

May 15th Total Lunar Eclipse Observation:

On Sunday evening, May 15th 2022, a total eclipse of the Moon was set to start around 10pm with the faint penumbra of the Earth's shadow first falling on the Lunar surface, followed soon by the darker umbra shadow. The prediction was for a deep red eclipse (Blood Moon), as not only was the Moon's orbit taking it thru the dark center of the Earth's Shadow, but the recent Tonga volcanic eruption in the South Pacific back on January 25th had ejected a towering plume of volcanic ash & gases more than 35 miles high into the mesosphere layer of our atmosphere, which had soon spread around the world and that hadn't yet fully settled out. Additionally, the western wildfire season had started early with smoke from New Mexico and Colorado extending thru the upper atmosphere to the East Coast.

I decided to EAA/visually observe the eclipse from my backyard observatory, 'Big WoodChuck', using as the primary telescope my 80mm Kson f6.3 Refractor & ZWO ASI294MC camera & filter-wheel (L-Pro filter used), Piggybacked on the observatory 8" SCT LX200 Fork Mount. (I had planned on also using the 8" SCT but a last minute camera issue prevented that). Additionally, for visual I used my old 1980's 80mm University Optics f3 refractor & 28mm eyepiece outside mounted on my Star-Adventurer tracking mount. And I had my Allsky camera running, a ZWO ASI224MC & fisheye lens in a DIY dome.

Earlier in the week, I had setup the equipment inside the observatory and did a rough focus test on the waxing moon, so all I needed to do Sunday evening was walk out to the observatory, open up the roof, and power-up the equipment. So I headed outback around 9:45pm with my laptop and soon had everything ready. After a short wait for the Moon to rise above the observatory wall and for a batch of clouds to get out of the way, I was soon observing the eclipse.



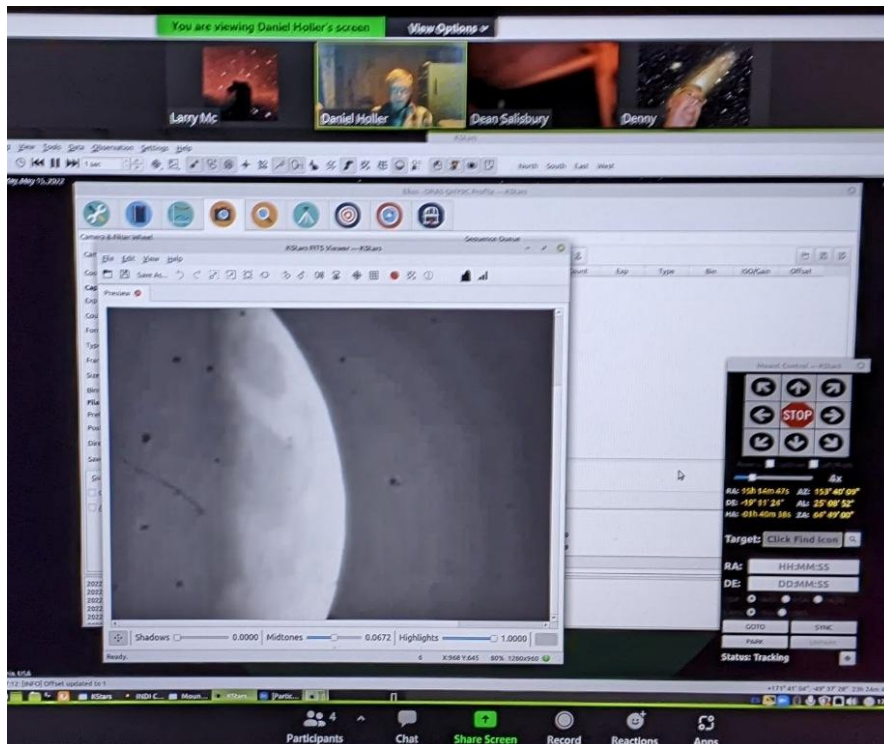
It was interesting watching the early partial phases:



(@ 10:32pm, and @ 11:00pm Exp = 15 ms, Gain = 25 of 500, Brightness = 50%.)

But I soon found that my mounts lunar tracking wasn't up to par, forcing me to manually guide on several bright craters, applying the occasional adjustment. This made for a slightly jerky video later on.

At 11pm, Dan H, at the ORAS observatory began a Zoom session and livestreamed the eclipse using the ORAS observatory's C14 on an Atlas equatorial mount. Several of us from the club, (Denny H & Dean S), joined the call and shared our real-time observations. Dan kept the session going throughout the eclipse, and it was a lot of fun participating.



As the eclipse progressed, I would occasionally step outside the observatory to the little 80mm refractor for a quick visual view. The widefield was enjoyable, and I noted that the eclipsed portion of the Moon wasn't completely invisible, but had a light tinge of reddish-orange. Also noted dimmer stars beginning to appear as the sky darkened with the Moon entering deeper into eclipse. Finally, at 11:30pm, the Moon reached total eclipse, and became an eerie faint reddish orb.



During totality, around 11:45pm, I noticed that the Moon's limb was heading toward a faint star. I watched it till 11:55:40pm when the Moon occulted the star!!! A nice treat! Here's a close-up.



(@ 11:55pm Exp = 25 seconds, Gain = 25 of 500, Brightness = 50%.)

And here's a short video of the occultation: <https://youtu.be/-pGA1cl5dJc>

The sky for most of the evening was occasionally hazy, but remained cloud free, except for at the start of the eclipse and at the end. An added bonus was that the night time temps dropped only into a comfortable low 60's. Here's a couple of single image captures of the post-totality partial phases:



(@ 01:24am, and @ 01:50am on 5/16 Exp = 20 ms, going back down to ~ 10 ms)

At 2am, with the Eclipse coming to a close, clouds began to roll back in. I decided that was a good stopping point and shutdown the equipment and called it a night.

Here's a video from the AllSky camera: <https://youtu.be/PemBKjK1R-c>

A video with the 80mm f6.3 Refractor: https://youtu.be/pF_pEilalVg

And finally, a combined video that I had a little fun with: https://youtu.be/tA_kSNuKfbs

(its a little jerky from video artifacts that I am having trouble getting rid of, will probably remake this)

Looking forward to the next Total Lunar Eclipse!

Larry McHenry

Astronomical Webportal: <http://www.stellar-journeys.org/>