WHAT LENS?

(THERE'S PLENTY TO CHOOSE FROM)

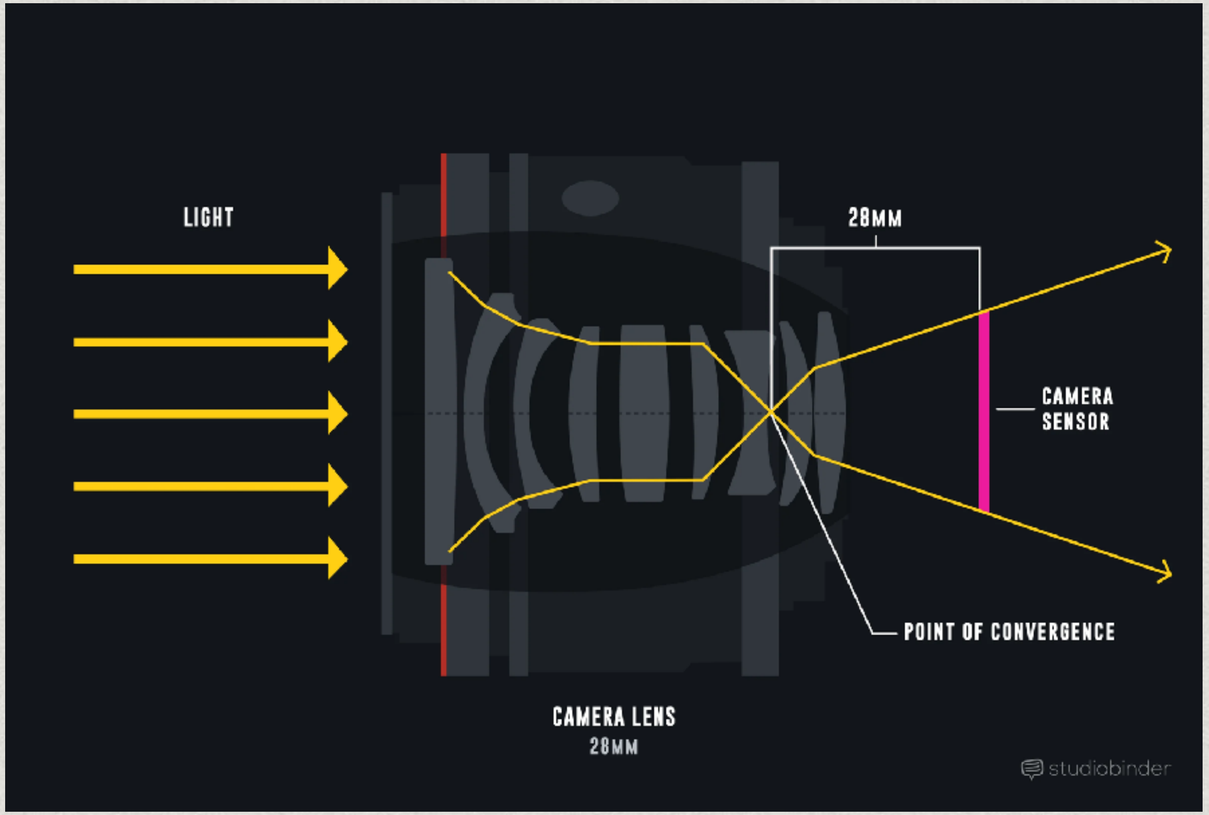
CAMERA LENS CHARACTERISTICS

