



**METRO PPA**

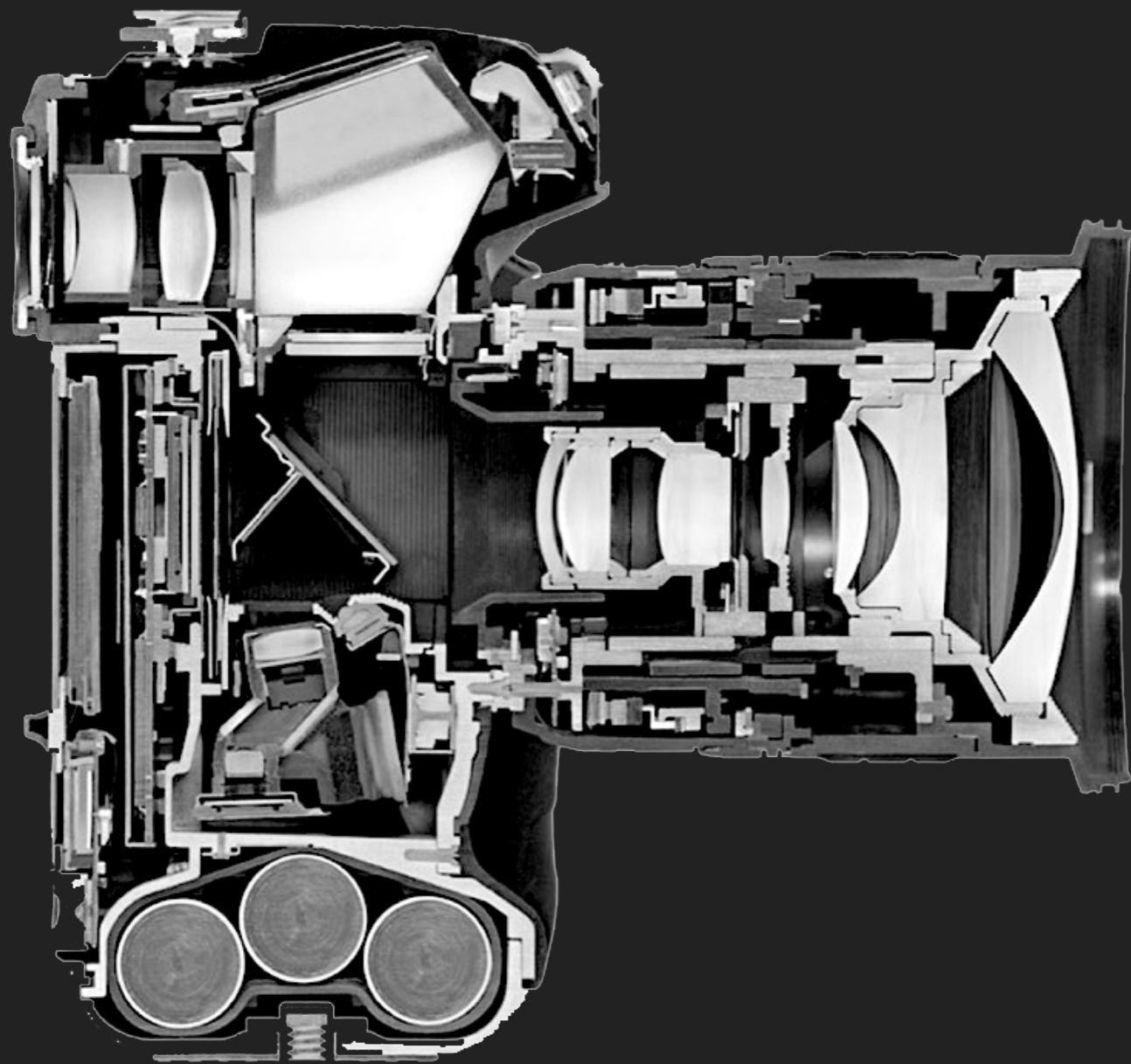
**BASIC CAMERA CONTROLS**

**“THE CAMERA IS AN INSTRUMENT  
THAT TEACHES PEOPLE HOW TO  
SEE WITHOUT A CAMERA.”**

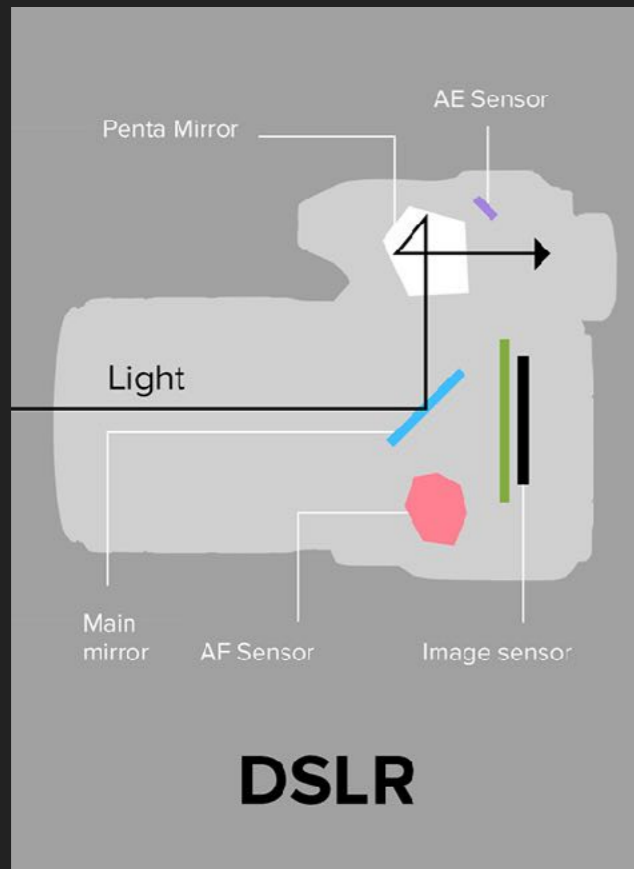
