Light Control-

Now that we've explored and studied some different types of light we can find we are next learning to take this available light and control it; making it do what we want. Although we've been trained almost exclusively to shoot outside in what ever light is present we haven't explored many of the other options available to us as photographers.

Light control is a simple and inexpensive technique we can learn to do by simply understanding some of the ways that light can be controlled.

Light can be controlled in different ways:

1) It can be reflected

2) It can be diffused

3) It can be blocked.

In the illustrated photograph below you'll see a photographer using some photography gear around the subject. They are using a diffuser (overhead) and some reflectors as they do a portrait at 12:00 noon; something we had said earlier was taboo!

Light control is the answer. She is creating and manipulating all the light hitting her subject.

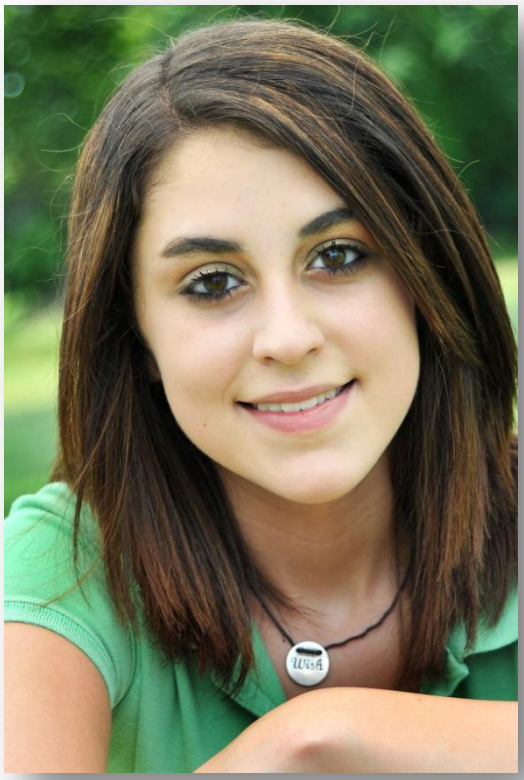
Using Diffusers-Pictured to the left is a set designed for outdoor portraiture. Two photo stands hold up a 52" round diffuser to soften the overhead 12:00 noon sun. Pictured to the right is a "5 in1" reflector kit that can be bought at just about any photography store or an online photo retailer. This reflector comes with four reflector surfaces – white, black, silver, and gold. It also serves as a diffuser.

However, the diffuser metal frame becomes the frame for all of the reflector surfaces, so if you want a diffuser AND the reflector you'll need to buy a separate diffuser to put on top.

What most photographers do to create this type of set up is use the diffuser on top and use a different (less expensive) material for the reflector on the side. The reflector can be any large white material such as foam-core or poster board. Either of these larger sized materials can be purchased at any art supply / hobby store like Michaels or Hobby Lobby.

It is enough to use just the overhead diffuser in most cases as it provides a very soft and beautiful light source in the mid day “ugly” sun. The photographer I photographed chooses to use a chair for her subjects to sit on. It is very important that the diffuser be as close to the top of the head of the subject as possible. Also, the subject needs to sit near the rear of the overhead diffuser so that the light coming through in front of them is maximized.

In the photo above the photographer has her model on the set and is directing an additional person to use a reflector and add some additional light on the subject from the right side. Reflectors work like “mirrors” and are easy to learn to use. In this case both of the young girls were getting photographed so the photographer made a photo assistant out of the one not on the set.



The photo to the left is an actual image from the above session Notice the softness and quality of this light. Remember, this was 12:00 noon so it isn’t the time of day we should shoot in the direct sun. This technique offers a great solution to shooting mid-day, any day.

These two smaller photographs (above) were test exposure shots from this shoot. For the sake of learning we took one without the overhead diffusion in place, using just the sunlight present. In both images, the skin is exposed properly. Amazing difference! Take note of all of the techniques present in these photographs. This portrait is shot with a 200mm lens at f3.5 for a shallow DOF.

Notice in the background in the top image the weeds and old fence. Now, look at how nice the background is in the finished portrait. Proper use of lens length and F-Stop completely change the background to something that looks great.

When compared (using F-Stops) the small photo on the left has a "ratio" that is not good for this type of portrait. The shadows are not flattering on this type of portrait. The spread between the shadows and highlights is too far.

Here's a different view of the set up, just so it makes sense. Keep in mind the additional reflector being held by the girl on the right is optional, but it does add a nice "pizzazz" to the image. When using this overhead diffusion panel it's necessary to keep it as close to the top of head of your model as possible. Here, in this example, it's about 12 inches above her head.

Remember that the reflector (used on the side) can be any large white reflective material. It doesn't have to be one of the reflector kits purchases from a photography equipment source. Foam-core or poster board work equally well. The reason for the more expensive one is "ease of use and storage" and nothing more. This one folds and fits in the trunk of your car a lot easier than a 3' X 4 ' piece of foam-core or poster board.

