Milky Way Photography

Handout Information

2026 Milky Way Calendar

Date	Moon			Sun		Milky Way			Galactic Center Visibility			Galactic Center Position
	Illumination	Moonrise	Moonset	Sunset	Sunrise	Start	End	Hours	Start	End	Hours	Average elevation
3-Jan	100%	17:07	8:56 +1	16:53	7:38	-	-	-	-	-	-	-
10-Jan	45%	1:17 +1	11:21	17:00	7:36	-	-	-	-	-	-	-
17-Jan	0%	7:47 +1	15:52	17:08	7:33	-	-	-	-	-	-	-
24-Jan	45%	10:38 +1	23:53	17:17	7:29	5:29	5:51	0:22	5:29	5:51	0:22	Arch (15°)
31-Jan	100%	15:58 +1	7:26 +1	17:26	7:22	5:01	5:46	0:45	-	-	-	-
7-Feb	65%	0:07 +1	9:44	17:34	7:15	4:33	5:39	1:05	-	-	-	-
14-Feb	5%	6:19 +1	14:42	17:43	7:06	4:06	5:31	1:25	4:06	5:31	1:25	Arch (15°) - Arch (30°)
21-Feb	30%	9:10 +1	22:58	17:52	6:56	3:38	5:22	1:43	3:38	5:22	1:43	Arch (15°) - Arch (35°)
28-Feb	90%	14:55	5:56 +1	18:00	6:45	3:11	5:12	2:00	-	-	-	-
7-Mar	80%	23:56	9:35 +1	19:09	7:34	3:43	6:01	2:17	-	-	-	-
14-Mar	15%	5:48 +1	14:32	19:17	7:22	3:16	5:48	2:32	3:16	5:48	2:32	Arch (15°) - Arch (45°)
21-Mar	15%	8:44 +1	23:01	19:24	7:10	2:48	5:36	2:47	2:48	5:36	2:47	Arch (15°) - Arch (45°)
28-Mar	80%	14:57	5:25 +1	19:32	6:58	2:21	5:22	3:01	-	-	-	-
4-Apr	90%	22:46	8:06 +1	19:40	6:47	1:53	5:09	3:15	-	-	-	-
11-Apr	30%	4:14 +1	13:22	19:47	6:35	1:26	4:55	3:29	1:26	4:14	2:48	Arch (15°) - Arch (45°)
18-Apr	5%	7:20 +1	21:58	19:55	6:24	0:58	4:41	3:42	0:58	4:41	3:42	Arch (15°) - Arch (55°)
25-Apr	70%	14:01	3:54 +1	20:03	6:14	0:31	4:28	3:56	3:54	4:28	0:33	Arch (50°)
2-May	100%	21:39	6:40 +1	20:10	6:04	0:03	4:14	4:11	-	-	-	-
9-May	45%	2:39 +1	12:14	20:18	5:56	23:36	4:02	4:26	23:36	2:39	3:03	Arch (15°) - Arch (50°)
16-May	0%	5:55 +1	20:51	20:25	5:49	23:08	3:50	4:42	23:08	3:50	4:42	Arch (15°) - Vertical (65°)
23-May	55%	13:01	2:20 +1	20:32	5:43	22:41	3:40	4:59	2:20	3:40	1:19	Arch (55°) - Vertical (70°)
30-May	100%	20:33	5:19 +1	20:38	5:39	22:45	3:32	4:47	-	-	-	-
6-Jun	65%	1:05 +1	11:10	20:43	5:36	22:53	3:26	4:32	22:53	1:05	2:11	Arch (25°) - Arch (50°)
13-Jun	0%	4:33 +1	19:41	20:46	5:35	22:59	3:23	4:23	22:59	3:23	4:23	Arch (35°) - Vertical (80°)
