26.7 -00.5	169 39.2 +01.9	S 05 51.4 -00.3	195 22.4 +02.2	S 15 32.1 -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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 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 051° 051° 050° 050° 050° 050°		SHA 011° 011° 011° 011° 011° 011°		SHA 037° 037° 037° 037° 037° 037°								
	Greenwich Culmination Time: 09:06		Greenwich Culmination Time: 11:42		Greenwich Culmination Time: 10:00								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 48.5 +00.1	S 01	50.2 -01.0	222 54.4 +00.0	S 15	35.9 -00.4	22 13.0 -28.8	N 17	08.9 -11.4	00			
01	192 48.6 +00.2	S 01	49.2 -00.9	237 54.4 +00.0	S 15	35.5 -00.3	36 44.2 -28.7	N 16	57.5 -11.5	01			
02	207 48.8 +00.2	S 01	48.3 -01.0	252 54.4 +00.0	S 15	35.2 -00.4	51 15.5 -28.7	N 16	46.0 -11.5	02			
03	222 49.0 +00.2	S 01	47.3 -01.0	267 54.4 +00.0	S 15	34.8 -00.4	65 46.8 -28.7	N 16	34.5 -11.7	03			
04	237 49.2 +00.2	S 01	46.3 -01.0	282 54.4 +00.0	S 15	34.4 -00.3	80 18.1 -28.6	N 16	22.8 -11.7	04			
05	252 49.4 +00.1	S 01	45.3 -01.0	297 54.4 +00.0	S 15	34.1 -00.4	94 49.5 -28.7	N 16	11.1 -11.8	05			
06	267 49.5 +00.2	S 01	44.3 -01.0	312 54.4 -00.1	S 15	33.7 -00.3	109 20.8 -28.5	N 15	59.3 -11.9	06			
07	282 49.7 +00.2	S 01	43.3 -01.0	327 54.3 +00.0	S 15	33.4 -00.4	123 52.3 -28.6	N 15	47.4 -12.0	07			
08	297 49.9 +00.2	S 01	42.3 -01.0	342 54.3 +00.0	S 15	33.0 -00.4	138 23.7 -28.5	N 15	35.4 -12.1	08			
09	312 50.1 +00.1	S 01	41.3 -00.9	357 54.3 +00.0	S 15	32.6 -00.3	152 55.2 -28.5	N 15	23.3 -12.2	09			
10	327 50.2 +00.2	S 01	40.4 -01.0	12 54.3 +00.0	S 15	32.3 -00.4	167 26.7 -28.4	N 15	11.1 -12.2	10			
11	342 50.4 +00.2	S 01	39.4 -01.0	27 54.3 +00.0	S 15	31.9 -00.3	181 58.3 -28.5	N 14	58.9 -12.3	11			
12	357 50.6 +00.2	S 01	38.4 -01.0	42 54.3 -00.1	S 15	31.6 -00.4	196 29.8 -28.4	N 14	46.6 -12.4	12			
13	12 50.8 +00.2	S 01	37.4 -01.0	57 54.2 +00.0	S 15	31.2 -00.4	211 01.4 -28.4	N 14	34.2 -12.5	13			
14	27 51.0 +00.1	S 01	36.4 -01.0	72 54.2 +00.0	S 15	30.8 -00.3	225 33.0 -28.3	N 14	21.7 -12.6	14			
15	42 51.1 +00.2	S 01	35.4 -01.0	87 54.2 +00.0	S 15	30.5 -00.4	240 04.7 -28.3	N 14	09.1 -12.6	15			
16	57 51.3 +00.2	S 01	34.4 -01.0	102 54.2 +00.0	S 15	30.1 -00.4	254 36.4 -28.3	N 13	56.5 -12.7	16			
17	72 51.5 +00.2	S 01	33.4 -01.0	117 54.2 -00.1	S 15	29.7 -00.3	269 08.1 -28.3	N 13	43.8 -12.8	17			
18	87 51.7 +00.2	S 01	32.4 -00.9	132 54.1 +00.0	S 15	29.4 -00.4	283 39.8 -28.2	N 13	31.0 -12.9	18			
19	102 51.9 +00.1	S 01	31.5 -01.0	147 54.1 +00.0	S 15	29.0 -00.4	298 11.6 -28.3	N 13	18.1 -13.0	19			
20	117 52.0 +00.2	S 01	30.5 -01.0	162 54.1 +00.0	S 15	28.6 -00.4	312 43.3 -28.2	N 13	05.1 -13.0	20			
21	132 52.2 +00.2	S 01	29.5 -01.0	177 54.1 +00.0	S 15	28.2 -00.3	327 15.1 -28.2	N 12	52.1 -13.1	21			
22	147 52.4 +00.2	S 01	28.5 -01.0	192 54.1 -00.1	S 15	27.9 -00.4	341 46.9 -28.1	N 12	39.0 -13.1	22			
23	162 52.6 +00.1	S 01	27.5 -01.0	207 54.0 +00.0	S 15	27.5 -00.4	356 18.8 -28.1	N 12	25.9 -13.3	23			
<b>UT 02 06 10 14 18 22</b> 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 004° 004° 004° 004° 004° 003° Greenwich Culmination Time: 12:08				<b>UT 02 06 10 14 18 22</b> SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 049° 049° 049° 049° 049° 048° Greenwich Culmination Time: 09:08				<b>UT 02 06 10 14 18 22</b> SD 15'3 15'3 15'4 15'4 15'4 15'4 HP 56'1 56'3 56'4 56'5 56'6 56'7 SHA 208° 206° 203° 201° 199° 197° Greenwich Culmination Time: 23:15					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	223 36.2 +00.5	S 19	26.2 -00.4	184 41.1 +01.9	S 05	51.1 -00.2	210 24.6 +02.2	S 15	32.0 -00.1	00			
01	238 36.7 +00.5	S 19	25.8 -00.5	199 43.0 +01.9	S 05	50.9 -00.2	225 26.8 +02.3	S 15	31.9 -00.1	01			
02	253 37.2 +00.6	S 19	25.3 -00.4	214 44.9 +01.9	S 05	50.7 -00.2	240 29.1 +02.2	S 15	31.8 +00.0	02			
03	268 37.8 +00.5	S 19	24.9 -00.5	229 46.8 +01.9	S 05	50.5 -00.3	255 31.3 +02.2	S 15	31.8 -00.1	03			
04	283 38.3 +00.5	S 19	24.4 -00.4	244 48.7 +01.9	S 05	50.2 -00.2	270 33.5 +02.2	S 15	31.7 -00.1	04			
05	298 38.8 +00.6	S 19	24.0 -00.5	259 50.6 +01.9	S 05	50.0 -00.2	285 35.7 +02.2	S 15	31.6 -00.1	05			
06	313 39.4 +00.5	S 19	23.5 -00.4	274 52.5 +01.9	S 05	49.8 -00.3	300 37.9 +02.2	S 15	31.5 -00.1	06			
07	328 39.9 +00.5	S 19	23.1 -00.5	289 54.4 +01.9	S 05	49.5 -00.2	315 40.1 +02.2	S 15	31.4 +00.0	07			
08	343 40.4 +00.6	S 19	22.6 -00.4	304 56.3 +01.9	S 05	49.3 -00.2	330 42.3 +02.2	S 15	31.4 -00.1	08			
09	358 41.0 +00.5	S 19	22.2 -00.5	319 58.2 +01.9	S 05	49.1 -00.3	345 44.5 +02.2	S 15	31.3 -00.1	09			
10	13 41.5 +00.6	S 19	21.7 -00.5	335 00.1 +02.0	S 05	48.8 -00.2	0 46.7 +02.2	S 15	31.2 -00.1	10			
11	28 42.1 +00.5	S 19	21.2 -00.4	350 02.1 +01.9	S 05	48.6 -00.2	15 48.9 +02.2	S 15	31.1 +00.0	11			
12	43 42.6 +00.5	S 19	20.8 -00.5	5 04.0 +01.9	S 05	48.4 -00.3	30 51.1 +02.2	S 15	31.1 -00.1	12			
13	58 43.1 +00.6	S 19	20.3 -00.4	20 05.9 +01.9	S 05	48.1 -00.2	45 53.3 +02.2	S 15	31.0 -00.1	13			
14	73 43.7 +00.5	S 19	19.9 -00.5	35 07.8 +01.9	S 05	47.9 -00.2	60 55.5 +02.2	S 15	30.9 -00.1	14			
15	88 44.2 +00.5	S 19	19.4 -00.4	50 09.7 +01.9	S 05	47.7 -00.3	75 57.7 +02.2	S 15	30.8 -00.1	15			
16	103 44.7 +00.6	S 19	19.0 -00.5	65 11.6 +01.9	S 05	47.4 -00.2	90 59.9 +02.2	S 15	30.7 +00.0	16			
17	118 45.3 +00.5	S 19	18.5 -00.4	80 13.5 +01.9	S 05	47.2 -00.2	106 02.1 +02.2	S 15	30.7 -00.1	17			
18	133 45.8 +00.5	S 19	18.1 -00.5	95 15.4 +01.9	S 05	47.0 -00.3	121 04.3 +02.2	S 15	30.6 -00.1	18			
19	148 46.3 +00.6	S 19	17.6 -00.4	110 17.3 +01.9	S 05	46.7 -00.2	136 06.5 +02.2	S 15	30.5 -00.1	19			
20	163 46.9 +00.5	S 19	17.2 -00.5	125 19.2 +01.9	S 05	46.5 -00.2	151 08.7 +02.2	S 15	30.4 -00.1	20			
21	178 47.4 +00.6	S 19	16.7 -00.5	140 21.1 +01.9	S 05	46.3 -00.3	166 10.9 +02.2	S 15	30.3 +00.0	21			
22	193 48.0 +00.5	S 19	16.2 -00.4	155 23.0 +01.9	S 05	46.0 -00.2	181 13.1 +02.2	S 15	30.3 -00.1	22			
23	208 48.5 +00.5	S 19	15.8 -00.5	170 24.9 +01.9	S 05	45.8 -00.2	196 15.3 +02.2	S 15	30.2 -00.1	23			
<b>UT 02 06 10 14 18 22</b> SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 050° 050° 050° 050° 049° 049° Greenwich Culmination Time: 09:05				<b>UT 02 06 10 14 18 22</b> 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 011° 011° 011° 011° 011° 011° Greenwich Culmination Time: 11:39				<b>UT 02 06 10 14 18 22</b> SD 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 SHA 037° 037° 037° 037° 037° 037° Greenwich Culmination Time: 09:56					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 52.7 +00.2	S 01 26.5 -01.0	222 54.0 +00.0	S 15 27.1 -00.4	10 50.7 -28.2	N 12 12.6 -13.3	00						
01	192 52.9 +00.2	S 01 25.5 -01.0	237 54.0 -00.1	S 15 26.7 -00.3	25 22.5 -28.0	N 11 59.3 -13.4	01						
02	207 53.1 +00.2	S 01 24.5 -00.9	252 53.9 +00.0	S 15 26.4 -00.4	39 54.5 -28.1	N 11 45.9 -13.4	02						
03	222 53.3 +00.2	S 01 23.6 -01.0	267 53.9 +00.0	S 15 26.0 -00.4	54 26.4 -28.1	N 11 32.5 -13.5	03						
04	237 53.5 +00.1	S 01 22.6 -01.0	282 53.9 +00.0	S 15 25.6 -00.4	68 58.3 -28.0	N 11 19.0 -13.6	04						
05	252 53.6 +00.2	S 01 21.6 -01.0	297 53.9 -00.1	S 15 25.2 -00.3	83 30.3 -28.0	N 11 05.4 -13.6	05						
06	267 53.8 +00.2	S 01 20.6 -01.0	312 53.8 +00.0	S 15 24.9 -00.4	98 02.3 -28.0	N 10 51.8 -13.7	06						
07	282 54.0 +00.2	S 01 19.6 -01.0	327 53.8 +00.0	S 15 24.5 -00.4	112 34.3 -28.0	N 10 38.1 -13.8	07						
08	297 54.2 +00.2	S 01 18.6 -01.0	342 53.8 +00.0	S 15 24.1 -00.4	127 06.3 -28.0	N 10 24.3 -13.8	08						
09	312 54.4 +00.1	S 01 17.6 -01.0	357 53.8 -00.1	S 15 23.7 -00.4	141 38.3 -27.9	N 10 10.5 -13.9	09						
10	327 54.5 +00.2	S 01 16.6 -00.9	12 53.7 +00.0	S 15 23.3 -00.3	156 10.4 -28.0	N 09 56.6 -14.0	10						
11	342 54.7 +00.2	S 01 15.7 -01.0	27 53.7 +00.0	S 15 23.0 -00.4	170 42.4 -27.9	N 09 42.6 -14.0	11						
12	357 54.9 +00.2	S 01 14.7 -01.0	42 53.7 -00.1	S 15 22.6 -00.4	185 14.5 -27.9	N 09 28.6 -14.0	12						
13	12 55.1 +00.2	S 01 13.7 -01.0	57 53.6 +00.0	S 15 22.2 -00.4	199 46.6 -27.9	N 09 14.6 -14.2	13						
14	27 55.3 +00.2	S 01 12.7 -01.0	72 53.6 +00.0	S 15 21.8 -00.4	214 18.7 -27.9	N 09 00.4 -14.1	14						
15	42 55.5 +00.1	S 01 11.7 -01.0	87 53.6 -00.1	S 15 21.4 -00.4	228 50.8 -27.9	N 08 46.3 -14.3	15						
16	57 55.6 +00.2	S 01 10.7 -01.0	102 53.5 +00.0	S 15 21.0 -00.4	243 22.9 -27.9	N 08 32.0 -14.2	16						
17	72 55.8 +00.2	S 01 09.7 -01.0	117 53.5 +00.0	S 15 20.6 -00.3	257 55.0 -27.8	N 08 17.8 -14.4	17						
18	87 56.0 +00.2	S 01 08.7 -01.0	132 53.5 -00.1	S 15 20.3 -00.4	272 27.2 -27.9	N 08 03.4 -14.4	18						
19	102 56.2 +00.2	S 01 07.7 -00.9	147 53.4 +00.0	S 15 19.9 -00.4	286 59.3 -27.8	N 07 49.0 -14.4	19						
20	117 56.4 +00.1	S 01 06.8 -01.0	162 53.4 -00.1	S 15 19.5 -00.4	301 31.5 -27.9	N 07 34.6 -14.5	20						
21	132 56.5 +00.2	S 01 05.8 -01.0	177 53.3 +00.0	S 15 19.1 -00.4	316 03.6 -27.8	N 07 20.1 -14.5	21						
22	147 56.7 +00.2	S 01 04.8 -01.0	192 53.3 +00.0	S 15 18.7 -00.4	330 35.8 -27.8	N 07 05.6 -14.6	22						
23	162 56.9 +00.2	S 01 03.8 -01.0	207 53.3 -00.1	S 15 18.3 -00.4	345 08.0 -27.9	N 06 51.0 -14.6	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 003° 003° 003° 003° 003° 002°	Greenwich Culmination Time: 12:08									
UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 048° 048° 048° 048° 048° 047°	Greenwich Culmination Time: 09:08									
UT 02 06 10 14 18 22	SD 15'5 15'5 15'5 15'6 15'6 15'6	HP 56'8 56'9 57'0 57'1 57'2 57'3	SHA 195° 193° 191° 189° 187° 185°	Greenwich Culmination Time: -1:00									

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	223 49.0 +00.6	S 19 15.3 -00.4	185 26.8 +01.9	S 05 45.6 -00.3	211 17.5 +02.2	S 15 30.1 -00.1	00						
01	238 49.6 +00.5	S 19 14.9 -00.5	200 28.7 +02.0	S 05 45.3 -00.2	226 19.7 +02.2	S 15 30.0 -00.1	01						
02	253 50.1 +00.5	S 19 14.4 -00.4	215 30.7 +01.9	S 05 45.1 -00.2	241 21.9 +02.3	S 15 29.9 +00.0	02						
03	268 50.6 +00.6	S 19 14.0 -00.5	230 32.6 +01.9	S 05 44.9 -00.3	256 24.2 +02.2	S 15 29.9 -00.1	03						
04	283 51.2 +00.5	S 19 13.5 -00.5	245 34.5 +01.9	S 05 44.6 -00.2	271 26.4 +02.2	S 15 29.8 -00.1	04						
05	298 51.7 +00.5	S 19 13.0 -00.4	260 36.4 +01.9	S 05 44.4 -00.2	286 28.6 +02.2	S 15 29.7 -00.1	05						
06	313 52.2 +00.6	S 19 12.6 -00.5	275 38.3 +01.9	S 05 44.2 -00.3	301 30.8 +02.2	S 15 29.6 +00.0	06						
07	328 52.8 +00.5	S 19 12.1 -00.4	290 40.2 +01.9	S 05 43.9 -00.2	316 33.0 +02.2	S 15 29.6 -00.1	07						
08	343 53.3 +00.6	S 19 11.7 -00.5	305 42.1 +01.9	S 05 43.7 -00.2	331 35.2 +02.2	S 15 29.5 -00.1	08						
09	358 53.9 +00.5	S 19 11.2 -00.5	320 44.0 +01.9	S 05 43.5 -00.3	346 37.4 +02.2	S 15 29.4 -00.1	09						
10	13 54.4 +00.5	S 19 10.7 -00.4	335 45.9 +01.9	S 05 43.2 -00.2	1 39.6 +02.2	S 15 29.3 -00.1	10						
11	28 54.9 +00.6	S 19 10.3 -00.5	350 47.8 +01.9	S 05 43.0 -00.2	16 41.8 +02.2	S 15 29.2 +00.0	11						
12	43 55.5 +00.5	S 19 09.8 -00.4	5 49.7 +01.9	S 05 42.8 -00.2	31 44.0 +02.2	S 15 29.2 -00.1	12						
13	58 56.0 +00.6	S 19 09.4 -00.5	20 51.6 +01.9	S 05 42.6 -00.3	46 46.2 +02.2	S 15 29.1 -00.1	13						
14	73 56.6 +00.5	S 19 08.9 -00.5	35 53.5 +01.9	S 05 42.3 -00.2	61 48.4 +02.2	S 15 29.0 -00.1	14						
15	88 57.1 +00.5	S 19 08.4 -00.4	50 55.4 +02.0	S 05 42.1 -00.2	76 50.6 +02.2	S 15 28.9 -00.1	15						
16	103 57.6 +00.6	S 19 08.0 -00.5	65 57.4 +01.9	S 05 41.9 -00.3	91 52.8 +02.2	S 15 28.8 +00.0	16						
17	118 58.2 +00.5	S 19 07.5 -00.5	80 59.3 +01.9	S 05 41.6 -00.2	106 55.0 +02.2	S 15 28.8 -00.1	17						
18	133 58.7 +00.6	S 19 07.0 -00.4	96 01.2 +01.9	S 05 41.4 -00.2	121 57.2 +02.2	S 15 28.7 -00.1	18						
19	148 59.3 +00.5	S 19 06.6 -00.5	111 03.1 +01.9	S 05 41.2 -00.3	136 59.4 +02.3	S 15 28.6 -00.1	19						
20	163 59.8 +00.5	S 19 06.1 -00.4	126 05.0 +01.9	S 05 40.9 -00.2	152 01.7 +02.2	S 15 28.5 +00.0	20						
21	179 00.3 +00.6	S 19 05.7 -00.5	141 06.9 +01.9	S 05 40.7 -00.2	167 03.9 +02.2	S 15 28.5 -00.1	21						
22	194 00.9 +00.5	S 19 05.2 -00.5	156 08.8 +01.9	S 05 40.5 -00.3	182 06.1 +02.2	S 15 28.4 -00.1	22						
23	209 01.4 +00.6	S 19 04.7 -00.4	171 10.7 +01.9	S 05 40.2 -00.2	197 08.3 +02.2	S 15 28.3 -00.1	23						
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 049° 049° 049° 049° 049° 049°	Greenwich Culmination Time: 09:04									
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 011° 011° 011° 011° 011° 011°	Greenwich Culmination Time: 11:36									
UT 02 06 10 14 18 22	SD 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	SHA 037° 037° 037° 037° 037° 037°	Greenwich Culmination Time: 09:53									