**Dorothea Lange**

AMERICAN DOCUMENTARY PHOTOGRAPHER

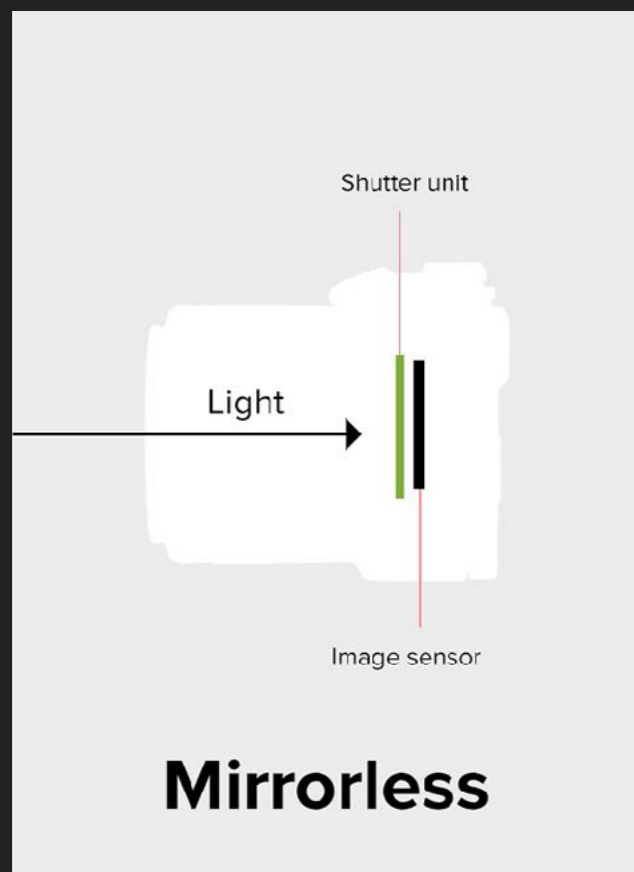
A LIGHT TIGHT BOX THAT ALLOWS YOU TO CONTROL THE TIMING AND AMOUNT OF LIGHT ENTERING TO STRIKE THE SENSOR.



