



# **EXPOSURE: GET IT RIGHT IN THE CAMERA**

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# INTRODUCTION

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# EXPOSURE CLASS REFERENCES

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- Michael Frye. *EXPOSURE For Outdoor Photography*. [Home : Michael Frye Photography](#)
- Michael Frye. *Digital Landscape Photography: in the Footsteps of Ansel Adams and the Great Masters*. Second Edition.
- <https://www.bhphotovideo.com/explora/photography/tips-and-solutions/understanding-camera-metering-modes>
- [Understanding Metering and Metering Modes \(photographylife.com\)](#)
- [How to Use The Zone System by Ansel Adams for Best Digital Photos \(photographycourse.net\)](#)
- [How to Use the Ansel Adams Zone System in the Digital World | Fstoppers](#)
- [Understanding Histograms in Photography \(photographylife.com\)](#)
- [How to Read \(and Use\) Histograms for Beautiful Exposures \(digital-photography-school.com\)](#)
- [Exposing to the Right Explained \(photographylife.com\)](#)
- [Exposing to the Right \(digital-photography-school.com\)](#)

# CLASS OBJECTIVES:

## BY THE END OF THIS CLASS, YOU WILL BE ABLE TO

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- 1. DEFINE “**EXPOSURE**”
- 2. ARTICULATE WHAT DETERMINES A “PROPER” EXPOSURE
- 3. DESCRIBE THE EFFECTS OF VARYING
  - APERTURE SIZE
  - SHUTTER SPEED
  - ISO
- 4. UTILIZE VARIOUS METERING AND SHOOTING MODES, THE HISTOGRAM, BLINKIES, AND EXPOSURE COMPENSATION
- 5. UNDERSTAND “**EXPOSE TO THE RIGHT**” (ETTR)

# CLASS SCHEDULE

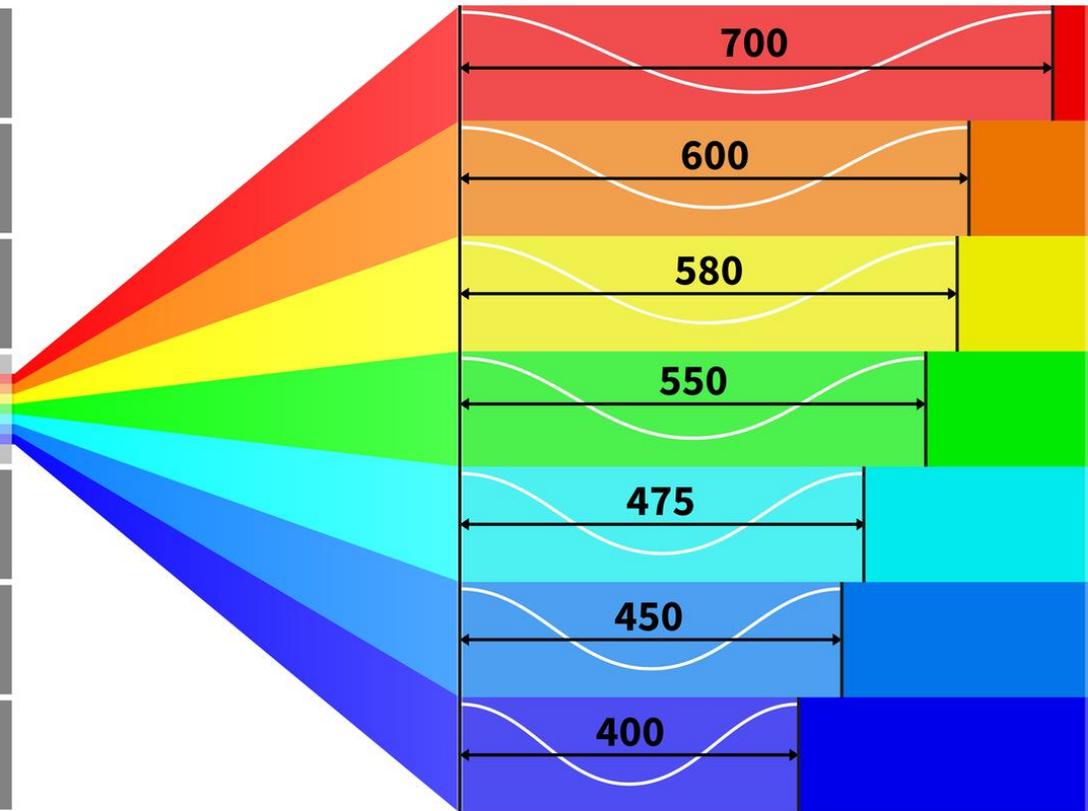
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- SESSION 1: PRESENT CLASS OBJECTIVES, DEFINE “EXPOSURE”, DISCUSS IDEAS OF A “PROPER EXPOSURE”, INTRODUCE THE **EXPOSURE TRIANGLE**, DISCUSS METERING AND SHOOTING MODES. HOMEWORK ASSIGNMENT #1
- SESSION 2: HOMEWORK SHOW AND TELL, DISCUSS HISTOGRAMS, BLINKIES, EXPOSURE COMPENSATION, AND **ETTR**. HOMEWORK ASSIGNMENT#2
- SESSION 3: HOMEWORK SHOW AND TELL, QUESTIONS & ANSWERS.

