Filters

(or making people disappear)

"Stops of light"

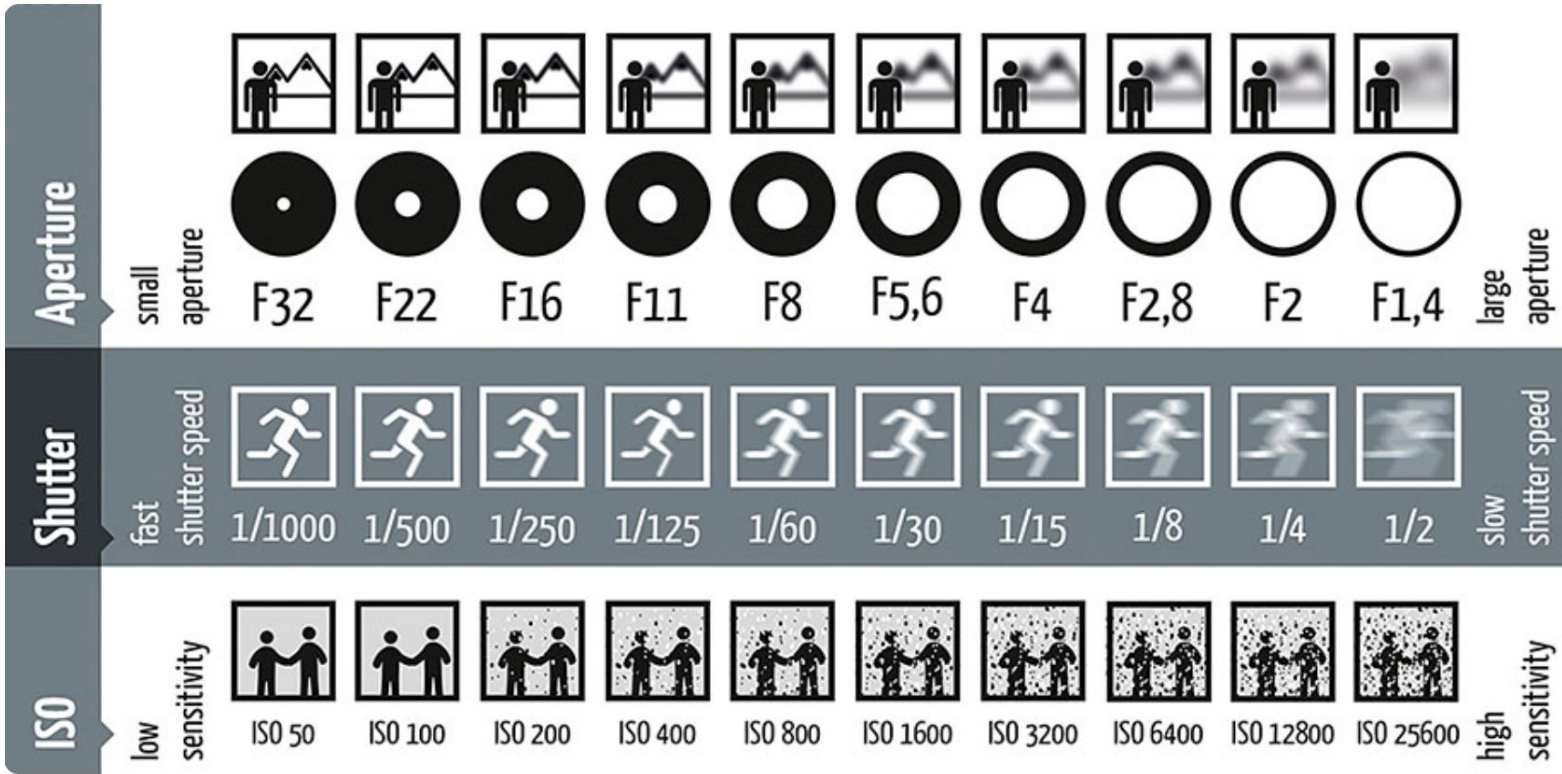Good Camera (range approx. 14 stops)