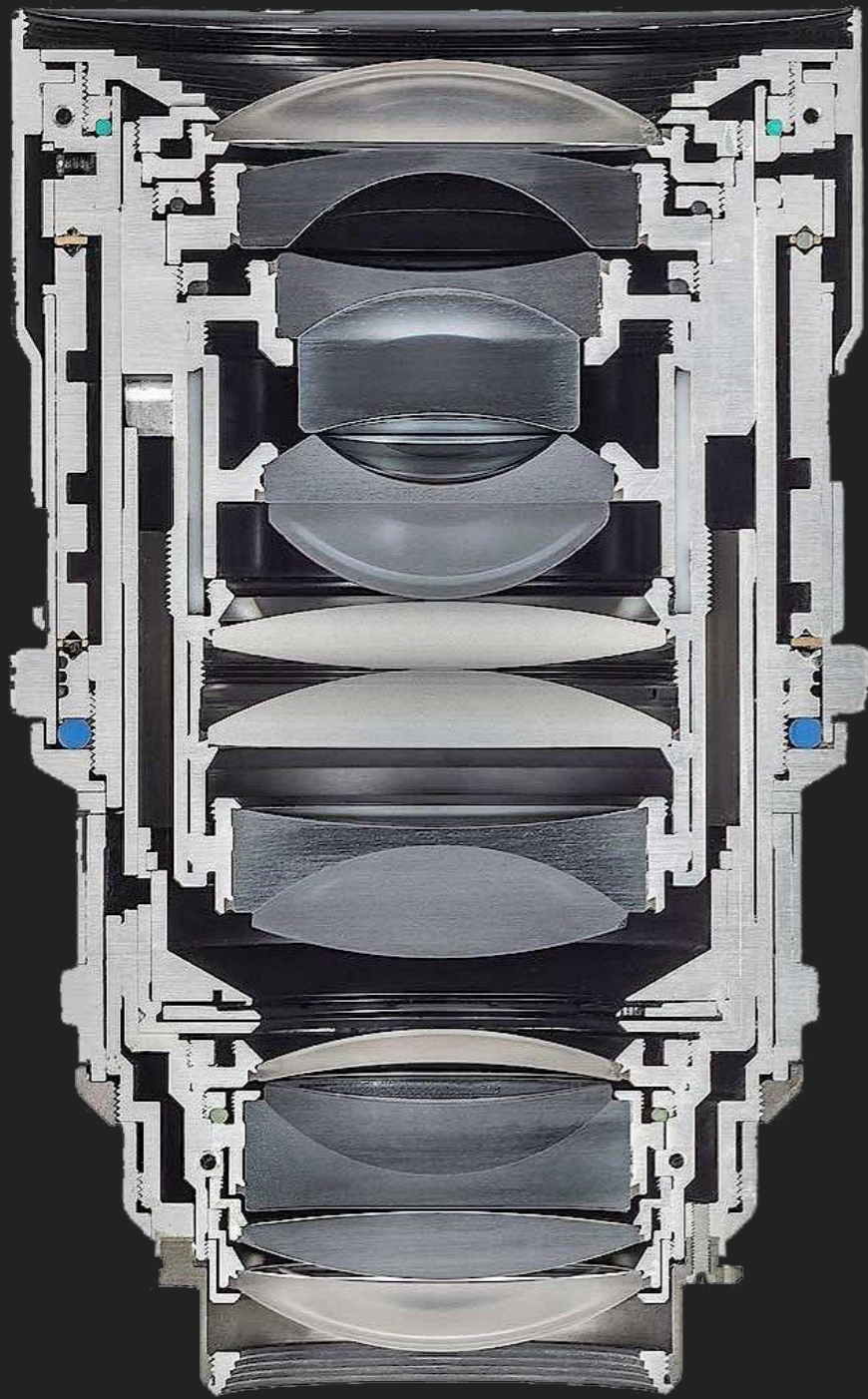
**CAMERA**



- ▶ **STYLE - DSLR / MIRRORLESS**
- ▶ **SENSOR PHYSICAL SIZE**
- ▶ **RESOLUTION - MEGAPIXELS**
- ▶ **ISO - SENSITIVITY TO LIGHT**
- ▶ **SHUTTER - TIME OF LIGHT ALLOWED**
- ▶ **EXPOSURE MODES**
- ▶ **SHOOTING MODES**
- ▶ **AUTO FOCUS SPEED**
- ▶ **ANALOG / DIGITAL PROCESSOR**



# CAMERA



NORMALLY CONSTRUCTED OF SEVERAL **GLASS ELEMENTS** TO PROJECT LIGHT BEAMS ONTO A SURFACE TO **CREATE AN IMAGE**

THE **FOCAL LENGTH** OF THE LENS IS DESCRIBED IN MM AND INDICATES THE **MAGNIFICATION** OF THE PROJECTED IMAGE OF A GIVEN SIZED SENSOR

