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How to... Master exposure



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Perfect exposure

Exposure is one of the most fundamental elements of picture taking and yet it's often the most mystifying. Get to grips with the complexities of the subject and take your photography to a new level



Defining exposure is a tricky task. In plain terms, it is the total amount of light allowed to fall on the sensor during the taking of a photograph. The perplexing part of this is knowing in your mind whether the exposure is correct for the scene.

In essence, there is no right or wrong when it comes to exposing a shot. What one person may consider appropriate, can be completely different for another. A large part of exposure control is using it to reflect the mood and emotion of a scene. The storytelling aspect of photography is often lost if you go by the rulebook and produce

a middle-of-the-road exposure that lacks mood or feeling. As the saying goes, rules are made to be broken, but before we do so, it's essential to be clear on the basics.

The type of exposure you produce comes from how you control the available light, and in order to control it you will need tools. Your two main ports of call for measuring light are your built-in meter in your digital SLR or a handheld meter. Your in-camera meter is referred to as a through-the-lens (TTL) meter. This works by measuring the amount of light that enters through the lens. This type of meter is extremely accurate, as it takes into account additional aspects, such as filters or extension tubes, which can limit the amount of light reaching the sensor.

■ **[Above] Using a handheld meter is impractical in landscape shots as your subject is likely to be set to infinity. Instead, you should rely on your camera's in-built metering system**

A handheld meter comes in two varieties: a reflected light meter, which measures light reflecting off the subject, and an incident meter, which measures light falling onto a subject. The great thing about an incident light meter is that its reading is not influenced by the subject's light-absorbing properties or its tonality (the number of tones seen within the subject). It measures the light falling on the subject using an integrated sphere. This is usually a translucent plastic dome that is positioned on the meter. The incident-light reading is independent of the subject's reflectance, therefore it's less likely to lead to incorrect exposures for subjects with unusual average reflectance (or tonality). The downside of ►►

Metering modes

Multi-segment

When to use it: Scenes with no central subject
This mode is ideal for general scenes where there is no specific subject. For example, a bustling market or a frenzy of fleeing zebras would have no central subject to take a reading from. In this mode, a reading is taken from several parts of the scene and then averaged, giving you an evaluative reading for the whole scene. This mode offers the least control, as you can't show the camera which element of the scene is most important, yet is a safe option for general picture taking.



■ This scene lends itself to the multi-segment metering mode as it has no single subject, the lighting is even and there is a good spread of tones

Centre-weighted

When to use it: Portraits
Centre-weighted metering (also known as average metering) works by placing a large emphasis on reading the light for the central



portion of the scene, and a smaller amount on reading the external areas (about a 75/25 split). This makes it an ideal option when photographing portraits, as your subject is more than likely going to be central in the scene.

■ Centre-weighted metering is ideal for when subjects are central in the frame and the background is of secondary importance

Spot

When to use it: High-contrast scenes
For the greatest level of control, spot metering is your best option. It works by metering from a very precise area of the scene, which is usually between three and five degrees when using your TTL meter, or one degree when using a handheld spot meter. This mode enables you to emphasise a very specific area in your scene.



■ Often used for graphic effect, the spot-metering mode offers the most control of all the metering modes, as can be seen in this image

► this kind of meter is that the reading must be taken extremely close to the subject, which can prove tricky if you want to photograph landscapes or wildlife.

Reflected light meters are desirable as they measure the amount of light reaching the camera, or in the case of TTL meters, the sensor. However, the tonality of the subject influences the reading and the meter is set up to give an overall midtone reading, no matter what the actual tone of the subject is. If you have an unusual scene with a large proportion of light colours or highlights, it would read as if it had higher reflectance. Your reflected-light meter taking a reading would incorrectly compensate for the difference in reflectance and provide a reading that would lead to underexposure.

With the range of meters available, it's understandable why some would argue that their camera's TTL meter is perfectly adequate. Granted, it does do a good job, but it falls short when it comes to the precision of the area it can meter from. In spot-metering mode, the typical digital SLR will be able to take a reading from a spot between three and five degrees. In comparison, a handheld spot meter (a reflected-light meter that measures light in a very tight cone) can hone in on an even smaller, more precise angle of view, often as focused as one degree.

When it comes to understanding your light meter, it's essential to realise that reflected light meters are designed to give you a reading that renders your subject a mid-grey even if it's not a midtone in reality. This means light subjects will appear underexposed and dark subjects overexposed. To combat this, you must



■ [Above] The SBR of this image is limited due to the similarity in tones and lighting. To ensure the meter is not fooled into overexposing, limit the shutter speed or use a small aperture

■ [Below] It's not hard to spot the midtone in this image. Meter for the rocks and you will get an accurate reading for the scene

apply exposure compensation when your subjects are lighter or darker than mid-grey. A good way of assessing whether you need to over- or underexpose, is to carry a grey card. If your subject is darker or lighter in tone than your card, apply compensation.

