

# FOCAL LENGTH

## BLUEPRINT

Focal length is a term given to lenses and defines how wide or narrow our field of view is. Put simply, the focal length of a lens is the distance from the optical centre of the lens to the film plane or sensor when the lens is focused on infinity.

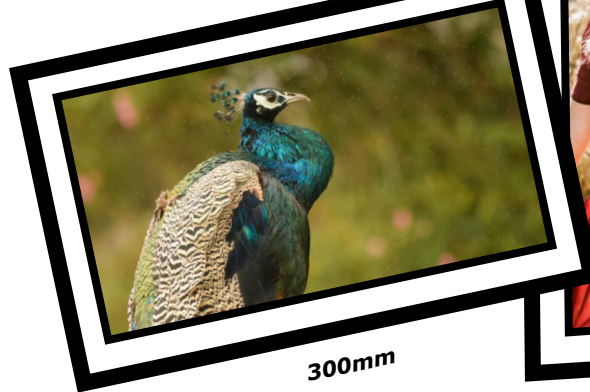


Understanding the basics of focal length widens the creativity of your composition. As photographers, we tend to break down focal lengths into three sub groups:

- **Wide Angle (8-35mm)**
- **Standard (35-70mm)**
- **Telephoto (70-300mm)**

Wide angles are lenses that give us an image that is wider than a human's field of view whilst telephotos give us a narrower field of view.

15mm



300mm



50mm

## EXAMPLES OF IMAGES TAKEN AT DIFFERENT FOCAL LENGTHS

## 1 ZOOM VS PRIME

Zoom refers to a lens which is of variable focal length, meaning that you can change the field of view of your lens. On the other hand, prime lenses have what is called a fixed focal length.



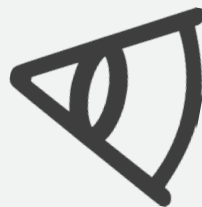
This means that a 50mm prime lens will remain at 50mm on a full frame sensor. Any non-prime variable focal length lens is a zoom lens. Zoom lenses have historically been more expensive and show more optical concerns than primes, meaning that it is more difficult to make a zoom lens which is sharp and speedy.

### TIP:

Prime lenses tend to have better image quality and low light performance. Zoom lenses don't perform as well in low light, yet offer a wider focal range.

## 2 WIDE ANGLE VS TELEPHOTO

Wider lenses give the visual appearance of stretching out the distance between the foreground and background. Telephoto lenses do the reverse, making it appear that the background is much closer to the foreground.



This is called perspective and is a vital part of composition. Changing perspective can radically change the look of an image. If you keep the size of the main subject the same and change your shooting position as you swap from one focal length to another, the perspective changes.

### TIP:

Most landscapes are shot wide-angle, which means around 15-25mm, while a classic 85mm lens provides the most flattering perspective for portraits.

## 3 THE ESSENTIALS

## 3 CROPPED SENSOR

You might have heard that for instance a 50mm lens becomes a 75mm lens when put on a cropped sensor. The lens is still a 50mm but the field of view of that lens has changed.



This happens because cropped sensors are using a significantly smaller part of the field of view (the angle between the the left/right extremes of the lens).

### TIP:

There are now many lenses that are designed specifically for cropped sensor cameras. They tend to be lighter and cheaper.