
Depth of field

Depth of field is the zone of focus in a photograph or the distance between the closest and farthest parts of the picture that are reasonably or acceptably sharp.

Depth of Field is determined by:

1. Lens opening or F-stop

The smaller the aperture opening, the greater the depth of field; the larger the aperture opening, the smaller the depth of field.

2. Distance from camera to subject

The farther the focus distance, the greater the depth of field; the closer the subject to the camera, the smaller the depth of field.

3. Focal length of the lens

Longer focal length lenses yield smaller depth of field; shorter focal length lenses (wide-angle) yield greater depth of field

The Plane of Focus

Where you focus is called the plane of focus. The plane of focus will always be the sharpest area of the photograph. Objects outside this plane (closer or farther away) will fall off slowly in definition. There will come a point where the degree of sharpness will no longer be acceptable to the eye. This is what limits the depth of field for that particular aperture at that particular distance with that particular lens.

Lesser depth of field

f1.4

2

2.8

4

5.6

8

11

Greater depth of field

16

22

32+

Judging depth of field

Time and practice will help you know when something will be in focus or out of focus. To know exactly, you can use the depth of field indicator ring on your lens. (This is not always available on zoom lenses or some telephotos.)

Look at your lens. If you have a depth of field indicator ring, it will be on the solid ring between the focusing ring and the f-stop ring. By reading from the depth of field indicator ring up to the distance scale on your focusing ring, you can determine how many feet will be in focus at your chosen f-stop.

Example: The aperture is f16. Put one finger on the "16" to the far left of the depth of field indicator ring and another at the "16" to the far right. Move both fingers up to the distance scale and read the number of feet. These measurements indicate the closest and farthest point that will be in focus in your photograph.

Another way to judge depth of field is to depress the aperture preview button on the camera body. This sets the aperture of the lens at the f-stop you have chosen prior to making the exposure. This enables you to see the depth of field that the lens will record at the moment of exposure.

Lastly, some lenses come with depth of field tables that can be used to calculate the depth of field for various distances, apertures and lenses. These tables can help you calculate your depth of field.

Use of depth of field

Depth of Field is one of the most versatile and useful creative controls available in photography. A busy background can be rendered completely blurry with the proper depth of field. You can be certain that all objects in an image will be in sharp focus with these techniques. Practice and patience are the keys!! Get to know your depth of field!

Movement

Movement is part of life and one of the most exciting aspects of photography. The way that movement is captured by photography is one of the most unique parts of this art form. In the 1800's, artists were shocked, scandalized and inspired by the evidence given by photography about how movement really looks and how the human and animal forms flow through common tasks. The blur of a long exposure and the razor sharp edges of a fast exposure express motion in the photographic medium and are one of our tools of creative expression.

The recording of movement is determined by:

1. Shutter Speed

The faster the shutter speed the more movement can be frozen; the slower the shutter speed the more that movement is blurred.

2. Direction of movement

Movement perpendicular to the camera will be more easily frozen than movement parallel to the camera.

3. Speed of action

Faster actions will take faster shutter speeds to freeze; slower motions can be frozen by slower shutter speed.

Freezes Action

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

Blurs Action

Limitation to Shutter Speeds

Some movement is so fast that no shutter speed can freeze this action. Examples like a bullet or a hummingbird's wing require stroboscopic light to freeze the action. We will talk more about this when we talk about flash.

Using Movement in images

Sometimes, it is more powerful to blur than freeze and action. Try different shutter speeds to see how the recording of movement can be one of your very powerful photographic tools.