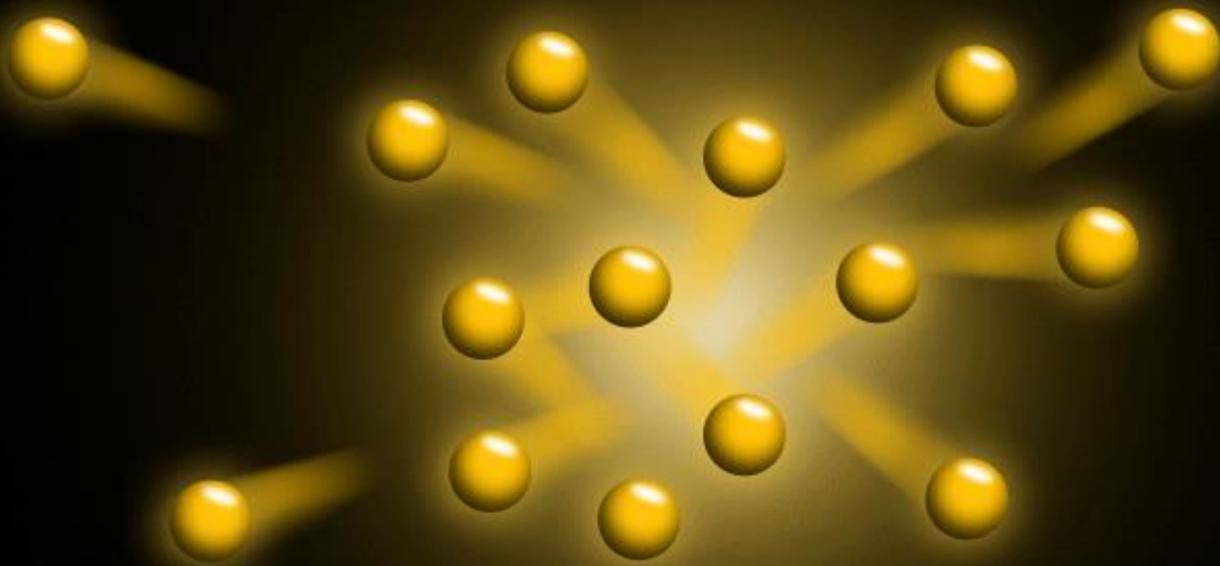


- RADIO WAVES
- MICROWAVES
- INFRARED
- VISIBLE LIGHT**
- ULTRAVIOLET
- X-RAYS
- GAMMA RAYS

**WAVE LENGTH IN NANOMETER**



a particle or packet  
of light energy



photon

Game Smartz flashcard

A photon is an elementary particle that is a quantum of the electromagnetic field, including electromagnetic radiation such as light and radio waves, and the force carrier for the electromagnetic force. Photons are massless, so they always move at the speed of light in vacuum, 299792458 m/s. [Wikipedia](#)



The oldest known photograph was taken by Joseph Nicéphore Niépce in 1826–27. It depicts the view out of Niépce's upstairs window, and it is extremely low quality. (8 hours)



