Lighting for Digital 2

Dave Montizambert looks at *Metering* – a lost art?


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The first step to lighting for digital is, understanding the lost art of metering. Let's start off with a look at basic metering for those of you who never did learn and for those of you who have forgotten. Once you take your camera off automatic and set it to manual and then pick up the metering tool of choice – a hand-held meter – the first question you need to ask yourself is, "What should I meter for?" Imagine a portrait of two people such as the two yoga instructors, Tony and Gillian, in Image 2 – Tony with dark flesh and Gillian with very light flesh. Which of these two should we favour with our meter? The one that is paying you is a good answer but is technically speaking not correct. If we favour the dark skin by taking a reflective meter reading directly off a fully-lit area of that flesh and set our camera to that setting, we will end up with an exposure that looks like Image 3. If we favour the lighter skin by taking a reflective meter reading directly off a fully lit area of that flesh, we will end up with an exposure that looks like Image 4. Are either of these exposures correct?

Traditionally we have been taught to under-expose white objects/subjects and to over expose dark ones to show more shape. But, what if they are both in the same shot as we see in images 2, 3, and 4, which one should you expose for? The answer is neither, you don't expose for tones, you light for tones – create shape and form on light objects primarily with shadow, and create shape and form on dark objects primarily with specular highlights (reflections of light sources – shine). So if you don't expose for tones, then what do you expose for?

I am going to answer all of these questions; I'm just trying to be dramatic by not answering them straight away so please humour me and read on.

If I were to use a hand-held meter to take a reflective meter reading off a solid-white, evenly-illuminated light object such as a white seamless backdrop paper and positioned the meter so that it only saw the white paper, it would tell us an aperture/shutter speed combination relative to camera sensitivity setting (ISO) to set our cameras at for what it thinks is a good exposure. If we set our cameras to this setting, let's say that it is f11 at 1/60th at 100ISO, and take a picture, what do you suppose this white seamless paper would look like in this image?

Now suppose we swap-out the white seamless paper with a black seamless paper, leave the lighting as is, take another reading (f2 at 1/60th at 100ISO) and then capture a second image with this new setting. What do you suppose this black seamless paper would look like in this image?

Okay one more time (photography, just like fairy tales, always has things happening in threes). Now suppose we swap-out the black seamless paper with a mid-grey seamless paper, leave the lighting as is, take another reading (f5.6 at 1/60th at 100ISO), and then capture a third image with this new setting. What do you suppose this mid-grey seamless paper will look like in this image?

The answer to the last three questions is this – they all appear the same! They all appear to be middle grey. Is this correct, should a white seamless backdrop be middle grey? No! Should a black seamless backdrop be middle grey? No! Should a mid-grey seamless backdrop be middle grey? Why yes.
Then why does the reflective meter tell us to set our cameras at a setting that will make the white backdrop and the black backdrop incorrectly exposed but yet gives us a correct setting to make a correct exposure of the mid-grey backdrop?

The reason for this is – a meter knows only one thing, middle grey, it tries to make everything it sees appear middle grey. In fact if it is seeing more than one tone, it will average all those tones to make what it thinks will be a middle grey tone. Since the meter tries to make everything it sees appear middle grey, then a reading off a middle grey object like the mid-grey backdrop, will give you a setting to set your camera at to make it appear middle grey, and since it's true tonality is middle grey, it will be properly exposed.

Now what if we tore a piece from the mid-grey seamless backdrop and placed it over the white seamless, then took a reflective reading off the mid-grey paper fragment being careful to read only the grey paper and not the white, set our cameras to this setting (f5.6 at 1/60th at 100ISO), removed the grey paper and then took another picture – what do you think the white seamless would look like? What if we did the same procedure only instead of photographing the white seamless backdrop we photograph the black seamless backdrop at f5.6 at 1/60th at 100ISO – what do you think the black seamless would look like? Well the white paper would look white and the black paper would look black, in other words *they will be correctly exposed*.


