

December 01, 2020 12:00:00 PM MST

Object	Right ascens	Declination	Earth distance	Sun distance
Sun	16h 33m 39.0s	-21° 57' 23"	0	0
Mercury	15h 51m 27.4s	-19° 41' 12"	205,506,070	65,626,372
Venus	14h 43m 00.1s	-14° 05' 27"	214,626,537	107,748,813
Mars	01h 03m 31.3s	+06° 44' 44"	96,847,230	219,979,901
Ceres	22h 38m 36.3s	-20° 13' 43"	435,329,804	444,305,676
Jupiter	19h 53m 37.6s	-21° 20' 45"	858,363,747	763,855,101
Saturn	20h 02m 41.0s	-20° 49' 05"	1,588,526,776	1,494,742,774
Uranus	02h 21m 10.0s	+13° 34' 13"	2,833,113,778	2,958,473,886
Neptune	23h 18m 11.4s	-05° 41' 14"	4,453,884,277	4,477,075,111
Pluto	19h 41m 22.3s	-22° 34' 13"	5,218,526,216	5,112,100,564
Moon	05h 40m 05.6s	+23° 05' 17"	398,239	0

(Distances in km)

Object	Rise:	Tran	Set:	Phase	Constl	Magnitud
Sun	07:01	11:48	16:36	0.00%	Oph	unknown
Mercury	06:11	11:06	16:01	95.94%	Lib	-0.8
Venus	04:42	09:58	15:13	88.83%	Lib	-4.0
Mars	13:53	20:17	02:45	92.26%	Psc	-1.1
Ceres	13:02	17:54	22:46	99.50%	Aqr	9.2
Jupiter	10:21	15:08	19:55	99.51%	Sgr	-2.1
Saturn	10:28	15:17	20:06	99.86%	Sgr	0.6
Uranus	14:46	21:34	04:26	99.98%	Ari	5.7
Neptune	12:49	18:32	00:19	99.97%	Aqr	7.9
Pluto	10:12	14:54	19:36	99.99%	Sgr	14.4
Moon	17:41	00:32	08:11	98.18%	Tau	unknown

Meteor Radiant Report

Name	Month/Day	RA	Decl	Hourly Rate
December Phoenicids	12/05	1.0	-55.0	100
December Phoenicids	12/05	1.0	-45.0	100
Monocerotids	12/10	6.7	14.0	3
Southern Chi Orionids	12/10	5.7	16.0	8
Northern Chi Orionids	12/11	5.6	26.0	4
Sigma Hydrids	12/11	8.4	1.6	5
Delta Arietids	12/11	3.5	22.0	5
Geminids	12/14	7.5	32.5	90
Ursids	12/22	14.5	75.8	20

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Date	Moonrise	Moonset	Sunrise	Sunset	Begin Twilight	End Twilight
12/1/20	17:41	08:12	07:01	16:35	05:26	18:11
12/2/20	18:30	09:09	07:02	16:35	05:27	18:11
12/3/20	19:27	10:01	07:03	16:35	05:27	18:11
12/4/20	20:29	10:48	07:04	16:35	05:28	18:11
12/5/20	21:35	11:29	07:05	16:35	05:29	18:11
12/6/20	22:43	12:04	07:06	16:35	05:30	18:11
12/7/20	23:52	12:36	07:07	16:35	05:31	18:11
12/8/20	-----	13:05	07:08	16:35	05:31	18:11
12/9/20	01:02	13:34	07:09	16:35	05:32	18:11
12/10/20	02:13	14:03	07:09	16:35	05:33	18:12
12/11/20	03:27	14:35	07:10	16:35	05:34	18:12
12/12/20	04:42	15:11	07:11	16:35	05:34	18:12
12/13/20	05:59	15:54	07:12	16:36	05:35	18:12
12/14/20	07:14	16:45	07:12	16:36	05:36	18:13
12/15/20	08:22	17:44	07:13	16:36	05:36	18:13
12/16/20	09:22	18:48	07:14	16:36	05:37	18:13
12/17/20	10:11	19:56	07:14	16:37	05:38	18:14
12/18/20	10:51	21:02	07:15	16:37	05:38	18:14
12/19/20	11:24	22:06	07:16	16:38	05:39	18:15
12/20/20	11:52	23:08	07:16	16:38	05:39	18:15
12/21/20	12:17	-----	07:17	16:39	05:40	18:16
12/22/20	12:40	00:07	07:17	16:39	05:40	18:16
12/23/20	13:04	01:06	07:18	16:40	05:41	18:17
12/24/20	13:28	02:03	07:18	16:40	05:41	18:17
12/25/20	13:53	03:02	07:18	16:41	05:42	18:18
12/26/20	14:22	04:01	07:19	16:42	05:42	18:18
12/27/20	14:57	05:02	07:19	16:42	05:42	18:19
12/28/20	15:37	06:02	07:19	16:43	05:43	18:20
12/29/20	16:24	07:01	07:20	16:44	05:43	18:20
12/30/20	17:20	07:56	07:20	16:45	05:43	18:21
12/31/20	18:21	08:46	07:20	16:45	05:43	18:22

'-----' means the event does not occur on this date.