

# NOAA Global Monitoring Laboratory

Global Radiation Group

<https://gml.noaa.gov/grad/solcalc>

## Sunrise Table for 2023

**Location: Latitude 46.44921 Longitude -86.60248**

**Time Zone Offset: America/Detroit -4.0**

All times are in local time. Cells with light green color indicate when daylight saving time is in effect.

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	08:30	08:10	07:26	07:26	06:32	05:58	05:58	06:27	07:06	07:45	08:28	08:09
2	08:30	08:09	07:24	07:24	06:31	05:57	05:58	06:28	07:08	07:46	08:29	08:10
3	08:30	08:08	07:22	07:22	06:29	05:56	05:59	06:30	07:09	07:47	08:31	08:12
4	08:30	08:06	07:20	07:20	06:28	05:56	05:59	06:31	07:10	07:49	08:32	08:13
5	08:30	08:05	07:19	07:19	06:26	05:55	06:00	06:32	07:11	07:50	07:33	08:14
6	08:30	08:04	07:17	07:17	06:25	05:55	06:01	06:33	07:13	07:51	07:35	08:15
7	08:29	08:02	07:15	07:15	06:24	05:55	06:02	06:35	07:14	07:53	07:36	08:16
8	08:29	08:01	07:13	07:13	06:22	05:54	06:02	06:36	07:15	07:54	07:38	08:17
9	08:29	07:59	07:11	07:11	06:21	05:54	06:03	06:37	07:16	07:55	07:39	08:18
10	08:28	07:58	07:09	07:09	06:19	05:54	06:04	06:38	07:18	07:57	07:41	08:19
11	08:28	07:56	07:07	07:07	06:18	05:54	06:05	06:40	07:19	07:58	07:42	08:20
12	08:28	07:55	08:05	07:05	06:17	05:53	06:06	06:41	07:20	07:59	07:44	08:21
13	08:27	07:53	08:03	07:03	06:15	05:53	06:07	06:42	07:22	08:01	07:45	08:22
14	08:27	07:52	08:01	07:02	06:14	05:53	06:08	06:43	07:23	08:02	07:46	08:22
15	08:26	07:50	07:59	07:00	06:13	05:53	06:09	06:45	07:24	08:04	07:48	08:23
16	08:25	07:48	07:58	06:58	06:12	05:53	06:10	06:46	07:25	08:05	07:49	08:24
17	08:25	07:47	07:56	06:56	06:11	05:53	06:11	06:47	07:27	08:06	07:51	08:25
18	08:24	07:45	07:54	06:54	06:10	05:53	06:12	06:49	07:28	08:08	07:52	08:25
19	08:23	07:44	07:52	06:53	06:08	05:53	06:13	06:50	07:29	08:09	07:54	08:26
20	08:22	07:42	07:50	06:51	06:07	05:53	06:14	06:51	07:31	08:10	07:55	08:26
21	08:22	07:40	07:48	06:49	06:06	05:54	06:15	06:52	07:32	08:12	07:56	08:27
22	08:21	07:38	07:46	06:47	06:05	05:54	06:16	06:54	07:33	08:13	07:58	08:28
23	08:20	07:37	07:44	06:46	06:04	05:54	06:17	06:55	07:34	08:15	07:59	08:28
24	08:19	07:35	07:42	06:44	06:04	05:54	06:18	06:56	07:36	08:16	08:00	08:28
25	08:18	07:33	07:40	06:42	06:03	05:55	06:19	06:57	07:37	08:18	08:02	08:29
26	08:17	07:31	07:38	06:41	06:02	05:55	06:20	06:59	07:38	08:19	08:03	08:29
27	08:16	07:30	07:36	06:39	06:01	05:56	06:21	07:00	07:40	08:20	08:04	08:29
28	08:15	07:28	07:34	06:37	06:00	05:56	06:23	07:01	07:41	08:22	08:06	08:30
29	08:14		07:32	06:36	06:00	05:57	06:24	07:03	07:42	08:23	08:07	08:30
30	08:12		07:30	06:34	05:59	05:57	06:25	07:04	07:43	08:25	08:08	08:30
31	08:11		07:28		05:58		06:26	07:05		08:26		08:30

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## Sunset Table for 2023

**Location: Latitude 46.44921 Longitude -86.60248**

**Time Zone Offset: America/Detroit -4.0**

All times are in local time. Cells with light green color indicate when daylight saving time is in effect.

Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	17:10	17:50	18:32	20:15	20:55	21:31	21:43	21:17	20:26	19:27	18:32	17:01
2	17:11	17:52	18:34	20:16	20:57	21:32	21:42	21:16	20:24	19:25	18:30	17:01
3	17:12	17:53	18:35	20:18	20:58	21:33	21:42	21:15	20:22	19:23	18:29	17:01
4	17:13	17:55	18:36	20:19	20:59	21:34	21:42	21:13	20:20	19:21	18:27	17:00
5	17:14	17:56	18:38	20:20	21:01	21:35	21:42	21:12	20:18	19:19	17:26	17:00
6	17:15	17:58	18:39	20:22	21:02	21:36	21:41	21:10	20:16	19:17	17:24	17:00
7	17:16	18:00	18:41	20:23	21:03	21:36	21:41	21:09	20:14	19:15	17:23	17:00
8	17:17	18:01	18:42	20:25	21:04	21:37	21:40	21:07	20:12	19:13	17:22	16:59
9	17:19	18:03	18:44	20:26	21:06	21:38	21:40	21:06	20:10	19:11	17:21	16:59
10	17:20	18:04	18:45	20:27	21:07	21:38	21:39	21:04	20:08	19:09	17:19	16:59
11	17:21	18:06	18:46	20:29	21:08	21:39	21:38	21:03	20:06	19:07	17:18	16:59
12	17:22	18:07	19:48	20:30	21:10	21:39	21:38	21:01	20:04	19:06	17:17	16:59
13	17:23	18:09	19:49	20:31	21:11	21:40	21:37	21:00	20:02	19:04	17:16	16:59
14	17:25	18:10	19:51	20:33	21:12	21:40	21:36	20:58	20:00	19:02	17:15	17:00
15	17:26	18:12	19:52	20:34	21:13	21:41	21:36	20:56	19:58	19:00	17:14	17:00
16	17:27	18:13	19:53	20:35	21:14	21:41	21:35	20:55	19:56	18:58	17:12	17:00
17	17:29	18:15	19:55	20:37	21:16	21:42	21:34	20:53	19:54	18:56	17:11	17:00
18	17:30	18:16	19:56	20:38	21:17	21:42	21:33	20:51	19:52	18:55	17:10	17:01
19	17:31	18:18	19:57	20:39	21:18	21:42	21:32	20:49	19:50	18:53	17:10	17:01
20	17:33	18:19	19:59	20:41	21:19	21:43	21:31	20:48	19:48	18:51	17:09	17:01
21	17:34	18:21	20:00	20:42	21:20	21:43	21:30	20:46	19:46	18:49	17:08	17:02
22	17:36	18:22	20:02	20:43	21:21	21:43	21:29	20:44	19:44	18:48	17:07	17:02
23	17:37	18:23	20:03	20:45	21:22	21:43	21:28	20:42	19:42	18:46	17:06	17:03
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28	17:44	18:31	20:10	20:51	21:28	21:43	21:23	20:33	19:32	18:38	17:03	17:06
29	17:46		20:11	20:53	21:29	21:43	21:21	20:31	19:31	18:36	17:02	17:07
30	17:47		20:12	20:54	21:30	21:43	21:20	20:29	19:29	18:35	17:02	17:08
31	17:49		20:14		21:31		21:19	20:28		18:33		17:09

