Exposure


UNDEREXPOSED
CORRECTLY EXPOSED
OVEREXPOSED

Shutter Speed

- The amount of time that your shutter remains open
- One of two controls your camera has over the amount of light.
- Each setting lets in twice the amount of light as the previous increment.
- Below 1/60, a tripod is needed.***



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SHUTTER SPEED SCALE

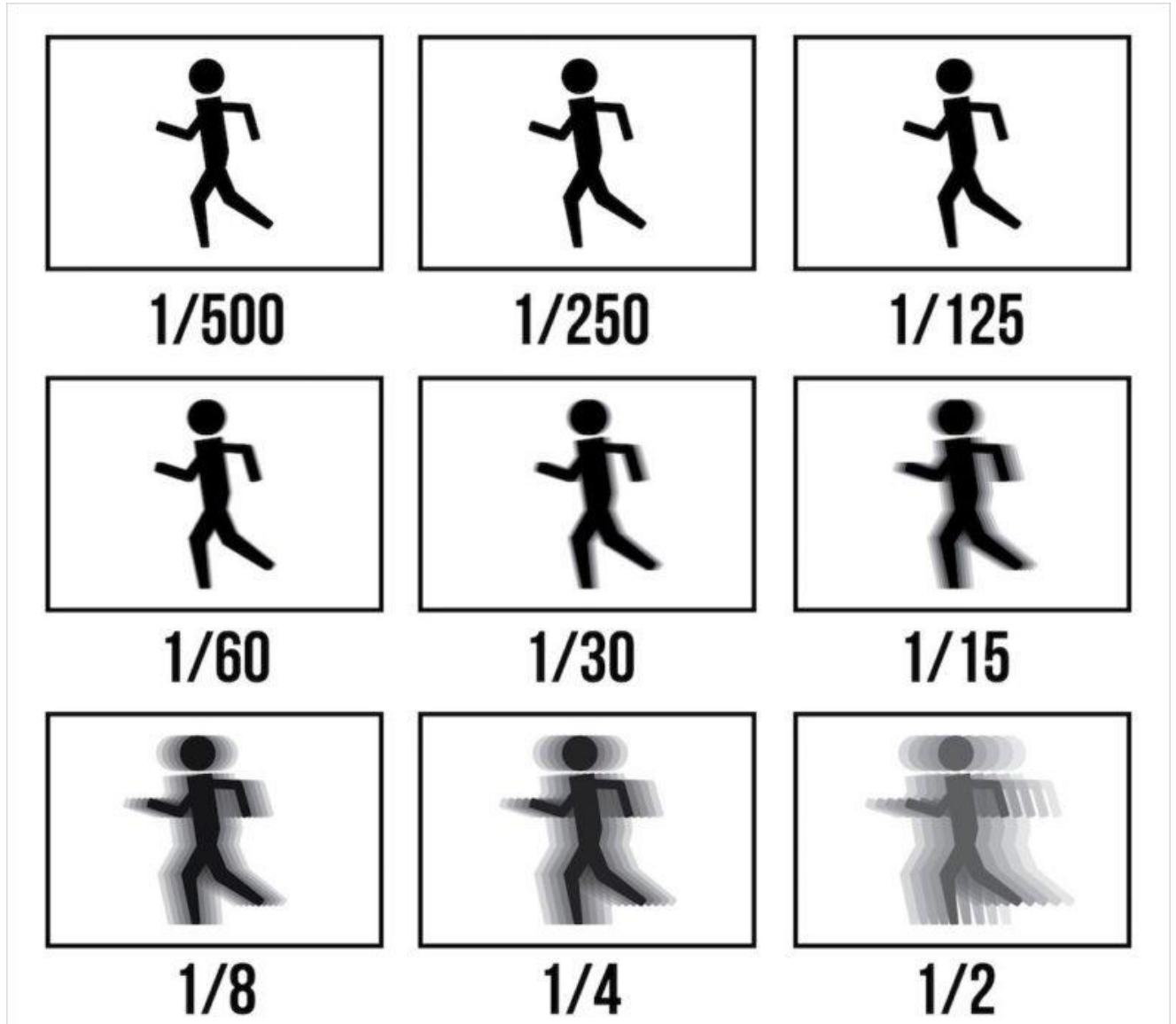
1/8000 1/4000 1/2000 1/1000 1/500 1/250 1/125 1/60 1/30 1/15 1/8 ¼ ½ 1 2 4 8 15 30

