

Camera Metering Modes Explained



What is metering?

Understanding how your digital camera meters light is essential for achieving accurate and consistent exposures. Camera's metering mode refers to the way the camera analyses the light reflecting off the sensor, which then determines how to set a correct exposure for a picture. By using its build-in metering sensor, the camera also determines the proper aperture and shutter speed, based on lighting conditions and ISO. Most cameras have four metering modes that allow the photographer to deal with different lighting conditions – evaluative zone (a.k.a. matrix), centre-weighted, partial and spot.

Evaluative zone or Matrix metering



Evaluative zone or Matrix metering area indicated by yellow colour

Evaluative zone or matrix metering (also known as honeycomb, multi-segment metering, or ESP) is typically the default setting when your camera is set to auto exposure. This mode

can be used in practically all “standard” situations when the light is relatively consistent throughout the whole image. In this mode, the camera’s metering system interprets simultaneous readings from multiple areas in the frame to determine the correct exposure. Modern digital cameras use advanced algorithms to calculate the right settings and ensure a balance between light and dark areas and, for the most part, this setting does the job. However, in some lighting situations the evaluation zone setting may struggle and that’s when it can be worthwhile to use other modes.

Centre-weighted Metering



Centre-weighted Metering area indicated by yellow colour

In this mode, the meter looks at overall image but concentrates on 60 to 80 percent of the sensitivity towards the centre of the shot. In the past, when the evaluation zone metering algorithms were not as widespread, centre-weighted metering was the common default setting. This is due to the fact that it sets correct exposure for the central area of the viewfinder (i.e. the main subject) and does not try to compensate for exposures on the sides. Many professional photographers still use centre-weighted metering mode because it is very predictable and consistent.

Spot metering



Spot metering area indicated by yellow colour

In spot mode, the meter measures only a small area of the scene, usually 1-5% of the entire viewfinder area. Most modern cameras will let you choose which point of the scene you would like to measure (usually autofocus points). Spot mode allows for measuring correct exposure in one small area, which helps to deal with high-contrast shots. It is also useful when you don't want other areas of the scene affecting your exposure. More advanced cameras may have a multi spot mode that allows for several different spots to be chosen.

Partial Metering



Partial Metering area indicated by yellow colour

Partial metering is very similar to spot metering. In fact, some cameras may just have one or the other. Partial metering measures a larger area than spot metering (usually 10-15% of the entire scene). It is usually used if a section of the image has a high contrast area.

Using Auto Exposure (AE) Lock



Some digital cameras feature Auto Exposure Lock (AE or AE-L), which is integrated with camera's metering system. This function can lock exposure setting and let you reposition your shot without losing aperture/shutter speed values. This can be achieved by half-pressing the shutter button and repositioning the frame (though this action will also lock focus).

Auto Exposure Lock button on Canon