

Introduction to Photography and Lighting

Controlling exposure: working
with flash and available light



Using a DSLR Camera



Camera Modes

P: Program mode has the camera calculate both [shutter](#) speed and [aperture](#) (given a manually or automatically selected ISO). The difference between Program mode and Full Auto mode is that in program mode, only the *exposure* is automatic, while other camera settings (e.g. shooting mode, exposure compensation, flash) can be set manually; in Full Auto mode everything is automatic.

A or Av: [Aperture priority](#) or 'Aperture value' enables manual control of the aperture with the shutter speed calculated by the camera for proper exposure (given an ISO sensitivity).

S or Tv: [Shutter priority](#) or 'Time value' enables manual control of the shutter speed with the aperture calculated by the camera for proper exposure (given an ISO sensitivity).

M: Manual mode both shutter speed and aperture and independently set manually (with ISO sensitivity also set manually), where proper image exposure requires accurate manual adjustment.



Lenses

There are many different lenses that are available for our Nikon and Canon Cameras. For portraiture, especially close up work, unless you want your image to distort and look “fat” choose a lens 50mm or above. 50mm works for head and shoulders but will distort slightly very close to the subject. Use either a 70mm or a 120mm zoom which will allow you to stand further away and zoom in.



AF-S Nikkor 50mm F1.4



AF Nikkor 35-70mm F2.8



AF Micro Nikkor 60mm F2.8D



AF-S Nikkor 24-120mm F2.8D

Check Your Exposure



Typical
Viewfinder
Info

Shutter Speed

Aperture

Exposure meter

ISO Setting

Use A Light Meter



SEKONIC L-308S Quick Guide

POWER BUTTON (ON/OFF SWITCH)

LUMISPHERE

MEASURING BUTTON

MODE BUTTON

UP BUTTON

DOWN BUTTON

ISO BUTTON

FLASH SYNCHRO TERMINAL
WHEN CORD IS ATTACHED PUSH MEASURE BUTTON TO TRIGGER FLASH AND MEASURE LIGHT

LCD SCREEN

Battery Indicator Measuring Mode ISO Display

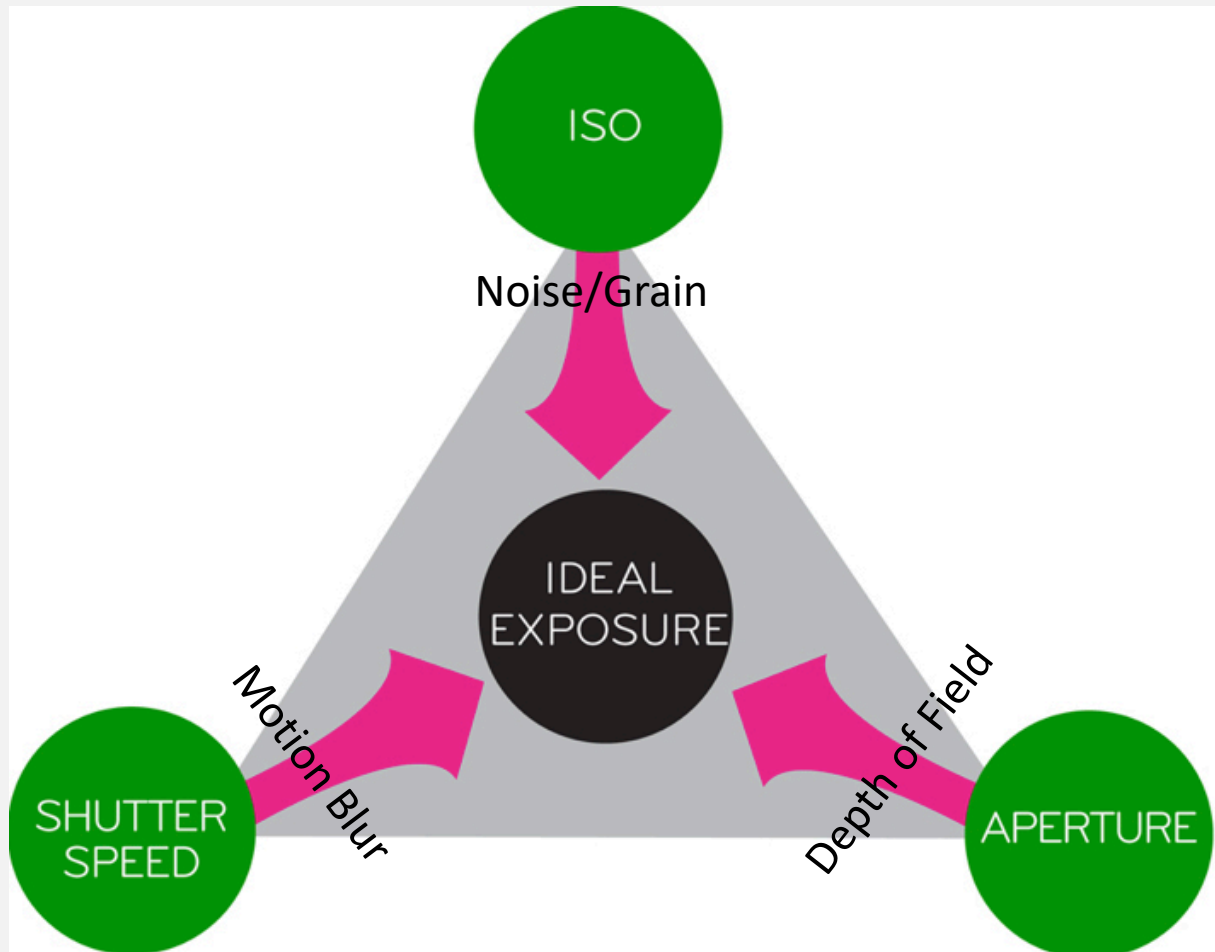
Shutter Speed, f.p.s. Display Aperture Value, EV Display