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	177 57.1 +00.2	S	01 02.8 -01.0	222 53.2 +00.0	S	15 17.9 -00.4	359 40.1 -27.8	N	06 36.4 -14.7	00			
01	192 57.3 +00.1	S	01 01.8 -01.0	237 53.2 -00.1	S	15 17.5 -00.4	14 12.3 -27.8	N	06 21.7 -14.7	01			
02	207 57.4 +00.2	S	01 00.8 -01.0	252 53.1 +00.0	S	15 17.1 -00.4	28 44.5 -27.8	N	06 07.0 -14.7	02			
03	222 57.6 +00.2	S	00 59.8 -01.0	267 53.1 +00.0	S	15 16.7 -00.4	43 16.7 -27.9	N	05 52.3 -14.8	03			
04	237 57.8 +00.2	S	00 58.8 -00.9	282 53.1 -00.1	S	15 16.3 -00.4	57 48.8 -27.8	N	05 37.5 -14.9	04			
05	252 58.0 +00.2	S	00 57.9 -01.0	297 53.0 +00.0	S	15 15.9 -00.4	72 21.0 -27.8	N	05 22.6 -14.8	05			
06	267 58.2 +00.2	S	00 56.9 -01.0	312 53.0 -00.1	S	15 15.5 -00.4	86 53.2 -27.8	N	05 07.8 -14.9	06			
07	282 58.4 +00.1	S	00 55.9 -01.0	327 52.9 +00.0	S	15 15.1 -00.4	101 25.4 -27.9	N	04 52.9 -15.0	07			
08	297 58.5 +00.2	S	00 54.9 -01.0	342 52.9 +00.0	S	15 14.7 -00.4	115 57.5 -27.8	N	04 37.9 -15.0	08			
09	312 58.7 +00.2	S	00 53.9 -01.0	357 52.9 -00.1	S	15 14.3 -00.4	130 29.7 -27.8	N	04 22.9 -15.0	09			
10	327 58.9 +00.2	S	00 52.9 -01.0	12 52.8 +00.0	S	15 13.9 -00.4	145 01.9 -27.9	N	04 07.9 -15.0	10			
11	342 59.1 +00.2	S	00 51.9 -01.0	27 52.8 -00.1	S	15 13.5 -00.4	159 34.0 -27.8	N	03 52.9 -15.1	11			
12	357 59.3 +00.1	S	00 50.9 -00.9	42 52.7 +00.0	S	15 13.1 -00.4	174 06.2 -27.9	N	03 37.8 -15.1	12			
13	12 59.4 +00.2	S	00 50.0 -01.0	57 52.7 -00.1	S	15 12.7 -00.4	188 38.3 -27.9	N	03 22.7 -15.1	13			
14	27 59.6 +00.2	S	00 49.0 -01.0	72 52.6 +00.0	S	15 12.3 -00.4	203 10.4 -27.8	N	03 07.6 -15.2	14			
15	42 59.8 +00.2	S	00 48.0 -01.0	87 52.6 -00.1	S	15 11.9 -00.4	217 42.6 -27.9	N	02 52.4 -15.2	15			
16	57 60.0 +00.2	S	00 47.0 -01.0	102 52.5 +00.0	S	15 11.5 -00.4	232 14.7 -27.9	N	02 37.2 -15.2	16			
17	73 00.2 +00.2	S	00 46.0 -01.0	117 52.5 -00.1	S	15 11.1 -00.4	246 46.8 -27.9	N	02 22.0 -15.2	17			
18	88 00.4 +00.1	S	00 45.0 -01.0	132 52.4 +00.0	S	15 10.7 -00.4	261 18.9 -28.0	N	02 06.8 -15.3	18			
19	103 00.5 +00.2	S	00 44.0 -01.0	147 52.4 -00.1	S	15 10.3 -00.4	275 50.9 -27.9	N	01 51.5 -15.2	19			
20	118 00.7 +00.2	S	00 43.0 -01.0	162 52.3 +00.0	S	15 09.9 -00.4	290 23.0 -28.0	N	01 36.3 -15.3	20			
21	133 00.9 +00.2	S	00 42.0 -00.9	177 52.3 -00.1	S	15 09.5 -00.5	304 55.0 -28.0	N	01 21.0 -15.4	21			
22	148 01.1 +00.2	S	00 41.1 -01.0	192 52.2 +00.0	S	15 09.0 -00.4	319 27.0 -28.0	N	01 05.6 -15.3	22			
23	163 01.3 +00.2	S	00 40.1 -01.0	207 52.2 -00.1	S	15 08.6 -00.4	333 59.0 -28.0	N	00 50.3 -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 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'6 15'7 15'7 15'7 15'8 15'8						
	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 57'4 57'5 57'6 57'7 57'8 57'9						
	SHA 002° 002° 002° 002° 002° 002°			SHA 047° 047° 047° 047° 047° 046°			SHA 183° 181° 179° 177° 175° 173°						
	Greenwich Culmination Time: 12:08			Greenwich Culmination Time: 09:08			Greenwich Culmination Time: 00:01						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	224 02.0 +00.5	S	19 04.3 -00.5	186 12.6 +01.9	S	05 40.0 -00.2	212 10.5 +02.2	S	15 28.2 -00.1	00			
01	239 02.5 +00.5	S	19 03.8 -00.5	201 14.5 +01.9	S	05 39.8 -00.3	227 12.7 +02.2	S	15 28.1 +00.0	01			
02	254 03.0 +00.6	S	19 03.3 -00.4	216 16.4 +01.9	S	05 39.5 -00.2	242 14.9 +02.2	S	15 28.1 -00.1	02			
03	269 03.6 +00.5	S	19 02.9 -00.5	231 18.3 +01.9	S	05 39.3 -00.2	257 17.1 +02.2	S	15 28.0 -00.1	03			
04	284 04.1 +00.6	S	19 02.4 -00.5	246 20.2 +02.0	S	05 39.1 -00.3	272 19.3 +02.2	S	15 27.9 -00.1	04			
05	299 04.7 +00.5	S	19 01.9 -00.4	261 22.2 +01.9	S	05 38.8 -00.2	287 21.5 +02.2	S	15 27.8 +00.0	05			
06	314 05.2 +00.5	S	19 01.5 -00.5	276 24.1 +01.9	S	05 38.6 -00.2	302 23.7 +02.2	S	15 27.8 -00.1	06			
07	329 05.7 +00.6	S	19 01.0 -00.5	291 26.0 +01.9	S	05 38.4 -00.3	317 25.9 +02.2	S	15 27.7 -00.1	07			
08	344 06.3 +00.5	S	19 00.5 -00.4	306 27.9 +01.9	S	05 38.1 -00.2	332 28.1 +02.2	S	15 27.6 -00.1	08			
09	359 06.8 +00.6	S	19 00.1 -00.5	321 29.8 +01.9	S	05 37.9 -00.2	347 30.3 +02.2	S	15 27.5 -00.1	09			
10	14 07.4 +00.5	S	18 59.6 -00.5	336 31.7 +01.9	S	05 37.7 -00.3	2 32.5 +02.3	S	15 27.4 +00.0	10			
11	29 07.9 +00.5	S	18 59.1 -00.4	351 33.6 +01.9	S	05 37.4 -00.2	17 34.8 +02.2	S	15 27.4 -00.1	11			
12	44 08.4 +00.6	S	18 58.7 -00.5	6 35.5 +01.9	S	05 37.2 -00.2	32 37.0 +02.2	S	15 27.3 -00.1	12			
13	59 09.0 +00.5	S	18 58.2 -00.5	21 37.4 +01.9	S	05 37.0 -00.3	47 39.2 +02.2	S	15 27.2 -00.1	13			
14	74 09.5 +00.6	S	18 57.7 -00.5	36 39.3 +01.9	S	05 36.7 -00.2	62 41.4 +02.2	S	15 27.1 -00.1	14			
15	89 10.1 +00.5	S	18 57.2 -00.4	51 41.2 +01.9	S	05 36.5 -00.2	77 43.6 +02.2	S	15 27.0 +00.0	15			
16	104 10.6 +00.6	S	18 56.8 -00.5	66 43.1 +01.9	S	05 36.3 -00.3	92 45.8 +02.2	S	15 27.0 -00.1	16			
17	119 11.2 +00.5	S	18 56.3 -00.5	81 45.0 +02.0	S	05 36.0 -00.2	107 48.0 +02.2	S	15 26.9 -00.1	17			
18	134 11.7 +00.5	S	18 55.8 -00.4	96 47.0 +01.9	S	05 35.8 -00.2	122 50.2 +02.2	S	15 26.8 -00.1	18			
19	149 12.2 +00.6	S	18 55.4 -00.5	111 48.9 +01.9	S	05 35.6 -00.2	137 52.4 +02.2	S	15 26.7 +00.0	19			
20	164 12.8 +00.5	S	18 54.9 -00.5	126 50.8 +01.9	S	05 35.4 -00.3	152 54.6 +02.2	S	15 26.7 -00.1	20			
21	179 13.3 +00.6	S	18 54.4 -00.5	141 52.7 +01.9	S	05 35.1 -00.2	167 56.8 +02.2	S	15 26.6 -00.1	21			
22	194 13.9 +00.5	S	18 53.9 -00.4	156 54.6 +01.9	S	05 34.9 -00.2	182 59.0 +02.3	S	15 26.5 -00.1	22			
23	209 14.4 +00.6	S	18 53.5 -00.5	171 56.5 +01.9	S	05 34.7 -00.3	198 01.3 +02.2	S	15 26.4 -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 00'1 00'1 00'1 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 048° 048° 048° 048° 048° 048°			SHA 011° 011° 011° 011° 011° 010°			SHA 037° 037° 037° 037° 037° 037°						
	Greenwich Culmination Time: 09:03			Greenwich Culmination Time: 11:33			Greenwich Culmination Time: 09:49						

Warning: This page has been generated by a computer program. Complex computer programs usually have bugs and may produce wrong data. The data on this page is believed to be accurate but no warranty is given for its correctness. Use it only for training and exercising!

UT	Sun				Venus				Moon <span style="float: right;">A: 54%</span>				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	178 01.5 +00.1	S 00	39.1 -01.0	222 52.1 +00.0	S 15	08.2 -00.4	348 31.0 -28.0	N 00	35.0 -15.4						
01	193 01.6 +00.2	S 00	38.1 -01.0	237 52.1 -00.1	S 15	07.8 -00.4	3 03.0 -28.1	N 00	19.6 -15.4						
02	208 01.8 +00.2	S 00	37.1 -01.0	252 52.0 +00.0	S 15	07.4 -00.4	17 34.9 -28.0	N 00	04.2 -15.4						
03	223 02.0 +00.2	S 00	36.1 -01.0	267 52.0 -00.1	S 15	07.0 -00.4	32 06.9 -28.2	S 00	11.2 +15.4						
04	238 02.2 +00.2	S 00	35.1 -01.0	282 51.9 +00.0	S 15	06.6 -00.5	46 38.7 -28.1	S 00	26.6 +15.4						
05	253 02.4 +00.2	S 00	34.1 -00.9	297 51.9 -00.1	S 15	06.1 -00.4	61 10.6 -28.1	S 00	42.0 +15.4						
06	268 02.6 +00.1	S 00	33.2 -01.0	312 51.8 -00.1	S 15	05.7 -00.4	75 42.5 -28.2	S 00	57.4 +15.4						
07	283 02.7 +00.2	S 00	32.2 -01.0	327 51.7 +00.0	S 15	05.3 -00.4	90 14.3 -28.2	S 01	12.8 +15.4						
08	298 02.9 +00.2	S 00	31.2 -01.0	342 51.7 -00.1	S 15	04.9 -00.4	104 46.1 -28.2	S 01	28.2 +15.5						
09	313 03.1 +00.2	S 00	30.2 -01.0	357 51.6 +00.0	S 15	04.5 -00.5	119 17.9 -28.3	S 01	43.7 +15.4						
10	328 03.3 +00.2	S 00	29.2 -01.0	12 51.6 -00.1	S 15	04.0 -00.4	133 49.6 -28.3	S 01	59.1 +15.4						
11	343 03.5 +00.2	S 00	28.2 -01.0	27 51.5 +00.0	S 15	03.6 -00.4	148 21.3 -28.3	S 02	14.5 +15.5						
12	358 03.7 +00.1	S 00	27.2 -01.0	42 51.5 -00.1	S 15	03.2 -00.4	162 53.0 -28.4	S 02	30.0 +15.4						
13	13 03.8 +00.2	S 00	26.2 -01.0	57 51.4 -00.1	S 15	02.8 -00.4	177 24.6 -28.4	S 02	45.4 +15.5						
14	28 04.0 +00.2	S 00	25.2 -00.9	72 51.3 +00.0	S 15	02.4 -00.5	191 56.2 -28.4	S 03	00.9 +15.4						
15	43 04.2 +00.2	S 00	24.3 -01.0	87 51.3 -00.1	S 15	01.9 -00.4	206 27.8 -28.5	S 03	16.3 +15.4						
16	58 04.4 +00.2	S 00	23.3 -01.0	102 51.2 +00.0	S 15	01.5 -00.4	220 59.3 -28.5	S 03	31.7 +15.4						
17	73 04.6 +00.2	S 00	22.3 -01.0	117 51.2 -00.1	S 15	01.1 -00.5	235 30.8 -28.5	S 03	47.1 +15.4						
18	88 04.8 +00.1	S 00	21.3 -01.0	132 51.1 -00.1	S 15	00.6 -00.4	250 02.3 -28.6	S 04	02.5 +15.4						
19	103 04.9 +00.2	S 00	20.3 -01.0	147 51.0 +00.0	S 15	00.2 -00.4	264 33.7 -28.6	S 04	17.9 +15.4						
20	118 05.1 +00.2	S 00	19.3 -01.0	162 51.0 -00.1	S 14	59.8 -00.4	279 05.1 -28.6	S 04	33.3 +15.4						
21	133 05.3 +00.2	S 00	18.3 -01.0	177 50.9 -00.1	S 14	59.4 -00.5	293 36.5 -28.7	S 04	48.7 +15.3						
22	148 05.5 +00.2	S 00	17.3 -00.9	192 50.8 +00.0	S 14	58.9 -00.4	308 07.8 -28.8	S 05	04.0 +15.4						
23	163 05.7 +00.2	S 00	16.4 -01.0	207 50.8 -00.1	S 14	58.5 -00.4	322 39.0 -28.7	S 05	19.4 +15.3						
<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>							
SD 16'1 16'1 16'1 16'1 16'1 16'1				SD 00'2 00'2 00'2 00'2 00'2 00'2				SD 15'8 15'8 15'8 15'9 15'9 15'9							
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 58'0 58'1 58'2 58'2 58'3 58'4							
SHA 001° 001° 001° 001° 001° 001°				SHA 046° 046° 046° 046° 046° 045°				SHA 171° 169° 167° 165° 163° 161°							
Greenwich Culmination Time: 12:07				Greenwich Culmination Time: 09:08				Greenwich Culmination Time: 00:47							
UT	Mars				Jupiter				Saturn				UT		
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec			
00	224 15.0 +00.5	S 18	53.0 -00.5	186 58.4 +01.9	S 05	34.4 -00.2	213 03.5 +02.2	S 15	26.3 +00.0						
01	239 15.5 +00.5	S 18	52.5 -00.4	202 00.3 +01.9	S 05	34.2 -00.2	228 05.7 +02.2	S 15	26.3 -00.1						
02	254 16.0 +00.6	S 18	52.1 -00.5	217 02.2 +01.9	S 05	34.0 -00.3	243 07.9 +02.2	S 15	26.2 -00.1						
03	269 16.6 +00.5	S 18	51.6 -00.5	232 04.1 +01.9	S 05	33.7 -00.2	258 10.1 +02.2	S 15	26.1 -00.1						
04	284 17.1 +00.6	S 18	51.1 -00.5	247 06.0 +01.9	S 05	33.5 -00.2	273 12.3 +02.2	S 15	26.0 +00.0						
05	299 17.7 +00.5	S 18	50.6 -00.4	262 07.9 +02.0	S 05	33.3 -00.3	288 14.5 +02.2	S 15	26.0 -00.1						
06	314 18.2 +00.6	S 18	50.2 -00.5	277 09.9 +01.9	S 05	33.0 -00.2	303 16.7 +02.2	S 15	25.9 -00.1						
07	329 18.8 +00.5	S 18	49.7 -00.5	292 11.8 +01.9	S 05	32.8 -00.2	318 18.9 +02.2	S 15	25.8 -00.1						
08	344 19.3 +00.6	S 18	49.2 -00.5	307 13.7 +01.9	S 05	32.6 -00.3	333 21.1 +02.2	S 15	25.7 -00.1						
09	359 19.9 +00.5	S 18	48.7 -00.4	322 15.6 +01.9	S 05	32.3 -00.2	348 23.3 +02.2	S 15	25.6 +00.0						
10	14 20.4 +00.6	S 18	48.3 -00.5	337 17.5 +01.9	S 05	32.1 -00.2	3 25.5 +02.3	S 15	25.6 -00.1						
11	29 21.0 +00.5	S 18	47.8 -00.5	352 19.4 +01.9	S 05	31.9 -00.3	18 27.8 +02.2	S 15	25.5 -00.1						
12	44 21.5 +00.5	S 18	47.3 -00.5	7 21.3 +01.9	S 05	31.6 -00.2	33 30.0 +02.2	S 15	25.4 -00.1						
13	59 22.0 +00.6	S 18	46.8 -00.5	22 23.2 +01.9	S 05	31.4 -00.2	48 32.2 +02.2	S 15	25.3 +00.0						
14	74 22.6 +00.5	S 18	46.3 -00.4	37 25.1 +01.9	S 05	31.2 -00.3	63 34.4 +02.2	S 15	25.3 -00.1						
15	89 23.1 +00.6	S 18	45.9 -00.5	52 27.0 +01.9	S 05	30.9 -00.2	78 36.6 +02.2	S 15	25.2 -00.1						
16	104 23.7 +00.5	S 18	45.4 -00.5	67 28.9 +02.0	S 05	30.7 -00.2	93 38.8 +02.2	S 15	25.1 -00.1						
17	119 24.2 +00.6	S 18	44.9 -00.5	82 30.9 +01.9	S 05	30.5 -00.2	108 41.0 +02.2	S 15	25.0 +00.0						
18	134 24.8 +00.5	S 18	44.4 -00.4	97 32.8 +01.9	S 05	30.3 -00.3	123 43.2 +02.2	S 15	25.0 -00.1						
19	149 25.3 +00.6	S 18	44.0 -00.5	112 34.7 +01.9	S 05	30.0 -00.2	138 45.4 +02.2	S 15	24.9 -00.1						
20	164 25.9 +00.5	S 18	43.5 -00.5	127 36.6 +01.9	S 05	29.8 -00.2	153 47.6 +02.3	S 15	24.8 -00.1						
21	179 26.4 +00.6	S 18	43.0 -00.5	142 38.5 +01.9	S 05	29.6 -00.3	168 49.9 +02.2	S 15	24.7 -00.1						
22	194 27.0 +00.5	S 18	42.5 -00.5	157 40.4 +01.9	S 05	29.3 -00.2	183 52.1 +02.2	S 15	24.6 +00.0						
23	209 27.5 +00.5	S 18	42.0 -00.4	172 42.3 +01.9	S 05	29.1 -00.2	198 54.3 +02.2	S 15	24.6 -00.1						
<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>				<b>UT 02 06 10 14 18 22</b>							
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 00'1 00'1 00'1 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 048° 048° 047° 047° 047° 047°				SHA 010° 010° 010° 010° 010° 010°				SHA 037° 037° 036° 036° 036° 036°							
Greenwich Culmination Time: 09:02				Greenwich Culmination Time: 11:30				Greenwich Culmination Time: 09:46							

