

What to look for approaching and during totality

Things get darker

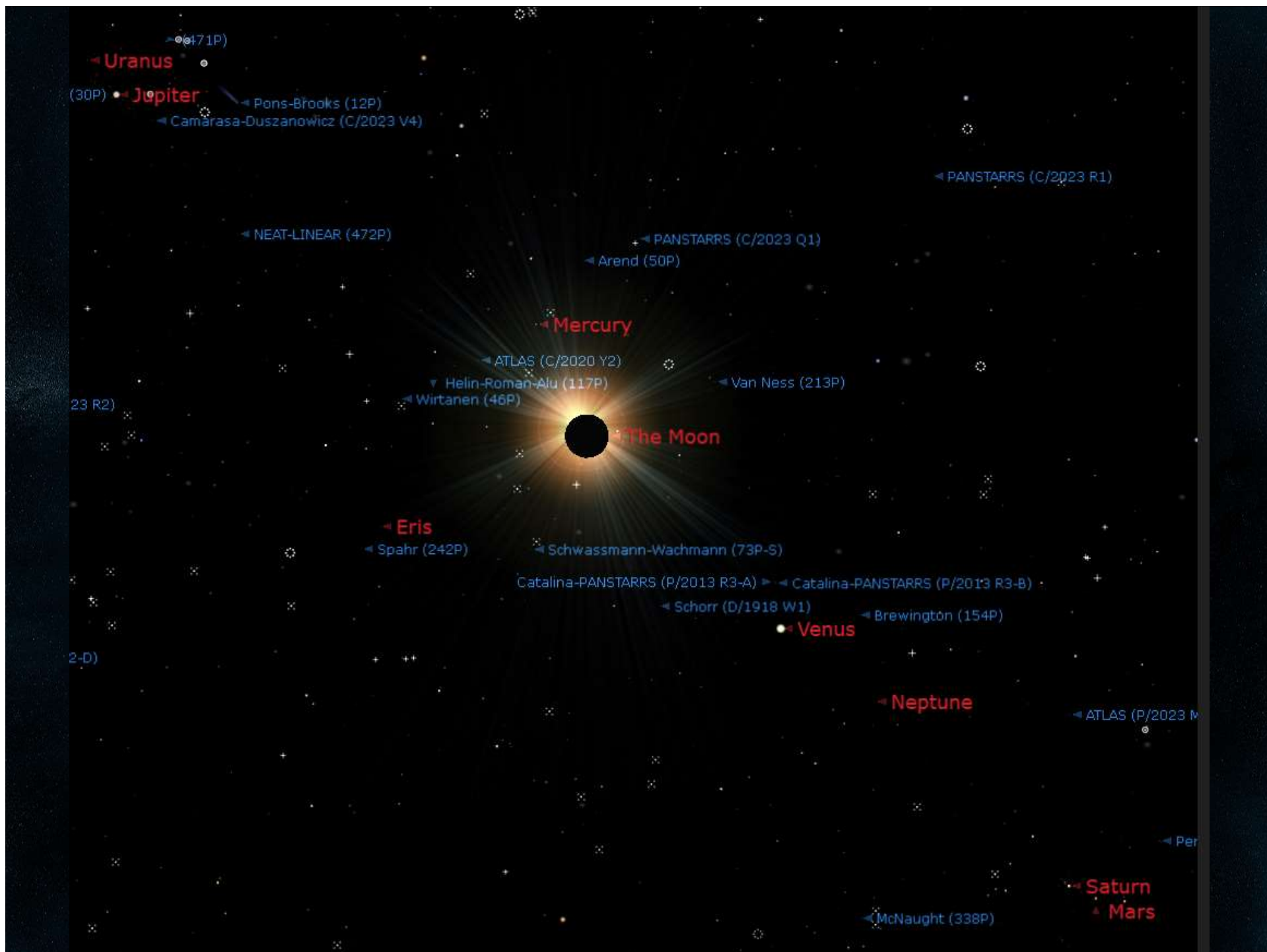
Shadows get sharper

The moon's shadow approaches

Diamond Ring and Bailey's Beads

Corona & Prominences visible