Shorter the shutter stays open ⟷ Longer the shutter stays open

Less light strikes image sensor ⟷ More light strikes image sensor

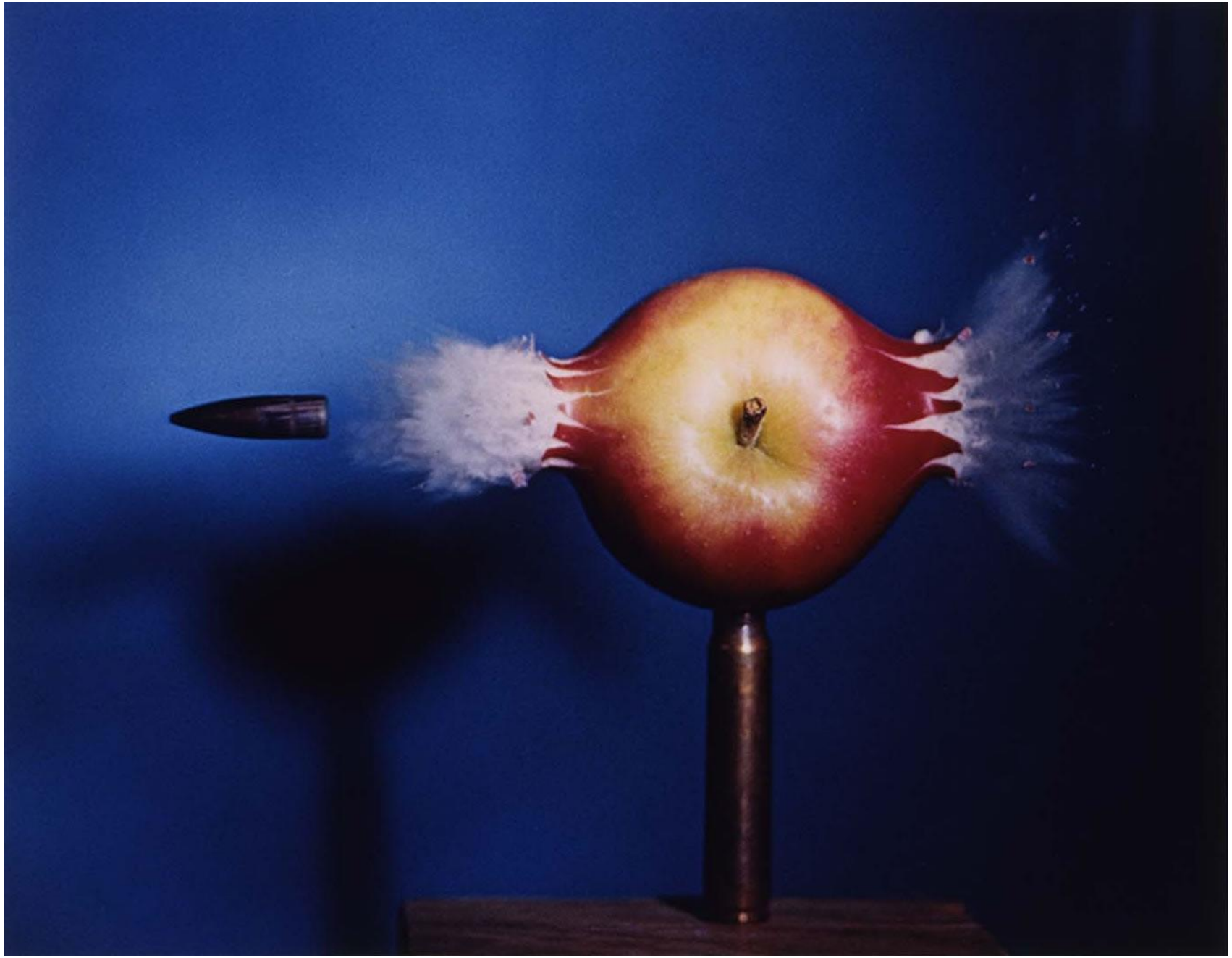
Freezes Motion ⟷ Shows motion

Less image noise/grain ⟷ More image noise/grain


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


1 sec
1/4 sec
1/15 sec
1/60 sec
1/160 sec















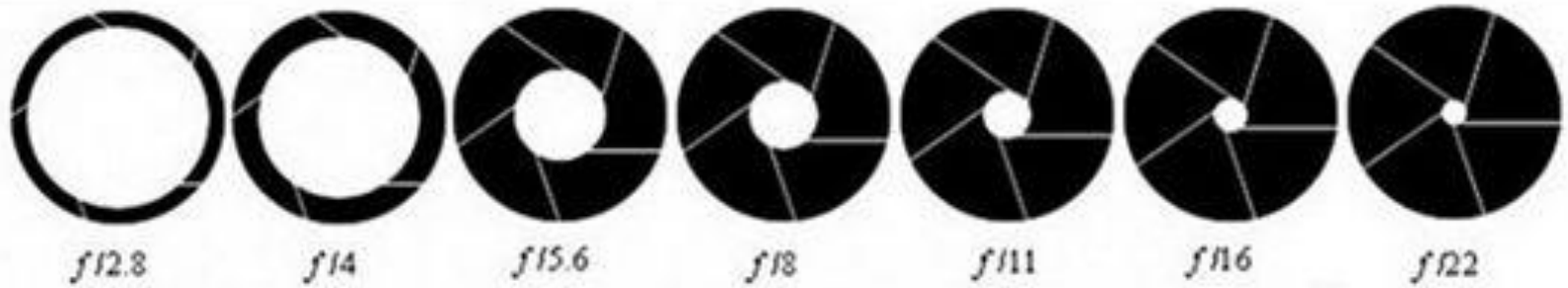




Aperture

- The aperture, or lens opening, is the other of the 2 exposure controls.
- Affects the depth of field of an image
- Allows us to decide what to focus on in frame.
- Often referred to as f-stops, or stops.