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b> <span style="float:right">A: 57%</span>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 05.9 +00.2	S 00 15.4 -01.0	222 50.7 +00.0	S 14 58.1 -00.5	337 10.3 -28.9	S 05 34.7 +15.3	00						
01	193 06.1 +00.1	S 00 14.4 -01.0	237 50.7 -00.1	S 14 57.6 -00.4	351 41.4 -28.8	S 05 50.0 +15.3	01						
02	208 06.2 +00.2	S 00 13.4 -01.0	252 50.6 -00.1	S 14 57.2 -00.4	6 12.6 -29.0	S 06 05.3 +15.3	02						
03	223 06.4 +00.2	S 00 12.4 -01.0	267 50.5 +00.0	S 14 56.8 -00.5	20 43.6 -28.9	S 06 20.6 +15.2	03						
04	238 06.6 +00.2	S 00 11.4 -01.0	282 50.5 -00.1	S 14 56.3 -00.4	35 14.7 -29.0	S 06 35.8 +15.3	04						
05	253 06.8 +00.2	S 00 10.4 -01.0	297 50.4 -00.1	S 14 55.9 -00.4	49 45.7 -29.1	S 06 51.1 +15.1	05						
06	268 07.0 +00.2	S 00 09.4 -00.9	312 50.3 +00.0	S 14 55.5 -00.5	64 16.6 -29.1	S 07 06.2 +15.2	06						
07	283 07.2 +00.2	S 00 08.5 -01.0	327 50.3 -00.1	S 14 55.0 -00.4	78 47.5 -29.2	S 07 21.4 +15.2	07						
08	298 07.4 +00.1	S 00 07.5 -01.0	342 50.2 -00.1	S 14 54.6 -00.5	93 18.3 -29.2	S 07 36.6 +15.1	08						
09	313 07.5 +00.2	S 00 06.5 -01.0	357 50.1 -00.1	S 14 54.1 -00.4	107 49.1 -29.3	S 07 51.7 +15.0	09						
10	328 07.7 +00.2	S 00 05.5 -01.0	12 50.0 +00.0	S 14 53.7 -00.4	122 19.8 -29.3	S 08 06.7 +15.1	10						
11	343 07.9 +00.2	S 00 04.5 -01.0	27 50.0 -00.1	S 14 53.3 -00.5	136 50.5 -29.4	S 08 21.8 +15.0	11						
12	358 08.1 +00.2	S 00 03.5 -01.0	42 49.9 -00.1	S 14 52.8 -00.4	151 21.1 -29.5	S 08 36.8 +15.0	12						
13	13 08.3 +00.2	S 00 02.5 -01.0	57 49.8 +00.0	S 14 52.4 -00.5	165 51.6 -29.5	S 08 51.8 +14.9	13						
14	28 08.5 +00.1	S 00 01.5 -01.0	72 49.8 -00.1	S 14 51.9 -00.4	180 22.1 -29.6	S 09 06.7 +14.9	14						
15	43 08.6 +00.2	S 00 00.5 -00.9	87 49.7 -00.1	S 14 51.5 -00.5	194 52.5 -29.6	S 09 21.6 +14.9	15						
16	58 08.8 +00.2	N 00 00.4 +01.0	102 49.6 -00.1	S 14 51.0 -00.4	209 22.9 -29.7	S 09 36.5 +14.8	16						
17	73 09.0 +00.2	N 00 01.4 +01.0	117 49.5 +00.0	S 14 50.6 -00.5	223 53.2 -29.7	S 09 51.3 +14.7	17						
18	88 09.2 +00.2	N 00 02.4 +01.0	132 49.5 -00.1	S 14 50.1 -00.4	238 23.5 -29.8	S 10 06.0 +14.8	18						
19	103 09.4 +00.2	N 00 03.4 +01.0	147 49.4 -00.1	S 14 49.7 -00.5	252 53.7 -29.9	S 10 20.8 +14.6	19						
20	118 09.6 +00.2	N 00 04.4 +01.0	162 49.3 -00.1	S 14 49.2 -00.4	267 23.8 -29.9	S 10 35.4 +14.7	20						
21	133 09.8 +00.1	N 00 05.4 +01.0	177 49.2 +00.0	S 14 48.8 -00.5	281 53.9 -30.0	S 10 50.1 +14.5	21						
22	148 09.9 +00.2	N 00 06.4 +01.0	192 49.2 -00.1	S 14 48.3 -00.4	296 23.9 -30.1	S 11 04.6 +14.6	22						
23	163 10.1 +00.2	N 00 07.4 +00.9	207 49.1 -00.1	S 14 47.9 -00.5	310 53.8 -30.2	S 11 19.2 +14.4	23						
<b>UT 02 06 10 14 18 22</b> 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 001° 000° 000° 000° 360° 360° Greenwich Culmination Time: 12:07				<b>UT 02 06 10 14 18 22</b> SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 045° 045° 045° 045° 045° 044° Greenwich Culmination Time: 09:08				<b>UT 02 06 10 14 18 22</b> SD 15'9 16'0 16'0 16'0 16'0 16'0 HP 58'5 58'5 58'6 58'7 58'7 58'8 SHA 159° 157° 154° 152° 150° 148° Greenwich Culmination Time: 01:34					
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	224 28.0 +00.6	S 18 41.6 -00.5	187 44.2 +01.9	S 05 28.9 -00.3	213 56.5 +02.2	S 15 24.5 -00.1	00						
01	239 28.6 +00.5	S 18 41.1 -00.5	202 46.1 +01.9	S 05 28.6 -00.2	228 58.7 +02.2	S 15 24.4 -00.1	01						
02	254 29.1 +00.6	S 18 40.6 -00.5	217 48.0 +01.9	S 05 28.4 -00.2	244 00.9 +02.2	S 15 24.3 +00.0	02						
03	269 29.7 +00.5	S 18 40.1 -00.5	232 49.9 +02.0	S 05 28.2 -00.3	259 03.1 +02.2	S 15 24.3 -00.1	03						
04	284 30.2 +00.6	S 18 39.6 -00.5	247 51.9 +01.9	S 05 27.9 -00.2	274 05.3 +02.2	S 15 24.2 -00.1	04						
05	299 30.8 +00.5	S 18 39.1 -00.4	262 53.8 +01.9	S 05 27.7 -00.2	289 07.5 +02.3	S 15 24.1 -00.1	05						
06	314 31.3 +00.6	S 18 38.7 -00.5	277 55.7 +01.9	S 05 27.5 -00.3	304 09.8 +02.2	S 15 24.0 -00.1	06						
07	329 31.9 +00.5	S 18 38.2 -00.5	292 57.6 +01.9	S 05 27.2 -00.2	319 12.0 +02.2	S 15 23.9 +00.0	07						
08	344 32.4 +00.6	S 18 37.7 -00.5	307 59.5 +01.9	S 05 27.0 -00.2	334 14.2 +02.2	S 15 23.9 -00.1	08						
09	359 33.0 +00.5	S 18 37.2 -00.5	323 01.4 +01.9	S 05 26.8 -00.3	349 16.4 +02.2	S 15 23.8 -00.1	09						
10	14 33.5 +00.6	S 18 36.7 -00.5	338 03.3 +01.9	S 05 26.5 -00.2	4 18.6 +02.2	S 15 23.7 -00.1	10						
11	29 34.1 +00.5	S 18 36.2 -00.4	353 05.2 +01.9	S 05 26.3 -00.2	19 20.8 +02.2	S 15 23.6 +00.0	11						
12	44 34.6 +00.6	S 18 35.8 -00.5	8 07.1 +01.9	S 05 26.1 -00.3	34 23.0 +02.2	S 15 23.6 -00.1	12						
13	59 35.2 +00.5	S 18 35.3 -00.5	23 09.0 +01.9	S 05 25.8 -00.2	49 25.2 +02.2	S 15 23.5 -00.1	13						
14	74 35.7 +00.6	S 18 34.8 -00.5	38 10.9 +02.0	S 05 25.6 -00.2	64 27.4 +02.3	S 15 23.4 -00.1	14						
15	89 36.3 +00.5	S 18 34.3 -00.5	53 12.9 +01.9	S 05 25.4 -00.2	79 29.7 +02.2	S 15 23.3 +00.0	15						
16	104 36.8 +00.6	S 18 33.8 -00.5	68 14.8 +01.9	S 05 25.2 -00.3	94 31.9 +02.2	S 15 23.3 -00.1	16						
17	119 37.4 +00.5	S 18 33.3 -00.4	83 16.7 +01.9	S 05 24.9 -00.2	109 34.1 +02.2	S 15 23.2 -00.1	17						
18	134 37.9 +00.6	S 18 32.9 -00.5	98 18.6 +01.9	S 05 24.7 -00.2	124 36.3 +02.2	S 15 23.1 -00.1	18						
19	149 38.5 +00.5	S 18 32.4 -00.5	113 20.5 +01.9	S 05 24.5 -00.3	139 38.5 +02.2	S 15 23.0 -00.1	19						
20	164 39.0 +00.6	S 18 31.9 -00.5	128 22.4 +01.9	S 05 24.2 -00.2	154 40.7 +02.2	S 15 22.9 +00.0	20						
21	179 39.6 +00.5	S 18 31.4 -00.5	143 24.3 +01.9	S 05 24.0 -00.2	169 42.9 +02.2	S 15 22.9 -00.1	21						
22	194 40.1 +00.6	S 18 30.9 -00.5	158 26.2 +01.9	S 05 23.8 -00.3	184 45.1 +02.3	S 15 22.8 -00.1	22						
23	209 40.7 +00.5	S 18 30.4 -00.5	173 28.1 +01.9	S 05 23.5 -00.2	199 47.4 +02.2	S 15 22.7 -00.1	23						
<b>UT 02 06 10 14 18 22</b> SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 047° 047° 047° 047° 046° 046° Greenwich Culmination Time: 09:01				<b>UT 02 06 10 14 18 22</b> 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 010° 010° 010° 010° 010° 010° Greenwich Culmination Time: 11:27				<b>UT 02 06 10 14 18 22</b> SD 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 SHA 036° 036° 036° 036° 036° 036° Greenwich Culmination Time: 09:42					

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 10.3 +00.2	N 00	08.3 +01.0	222 49.0 -00.1	S 14	47.4 -00.4	325 23.6 -30.2	S 11	33.6 +14.4	00			
01	193 10.5 +00.2	N 00	09.3 +01.0	237 48.9 +00.0	S 14	47.0 -00.5	339 53.4 -30.2	S 11	48.0 +14.4	01			
02	208 10.7 +00.2	N 00	10.3 +01.0	252 48.9 -00.1	S 14	46.5 -00.4	354 23.2 -30.4	S 12	02.4 +14.3	02			
03	223 10.9 +00.2	N 00	11.3 +01.0	267 48.8 -00.1	S 14	46.1 -00.5	8 52.8 -30.4	S 12	16.7 +14.3	03			
04	238 11.1 +00.1	N 00	12.3 +01.0	282 48.7 -00.1	S 14	45.6 -00.4	23 22.4 -30.5	S 12	31.0 +14.1	04			
05	253 11.2 +00.2	N 00	13.3 +01.0	297 48.6 +00.0	S 14	45.2 -00.5	37 51.9 -30.6	S 12	45.1 +14.2	05			
06	268 11.4 +00.2	N 00	14.3 +01.0	312 48.6 -00.1	S 14	44.7 -00.4	52 21.3 -30.6	S 12	59.3 +14.0	06			
07	283 11.6 +00.2	N 00	15.3 +00.9	327 48.5 -00.1	S 14	44.3 -00.5	66 50.7 -30.7	S 13	13.3 +14.0	07			
08	298 11.8 +00.2	N 00	16.2 +01.0	342 48.4 -00.1	S 14	43.8 -00.5	81 20.0 -30.8	S 13	27.3 +13.9	08			
09	313 12.0 +00.2	N 00	17.2 +01.0	357 48.3 -00.1	S 14	43.3 -00.4	95 49.2 -30.9	S 13	41.2 +13.9	09			
10	328 12.2 +00.2	N 00	18.2 +01.0	12 48.2 +00.0	S 14	42.9 -00.5	110 18.3 -30.9	S 13	55.1 +13.7	10			
11	343 12.4 +00.2	N 00	19.2 +01.0	27 48.2 -00.1	S 14	42.4 -00.4	124 47.4 -31.0	S 14	08.8 +13.7	11			
12	358 12.6 +00.1	N 00	20.2 +01.0	42 48.1 -00.1	S 14	42.0 -00.5	139 16.4 -31.1	S 14	22.5 +13.7	12			
13	13 12.7 +00.2	N 00	21.2 +01.0	57 48.0 -00.1	S 14	41.5 -00.5	153 45.3 -31.2	S 14	36.2 +13.5	13			
14	28 12.9 +00.2	N 00	22.2 +00.9	72 47.9 -00.1	S 14	41.0 -00.4	168 14.1 -31.3	S 14	49.7 +13.5	14			
15	43 13.1 +00.2	N 00	23.1 +01.0	87 47.8 -00.1	S 14	40.6 -00.5	182 42.8 -31.3	S 15	03.2 +13.4	15			
16	58 13.3 +00.2	N 00	24.1 +01.0	102 47.7 +00.0	S 14	40.1 -00.5	197 11.5 -31.4	S 15	16.6 +13.3	16			
17	73 13.5 +00.2	N 00	25.1 +01.0	117 47.7 -00.1	S 14	39.6 -00.4	211 40.1 -31.5	S 15	29.9 +13.3	17			
18	88 13.7 +00.2	N 00	26.1 +01.0	132 47.6 -00.1	S 14	39.2 -00.5	226 08.6 -31.6	S 15	43.2 +13.1	18			
19	103 13.9 +00.1	N 00	27.1 +01.0	147 47.5 -00.1	S 14	38.7 -00.5	240 37.0 -31.7	S 15	56.3 +13.1	19			
20	118 14.0 +00.2	N 00	28.1 +01.0	162 47.4 -00.1	S 14	38.2 -00.4	255 05.3 -31.7	S 16	09.4 +13.0	20			
21	133 14.2 +00.2	N 00	29.1 +01.0	177 47.3 -00.1	S 14	37.8 -00.5	269 33.6 -31.8	S 16	22.4 +12.8	21			
22	148 14.4 +00.2	N 00	30.1 +00.9	192 47.2 -00.1	S 14	37.3 -00.5	284 01.8 -31.9	S 16	35.2 +12.8	22			
23	163 14.6 +00.2	N 00	31.0 +01.0	207 47.1 +00.0	S 14	36.8 -00.4	298 29.9 -32.0	S 16	48.0 +12.8	23			
<b>UT 02 06 10 14 18 22</b> 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 360° 359° 359° 359° 359° 359° Greenwich Culmination Time: 12:07				<b>UT 02 06 10 14 18 22</b> SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 044° 044° 044° 044° 044° 043° Greenwich Culmination Time: 09:08				<b>UT 02 06 10 14 18 22</b> SD 16'0 16'0 16'1 16'1 16'1 16'1 HP 58'8 58'9 58'9 59'0 59'0 59'1 SHA 146° 144° 141° 139° 137° 135° Greenwich Culmination Time: 02:23					
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	224 41.2 +00.6	S 18	29.9 -00.5	188 30.0 +02.0	S 05	23.3 -00.2	214 49.6 +02.2	S 15	22.6 +00.0	00			
01	239 41.8 +00.5	S 18	29.4 -00.4	203 32.0 +01.9	S 05	23.1 -00.3	229 51.8 +02.2	S 15	22.6 -00.1	01			
02	254 42.3 +00.6	S 18	29.0 -00.5	218 33.9 +01.9	S 05	22.8 -00.2	244 54.0 +02.2	S 15	22.5 -00.1	02			
03	269 42.9 +00.5	S 18	28.5 -00.5	233 35.8 +01.9	S 05	22.6 -00.2	259 56.2 +02.2	S 15	22.4 -00.1	03			
04	284 43.4 +00.6	S 18	28.0 -00.5	248 37.7 +01.9	S 05	22.4 -00.3	274 58.4 +02.2	S 15	22.3 +00.0	04			
05	299 44.0 +00.5	S 18	27.5 -00.5	263 39.6 +01.9	S 05	22.1 -00.2	290 00.6 +02.2	S 15	22.3 -00.1	05			
06	314 44.5 +00.6	S 18	27.0 -00.5	278 41.5 +01.9	S 05	21.9 -00.2	305 02.8 +02.3	S 15	22.2 -00.1	06			
07	329 45.1 +00.5	S 18	26.5 -00.5	293 43.4 +01.9	S 05	21.7 -00.3	320 05.1 +02.2	S 15	22.1 -00.1	07			
08	344 45.6 +00.6	S 18	26.0 -00.5	308 45.3 +01.9	S 05	21.4 -00.2	335 07.3 +02.2	S 15	22.0 +00.0	08			
09	359 46.2 +00.5	S 18	25.5 -00.5	323 47.2 +02.0	S 05	21.2 -00.2	350 09.5 +02.2	S 15	22.0 -00.1	09			
10	14 46.7 +00.6	S 18	25.0 -00.5	338 49.2 +01.9	S 05	21.0 -00.3	5 11.7 +02.2	S 15	21.9 -00.1	10			
11	29 47.3 +00.5	S 18	24.5 -00.5	353 51.1 +01.9	S 05	20.7 -00.2	20 13.9 +02.2	S 15	21.8 -00.1	11			
12	44 47.8 +00.6	S 18	24.0 -00.4	8 53.0 +01.9	S 05	20.5 -00.2	35 16.1 +02.2	S 15	21.7 -00.1	12			
13	59 48.4 +00.5	S 18	23.6 -00.5	23 54.9 +01.9	S 05	20.3 -00.2	50 18.3 +02.3	S 15	21.6 +00.0	13			
14	74 48.9 +00.6	S 18	23.1 -00.5	38 56.8 +01.9	S 05	20.1 -00.3	65 20.6 +02.2	S 15	21.6 -00.1	14			
15	89 49.5 +00.5	S 18	22.6 -00.5	53 58.7 +01.9	S 05	19.8 -00.2	80 22.8 +02.2	S 15	21.5 -00.1	15			
16	104 50.0 +00.6	S 18	22.1 -00.5	69 00.6 +01.9	S 05	19.6 -00.2	95 25.0 +02.2	S 15	21.4 -00.1	16			
17	119 50.6 +00.5	S 18	21.6 -00.5	84 02.5 +01.9	S 05	19.4 -00.3	110 27.2 +02.2	S 15	21.3 +00.0	17			
18	134 51.1 +00.6	S 18	21.1 -00.5	99 04.4 +01.9	S 05	19.1 -00.2	125 29.4 +02.2	S 15	21.3 -00.1	18			
19	149 51.7 +00.6	S 18	20.6 -00.5	114 06.3 +02.0	S 05	18.9 -00.2	140 31.6 +02.2	S 15	21.2 -00.1	19			
20	164 52.3 +00.5	S 18	20.1 -00.5	129 08.3 +01.9	S 05	18.7 -00.3	155 33.8 +02.3	S 15	21.1 -00.1	20			
21	179 52.8 +00.6	S 18	19.6 -00.5	144 10.2 +01.9	S 05	18.4 -00.2	170 36.1 +02.2	S 15	21.0 +00.0	21			
22	194 53.4 +00.5	S 18	19.1 -00.5	159 12.1 +01.9	S 05	18.2 -00.2	185 38.3 +02.2	S 15	21.0 -00.1	22			
23	209 53.9 +00.6	S 18	18.6 -00.5	174 14.0 +01.9	S 05	18.0 -00.3	200 40.5 +02.2	S 15	20.9 -00.1	23			
<b>UT 02 06 10 14 18 22</b> SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 046° 046° 046° 046° 046° 045° Greenwich Culmination Time: 09:00				<b>UT 02 06 10 14 18 22</b> 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 010° 010° 010° 010° 010° 010° Greenwich Culmination Time: 11:24				<b>UT 02 06 10 14 18 22</b> SD 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 SHA 036° 036° 036° 036° 036° 036° Greenwich Culmination Time: 09:39					



UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 14.8 +00.2	N 00	32.0 +01.0	222 47.1 -00.1	S 14	36.4 -00.5	312 57.9 -32.1	S 17	00.8 +12.6	00			
01	193 15.0 +00.2	N 00	33.0 +01.0	237 47.0 -00.1	S 14	35.9 -00.5	327 25.8 -32.2	S 17	13.4 +12.5	01			
02	208 15.2 +00.2	N 00	34.0 +01.0	252 46.9 -00.1	S 14	35.4 -00.5	341 53.6 -32.2	S 17	25.9 +12.4	02			
03	223 15.4 +00.1	N 00	35.0 +01.0	267 46.8 -00.1	S 14	34.9 -00.4	356 21.4 -32.4	S 17	38.3 +12.3	03			
04	238 15.5 +00.2	N 00	36.0 +01.0	282 46.7 -00.1	S 14	34.5 -00.5	10 49.0 -32.4	S 17	50.6 +12.2	04			
05	253 15.7 +00.2	N 00	37.0 +01.0	297 46.6 -00.1	S 14	34.0 -00.5	25 16.6 -32.5	S 18	02.8 +12.2	05			
06	268 15.9 +00.2	N 00	38.0 +00.9	312 46.5 -00.1	S 14	33.5 -00.5	39 44.1 -32.6	S 18	15.0 +12.0	06			
07	283 16.1 +00.2	N 00	38.9 +01.0	327 46.4 -00.1	S 14	33.0 -00.4	54 11.5 -32.7	S 18	27.0 +11.9	07			
08	298 16.3 +00.2	N 00	39.9 +01.0	342 46.3 +00.0	S 14	32.6 -00.5	68 38.8 -32.8	S 18	38.9 +11.8	08			
09	313 16.5 +00.2	N 00	40.9 +01.0	357 46.3 -00.1	S 14	32.1 -00.5	83 06.0 -32.8	S 18	50.7 +11.7	09			
10	328 16.7 +00.1	N 00	41.9 +01.0	12 46.2 -00.1	S 14	31.6 -00.5	97 33.2 -33.0	S 19	02.4 +11.6	10			
11	343 16.8 +00.2	N 00	42.9 +01.0	27 46.1 -00.1	S 14	31.1 -00.5	112 00.2 -33.0	S 19	14.0 +11.4	11			
12	358 17.0 +00.2	N 00	43.9 +01.0	42 46.0 -00.1	S 14	30.6 -00.4	126 27.2 -33.1	S 19	25.4 +11.4	12			
13	13 17.2 +00.2	N 00	44.9 +00.9	57 45.9 -00.1	S 14	30.2 -00.5	140 54.1 -33.3	S 19	36.8 +11.2	13			
14	28 17.4 +00.2	N 00	45.8 +01.0	72 45.8 -00.1	S 14	29.7 -00.5	155 20.8 -33.3	S 19	48.0 +11.2	14			
15	43 17.6 +00.2	N 00	46.8 +01.0	87 45.7 -00.1	S 14	29.2 -00.5	169 47.5 -33.4	S 19	59.2 +11.0	15			
16	58 17.8 +00.2	N 00	47.8 +01.0	102 45.6 -00.1	S 14	28.7 -00.5	184 14.1 -33.4	S 20	10.2 +10.9	16			
17	73 18.0 +00.2	N 00	48.8 +01.0	117 45.5 -00.1	S 14	28.2 -00.5	198 40.7 -33.6	S 20	21.1 +10.7	17			
18	88 18.2 +00.1	N 00	49.8 +01.0	132 45.4 -00.1	S 14	27.7 -00.4	213 07.1 -33.6	S 20	31.8 +10.7	18			
19	103 18.3 +00.2	N 00	50.8 +01.0	147 45.3 -00.1	S 14	27.3 -00.5	227 33.5 -33.8	S 20	42.5 +10.5	19			
20	118 18.5 +00.2	N 00	51.8 +00.9	162 45.2 -00.1	S 14	26.8 -00.5	241 59.7 -33.8	S 20	53.0 +10.4	20			
21	133 18.7 +00.2	N 00	52.7 +01.0	177 45.1 -00.1	S 14	26.3 -00.5	256 25.9 -33.9	S 21	03.4 +10.2	21			
22	148 18.9 +00.2	N 00	53.7 +01.0	192 45.0 -00.1	S 14	25.8 -00.5	270 52.0 -34.0	S 21	13.6 +10.2	22			
23	163 19.1 +00.2	N 00	54.7 +01.0	207 44.9 -00.1	S 14	25.3 -00.5	285 18.0 -34.1	S 21	23.8 +10.0	23			
	UT 02 06 10 14 18 22			UT 02 06 10 14 18 22			UT 02 06 10 14 18 22						
	SD 16'1 16'1 16'1 16'1 16'1 16'1			SD 00'2 00'2 00'2 00'2 00'2 00'2			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 00'2 00'2 00'2 00'2 00'2 00'2			HP 59'1 59'1 59'2 59'2 59'2 59'2						
	SHA 359° 359° 358° 358° 358° 358°			SHA 043° 043° 043° 043° 043° 042°			SHA 132° 130° 128° 125° 123° 120°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 09:08			Greenwich Culmination Time: 03:15						

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	224 54.5 +00.5	S 18	18.1 -00.5	189 15.9 +01.9	S 05	17.7 -00.2	215 42.7 +02.2	S 15	20.8 -00.1	00			
01	239 55.0 +00.6	S 18	17.6 -00.5	204 17.8 +01.9	S 05	17.5 -00.2	230 44.9 +02.2	S 15	20.7 +00.0	01			
02	254 55.6 +00.5	S 18	17.1 -00.5	219 19.7 +01.9	S 05	17.3 -00.3	245 47.1 +02.2	S 15	20.7 -00.1	02			
03	269 56.1 +00.6	S 18	16.6 -00.5	234 21.6 +01.9	S 05	17.0 -00.2	260 49.3 +02.3	S 15	20.6 -00.1	03			
04	284 56.7 +00.5	S 18	16.1 -00.5	249 23.5 +02.0	S 05	16.8 -00.2	275 51.6 +02.2	S 15	20.5 -00.1	04			
05	299 57.2 +00.6	S 18	15.6 -00.5	264 25.5 +01.9	S 05	16.6 -00.2	290 53.8 +02.2	S 15	20.4 +00.0	05			
06	314 57.8 +00.5	S 18	15.1 -00.5	279 27.4 +01.9	S 05	16.4 -00.3	305 56.0 +02.2	S 15	20.4 -00.1	06			
07	329 58.3 +00.6	S 18	14.6 -00.5	294 29.3 +01.9	S 05	16.1 -00.2	320 58.2 +02.2	S 15	20.3 -00.1	07			
08	344 58.9 +00.6	S 18	14.1 -00.5	309 31.2 +01.9	S 05	15.9 -00.2	336 00.4 +02.2	S 15	20.2 -00.1	08			
09	359 59.5 +00.5	S 18	13.6 -00.5	324 33.1 +01.9	S 05	15.7 -00.3	351 02.6 +02.2	S 15	20.1 -00.1	09			
10	15 00.0 +00.6	S 18	13.1 -00.5	339 35.0 +01.9	S 05	15.4 -00.2	6 04.8 +02.3	S 15	20.0 +00.0	10			
11	30 00.6 +00.5	S 18	12.6 -00.5	354 36.9 +01.9	S 05	15.2 -00.2	21 07.1 +02.2	S 15	20.0 -00.1	11			
12	45 01.1 +00.6	S 18	12.1 -00.5	9 38.8 +01.9	S 05	15.0 -00.3	36 09.3 +02.2	S 15	19.9 -00.1	12			
13	60 01.7 +00.5	S 18	11.6 -00.5	24 40.7 +02.0	S 05	14.7 -00.2	51 11.5 +02.2	S 15	19.8 -00.1	13			
14	75 02.2 +00.6	S 18	11.1 -00.5	39 42.7 +01.9	S 05	14.5 -00.2	66 13.7 +02.2	S 15	19.7 +00.0	14			
15	90 02.8 +00.5	S 18	10.6 -00.5	54 44.6 +01.9	S 05	14.3 -00.3	81 15.9 +02.2	S 15	19.7 -00.1	15			
16	105 03.3 +00.6	S 18	10.1 -00.5	69 46.5 +01.9	S 05	14.0 -00.2	96 18.1 +02.3	S 15	19.6 -00.1	16			
17	120 03.9 +00.6	S 18	09.6 -00.5	84 48.4 +01.9	S 05	13.8 -00.2	111 20.4 +02.2	S 15	19.5 -00.1	17			
18	135 04.5 +00.5	S 18	09.1 -00.5	99 50.3 +01.9	S 05	13.6 -00.3	126 22.6 +02.2	S 15	19.4 +00.0	18			
19	150 05.0 +00.6	S 18	08.6 -00.5	114 52.2 +01.9	S 05	13.3 -00.2	141 24.8 +02.2	S 15	19.4 -00.1	19			
20	165 05.6 +00.5	S 18	08.1 -00.5	129 54.1 +01.9	S 05	13.1 -00.2	156 27.0 +02.2	S 15	19.3 -00.1	20			
21	180 06.1 +00.6	S 18	07.6 -00.5	144 56.0 +01.9	S 05	12.9 -00.2	171 29.2 +02.2	S 15	19.2 -00.1	21			
22	195 06.7 +00.5	S 18	07.1 -00.5	159 57.9 +02.0	S 05	12.7 -00.3	186 31.4 +02.3	S 15	19.1 +00.0	22			
23	210 07.2 +00.6	S 18	06.6 -00.5	174 59.9 +01.9	S 05	12.4 -00.2	201 33.7 +02.2	S 15	19.1 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 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 045° 045° 045° 045° 045° 045°			SHA 010° 010° 010° 010° 010° 010°			SHA 036° 036° 036° 036° 036° 036°						
	Greenwich Culmination Time: 09:00			Greenwich Culmination Time: 11:21			Greenwich Culmination Time: 09:35						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 19.3 +00.2	N 00	55.7 +01.0	222 44.8 +00.0	S 14	24.8 -00.5	299 43.9 -34.2	S 21	33.8 +09.9	00			
01	193 19.5 +00.2	N 00	56.7 +01.0	237 44.8 -00.1	S 14	24.3 -00.5	314 09.7 -34.3	S 21	43.7 +09.7	01			
02	208 19.7 +00.1	N 00	57.7 +01.0	252 44.7 -00.1	S 14	23.8 -00.5	328 35.4 -34.3	S 21	53.4 +09.6	02			
03	223 19.8 +00.2	N 00	58.7 +00.9	267 44.6 -00.1	S 14	23.3 -00.5	343 01.1 -34.4	S 22	03.0 +09.5	03			
04	238 20.0 +00.2	N 00	59.6 +01.0	282 44.5 -00.1	S 14	22.8 -00.5	357 26.7 -34.5	S 22	12.5 +09.3	04			
05	253 20.2 +00.2	N 01	00.6 +01.0	297 44.4 -00.1	S 14	22.3 -00.4	11 52.2 -34.6	S 22	21.8 +09.2	05			
06	268 20.4 +00.2	N 01	01.6 +01.0	312 44.3 -00.1	S 14	21.9 -00.5	26 17.6 -34.7	S 22	31.0 +09.0	06			
07	283 20.6 +00.2	N 01	02.6 +01.0	327 44.2 -00.1	S 14	21.4 -00.5	40 42.9 -34.8	S 22	40.0 +08.9	07			
08	298 20.8 +00.2	N 01	03.6 +01.0	342 44.1 -00.1	S 14	20.9 -00.5	55 08.1 -34.8	S 22	48.9 +08.8	08			
09	313 21.0 +00.2	N 01	04.6 +01.0	357 44.0 -00.1	S 14	20.4 -00.5	69 33.3 -34.9	S 22	57.7 +08.6	09			
10	328 21.2 +00.1	N 01	05.6 +00.9	12 43.9 -00.1	S 14	19.9 -00.5	83 58.4 -35.1	S 23	06.3 +08.5	10			
11	343 21.3 +00.2	N 01	06.5 +01.0	27 43.8 -00.1	S 14	19.4 -00.5	98 23.3 -35.0	S 23	14.8 +08.3	11			
12	358 21.5 +00.2	N 01	07.5 +01.0	42 43.7 -00.1	S 14	18.9 -00.5	112 48.3 -35.2	S 23	23.1 +08.2	12			
13	13 21.7 +00.2	N 01	08.5 +01.0	57 43.6 -00.1	S 14	18.4 -00.5	127 13.1 -35.2	S 23	31.3 +08.0	13			
14	28 21.9 +00.2	N 01	09.5 +01.0	72 43.5 -00.2	S 14	17.9 -00.5	141 37.9 -35.4	S 23	39.3 +07.8	14			
15	43 22.1 +00.2	N 01	10.5 +01.0	87 43.3 -00.1	S 14	17.4 -00.5	156 02.5 -35.3	S 23	47.1 +07.8	15			
16	58 22.3 +00.2	N 01	11.5 +01.0	102 43.2 -00.1	S 14	16.9 -00.5	170 27.2 -35.5	S 23	54.9 +07.5	16			
17	73 22.5 +00.2	N 01	12.5 +00.9	117 43.1 -00.1	S 14	16.4 -00.6	184 51.7 -35.5	S 24	02.4 +07.4	17			
18	88 22.7 +00.2	N 01	13.4 +01.0	132 43.0 -00.1	S 14	15.8 -00.5	199 16.2 -35.7	S 24	09.8 +07.3	18			
19	103 22.9 +00.1	N 01	14.4 +01.0	147 42.9 -00.1	S 14	15.3 -00.5	213 40.5 -35.6	S 24	17.1 +07.1	19			
20	118 23.0 +00.2	N 01	15.4 +01.0	162 42.8 -00.1	S 14	14.8 -00.5	228 04.9 -35.8	S 24	24.2 +06.9	20			
21	133 23.2 +00.2	N 01	16.4 +01.0	177 42.7 -00.1	S 14	14.3 -00.5	242 29.1 -35.8	S 24	31.1 +06.8	21			
22	148 23.4 +00.2	N 01	17.4 +01.0	192 42.6 -00.1	S 14	13.8 -00.5	256 53.3 -35.9	S 24	37.9 +06.6	22			
23	163 23.6 +00.2	N 01	18.4 +01.0	207 42.5 -00.1	S 14	13.3 -00.5	271 17.4 -36.0	S 24	44.5 +06.4	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 00'2 00'2 00'2 00'2 00'2 00'2			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 00'2 00'2 00'2 00'2 00'2 00'2			HP 59'2 59'2 59'3 59'3 59'3 59'3						
	SHA 358° 358° 357° 357° 357° 357°			SHA 042° 042° 042° 042° 042° 041°			SHA 118° 116° 113° 111° 108° 106°						
	Greenwich Culmination Time: 12:06			Greenwich Culmination Time: 09:09			Greenwich Culmination Time: 04:10						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	225 07.8 +00.6	S 18	06.1 -00.5	190 01.8 +01.9	S 05	12.2 -00.2	216 35.9 +02.2	S 15	19.0 -00.1	00			
01	240 08.4 +00.5	S 18	05.6 -00.5	205 03.7 +01.9	S 05	12.0 -00.3	231 38.1 +02.2	S 15	18.9 -00.1	01			
02	255 08.9 +00.6	S 18	05.1 -00.5	220 05.6 +01.9	S 05	11.7 -00.2	246 40.3 +02.2	S 15	18.8 +00.0	02			
03	270 09.5 +00.5	S 18	04.6 -00.5	235 07.5 +01.9	S 05	11.5 -00.2	261 42.5 +02.2	S 15	18.8 -00.1	03			
04	285 10.0 +00.6	S 18	04.1 -00.5	250 09.4 +01.9	S 05	11.3 -00.3	276 44.7 +02.3	S 15	18.7 -00.1	04			
05	300 10.6 +00.5	S 18	03.6 -00.5	265 11.3 +01.9	S 05	11.0 -00.2	291 47.0 +02.2	S 15	18.6 -00.1	05			
06	315 11.1 +00.6	S 18	03.1 -00.5	280 13.2 +02.0	S 05	10.8 -00.2	306 49.2 +02.2	S 15	18.5 +00.0	06			
07	330 11.7 +00.6	S 18	02.6 -00.5	295 15.2 +01.9	S 05	10.6 -00.3	321 51.4 +02.2	S 15	18.5 -00.1	07			
08	345 12.3 +00.5	S 18	02.1 -00.5	310 17.1 +01.9	S 05	10.3 -00.2	336 53.6 +02.2	S 15	18.4 -00.1	08			
09	0 12.8 +00.6	S 18	01.6 -00.5	325 19.0 +01.9	S 05	10.1 -00.2	351 55.8 +02.2	S 15	18.3 -00.1	09			
10	15 13.4 +00.5	S 18	01.1 -00.5	340 20.9 +01.9	S 05	09.9 -00.3	6 58.0 +02.3	S 15	18.2 +00.0	10			
11	30 13.9 +00.6	S 18	00.6 -00.5	355 22.8 +01.9	S 05	09.6 -00.2	22 00.3 +02.2	S 15	18.2 -00.1	11			
12	45 14.5 +00.6	S 18	00.1 -00.5	10 24.7 +01.9	S 05	09.4 -00.2	37 02.5 +02.2	S 15	18.1 -00.1	12			
13	60 15.1 +00.5	S 17	59.6 -00.5	25 26.6 +01.9	S 05	09.2 -00.2	52 04.7 +02.2	S 15	18.0 -00.1	13			
14	75 15.6 +00.6	S 17	59.1 -00.6	40 28.5 +02.0	S 05	09.0 -00.3	67 06.9 +02.2	S 15	17.9 +00.0	14			
15	90 16.2 +00.5	S 17	58.5 -00.5	55 30.5 +01.9	S 05	08.7 -00.2	82 09.1 +02.3	S 15	17.9 -00.1	15			
16	105 16.7 +00.6	S 17	58.0 -00.5	70 32.4 +01.9	S 05	08.5 -00.2	97 11.4 +02.2	S 15	17.8 -00.1	16			
17	120 17.3 +00.6	S 17	57.5 -00.5	85 34.3 +01.9	S 05	08.3 -00.3	112 13.6 +02.2	S 15	17.7 -00.1	17			
18	135 17.9 +00.5	S 17	57.0 -00.5	100 36.2 +01.9	S 05	08.0 -00.2	127 15.8 +02.2	S 15	17.6 +00.0	18			
19	150 18.4 +00.6	S 17	56.5 -00.5	115 38.1 +01.9	S 05	07.8 -00.2	142 18.0 +02.2	S 15	17.6 -00.1	19			
20	165 19.0 +00.5	S 17	56.0 -00.5	130 40.0 +01.9	S 05	07.6 -00.3	157 20.2 +02.2	S 15	17.5 -00.1	20			
21	180 19.5 +00.6	S 17	55.5 -00.5	145 41.9 +01.9	S 05	07.3 -00.2	172 22.4 +02.3	S 15	17.4 -00.1	21			
22	195 20.1 +00.6	S 17	55.0 -00.5	160 43.8 +02.0	S 05	07.1 -00.2	187 24.7 +02.2	S 15	17.3 +00.0	22			
23	210 20.7 +00.5	S 17	54.5 -00.5	175 45.8 +01.9	S 05	06.9 -00.3	202 26.9 +02.2	S 15	17.3 -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 00'1 00'1 00'1 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 045° 044° 044° 044° 044° 044°			SHA 010° 010° 009° 009° 009° 009°			SHA 036° 036° 036° 036° 036° 036°						
	Greenwich Culmination Time: 08:59			Greenwich Culmination Time: 11:18			Greenwich Culmination Time: 09:32						

