

ANTISUN AND MOON

Date 2017		Antisun		Moon		Elon.	Date 2017		Antisun		Moon		Elon.
		α_{2000}	δ_{2000}	α_{2000}	δ_{2000}		α_{2000}	δ_{2000}	α_{2000}	δ_{2000}	α_{2000}	δ_{2000}	
1	1	6 ^h 46 ^m	+23.0 ^o	20 ^h 54 ^m	-15.4 ^o	31 ^o E	4	3	12 ^h 49 ^m	-5.2 ^o	6 ^h 13 ^m	+18.9 ^o	80 ^o E
1	1	6 50	+22.9	21 46	-12.6	43 E	4	4	12 52	-5.6	7 12	+18.7	93 E
1	1	6 55	+22.8	22 37	-9.1	55 E	4	5	12 56	-6.0	8 9	+17.3	106 E
1	1	6 59	+22.7	23 28	-5.1	67 E	4	6	13 0	-6.4	9 5	+15.0	118 E
1	1	7 3	+22.6	0 19	-0.7	80 E	4	7	13 3	-6.7	9 58	+11.9	130 E
1	1	7 8	+22.5	1 11	+3.7	92 E	4	8	13 7	-7.1	10 49	+8.3	142 E
1	1	7 12	+22.4	2 5	+8.1	105 E	4	9	13 10	-7.5	11 38	+4.4	154 E
1	1	7 17	+22.3	3 33	+12.0	119 E	4	10	13 14	-7.8	12 26	+0.3	165 E
1	1	7 21	+22.1	4 33	+15.3	132 E	4	11	13 18	-8.2	13 13	-3.7	175 E
1	1	7 25	+22.0	5 9	+17.7	146 E	4	12	13 22	-8.6	13 59	-7.5	171 W
1	1	7 30	+21.8	6 2	+18.8	159 E	4	13	13 25	-8.9	14 46	-11.0	160 W
1	1	7 34	+21.7	7 4	+18.7	172 E	4	14	13 29	-9.3	15 34	-14.0	149 W
1	1	7 38	+21.5	8 5	+17.4	172 W	4	15	13 33	-9.7	16 22	-16.4	138 W
1	1	7 43	+21.3	9 8	+15.0	160 W	4	16	13 36	-10.0	17 11	-18.1	127 W
1	1	7 47	+21.2	9 58	+11.8	147 W	4	17	13 40	-10.4	18 1	-19.0	117 W
1	1	7 51	+21.0	10 51	+8.1	135 W	4	18	13 44	-10.7	18 51	-19.0	106 W
1	1	7 55	+20.8	11 40	+4.1	123 W	4	19	13 47	-11.1	19 42	-18.2	95 W
1	1	8 0	+20.6	12 28	+0.1	111 W	4	20	13 51	-11.4	20 33	-16.6	83 W
1	1	8 8	+20.4	13 14	-3.9	100 W	4	21	13 55	-11.8	21 25	-14.1	72 W
1	1	8 8	+20.2	14 0	-7.6	89 W	4	22	13 59	-12.1	22 16	-10.8	60 W
1	1	8 12	+20.0	14 47	-11.0	78 W	4	23	14 2	-12.4	23 9	-6.9	47 W
1	1	8 17	+19.7	15 33	-13.9	68 W	4	24	14 6	-12.8	0 2	-2.4	34 W
1	1	8 21	+19.5	16 22	-16.2	57 W	4	25	14 10	-13.1	0 56	+2.3	21 W
1	1	8 25	+19.3	17 11	-17.9	46 W	4	26	14 14	-13.4	1 52	+7.0	8 W
1	1	8 29	+19.0	18 2	-18.8	35 W	4	27	14 17	-13.7	2 50	+11.3	8 W
1	1	8 33	+18.8	18 54	-18.8	24 W	4	28	14 21	-14.1	3 50	+14.9	22 E
1	1	8 38	+18.5	19 46	-17.9	12 W	4	29	14 25	-14.4	4 52	+17.6	35 E
1	1	8 42	+18.3	20 39	-16.1	12 W	4	30	14 29	-14.7	5 54	+19.0	49 E
1	1	8 46	+18.0	21 32	-13.5	12 E	4	31	14 33	-15.0	6 56	+19.1	63 E