APERTURE SCALE



Large aperture ⟷ Small aperture

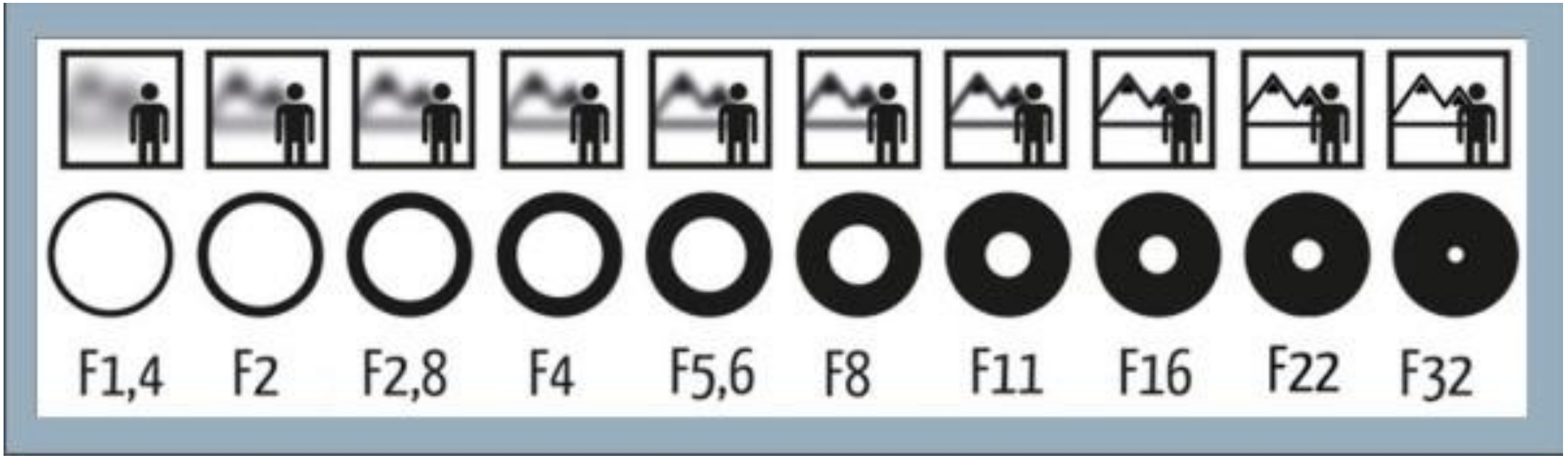
More light strikes image sensor ⟷ Less light strikes image sensor

Shallow Depth of Field (Focus) ⟷ Deep Depth of Field (Focus)



Maximum and minimum apertures differ depending on lens

Note: The Smaller the f-number (e.g. f1.4, f2 etc), the larger it is the aperture
Thus, allowing more light reaching the film to compensate for the
Duration of the shutter curtain travelliong time


F1,4
F2
F2,8
F4
F5,6
F8
F11
F16
F22
F32



Shallow depth of field

“maximum” aperture, but lowest f-stop number.