UT	Sun				Venus				Moon				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	178 23.8 +00.2	N 01 19.4 +00.9	222 42.4 -00.1	S 14 12.8 -00.5	285 41.4 -36.0	S 24 50.9 +06.3	00							
01	193 24.0 +00.2	N 01 20.3 +01.0	237 42.3 -00.1	S 14 12.3 -00.5	300 05.4 -36.0	S 24 57.2 +06.1	01							
02	208 24.2 +00.2	N 01 21.3 +01.0	252 42.2 -00.1	S 14 11.8 -00.5	314 29.4 -36.2	S 25 03.3 +05.9	02							
03	223 24.4 +00.1	N 01 22.3 +01.0	267 42.1 -00.1	S 14 11.3 -00.5	328 53.2 -36.2	S 25 09.2 +05.8	03							
04	238 24.5 +00.2	N 01 23.3 +01.0	282 42.0 -00.1	S 14 10.8 -00.6	343 17.0 -36.2	S 25 15.0 +05.6	04							
05	253 24.7 +00.2	N 01 24.3 +01.0	297 41.9 -00.1	S 14 10.2 -00.5	357 40.8 -36.4	S 25 20.6 +05.5	05							
06	268 24.9 +00.2	N 01 25.3 +00.9	312 41.8 -00.1	S 14 09.7 -00.5	12 04.4 -36.3	S 25 26.1 +05.2	06							
07	283 25.1 +00.2	N 01 26.2 +01.0	327 41.7 -00.2	S 14 09.2 -00.5	26 28.1 -36.5	S 25 31.3 +05.1	07							
08	298 25.3 +00.2	N 01 27.2 +01.0	342 41.5 -00.1	S 14 08.7 -00.5	40 51.6 -36.4	S 25 36.4 +05.0	08							
09	313 25.5 +00.2	N 01 28.2 +01.0	357 41.4 -00.1	S 14 08.2 -00.5	55 15.2 -36.6	S 25 41.4 +04.7	09							
10	328 25.7 +00.2	N 01 29.2 +01.0	12 41.3 -00.1	S 14 07.7 -00.6	69 38.6 -36.5	S 25 46.1 +04.6	10							
11	343 25.9 +00.1	N 01 30.2 +01.0	27 41.2 -00.1	S 14 07.1 -00.5	84 02.1 -36.6	S 25 50.7 +04.4	11							
12	358 26.0 +00.2	N 01 31.2 +01.0	42 41.1 -00.1	S 14 06.6 -00.5	98 25.5 -36.7	S 25 55.1 +04.3	12							
13	13 26.2 +00.2	N 01 32.2 +00.9	57 41.0 -00.1	S 14 06.1 -00.5	112 48.8 -36.7	S 25 59.4 +04.0	13							
14	28 26.4 +00.2	N 01 33.1 +01.0	72 40.9 -00.1	S 14 05.6 -00.5	127 12.1 -36.8	S 26 03.4 +03.9	14							
15	43 26.6 +00.2	N 01 34.1 +01.0	87 40.8 -00.1	S 14 05.1 -00.6	141 35.3 -36.7	S 26 07.3 +03.7	15							
16	58 26.8 +00.2	N 01 35.1 +01.0	102 40.7 -00.2	S 14 04.5 -00.5	155 58.6 -36.9	S 26 11.0 +03.5	16							
17	73 27.0 +00.2	N 01 36.1 +01.0	117 40.5 -00.1	S 14 04.0 -00.5	170 21.7 -36.8	S 26 14.5 +03.4	17							
18	88 27.2 +00.2	N 01 37.1 +01.0	132 40.4 -00.1	S 14 03.5 -00.5	184 44.9 -36.9	S 26 17.9 +03.1	18							
19	103 27.4 +00.2	N 01 38.1 +00.9	147 40.3 -00.1	S 14 03.0 -00.6	199 08.0 -36.9	S 26 21.0 +03.0	19							
20	118 27.6 +00.1	N 01 39.0 +01.0	162 40.2 -00.1	S 14 02.4 -00.5	213 31.1 -37.0	S 26 24.0 +02.8	20							
21	133 27.7 +00.2	N 01 40.0 +01.0	177 40.1 -00.1	S 14 01.9 -00.5	227 54.1 -36.9	S 26 26.8 +02.7	21							
22	148 27.9 +00.2	N 01 41.0 +01.0	192 40.0 -00.1	S 14 01.4 -00.5	242 17.2 -37.0	S 26 29.5 +02.4	22							
23	163 28.1 +00.2	N 01 42.0 +01.0	207 39.9 -00.1	S 14 00.9 -00.6	256 40.2 -37.1	S 26 31.9 +02.3	23							
UT 02 06 10 14 18 22	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	SHA 357° 357° 357° 356° 356° 356°	Greenwich Culmination Time: 12:06	UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 041° 041° 041° 041° 040° 040°	Greenwich Culmination Time: 09:09	UT 02 06 10 14 18 22	SD 16'1 16'1 16'1 16'1 16'1 16'1	HP 59'3 59'3 59'3 59'3 59'2 59'2	SHA 103° 100° 098° 095° 093° 090°	Greenwich Culmination Time: 05:09

  

UT	Mars				Jupiter				Saturn				UT	
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec		
00	225 21.2 +00.6	S 17 54.0 -00.5	190 47.7 +01.9	S 05 06.6 -00.2	217 29.1 +02.2	S 15 17.2 -00.1	00							
01	240 21.8 +00.5	S 17 53.5 -00.6	205 49.6 +01.9	S 05 06.4 -00.2	232 31.3 +02.2	S 15 17.1 -00.1	01							
02	255 22.3 +00.6	S 17 52.9 -00.5	220 51.5 +01.9	S 05 06.2 -00.2	247 33.5 +02.3	S 15 17.0 +00.0	02							
03	270 22.9 +00.6	S 17 52.4 -00.5	235 53.4 +01.9	S 05 06.0 -00.3	262 35.8 +02.2	S 15 17.0 -00.1	03							
04	285 23.5 +00.5	S 17 51.9 -00.5	250 55.3 +01.9	S 05 05.7 -00.2	277 38.0 +02.2	S 15 16.9 -00.1	04							
05	300 24.0 +00.6	S 17 51.4 -00.5	265 57.2 +01.9	S 05 05.5 -00.2	292 40.2 +02.2	S 15 16.8 -00.1	05							
06	315 24.6 +00.5	S 17 50.9 -00.5	280 59.1 +02.0	S 05 05.3 -00.3	307 42.4 +02.2	S 15 16.7 +00.0	06							
07	330 25.1 +00.6	S 17 50.4 -00.5	296 01.1 +01.9	S 05 05.0 -00.2	322 44.6 +02.3	S 15 16.7 -00.1	07							
08	345 25.7 +00.6	S 17 49.9 -00.5	311 03.0 +01.9	S 05 04.8 -00.2	337 46.9 +02.2	S 15 16.6 -00.1	08							
09	0 26.3 +00.5	S 17 49.4 -00.6	326 04.9 +01.9	S 05 04.6 -00.3	352 49.1 +02.2	S 15 16.5 -00.1	09							
10	15 26.8 +00.6	S 17 48.8 -00.5	341 06.8 +01.9	S 05 04.3 -00.2	7 51.3 +02.2	S 15 16.4 +00.0	10							
11	30 27.4 +00.6	S 17 48.3 -00.5	356 08.7 +01.9	S 05 04.1 -00.2	22 53.5 +02.2	S 15 16.4 -00.1	11							
12	45 28.0 +00.5	S 17 47.8 -00.5	11 10.6 +01.9	S 05 03.9 -00.3	37 55.7 +02.3	S 15 16.3 -00.1	12							
13	60 28.5 +00.6	S 17 47.3 -00.5	26 12.5 +01.9	S 05 03.6 -00.2	52 58.0 +02.2	S 15 16.2 -00.1	13							
14	75 29.1 +00.5	S 17 46.8 -00.5	41 14.4 +02.0	S 05 03.4 -00.2	68 00.2 +02.2	S 15 16.1 +00.0	14							
15	90 29.6 +00.6	S 17 46.3 -00.5	56 16.4 +01.9	S 05 03.2 -00.2	83 02.4 +02.2	S 15 16.1 -00.1	15							
16	105 30.2 +00.6	S 17 45.8 -00.6	71 18.3 +01.9	S 05 03.0 -00.3	98 04.6 +02.2	S 15 16.0 -00.1	16							
17	120 30.8 +00.5	S 17 45.2 -00.5	86 20.2 +01.9	S 05 02.7 -00.2	113 06.8 +02.3	S 15 15.9 -00.1	17							
18	135 31.3 +00.6	S 17 44.7 -00.5	101 22.1 +01.9	S 05 02.5 -00.2	128 09.1 +02.2	S 15 15.8 +00.0	18							
19	150 31.9 +00.6	S 17 44.2 -00.5	116 24.0 +01.9	S 05 02.3 -00.3	143 11.3 +02.2	S 15 15.8 -00.1	19							
20	165 32.5 +00.5	S 17 43.7 -00.5	131 25.9 +01.9	S 05 02.0 -00.2	158 13.5 +02.2	S 15 15.7 -00.1	20							
21	180 33.0 +00.6	S 17 43.2 -00.5	146 27.8 +02.0	S 05 01.8 -00.2	173 15.7 +02.2	S 15 15.6 -00.1	21							
22	195 33.6 +00.6	S 17 42.7 -00.6	161 29.8 +01.9	S 05 01.6 -00.3	188 17.9 +02.3	S 15 15.5 +00.0	22							
23	210 34.2 +00.5	S 17 42.1 -00.5	176 31.7 +01.9	S 05 01.3 -00.2	203 20.2 +02.2	S 15 15.5 -00.1	23							
UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 044° 044° 044° 043° 043° 043°	Greenwich Culmination Time: 08:58	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 009° 009° 009° 009° 009° 009°	Greenwich Culmination Time: 11:15	UT 02 06 10 14 18 22	SD 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	SHA 036° 036° 036° 036° 036° 036°	Greenwich Culmination Time: 09:28

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 28.3 +00.2	N 01 43.0 +01.0	222 39.8 -00.2	S 14 00.3 -00.5	271 03.1 -37.0	S 26 34.2 +02.1	00						
01	193 28.5 +00.2	N 01 44.0 +00.9	237 39.6 -00.1	S 13 59.8 -00.5	285 26.1 -37.1	S 26 36.3 +01.9	01						
02	208 28.7 +00.2	N 01 44.9 +01.0	252 39.5 -00.1	S 13 59.3 -00.6	299 49.0 -37.0	S 26 38.2 +01.7	02						
03	223 28.9 +00.2	N 01 45.9 +01.0	267 39.4 -00.1	S 13 58.7 -00.5	314 12.0 -37.1	S 26 39.9 +01.5	03						
04	238 29.1 +00.1	N 01 46.9 +01.0	282 39.3 -00.1	S 13 58.2 -00.5	328 34.9 -37.1	S 26 41.4 +01.4	04						
05	253 29.2 +00.2	N 01 47.9 +01.0	297 39.2 -00.1	S 13 57.7 -00.6	342 57.8 -37.1	S 26 42.8 +01.1	05						
06	268 29.4 +00.2	N 01 48.9 +01.0	312 39.1 -00.2	S 13 57.1 -00.5	357 20.7 -37.2	S 26 43.9 +01.0	06						
07	283 29.6 +00.2	N 01 49.9 +00.9	327 38.9 -00.1	S 13 56.6 -00.5	11 43.5 -37.1	S 26 44.9 +00.8	07						
08	298 29.8 +00.2	N 01 50.8 +01.0	342 38.8 -00.1	S 13 56.1 -00.6	26 06.4 -37.1	S 26 45.7 +00.6	08						
09	313 30.0 +00.2	N 01 51.8 +01.0	357 38.7 -00.1	S 13 55.5 -00.5	40 29.3 -37.1	S 26 46.3 +00.5	09						
10	328 30.2 +00.2	N 01 52.8 +01.0	12 38.6 -00.1	S 13 55.0 -00.5	54 52.2 -37.1	S 26 46.8 +00.2	10						
11	343 30.4 +00.2	N 01 53.8 +01.0	27 38.5 -00.1	S 13 54.5 -00.6	69 15.1 -37.2	S 26 47.0 +00.1	11						
12	358 30.6 +00.2	N 01 54.8 +00.9	42 38.4 -00.2	S 13 53.9 -00.5	83 37.9 -37.1	S 26 47.1 -00.1	12						
13	13 30.8 +00.1	N 01 55.7 +01.0	57 38.2 -00.1	S 13 53.4 -00.5	98 00.8 -37.1	S 26 47.0 -00.3	13						
14	28 30.9 +00.2	N 01 56.7 +01.0	72 38.1 -00.1	S 13 52.9 -00.6	112 23.7 -37.0	S 26 46.7 -00.5	14						
15	43 31.1 +00.2	N 01 57.7 +01.0	87 38.0 -00.1	S 13 52.3 -00.5	126 46.7 -37.1	S 26 46.2 -00.6	15						
16	58 31.3 +00.2	N 01 58.7 +01.0	102 37.9 -00.1	S 13 51.8 -00.6	141 09.6 -37.1	S 26 45.6 -00.9	16						
17	73 31.5 +00.2	N 01 59.7 +01.0	117 37.8 -00.2	S 13 51.2 -00.5	155 32.5 -37.0	S 26 44.7 -01.0	17						
18	88 31.7 +00.2	N 02 00.7 +00.9	132 37.6 -00.1	S 13 50.7 -00.6	169 55.5 -37.0	S 26 43.7 -01.2	18						
19	103 31.9 +00.2	N 02 01.6 +01.0	147 37.5 -00.1	S 13 50.1 -00.5	184 18.5 -37.0	S 26 42.5 -01.4	19						
20	118 32.1 +00.2	N 02 02.6 +01.0	162 37.4 -00.1	S 13 49.6 -00.5	198 41.5 -37.0	S 26 41.1 -01.6	20						
21	133 32.3 +00.2	N 02 03.6 +01.0	177 37.3 -00.1	S 13 49.1 -00.6	213 04.5 -37.0	S 26 39.5 -01.7	21						
22	148 32.5 +00.1	N 02 04.6 +01.0	192 37.2 -00.2	S 13 48.5 -00.5	227 27.5 -36.9	S 26 37.8 -02.0	22						
23	163 32.6 +00.2	N 02 05.6 +01.0	207 37.0 -00.1	S 13 48.0 -00.6	241 50.6 -36.9	S 26 35.8 -02.1	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 00'2 00'2 00'2 00'2 00'2 00'2		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 00'2 00'2 00'2 00'2 00'2 00'2		HP 59'2 59'2 59'2 59'2 59'1 59'1								
	SHA 356° 356° 356° 356° 355° 355°		SHA 040° 040° 040° 040° 039° 039°		SHA 087° 085° 082° 079° 077° 074°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 09:09		Greenwich Culmination Time: 06:11								

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	225 34.7 +00.6	S 17 41.6 -00.5	191 33.6 +01.9	S 05 01.1 -00.2	218 22.4 +02.2	S 15 15.4 -00.1	00						
01	240 35.3 +00.5	S 17 41.1 -00.5	206 35.5 +01.9	S 05 00.9 -00.3	233 24.6 +02.2	S 15 15.3 +00.0	01						
02	255 35.8 +00.6	S 17 40.6 -00.5	221 37.4 +01.9	S 05 00.6 -00.2	248 26.8 +02.2	S 15 15.3 -00.1	02						
03	270 36.4 +00.6	S 17 40.1 -00.6	236 39.3 +01.9	S 05 00.4 -00.2	263 29.0 +02.3	S 15 15.2 -00.1	03						
04	285 37.0 +00.5	S 17 39.5 -00.5	251 41.2 +02.0	S 05 00.2 -00.2	278 31.3 +02.2	S 15 15.1 -00.1	04						
05	300 37.5 +00.6	S 17 39.0 -00.5	266 43.2 +01.9	S 04 60.0 -00.3	293 33.5 +02.2	S 15 15.0 +00.0	05						
06	315 38.1 +00.6	S 17 38.5 -00.5	281 45.1 +01.9	S 04 59.7 -00.2	308 35.7 +02.2	S 15 15.0 -00.1	06						
07	330 38.7 +00.5	S 17 38.0 -00.5	296 47.0 +01.9	S 04 59.5 -00.2	323 37.9 +02.2	S 15 14.9 -00.1	07						
08	345 39.2 +00.6	S 17 37.5 -00.5	311 48.9 +01.9	S 04 59.3 -00.3	338 40.1 +02.3	S 15 14.8 -00.1	08						
09	0 39.8 +00.6	S 17 37.0 -00.6	326 50.8 +01.9	S 04 59.0 -00.2	353 42.4 +02.2	S 15 14.7 +00.0	09						
10	15 40.4 +00.5	S 17 36.4 -00.5	341 52.7 +01.9	S 04 58.8 -00.2	8 44.6 +02.2	S 15 14.7 -00.1	10						
11	30 40.9 +00.6	S 17 35.9 -00.5	356 54.6 +02.0	S 04 58.6 -00.3	23 46.8 +02.2	S 15 14.6 -00.1	11						
12	45 41.5 +00.6	S 17 35.4 -00.5	11 56.6 +01.9	S 04 58.3 -00.2	38 49.0 +02.3	S 15 14.5 -00.1	12						
13	60 42.1 +00.5	S 17 34.9 -00.6	26 58.5 +01.9	S 04 58.1 -00.2	53 51.3 +02.2	S 15 14.4 +00.0	13						
14	75 42.6 +00.6	S 17 34.3 -00.5	42 00.4 +01.9	S 04 57.9 -00.3	68 53.5 +02.2	S 15 14.4 -00.1	14						
15	90 43.2 +00.6	S 17 33.8 -00.5	57 02.3 +01.9	S 04 57.6 -00.2	83 55.7 +02.2	S 15 14.3 -00.1	15						
16	105 43.8 +00.5	S 17 33.3 -00.5	72 04.2 +01.9	S 04 57.4 -00.2	98 57.9 +02.2	S 15 14.2 -00.1	16						
17	120 44.3 +00.6	S 17 32.8 -00.5	87 06.1 +01.9	S 04 57.2 -00.2	114 00.1 +02.3	S 15 14.1 +00.0	17						
18	135 44.9 +00.6	S 17 32.3 -00.6	102 08.0 +02.0	S 04 57.0 -00.3	129 02.4 +02.2	S 15 14.1 -00.1	18						
19	150 45.5 +00.5	S 17 31.7 -00.5	117 10.0 +01.9	S 04 56.7 -00.2	144 04.6 +02.2	S 15 14.0 -00.1	19						
20	165 46.0 +00.6	S 17 31.2 -00.5	132 11.9 +01.9	S 04 56.5 -00.2	159 06.8 +02.2	S 15 13.9 -00.1	20						
21	180 46.6 +00.6	S 17 30.7 -00.5	147 13.8 +01.9	S 04 56.3 -00.3	174 09.0 +02.3	S 15 13.8 +00.0	21						
22	195 47.2 +00.5	S 17 30.2 -00.6	162 15.7 +01.9	S 04 56.0 -00.2	189 11.3 +02.2	S 15 13.8 -00.1	22						
23	210 47.7 +00.6	S 17 29.6 -00.5	177 17.6 +01.9	S 04 55.8 -00.2	204 13.5 +02.2	S 15 13.7 -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 00'1 00'1 00'1 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 043° 043° 043° 043° 043° 042°		SHA 009° 009° 009° 009° 009° 009°		SHA 036° 036° 036° 036° 036° 036°								
	Greenwich Culmination Time: 08:57		Greenwich Culmination Time: 11:12		Greenwich Culmination Time: 09:25								