1	1	8 50	+17.7	22 24	-10.1	24 E	5	2	14 36	-15.3	7 55	+18.0	76 E
1	1	8 54	+17.5	23 16	-6.2	36 E	5	3	14 40	-15.6	8 52	+15.8	89 E
2	1	8 58	+17.2	0 8	-1.9	49 E	5	4	14 44	-15.9	9 46	+12.9	101 E
2	2	9 2	+16.9	1 0	+2.6	62 E	5	5	14 48	-16.2	10 37	+9.4	113 E
2	2	9 6	+16.6	1 53	+6.9	75 E	5	6	14 52	-16.5	11 27	+5.5	125 E
2	2	9 10	+16.3	2 47	+11.0	88 E	5	7	14 56	-16.7	12 14	+1.4	136 E
2	2	9 14	+16.0	3 44	+14.4	101 E	5	8	15 0	-17.0	13 1	-2.6	147 E
2	2	9 18	+15.7	4 42	+17.0	114 E	5	9	15 3	-17.3	13 47	-6.5	158 E
2	2	9 22	+15.4	5 41	+18.5	127 E	5	10	15 7	-17.5	14 34	-10.1	169 E
2	2	9 26	+15.1	6 42	+18.9	140 E	5	11	15 11	-17.8	15 21	-13.3	175 W
2	2	9 30	+14.8	7 41	+18.0	154 E	5	12	15 15	-18.1	16 9	-15.9	167 W
2	2	9 34	+14.4	8 40	+16.1	167 E	5	13	15 19	-18.3	16 58	-17.8	157 W
2	2	9 38	+14.1	9 36	+13.2	179 E	5	14	15 23	-18.6	17 47	-19.0	146 W
2	2	9 42	+13.8	10 29	+9.7	168 W	5	15	15 27	-18.8	18 37	-19.3	135 W
2	2	9 46	+13.4	11 20	+5.8	156 W	5	16	15 31	-19.0	19 28	-18.8	124 W
2	2	9 50	+13.1	12 10	+1.7	144 W	5	17	15 35	-19.3	20 19	-17.4	113 W
2	2	9 54	+12.8	12 57	-2.3	132 W	5	18	15 39	-19.5	21 9	-15.2	102 W
2	2	9 58	+12.4	13 44	-6.3	121 W	5	19	15 43	-19.7	21 59	-12.2	90 W
2	2	10 2	+12.1	14 31	-9.8	110 W	5	20	15 47	-19.9	22 50	-8.6	78 W
2	2	10 6	+11.7	15 18	-12.7	99 W	5	21	15 51	-20.1	23 41	-4.4	66 W
2	2	10 9	+11.4	16 5	-15.4	88 W	5	22	15 55	-20.3	23 41	+0.1	53 W
2	2	10 13	+11.0	16 54	-17.3	77 W	5	23	15 59	-20.5	1 28	+4.8	40 W
2	2	10 17	+10.7	17 44	-18.5	66 W	5	24	16 3	-20.7	2 24	+9.4	26 W
2	2	10 21	+10.3	18 35	-18.9	55 W	5	25	16 7	-20.9	3 23	+13.4	13 W
2	2	10 25	+9.9	19 27	-18.3	44 W	5	26	16 11	-21.1	4 25	+16.6	6 E
2	2	10 29	+9.6	20 20	-16.8	32 W	5	27	16 15	-21.2	5 29	+18.7	17 E
2	2	10 32	+9.2	21 13	-14.5	20 W	5	28	16 19	-21.4	6 32	+19.4	31 E
2	2	10 36	+8.8	22 5	-11.3	8 W	5	29	16 23	-21.6	7 35	+18.7	45 E
2	2	10 40	+8.4	23 59	-7.5	8 W	5	30	16 27	-21.7	8 35	+16.9	58 E
2	2	10 44	+8.1	23 52	-3.7	18 E	5	31	16 31	-21.9	9 35	+14.1	71 E
2	2	10 47	+7.7	0 45	+1.4	31 E	6	1	16 35	-22.0	10 25	+10.6	84 E
3	2	10 51	+7.3	1 39	+5.9	44 E	6	2	16 40	-22.1	11 15	+6.7	96 E
3	3	10 55	+6.9	2 34	+10.0	57 E	6	3	16 44	-22.3	12 3	+2.6	107 E
