

August 01, 2017 12:00:00 PM MDT

Object	Right ascens	Declination	Earth distance	Sun distance
Sun	08h 48m 16s	+17° 50' 11"	0	0
Mercury	10h 30m 50s	+07° 26' 10"	124,861,038	69,803,010
Venus	06h 05m 24s	+21° 53' 22"	172,332,784	108,342,686
Mars	08h 42m 17s	+19° 22' 45"	397,593,613	245,934,066
Ceres	06h 39m 26s	+24° 12' 35"	522,096,569	399,426,315
Jupiter	13h 04m 51s	-05° 37' 12"	861,309,474	815,288,951
Saturn	17h 23m 54s	-21° 55' 23"	1,399,215,138	1,505,005,010
Uranus	01h 46m 52s	+10° 24' 08"	2,946,838,596	2,979,815,597
Neptune	23h 01m 29s	-07° 15' 15"	4,353,562,145	4,480,083,029
Pluto	19h 15m 50s	-21° 33' 27"	4,852,332,463	4,993,366,085
Moon	16h 07m 36s	-15° 56' 14"	404,410	0

(Distances in km)

Object	Rise:	Tran	Set:	Phase	Constl	Magnitud
Sun	06:00	13:06	20:12	0.00%	Cnc	unknown
Mercury	08:21	14:49	21:15	42.59%	Leo	0.5
Venus	03:02	10:23	17:45	74.61%	Gem	-4.0
Mars	05:50	13:00	20:10	99.99%	Cnc	1.7
Ceres	04:29	11:58	19:28	99.50%	Gem	8.9
Jupiter	11:38	17:22	23:05	99.25%	Vir	-1.9
Saturn	16:55	21:40	02:29	99.86%	Oph	0.3
Uranus	23:25	06:06	12:42	99.94%	Psc	5.8
Neptune	21:39	03:17	08:59	99.99%	Aqr	7.8
Pluto	18:44	23:31	04:21	100.00%	Sgr	14.2
Moon	15:26	20:41	01:16	69.43%	Sc0	unknown

Meteor Radiant Report

Name	Month/Day	RA	Decl	Hourly Rate
Southern Iota Aquarids	08/05	22.2	-14.7	15
Perseids	08/12	3.1	57.4	95
Northern Delta Aquarids	08/12	22.6	-5.0	20
Kappa Cygnids	08/18	19.1	59.0	5

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Date	Moonrise	Moonset	Sunrise	Sunset	Begin Twilight	End Twilight
8/1/17	15:28	01:16	06:00	20:12	04:12	21:59
8/2/17	16:21	01:53	06:01	20:11	04:14	21:58
8/3/17	17:14	02:33	06:02	20:10	04:15	21:56
8/4/17	18:03	03:18	06:02	20:09	04:16	21:54
8/5/17	18:49	04:07	06:03	20:08	04:18	21:53
8/6/17	19:32	05:00	06:04	20:07	04:19	21:51
8/7/17	20:10	05:57	06:05	20:05	04:21	21:50
8/8/17	20:46	06:56	06:06	20:04	04:22	21:48
8/9/17	21:21	07:57	06:07	20:03	04:23	21:46
8/10/17	21:54	08:59	06:08	20:02	04:25	21:45
8/11/17	22:26	10:02	06:09	20:01	04:26	21:43
8/12/17	23:00	11:07	06:10	19:59	04:28	21:41
8/13/17	23:36	12:12	06:11	19:58	04:29	21:39
8/14/17	-----	13:19	06:12	19:57	04:30	21:38
8/15/17	00:15	14:26	06:13	19:55	04:32	21:36
8/16/17	01:00	15:33	06:13	19:54	04:33	21:34
8/17/17	01:51	16:36	06:14	19:53	04:34	21:32
8/18/17	02:48	17:36	06:15	19:51	04:36	21:31
8/19/17	03:51	18:28	06:16	19:50	04:37	21:29
8/20/17	04:57	19:15	06:17	19:49	04:38	21:27
8/21/17	06:06	19:56	06:18	19:47	04:40	21:25
8/22/17	07:13	20:32	06:19	19:46	04:41	21:23
8/23/17	08:18	21:06	06:20	19:44	04:42	21:21
8/24/17	09:22	21:38	06:21	19:43	04:44	21:20
8/25/17	10:23	22:09	06:22	19:41	04:45	21:18
8/26/17	11:23	22:41	06:23	19:40	04:46	21:16
8/27/17	12:21	23:14	06:24	19:38	04:48	21:14
8/28/17	13:18	23:50	06:25	19:37	04:49	21:12
8/29/17	14:12	-----	06:25	19:35	04:50	21:10
8/30/17	15:06	00:28	06:26	19:34	04:51	21:08
8/31/17	15:56	01:12	06:27	19:32	04:53	21:07