

How The Camera Meter Works and When It Get's It Wrong



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Printable Cheat Sheet

Exposure Adjustments For Scenes That Will Confuse The Camera Meter

SCENE	ADJUSTMENT
Snow scene/White subject filling frame	+2 Stops
Small subject against white/bright background	+2 Stops
Large subject against white/bright background	+1 Stops
Average scene w/ a range of brightness	0 Stops
Large subject against dark background	-1 Stops
Small subject against dark background	-2 Stops
Dark subject filling frame	-2 Stops

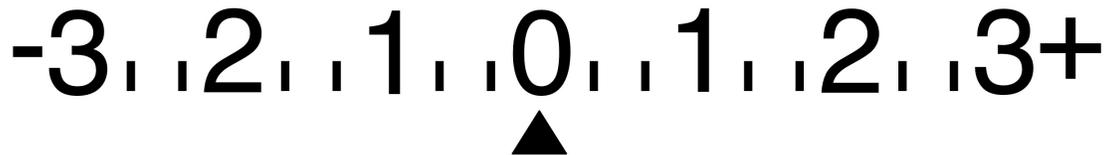
**All adjustments are approximate and will vary depending on the shooting situation.
Use your judgement to get the results that you want.*

How The Camera Meter Works

The camera meter is the brain inside your camera, and as the brain of the camera, it evaluates the scene and tells you how much light you need for a “correctly” exposed photo.

The meter communicates to us through the exposure indicator on the camera.

-3, -2, -1, 0, 1, 2, 3+



(Most cameras show the graph, but some only show the positive/negative value)

What we want to understand is how the meter decides what amount of light is the “correct”* amount of light to obtain an exposure reading of 0 on the indicator.

To understand how this works, we need to take a step back from the camera and talk about brightness values.

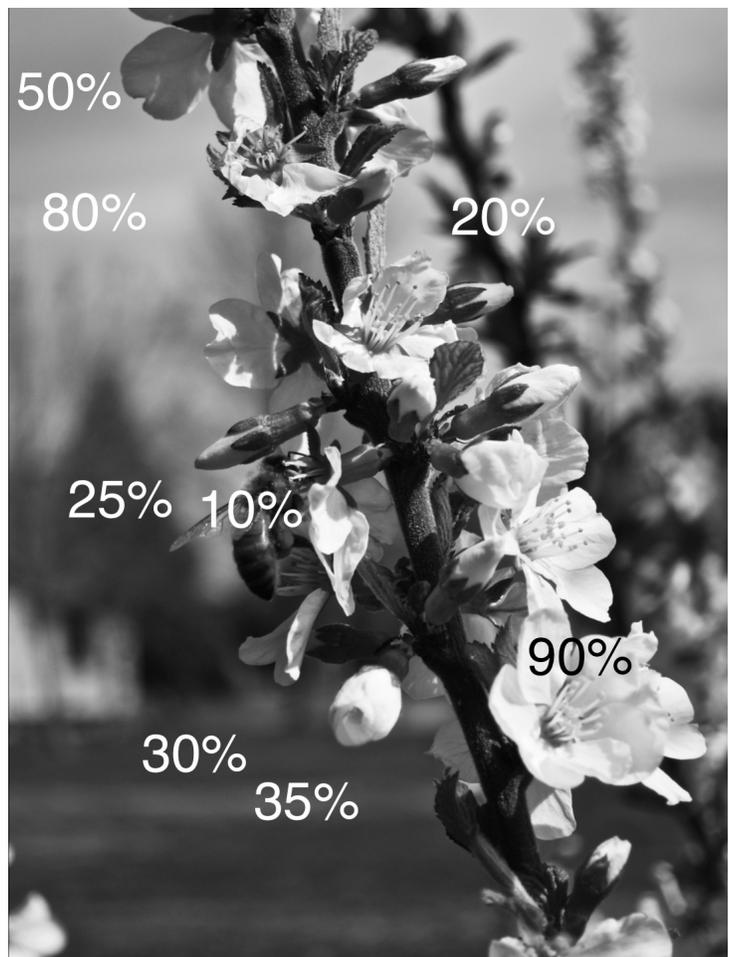
When your camera is pointed at a scene, the meter receives light from that scene, and as it receives that light, it’s measuring the brightness of the entire scene.