- Focal length

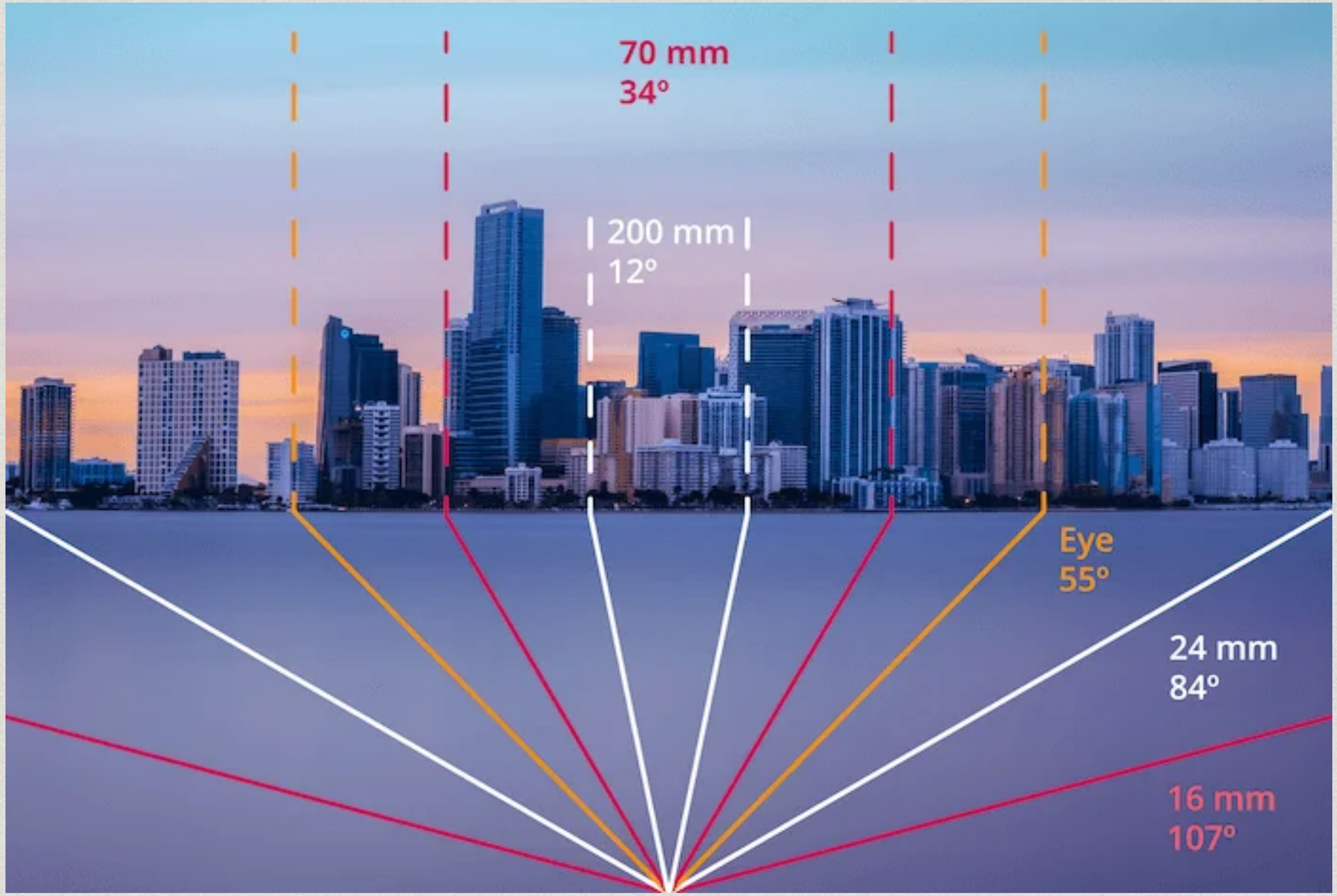

CANON ZOOM LENS EF 16-35mm 1:4 L IS USM
Φ77mm

WHAT IS FOCAL LENGTH?

