

# How to Photograph the Eclipse

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Four parts to this class:

- 1 – How to view it safely
- 2 – Stages, Location, Timing
- 3 – Cameras, Settings
- 4 – Planning

## **1 – Viewing Safety**

**MUST** use proper eclipse glasses at all times *except* totality.

## **2A – Stages**

- C1 (Contact 1) – when moon first begins to block the sun.
- C2 (Contact 2) – totality.
- C3 (Contact 3) – moon begins to uncover.
- C4 (Contact 4) – sun is completely visible again.

What else?

- “Diamond Ring.”
- Baily’s beads.
- Chromosphere.
- Corona.

## **2B – Location and Timing**

Several websites and apps that can show you where and when. Path of totality is about 70-miles wide. Center will have longest period of totality (up to 2’40”), edge just a few seconds.

## **3 – Camera Settings**

Smartphones and basic Point-and-shoot?

- Still need a filter.
- Make sure you’re in focus.
- Telephoto lens?
- Turn off the flash.
- Use with telescope? (telescope will need solar filter)
- Capture video/audio.

Cameras with controls?

- Still need a filter (solar filter better than ND).
- Manual exposure (test ahead of time for ISO, shutter and aperture).
  - can also find exposure charts online.
- Manual focus (and then tape down the lens).
- Use daylight white balance (not auto).

- Shoot RAW if comfortable doing that.
- Use a telephoto lens (although a wide shot might be nice too). Remember that the sun/moon will appear to move.
- Corona? To show that, you'll need multiple exposures (HDR).
- Use a tripod, especially during totality. Consider a release, self-timer or smartphone app to avoid moving the camera and causing blur.

#### **4 - Planning**

- Make a list of everything you'll need (more than just camera gear).
- Make a schedule of what you'll do when.
- Practice, practice, practice!

## **Resources**

American Astronomical Society – How to Shoot a Solar Eclipse:  
<https://eclipse.aas.org/imaging-video/images-videos>

“Mr. Eclipse”, Fred Espenak:  
<http://www.mreclipse.com/>

His solar exposure guide:  
<http://www.mreclipse.com/SEphoto/image/SE-Exposure1w.GIF>

Interactive map:  
<http://www.eclipsewise.com/solar/SEgmap/2001-2100/SE2017Aug21Tgmap.html>

NASA interactive map that show what you'll see based on where you are, and exactly what time all of that will happen:  
<https://eyes.jpl.nasa.gov/eyes-on-eclipse-web-app.html#>

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

Photographer who does astrophotography:  
[http://www.astropix.com/html/i\\_astrop/2017\\_eclipse/Eclipse\\_2017.html](http://www.astropix.com/html/i_astrop/2017_eclipse/Eclipse_2017.html)

NASA info on eclipse eyeglass safety:  
<https://eclipse2017.nasa.gov/safety>

Most of the information from tonight's talk:  
<http://reedhoffmann.com/photographing-the-solar-eclipse/>