20-Jun	35%	11:58	0:45 +1	20:49	5:36	23:02	3:23	4:20	0:45	3:23	2:37	Vertical (60°) - Vertical (85°)
27-Jun	95%	19:26	4:01 +1	20:50	5:39	23:02	3:26	4:23	-	-	-	-
4-Jul	75%	23:30	11:13 +1	20:49	5:42	22:59	3:32	4:32	22:59	23:30	0:31	Arch (50°)
11-Jul	5%	3:14 +1	18:33	20:46	5:47	22:53	3:38	4:44	22:53	3:38	4:44	Arch (50°) - Vertical (-80°)
18-Jul	30%	11:57 +1	23:08	20:42	5:53	22:45	3:10	4:25	23:08	3:10	4:02	Vertical (60°) - Vertical (-80°)
25-Jul	90%	18:15	2:46 +1	20:36	5:59	22:35	2:43	4:07	-	-	-	-
1-Aug	90%	21:57	10:12 +1	20:29	6:06	22:23	2:15	3:52	-	-	-	-
8-Aug	15%	2:03 +1	17:25	20:20	6:13	22:11	1:48	3:37	22:11	1:48	3:37	Vertical (65°) - Vertical (-80°)
15-Aug	20%	10:46 +1	21:31	20:11	6:20	21:57	1:20	3:22	21:57	1:20	3:22	Vertical (65°) - Vertical (-80°)
22-Aug	75%	16:59	1:32 +1	20:00	6:27	21:44	0:53	3:09	-	-	-	-
29-Aug	95%	20:23	9:10 +1	19:49	6:35	21:30	0:25	2:55	-	-	-	-
5-Sep	30%	1:00 +1	16:18	19:37	6:42	21:16	23:58	2:42	21:16	23:58	2:42	Vertical (75°) - Vertical (-80°)
12-Sep	5%	9:35 +1	19:55	19:25	6:49	21:02	23:30	2:28	21:02	23:30	2:28	Vertical (75°) - Vertical (-80°)
19-Sep	60%	15:39	0:19 +1	19:13	6:56	20:48	23:03	2:14	-	-	-	-
26-Sep	100%	18:49	8:06 +1	19:01	7:03	20:35	22:35	2:00	-	-	-	-
3-Oct	45%	0:04 +1	15:06	18:49	7:11	20:23	22:08	1:44	20:23	22:08	1:44	Vertical (85°) - Vertical (-80°)
10-Oct	0%	8:25 +1	18:20	18:38	7:18	20:11	21:40	1:29	20:11	21:40	1:29	Vertical (85°) - Vertical (-80°)
17-Oct	50%	14:50 +1	23:08	18:27	7:26	20:00	21:13	1:12	-	-	-	-
24-Oct	100%	17:33	6:58 +1	18:16	7:34	19:50	20:45	0:54	-	-	-	-
31-Oct	60%	23:11	14:25 +1	18:07	7:43	19:42	20:18	0:35	19:42	20:18	0:35	Vertical (-85°)
7-Nov	0%	6:19 +1	15:47	16:59	6:51	18:35	18:50	0:15	18:35	18:50	0:15	Vertical (-85°)
14-Nov	35%	12:19 +1	20:59	16:52	7:00	-	-	-	-	-	-	-
21-Nov	90%	14:36	4:46 +1	16:46	7:08	-	-	-	-	-	-	-
28-Nov	75%	21:14	11:56 +1	16:43	7:16	-	-	-	-	-	-	-
5-Dec	5%	5:16 +1	14:17	16:41	7:23	-	-	-	-	-	-	-
12-Dec	20%	10:47 +1	19:53	16:41	7:29	-	-	-	-	-	-	-
19-Dec	75%	13:01	3:36 +1	16:43	7:34	-	-	-	-	-	-	-
26-Dec	85%	20:10	10:23 +1	16:47	7:36	-	-	-	-	-	-	-