Human eye (range approx. 20 stops)
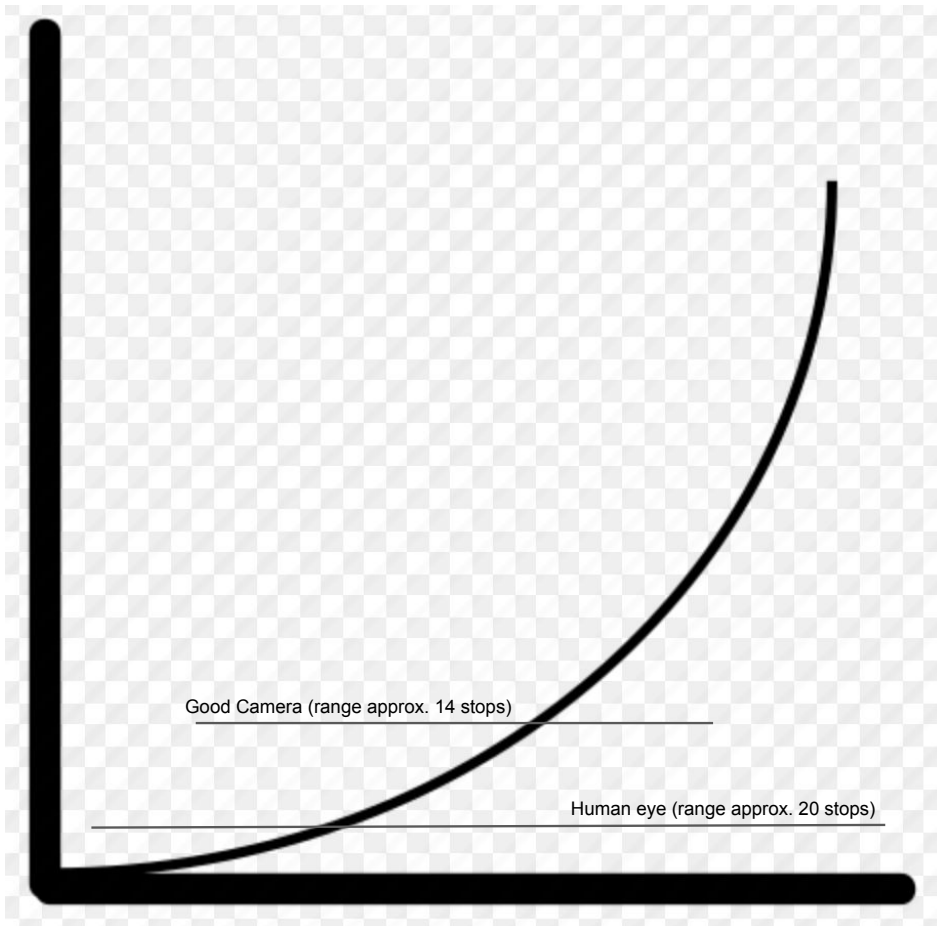
"Stops" are exponential (5 stops is twice 4 stops, 3 stops is half 4 stops)

Don't worry about them, only that if you adjust one side of the exposure triangle you need to adjust one of the other sides to counter the change in Stops to maintain the correct exposure.

For example: If you reduce the Shutter speed from 1/250s to 1/125s (increase in "Stops" of 1), then you need to either reduce the ISO by 1 stop (e.g. 400 to 200), or reduce the aperture by 1 stop (e.g. f/11 to f/16).

Don't panic. In practice "live view" in DSLRs and the screen on Smartphones and Mirrorless cameras, indicate what exposure you are going to get. With DSLRs and Mirrorless cameras you can also use the Histogram.

Photographic Stops

Aperture

small aperture — F32, F22, F16, F11, F8, F5,6, F4, F2,8, F2, F1,4 — large aperture

Shutter

fast shutter speed — 1/1000, 1/500, 1/250, 1/125, 1/60, 1/30, 1/15, 1/8, 1/4, 1/2 — slow shutter speed

ISO

low sensitivity — ISO 50, ISO 100, ISO 200, ISO 400, ISO 800, ISO 1600, ISO 3200, ISO 6400, ISO 12800, ISO 25600 — high sensitivity

The longer the exposure time the less time there is for moving objects to register on the camera sensor. At first being feint, to ultimately not registering at all.

Example

Shutter 4min 23s
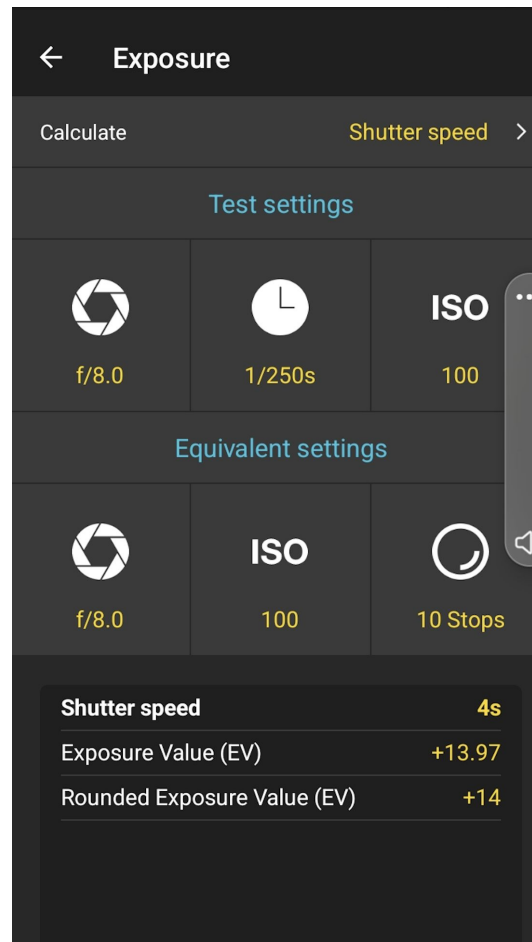f/8, ISO 100.

