

# Moonlit Clear Night Sky

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*Night of 23-24 January 2019  
Palo Verde Wash  
Anza-Borrego Desert State Park*

## Equipment setup



Equipment setup in Palo Verde Wash, L-R:

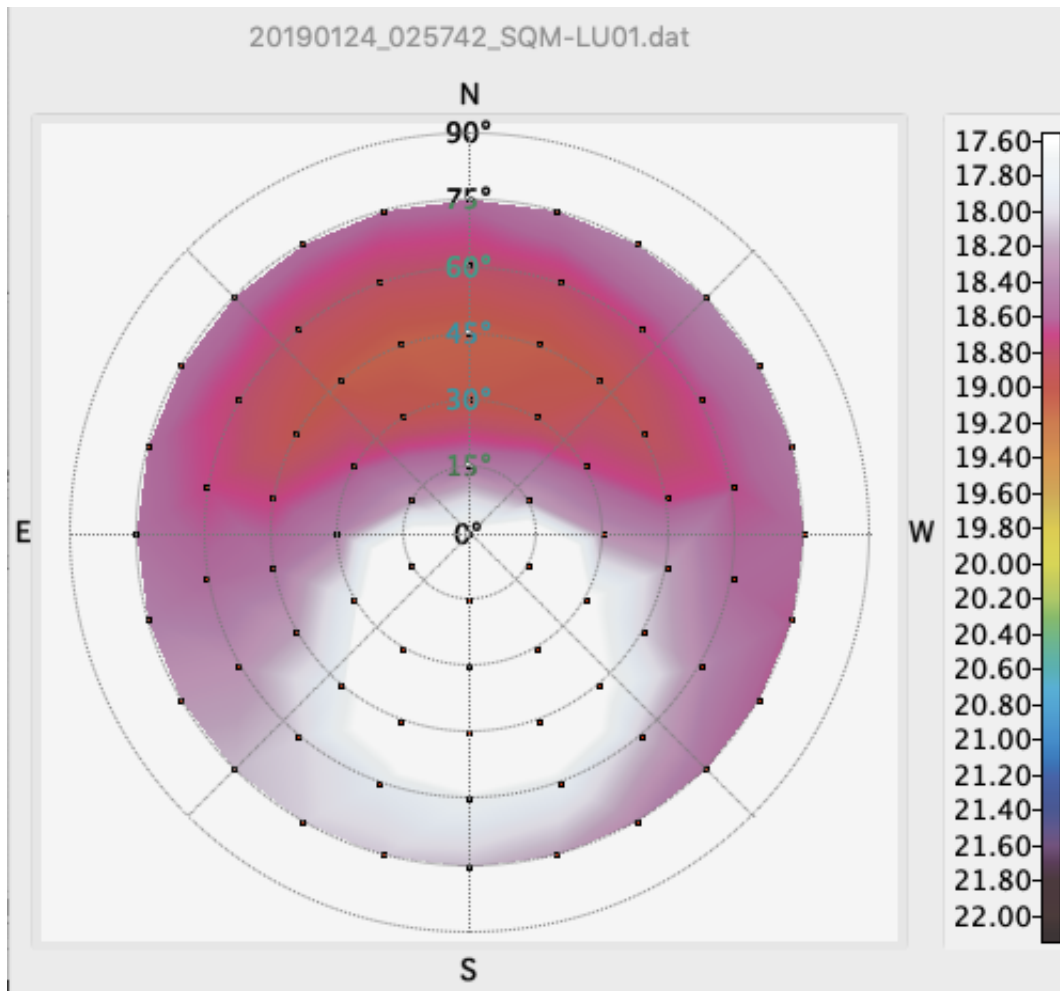
- Nikon D800 with Sigma 8mm f/3.5 circular fisheye lens, mounted on a RRS panorama gimbal, aimed at the zenith to record all-sky timelapse.
- MacBook running aDslrDashboard to control timelapse exposures, and Unihedron Device Manager to control SQM sky brightness data acquisition.
- SQM-LU mounted on Celestron alt-az telescope mount to acquire zenith sky brightness measurements and sky brightness map data.