Focal length is the distance (measured in millimetres) between the point of convergence of your lens and the sensor recording the image

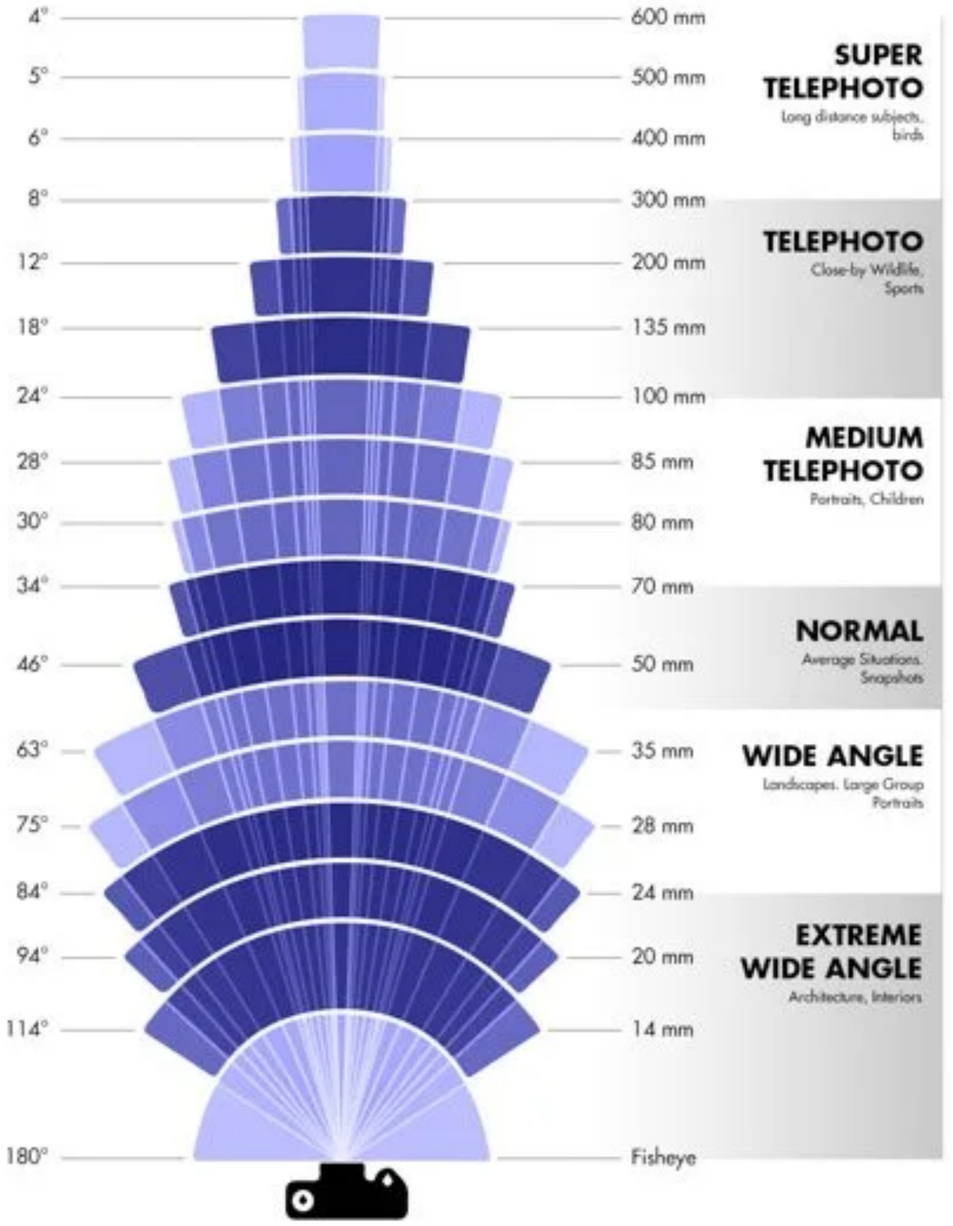


FOCAL LENGTH V ANGLE OF VIEW



FOCAL LENGTH

& ANGLE OF VIEW



LENS TYPES

SUPER TELEPHOTO
Long distance subjects, birds

TELEPHOTO