The lower a lens' maximum aperture setting, the “faster” the lens is.



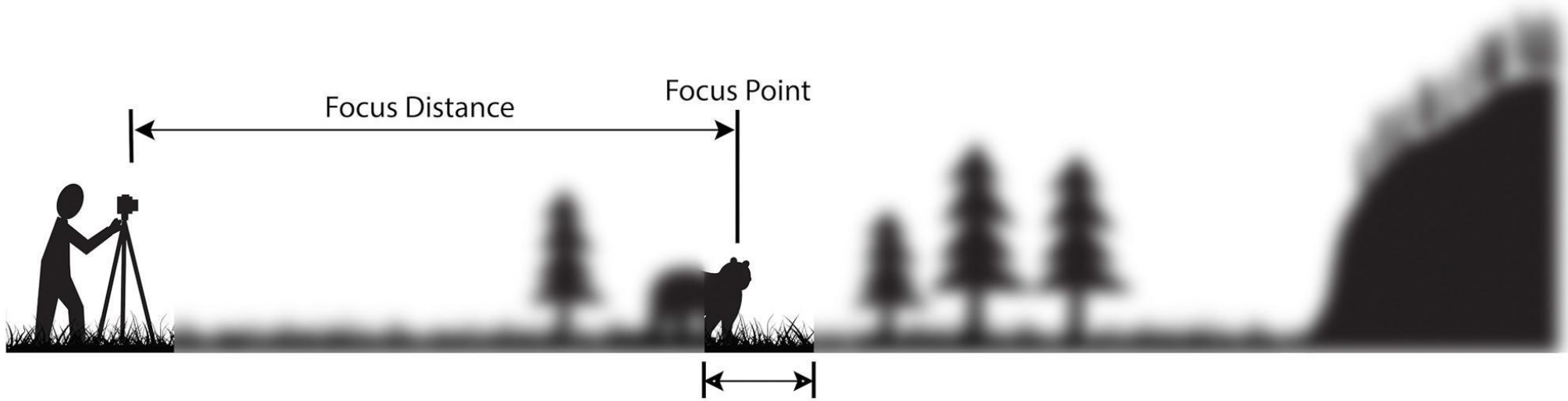


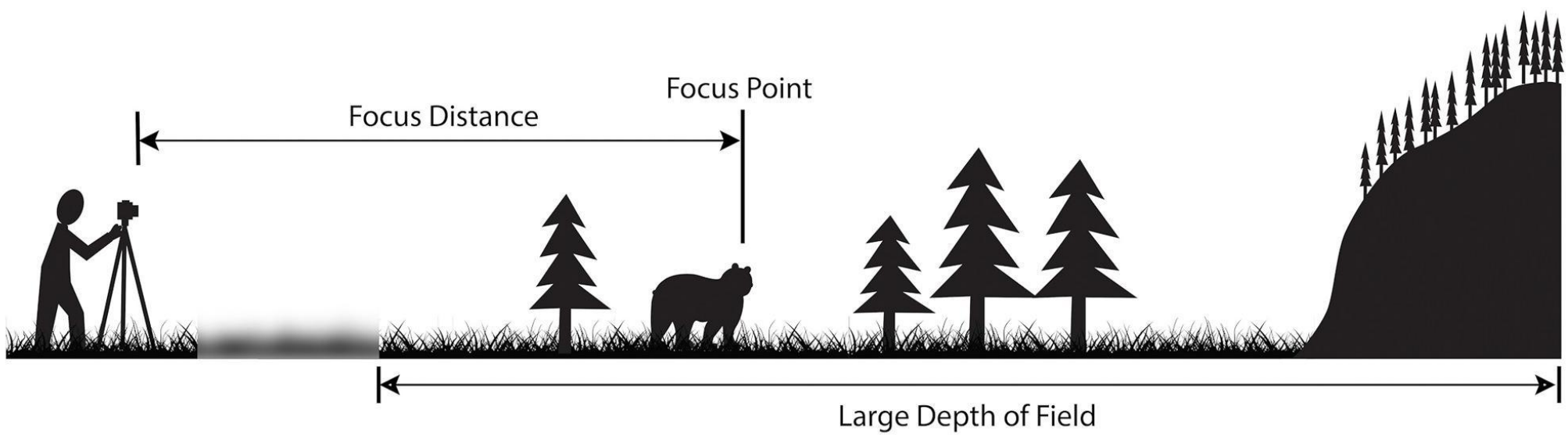









Focus Distance
Focus Point
Narrow Depth of Field


Focus Distance
Focus Point
Large Depth of Field

Aperture and Shutter Speed

- Find a combination of a shutter speed setting and aperture that will enable you to create the image you intend.
- How do we decide what is correct?









