Hi Richard,

I'm estimating, depending on the typical bandpass of your camera unfiltered, that it would dim Uranus circa 3.5 magnitudes (give or take about 0.3 magnitudes) relative to a star. The absolute dimming is of course a good deal greater, I would say close to 3-4 magnitudes on its own without accounting for any absorption bands (so a total dimming of 6.5-7.5 magnitudes), but it's hardly a fair comparison when absolutely everything is getting that much dimmer too.

The expected duration for the epsilon ring will be circa 0.7-3.2 seconds (the ring has highly variable thickness depending on whether it's at the periuranion or apouranion of its orbit) at this event's velocity scale of 0.033 sec/km. The longer the first epsilon occultation will be, the shorter the second will be, and vice versa.

~Sam

On Saturday, March 29, 2025 at 10:20:28 PM EDT, Richard Nolthenius via groups.io <rickn27=yahoo.com@groups.io> wrote:

Any idea how much the wider 20nm methane filter would darken Uranus? From mag-6 to mag= 9? 10? And the 9th mag target I imagine, as a thermal radiator, it will take down to 13 or more mag.

Any guess how long the epsilon ring light drops will last, at least approximately? I'm thinking of trying it with the 12" at f/10 at Cabrillo Observatory, if possible. MIRA is out, and Fremont Peak also looks out, and the plate scale needs to be max for getting these separated. The fact the target star is apparently a binary is also a wild card.

David; for future reference, probably best for Santa Cruz to instead use Cabrillo College Observatory;

long 121 55 03"

lat 36 59' 34"
elev 210 ft