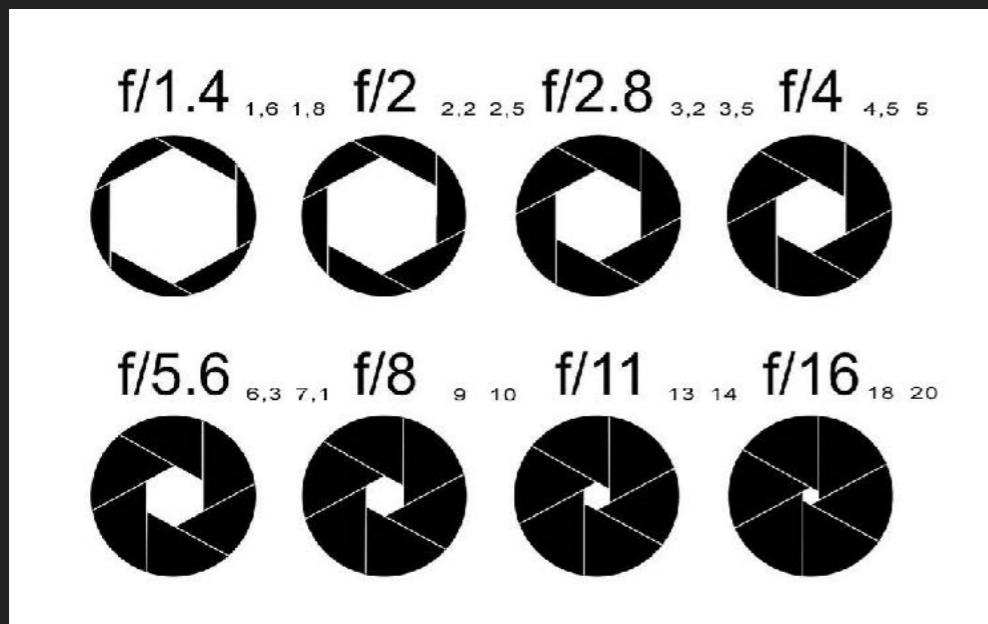
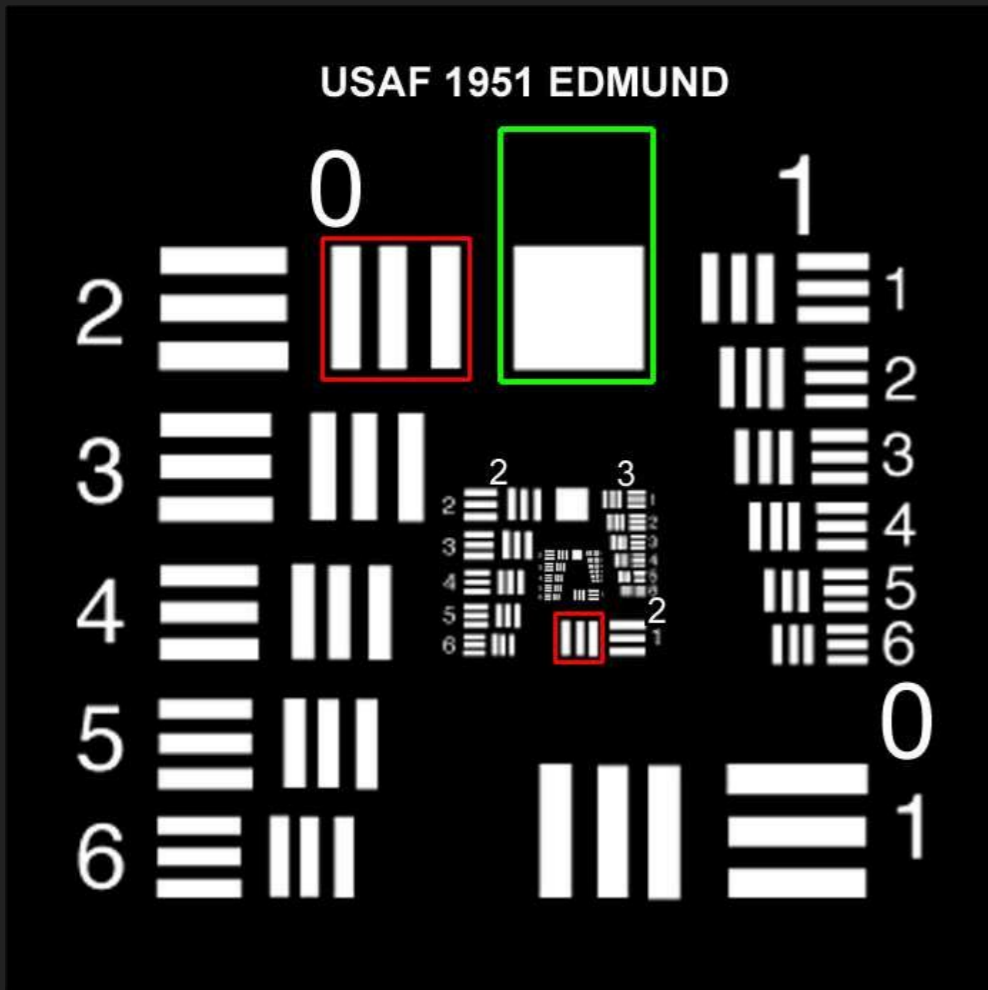
NORMAL VIEW / MAGNIFICATION