## Solar Noon Table for 2023

**Location: Latitude 46.44921 Longitude -86.60248**

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Day	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	12:49:44	12:59:55	12:58:50	13:50:24	13:43:34	13:44:11	13:50:12	13:52:48	13:46:36	13:36:15	13:29:58	12:35:14
2	12:50:12	13:00:03	12:58:38	13:50:06	13:43:27	13:44:21	13:50:24	13:52:44	13:46:17	13:35:56	13:29:56	12:35:37
3	12:50:40	13:00:11	12:58:26	13:49:49	13:43:21	13:44:30	13:50:35	13:52:40	13:45:57	13:35:37	13:29:55	12:36:00
4	12:51:08	13:00:17	12:58:13	13:49:31	13:43:15	13:44:40	13:50:46	13:52:35	13:45:38	13:35:18	13:29:55	12:36:24
5	12:51:35	13:00:22	12:58:00	13:49:14	13:43:09	13:44:51	13:50:57	13:52:29	13:45:18	13:34:59	12:29:56	12:36:48
6	12:52:01	13:00:27	12:57:46	13:48:57	13:43:05	13:45:01	13:51:07	13:52:23	13:44:58	13:34:41	12:29:58	12:37:13
7	12:52:28	13:00:31	12:57:32	13:48:40	13:43:00	13:45:12	13:51:17	13:52:16	13:44:38	13:34:23	12:30:01	12:37:39
8	12:52:53	13:00:34	12:57:17	13:48:23	13:42:56	13:45:23	13:51:27	13:52:09	13:44:17	13:34:06	12:30:04	12:38:05
9	12:53:19	13:00:36	12:57:02	13:48:07	13:42:53	13:45:35	13:51:36	13:52:01	13:43:56	13:33:49	12:30:08	12:38:31
10	12:53:43	13:00:38	12:56:47	13:47:50	13:42:51	13:45:47	13:51:45	13:51:52	13:43:36	13:33:33	12:30:14	12:38:58
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13	12:54:54	13:00:38	13:56:00	13:47:03	13:42:46	13:46:23	13:52:08	13:51:23	13:42:32	13:32:46	12:30:34	12:40:21
14	12:55:16	13:00:36	13:55:43	13:46:48	13:42:46	13:46:36	13:52:15	13:51:12	13:42:11	13:32:31	12:30:43	12:40:49
15	12:55:38	13:00:34	13:55:27	13:46:34	13:42:46	13:46:49	13:52:22	13:51:01	13:41:50	13:32:17	12:30:53	12:41:18
16	12:55:59	13:00:30	13:55:10	13:46:19	13:42:47	13:47:02	13:52:28	13:50:49	13:41:28	13:32:04	12:31:03	12:41:47
17	12:56:20	13:00:27	13:54:52	13:46:05	13:42:48	13:47:15	13:52:33	13:50:36	13:41:07	13:31:51	12:31:14	12:42:16
18	12:56:39	13:00:22	13:54:35	13:45:52	13:42:50	13:47:28	13:52:38	13:50:23	13:40:46	13:31:39	12:31:26	12:42:45
19	12:56:58	13:00:17	13:54:18	13:45:38	13:42:53	13:47:41	13:52:43	13:50:10	13:40:24	13:31:27	12:31:39	12:43:15
20	12:57:17	13:00:11	13:54:00	13:45:26	13:42:56	13:47:54	13:52:47	13:49:56	13:40:03	13:31:16	12:31:53	12:43:44
21	12:57:34	13:00:04	13:53:42	13:45:13	13:42:59	13:48:07	13:52:50	13:49:42	13:39:41	13:31:05	12:32:07	12:44:14
22	12:57:51	12:59:57	13:53:24	13:45:01	13:43:03	13:48:20	13:52:53	13:49:27	13:39:20	13:30:56	12:32:22	12:44:44
23	12:58:07	12:59:49	13:53:06	13:44:50	13:43:08	13:48:33	13:52:55	13:49:11	13:38:59	13:30:46	12:32:39	12:45:13
24	12:58:22	12:59:41	13:52:48	13:44:38	13:43:13	13:48:46	13:52:57	13:48:56	13:38:38	13:30:38	12:32:55	12:45:43
25	12:58:37	12:59:32	13:52:30	13:44:28	13:43:19	13:48:59	13:52:58	13:48:39	13:38:17	13:30:30	12:33:13	12:46:13
26	12:58:50	12:59:22	13:52:12	13:44:18	13:43:25	13:49:11	13:52:58	13:48:23	13:37:56	13:30:23	12:33:32	12:46:42
27	12:59:03	12:59:12	13:51:54	13:44:08	13:43:31	13:49:24	13:52:58	13:48:06	13:37:36	13:30:17	12:33:51	12:47:12
28	12:59:15	12:59:01	13:51:36	13:43:59	13:43:39	13:49:36	13:52:57	13:47:49	13:37:15	13:30:12	12:34:11	12:47:41
29	12:59:27		13:51:18	13:43:50	13:43:46	13:49:48	13:52:56	13:47:31	13:36:55	13:30:07	12:34:31	12:48:11
30	12:59:37		13:51:00	13:43:42	13:43:54	13:50:00	13:52:54	13:47:13	13:36:35	13:30:03	12:34:52	12:48:40
31	12:59:47		13:50:42		13:44:03		13:52:51	13:46:54		13:30:00		12:49:09