Lenses

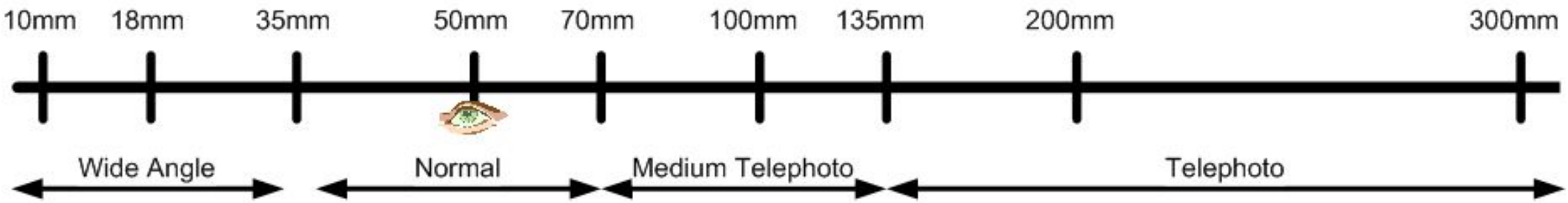


Prime lense



Zoom Lense

Focal length



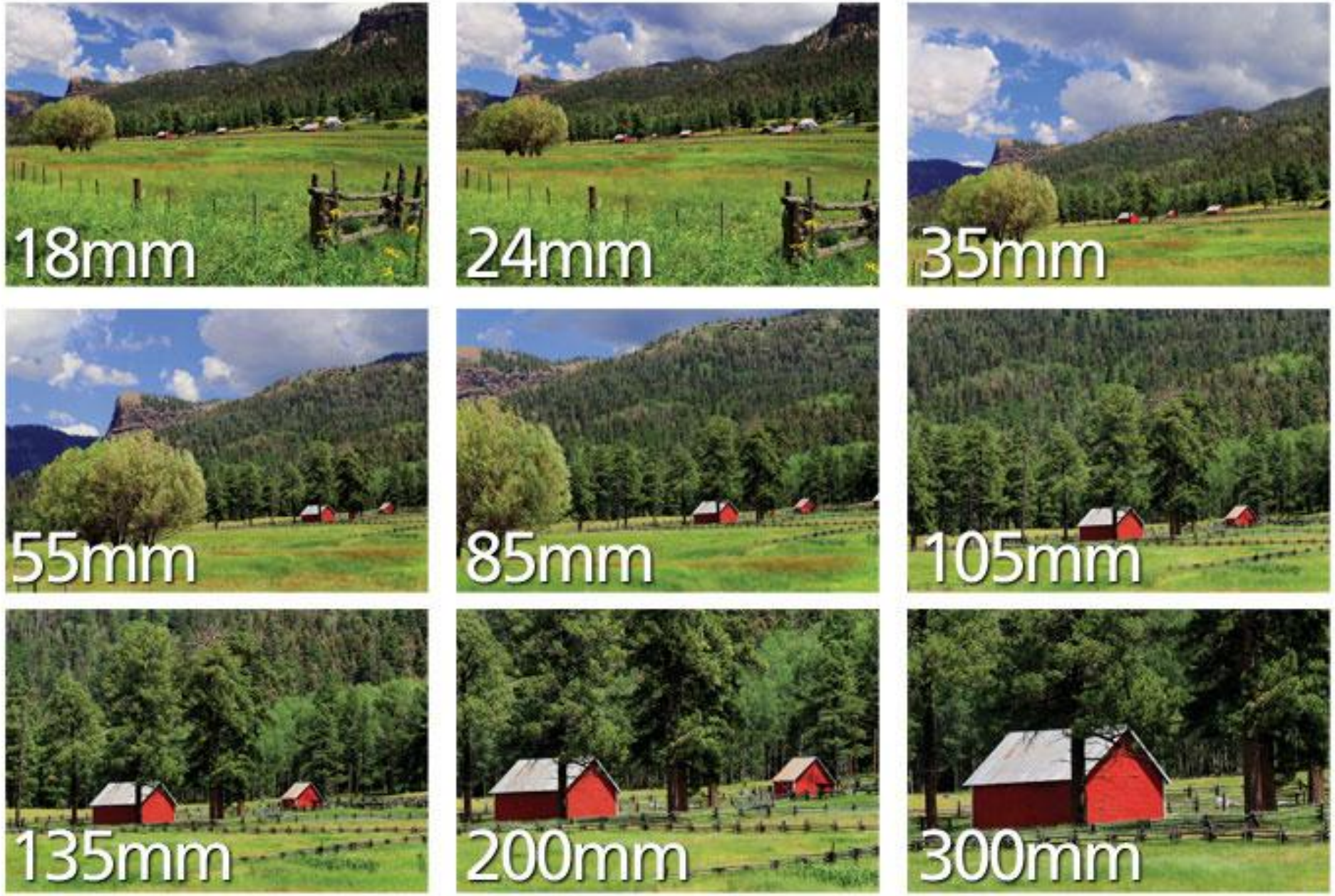




18mm | 50mm | 100mm | 200mm | 300mm

Suitable for:

Architecture, Landscape	Street, Documentary	Portraiture	Sports, Birds, Wildlife


18mm
24mm
35mm
55mm
85mm
105mm
135mm
200mm
300mm


18 mm
21 mm
25 mm
28 mm
35 mm
50 mm
85 mm