In operation, a light shield hood was placed over the laptop, with its opening facing away from camera and SQM, the laptop screen brightness was set to its dimmest setting, and Red Screen application was enabled further dimming the screen and disabling green and blue channels.

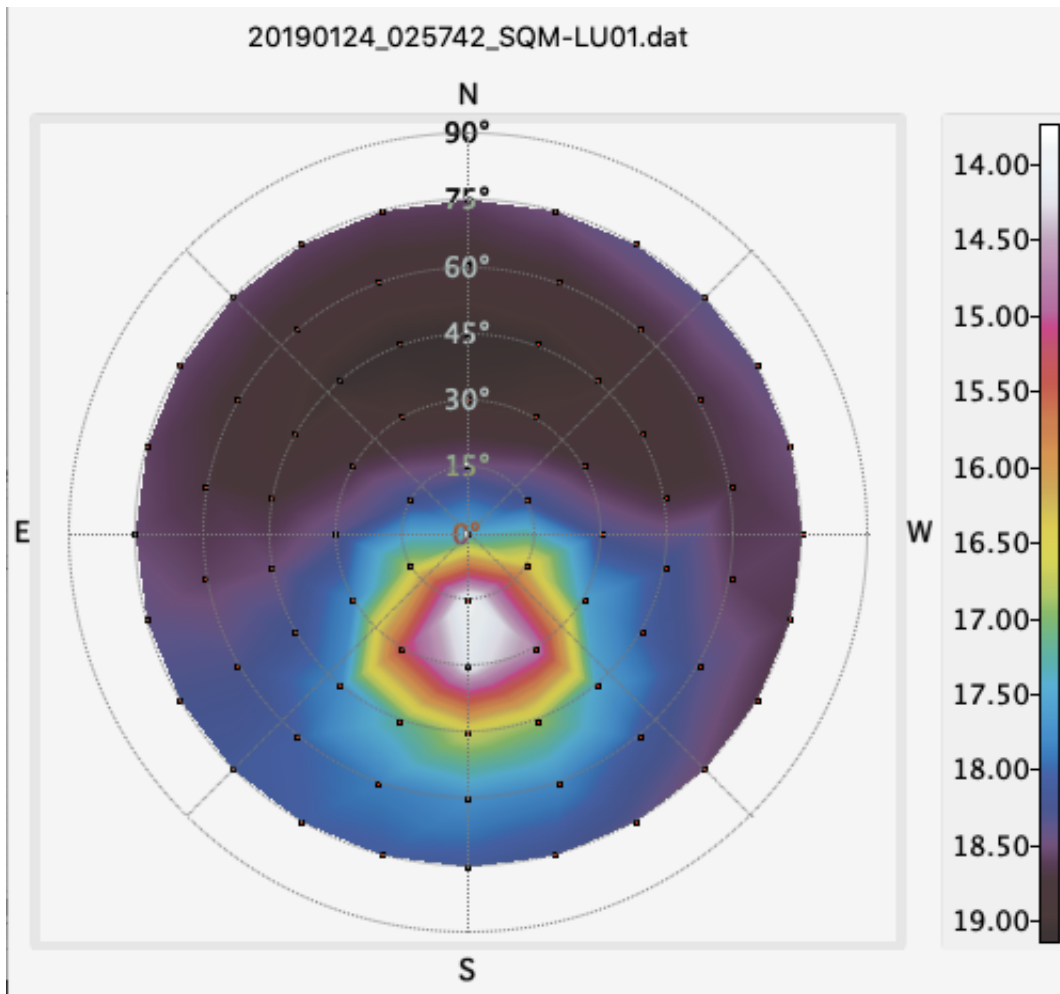
## Sky brightness map at lunar culmination

Sky brightness map acquired by SQM-LU at lunar culmination, 03:00 PST 24 Jan 2019.