https://capturetheatlas.com/milky-way-calendars/

	Limiting Magnitude	Sky Description	Milky Way	Astronomical Objects	Zodiacal Light / Constellations
1	7.6 – 8.0	Excellent, truly dark–skies.	MW shows great detail and light from its centre casts shadows on the ground.	M33 (the Triangulum Galaxy) is an obvious object.	Zodiacal light has an obvious colour and can stretch across the entire sky.
2	7.1 – 7.5	Typical, truly dark skies.	MW shows great detail and has veined appearance.	M33 is visible with direct vision, as are many globular clusters.	Zodiacal light bright enough to cast weak shadows after dusk and has an apparent colour.
3	6.6 – 7.0	Rural sky.	MW still appears complex, dark voids and bright patches and meandering outline are all visible.	Brightest Globular Clusters are distinct, but M33 is only visible with averted vision. M31 (the Andromeda Galaxy) is obviously visible.	Zodiacal light is striking in Spring and Autumn, extending 60 degrees above the horizon.
4	6.1 – 6.5	Rural / suburban transition.	Only well above the horizon does the MW reveal any structure. Fine details are lost.	M33 is a difficult object, even with averted vision. M31 is still readily visible.	Zodiacal light is clearly evident, but extends less than 45 degrees after dusk.
5	5.6 – 6.0	Suburban sky.	MW appears washed out overhead and is lost completely near the horizon.	The oval of M31 is detectable, as is the glow in the Orion Nebula.	Only hints of zodiacal light in Spring and Autumn.
6	5.1 – 5.5	Bright, suburban sky.	MW only apparent overhead and appears broken as fainter parts are lost to sky glow.	M31 is detectable only as a faint smudge; Orion Nebula is seldom glimpsed.	Zodiacal light is not visible. Constellations are seen and not lost against a starry sky.
7	4.6 – 5.0	Suburban / urban transition.	MW is totally invisible or nearly so.	M31 and the Beehive Cluster are rarely glimpsed.	The brighter constellations are easily recognizable.
8	4.1 – 4.5	City sky.	Not visible at all.	The Pleiades Cluster is visible, but very few other objects can be detected.	Dimmer constellations lack key stars.
9	4.0 at best	Inner city sky.	Not visible at all.	Only the Pleiades Cluster is visible to all but the most experienced observers.	Only the brightest constellations are discernible and they are missing stars.

500 Rule for Exposure Time

The 500 Rule calculates the maximum exposure time (in seconds) for sharp, untrailed stars in untracked astrophotography by dividing 500 by your lens's focal length For crop sensors, multiply the focal length by the crop factor (1.5x or 1.6x) first.

Divide 500 by the focal length of the lens that you're using.

So, if you have a 24mm lens on a full frame camera, you will set your shutter speed to 20s (500/24=20.83).

If you're working with a crop-sensor camera be sure to account for the crop factor (typically 1.5 for Nikon and Sony, 1.6 for Canon) before using the 500 Rule or NPF Rule.

TIP: Calculate all these at home and make a small cheat sheet to take with in the field

Basic Exposure Chart for common lenses

Base Exposure f2.8 30sec 3200 ISO

Lens	Base EXP		Aperture	Shutter	ISO
15mm	2.8	30"	2.8	30"	3200
24mm	4.0	20"	4.0	20"	12800
35mm	4.0	15"	4.0	15"	+- 8500
50mm	1.4	10"	1.4	10"	600

Locations in Michigan

Michigan Dark Sky Parks; a dedicated protected night sky.

Headlands, Emmet County

Dr. T.K. Lawless, Cass County (Check their website for hours and access)

Keweenaw International, Copper Harbor

Michigan Dark Sky Reserves; more expansive area containing a core of dark sky protected by a peripheral buffer.