100 mm

Normal focal length, 50mm lens





Telephoto, zoom lenses: 200mm





400mm



Wide angle lenses, 24mm



18mm

Fisheye





ISO
(International Standards Organization)

ISO SCALE

50 100 200 400 800 1600 3200 6400

Less sensitive to light ⟷ More sensitive to light

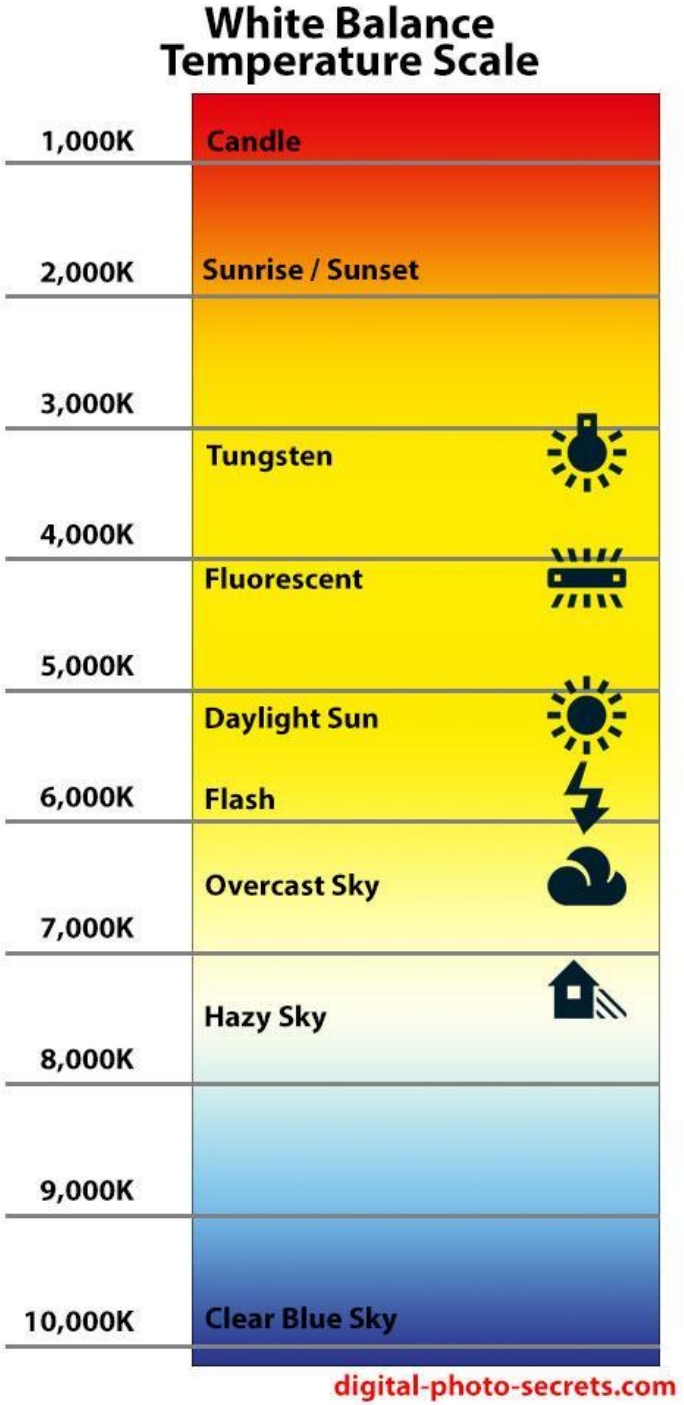
Will capture less light ⟷ Will capture more light