Close-by Wildlife, Sports

MEDIUM TELEPHOTO
Portraits, Children

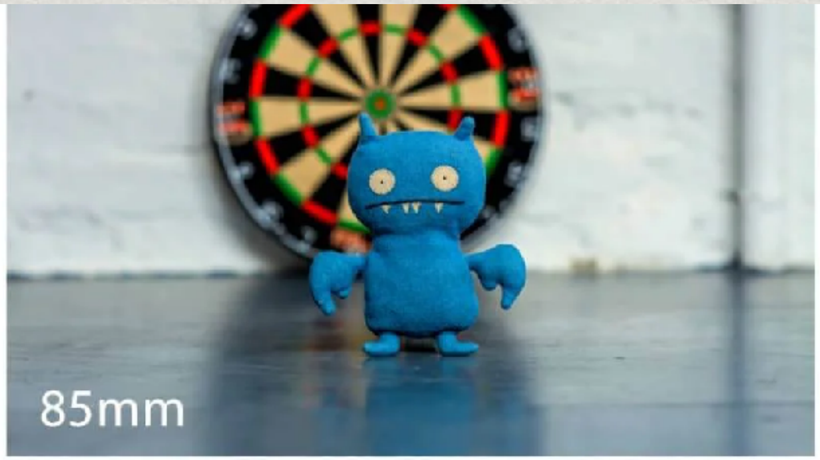
NORMAL
Average Situations, Snapshots

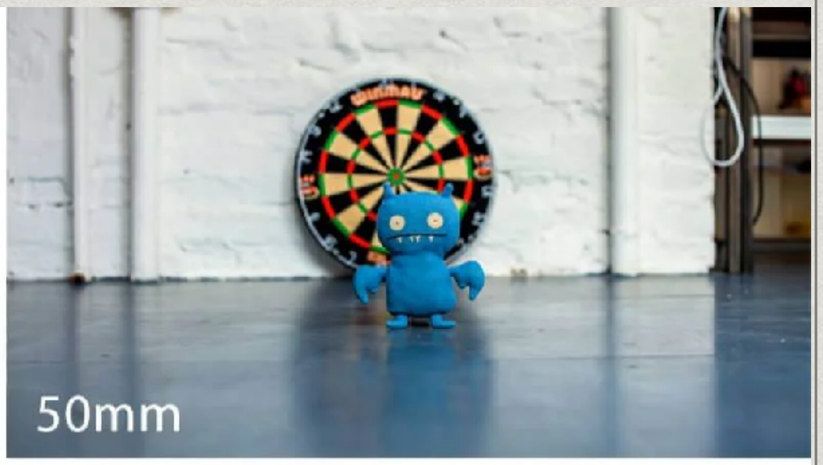
WIDE ANGLE
Landscapes, Large Group Portraits

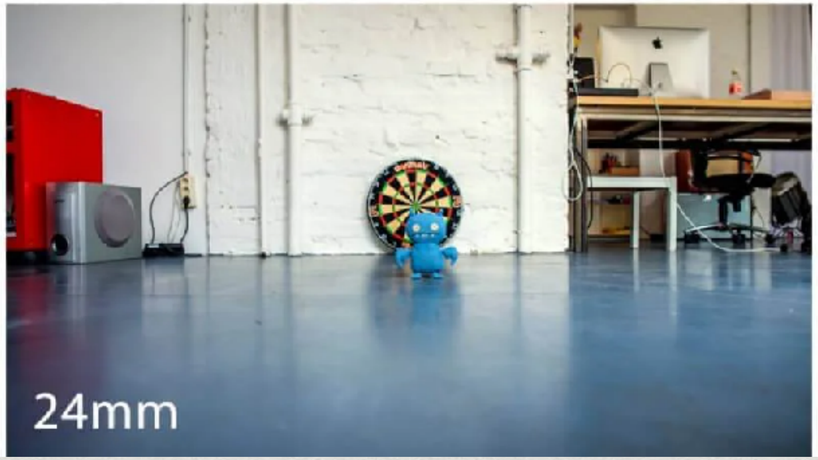
EXTREME WIDE ANGLE
Architecture, Interiors

