

Total Lunar Eclipse On Wednesday Will Be a Rare 'Selenelion'

Joe Rao | [Space](#)



A photo of the first total lunar eclipse of 2014 taken from Arizona.

Credit: Ron Delvaux via The Virtual Telescope Project

Observers of Wednesday morning's total lunar eclipse might be able to catch sight of an extremely rare cosmic sight.

On Oct. 8, Interested skywatchers should attempt to [see the total eclipse of the moon](#) and the rising sun simultaneously. The little-used name for this effect is called a "selenelion," a phenomenon that celestial geometry says cannot happen.

And indeed, during a lunar eclipse, the sun and moon are exactly 180 degrees apart in the sky. In a perfect alignment like this (called a "syzygy"), such an observation would seem impossible. But thanks to Earth's atmosphere, the images of both the sun and moon are apparently lifted above the horizon by atmospheric refraction. This allows people on Earth to see the sun for several extra minutes before it actually has risen

and the moon for several extra minutes after it has actually set. [[How to See the Total Lunar Eclipse \(Visibility Maps\)](#)]

As a consequence of this atmospheric trick, for many localities east of the Mississippi River, watchers will have a chance to observe this unusual sight firsthand. Weather permitting, you could have a short window of roughly 2 to 9 minutes (depending on your location) with the possibility of simultaneously seeing the sun rising in the east while the [eclipsed full moon](#) is setting in the west.

Regions of visibility

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From Newfoundland, the start of the partial stages of the total eclipse begins about 30 to 45 minutes before moonset.

A growing scallop of darkness will appear on the upper left part of the moon when it sets as the sun is coming up. Across eastern Nova Scotia, only the lowermost portion of the moon will be in view as it drops below the western horizon. Farther to the west and south along the Atlantic seaboard, the moon will rise completely immersed in the Earth's shadow.

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