Wilderness State Park, Emmet County

Thompsons Harbor State Park, Posen

Rockport State Park, Alpena

Negwegon State Park, Alcona County

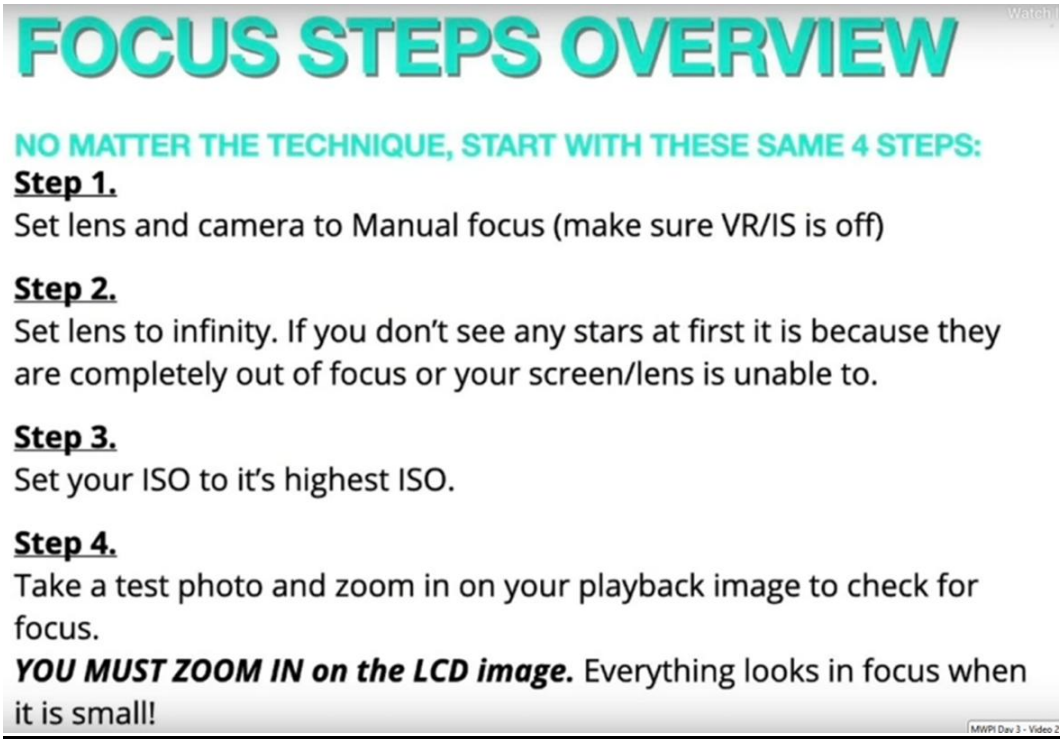
Port Crescent State Park, Port Austin

Lake Hudson Recreation Area, Clayton

International dark sky sanctuaries in Michigan

Beaver Island State Wildlife Research Area International Dark Sky Sanctuary

Steps to find focus



Focus Peaking

Canon

Available Models: Primarily available on mirrorless cameras like the EOS R series (R5, R6, R, RP) and EOS M series (M50).

How to Enable and Use Canon Focus Peaking:

- **Access the Menu:** Go to the camera's shooting menu (often the red tab) and locate **MF Peaking Settings**.
- **Enable Peaking:**

Turn Peaking **On**

- **Adjust Intensity & Color: Select the detection level (high/low) and color (red is common).**
- **Activate Manual Focus: Switch your lens or camera body to MF.**
- **Focus: As you turn the focus ring, a colored highlight will appear on the sharpest areas of your image.**

Nikon

How to Turn on Focus Peaking (Nikon Z7II & Similar)

1. **Access Menu:** Press the **Menu** button and navigate to the **Custom Settings Menu** (pencil icon).
2. **Locate Setting:** Select d10 (Peaking Highlights) or similar, depending on model.
3. **Enable:** Select **Peaking Level** and choose a sensitivity: 1 (Low), 2 (Standard), or 3 (High).
4. **Color:** Select **Peaking Highlight Color** to choose the best color for your scene (e.g., red or blue for high contrast).
5. **Use:** The camera will now show color highlights on sharp edges while in manual focus mode (or when turning the focus ring on Z lenses).

Nikon Cameras with Focus Peaking

- **Mirrorless:** Z6, Z6 II, Z7, Z7 II, Z5, Z8, Z9, Zf, Zfc.
- **DSLR:** D850 (in Live View).

Basic Editing Steps

In Lightroom Classic

1. Lens corrections:

   ✓ Remove Chromatic Aberration
   ✓ Enable Profile Corrections

2. Increase Exposure (moving histogram towards middle)
3. Decrease Highlights
4. Decrease Shadows
5. Increase Contrast
6. Increase Whites (min)
7. Decrease Blacks (min)
8. Balance cool and warm colors

   Increase Vibrance to 100%

   Increase Saturation to 100%

   Increase Temp (push temp to right)

   Decrease Tint (push to left)

   Bring back Saturation and Vibrance to zero

9. Local adjustments, Select Sky Mask

   Increase Dehaze (push to right)

   Create second sky (Sky 2) mask, Invert Layer and cool down to match color tones

   Create Radial Mask, place over MW core, Add contrast and increase saturation

17. Denoise in LR or other app.