First Photo Of A Human, 1837

# WHAT IS *EXPOSURE* IN PHOTOGRAPY?

A SIMPLE ANALOGY



**EXPOSURE IS  
THE TRANSFER  
OF ENERGY TO  
A SENSOR!**

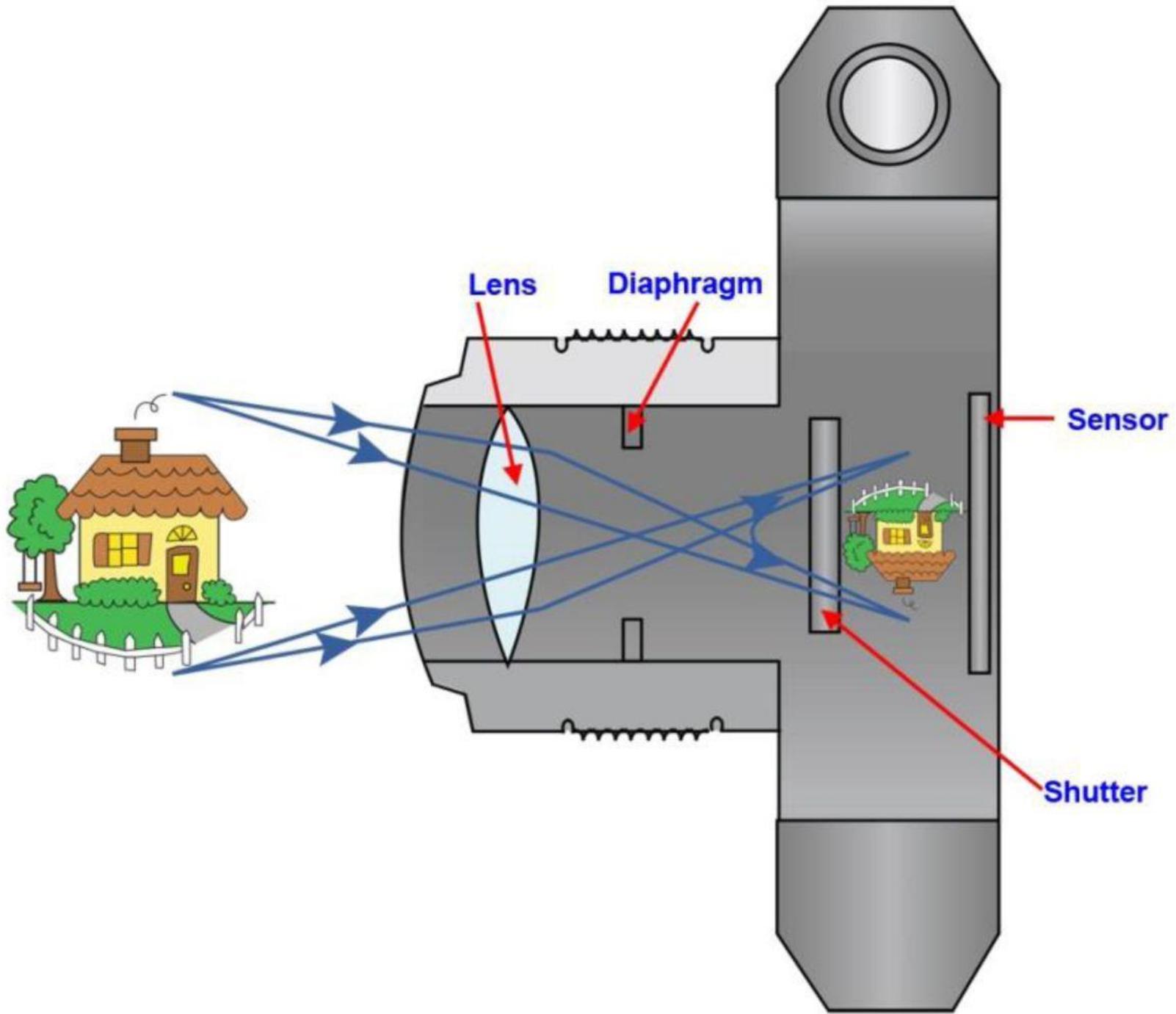
# EXPOSURE IS DETERMINED BY

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1. HOW LONG SHUTTER IS OPEN
2. THE SIZE OF THE LENS OPENING (APERTURE)
3. THE SENSITIVITY OF THE SENSOR (ISO)



**YOUR EXPOSURE**  
(THINK OF A PHOTON AS A WATER MOLECULE)



# WHAT/WHO CONTROLS YOUR EXPOSURES?

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YOU OR THE CAMERA?  
WHY DOES IT MATTER?

**WHAT KIND  
OF PHOTO  
DO YOU  
WANT?**

**A SNAPSHOT?**

**A THOUGHT SHOT?**

MODE DIAL

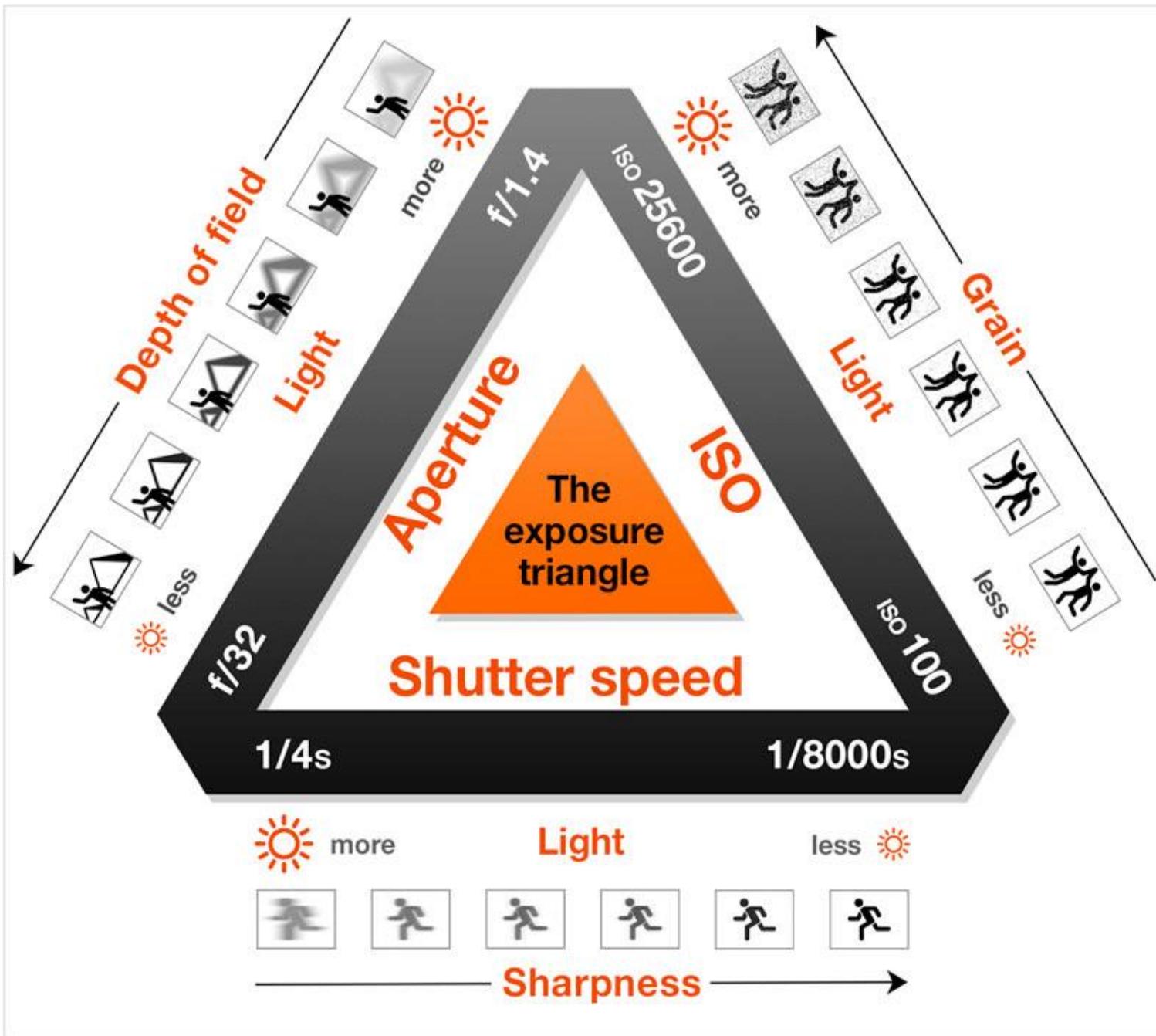
- Automatic
- Portrait
- Macro
- Landscape
- Sports
- Night Portrait



