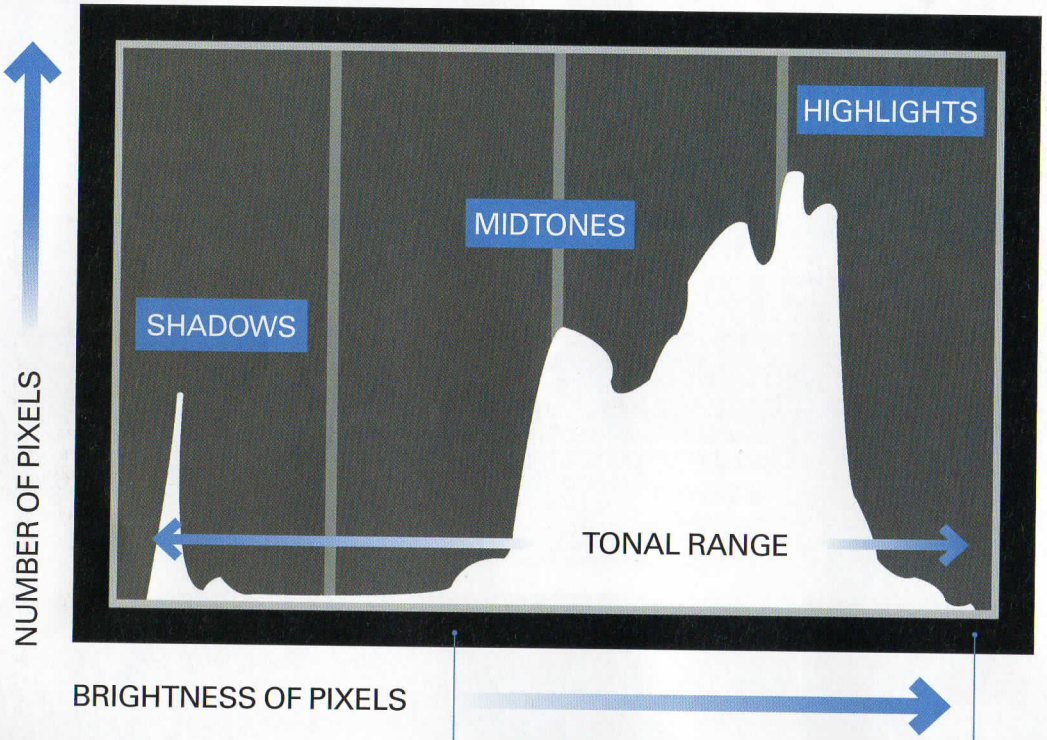
The histogram

Discover how to interpret the chart on your SLR's LCD preview to get better exposures



Histogram
The shape and position of this black-and-white graph provides instant information about the exposure of the shot, and of the contrast of the scene

Dark to light
The graph plots the brightness of each pixel in the picture, from darkest on the left to brightest on the right. Vertical lines partition the graph into four segments, designed to make it easier to read

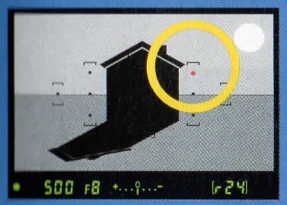
Histograms look like rather daunting technical graphs at first glance, but they are the most useful tool you have to help you capture the exposure you want, every time. And they are actually not nearly as daunting as they appear. The histogram is essentially a graph that illustrates the range of tones in your image, from black on the far left to white on the far right with a mid-tone (18%) grey in the middle. As soon as you fire the shutter, a preview of your picture flashes up on the camera's LCD. You can instantly see if the shot is too bright or too dark, so it seems unnecessary to have a second, more scientific, way of judging the suitability of your exposure settings. So why should you bother looking at the histogram?

First and foremost, displaying the histogram isn't a replacement for looking at the image itself when you evaluate a picture on your camera. Obviously, you need to assess the picture's composition, colour and tonal balance. But the qualitative nature of the preview image means it can be hard to see if an area of the shot is slightly too dark or slightly too bright. The histogram gives you this additional, and invaluable, information in a way that's easy to interpret at a glance.

Once you learn to read them, a histogram clearly shows the exposure of a shot, and whether you need to use exposure compensation to darken or lighten the exposure in the next image you take. More importantly, it also tells you about the contrast in the scene. This enables you to avoid, or take special care with, subjects that have a greater dynamic range than your sensor can cope with. It also ensures that you get the best-quality results from your sensor when shooting low-contrast subjects. To get the right exposure in tricky scenes, you need to know the brightness range you're dealing with.

HOW TO MEASURE DYNAMIC RANGE

Use your measurements and this table to work out the best exposure

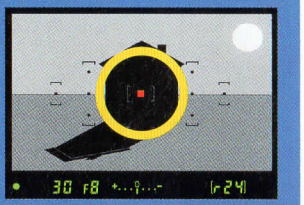


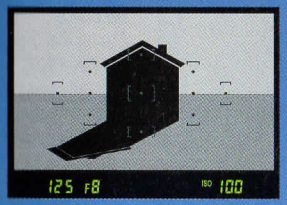
Measure the brightest area

Switch to manual shooting mode and select spot metering mode. Position the AF point over the brightest area.

Measure the darkest area

Adjust the shutter speed to centre the exposure bar, and make a note of the shutter speed. Do the same for the darkest area.





Check them on the chart

If the two readings are no more than 4EV apart (check the table on the right), choose a shutter speed right in the middle.

1. Less than four stops difference means you can afford to bias the exposure towards one or the other
2. Exactly four stops difference – you need to set a shutter speed exactly in the middle of the two you measured
3. More than four stops difference – shoot a series of exposures and combine them into one in software

SHUTTER SPEED
1 sec
1/1.3 sec
1/1.6 sec
1/2 sec
1/2.5 sec
1/3 sec
1/4 sec
1/5 sec
1/6 sec
1/8 sec
1/10 sec
1/13 sec
1/15 sec
1/20 sec
1/25 sec
1/30 sec
1/40 sec
1/50 sec
1/60 sec
1/80 sec
1/100 sec
1/125 sec
1/160 sec
1/200 sec
1/250 sec
1/320 sec
1/400 sec
1/500 sec
1/640 sec
1/800 sec
1/1000 sec