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 32.8 +00.2	N 02 06.6 +00.9	222 36.9 -00.1	S 13 47.4 -00.5	256 13.7 -36.8	S 26 33.7 -02.3	00						
01	193 33.0 +00.2	N 02 07.5 +01.0	237 36.8 -00.1	S 13 46.9 -00.6	270 36.9 -36.9	S 26 31.4 -02.5	01						
02	208 33.2 +00.2	N 02 08.5 +01.0	252 36.7 -00.2	S 13 46.3 -00.5	285 00.0 -36.7	S 26 28.9 -02.6	02						
03	223 33.4 +00.2	N 02 09.5 +01.0	267 36.5 -00.1	S 13 45.8 -00.6	299 23.3 -36.8	S 26 26.3 -02.8	03						
04	238 33.6 +00.2	N 02 10.5 +01.0	282 36.4 -00.1	S 13 45.2 -00.5	313 46.5 -36.7	S 26 23.5 -03.1	04						
05	253 33.8 +00.2	N 02 11.5 +00.9	297 36.3 -00.1	S 13 44.7 -00.6	328 09.8 -36.7	S 26 20.4 -03.1	05						
06	268 34.0 +00.1	N 02 12.4 +01.0	312 36.2 -00.2	S 13 44.1 -00.5	342 33.1 -36.6	S 26 17.3 -03.4	06						
07	283 34.1 +00.2	N 02 13.4 +01.0	327 36.0 -00.1	S 13 43.6 -00.6	356 56.5 -36.5	S 26 13.9 -03.5	07						
08	298 34.3 +00.2	N 02 14.4 +01.0	342 35.9 -00.1	S 13 43.0 -00.5	11 20.0 -36.6	S 26 10.4 -03.7	08						
09	313 34.5 +00.2	N 02 15.4 +01.0	357 35.8 -00.1	S 13 42.5 -00.6	25 43.4 -36.4	S 26 06.7 -03.9	09						
10	328 34.7 +00.2	N 02 16.4 +00.9	12 35.7 -00.2	S 13 41.9 -00.6	40 07.0 -36.4	S 26 02.8 -04.1	10						
11	343 34.9 +00.2	N 02 17.3 +01.0	27 35.5 -00.1	S 13 41.3 -00.5	54 30.6 -36.4	S 25 58.7 -04.2	11						
12	358 35.1 +00.2	N 02 18.3 +01.0	42 35.4 -00.1	S 13 40.8 -00.6	68 54.2 -36.3	S 25 54.5 -04.4	12						
13	13 35.3 +00.2	N 02 19.3 +01.0	57 35.3 -00.1	S 13 40.2 -00.5	83 17.9 -36.3	S 25 50.1 -04.6	13						
14	28 35.5 +00.2	N 02 20.3 +01.0	72 35.2 -00.2	S 13 39.7 -00.6	97 41.6 -36.2	S 25 45.5 -04.7	14						
15	43 35.7 +00.1	N 02 21.3 +00.9	87 35.0 -00.1	S 13 39.1 -00.6	112 05.4 -36.1	S 25 40.8 -04.9	15						
16	58 35.8 +00.2	N 02 22.2 +01.0	102 34.9 -00.1	S 13 38.5 -00.5	126 29.3 -36.0	S 25 35.9 -05.1	16						
17	73 36.0 +00.2	N 02 23.2 +01.0	117 34.8 -00.1	S 13 38.0 -00.6	140 53.3 -36.0	S 25 30.8 -05.2	17						
18	88 36.2 +00.2	N 02 24.2 +01.0	132 34.7 -00.2	S 13 37.4 -00.5	155 17.3 -36.0	S 25 25.6 -05.5	18						
19	103 36.4 +00.2	N 02 25.2 +01.0	147 34.5 -00.1	S 13 36.9 -00.6	169 41.3 -35.8	S 25 20.1 -05.5	19						
20	118 36.6 +00.2	N 02 26.2 +00.9	162 34.4 -00.1	S 13 36.3 -00.6	184 05.5 -35.8	S 25 14.6 -05.8	20						
21	133 36.8 +00.2	N 02 27.1 +01.0	177 34.3 -00.2	S 13 35.7 -00.5	198 29.7 -35.8	S 25 08.8 -05.9	21						
22	148 37.0 +00.2	N 02 28.1 +01.0	192 34.1 -00.1	S 13 35.2 -00.6	212 53.9 -35.6	S 25 02.9 -06.0	22						
23	163 37.2 +00.1	N 02 29.1 +01.0	207 34.0 -00.1	S 13 34.6 -00.6	227 18.3 -35.6	S 24 56.9 -06.2	23						
	UT 02 06 10 14 18 22		UT 02 06 10 14 18 22		UT 02 06 10 14 18 22								
	SD 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'2 00'2 00'2 00'2 00'2 00'2		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 00'2 00'2 00'2 00'2 00'2 00'2		HP 59'1 59'1 59'0 59'0 59'0 58'9								
	SHA 355° 355° 355° 355° 354° 354°		SHA 039° 039° 039° 039° 038° 038°		SHA 071° 069° 066° 064° 061° 059°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 09:09		Greenwich Culmination Time: 07:12								

  

UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	225 48.3 +00.6	S 17 29.1 -00.5	192 19.5 +01.9	S 04 55.6 -00.3	219 15.7 +02.2	S 15 13.6 +00.0	00						
01	240 48.9 +00.5	S 17 28.6 -00.5	207 21.4 +02.0	S 04 55.3 -00.2	234 17.9 +02.3	S 15 13.6 -00.1	01						
02	255 49.4 +00.6	S 17 28.1 -00.6	222 23.4 +01.9	S 04 55.1 -00.2	249 20.2 +02.2	S 15 13.5 -00.1	02						
03	270 50.0 +00.6	S 17 27.5 -00.5	237 25.3 +01.9	S 04 54.9 -00.2	264 22.4 +02.2	S 15 13.4 -00.1	03						
04	285 50.6 +00.5	S 17 27.0 -00.5	252 27.2 +01.9	S 04 54.7 -00.3	279 24.6 +02.2	S 15 13.3 +00.0	04						
05	300 51.1 +00.6	S 17 26.5 -00.5	267 29.1 +01.9	S 04 54.4 -00.2	294 26.8 +02.2	S 15 13.3 -00.1	05						
06	315 51.7 +00.6	S 17 26.0 -00.6	282 31.0 +01.9	S 04 54.2 -00.2	309 29.0 +02.3	S 15 13.2 -00.1	06						
07	330 52.3 +00.5	S 17 25.4 -00.5	297 32.9 +01.9	S 04 54.0 -00.3	324 31.3 +02.2	S 15 13.1 -00.1	07						
08	345 52.8 +00.6	S 17 24.9 -00.5	312 34.8 +02.0	S 04 53.7 -00.2	339 33.5 +02.2	S 15 13.0 +00.0	08						
09	0 53.4 +00.6	S 17 24.4 -00.6	327 36.8 +01.9	S 04 53.5 -00.2	354 35.7 +02.2	S 15 13.0 -00.1	09						
10	15 54.0 +00.6	S 17 23.8 -00.5	342 38.7 +01.9	S 04 53.3 -00.3	9 37.9 +02.3	S 15 12.9 -00.1	10						
11	30 54.6 +00.5	S 17 23.3 -00.5	357 40.6 +01.9	S 04 53.0 -00.2	24 40.2 +02.2	S 15 12.8 -00.1	11						
12	45 55.1 +00.6	S 17 22.8 -00.5	12 42.5 +01.9	S 04 52.8 -00.2	39 42.4 +02.2	S 15 12.7 +00.0	12						
13	60 55.7 +00.6	S 17 22.3 -00.6	27 44.4 +01.9	S 04 52.6 -00.2	54 44.6 +02.2	S 15 12.7 -00.1	13						
14	75 56.3 +00.5	S 17 21.7 -00.5	42 46.3 +02.0	S 04 52.4 -00.3	69 46.8 +02.3	S 15 12.6 -00.1	14						
15	90 56.8 +00.6	S 17 21.2 -00.5	57 48.3 +01.9	S 04 52.1 -00.2	84 49.1 +02.2	S 15 12.5 +00.0	15						
16	105 57.4 +00.6	S 17 20.7 -00.6	72 50.2 +01.9	S 04 51.9 -00.2	99 51.3 +02.2	S 15 12.5 -00.1	16						
17	120 58.0 +00.5	S 17 20.1 -00.5	87 52.1 +01.9	S 04 51.7 -00.3	114 53.5 +02.2	S 15 12.4 -00.1	17						
18	135 58.5 +00.6	S 17 19.6 -00.5	102 54.0 +01.9	S 04 51.4 -00.2	129 55.7 +02.3	S 15 12.3 -00.1	18						
19	150 59.1 +00.6	S 17 19.1 -00.5	117 55.9 +01.9	S 04 51.2 -00.2	144 58.0 +02.2	S 15 12.2 +00.0	19						
20	165 59.7 +00.6	S 17 18.6 -00.6	132 57.8 +01.9	S 04 51.0 -00.3	160 00.2 +02.2	S 15 12.2 -00.1	20						
21	181 00.3 +00.5	S 17 18.0 -00.5	147 59.7 +02.0	S 04 50.7 -00.2	175 02.4 +02.2	S 15 12.1 -00.1	21						
22	196 00.8 +00.6	S 17 17.5 -00.5	163 01.7 +01.9	S 04 50.5 -00.2	190 04.6 +02.3	S 15 12.0 -00.1	22						
23	211 01.4 +00.6	S 17 17.0 -00.6	178 03.6 +01.9	S 04 50.3 -00.2	205 06.9 +02.2	S 15 11.9 +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 00'0 00'0 00'0 00'0 00'0 00'0		SD 00'3 00'3 00'3 00'3 00'3 00'3		SD 00'1 00'1 00'1 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 042° 042° 042° 042° 042° 042°		SHA 009° 009° 009° 009° 009° 009°		SHA 036° 036° 036° 036° 036° 036°								
	Greenwich Culmination Time: 08:56		Greenwich Culmination Time: 11:09		Greenwich Culmination Time: 09:21								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	178 37.3 +00.2	N 02 30.1 +01.0	222 33.9 -00.1	S 13 34.0 -00.5	241 42.7 -35.5	S 24 50.7 -06.4	00										
01	193 37.5 +00.2	N 02 31.1 +00.9	237 33.8 -00.2	S 13 33.5 -00.6	256 07.2 -35.4	S 24 44.3 -06.5	01										
02	208 37.7 +00.2	N 02 32.0 +01.0	252 33.6 -00.1	S 13 32.9 -00.6	270 31.8 -35.4	S 24 37.8 -06.7	02										
03	223 37.9 +00.2	N 02 33.0 +01.0	267 33.5 -00.1	S 13 32.3 -00.5	284 56.4 -35.3	S 24 31.1 -06.9	03										
04	238 38.1 +00.2	N 02 34.0 +01.0	282 33.4 -00.2	S 13 31.8 -00.6	299 21.1 -35.2	S 24 24.2 -07.0	04										
05	253 38.3 +00.2	N 02 35.0 +01.0	297 33.2 -00.1	S 13 31.2 -00.6	313 45.9 -35.1	S 24 17.2 -07.1	05										
06	268 38.5 +00.2	N 02 36.0 +00.9	312 33.1 -00.1	S 13 30.6 -00.5	328 10.8 -35.0	S 24 10.1 -07.3	06										
07	283 38.7 +00.2	N 02 36.9 +01.0	327 33.0 -00.2	S 13 30.1 -00.6	342 35.8 -35.0	S 24 02.8 -07.5	07										
08	298 38.9 +00.1	N 02 37.9 +01.0	342 32.8 -00.1	S 13 29.5 -00.6	357 00.8 -34.8	S 23 55.3 -07.6	08										
09	313 39.0 +00.2	N 02 38.9 +01.0	357 32.7 -00.1	S 13 28.9 -00.6	11 26.0 -34.8	S 23 47.7 -07.7	09										
10	328 39.2 +00.2	N 02 39.9 +01.0	12 32.6 -00.2	S 13 28.3 -00.5	25 51.2 -34.7	S 23 40.0 -07.9	10										
11	343 39.4 +00.2	N 02 40.9 +00.9	27 32.4 -00.1	S 13 27.8 -00.6	40 16.5 -34.6	S 23 32.1 -08.1	11										
12	358 39.6 +00.2	N 02 41.8 +01.0	42 32.3 -00.1	S 13 27.2 -00.6	54 41.9 -34.5	S 23 24.0 -08.1	12										
13	13 39.8 +00.2	N 02 42.8 +01.0	57 32.2 -00.2	S 13 26.6 -00.6	69 07.4 -34.5	S 23 15.9 -08.4	13										
14	28 40.0 +00.2	N 02 43.8 +01.0	72 32.0 -00.1	S 13 26.0 -00.5	83 32.9 -34.3	S 23 07.5 -08.4	14										
15	43 40.2 +00.2	N 02 44.8 +01.0	87 31.9 -00.1	S 13 25.5 -00.6	97 58.6 -34.3	S 22 59.1 -08.6	15										
16	58 40.4 +00.1	N 02 45.8 +00.9	102 31.8 -00.2	S 13 24.9 -00.6	112 24.3 -34.1	S 22 50.5 -08.8	16										
17	73 40.5 +00.2	N 02 46.7 +01.0	117 31.6 -00.1	S 13 24.3 -00.6	126 50.2 -34.1	S 22 41.7 -08.9	17										
18	88 40.7 +00.2	N 02 47.7 +01.0	132 31.5 -00.1	S 13 23.7 -00.6	141 16.1 -34.0	S 22 32.8 -09.0	18										
19	103 40.9 +00.2	N 02 48.7 +01.0	147 31.4 -00.2	S 13 23.1 -00.5	155 42.1 -33.9	S 22 23.8 -09.1	19										
20	118 41.1 +00.2	N 02 49.7 +00.9	162 31.2 -00.1	S 13 22.6 -00.6	170 08.2 -33.8	S 22 14.7 -09.3	20										
21	133 41.3 +00.2	N 02 50.6 +01.0	177 31.1 -00.1	S 13 22.0 -00.6	184 34.4 -33.7	S 22 05.4 -09.4	21										
22	148 41.5 +00.2	N 02 51.6 +01.0	192 31.0 -00.2	S 13 21.4 -00.6	199 00.7 -33.6	S 21 56.0 -09.5	22										
23	163 41.7 +00.2	N 02 52.6 +01.0	207 30.8 -00.1	S 13 20.8 -00.6	213 27.1 -33.6	S 21 46.5 -09.7	23										
	UT 02 06 10 14 18 22	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	SHA 354° 354° 354° 354° 354° 353°	Greenwich Culmination Time: 12:05		UT 02 06 10 14 18 22	SD 00'2 00'2 00'2 00'2 00'2 00'2	HP 00'2 00'2 00'2 00'2 00'2 00'2	SHA 038° 038° 038° 038° 037° 037°	Greenwich Culmination Time: 09:09		UT 02 06 10 14 18 22	SD 16'0 16'0 16'0 16'0 16'0 16'0	HP 58'9 58'9 58'8 58'8 58'7 58'7	SHA 056° 054° 051° 049° 046° 044°	Greenwich Culmination Time: 08:12
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT				
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec					
00	226 02.0 +00.5	S 17 16.4 -00.5	193 05.5 +01.9	S 04 50.1 -00.3	220 09.1 +02.2	S 15 11.9 -00.1	00										
01	241 02.5 +00.6	S 17 15.9 -00.5	208 07.4 +01.9	S 04 49.8 -00.2	235 11.3 +02.2	S 15 11.8 -00.1	01										
02	256 03.1 +00.6	S 17 15.4 -00.6	223 09.3 +01.9	S 04 49.6 -00.2	250 13.5 +02.3	S 15 11.7 +00.0	02										
03	271 03.7 +00.6	S 17 14.8 -00.5	238 11.2 +02.0	S 04 49.4 -00.3	265 15.8 +02.2	S 15 11.7 -00.1	03										
04	286 04.3 +00.5	S 17 14.3 -00.5	253 13.2 +01.9	S 04 49.1 -00.2	280 18.0 +02.2	S 15 11.6 -00.1	04										
05	301 04.8 +00.6	S 17 13.8 -00.6	268 15.1 +01.9	S 04 48.9 -00.2	295 20.2 +02.2	S 15 11.5 -00.1	05										
06	316 05.4 +00.6	S 17 13.2 -00.5	283 17.0 +01.9	S 04 48.7 -00.3	310 22.4 +02.3	S 15 11.4 +00.0	06										
07	331 06.0 +00.5	S 17 12.7 -00.5	298 18.9 +01.9	S 04 48.4 -00.2	325 24.7 +02.2	S 15 11.4 -00.1	07										
08	346 06.5 +00.6	S 17 12.2 -00.6	313 20.8 +01.9	S 04 48.2 -00.2	340 26.9 +02.2	S 15 11.3 -00.1	08										
09	1 07.1 +00.6	S 17 11.6 -00.5	328 22.7 +02.0	S 04 48.0 -00.2	355 29.1 +02.3	S 15 11.2 -00.1	09										
10	16 07.7 +00.6	S 17 11.1 -00.5	343 24.7 +01.9	S 04 47.8 -00.3	10 31.4 +02.2	S 15 11.1 +00.0	10										
11	31 08.3 +00.5	S 17 10.6 -00.6	358 26.6 +01.9	S 04 47.5 -00.2	25 33.6 +02.2	S 15 11.1 -00.1	11										
12	46 08.8 +00.6	S 17 10.0 -00.5	13 28.5 +01.9	S 04 47.3 -00.2	40 35.8 +02.2	S 15 11.0 -00.1	12										
13	61 09.4 +00.6	S 17 09.5 -00.5	28 30.4 +01.9	S 04 47.1 -00.3	55 38.0 +02.3	S 15 10.9 +00.0	13										
14	76 10.0 +00.6	S 17 09.0 -00.6	43 32.3 +01.9	S 04 46.8 -00.2	70 40.3 +02.2	S 15 10.9 -00.1	14										
15	91 10.6 +00.5	S 17 08.4 -00.5	58 34.2 +02.0	S 04 46.6 -00.2	85 42.5 +02.2	S 15 10.8 -00.1	15										
16	106 11.1 +00.6	S 17 07.9 -00.6	73 36.2 +01.9	S 04 46.4 -00.3	100 44.7 +02.2	S 15 10.7 -00.1	16										
17	121 11.7 +00.6	S 17 07.3 -00.5	88 38.1 +01.9	S 04 46.1 -00.2	115 46.9 +02.3	S 15 10.6 +00.0	17										
18	136 12.3 +00.5	S 17 06.8 -00.5	103 40.0 +01.9	S 04 45.9 -00.2	130 49.2 +02.2	S 15 10.6 -00.1	18										
19	151 12.8 +00.6	S 17 06.3 -00.6	118 41.9 +01.9	S 04 45.7 -00.2	145 51.4 +02.2	S 15 10.5 -00.1	19										
20	166 13.4 +00.6	S 17 05.7 -00.5	133 43.8 +01.9	S 04 45.5 -00.3	160 53.6 +02.3	S 15 10.4 -00.1	20										
21	181 14.0 +00.6	S 17 05.2 -00.5	148 45.7 +02.0	S 04 45.2 -00.2	175 55.9 +02.2	S 15 10.3 +00.0	21										
22	196 14.6 +00.5	S 17 04.7 -00.6	163 47.7 +01.9	S 04 45.0 -00.2	190 58.1 +02.2	S 15 10.3 -00.1	22										
23	211 15.1 +00.6	S 17 04.1 -00.5	178 49.6 +01.9	S 04 44.8 -00.3	206 00.3 +02.2	S 15 10.2 -00.1	23										
	UT 02 06 10 14 18 22	SD 00'0 00'0 00'0 00'0 00'0 00'0	HP 00'1 00'1 00'1 00'1 00'1 00'1	SHA 042° 041° 041° 041° 041° 041°	Greenwich Culmination Time: 08:55		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 009° 009° 009° 009° 009° 008°	Greenwich Culmination Time: 11:06		UT 02 06 10 14 18 22	SD 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	SHA 036° 036° 036° 036° 036° 036°	Greenwich Culmination Time: 09:18