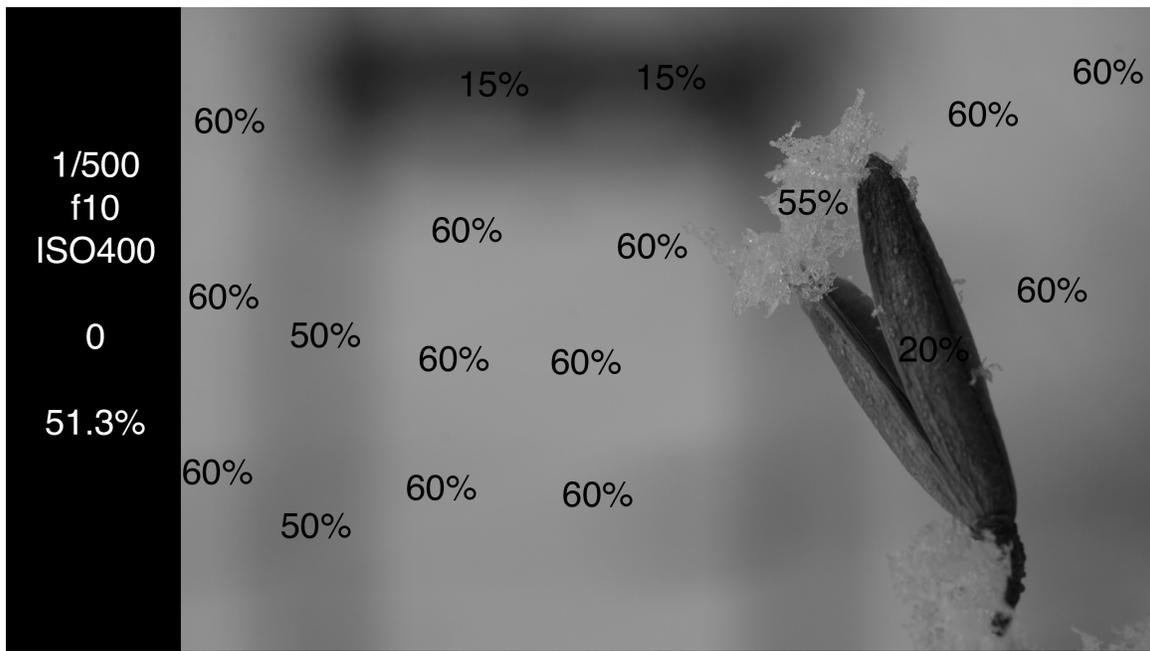
If you look at the image at the left, you can see the examples of different brightness values across the image.

What the camera meter does is measure ALL the brightness values across the scene, and then it takes all those brightness values and it averages them.

If we use the example values from the photo, we have eight values that total 340 which gives us an average of 42.5%

This is the average brightness of the entire scene, and this is an important number.





What this means is that the camera meter is kind of dumb.

The idea behind the meter averaging to 50% brightness is that average people taking average photos will be photographing scenes that will most likely have an average brightness of 50%.

It's not that going for 50% brightness is bad, in fact, it makes sense because for the camera meter to work it has to have some sort of target to aim to.

The issue is that like shooting in Auto mode sometimes gives you good results, but often fails, always trying to get an average brightness of 50% will sometimes give you good results, but will often fail you.

A perfect example of when this fails is the photo we've been looking at.



As I mentioned this was shot at 1/125, f10 and ISO 400, with the exposure indicator telling me I was over exposing by 1 and 2/3 stops.

In this photo I wanted the white snow to look bright white, I wanted good color and detail in the little flower, and I wanted detail and texture in the snow flakes resting on the flower.

A photo like this confuses the camera meter because it is not the average type of scene the camera meter expects.

The average brightness of this photo is well above 50%, but because it's a snow scene, I WANTED the average brightness of the photo to be above 50%.

What this means is that as a photographer, you have to know when you can trust the camera meter, and when you can't.

The good news is that it's fairly easy to figure out when you can or can't trust the camera meter.

Generally speaking, a scene that has a range of brightness, from dark to bright is going to be a situation where you can trust the camera meter.

Whereas a scene that has large areas that are very bright or very dark are likely to confuse your camera meter.

The important thing to remember is that it isn't what you are photographing, but what the average brightness of the scene you are photographing will be, and until you get it nailed down, you can print out page three of this guide and keep it in your bag as a quick reference.

Conclusion

Thank you very much for taking the time to read this guide. Changing your ISO, Aperture and Shutter Speed is the first step in taking control of your camera and learning how to use it to create the image you want to create, and I'm happy to have the opportunity to help you learn how to do that. If you'd like to learn more about how to use your camera so that you can reliably take photos that look exactly the way you want them to, check out my [Guide to Shooting in Manual Mode video course](#).

And then...

**GET OUT THERE
AND TAKE
SOME DAMN
PHOTOS!**