



## Depth of Field Basics

# Depth of Field Workshop

- Video: *Depth of Field Basics*
- Getting technical
  - Video: *Circle of Confusion Explained and Illustrated*
  - DoF tables or apps
  - Hyperfocal distance
  - Video: *How to Focus at the Hyperfocal Distance*
- Video: *Get Sharp Focus From Front to Back*
- Focus Stacking
  - Video: *How to focus stack images in Lr + Ps*
- Exercises

# Depth of Field Basics

- <https://www.youtube.com/watch?v=RDXLGOo-fyc>

# Getting Technical

- To use depth of field quantitatively (i.e., how much is in focus before and after the subject), we need to understand a couple more concepts:
  - Circle of Confusion
  - Hyperfocal Distance

# Circle of Confusion Explained and Illustrated

- <https://www.youtube.com/watch?v=Pdq65IEYFOM&t=6s>

# DoF Tables or Apps

- You can look up how much of an image is in focus if you know
  - Focal length
  - Aperture
  - Focus distance
  - Circle of Confusion (based on sensor size)
- In the old days, you needed a printed table; now you can use an app

Verizon

4:10 PM

92%

# Photography



Photo Aide



TPE



PhotoPills



EOS Remote



Compass



TiltMeter



SkyView Free



simpleDOF

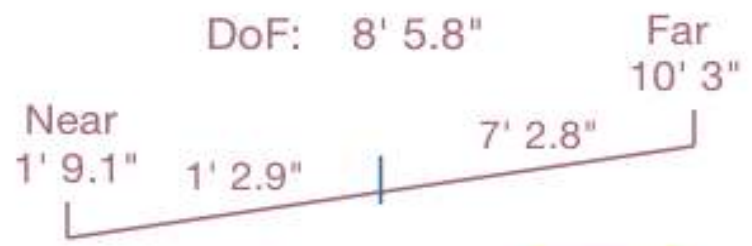


simpledof

Depth of Field | Field of View | Angle of View

Calculate:

DoF | Distance | Aperture | Focal Len.



Distance: 3' Set Hyperfocal



Aperture: f/8 >

Focal Length: 17 mm



Canon EOS 5D  
Canon EF 17-40mm f/4L USM



# Hyperfocal Distance

- For a given lens focal length, CoC and aperture, there is a distance at which you can focus that will render everything from half the focus distance to infinity in focus. This is the hyperfocal distance.
- This is typically used in landscape photography to get everything from near to far in focus.

# How to Focus at the Hyperfocal Distance

- <https://www.youtube.com/watch?v=zkoT1L54xzQ>

# Get Sharp Focus from Front to Back

- <https://www.youtube.com/watch?v=73Yx4NnXPRg>

# Focus Stacking

- What if you can't get everything in focus even when using your smallest aperture and focusing at the hyperfocal distance?
  - Pick a sharp aperture (say, f/8)
  - Focus at nearest object, take shot
  - Adjust focus a little farther away (but still within the acceptable focus of the first shot), take shot
  - Repeat until whole scene has been shot in focus
  - Use Photoshop to align and mask these shots as layers to produce a single, in-focus image

# How to Focus Stack Images in Lr + Ps

- <https://www.youtube.com/watch?v=7vTj0MWwqCk>

# Exercises

- Group portraits
  - What aperture do you have to use to get one row of people in focus?
  - What about 2 rows?
  - How about a large table?
- Practice an everything in focus from front to back shot
  - Vary distance of nearest object
  - What aperture do you need to get everything in focus?