- Program P
- Shutter-priority Tv
- Aperture-priority Av
- Manual exposure M
- Auto Depth-of-field A-DEP
- Flash off

Basic modes

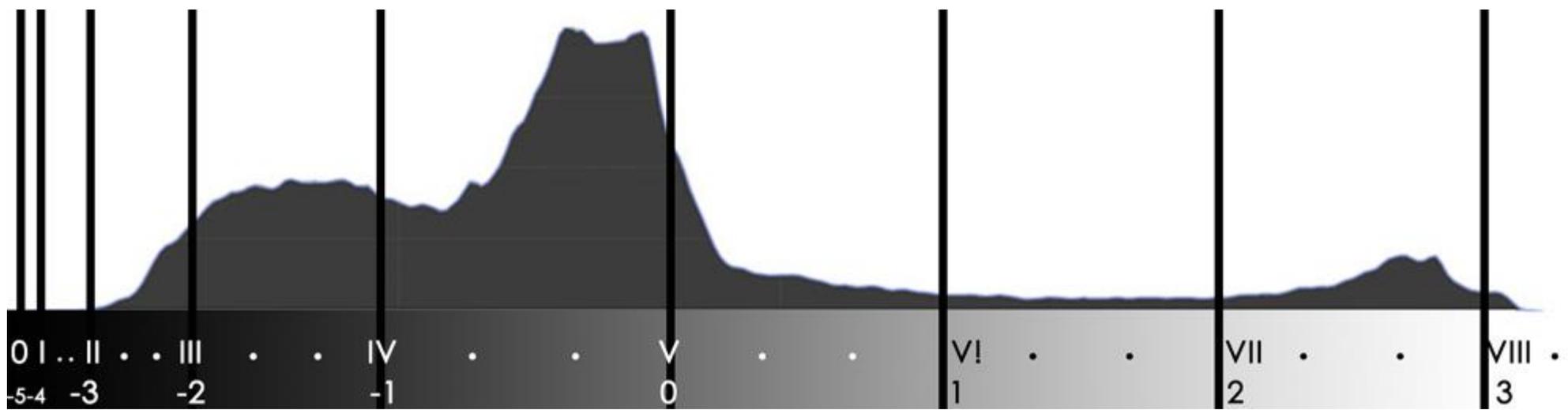
Advanced modes



# The Zone System

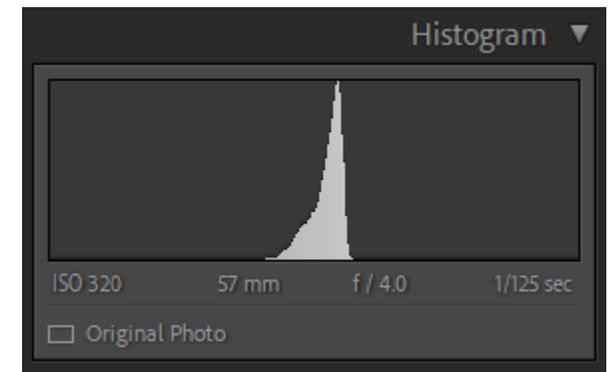