3	3	10 59	+6.5	3 31	+13.7	70 E	6	4	16 48	-22.4	12 50	+1.5	119 E
3	3	11 2	+6.2	4 28	+16.5	84 E	6	5	16 52	-22.5	13 36	-5.5	130 E
3	3	11 6	+5.8	5 27	+18.2	97 E	6	6	16 56	-22.6	14 23	-9.2	141 E
3	3	11 10	+5.4	6 26	+18.9	110 E	6	7	17 0	-22.7	15 9	-12.5	152 E
3	3	11 14	+5.0	7 25	+18.4	123 E	6	8	17 4	-22.8	15 57	-15.3	162 E
3	3	11 17	+4.6	8 25	+16.8	135 E	6	9	17 8	-22.9	16 45	-17.4	172 E
3	3	11 21	+4.2	9 18	+14.2	148 E	6	10	17 13	-23.0	17 35	-18.8	173 W
3	3	11 25	+3.8	10 11	+11.0	160 E	6	11	17 17	-23.1	18 25	-19.4	164 W
3	3	11 28	+3.4	11 2	+7.2	172 E	6	12	17 21	-23.1	19 16	-19.1	153 W
3	3	11 32	+3.0	11 52	+3.2	175 W	6	13	17 25	-23.2	20 6	-18.0	142 W
3	3	11 36	+2.6	12 40	-0.9	164 W	6	14	17 29	-23.2	20 57	-16.0	131 W
3	3	11 39	+2.2	13 27	-4.9	152 W	6	15	17 33	-23.3	21 47	-13.3	119 W
3	3	11 43	+1.8	14 14	-8.6	141 W	6	16	17 37	-23.3	22 36	-9.9	108 W
3	3	11 47	+1.5	15 1	-11.9	130 W	6	17	17 42	-23.4	23 26	-5.9	96 W
3	3	11 50	+1.1	15 49	-14.7	119 W	6	18	17 46	-23.4	0 17	-1.6	84 W
3	3	11 54	+0.7	16 37	-16.8	108 W	6	19	17 50	-23.4	1 8	+3.0	71 W
3	3	11 58	+0.3	17 27	-18.3	97 W	6	20	17 54	-23.4	2 9	+7.9	58 W
3	3	12 1	-0.1	18 17	-18.9	86 W	6	21	17 58	-23.4	2 58	+11.7	44 W
3	3	12 5	-0.5	19 8	-18.7	75 W	6	22	18 2	-23.4	3 58	+15.3	30 W
3	3	12 8	-0.9	20 0	-17.6	64 W	6	23	18 7	-23.4	5 0	+17.9	16 W
3	3	12 12	-1.3	20 52	-15.6	52 W	6	24	18 11	-23.4	6 4	+19.3	4 W
3	3	12 16	-1.7	21 45	-12.7	40 W	6	25	18 15	-23.4	7 8	+19.3	13 E
3	3	12 19	-2.1	22 38	-9.1	28 W	6	26	18 19	-23.4	8 11	+17.9	27 E
3	3	12 23	-2.5	23 31	-4.9	15 W	6	27	18 23	-23.3	9 10	+15.4	40 E
3	3	12 27	-2.9	0 25	+0.4	3 W	6	28	18 27	-23.3	10 6	+12.1	53 E
3	3	12 30	-3.3	1 20	+4.3	12 E	6	29	18 31	-23.2	10 59	+8.2	68 E
3	3	12 34	-3.7	2 16	+8.8	26 E	6	30	18 36	-23.2	11 49	+4.0	83 E
3	3	12 38	-4.1	3 14	+12.8	40 E	7	1	18 40	-23.1	12 38	+0.2	90 E
4	1	12 41	-4.4	4 13	+15.9	53 E	7	2	18 44	-23.1	13 24	-4.3	101 E
4	1	12 45	-4.8	5 13	+18.0	67 E	7	3	18 48	-23.0	14 11	-8.1	112 E

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Date 2017	Antisun		α_{2000}	Moon δ_{2000}	Elon.	Date 2017	Antisun		α_{2000}	Moon δ_{2000}	Elon.