ISO 8888

8.888 EV 8.88

Exposure Triangle

To take a well exposed image you need to set your ISO, Shutter Speed and Aperture.



Aperture

small aperture



F32 F22 F16 F11 F8 F5,6 F4 F2,8 F2 F1,4

large aperture

Shutter

fast shutter speed



1/1000 1/500 1/250 1/125 1/60 1/30 1/15 1/8 1/4 1/2

slow shutter speed

ISO

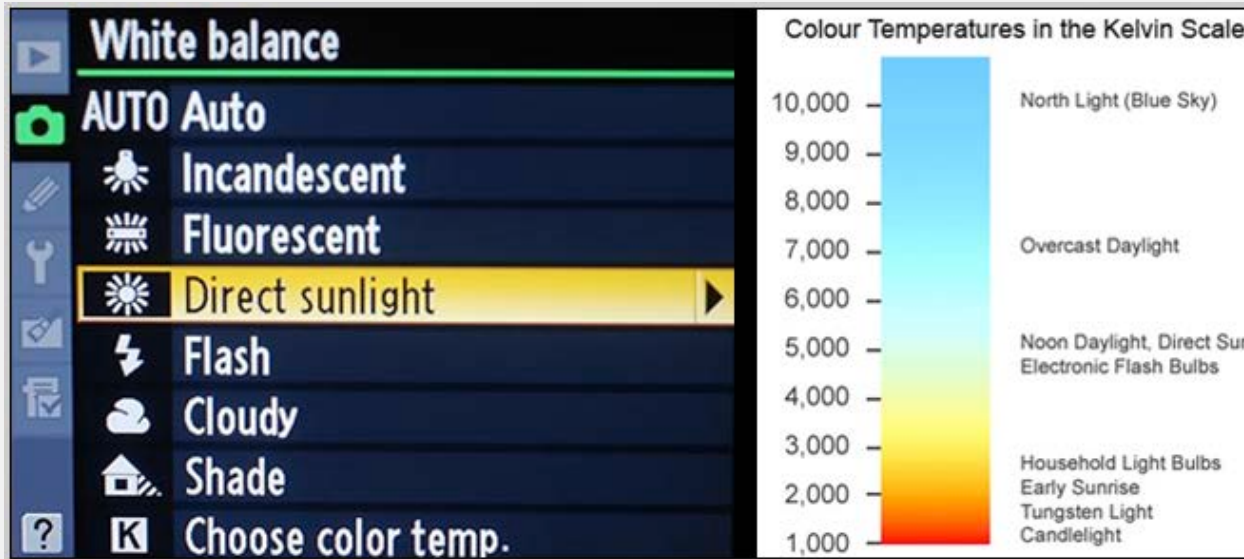
low sensitivity



ISO 50 ISO 100 ISO 200 ISO 400 ISO 800 ISO 1600 ISO 3200 ISO 6400 ISO 12800 ISO 25600

high sensitivity

White Balance



White balance (WB) is the process of removing unrealistic color casts, so that objects which appear white in person are rendered white in your photo.



White Balance Comparisons



Tungsten



Fluorescent



Daylight



Cloud



Shade

For the **manual white balance** here is a series of the same subject but using different settings for white balance. The source of light with warmest colours – tungsten light – results in the strongest correction towards cooler colours and on the opposite end it is „shade“ giving the strongest adjustment towards warmer