ANSEL ADAMS &  
FRED ARCHER, 1940

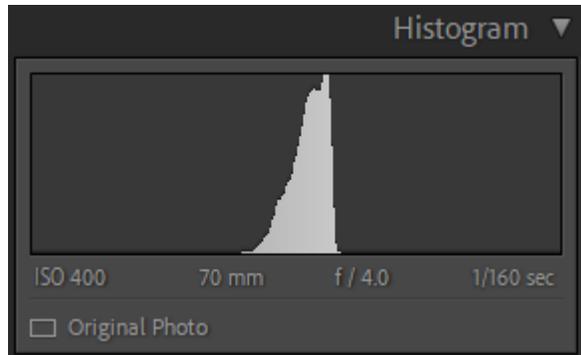


*HISTOGRAM*

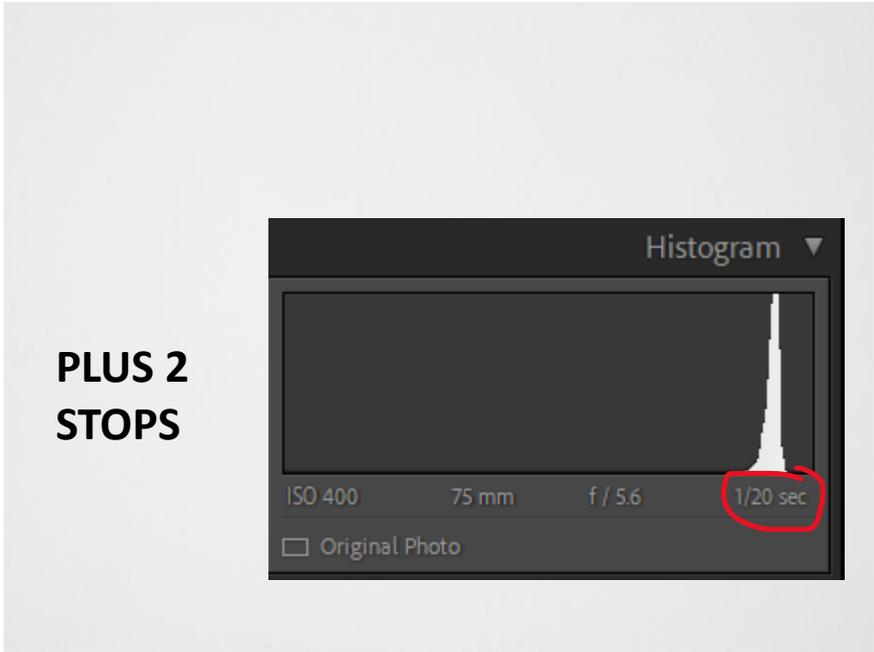
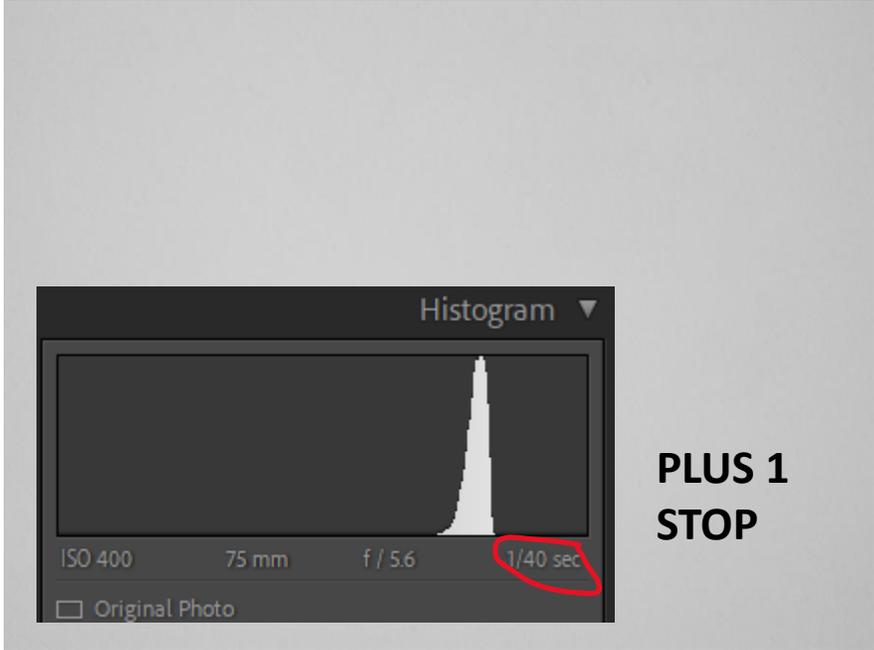
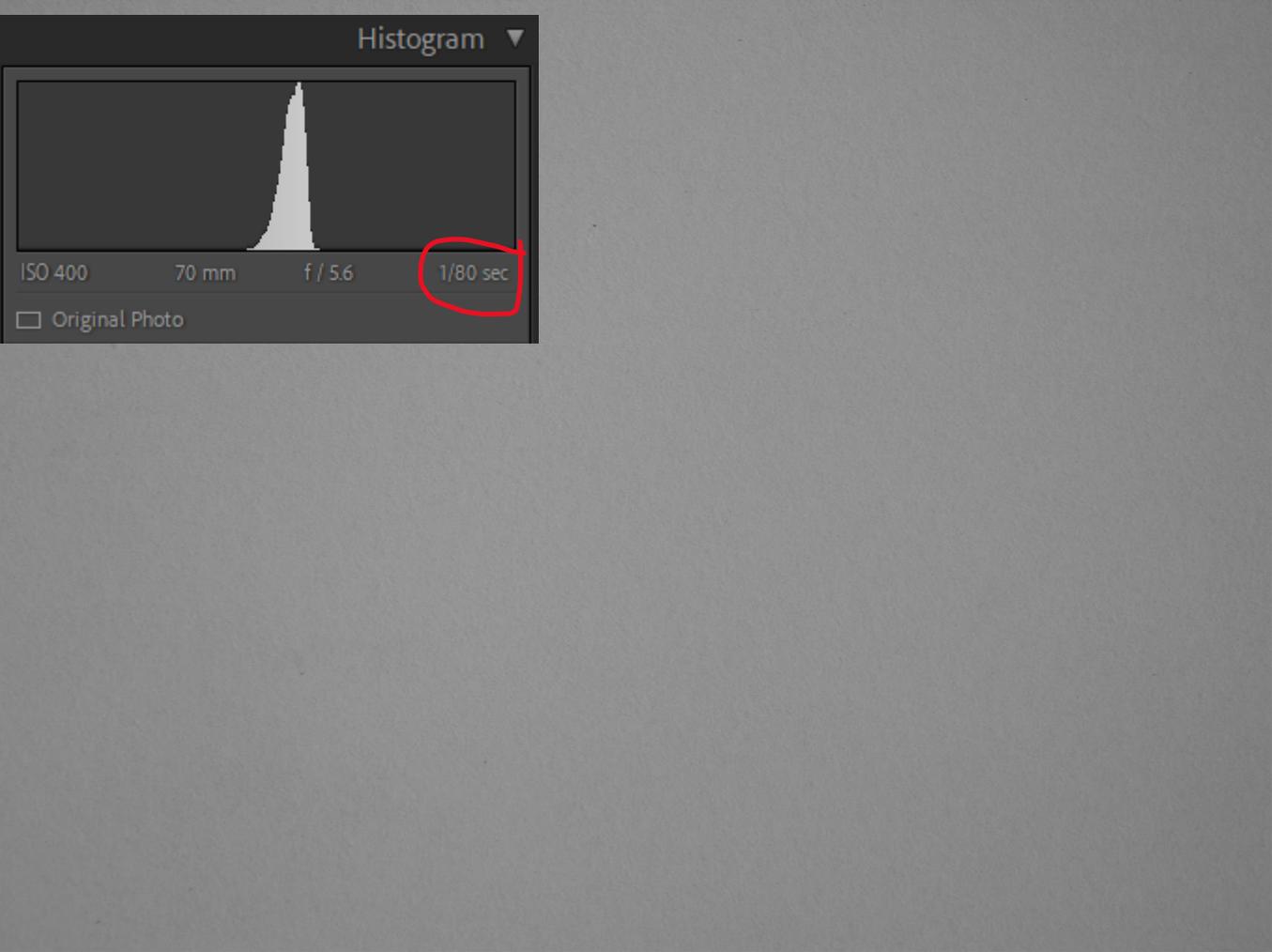
# AUTO