	α_{2000}	δ_{2000}					α_{2000}	δ_{2000}			
7 4	18 52	-22.9	14 57	-11.6	123 E	10 4	0 39	+ 4.2	23 20	- 6.7	157 E
7 5	18 56	-22.8	15 45	-14.5	134 E	10 5	0 43	+ 4.6	0 11	- 2.3	169 E
7 6	19 0	-22.7	16 33	-16.9	145 E	10 6	0 47	+ 5.0	1 4	+ 2.4	175 W
7 7	19 4	-22.6	17 22	-18.5	156 E	10 7	0 50	+ 5.4	1 57	+ 7.0	163 W
7 8	19 9	-22.5	18 12	-19.4	166 E	10 8	0 54	+ 5.8	2 53	+11.3	150 W
7 9	19 13	-22.4	19 3	-19.3	176 E	10 9	0 58	+ 6.2	3 50	+14.9	137 W
7 10	19 17	-22.3	19 54	-18.4	170 W	10 10	1 1	+ 6.5	4 50	+17.6	123 W
7 11	19 21	-22.1	20 45	-16.7	159 W	10 11	1 5	+ 6.9	5 50	+19.2	110 W
7 12	19 25	-22.0	21 35	-14.1	148 W	10 12	1 9	+ 7.3	6 50	+19.6	97 W
7 13	19 29	-21.9	22 25	-10.9	137 W	10 13	1 12	+ 7.7	7 50	+18.7	84 W
7 14	19 33	-21.7	23 15	- 7.1	125 W	10 14	1 16	+ 8.0	8 47	+16.7	71 W
7 15	19 37	-21.6	0 4	- 2.9	113 W	10 15	1 20	+ 8.4	9 43	+13.8	58 W
7 16	19 41	-21.4	0 55	+ 1.6	100 W	10 16	1 24	+ 8.8	10 36	+10.2	46 W
7 17	19 45	-21.2	1 46	+ 6.0	88 W	10 17	1 27	+ 9.2	11 27	+ 6.1	34 W
7 18	19 49	-21.1	2 40	+10.2	75 W	10 18	1 31	+ 9.5	12 17	+ 1.8	22 W
7 19	19 53	-20.9	3 37	+14.0	61 W	10 19	1 35	+ 9.9	13 6	- 2.6	10 W
7 20	19 57	-20.7	4 36	+16.9	48 W	10 20	1 39	+10.2	13 54	- 6.7	5 E
7 21	20 1	-20.5	5 38	+18.3	34 W	10 21	1 42	+10.6	14 42	-10.5	15 E
7 22	20 5	-20.3	6 41	+19.4	20 W	10 22	1 46	+11.0	15 30	-13.8	26 E
7 23	20 9	-20.1	7 44	+18.7	6 W	10 23	1 50	+11.3	16 19	-16.5	37 E
7 24	20 13	-19.9	8 45	+16.7	8 E	10 24	1 54	+11.7	17 9	-18.4	47 E
7 25	20 17	-19.7	9 43	+13.6	22 E	10 25	1 57	+12.0	17 59	-19.5	58 E
7 26	20 21	-19.5	10 39	+ 9.9	35 E	10 26	2 1	+12.3	18 49	-19.7	69 E
7 27	20 25	-19.3	11 31	+ 5.7	47 E	10 27	2 5	+12.7	19 39	-19.1	80 E
7 28	20 29	-19.0	12 21	+ 1.4	59 E	10 28	2 9	+13.0	20 29	-17.6	91 E
7 29	20 33	-18.8	13 9	- 2.8	71 E	10 29	2 13	+13.4	21 19	-15.3	102 E
7 30	20 37	-18.6	13 57	- 6.8	83 E	10 30	2 17	+13.7	22 9	-12.3	113 E
7 31	20 41	-18.3	14 44	-10.5	95 E	10 31	2 21	+14.0	22 59	- 8.0	125 E
8 1	20 45	-18.1	15 31	-13.6	104 E	10 31	2 25	+14.3	23 50	- 4.3	137 E
8 2	20 48	-17.8	16 19	-16.2	116 E	11 2	2 28	+14.7	0 42	+ 0.3	150 E