colours. This means that if the lighting remains the same (daylight) in all photos but the camera White Balance settings are changed to those shown, a colour cast will appear on your photos

The Lights



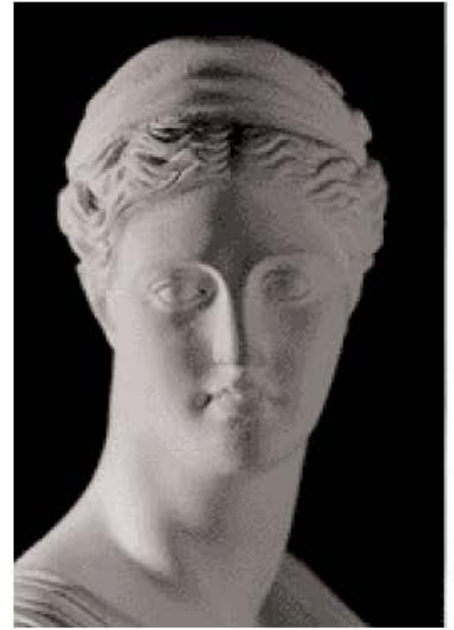
The Studio



SAFETY IN THE STUDIO



- If the fire alarm sounds, stop working, leave all your belongings and go to the nearest fire exit.
- No food or drink is to be consumed in the studio.
- Report faulty equipment and breakages to a Technician as soon as possible.
- Be aware of trailing leads, lights from above you and objects around the studio that could be a trip hazard.
- Beware as the studio lights can become very hot, turn them off when not in use.
- The pantographs (which the lights hang from) can be dangerous as they can retract upwards if the weight on them shifts. To avoid injury please do not place your fingers into them or try to adjust the pantographs- always ask a technician.

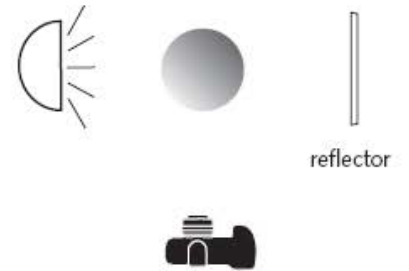
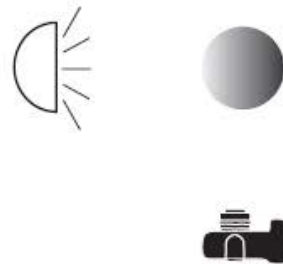
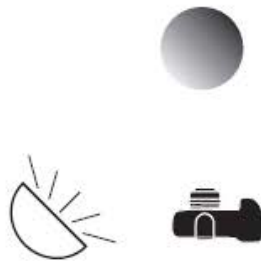