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By metering off the mid-grey paper fragment or, better still a middle grey card, the meter gives us a camera setting that will make middle grey appear as middle grey in our image. If we make middle grey look middle grey, then white will photograph as white and black will photograph as black. In fact all other fully-lit tones, if present, will fall into place accordingly. If there is not a mid-grey tonality to take a meter reading from, we can temporarily add one to meter off, then remove it before shooting. Or if you are very good at recognising tones – knowing where they should fall on the grey scale – you can take a reflective meter reading off them directly and then alter your camera exposure setting by the correct amount from what the meter reads, to place that tone correctly in your image, relative to middle grey. For example, the white seamless paper should be white with detail, which is two stops brighter than middle grey. If we had taken the f11 reflective reading and opened up two stops from what it read, we would have set our cameras to f5.6, the same setting as the reading we got from the mid-grey paper. However, recognising tones is difficult, especially when they are colours. That's why reading off a fully-lit mid-grey tone like a middle grey card, that you can put in your shot to meter off then remove prior to shooting, is an easier and more consistent way to get correct exposures. But what is a correct exposure?

A correct exposure is when a fully lit area of a subject's true tonality is placed at its correct value in the image so that this tonal brightness appears the same as it does in reality. For instance the true value of my skin is one stop brighter than middle grey (depending on the time of year) and for a proper exposure it should be placed at that value in the image. Keeping that in mind, look at images 5 & 6, and pick out which one is the correct exposure. If you picked 5 you are correct and if you picked 6 you are correct; they are both correct exposures! Image 5 is a little tricky, it has very dark shadows, which in gear-head speak would be referred to as high shadow contrast, however, the lit side of Gillian is represented correctly in the image therefore this is a correctly exposed picture. If you thought that Image 5 was an incorrect exposure you were mixing up exposure with lighting. Even though you may not like the lighting in this picture (lighting position and shadow contrast) you have to agree that it is correctly exposed.

Technically speaking you can never say that lighting is correct or incorrect, lighting is an opinion whereas exposure is a hard, cold fact; lighting is subjective, exposure is objective, and when sizing up a problem image such as image 5, it is important to differentiate which is the issue.

Sometimes the objective can be considered subjective when you decide to under- or over-expose a subject for a certain mood or effect, such as the over-exposed flesh tones that are often popular in fashion and glamour. In Image 1 model Michelle Snow's flesh is grossly over-exposed, by around 1½ stops. Is this a correct exposure? No. Is it a good exposure? I think so and so did the client. So we could say that this incorrect exposure is a good exposure since this exposure better portrays the feel we were after. In a nutshell, correct or incorrect exposures are objective and good or bad exposures are subjective.

The subjective part of photography is lighting, it is the creative part; you can make a shadow any density darker than the true tonality you want and you can make a specular highlight any density you want brighter than the true tonality it sits upon. You can also make the edges of shadows and specular highlights as soft or as sharp as you want. The creative part of lighting is ranging and manipulating these areas to create the lighting to interpret the subject's shape and form in a way you want as well as placing the whole contrast range of your photo-set, relative to middle grey. So to answer the question, who do you expose for – Tony or Gillian? *The answer is neither, you expose for middle grey and they will fall into place relative to middle grey*. But exactly what is middle grey and how does it function within digital? Well that, and how to expose for middle grey, plus how the Zone System works but falls short for digital, will have to be left for next time.

Dave Montizambert lectures internationally on lighting, digital photography, and Adobe Photoshop. He is also a published author having written two books on lighting and digital photography (www.montizambert.com) plus numerous magazine articles on these topics in North America, Europe, Russia and Asia. Dave also creates Photoshop tutorial CDs & DVDs for www.software-cinema.com.

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Dave Montizambert owns and operates Montizambert Photography Inc. located in downtown Vancouver. For the past 25 years his company has created photographic images to aid various organisations and companies with their communication needs. He has created images for clients such as: McDonalds Foods, Motorola, Atlanta Scientific/Nexus Engineering, Toyo Tires, Tri-Star Pictures, Warner Brothers, Constantine Films of Germany, Chevron Canada, Cuervo Tequila, the Canadian Broadcasting Corporation, J&B Scotch, Hong Kong Bank, Chimera Softboxes, B.C. Lottery Corp., Blackcomb & Whistler Mountains, Tsing Tao Brewery of China, B.C. Hot House, Kona Bikes, No Fear Sports Gear, Kodak, and Canada Post.

His work has won Georgie, Lotus, Hemlock, *Studio* Magazine, CAPIC, and Graphex awards.

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