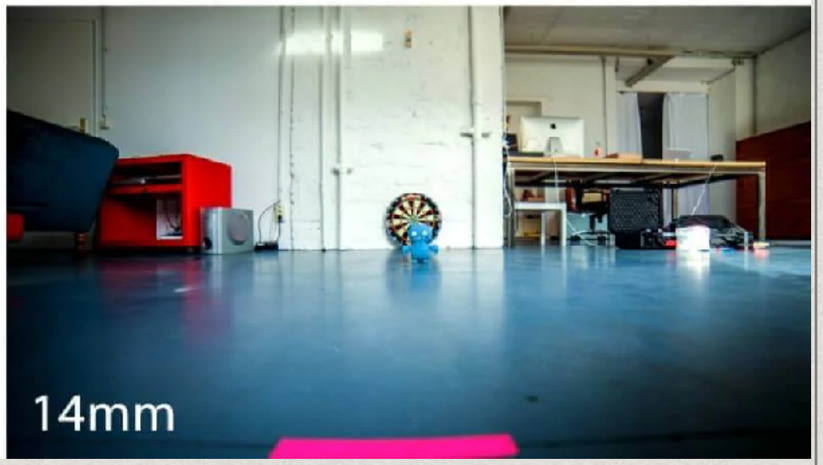
EXPERT PHOTOGRAPHY

THE CAMERA IS POSITIONED THE SAME DISTANCE FROM THE SUBJECT AND DIFFERENT LENSES ARE USED









LENS FOCAL LENGTH V CAMERA FOCAL LENGTH

Because cameras feature a variety of sensor sizes, not all models will tell you the true focal length of a lens. Lens focal length is based on a 35mm sensor size, based on 35mm film. Most full frame camera sensors are the equivalent of 35mm, so a 100mm lens will actually have a 100mm focal length

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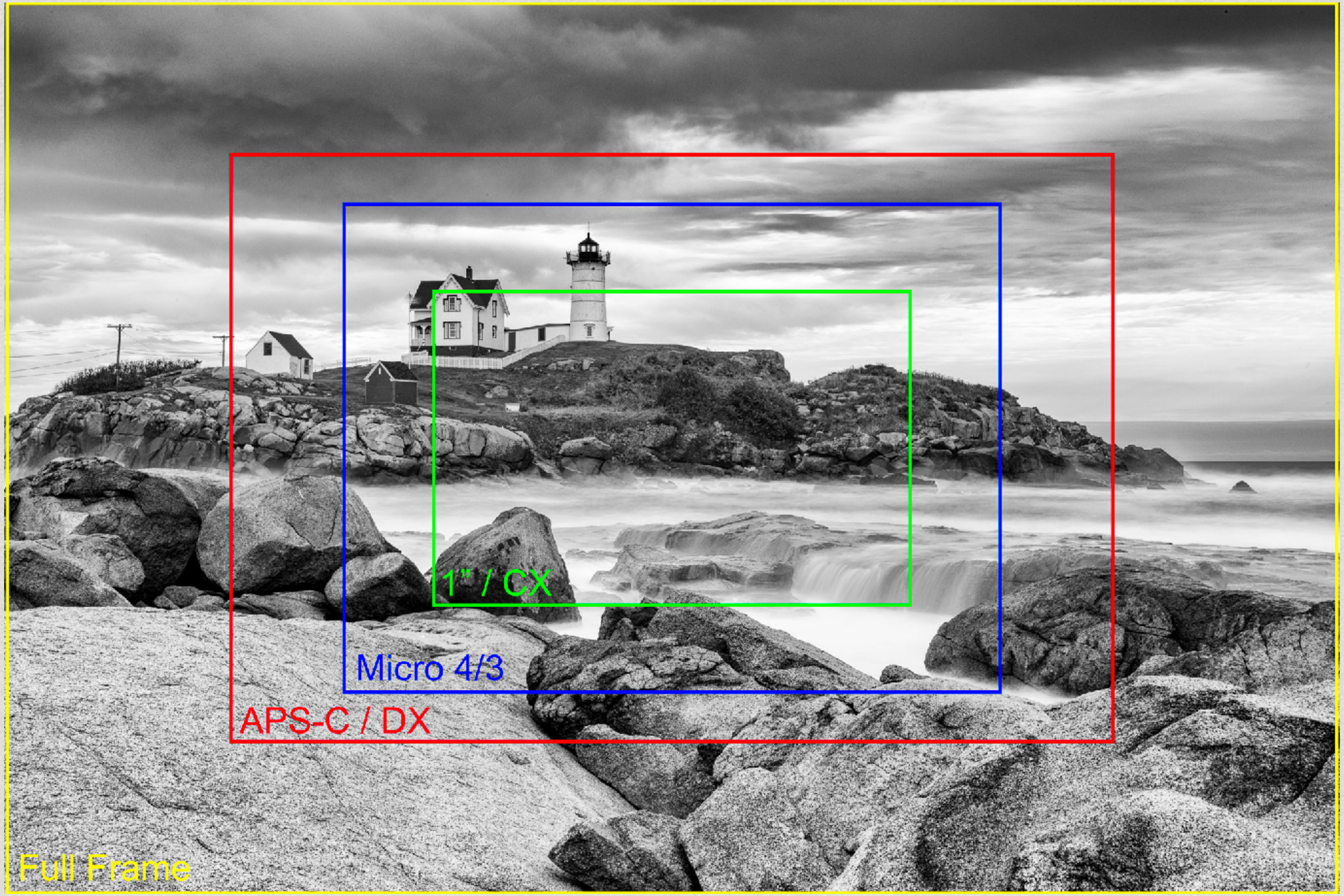
Nikon’s crop sensor cameras have a 1.5x magnification, so that same 100mm lens will be the equivalent of 150mm. Some cameras have even smaller sensors, so the magnification will be larger