Focal length 33mm

Correct exposure, no filters

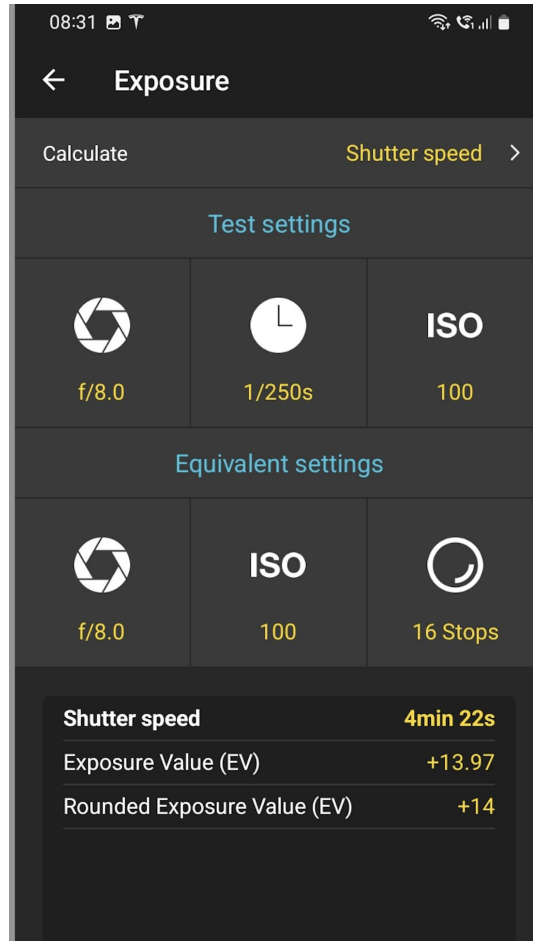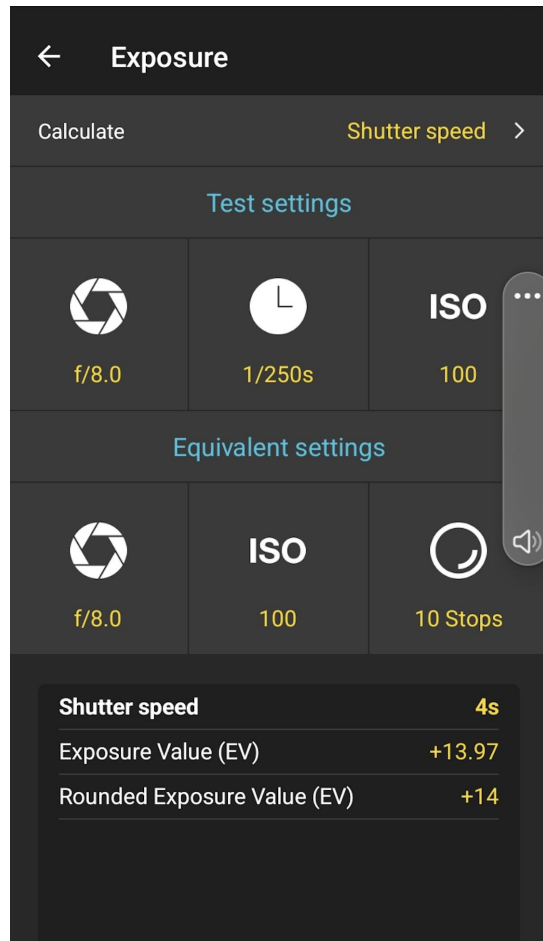

Shutter 1/125s
f/8, ISO 100.

Focal length 33mm

How to artificially decrease Shutter speed

From 1/250s to 4s requires 10 stops less light.

So how many more stops to get to 4m22s?

Screen 1 (left)

← **Exposure**

Calculate   Shutter speed ›

Test settings

⬡	🕐	ISO ⋯
f/8.0	1/250s	100

Equivalent settings

⬡	ISO	◔
f/8.0	100	10 Stops

Shutter speed	**4s**
Exposure Value (EV)	+13.97
Rounded Exposure Value (EV)	+14

Screen 2 (right)

08:31

← **Exposure**

Calculate   Shutter speed ›

Test settings

⬡	🕐	ISO
f/8.0	1/250s	100

Equivalent settings

⬡	ISO	◔
f/8.0	100	16 Stops

Shutter speed	**4min 22s**
Exposure Value (EV)	+13.97
Rounded Exposure Value (EV)	+14

Adding a Circular polariser would have been another Stop. So increased exposure time to 8min 44s!

So why are people visible?

Warning: The next slide shows Victorian deceased image

Victorian photos of the deceased

Creativity

From Lucie and Simon "Silent World"

Long exposure (upto 30 minutes) and a single fast image.

Compose by taking things that would otherwise move (shadows, flags and trees) from the fast image and adding to the long exposure.

Lucie and Simon have also added a small child from the fast image to make this image even more unsettling.