More light needed for “good” exposure ⟷ Less light needed for “good” exposure

Less image noise/grain ⟷ More image noise/grain


ISO 100
ISO 3200
CLEAN IMAGE
NOISY IMAGE

White Balance

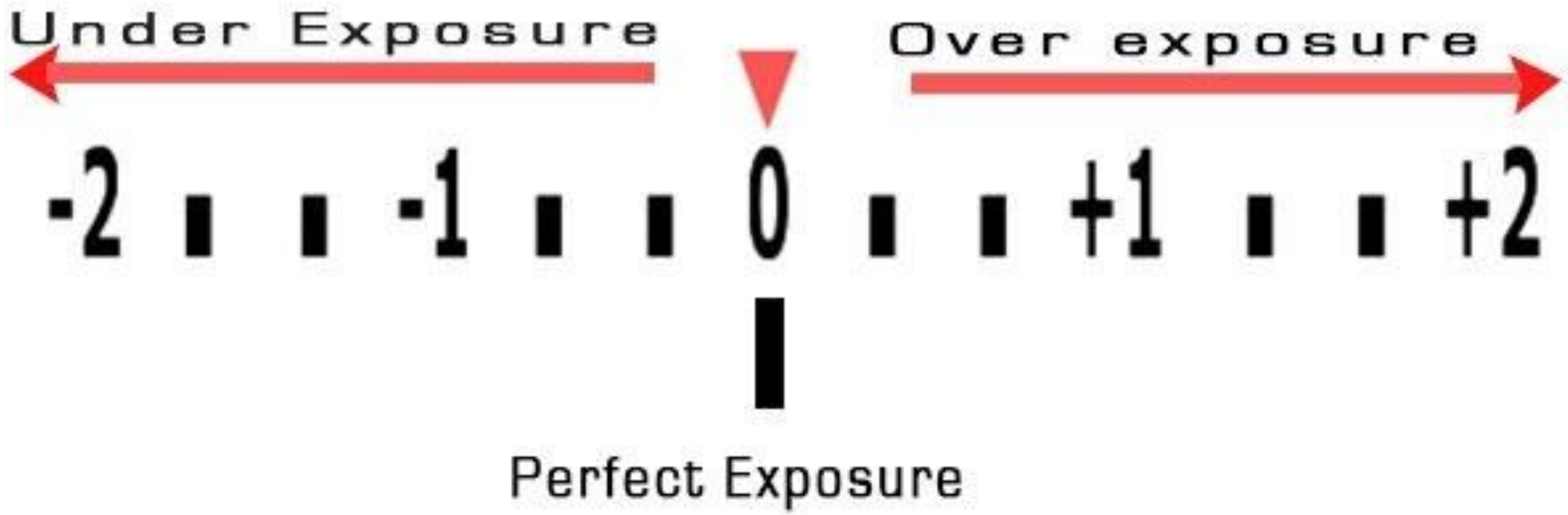


Display	Mode	Color Temperature (Approx. K: Kelvins)
AWB	Auto	3000 - 7000
☀	Daylight	5200
⌂	Shade	7000
☁	Cloudy, twilight, sunset	6000
☀	Tungsten light	3200
☀	White fluorescent light	4000
ϟ	Flash use	Automatically set*
✎	Custom (p.140)	2000 - 10000
K	Color temperature (p.141)	2500 - 10000