MEDIUM FORMAT - 80MM

FULL FRAME - 50MM

CROP SENSOR - 35MM

# LENS



- ▶ MAXIMUM APERTURE
- ▶ MAGNIFICATION
- ▶ RESOLVING POWER
- ▶ SHARPNESS
- ▶ BOKEH
- ▶ CLARITY
- ▶ COLOR FIDELITY
- ▶ VIGNETTING
- ▶ AF MOTOR / MANUAL FOCUS

# LENS

# 3 WAYS TO CONTROL THE AMOUNT OF LIGHT (AT THE CAMERA)

- ▶ ISO
- ▶ SHUTTER SPEED
- ▶ APERTURE

# EXPOSURE CONTROL



# “STOPS” OF LIGHT

REFERS TO A CHANGE OF LIGHT AMOUNT

- ▶ +/- ISO

100 - 200 - 400 - 800 - 1600 - 3200 - 6400

- ▶ +/- SHUTTER SPEED

1 - 2 - 4 - 8 - 15 - 30 - 60 - 125 - 250 - 500 - 1000

- ▶ +/- APERTURE

1.4 - 2 - 2.8 - 4 - 5.6 - 8 - 11 - 16 - 22 - 32

**1 STOP INCREASE**

**DOUBLE THE LIGHT**

**LIGHTER**

**1 STOP DECREASE**

**HALF THE LIGHT**

**DARKER**

# LIGHT STOPS





ISO 200

## SENSITIVITY TO LIGHT

HIGHER = MORE SENSITIVE

HIGHER = MORE GRAIN

LOWER = BETTER QUALITY

BEST TO USE IN **1 STOP** INCREMENTS

100,200,400,800,1600,3200,ETC



ISO 6400

# ISO

**PURCHASED IN CAMERA**

# HOW LONG LIGHT ENTERS THE CAMERA

SHOWN IN FRACTIONS OF SECONDS

DISPLAY MAY NOT SHOW AS FRACTION

HIGHER SPEED

LESS LIGHT

MORE MOTION STOPPING

SECONDS 1/1000 1/500 1/250 1/125 1/60 1/30 1/15 1/8 1/4 1/2 1

**FAST**  
Requires MORE Light  
Freezes Motion

**SLOW**  
Requires LOW Light  
Blurs Motion

# SHUTTER

PURCHASED IN CAMERA



# CONTROL 2 THINGS

## CAMERA MOTION

RULE OF THUMB - SHUTTER SPEED SHOULD BE EQUAL OR GREATER THAN FOCAL LENGTH OF LENS

## SUBJECT MOTION

DEPENDS ON SPEED, DIRECTION, MAGNIFICATION AND DISTANCE OF OBJECT

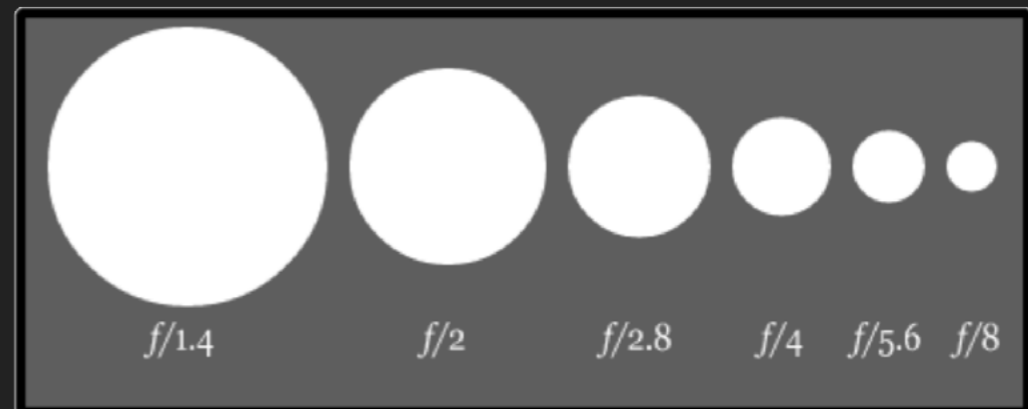
# SHUTTER

PURCHASED IN CAMERA





HOW MUCH LIGHT  
ENTERS THE CAMERA  
SHOWN IN F-STOPS / FRACTIONS  
SMALLER NUMBER  
MORE LIGHT



Comparison of Aperture Sizes  
Going down each aperture value reduces the  
amount of light by HALF

# APERTURE

PURCHASED IN LENS



F 1.4



F 5.6



F 16

HOW MUCH FOCUS  
SHOWN IN F-STOPS / FRACTIONS

SMALLER NUMBER  
LESS DEPTH OF FIELD

DEPENDS ON DISTANCE TO SUBJECT,  
LENS MAGNIFICATION, APERTURE  
VALUE, SENSOR SIZE AND ANGLE TO  
PLANE.