# PROGRAM



# APERTURE PRIORITY



# EXPOSURE MODES

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SPOT METERING

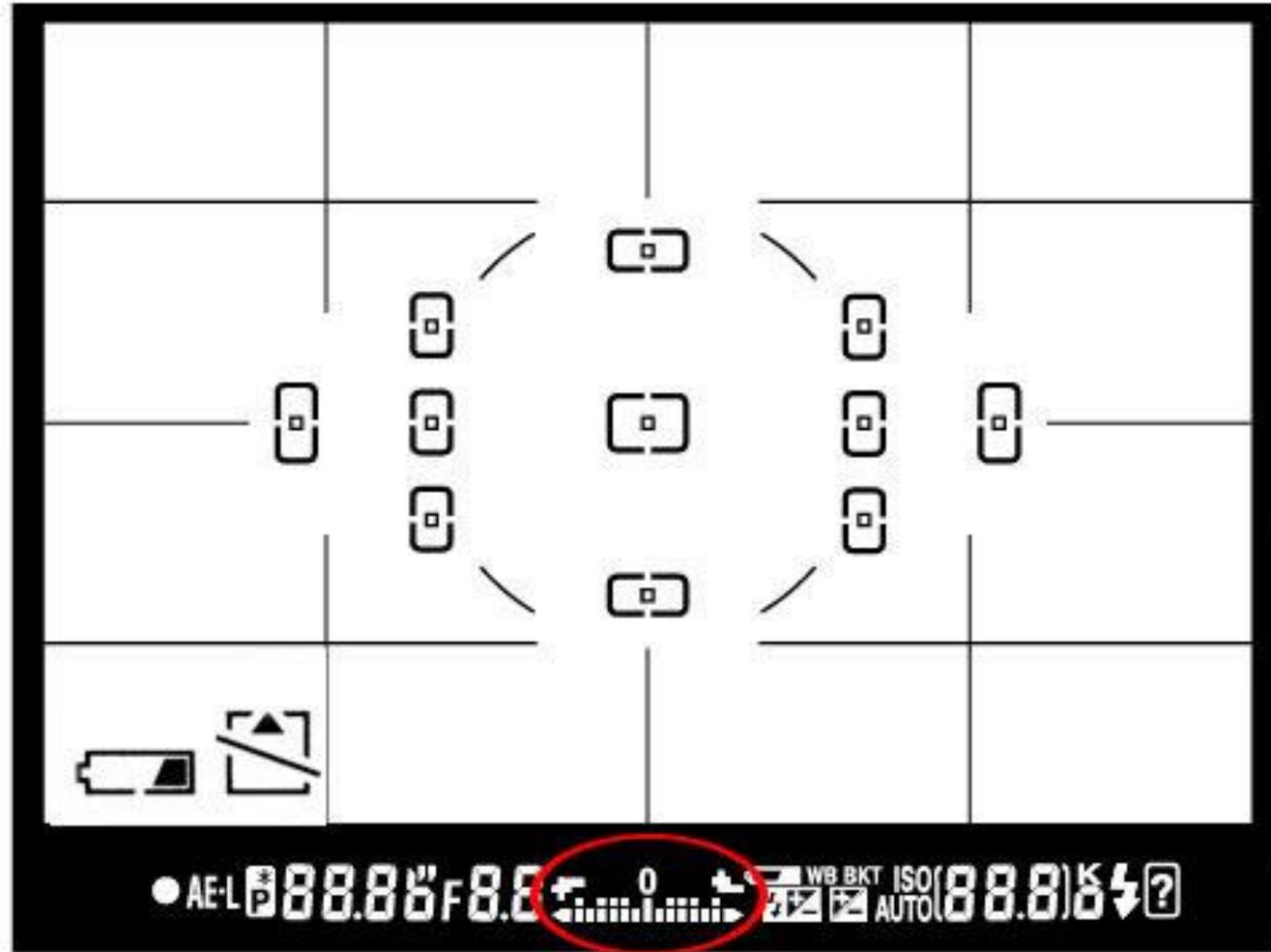
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CENTER WEIGHTED  
METERING

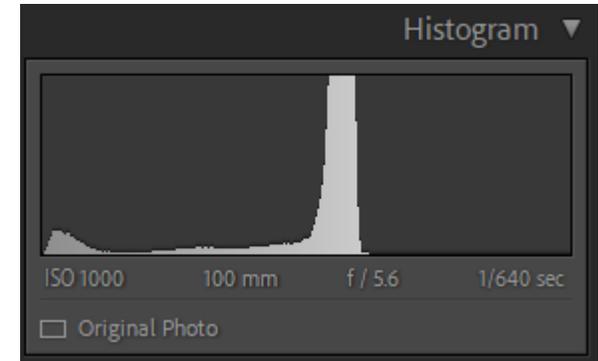
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EVALUATIVE (MULTISEGMENT,  
ESP) METERING