In the instances when you are unsure whether exposure compensation is required, it's often a good idea to bracket your shots. This means you take a sequence of images with varying exposures. The norm is to take a picture using your camera's

“In spot-metering mode, a DSLR can take a reading from a spot between three and five degrees. A handheld spot meter can be as focused as one degree”





■ [Below] The Simple Zone system: Ansel Adams' description for each of the nine zones

Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8	Zone 9
Zone 1: Effective threshold. First step above complete black in the print. Slight tonality, but no texture.	Zone 2: First suggestion of texture. Deep tonalities, representing the darkest part of the image in which some detail is required.	Zone 3: Average dark materials. Low values showing adequate texture.	Zone 4: Average dark foliage. Dark stone. Landscape shadow. Recommended shadow value for portraits in sunlight.	Zone 5: Clear north sky (panchromatic rendering). Dark skin. Grey stone. Average weathered wood. Middle grey (18% reflectance).	Zone 6: Average Caucasian skin value. Light stone. Shadows in snow in sunlit snowscapes.	Zone 7: Very light skin. Light grey objects. Average snow with acute side lighting	Zone 8: Whites with textures and delicate values (not blank whites). Snow in full shade. Highlights on Caucasian skin.	Zone 9: Glaring white surfaces. Snow in flat sunlight. White without texture.

suggested meter reading, then two more pictures either side of this reading (one stop overexposed and one stop underexposed). The outcome is three identical photographs, each at a different exposures. Often your camera will give you an option of how large the stop increments should be. You are not always restricted to one-stop bracketing; some cameras allow you to bracket by a 1/2 or even a 1/3 of a stop. Check your camera's manual to see if this option is available, and you may even be able to auto bracket too, saving the need to adjust the settings manually.

Other tools to help you gauge the accuracy of your exposure include the in-camera histogram and the clipped highlight view. A histogram is a visual reference of the range of tones in an image. It's a quick and easy way of establishing whether your shot is over- or underexposed. For a technically well-exposed shot, your histogram should look like a gentle slope that peaks in the

middle and extends to either edge of the graph. It should be fairly symmetrical in appearance, which indicates an even spread of highlights and shadows. An image that is overexposed will have a histogram that is skewed to the right. Alternatively, the histogram of an underexposed image is skewed to the left. Remember, if you've deliberately exposed your shot to be underexposed (for silhouette purposes) or overexposed (for high-key images), then your histogram will also be skewed left and right respectively.

The highlights screen is another useful tool on hand to show you whether your shot is exposed correctly. It appears in playback as a viewing option, and works by highlighting any areas of the shot that are too bright to register on your camera's sensor, meaning that you need to evaluate your exposure. This means that in print these flashing areas will have no detail at all. This is a great tool for digital photographers, ►

Difficult lighting conditions

Sometimes there are situations that make exposing for an image somewhat challenging

Exposing for silhouettes

Advice: Ensure the light is behind your subject. Take a meter reading from a bright portion of the scene behind your subject, lock the exposure reading by pressing AE-lock and recompose your image. As your exposure is set for the highlights, your subject is underexposed and therefore all detail is lost, which produces a black silhouette.



Nighttime and low light

Advice: Use a tripod to prevent camera shake. Use your meter to find a bright area of the scene, such as a streetlight, and then employ the Simple Zone system to find out your actual meter reading for the scene. In this instance, the reading for the streetlight was 1/200sec at f4. For more on the Zone system, see the chart, left.



Exposing for snow

Advice: Large expanses of white snow will trick your meter into giving a reading for middle grey, which will make your snow look a muddy grey. To achieve brilliant white snow, you will need to compensate for this. Open up the exposure by two stops from your original reading. This works as white is two stops brighter than mid-grey.





■ [Main] Exposure is just as important in black-and-white images, as the right contrast in the tones makes the scene

Subject brightness range

The subject brightness range (SBR) relates to the darkest and lightest parts of a scene. The difference between the lightest and darkest points and all parts in-between are measured in stops (as seen in the Zone system seen on page 45). The reason it is useful to us is because it tells us whether our camera's sensor is capable of retaining detail from the very darkest to the very lightest parts of the scene. An easy way of thinking about SBR is contrast. A high SBR means a high-contrast scene, which puts your image at risk of bleaching out the highlights. A low SBR on the other hand equates to a low-contrast scene, which can appear flat or even lose details in the shadows.

If you think the scene's SBR extends outside the capability of your camera's sensor (ie, the difference between highlights and shadows is too extreme for your camera to record it accurately), then there are a few options you can employ:

- 1 Increase the light in the shadows by using a reflector or a fill-in flash.
- 2 Decrease the highlights by either reducing the power of your lights if in the studio, or using a graduated neutral density filter, which can be positioned over your lens to block bright light such as a midday sky.
- 3 Wait until the lighting becomes softer. Midday sun produces the greatest SBR, so it's advisable to shoot in the morning or late afternoon instead.

» giving us an immediate view of whether an image is print-worthy or not. If flashing pixels appear in playback, re-expose and re-shoot.

To try and get an accurate meter reading first time when your subject is not the midtone, the key is to find the midtone in the scene and in the same light conditions as your subject. By metering this, you will achieve a technically spot-on reading that will help you photograph your subject as you see it.

As you can see there are many ins and outs of dealing with exposure effectively, and there are plenty more influences that can affect it that we simply couldn't fit in this masterclass: white balance, ISO, colour... the list is endless. However, the greatest piece of advice we can give you to help achieve pleasing exposures is to practise, practise and then practise some more. Even the professionals can't admit to getting their exposures correct every single time. It's a matter of judging the scene, checking your results in playback or using the histogram or highlights screen and using your knowledge to compensate for the exposure either way. Whether it's technically correct or not, good exposure is your way of conveying the scene in the way you want the viewer to see it. Achieve this and you've achieved perfection.

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“The highlights screen is a useful tool to show you whether your shot is exposed correctly. If flashing pixels appear in playback, re-expose and re-shoot”