

# INTRODUCTION TO STUDIO LIGHTING



**Slevin Mors**  
photographer & artist

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# ABOUT THIS LESSON

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In the following lesson you will gain a basic understanding of how to shoot in a studio using the equipment of choice at Elysium Studio. This includes AlienBee B800 strobes, PocketWizards and an array of modifiers. We will go over the equipment and how to operate it before moving onto some basic & fundamental lighting techniques.

This lesson is intended for photographers who have little to no hands on experience with studio lighting. At the end of the lesson you will be comfortable operating lights and setting up some basic and traditional light setups. Later there will be an advanced lighting course that will build upon the lessons here.

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# ABOUT SLEVIN MORS

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Slevin Mors is a professional photographer and artist known for his tactful juxtaposition of dark and light that inspires the viewer to dive deep within themselves and embrace every facet they discover even the macabre. Candid yet low-key in his approach, his beautifully haunting artwork pays tribute to the literary masters of the past like Edgar Allan Poe, Clive Barker, and The Brothers Grimm. His creative works also revive old world lore and the vibes of Victorian times.

Since he first held a camera in his hands as a child, Slevin had an unwavering affinity for capturing the countless beauties that lay dormant amongst the shadows; the places where his friends and most people would dare not look. During high school, he would spend a bulk of his days neck-deep in the realm of noir and dark comedic entertainment. Two decades later, his love of photography and all things gloom has only grown, and his sights are set on becoming a full-time fine art and model photographer.

Currently, Slevin Mors resides in the heart of Orange County, California, but his true home lies within the shadows, mists, and stormy night skies.

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THE BASICS:  
CAMERA SETTINGS  
& STUDIO EQUIPMENT

I  
PART  
I

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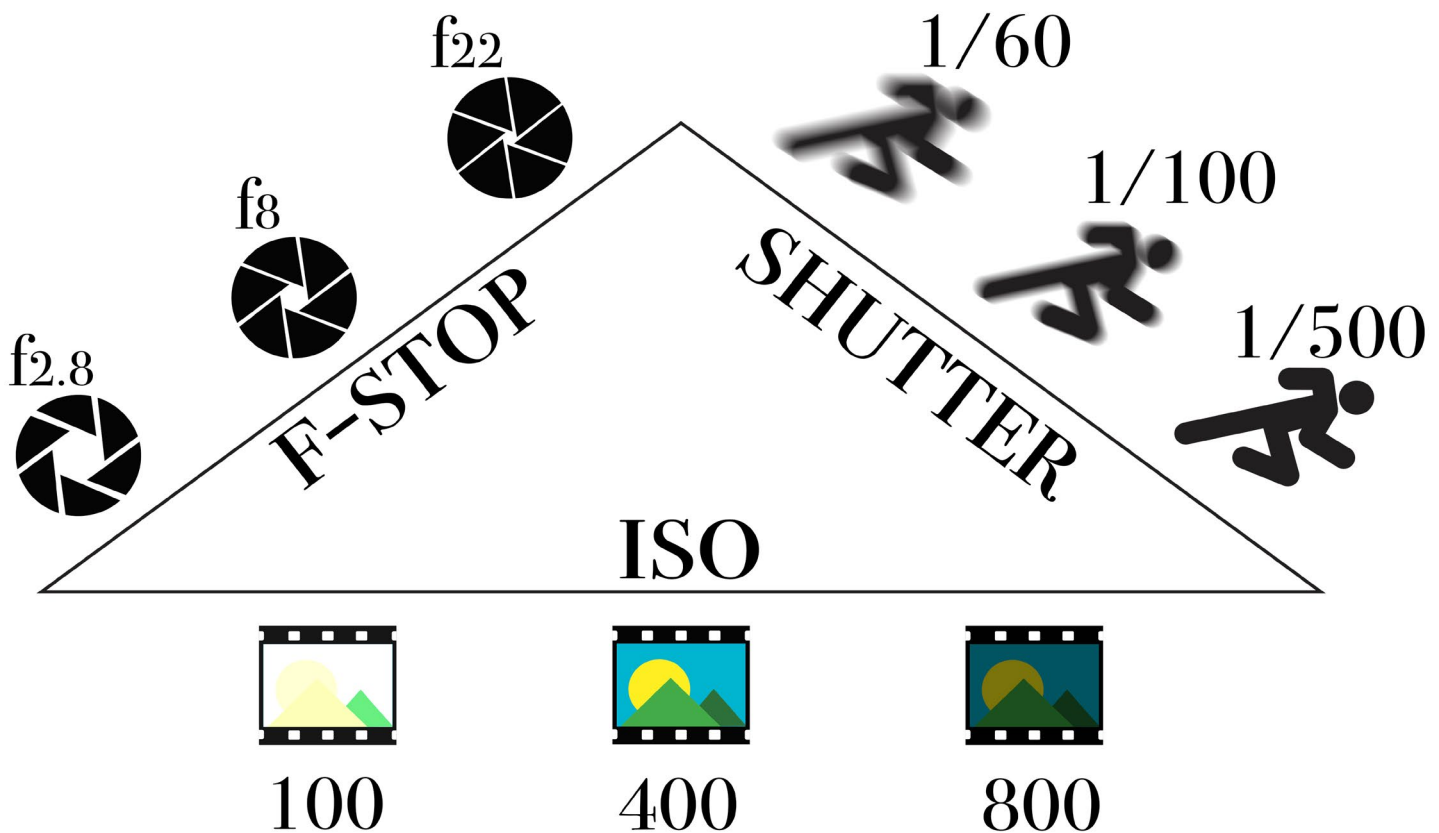
# CAMERA SETTINGS

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**Exposure Triangle** is a carryover term from the film days of photography. While technology has changed photography with the onset of digital photography the concept is still a good learning tool when you first start learning the manual settings on your camera. Technically speaking ISO is no longer part of exposure because in digital cameras the ISO is simulated instead of being a physical property as it was with film.