APERTURE  
PURCHASED IN LENS

## CONTROL YOUR LIGHT

GREEN MODE - FULL AUTO

P - ALMOST GREEN MODE\*

S / TV - YOU SELECT SHUTTER SPEED\*

A / AV - YOU SELECT APERTURE\*

M - YOU SELECT EVERYTHING

CUSTOM MODE SELECTION

SOME CAMERAS HAVE AN AUTO SUBJECT MODE

\* YOU CAN SET ISO OR USE AUTO ISO

# MODES

HOW CAMERA CHOOSES EXPOSURE ADJUSTMENTS



# EXPOSURE VALUE DIAL

WHEN THE CAMERA IS IN AN AUTOMATIC MODE

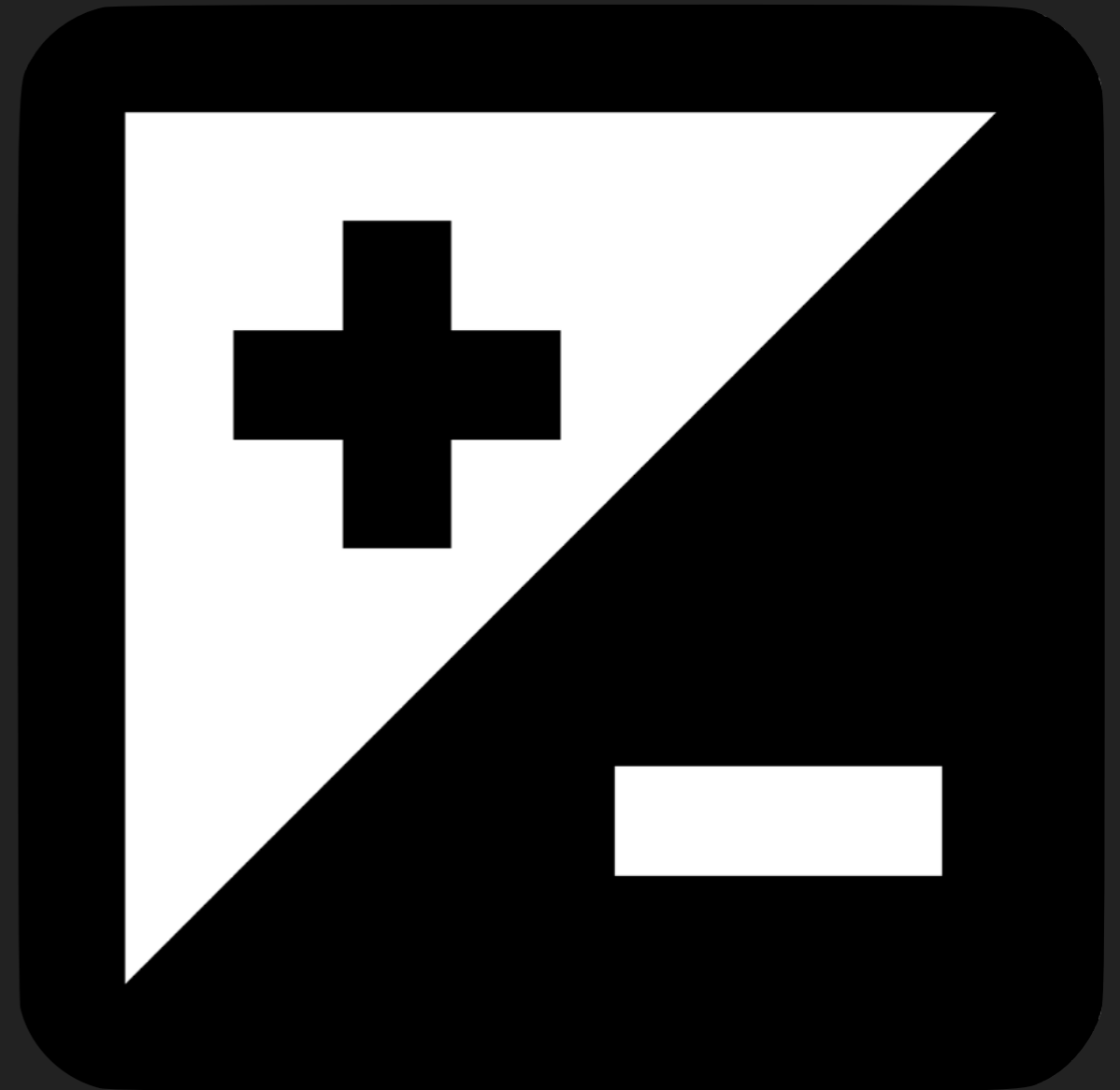
YOU CAN SHIFT THE EXPOSURE TO BE

**BRIGHTER +EV**

OR