NIKON D800 + NIKON 24-70MM F/2.8 @ 44MM

CAMERA LENS CHARACTERISTICS

- Focal length
- Aperture

APERTURE

APERTURE

CAMERA LENS CHARACTERISTICS

- Focal length
- Aperture
- Maximum Aperture

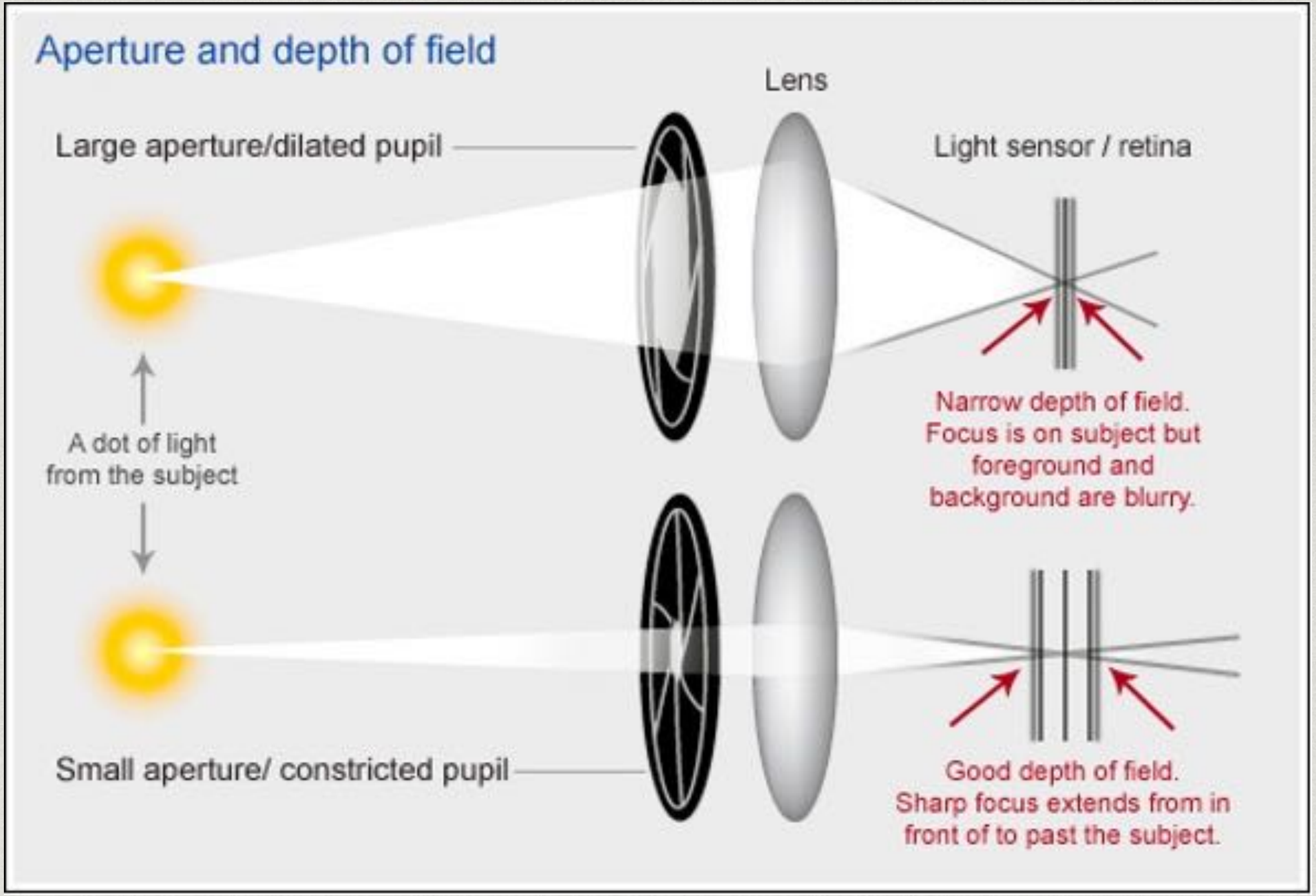
MAXIMUM APERTURE

Canon EF 50mm lens

f 1.8
Weight: 159g
RRP: £130

f 1.4
Weight: 290g
RRP: £410

f 1.2
Weight: 590g
RRP: £1630


Aperture and depth of field
Lens
Large aperture/dilated pupil
Light sensor / retina
A dot of light
from the subject
Narrow depth of field.
Focus is on subject but
foreground and
background are blurry.
Small aperture/ constricted pupil
Good depth of field.
Sharp focus extends from in
front of to past the subject.