Another easy trick to use when shooting in direct sunlight is to simply block the overhead light and create your own shade. In the photo below our photographer has instructed the assistant to hold a piece of foam-core (foam board) over the head of the subject. This simply blocks all the direct sunlight from hitting the subject. Now the photographer is shooting the subject in open shade.

Let's examine the difference between direct sun during the mid-day hours and creating your own open shade to shoot in. The two photographs below illustrate the difference between the two different lighting situations. These were both shot on the set you see above with the foam-core board. The two photographs are identical except for:

1) Blocking the light to create your own "open shade"

2) Changing F-Stops for the change in light intensity.

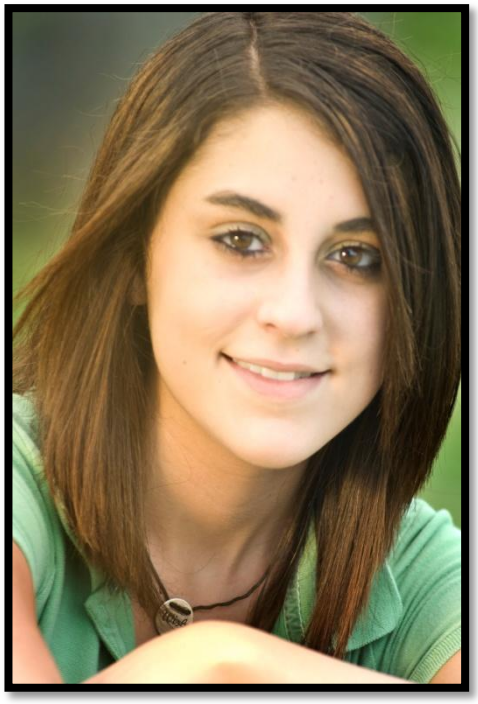
There is NO retouching, color correcting or manipulation on these two images. They are direct out of the camera. Now, which image would you rather show your customer? When compared side by side there is no doubt which is a better portrait.

Direct Sun Open Shade

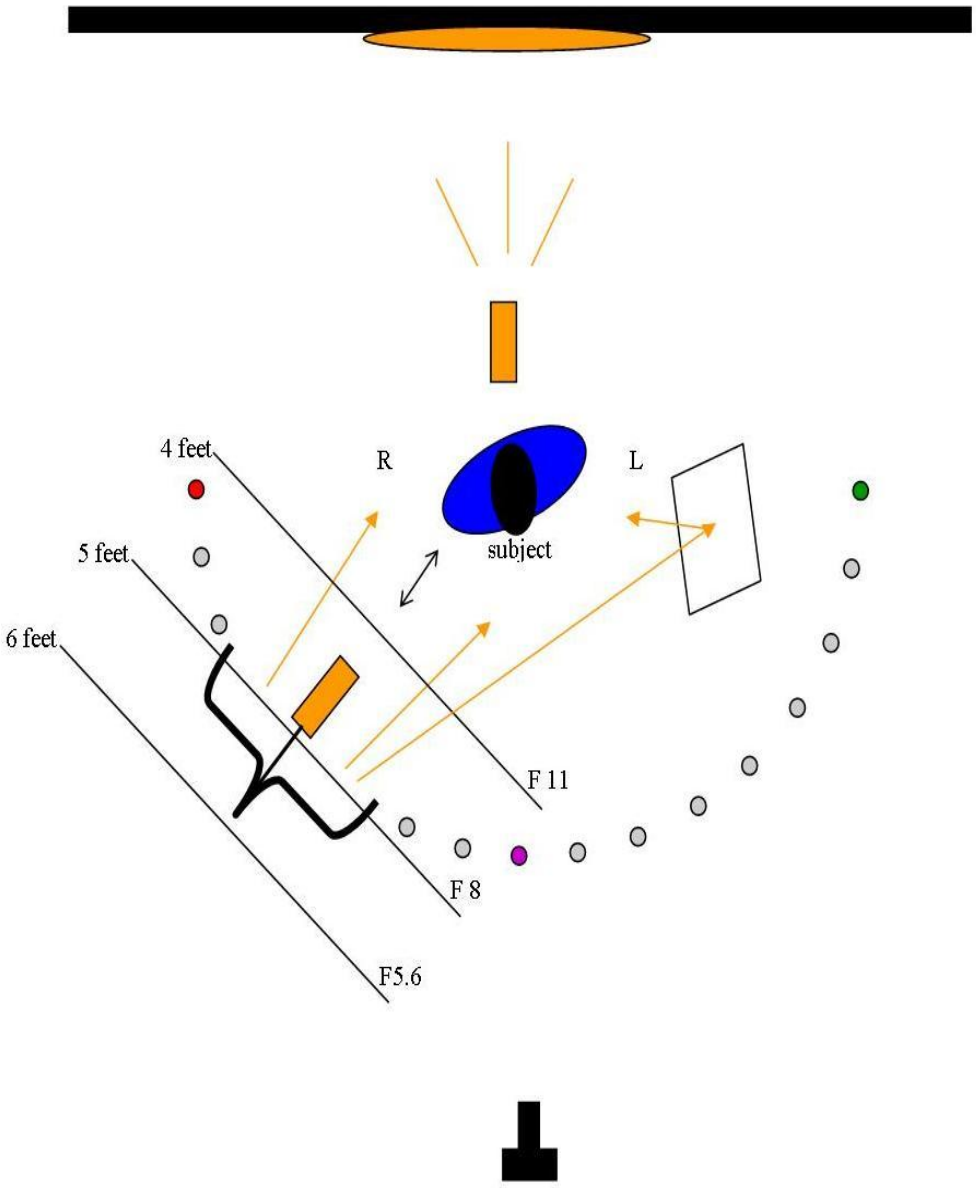
Ration of Shadow to Highlight to Wide Even Light with no Ration Issues