8 3	20 52	-17.6	17 8	-18.0	127 E	11 3	2 32	+15.0	1 35	+ 5.1	163 E
8 4	20 56	-17.3	17 58	-19.1	138 E	11 4	2 36	+15.3	2 31	+ 9.7	174 E
8 5	21 0	-17.0	18 48	-19.4	149 E	11 5	2 40	+15.6	3 29	+13.7	168 W
8 6	21 4	-16.8	19 40	-18.8	160 E	11 6	2 44	+15.9	4 29	+17.0	155 W
8 7	21 8	-16.5	20 31	-17.2	171 E	11 7	2 48	+16.2	5 31	+19.1	141 W
8 8	21 12	-16.2	21 22	-14.9	177 W	11 8	2 52	+16.5	6 33	+19.9	128 W
8 9	21 15	-15.9	22 13	-11.8	166 W	11 9	2 56	+16.8	7 35	+19.3	114 W
8 10	21 19	-15.6	23 3	- 8.1	154 W	11 10	3 0	+17.1	8 34	+17.5	101 W
8 11	21 23	-15.3	23 53	- 3.9	141 W	11 11	3 4	+17.3	9 31	+14.8	88 W
8 12	21 27	-15.0	0 43	+ 0.5	129 W	11 12	3 8	+17.6	10 25	+11.3	76 W
8 13	21 30	-14.7	1 34	+ 4.9	116 W	11 13	3 12	+17.9	11 16	+ 7.3	64 W
8 14	21 34	-14.4	2 27	+ 9.2	104 W	11 14	3 17	+18.2	12 5	+ 3.0	52 W
8 15	21 38	-14.1	3 22	+13.0	91 W	11 15	3 21	+18.4	12 53	- 1.4	40 W
8 16	21 42	-13.8	4 19	+16.1	78 W	11 16	3 25	+18.7	13 41	- 5.6	28 W
8 17	21 45	-13.5	5 18	+18.3	64 W	11 17	3 29	+18.9	14 28	- 9.5	17 W
8 18	21 49	-13.2	6 19	+19.3	51 W	11 18	3 33	+19.2	15 16	-13.0	7 W
8 19	21 53	-12.9	7 20	+19.1	37 W	11 19	3 37	+19.4	16 5	-15.9	7 E
8 20	21 57	-12.5	8 21	+17.6	24 W	11 20	3 41	+19.6	16 54	-18.0	17 E
8 21	22 0	-12.2	9 20	+15.0	10 W	11 21	3 46	+19.8	17 44	-18.4	28 E
8 22	22 4	-11.9	10 16	+11.5	3 E	11 22	3 50	+20.1	18 34	-20.0	38 E
8 23	22 8	-11.5	11 10	+ 7.5	16 E	11 23	3 54	+20.3	19 24	-19.6	49 E
8 24	22 11	-11.2	12 2	+ 3.1	29 E	11 24	3 58	+20.5	20 14	-18.4	60 E
8 25	22 15	-10.8	12 51	- 1.2	41 E	11 25	4 2	+20.7	21 3	-16.4	71 E
8 26	22 19	-10.5	13 40	- 5.4	53 E	11 26	4 7	+20.9	21 52	-13.6	82 E
8 27	22 22	-10.2	14 28	- 9.2	64 E	11 27	4 11	+21.1	22 41	-10.2	93 E
8 28	22 26	- 9.8	15 15	-12.6	75 E	11 28	4 15	+21.3	23 30	- 6.2	105 E
8 29	22 30	- 9.5	16 3	-15.4	86 E	11 29	4 19	+21.4	0 20	- 1.8	117 E
8 30	22 33	- 9.1	17 5	-17.5	97 E	11 30	4 24	+21.6	1 12	+ 7.7	130 E
8 31	22 37	- 8.7	17 45	-18.9	108 E	12 1	4 28	+21.8	2 2	+ 7.3	143 E
9 1	22 41	- 8.4	18 32	-19.4	119 E	12 2	4 32	+21.9	3 2	+11.9	156 E