**DARKER -EV**

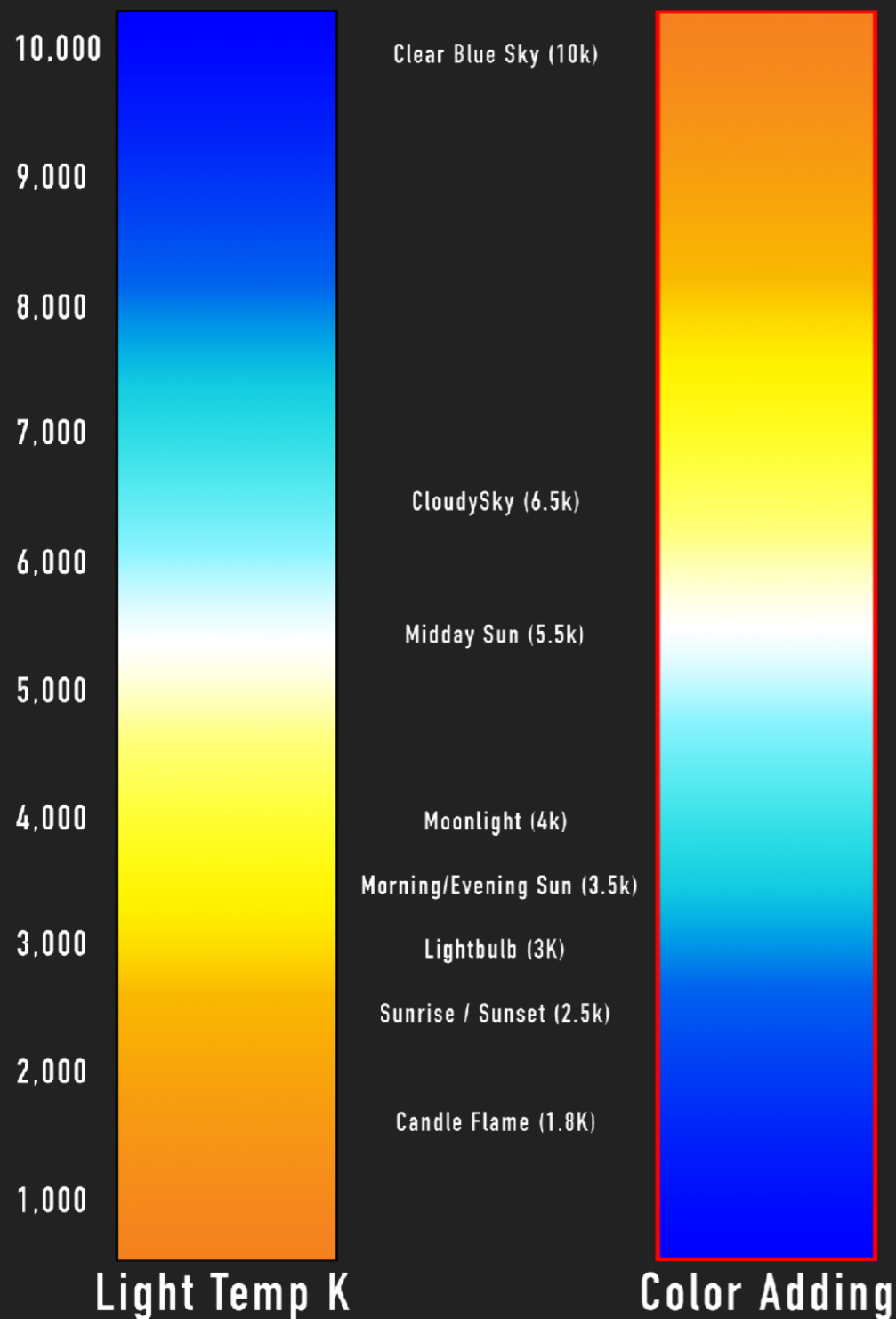
THAN WHAT CAMERA SELECTED



# EV DIAL

ONLY WORKS IN AUTO, P, S OR A

# MAKES WHITES WHITE



SEVERAL TO CHOOSE FROM AND SELECTED  
BASED ON COLOR OF LIGHT AND EACH CAMERA  
MIGHT NOT HAVE THE SAME PRESETS

**AUTO**  
**FLASH**  
**DAYLIGHT**  
**CLOUDY**  
**SHADE**  
**FLUORESCENT**  
**KEVIN (SELECTABLE 2K - 10K)**

# WHITE BALANCE



# PROFILES

SENSORS **ONLY RECORD LIGHT LEVELS**

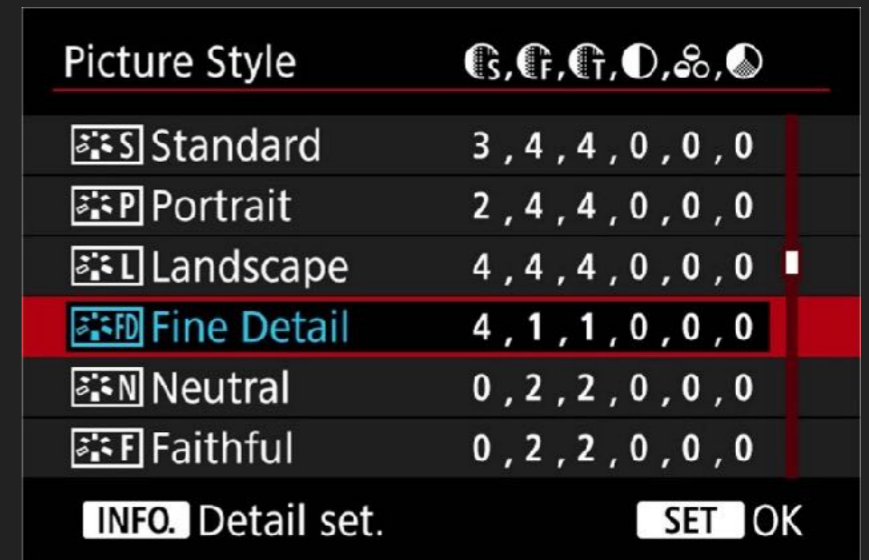
COLOR IS PROCESSED IN CAMERA

- SATURATION
- CONTRAST
- SHARPNESS
- COLOR TONE
- MONOCHROME

USE PROFILE PRESETS

# COLOR

APPLIES **ONLY** TO CAMERA SCREEN AND JPGS



**\* TIP \***

THE SCREEN ON CAMERA  
**CAN NOT SHOW RAW DATA**

IT **SHOWS A JPG PREVIEW**  
BASED ON YOUR CAMERA  
SETTINGS



## RAW VERSUS JPG

### RAW

- PROCESSED ON COMPUTER BEFORE USE
- MORE COLOR AND INFORMATION
- CAN BE REPROCESSED MULTIPLE WAYS

### JPG

- PROCESSED IN CAMERA AND READY TO USE
- SETTINGS ARE BAKED IN
- LIMITED ADJUSTMENTS AFTERWARDS

YOU CAN CHOOSE TO SHOOT BOTH AT SAME TIME

# FILES



**QUESTIONS?**