Plotted using standard NPS color scheme:

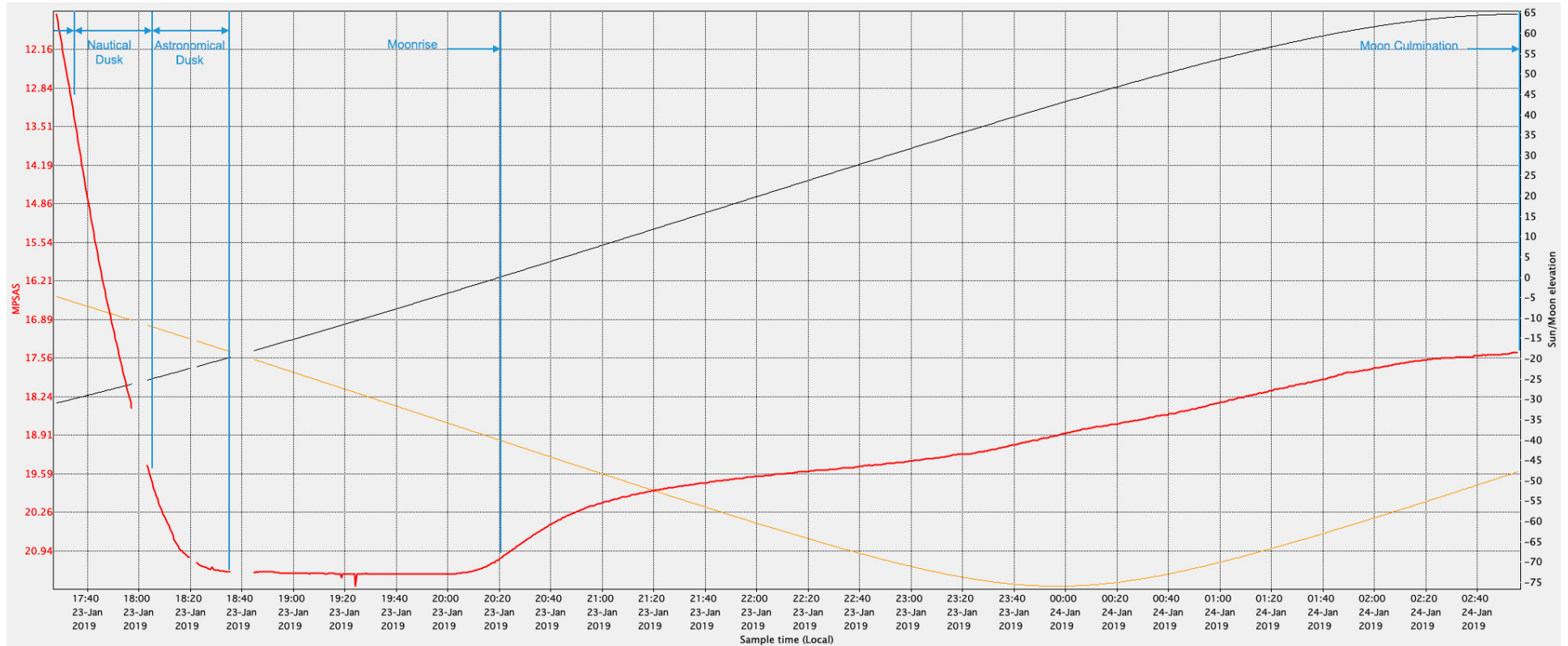


Plotted with NPS color ramp rescaled to data range:



The bright patch produced by the moon is centered at azimuth 180, zenith 22 deg.  
The actual lunar position at culmination was azimuth 180, zenith 26 deg.