Front, direct

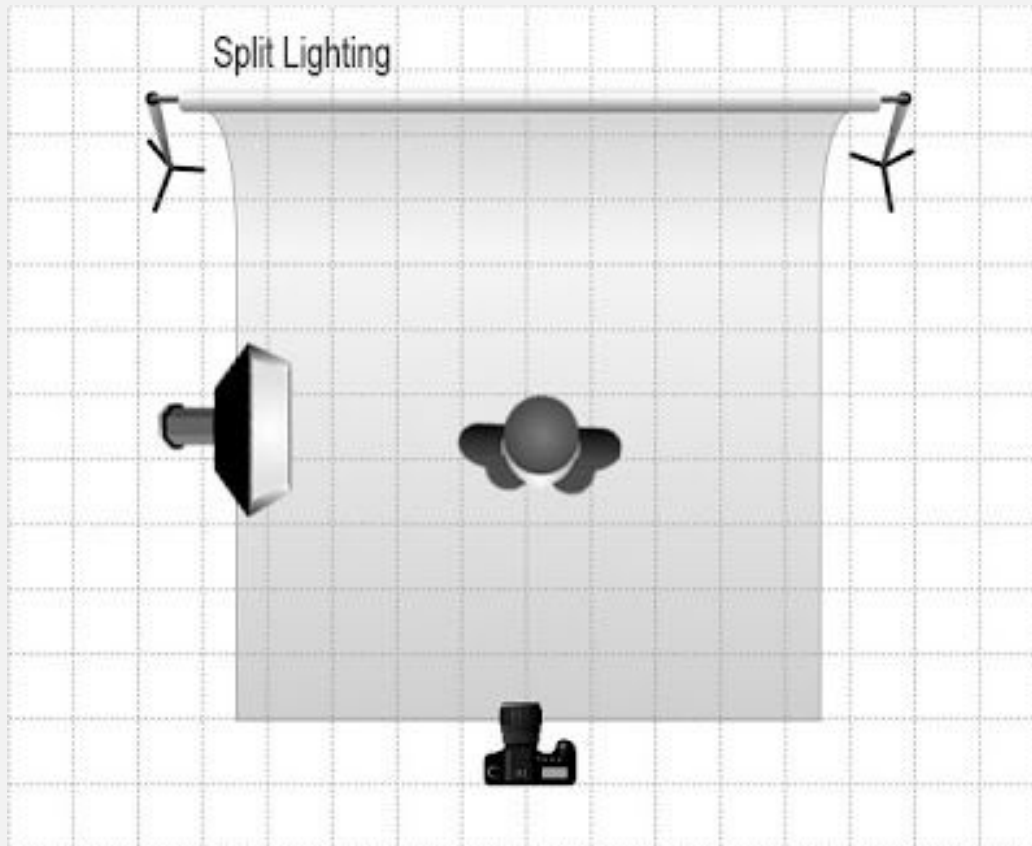
45-degree

Side or 90-degree

Side with reflector fill



Basic Lighting Setup: One Light Split Lighting

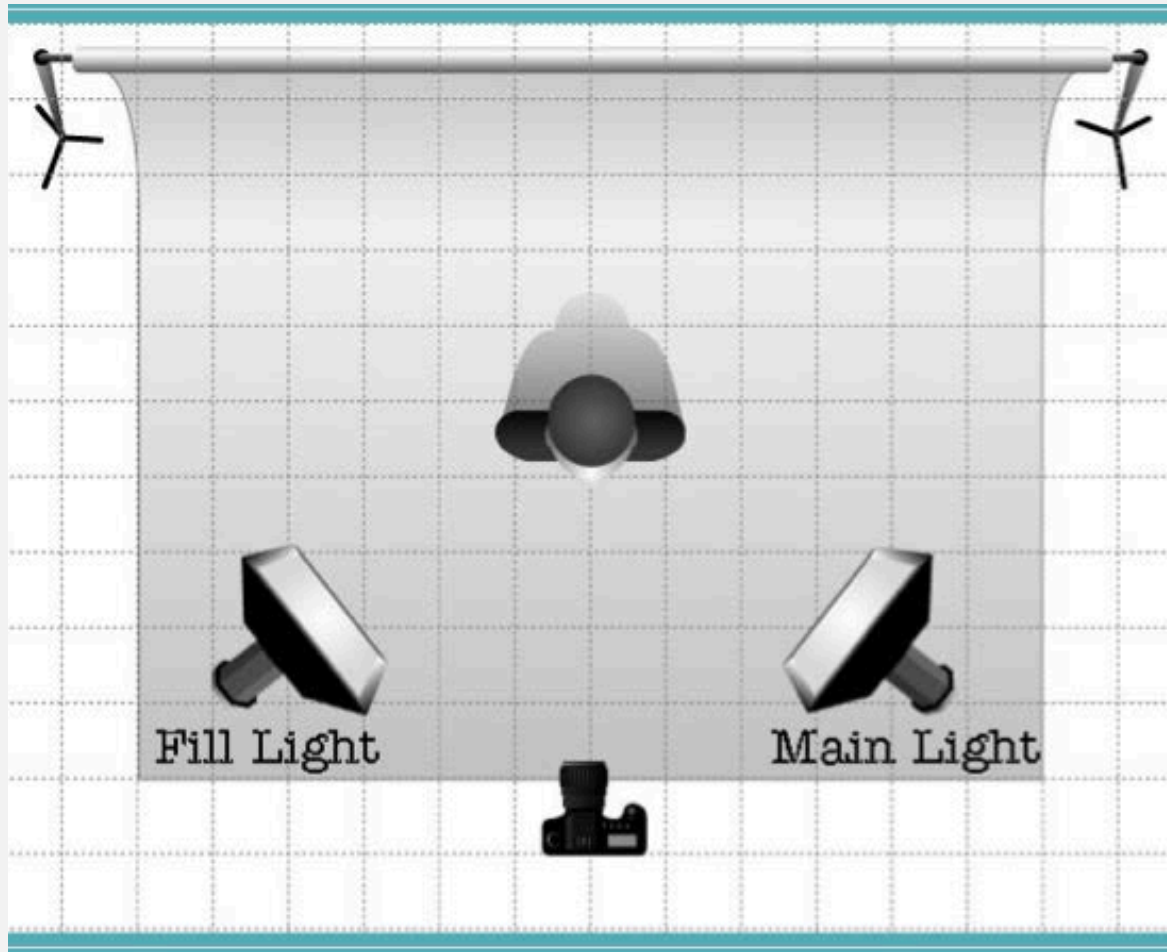


- One light directly to the side at head height or slightly higher. The side of the face furthest from the light will be cast into a deep shadow. A very dramatic look but not good for showing details. A reflector can be added to throw light back onto the darker side to fill in some details.

Split Lighting With And Without Fill



Basic Lighting Setup: 2 lights



This lighting set-up creates depth and texture to your subject/object. For photographs of people make sure your key or main light is higher than the model and lighting them from above at approximately a 45 degree angle to give a more flattering effect. The fill light can then be placed at eye level to balance out these shadows from the main light.

Basic Lighting Setup: Two Light Short and Broad Lighting



Short Lighting



Broad Lighting

One light facing the model at about a 45 degree angle. Either a reflector or another light set at 1 or 2 stops lower acts as a fill light softening the shadows to the other side of the face. Model turns into the light (short lighting)and away from the light (broad lighting) This makes the face look slimmer

Lighting Setup: 3 lights



Along with the classic positioning of a Beauty Dish, high and directly above the model, you can add another light and place it high and behind the subject. To emphasise the hair and shape of the face more you can then introduce an extra accent light slightly behind and to the side of the model. In this example Barn doors are being used but you could use a snoot to help control the amount of flare that might effect the image.