Planets, stars, and maybe even a comet may become visible

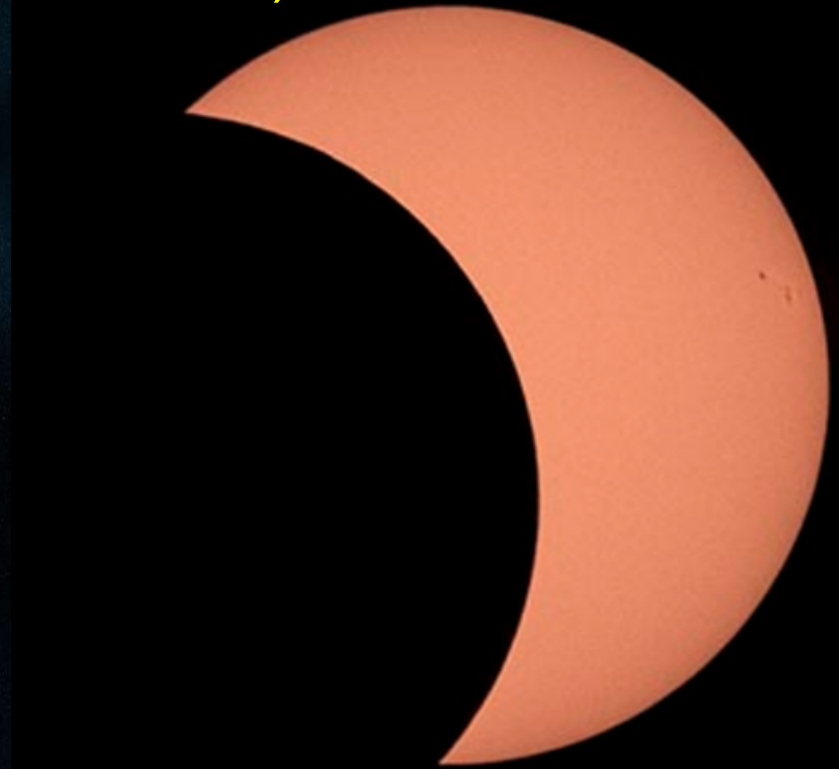


What to look for as totality ends

Bailey's Beads and the Diamond Ring

(time to put your eclipse glasses back on!)

Then back to a partial eclipse



How long will totality last?