9 2	22 44	- 8.0	19 23	-19.1	130 E	12 3	4 37	+22.1	4 1	+15.6	169 E
9 3	22 48	- 7.6	20 14	-17.8	141 E	12 4	4 41	+22.2	5 4	+18.4	173 W
9 4	22 51	- 7.3	21 5	-15.7	153 E	12 5	4 45	+22.3	6 8	+19.8	161 W
9 5	22 55	- 6.9	21 57	-12.8	164 E	12 6	4 50	+22.5	7 12	+19.9	147 W
9 6	22 59	- 6.5	22 47	- 9.2	176 E	12 7	4 54	+22.6	8 15	+18.5	133 W
9 7	23 2	- 6.2	23 38	- 5.1	171 W	12 8	4 58	+22.7	9 15	+15.9	120 W
9 8	23 6	- 5.8	0 30	+ 0.7	159 W	12 9	5 2	+22.8	10 11	+12.5	107 W
9 9	23 9	- 5.4	1 21	+ 3.9	146 W	12 10	5 7	+22.9	11 4	+ 8.8	94 W
9 10	23 13	- 5.0	2 14	+ 8.3	133 W	12 11	5 12	+23.0	11 54	+ 4.3	82 W
9 11	23 17	- 4.7	3 9	+12.3	120 W	12 12	5 16	+23.1	12 43	- 0.2	70 W
9 12	23 20	- 4.3	4 6	+15.6	107 W	12 13	5 20	+23.1	13 30	- 4.4	59 W
9 13	23 24	- 3.9	5 4	+18.0	94 W	12 14	5 25	+23.2	14 17	- 8.4	47 W
9 14	23 27	- 3.5	6 6	+19.3	80 W	12 15	5 29	+23.2	15 4	-12.1	36 W
9 15	23 31	- 3.1	7 3	+19.3	67 W	12 16	5 34	+23.3	15 52	-15.1	25 W
9 16	23 35	- 2.7	8 3	+18.2	54 W	12 17	5 38	+23.3	16 41	-17.5	15 W
9 17	23 38	- 2.4	9 1	+16.0	41 W	12 18	5 43	+23.4	17 31	-19.2	5 W
9 18	23 42	- 2.0	9 57	+12.8	28 W	12 19	5 47	+23.4	18 21	-20.0	9 E
9 19	23 45	- 1.6	10 51	+ 9.0	15 W	12 20	5 51	+23.4	19 11	-19.9	19 E
9 20	23 49	- 1.2	11 43	+ 4.7	4 W	12 21	5 56	+23.4	20 1	-19.0	29 E
9 21	23 53	- 0.8	12 33	+ 0.4	10 E	12 22	6 0	+23.4	20 51	-17.2	40 E
9 22	23 56	- 0.4	13 22	- 3.9	22 E	12 23	6 5	+23.4	21 40	-14.7	51 E
9 23	0 0	+ 0.0	14 10	- 8.0	33 E	12 24	6 9	+23.4	22 28	-11.4	62 E
9 24	0 3	+ 0.4	14 58	-11.6	45 E	12 25	6 14	+23.4	23 16	- 7.7	74 E
9 25	0 7	+ 0.7	15 47	-14.6	56 E	12 26	6 18	+23.4	0 4	- 3.5	85 E
9 26	0 11	+ 1.1	16 35	-17.0	67 E	12 27	6 23	+23.3	0 53	+ 0.9	97 E
9 27	0 14	+ 1.5	17 25	-18.6	78 E	12 28	6 27	+23.3	1 44	+ 5.5	110 E
9 28	0 18	+ 1.9	18 15	-19.4	89 E	12 29	6 31	+23.2	2 37	+ 9.9	123 E
9 29	0 21	+ 2.3	19 5	-19.4	100 E	12 30	6 36	+23.2	3 34	+13.9	136 E
9 30	0 25	+ 2.7	19 56	-18.9	111 E	12 31	6 40	+23.1	4 34	+17.2	150 E
10 1	0 29	+ 3.1	20 47	-16.7	122 E						
10 2	0 32	+ 3.5	21 38	-14.1	133 E						
10 3	0 36	+ 3.9	22 29	-10.7	145 E						