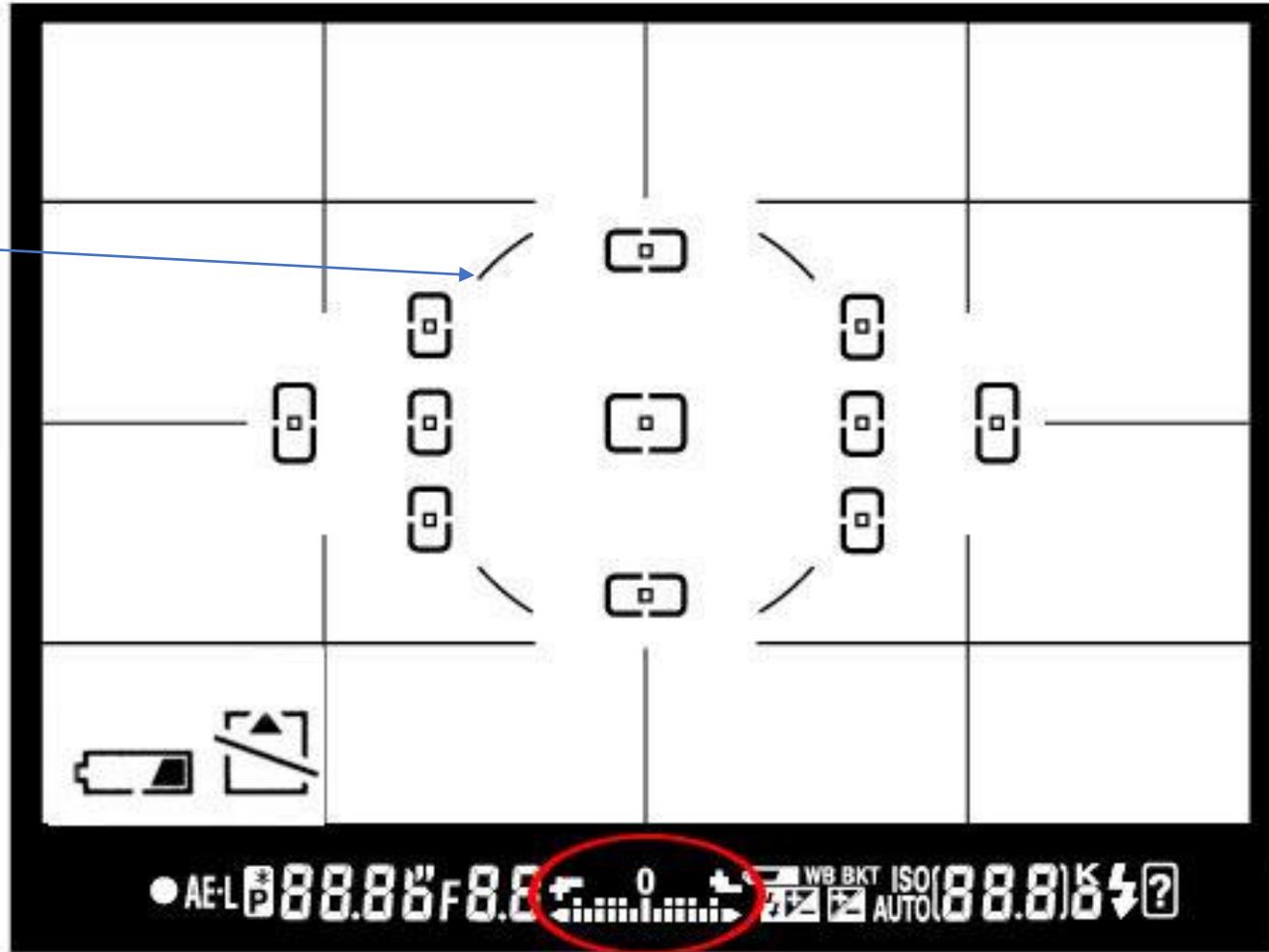
EVALUATIVE



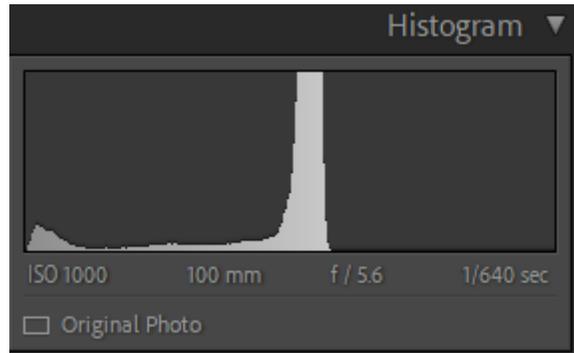
# EVALUATIVE (ESP)