You will notice a slight change of color being we are switching from direct sunlight to open shade but that's always going to be the case. Open shade tends to be a "cooler" light comparatively. This can be corrected in PhotoShop with a couple of mouse clicks.

There is one other iteration that we need to study that involves using reflectors and open shade. In the photograph below notice all of the setup. The subject is sitting in the open shade of a tree but the assistant holding the reflector is in the direct sunlight reflecting direct sun back on to the subject. This little trick works very well to punch in a little bit of light into the "cooler" shade light to give it the warmer and softer glow of a sunset.



The photograph to the left is one of the images from this specific part of the shoot and you can see the warmth and sunset feel of the mood of the photograph. This technique, although it usually requires two people – photographer and assistant – is a great way to give your photographs a different look than most other portrait photographers. You'd never guess from looking at it that it was executed at 12:30 in the afternoon – middle of the day – on a hot summer afternoon.


4 feet
5 feet
6 feet
R
L
subject
F 11
F 8
F5.6

Take note that there are two studio lights on this setup, each of them orange rectangles. The orange arrows signify the light emitted from each. The light pointed towards the background is illuminating only the background. The light in the umbrella is pointed **into** the umbrella and is being reflected back out, as show by the orange arrows. Take a moment to make sure you understand how all of this relates to this setup. Also remember that these two light are the ONLY two lights in your dark studio room.

Portraiture - Exposure

Finding the proper exposure in a studio lighting set up like this one is usually done by using a light meter. If you are using continuous lighting (spot lights) you can use your in camera meter to read the subject. If you are using studio strobe (flash) you simply have the subject hold a flash meter for you and fire the studio flash. It will then provide you with the proper f-stop to use on your camera.

If you don't have a flash meter then you'll have to calculate your exposure settings by trial and error. Here's a good place to start this experimental process. Set your ISO to 100. Set your shutter speed to 1/60 of a second. Set your F-Stop to F8. Shoot a test. If it's dark then open your F-Stop to 5.6 and shoot again. If it's to light set your F-Stop to F11 and shoot again. Keep experimenting until you get a really good exposure. If you reach your limit on F-Stops and can't make any more adjustments the move the light closer or further from the subject, depending on weather you need it brighter or dimmer. Once you accomplish this make sure you mark down all the settings/distances/camera settings so that you can duplicate them again. Your set up will become one of your own "axioms" to memorize. Knowing what you've done and being able to duplicate it is our goal.

Understanding the Exposure; how it relates to our setup

For the sake of discussion we're going to use this scenario and camera settings. Yours may be different, and if so just plug your numbers in to this exercise. We've set up our lighting and set it up exactly like the above illustration. Our umbrella, which is called the "main light" in this type of setup is placed 5 feet from our subject. At this distance our f-stop is F8, and this is a proper exposure. Find this 5 feet / F8 line in the diagram.

Take notice that there are also two other "exposure" lines illustrated in this diagram, one labeled "4 feet / F-11" and another is labeled "6 feet / F-5.6". These represent the exposure change if your main umbrella light is moved to this distance. So, it's important to know and remember that the exposure on the subject changes if the distance between the main light and subject changes.

Axiom – Main light to Subject distance determines exposure (F-Stop)

Portraiture – Main light placement

In the above illustration of our studio setup you'll notice an arc of dots around the front of our subject. This arc of dots represents the line where we can move the main light around our subject for all of the different lighting "looks". If the light is place somewhere close to the front of this arc closest to the camera we'll illuminate our subject fairly evenly with the umbrella light hitting them. If we move it around to each side near the colored red and green dots we'll create a more dramatic lighting being that only half of our subject will be illuminated with the umbrella light. The five portrait examples illustrate the changes in lighting as the main light is moved from the extreme far side on our left (photographers left) to the extreme far side on our right(photographers right). Portrait #1 is with the main light on the red dot. Number #2 is back to where it is in our diagram above. Number #3 (purple dot) is directly in front, #4 is more to our right, and #5 is on the green dot on our far right side. We can easily see the differences that main light placement can make in the final outcome of the lighting. None of these are right, and none of them are wrong. In fact, it's all personal preference and choice.

Most photographers prefer the lighting style of #2 or #4, with a few preferring the look of #3. The two extremes are preferred less by most, but are still acceptable in some types of portraiture; depending on the style of photograph you were set out to produce.

1 2 3 4 5