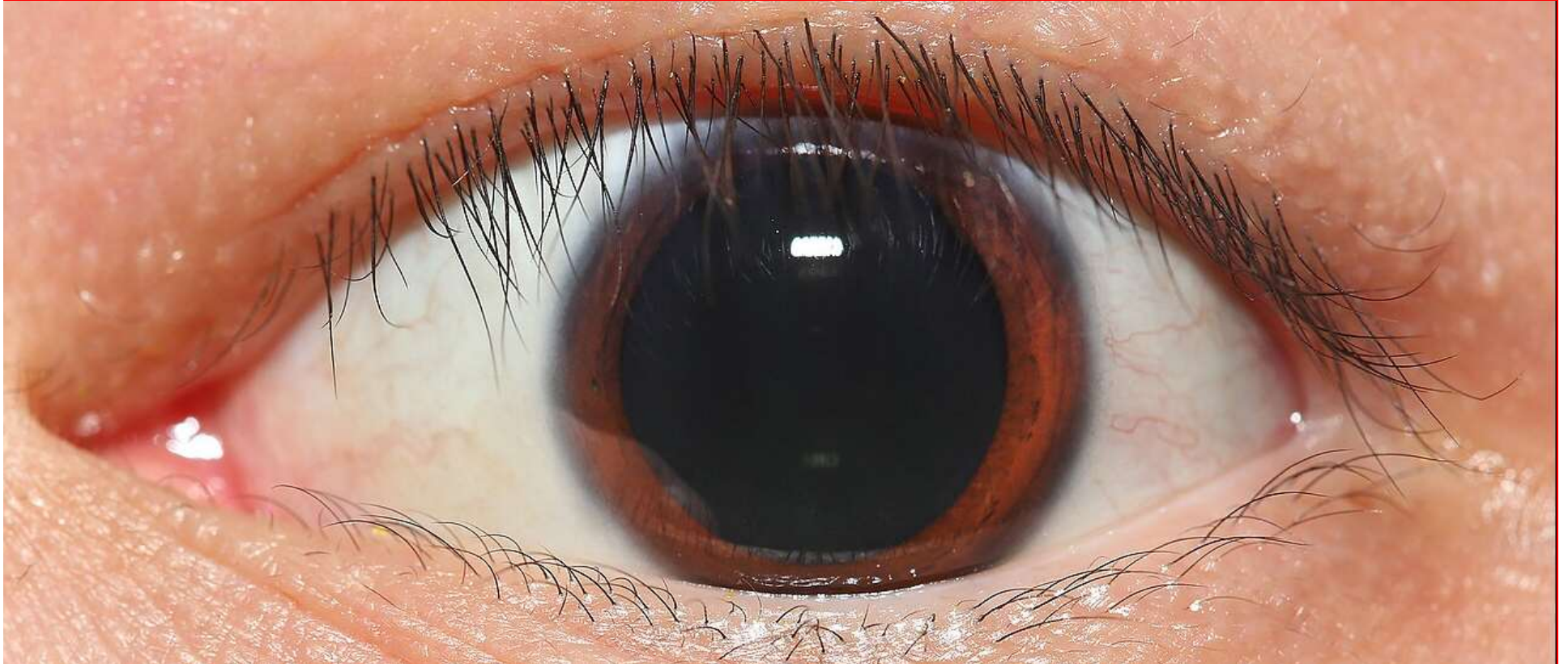
The moon's shadow is travelling across the face of the Earth over 3800 km/hr, so it will not last very long. The duration lasts longer at the centre of the eclipse (middle of Lake Ontario).

<u>Location</u>	<u>Duration of Totality</u>
Cobourg	1 min. 10 sec.
Brighton	1 min. 59 sec.
Quinte West	2 min.
Belleville	2 min. 1 sec.
Point Petre	3 min. 24 sec.
Picton	3 min. 2 sec.
Napanee	2 min. 24 sec.

When

Location	Partial Begins	Total Begins	Eclipse Maximum	Total Ends	Partial Ends
Cobourg - Library	2:06:58 p.m.	3:20:55 p.m.	3:21:36 p.m.	3:22:17 p.m.	4:32:52p.m.
Presqu'île Park - Lighthouse	2:07:41 p.m.	3:21:03 p.m.	3:22:14 p.m.	3:23:25 p.m.	4:33:21 p.m.
Brighton - Downtown	2:07:39 p.m.	3:21:10 p.m.	3:22:11 p.m.	3:23:11 p.m.	4:33:18 p.m.
Quinte West - City Hall	2:07:55 p.m.	3:21:24 p.m.	3:22:24 p.m.	3:23:24 p.m.	4:33:27 p.m.
Belleville Library	2:08:15 p.m.	3:21:39 p.m.	3:22:40 p.m.	3:23:40 p.m.	4:33:38 p.m.
Sandbanks Provincial Park	2:08:13 p.m.	3:21:08 p.m.	3:22:45 p.m.	3:24:21 p.m.	4:33:47 p.m.
Picton - Downtown	2:08:27 p.m.	3:21:23 p.m.	3:22:54 p.m.	3:24:25 p.m.	4:33:52 p.m.
<u>Deseronto</u> - Downtown	2:08:44 p.m.	3:21:50 p.m.	3:23:05 p.m.	3:24:19 p.m.	4:33:57 p.m.
<u>Napanee</u> - Downtown	2:08:55 p.m.	3:22:01 p.m.	3:23:13 p.m.	3:24:26 p.m.	4:34:02 p.m.
Note: all times listed are <u>hr:min:sec</u> EDT (Eastern Daylight Time) and timing varies by location					

EYE SAFETY



Why Use Glasses?



