Partial Lunar Eclipse as recorded by Jeffrey Kasoff on Friday, 19-Nov-2021

The eclipse was observed and imaged at Mushroom Rock State Park in Brookville, KS between 1 and 3 AM

Personal Log - I set out from home at 12:30 AM under partly cloudy skies. I feared that the weather would not cooperate with my little project to image the eclipse. Arriving just before 1 AM, I started snapping pics with my Canon 50D fitted with an f/2 35 mm lens. The equivalent focal length of the lens on my camera with its APS-C sensor; is 35 x 1.6 or 56 mm. I would describe this lens as a normal lens with its field of view (FOV) of 36° (H)orizontal and 24° (V)ertical. The camera was held firmly on a tripod. The shutter was released remotely and mirror lockup before each exposure was enabled.

The full moon was so bright that an exposure of 0.8 sec at f/2.2 and 1.6 sec at f/3.5 yielded seemingly twilight images at 1 AM ??? I did need to set the ISO at 3200. The skies were partly cloudy, yet the moon 'knew' how to avoid them for the duration of my imaging. HaHa. The constellation Canis Major, rising in the southeast, is clearly visible in 8272. A sky simulation showing this constellation for essentially the same time and place is placed next to 8272 on slide 5. See how many stars you can identify in 8272. 8274 is looking east.

To image the moon I switched to a 300 mm lens, equivalent focal length of 480 mm, FOV of 4.3° H x 2.9° V. The lens has its own tripod mount, so lens is attached to the photo tripod and camera is attached to lens. The tripod with its ballhead was not ideal for maintaining a consistent horizontal orientation. I will try a pan and tilt head next time I image on a photo tripod. Better still, would be imaging on a equatorial mount to avoid image rotation. The last slide in this album is an exposure table showing lens, ISO, aperture, shutter speed, and normalizing exposure correction for images 8290 through 8321. For this group of five images, I normalized the exposure to make obvious the decreasing lunar luminosity.

One way to express the eclipse drama is to compare the exposures of image 8290 and 8352. The exposure used for 8352 is 200 times longer and the ISO gain is 4 times greater. Therefore, in the mid-eclipse image 8352; the moon is approximately 800 times dimmer than the near full moon in 8290. Wow. The ruddy color of the eclipse moon is also nice.

IMG_8267_@0104 on 19.11.21

IMG_8272_@0107

IMG_8274_@0108

IMG_8280_overexposed Moon @0114

IMG_8272 -View to southeast including the lower half of the constellation Canis Major and the northeast corner of Puppis. The bright star, Sirius, is above the top edge of the image.

Star Chart created by Stellarium software showing the predicted positions of these constellations

Imaging with Canon 50D and 300 mm L f/4 lens. Note: Exposure table on last slide

IMG_8282_@0125

IMG_8290_@0133

IMG_8295_@0139

IMG_8300_@0143

IMG_8311_@0201

IMG_8321_@0222

IMG_8322_@0222, longer exposure

IMG_8327_@0231, still longer exposure

IMG_8334_@0239, much longer exposure with unlit disk visible

IMG_8339_@0243

IMG_8346_@0257

IMG_8352_@0303, mid-eclipse

Exposure table for images in Partial Eclipse Photo Album

Imaging by Jeffrey Kasoff on 19-Nov-2021 (19.11.21)

Equipment: Canon 50D dslr, Canon 35mm f/2 lens, Canon 300 mm L f/4 lens, Slik tripod with Vanguard ballhead, Canon remote shutter release

All times in military format, so 1:04 AM CST listed as 0104

Label Prefix	Time	Lens (mm)	ISO	f/stop	Shutter (sec)	Correction to Normalize
8267	0104	35	3200	2.2	0.8	NA
8272	0107	35	3200	3.5	1.6	NA
8274	0108	35	3200	3.5	1.6	NA
8280	0114	35	800	2.0	1/50	NA
8282	0125	300	800	4.0	1/125	NA
8290	0133	300	200	5.6	1/400	(-)0.36
8295	0139	300	200	5.6	1/400	(-)0.36
8300	0143	300	200	11.0	1/160	(+)0.27
8311	0201	300	200	8.0	1/250	0
8321	0222	300	200	8.0	1/250	0
8322	0222	300	200	8.0	1/60	NA
8327	0231	300	200	8.0	1/30	NA
8334	0239	300	800	8.0	1/4	NA
8339	0243	300	800	5.6	1/2	NA
8346	0257	300	800	5.6	1/2	NA
8352	0303	300	800	5.6	1/2	NA