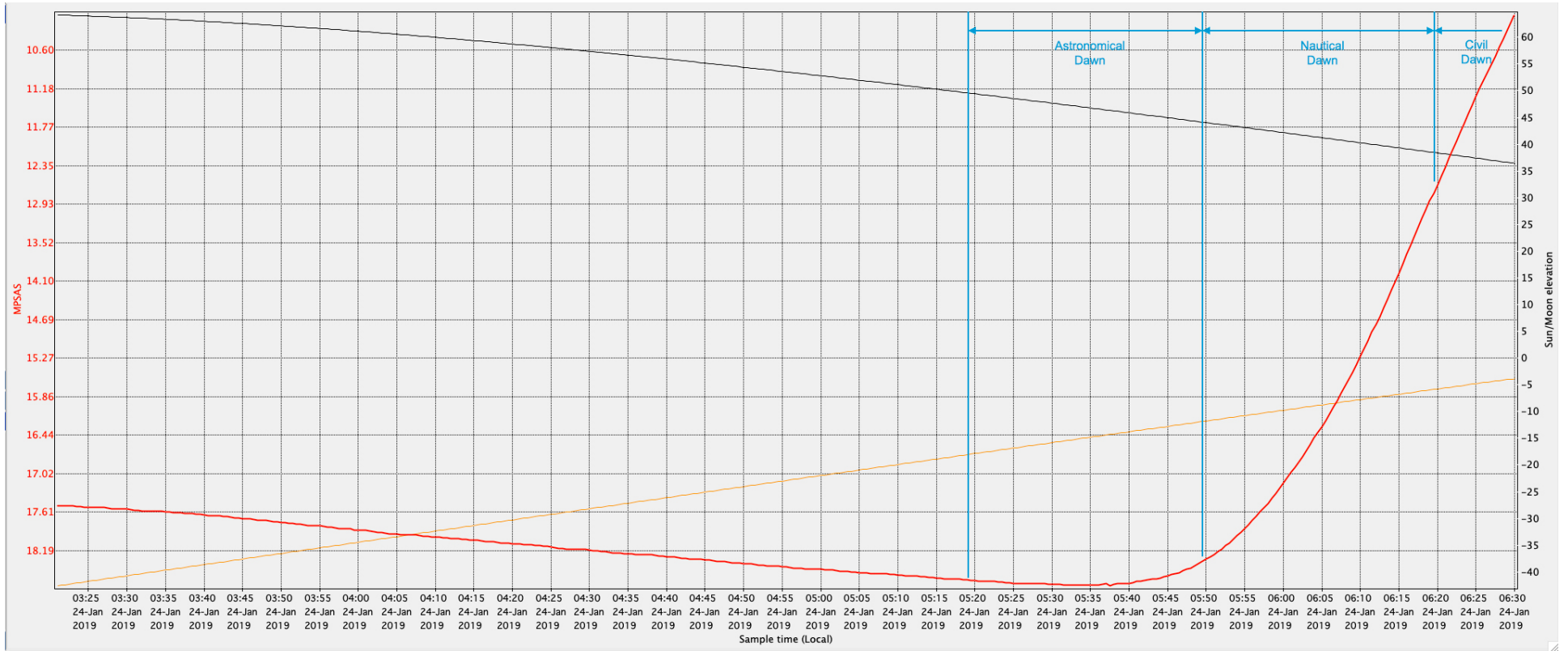
## Zenith Sky Brightness Profile - Dusk to Lunar Culmination



Red: zenith sky brightness (mag/sq arc-sec). Black: moon elevation. Yellow: sun elevation.

Data gaps near 18:00 and 18:40 occurred when UDM window did not have the focus (qDlSrDashboard had focus), and screen saver may have activated. Subsequently, Red Screen was kept active (which prevents screen saver activation), and UDM window was left on top.

# Zenith Sky Brightness Profile -Lunar Culmination to Dawn



Red: zenith sky brightness (mag/sq arc-sec). Black: moon elevation. Yellow: sun elevation.