UT	Sun				Venus				Moon				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 41.9 +00.1	N 02 53.6 +01.0	222 30.7 -00.1	S 13 20.2 -00.6	227 53.5 -33.4	S 21 36.8 -09.8	00						
01	193 42.0 +00.2	N 02 54.6 +00.9	237 30.6 -00.2	S 13 19.6 -00.5	242 20.1 -33.3	S 21 27.0 -09.9	01						
02	208 42.2 +00.2	N 02 55.5 +01.0	252 30.4 -00.1	S 13 19.1 -00.6	256 46.8 -33.3	S 21 17.1 -10.0	02						
03	223 42.4 +00.2	N 02 56.5 +01.0	267 30.3 -00.1	S 13 18.5 -00.6	271 13.5 -33.1	S 21 07.1 -10.2	03						
04	238 42.6 +00.2	N 02 57.5 +01.0	282 30.2 -00.2	S 13 17.9 -00.6	285 40.4 -33.1	S 20 56.9 -10.2	04						
05	253 42.8 +00.2	N 02 58.5 +00.9	297 30.0 -00.1	S 13 17.3 -00.6	300 07.3 -32.9	S 20 46.7 -10.4	05						
06	268 43.0 +00.2	N 02 59.4 +01.0	312 29.9 -00.2	S 13 16.7 -00.6	314 34.4 -32.9	S 20 36.3 -10.5	06						
07	283 43.2 +00.2	N 03 00.4 +01.0	327 29.7 -00.1	S 13 16.1 -00.6	329 01.5 -32.8	S 20 25.8 -10.6	07						
08	298 43.4 +00.2	N 03 01.4 +01.0	342 29.6 -00.1	S 13 15.5 -00.6	343 28.7 -32.7	S 20 15.2 -10.8	08						
09	313 43.6 +00.1	N 03 02.4 +00.9	357 29.5 -00.2	S 13 14.9 -00.6	357 56.0 -32.6	S 20 04.4 -10.8	09						
10	328 43.7 +00.2	N 03 03.3 +01.0	12 29.3 -00.1	S 13 14.3 -00.6	12 23.4 -32.4	S 19 53.6 -11.0	10						
11	343 43.9 +00.2	N 03 04.3 +01.0	27 29.2 -00.1	S 13 13.7 -00.5	26 51.0 -32.4	S 19 42.6 -11.0	11						
12	358 44.1 +00.2	N 03 05.3 +01.0	42 29.1 -00.2	S 13 13.2 -00.6	41 18.6 -32.3	S 19 31.6 -11.2	12						
13	13 44.3 +00.2	N 03 06.3 +01.0	57 28.9 -00.1	S 13 12.6 -00.6	55 46.3 -32.3	S 19 20.4 -11.3	13						
14	28 44.5 +00.2	N 03 07.3 +00.9	72 28.8 -00.2	S 13 12.0 -00.6	70 14.0 -32.1	S 19 09.1 -11.4	14						
15	43 44.7 +00.2	N 03 08.2 +01.0	87 28.6 -00.1	S 13 11.4 -00.6	84 41.9 -32.0	S 18 57.7 -11.4	15						
16	58 44.9 +00.2	N 03 09.2 +01.0	102 28.5 -00.1	S 13 10.8 -00.6	99 09.9 -31.9	S 18 46.3 -11.6	16						
17	73 45.1 +00.1	N 03 10.2 +01.0	117 28.4 -00.2	S 13 10.2 -00.6	113 38.0 -31.9	S 18 34.7 -11.7	17						
18	88 45.2 +00.2	N 03 11.2 +00.9	132 28.2 -00.1	S 13 09.6 -00.6	128 06.1 -31.7	S 18 23.0 -11.8	18						
19	103 45.4 +00.2	N 03 12.1 +01.0	147 28.1 -00.2	S 13 09.0 -00.6	142 34.4 -31.7	S 18 11.2 -11.9	19						
20	118 45.6 +00.2	N 03 13.1 +01.0	162 27.9 -00.1	S 13 08.4 -00.6	157 02.7 -31.5	S 17 59.3 -11.9	20						
21	133 45.8 +00.2	N 03 14.1 +01.0	177 27.8 -00.1	S 13 07.8 -00.6	171 31.2 -31.5	S 17 47.4 -12.1	21						
22	148 46.0 +00.2	N 03 15.1 +00.9	192 27.7 -00.2	S 13 07.2 -00.6	185 59.7 -31.4	S 17 35.3 -12.1	22						
23	163 46.2 +00.2	N 03 16.0 +01.0	207 27.5 -00.1	S 13 06.6 -00.6	200 28.3 -31.3	S 17 23.2 -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 16'0 16'0 16'0 16'0 16'0 16'0		SD 00'2 00'2 00'2 00'2 00'2 00'2		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 00'2 00'2 00'2 00'2 00'2 00'2		HP 58'6 58'6 58'5 58'5 58'4 58'3								
	SHA 353° 353° 353° 353° 353° 352°		SHA 037° 037° 037° 037° 036° 036°		SHA 041° 039° 037° 034° 032° 030°								
	Greenwich Culmination Time: 12:05		Greenwich Culmination Time: 09:10		Greenwich Culmination Time: 09:08								
UT	Mars				Jupiter				Saturn				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	226 15.7 +00.6	S 17 03.6 -00.6	193 51.5 +01.9	S 04 44.5 -00.2	221 02.5 +02.3	S 15 10.1 +00.0	00						
01	241 16.3 +00.6	S 17 03.0 -00.5	208 53.4 +01.9	S 04 44.3 -00.2	236 04.8 +02.2	S 15 10.1 -00.1	01						
02	256 16.9 +00.5	S 17 02.5 -00.5	223 55.3 +01.9	S 04 44.1 -00.2	251 07.0 +02.2	S 15 10.0 -00.1	02						
03	271 17.4 +00.6	S 17 02.0 -00.6	238 57.2 +02.0	S 04 43.9 -00.3	266 09.2 +02.2	S 15 09.9 -00.1	03						
04	286 18.0 +00.6	S 17 01.4 -00.5	253 59.2 +01.9	S 04 43.6 -00.2	281 11.4 +02.3	S 15 09.8 +00.0	04						
05	301 18.6 +00.6	S 17 00.9 -00.6	269 01.1 +01.9	S 04 43.4 -00.2	296 13.7 +02.2	S 15 09.8 -00.1	05						
06	316 19.2 +00.6	S 17 00.3 -00.5	284 03.0 +01.9	S 04 43.2 -00.3	311 15.9 +02.2	S 15 09.7 -00.1	06						
07	331 19.8 +00.5	S 16 59.8 -00.5	299 04.9 +01.9	S 04 42.9 -00.2	326 18.1 +02.3	S 15 09.6 +00.0	07						
08	346 20.3 +00.6	S 16 59.3 -00.6	314 06.8 +01.9	S 04 42.7 -00.2	341 20.4 +02.2	S 15 09.6 -00.1	08						
09	1 20.9 +00.6	S 16 58.7 -00.5	329 08.7 +02.0	S 04 42.5 -00.3	356 22.6 +02.2	S 15 09.5 -00.1	09						
10	16 21.5 +00.6	S 16 58.2 -00.6	344 10.7 +01.9	S 04 42.2 -00.2	11 24.8 +02.2	S 15 09.4 -00.1	10						
11	31 22.1 +00.5	S 16 57.6 -00.5	359 12.6 +01.9	S 04 42.0 -00.2	26 27.0 +02.3	S 15 09.3 +00.0	11						
12	46 22.6 +00.6	S 16 57.1 -00.5	14 14.5 +01.9	S 04 41.8 -00.2	41 29.3 +02.2	S 15 09.3 -00.1	12						
13	61 23.2 +00.6	S 16 56.6 -00.6	29 16.4 +01.9	S 04 41.6 -00.3	56 31.5 +02.2	S 15 09.2 -00.1	13						
14	76 23.8 +00.6	S 16 56.0 -00.5	44 18.3 +01.9	S 04 41.3 -00.2	71 33.7 +02.3	S 15 09.1 +00.0	14						
15	91 24.4 +00.5	S 16 55.5 -00.6	59 20.2 +02.0	S 04 41.1 -00.2	86 36.0 +02.2	S 15 09.1 -00.1	15						
16	106 24.9 +00.6	S 16 54.9 -00.5	74 22.2 +01.9	S 04 40.9 -00.3	101 38.2 +02.2	S 15 09.0 -00.1	16						
17	121 25.5 +00.6	S 16 54.4 -00.6	89 24.1 +01.9	S 04 40.6 -00.2	116 40.4 +02.2	S 15 08.9 -00.1	17						
18	136 26.1 +00.6	S 16 53.8 -00.5	104 26.0 +01.9	S 04 40.4 -00.2	131 42.6 +02.3	S 15 08.8 +00.0	18						
19	151 26.7 +00.6	S 16 53.3 -00.5	119 27.9 +01.9	S 04 40.2 -00.2	146 44.9 +02.2	S 15 08.8 -00.1	19						
20	166 27.3 +00.5	S 16 52.8 -00.6	134 29.8 +02.0	S 04 40.0 -00.3	161 47.1 +02.2	S 15 08.7 -00.1	20						
21	181 27.8 +00.6	S 16 52.2 -00.5	149 31.8 +01.9	S 04 39.7 -00.2	176 49.3 +02.3	S 15 08.6 +00.0	21						
22	196 28.4 +00.6	S 16 51.7 -00.6	164 33.7 +01.9	S 04 39.5 -00.2	191 51.6 +02.2	S 15 08.6 -00.1	22						
23	211 29.0 +00.6	S 16 51.1 -00.5	179 35.6 +01.9	S 04 39.3 -00.3	206 53.8 +02.2	S 15 08.5 -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 00'1 00'1 00'1 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 041° 041° 041° 040° 040° 040°		SHA 008° 008° 008° 008° 008° 008°		SHA 036° 036° 036° 036° 036° 036°								
	Greenwich Culmination Time: 08:54		Greenwich Culmination Time: 11:03		Greenwich Culmination Time: 09:14								

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 46.4 +00.2	N 03	17.0 +01.0	222 27.4 -00.2	S 13	06.0 -00.6	214 57.0 -31.1	S 17	10.9 -12.3	00			
01	193 46.6 +00.1	N 03	18.0 +01.0	237 27.2 -00.1	S 13	05.4 -00.6	229 25.9 -31.2	S 16	58.6 -12.4	01			
02	208 46.7 +00.2	N 03	19.0 +00.9	252 27.1 -00.2	S 13	04.8 -00.6	243 54.7 -31.0	S 16	46.2 -12.5	02			
03	223 46.9 +00.2	N 03	19.9 +01.0	267 26.9 -00.1	S 13	04.2 -00.6	258 23.7 -30.9	S 16	33.7 -12.6	03			
04	238 47.1 +00.2	N 03	20.9 +01.0	282 26.8 -00.1	S 13	03.6 -00.6	272 52.8 -30.8	S 16	21.1 -12.7	04			
05	253 47.3 +00.2	N 03	21.9 +01.0	297 26.7 -00.2	S 13	03.0 -00.7	287 22.0 -30.8	S 16	08.4 -12.7	05			
06	268 47.5 +00.2	N 03	22.9 +00.9	312 26.5 -00.1	S 13	02.3 -00.6	301 51.2 -30.7	S 15	55.7 -12.8	06			
07	283 47.7 +00.2	N 03	23.8 +01.0	327 26.4 -00.2	S 13	01.7 -00.6	316 20.5 -30.6	S 15	42.9 -12.9	07			
08	298 47.9 +00.2	N 03	24.8 +01.0	342 26.2 -00.1	S 13	01.1 -00.6	330 49.9 -30.5	S 15	30.0 -13.0	08			
09	313 48.1 +00.1	N 03	25.8 +01.0	357 26.1 -00.2	S 13	00.5 -00.6	345 19.4 -30.4	S 15	17.0 -13.1	09			
10	328 48.2 +00.2	N 03	26.8 +00.9	12 25.9 -00.1	S 12	59.9 -00.6	359 49.0 -30.3	S 15	03.9 -13.1	10			
11	343 48.4 +00.2	N 03	27.7 +01.0	27 25.8 -00.1	S 12	59.3 -00.6	14 18.7 -30.2	S 14	50.8 -13.2	11			
12	358 48.6 +00.2	N 03	28.7 +01.0	42 25.7 -00.2	S 12	58.7 -00.6	28 48.5 -30.2	S 14	37.6 -13.2	12			
13	13 48.8 +00.2	N 03	29.7 +01.0	57 25.5 -00.1	S 12	58.1 -00.6	43 18.3 -30.1	S 14	24.4 -13.4	13			
14	28 49.0 +00.2	N 03	30.7 +00.9	72 25.4 -00.2	S 12	57.5 -00.7	57 48.2 -30.0	S 14	11.0 -13.4	14			
15	43 49.2 +00.2	N 03	31.6 +01.0	87 25.2 -00.1	S 12	56.8 -00.6	72 18.2 -29.9	S 13	57.6 -13.4	15			
16	58 49.4 +00.1	N 03	32.6 +01.0	102 25.1 -00.2	S 12	56.2 -00.6	86 48.3 -29.8	S 13	44.2 -13.5	16			
17	73 49.5 +00.2	N 03	33.6 +00.9	117 24.9 -00.1	S 12	55.6 -00.6	101 18.5 -29.8	S 13	30.7 -13.6	17			
18	88 49.7 +00.2	N 03	34.5 +01.0	132 24.8 -00.2	S 12	55.0 -00.6	115 48.7 -29.7	S 13	17.1 -13.7	18			
19	103 49.9 +00.2	N 03	35.5 +01.0	147 24.6 -00.1	S 12	54.4 -00.6	130 19.0 -29.6	S 13	03.4 -13.7	19			
20	118 50.1 +00.2	N 03	36.5 +01.0	162 24.5 -00.1	S 12	53.8 -00.7	144 49.4 -29.5	S 12	49.7 -13.7	20			
21	133 50.3 +00.2	N 03	37.5 +00.9	177 24.4 -00.2	S 12	53.1 -00.6	159 19.9 -29.5	S 12	36.0 -13.9	21			
22	148 50.5 +00.2	N 03	38.4 +01.0	192 24.2 -00.1	S 12	52.5 -00.6	173 50.4 -29.4	S 12	22.1 -13.8	22			
23	163 50.7 +00.2	N 03	39.4 +01.0	207 24.1 -00.2	S 12	51.9 -00.6	188 21.0 -29.3	S 12	08.3 -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 16'0 16'0 16'0 16'0 16'0 16'0			SD 00'2 00'2 00'2 00'2 00'2 00'2			SD 15'9 15'9 15'8 15'8 15'8 15'8						
	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 58'3 58'2 58'2 58'1 58'0 57'9						
	SHA 352° 352° 352° 352° 352° 352°			SHA 036° 036° 036° 035° 035° 035°			SHA 027° 025° 023° 021° 019° 017°						
	Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 09:10			Greenwich Culmination Time: 10:00						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	226 29.6 +00.5	S 16	50.6 -00.6	194 37.5 +01.9	S 04	39.0 -00.2	221 56.0 +02.3	S 15	08.4 -00.1	00			
01	241 30.1 +00.6	S 16	50.0 -00.5	209 39.4 +01.9	S 04	38.8 -00.2	236 58.3 +02.2	S 15	08.3 +00.0	01			
02	256 30.7 +00.6	S 16	49.5 -00.6	224 41.3 +02.0	S 04	38.6 -00.2	252 00.5 +02.2	S 15	08.3 -00.1	02			
03	271 31.3 +00.6	S 16	48.9 -00.5	239 43.3 +01.9	S 04	38.4 -00.3	267 02.7 +02.3	S 15	08.2 -00.1	03			
04	286 31.9 +00.6	S 16	48.4 -00.6	254 45.2 +01.9	S 04	38.1 -00.2	282 05.0 +02.2	S 15	08.1 +00.0	04			
05	301 32.5 +00.5	S 16	47.8 -00.5	269 47.1 +01.9	S 04	37.9 -00.2	297 07.2 +02.2	S 15	08.1 -00.1	05			
06	316 33.0 +00.6	S 16	47.3 -00.5	284 49.0 +01.9	S 04	37.7 -00.3	312 09.4 +02.2	S 15	08.0 -00.1	06			
07	331 33.6 +00.6	S 16	46.8 -00.6	299 50.9 +02.0	S 04	37.4 -00.2	327 11.6 +02.3	S 15	07.9 -00.1	07			
08	346 34.2 +00.6	S 16	46.2 -00.5	314 52.9 +01.9	S 04	37.2 -00.2	342 13.9 +02.2	S 15	07.8 +00.0	08			
09	1 34.8 +00.6	S 16	45.7 -00.6	329 54.8 +01.9	S 04	37.0 -00.3	357 16.1 +02.2	S 15	07.8 -00.1	09			
10	16 35.4 +00.5	S 16	45.1 -00.5	344 56.7 +01.9	S 04	36.7 -00.2	12 18.3 +02.3	S 15	07.7 -00.1	10			
11	31 35.9 +00.6	S 16	44.6 -00.6	359 58.6 +01.9	S 04	36.5 -00.2	27 20.6 +02.2	S 15	07.6 +00.0	11			
12	46 36.5 +00.6	S 16	44.0 -00.5	15 00.5 +02.0	S 04	36.3 -00.2	42 22.8 +02.2	S 15	07.6 -00.1	12			
13	61 37.1 +00.6	S 16	43.5 -00.6	30 02.5 +01.9	S 04	36.1 -00.3	57 25.0 +02.3	S 15	07.5 -00.1	13			
14	76 37.7 +00.6	S 16	42.9 -00.5	45 04.4 +01.9	S 04	35.8 -00.2	72 27.3 +02.2	S 15	07.4 -00.1	14			
15	91 38.3 +00.5	S 16	42.4 -00.6	60 06.3 +01.9	S 04	35.6 -00.2	87 29.5 +02.2	S 15	07.3 +00.0	15			
16	106 38.8 +00.6	S 16	41.8 -00.5	75 08.2 +01.9	S 04	35.4 -00.3	102 31.7 +02.3	S 15	07.3 -00.1	16			
17	121 39.4 +00.6	S 16	41.3 -00.6	90 10.1 +01.9	S 04	35.1 -00.2	117 34.0 +02.2	S 15	07.2 -00.1	17			
18	136 40.0 +00.6	S 16	40.7 -00.5	105 12.0 +02.0	S 04	34.9 -00.2	132 36.2 +02.2	S 15	07.1 +00.0	18			
19	151 40.6 +00.6	S 16	40.2 -00.6	120 14.0 +01.9	S 04	34.7 -00.2	147 38.4 +02.3	S 15	07.1 -00.1	19			
20	166 41.2 +00.6	S 16	39.6 -00.5	135 15.9 +01.9	S 04	34.5 -00.3	162 40.7 +02.2	S 15	07.0 -00.1	20			
21	181 41.8 +00.5	S 16	39.1 -00.6	150 17.8 +01.9	S 04	34.2 -00.2	177 42.9 +02.2	S 15	06.9 -00.1	21			
22	196 42.3 +00.6	S 16	38.5 -00.5	165 19.7 +01.9	S 04	34.0 -00.2	192 45.1 +02.2	S 15	06.8 +00.0	22			
23	211 42.9 +00.6	S 16	38.0 -00.6	180 21.6 +02.0	S 04	33.8 -00.3	207 47.3 +02.3	S 15	06.8 -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 00'1 00'1 00'1 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 040° 040° 040° 040° 040° 039°			SHA 008° 008° 008° 008° 008° 008°			SHA 036° 036° 036° 036° 035° 035°						
	Greenwich Culmination Time: 08:53			Greenwich Culmination Time: 11:00			Greenwich Culmination Time: 09:10						



UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 50.9 +00.1	N 03	40.4 +01.0	222 23.9 -00.1	S 12	51.3 -00.6	202 51.7 -29.2	S 11	54.3 -13.9	00			
01	193 51.0 +00.2	N 03	41.4 +00.9	237 23.8 -00.2	S 12	50.7 -00.7	217 22.5 -29.2	S 11	40.4 -14.1	01			
02	208 51.2 +00.2	N 03	42.3 +01.0	252 23.6 -00.1	S 12	50.0 -00.6	231 53.3 -29.0	S 11	26.3 -14.0	02			
03	223 51.4 +00.2	N 03	43.3 +01.0	267 23.5 -00.2	S 12	49.4 -00.6	246 24.3 -29.1	S 11	12.3 -14.1	03			
04	238 51.6 +00.2	N 03	44.3 +00.9	282 23.3 -00.1	S 12	48.8 -00.6	260 55.2 -28.9	S 10	58.2 -14.2	04			
05	253 51.8 +00.2	N 03	45.2 +01.0	297 23.2 -00.2	S 12	48.2 -00.6	275 26.3 -28.9	S 10	44.0 -14.2	05			
06	268 52.0 +00.2	N 03	46.2 +01.0	312 23.0 -00.1	S 12	47.6 -00.7	289 57.4 -28.8	S 10	29.8 -14.3	06			
07	283 52.2 +00.1	N 03	47.2 +01.0	327 22.9 -00.2	S 12	46.9 -00.6	304 28.6 -28.8	S 10	15.5 -14.3	07			
08	298 52.3 +00.2	N 03	48.2 +00.9	342 22.7 -00.1	S 12	46.3 -00.6	318 59.8 -28.7	S 10	01.2 -14.3	08			
09	313 52.5 +00.2	N 03	49.1 +01.0	357 22.6 -00.2	S 12	45.7 -00.7	333 31.1 -28.6	S 09	46.9 -14.4	09			
10	328 52.7 +00.2	N 03	50.1 +01.0	12 22.4 -00.1	S 12	45.0 -00.6	348 02.5 -28.5	S 09	32.5 -14.4	10			
11	343 52.9 +00.2	N 03	51.1 +00.9	27 22.3 -00.2	S 12	44.4 -00.6	2 34.0 -28.5	S 09	18.1 -14.4	11			
12	358 53.1 +00.2	N 03	52.0 +01.0	42 22.1 -00.1	S 12	43.8 -00.6	17 05.5 -28.5	S 09	03.7 -14.5	12			
13	13 53.3 +00.2	N 03	53.0 +01.0	57 22.0 -00.2	S 12	43.2 -00.7	31 37.0 -28.3	S 08	49.2 -14.5	13			
14	28 53.5 +00.2	N 03	54.0 +01.0	72 21.8 -00.1	S 12	42.5 -00.6	46 08.7 -28.3	S 08	34.7 -14.6	14			
15	43 53.7 +00.1	N 03	55.0 +00.9	87 21.7 -00.2	S 12	41.9 -00.6	60 40.4 -28.3	S 08	20.1 -14.6	15			
16	58 53.8 +00.2	N 03	55.9 +01.0	102 21.5 -00.1	S 12	41.3 -00.7	75 12.1 -28.2	S 08	05.5 -14.6	16			
17	73 54.0 +00.2	N 03	56.9 +01.0	117 21.4 -00.2	S 12	40.6 -00.6	89 43.9 -28.1	S 07	50.9 -14.6	17			
18	88 54.2 +00.2	N 03	57.9 +00.9	132 21.2 -00.1	S 12	40.0 -00.6	104 15.8 -28.1	S 07	36.3 -14.6	18			
19	103 54.4 +00.2	N 03	58.8 +01.0	147 21.1 -00.2	S 12	39.4 -00.7	118 47.7 -28.1	S 07	21.7 -14.7	19			
20	118 54.6 +00.2	N 03	59.8 +01.0	162 20.9 -00.1	S 12	38.7 -00.6	133 19.6 -27.9	S 07	07.0 -14.7	20			
21	133 54.8 +00.2	N 04	00.8 +00.9	177 20.8 -00.2	S 12	38.1 -00.6	147 51.7 -28.0	S 06	52.3 -14.8	21			
22	148 55.0 +00.1	N 04	01.7 +01.0	192 20.6 -00.1	S 12	37.5 -00.7	162 23.7 -27.8	S 06	37.5 -14.7	22			
23	163 55.1 +00.2	N 04	02.7 +01.0	207 20.5 -00.2	S 12	36.8 -00.6	176 55.9 -27.9	S 06	22.8 -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 00'2 00'2 00'2 00'2 00'2 00'2			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 00'2 00'2 00'2 00'2 00'2 00'2			HP 57'9 57'8 57'7 57'6 57'6 57'5						
	SHA 351° 351° 351° 351° 351° 351°			SHA 035° 035° 035° 034° 034° 034°			SHA 014° 012° 010° 008° 006° 004°						
	Greenwich Culmination Time: 12:04			Greenwich Culmination Time: 09:10			Greenwich Culmination Time: 10:49						

  

UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	226 43.5 +00.6	S 16	37.4 -00.5	195 23.6 +01.9	S 04	33.5 -00.2	222 49.6 +02.2	S 15	06.7 -00.1	00			
01	241 44.1 +00.6	S 16	36.9 -00.6	210 25.5 +01.9	S 04	33.3 -00.2	237 51.8 +02.2	S 15	06.6 +00.0	01			
02	256 44.7 +00.5	S 16	36.3 -00.5	225 27.4 +01.9	S 04	33.1 -00.2	252 54.0 +02.3	S 15	06.6 -00.1	02			
03	271 45.2 +00.6	S 16	35.8 -00.6	240 29.3 +01.9	S 04	32.9 -00.3	267 56.3 +02.2	S 15	06.5 -00.1	03			
04	286 45.8 +00.6	S 16	35.2 -00.6	255 31.2 +02.0	S 04	32.6 -00.2	282 58.5 +02.2	S 15	06.4 +00.0	04			
05	301 46.4 +00.6	S 16	34.6 -00.5	270 33.2 +01.9	S 04	32.4 -00.2	298 00.7 +02.3	S 15	06.4 -00.1	05			
06	316 47.0 +00.6	S 16	34.1 -00.6	285 35.1 +01.9	S 04	32.2 -00.3	313 03.0 +02.2	S 15	06.3 -00.1	06			
07	331 47.6 +00.6	S 16	33.5 -00.5	300 37.0 +01.9	S 04	31.9 -00.2	328 05.2 +02.2	S 15	06.2 -00.1	07			
08	346 48.2 +00.5	S 16	33.0 -00.6	315 38.9 +01.9	S 04	31.7 -00.2	343 07.4 +02.3	S 15	06.1 +00.0	08			
09	1 48.7 +00.6	S 16	32.4 -00.5	330 40.8 +02.0	S 04	31.5 -00.2	358 09.7 +02.2	S 15	06.1 -00.1	09			
10	16 49.3 +00.6	S 16	31.9 -00.6	345 42.8 +01.9	S 04	31.3 -00.3	13 11.9 +02.2	S 15	06.0 -00.1	10			
11	31 49.9 +00.6	S 16	31.3 -00.5	0 44.7 +01.9	S 04	31.0 -00.2	28 14.1 +02.3	S 15	05.9 +00.0	11			
12	46 50.5 +00.6	S 16	30.8 -00.6	15 46.6 +01.9	S 04	30.8 -00.2	43 16.4 +02.2	S 15	05.9 -00.1	12			
13	61 51.1 +00.6	S 16	30.2 -00.5	30 48.5 +01.9	S 04	30.6 -00.3	58 18.6 +02.2	S 15	05.8 -00.1	13			
14	76 51.7 +00.6	S 16	29.7 -00.6	45 50.4 +02.0	S 04	30.3 -00.2	73 20.8 +02.3	S 15	05.7 +00.0	14			
15	91 52.3 +00.5	S 16	29.1 -00.6	60 52.4 +01.9	S 04	30.1 -00.2	88 23.1 +02.2	S 15	05.7 -00.1	15			
16	106 52.8 +00.6	S 16	28.5 -00.5	75 54.3 +01.9	S 04	29.9 -00.2	103 25.3 +02.2	S 15	05.6 -00.1	16			
17	121 53.4 +00.6	S 16	28.0 -00.6	90 56.2 +01.9	S 04	29.7 -00.3	118 27.5 +02.3	S 15	05.5 -00.1	17			
18	136 54.0 +00.6	S 16	27.4 -00.5	105 58.1 +01.9	S 04	29.4 -00.2	133 29.8 +02.2	S 15	05.4 +00.0	18			
19	151 54.6 +00.6	S 16	26.9 -00.6	121 00.0 +02.0	S 04	29.2 -00.2	148 32.0 +02.3	S 15	05.4 -00.1	19			
20	166 55.2 +00.6	S 16	26.3 -00.5	136 02.0 +01.9	S 04	29.0 -00.3	163 34.3 +02.2	S 15	05.3 -00.1	20			
21	181 55.8 +00.5	S 16	25.8 -00.6	151 03.9 +01.9	S 04	28.7 -00.2	178 36.5 +02.2	S 15	05.2 +00.0	21			
22	196 56.3 +00.6	S 16	25.2 -00.6	166 05.8 +01.9	S 04	28.5 -00.2	193 38.7 +02.3	S 15	05.2 -00.1	22			
23	211 56.9 +00.6	S 16	24.6 -00.5	181 07.7 +01.9	S 04	28.3 -00.2	208 41.0 +02.2	S 15	05.1 -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 00'0 00'0 00'0 00'0 00'0 00'0			SD 00'3 00'3 00'3 00'3 00'3 00'3			SD 00'1 00'1 00'1 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 039° 039° 039° 039° 039° 039°			SHA 008° 008° 008° 008° 008° 008°			SHA 035° 035° 035° 035° 035° 035°						
	Greenwich Culmination Time: 08:52			Greenwich Culmination Time: 10:57			Greenwich Culmination Time: 09:07						

UT	<b>Sun</b>				<b>Venus</b>				<b>Moon</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	178 55.3 +00.2	N 04	03.7 +01.0	222 20.3 -00.1	S 12	36.2 -00.7	191 28.0 -27.7	S 06	08.0 -14.8	00			
01	193 55.5 +00.2	N 04	04.7 +00.9	237 20.2 -00.2	S 12	35.5 -00.6	206 00.3 -27.8	S 05	53.2 -14.8	01			
02	208 55.7 +00.2	N 04	05.6 +01.0	252 20.0 -00.1	S 12	34.9 -00.6	220 32.5 -27.6	S 05	38.4 -14.8	02			
03	223 55.9 +00.2	N 04	06.6 +01.0	267 19.9 -00.2	S 12	34.3 -00.7	235 04.9 -27.7	S 05	23.6 -14.8	03			
04	238 56.1 +00.2	N 04	07.6 +00.9	282 19.7 -00.1	S 12	33.6 -00.6	249 37.2 -27.6	S 05	08.8 -14.9	04			
05	253 56.3 +00.1	N 04	08.5 +01.0	297 19.6 -00.2	S 12	33.0 -00.7	264 09.6 -27.5	S 04	53.9 -14.8	05			
06	268 56.4 +00.2	N 04	09.5 +01.0	312 19.4 -00.1	S 12	32.3 -00.6	278 42.1 -27.5	S 04	39.1 -14.9	06			
07	283 56.6 +00.2	N 04	10.5 +00.9	327 19.3 -00.2	S 12	31.7 -00.7	293 14.6 -27.5	S 04	24.2 -14.9	07			
08	298 56.8 +00.2	N 04	11.4 +01.0	342 19.1 -00.1	S 12	31.0 -00.6	307 47.1 -27.4	S 04	09.3 -14.9	08			
09	313 57.0 +00.2	N 04	12.4 +01.0	357 19.0 -00.2	S 12	30.4 -00.6	322 19.7 -27.4	S 03	54.4 -14.9	09			
10	328 57.2 +00.2	N 04	13.4 +00.9	12 18.8 -00.1	S 12	29.8 -00.7	336 52.3 -27.3	S 03	39.5 -14.9	10			
11	343 57.4 +00.2	N 04	14.3 +01.0	27 18.7 -00.2	S 12	29.1 -00.6	351 25.0 -27.3	S 03	24.6 -14.9	11			
12	358 57.6 +00.1	N 04	15.3 +01.0	42 18.5 -00.1	S 12	28.5 -00.7	5 57.7 -27.3	S 03	09.7 -14.9	12			
13	13 57.7 +00.2	N 04	16.3 +00.9	57 18.4 -00.2	S 12	27.8 -00.6	20 30.4 -27.2	S 02	54.8 -14.9	13			
14	28 57.9 +00.2	N 04	17.2 +01.0	72 18.2 -00.2	S 12	27.2 -00.7	35 03.2 -27.2	S 02	39.9 -14.9	14			
15	43 58.1 +00.2	N 04	18.2 +01.0	87 18.0 -00.1	S 12	26.5 -00.6	49 36.0 -27.2	S 02	25.0 -14.9	15			
16	58 58.3 +00.2	N 04	19.2 +00.9	102 17.9 -00.2	S 12	25.9 -00.7	64 08.8 -27.1	S 02	10.1 -14.9	16			
17	73 58.5 +00.2	N 04	20.1 +01.0	117 17.7 -00.1	S 12	25.2 -00.6	78 41.7 -27.1	S 01	55.2 -14.9	17			
18	88 58.7 +00.2	N 04	21.1 +01.0	132 17.6 -00.2	S 12	24.6 -00.7	93 14.6 -27.0	S 01	40.3 -14.9	18			
19	103 58.9 +00.1	N 04	22.1 +00.9	147 17.4 -00.1	S 12	23.9 -00.6	107 47.6 -27.1	S 01	25.4 -14.9	19			
20	118 59.0 +00.2	N 04	23.0 +01.0	162 17.3 -00.2	S 12	23.3 -00.7	122 20.5 -27.0	S 01	10.5 -14.9	20			
21	133 59.2 +00.2	N 04	24.0 +01.0	177 17.1 -00.1	S 12	22.6 -00.6	136 53.5 -27.0	S 00	55.6 -14.9	21			
22	148 59.4 +00.2	N 04	25.0 +00.9	192 17.0 -00.2	S 12	22.0 -00.7	151 26.5 -26.9	S 00	40.7 -14.9	22			
23	163 59.6 +00.2	N 04	25.9 +01.0	207 16.8 -00.1	S 12	21.3 -00.7	165 59.6 -27.0	S 00	25.8 -14.8	23			
<b>UT 02 06 10 14 18 22</b> 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 SHA 350° 350° 350° 350° 350° 350° Greenwich Culmination Time: 12:04				<b>UT 02 06 10 14 18 22</b> SD 00'2 00'2 00'2 00'2 00'2 00'2 HP 00'2 00'2 00'2 00'2 00'2 00'2 SHA 034° 034° 034° 033° 033° 033° Greenwich Culmination Time: 09:10				<b>UT 02 06 10 14 18 22</b> SD 15'6 15'6 15'6 15'6 15'5 15'5 HP 57'4 57'3 57'2 57'1 57'0 56'9 SHA 002° 000° 358° 356° 354° 352° Greenwich Culmination Time: 11:35					
UT	<b>Mars</b>				<b>Jupiter</b>				<b>Saturn</b>				UT
	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	GHA	ddGHA	Dec	dDec	
00	226 57.5 +00.6	S 16	24.1 -00.6	196 09.6 +02.0	S 04	28.1 -00.3	223 43.2 +02.2	S 15	05.0 +00.0	00			
01	241 58.1 +00.6	S 16	23.5 -00.5	211 11.6 +01.9	S 04	27.8 -00.2	238 45.4 +02.3	S 15	05.0 -00.1	01			
02	256 58.7 +00.6	S 16	23.0 -00.6	226 13.5 +01.9	S 04	27.6 -00.2	253 47.7 +02.2	S 15	04.9 -00.1	02			
03	271 59.3 +00.6	S 16	22.4 -00.6	241 15.4 +01.9	S 04	27.4 -00.2	268 49.9 +02.2	S 15	04.8 -00.1	03			
04	286 59.9 +00.6	S 16	21.8 -00.5	256 17.3 +02.0	S 04	27.2 -00.3	283 52.1 +02.3	S 15	04.7 +00.0	04			
05	302 00.5 +00.5	S 16	21.3 -00.6	271 19.3 +01.9	S 04	26.9 -00.2	298 54.4 +02.2	S 15	04.7 -00.1	05			
06	317 01.0 +00.6	S 16	20.7 -00.5	286 21.2 +01.9	S 04	26.7 -00.2	313 56.6 +02.2	S 15	04.6 -00.1	06			
07	332 01.6 +00.6	S 16	20.2 -00.6	301 23.1 +01.9	S 04	26.5 -00.3	328 58.8 +02.3	S 15	04.5 +00.0	07			
08	347 02.2 +00.6	S 16	19.6 -00.6	316 25.0 +01.9	S 04	26.2 -00.2	344 01.1 +02.2	S 15	04.5 -00.1	08			
09	2 02.8 +00.6	S 16	19.0 -00.5	331 26.9 +02.0	S 04	26.0 -00.2	359 03.3 +02.2	S 15	04.4 -00.1	09			
10	17 03.4 +00.6	S 16	18.5 -00.6	346 28.9 +01.9	S 04	25.8 -00.2	14 05.5 +02.3	S 15	04.3 +00.0	10			
11	32 04.0 +00.6	S 16	17.9 -00.5	1 30.8 +01.9	S 04	25.6 -00.3	29 07.8 +02.2	S 15	04.3 -00.1	11			
12	47 04.6 +00.6	S 16	17.4 -00.6	16 32.7 +01.9	S 04	25.3 -00.2	44 10.0 +02.3	S 15	04.2 -00.1	12			
13	62 05.2 +00.5	S 16	16.8 -00.6	31 34.6 +01.9	S 04	25.1 -00.2	59 12.3 +02.2	S 15	04.1 -00.1	13			
14	77 05.7 +00.6	S 16	16.2 -00.5	46 36.5 +02.0	S 04	24.9 -00.3	74 14.5 +02.2	S 15	04.0 +00.0	14			
15	92 06.3 +00.6	S 16	15.7 -00.6	61 38.5 +01.9	S 04	24.6 -00.2	89 16.7 +02.3	S 15	04.0 -00.1	15			
16	107 06.9 +00.6	S 16	15.1 -00.5	76 40.4 +01.9	S 04	24.4 -00.2	104 19.0 +02.2	S 15	03.9 -00.1	16			
17	122 07.5 +00.6	S 16	14.6 -00.6	91 42.3 +01.9	S 04	24.2 -00.2	119 21.2 +02.2	S 15	03.8 +00.0	17			
18	137 08.1 +00.6	S 16	14.0 -00.6	106 44.2 +02.0	S 04	24.0 -00.3	134 23.4 +02.3	S 15	03.8 -00.1	18			
19	152 08.7 +00.6	S 16	13.4 -00.5	121 46.2 +01.9	S 04	23.7 -00.2	149 25.7 +02.2	S 15	03.7 -00.1	19			
20	167 09.3 +00.6	S 16	12.9 -00.6	136 48.1 +01.9	S 04	23.5 -00.2	164 27.9 +02.2	S 15	03.6 +00.0	20			
21	182 09.9 +00.6	S 16	12.3 -00.6	151 50.0 +01.9	S 04	23.3 -00.3	179 30.1 +02.3	S 15	03.6 -00.1	21			
22	197 10.5 +00.5	S 16	11.7 -00.5	166 51.9 +01.9	S 04	23.0 -00.2	194 32.4 +02.2	S 15	03.5 -00.1	22			
23	212 11.0 +00.6	S 16	11.2 -00.6	181 53.8 +02.0	S 04	22.8 -00.2	209 34.6 +02.3	S 15	03.4 +00.0	23			
<b>UT 02 06 10 14 18 22</b> SD 00'0 00'0 00'0 00'0 00'0 00'0 HP 00'1 00'1 00'1 00'1 00'1 00'1 SHA 039° 038° 038° 038° 038° 038° Greenwich Culmination Time: 08:51				<b>UT 02 06 10 14 18 22</b> 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 008° 008° 008° 008° 008° 008° Greenwich Culmination Time: 10:53				<b>UT 02 06 10 14 18 22</b> SD 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 SHA 035° 035° 035° 035° 035° 035° Greenwich Culmination Time: 09:03					