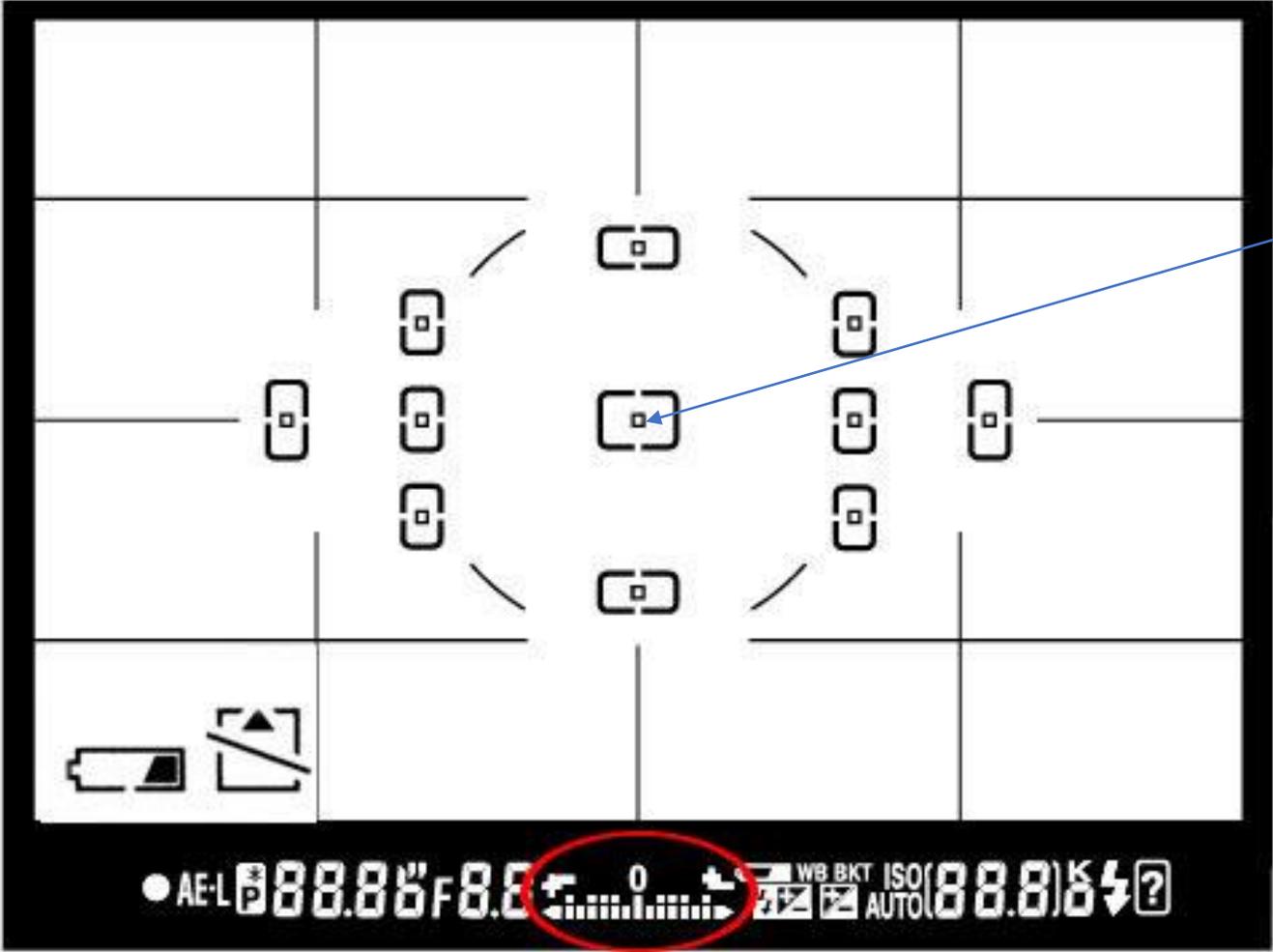


CENTER  
WEIGHTED



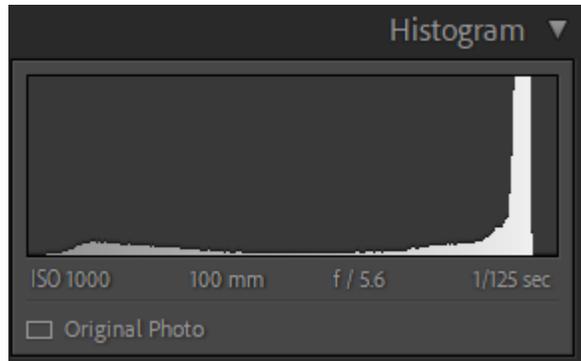
# CENTER WEIGHTED





SPOT

# SPOT



WHAT IS A PROPER  
EXPOSURE?

**IT DEPENDS!**

# NEXT TIME

- 1. HOMEWORK SHOW AND TELL
- 2. THE HISTOGRAM
- 3. “BLINKIES” (EXPOSURE INDICATORS)
- 4. EXPOSURE COMPENSATION
- 5. “ETTR” (EXPOSE TO THE RIGHT): A STRATEGY FOR DIGITAL CAPTURE
- 6. MORE HOMEWORK

# HOMework (YOU MAY NEED TO CONSULT WITH YOUR OWNER'S MANUAL)

The purpose of these exercises is to gain a better understanding of shooting and metering modes.

1. Compare and contrast photographing the same scene in “Auto”, “Program”, and “Priority” modes.
2. Compare and contrast shooting the same subject with the three different metering modes.
3. Email ([lpetterborg@gmail.com](mailto:lpetterborg@gmail.com)) me a set (3-5) of images that best represents what you learned from one of these exercises. Be prepared to talk about your experience next time.



# SHUTTER SPEED EXERCISE

BY DENNIS FRITSCHE



1/2000 sec at f/2.8



1/250 sec at f/2.8



1/60 sec at f/2.8



1/15 sec at f/2.8



1/4 sec at f/3.5



1.0 sec at f/10

**QUESTIONS?**