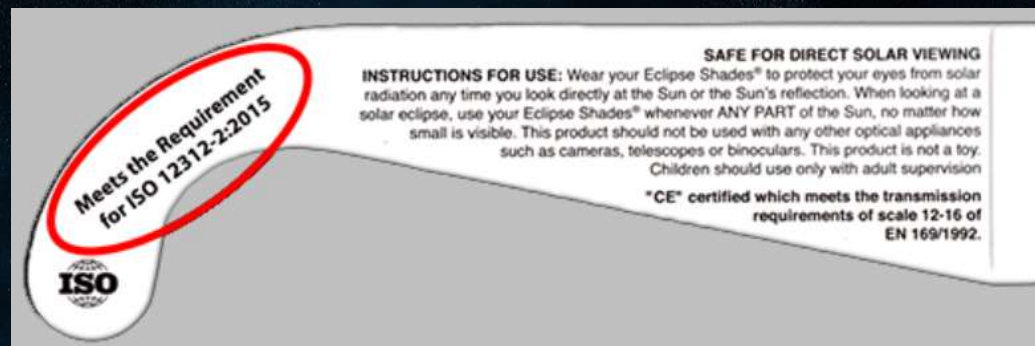
Eye Damage



Telescopes & Binoculars

EYE SAFETY

- You MUST use certified solar glasses (ISO 12312-2 Certified) to look at the sun



- OR Use a pinhole Solar Viewer





The energy of the Sun is $\sim 1000 \text{ Watts/m}^2$

The energy to cause permanent eye damage is under 3 Watts/m^2

Weather

66% Chance of some clouds in our region
Better weather in the Mexico & southwest US

Cloud

Clear	10%	20%	30%	40%	50%	60%	70%	80%	90%	Overcast		
33%			6%	4	4	4	3	7%	6%	4	10%	19%

Transparency

Transparent	Above Average	Average	Below Average	Poor	Too cloudy to forecast
3	11%	20%	8%	4	53%

Historical weather data for the Quinte region on April 8th

There's an app for that!

See

<https://eclipse.aas.org/resources/apps-software>

Great American Eclipse Android & iOS **free**

Totality: Your Solar Eclipse Companion Android & iOS **free** by AAS

Watch it Live Stream

Total Solar Eclipse Android & iOS **free** by www.exploratorium.edu/eclipse

Solar Eclipse Timer Audio & Photography Android & iOS **\$1.99** by Foxwood

EclipseDroid USB light hands free camera control

Eclipse Explorer Mobile Android & iOS **free/Pro at \$1.99** by FlyteSoft

For more information:

Starting points

- eclipse.aas.org/eclipse-america-2023-2024
- rasc.ca/eclipse2024

Maps

- www.timeanddate.com/eclipse/solar/2024-april-8
- http://xjubier.free.fr/en/site_pages/solar_eclipses/TSE_2024_GoogleMapFull.html



Thank you! Questions?

Contact us:

Tel: 613 885-0574

belleville.rasc@gmail.com

www.rasc.ca




Total Solar Eclipse
2024 April 8

Universal Time
15:43 UT

+ min - sec
Maximum Duration



Zeiler/GreatAmericanEclipse.com
Esenak/EclipseWise.com

Additional Videos

Canadian Space Agency – 2024 Eclipse from space, shadow over North America 1 min Earth Only 30 sec

The Eclipse Guy – why bother to see the eclipse 2min25sec

Eclipse Animation 30 sec

Tilt 22 sec

National Geographic 5 min

Flyover Flight Path 3m26Sec (Ontario segment 1min20 sec)

VOX – Summary on eclipse 5m23Sec

Exploratorium explanation using cups 10 min

How to make a Pinhole Viewer 1min

Copy of Handout

Credits:

Title Slide – Fred Espanek www.MrEclipse.com per email Jan 13, 2024

Solar Eclipse video from the Canadian Space Agency © Canadian Space Agency