Light Adapters & Accessories



Snoot



Beauty Dish



Umbrella



Softbox

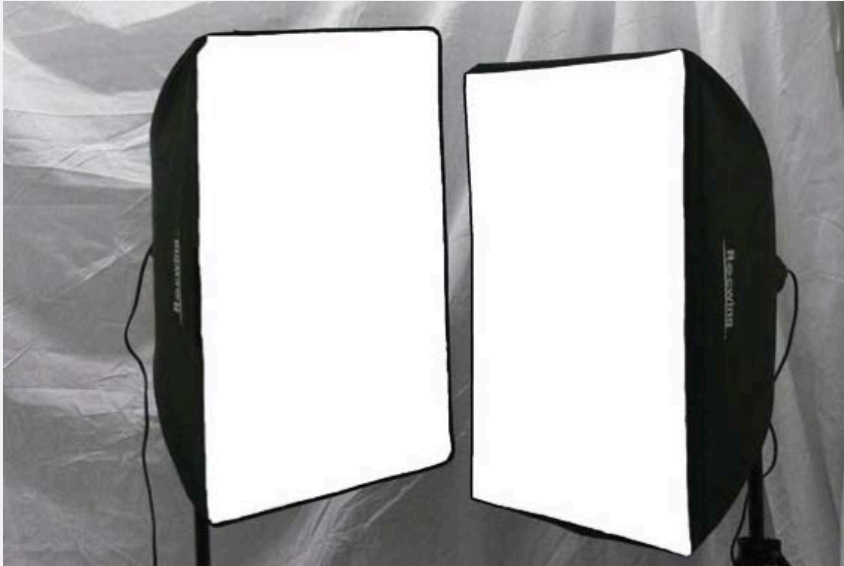


Reflector



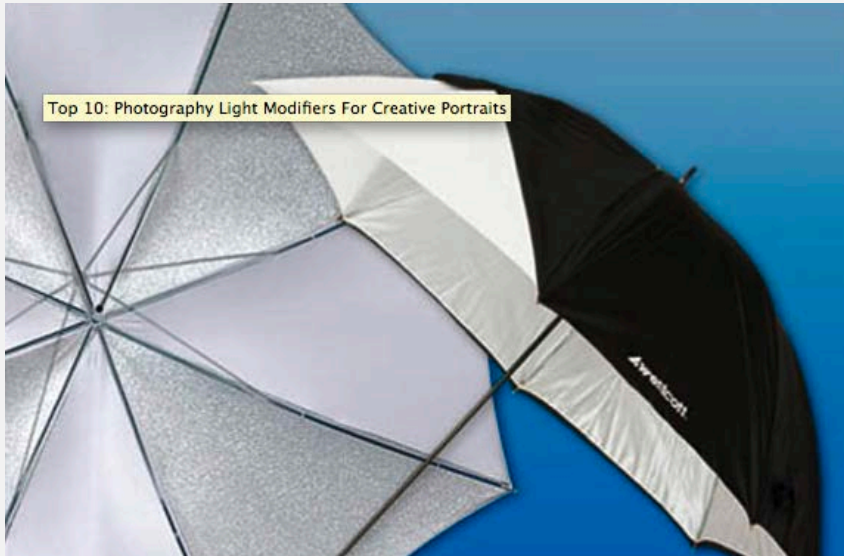
Colour Gels

Softboxes



Softboxes generate a softer diffused light due to the translucent material lining that the light passes through before hitting the subject. They are ideal for controlling light and shadows on reflective surfaces and offer a more even and neutral looking light.

Umbrellas



Umbrellas create soft and diffused light and give you a greater span of light by throwing the light out wide. There are two main types:

1 - **Shoot-through Umbrella:** The umbrella is placed between the Light source and your subject. It's known as a shoot-through because light is diffused as it passes through the umbrella's translucent material similarly to the softbox.

2 - **Reflective Umbrella:** The light source is targeted away from your subject and towards the umbrella. The diffusion comes when the light bounces on the umbrella and back towards your subject. For example you would turn the umbrella around so it points away from the subject you want to light- the reflected or bounced back light will be the light that hits the subject

Beauty Dish



Most light modifiers diffuse the light. A beauty dish *reflects* light, illuminating the subject from all angles because of its unique shape. Because the light wraps around the subject, it creates good contrast and highlights angles.

When used up close, the beauty dish provides a very focused light source without a hot spot in the middle. It delivers a semi-hard light – softer than an on-camera flash or strobe unit, but harder than a softbox. The beauty dish provides a concentrated light source where the center is the brightest and the light gently falls off at the edges.

Snoot



A snoot is a metal tube that is attached to the front of your light. The tube restricts the light down to a narrow beam. This isolates the light and allows you to direct it to a certain area.

Usually used to create strong shadows or a 'spot light' effect. This allows for a more dramatic or theatrical type of lighting.