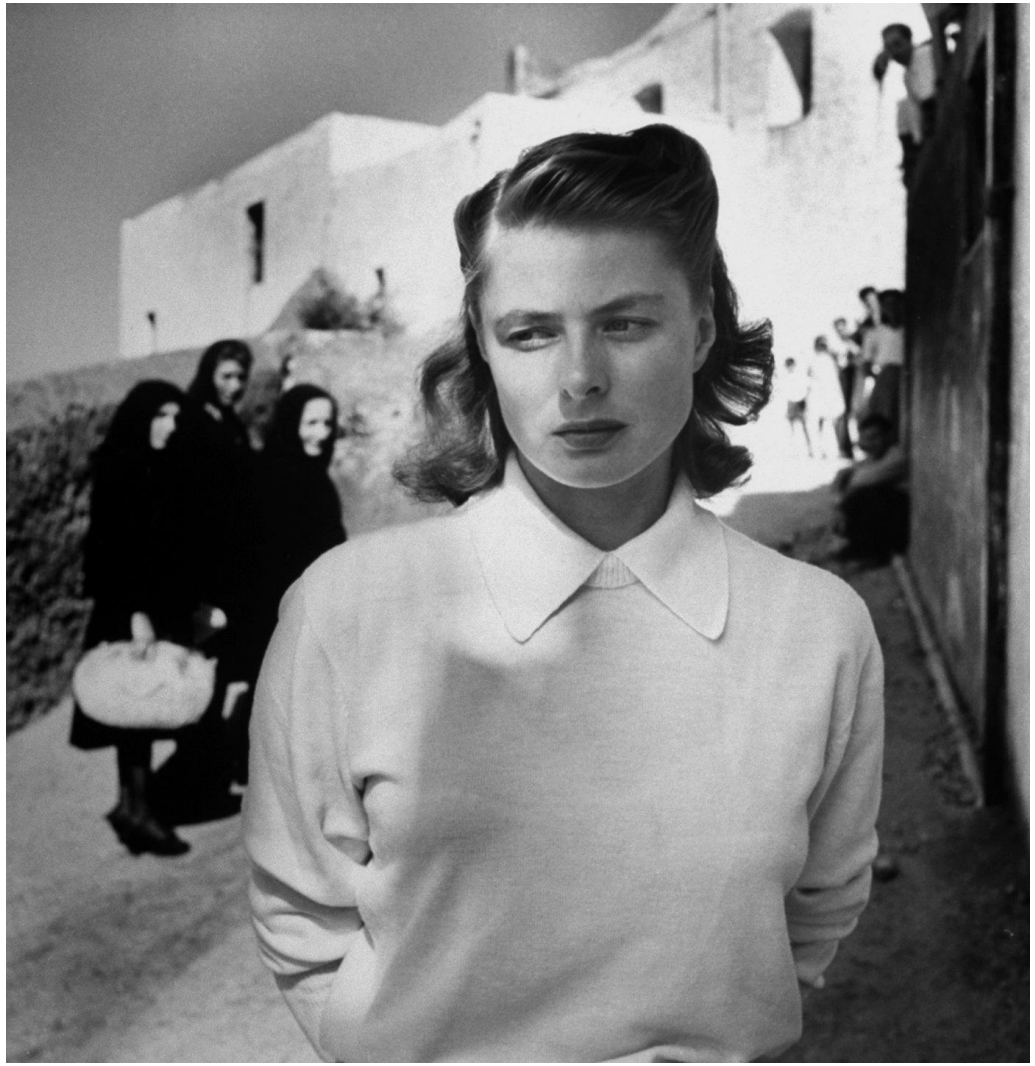
* Applicable with Speedlites having a color temperature transmission function. Otherwise, it will be fixed to approx. 6000K.



Metering for proper exposure



Zone	Description
0	Pure black
I	Near black, with slight tonality but no texture
II	Textured black; the darkest part of the image in which slight detail is recorded
III	Average dark materials and low values showing adequate texture
IV	Average dark foliage, dark stone, or landscape shadows
V	Middle gray: clear north sky; dark skin, average weathered wood
VI	Average Caucasian skin; light stone; shadows on snow in sunlit landscapes
VII	Very light skin; shadows in snow with acute side lighting
VIII	Lightest tone with texture: textured snow
IX	Slight tone without texture; glaring snow
X	Pure white: light sources and specular reflections



0	I	II	III	IV	V	VI	VII	VIII	IX	X



0	I	II	III	IV	V	VI	VII	VIII	IX	X