CAMERA LENS CHARACTERISTICS

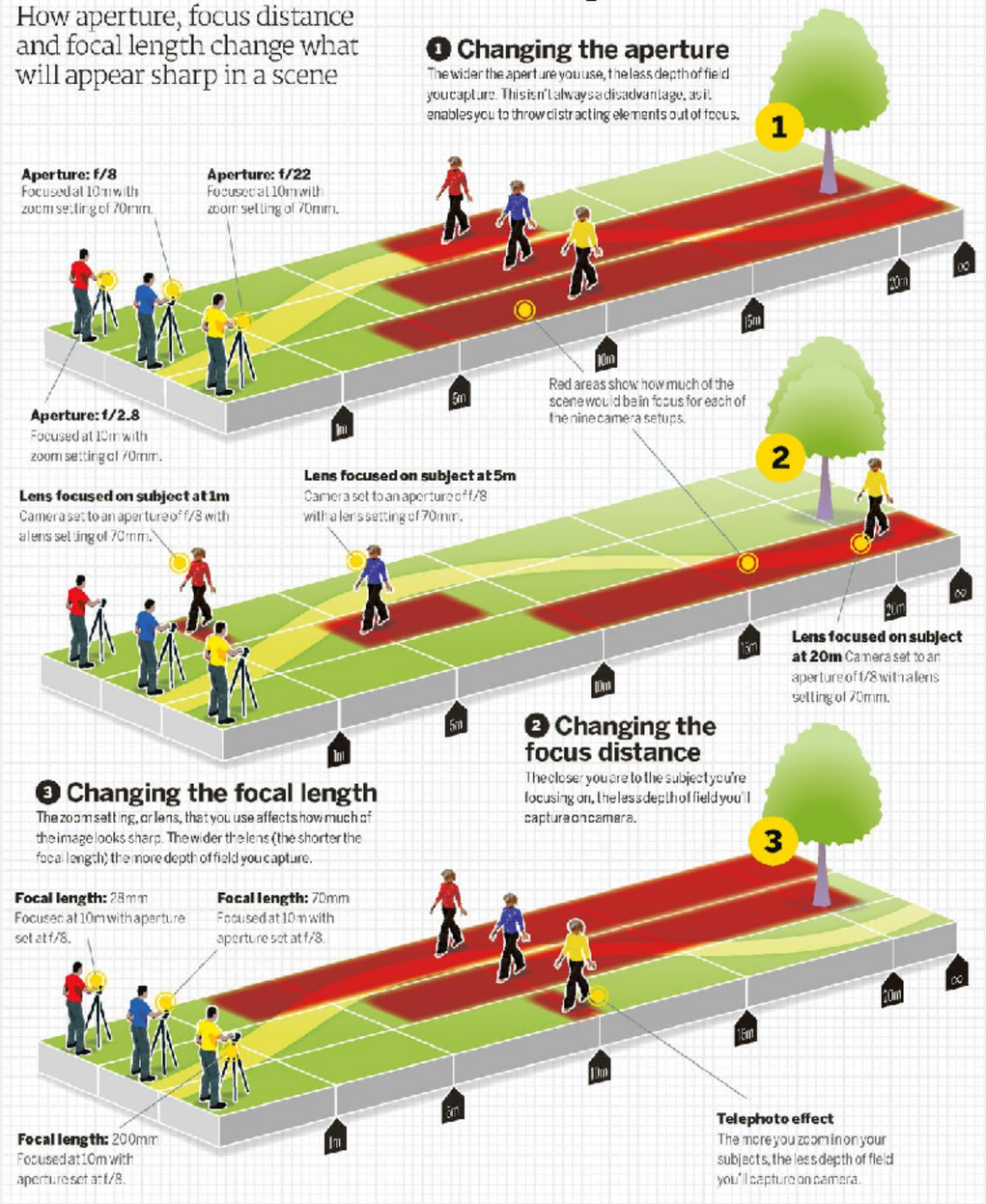
- Focal length
- Aperture
- Maximum Aperture
- Depth of Field

WHAT IS DEPTH OF FIELD?

Depth of field (DOF) is the term used to describe the *size of the area* in your image where objects appear acceptably sharp. The area in question is known as the *field*, and the size (in z-space) of that area is the *depth* of that field. DOF is governed by the angle at which light rays enter the lens

Three ways to affect depth of field

How aperture, focus distance and focal length change what will appear sharp in a scene



PRIME & ZOOM LENSES

Prime Lens

- A prime lens has a fixed focal length
- Fewer moving parts = lighter and cheaper
- Often has a wider maximum aperture

but:

- Is less versatile (more legwork)
- Likely to change lens more often

PRIME & ZOOM LENSES

Zoom Lens

- A zoom lens has a variable focal length (within a range)
- Versatile - can cover a range of photo options
- Provides greater access without moving your feet

but:

- Is heavier
- Often has smaller maximum aperture
- Usually more expensive

LENS TYPES

- Fisheye lens
- Wide-Angle lens
- Standard lens
- Short Telephoto lens
- Telephoto lens
- Super-Telephoto lens
- Macro lens
- Tilt-Shift lens

LENS TYPES

- Fisheye lens

Fisheye Lens

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Super Telephoto Lens

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Tilt-Shift Lens

Focal Length	Type of Lens	What is it used for?
4mm - 14mm	Fisheye	Abstract, creative
14mm - 35mm	Wide angle	Landscape, architecture
35mm - 85mm	Standard	Street, travel, portrait
85mm - 135mm	Short telephoto	Street photography and portraits
135mm+	Telephoto	Sports, wildlife, action
300mm+	Super telephoto	Sports from a distance, nature and astronomy
35mm - 200mm	Macro	Close
Various	Tilt - shift	Architecture, panorama, creative

What’s best for you?

‘Horses for courses’

Consider the ‘Holy Trinity’

i.e. 3 x zoom lenses - ultra-wide, standard and telephoto

NEXT TIME

WHAT ELSE (1)?