Reflectors

A reflector takes light that would usually spill out to the sides and redirects it back towards the subject. Without the use of a reflector a large quantity of usable light could be wasted. The color of the reflector will show up from the light reflected into the subject.



- Gold – produce warm tones
- White – creates neutral color effect
- Silver – creates neutral tones but brighter than white

Gels



On-Camera Flash (Speedlights)



If you can only work outside the available light is not always perfect. There is no way to control the big light in the sky and harsh direct sunlight can be unflattering. If the sky is overcast it can produce a softened more flattering light but we can't always wait for that.

By using an on-camera flash or **speedlight** (not a pop up flash but one that is fully adjustable and sits on the camera hot shoe) you can be far more in control and be able to adjust the quality of the light in your images and really influence the way your pictures look.

Bounce or Diffuse Your Flash Light



There are very few occasions where you would want to fire your flash directly at your model. Like direct sunlight this would again provide a very harsh unflattering light. Flash power can be turned down and this will provide a nicer fill in light when using available light as an additional source.

However if the main source of illumination is your flash the quality of this light can be made softer by turning the head on your speedlight and bouncing off a bigger surface (the larger the surface area of a light source the softer it will be).

You can also use a flash diffuser to help soften the light the flash as well.

The Sun

In some cases though your only option may be to shoot outdoors using only the available light. As I already mentioned cloudy days can provide a natural diffusion to sunlight. Positioning of the model can help as well. Make sure the models eyes are pointed away from the sun so they don't squint. Using natural bounced light (off walls of buildings etc) or under the dappled light of trees.



Using A Reflector



Natural sunlight can also be controlled by using a reflector. By bouncing light back onto the model details can be filled as if you were using a fill light in the studio. The examples on the left show how this can be used, particularly in bright sunlight.

It is also possible, if you have someone working with you, to get them to use the reflector as a giant diffuser. The diffuser can block direct sunlight and again make it softer without it causing harsh shadows



Using a Colour Card



Using the ColourChecker ensures the correct colour of your images and can fine tune any slight white balance problems. Set up your camera and make all adjustments to the camera controls or lighting before you start. Place the ColourChecker target into the frame next to the subject or have your model hold the card. Make sure all the squares on the target are visible. Take a photo. Now you have your reference image. You will use that image later on your computer. For now, you can remove the card from the frame and proceed with your photo session.

Note, you will need additional reference images each time the light changes or you change the camera controls, such as if you switch from tungsten light to fluorescent light, or add another light to your setup or even as the daylight changes. Changing lenses can also change colors, especially if the lenses are of different ages or lens manufacturers, so make a new reference photo when you change lenses, too, if you can.

Questions?

David La Chapelle

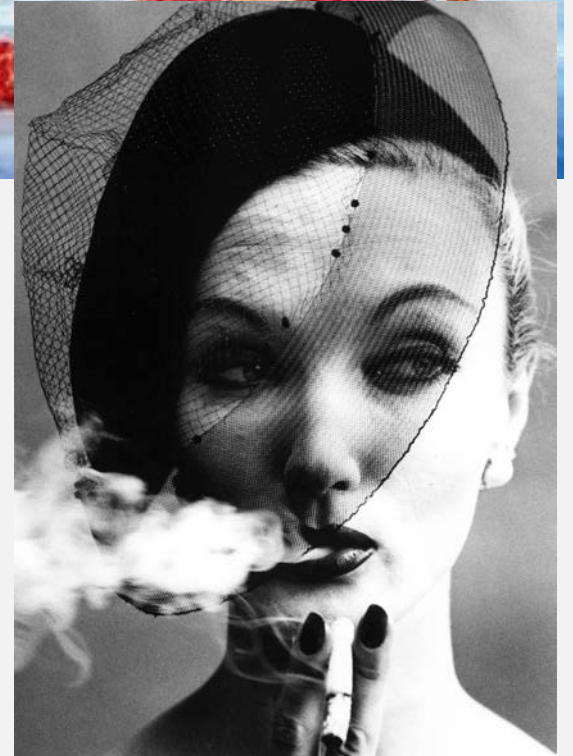
Mariano Vivanco



Tyler Mitchell



Horst P Horst



William Klein