The key to the exposure triangle in digital photography is that the ISO, Aperture and Shutter speeds are all connected. For example if you start with a perfectly exposed image and want to adjust one of the 3 settings at least 1 of the other 2 settings must also be adjusted to maintain the perfect exposure. In this example the term “perfectly exposed image” is being used as a stand in for what you consider a good exposure since everyone’s eye is a little different.

As you learn these settings and how each one can effect your image you will develop your own style and that perfect image will change. The key takeaway is to understand and keep in mind that these 3 settings are all interconnected. Over the next few pages we will have a brief overview of how each of these settings work. For more in-depth lessons I would suggest the introduction to photography lessons.



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# SHUTTER SPEED

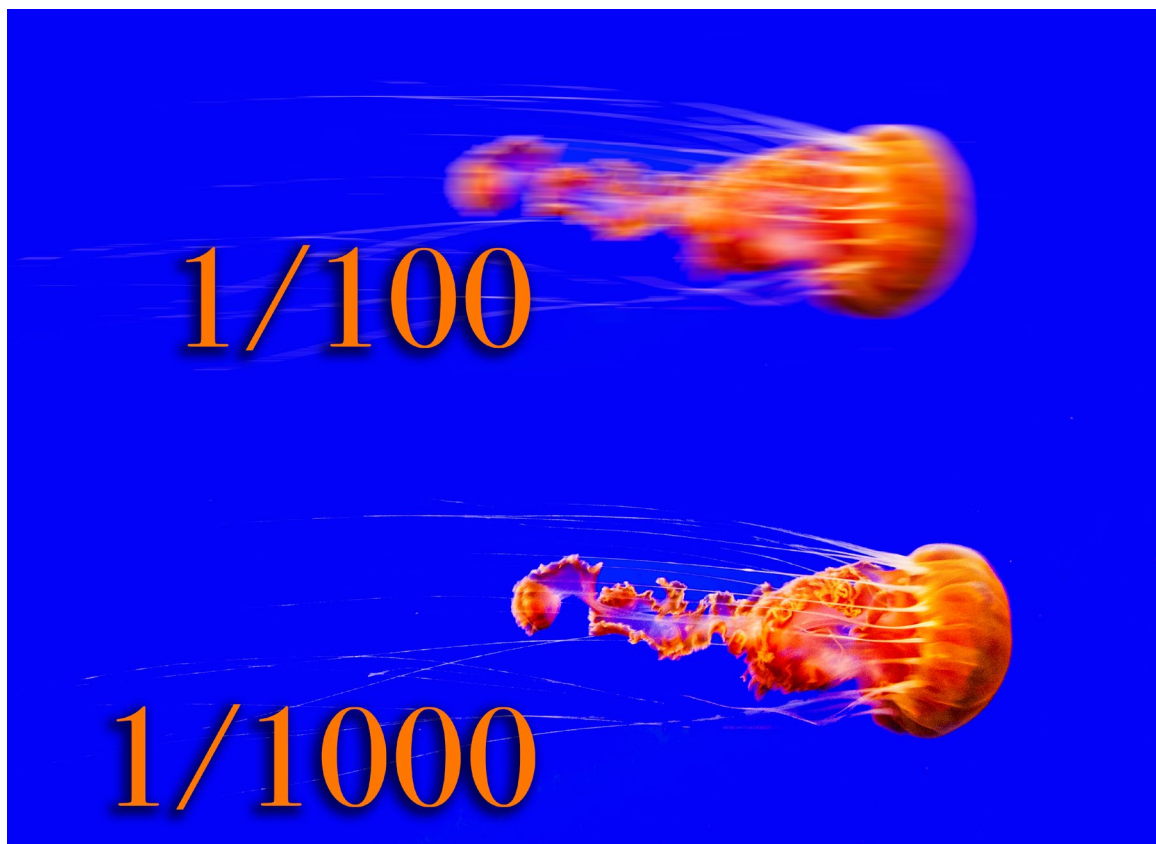
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Your shutter speed settings determine the length of time your camera's shutter remains open for light to reach the sensor/film. High shutter speeds can stop motion and freeze time while slower speeds can give the illusion of movement in the still image. When using studio lighting there are tools and tricks to allow for the faster and slower speeds but a general rule for shutter speed when using studio lighting is 1/125 - 1/200 depending on camera manufacturer.

In advanced lighting lessons we will cover the tools such as programmable triggers that allow for delays (longer shutter / shutter drag) & high speed sync (faster shutter).

## Quick Takeaway:

Length of time the shutter is open (Faster shutter speeds freeze action)



Simulated Example Image

# APERTURE {F-STOP}

The aperture or F-stop refers to your lens's ability to let light through to your camera sensor/film. This setting is dependent on your specific lens. With DSLR/SLR and mirrorless style cameras your lens is interchangeable which means different lenses will have different aperture capabilities. The F-stop numbers are references to the size of the opening on the lens's physical aperture. Lower numbers equate to a larger opening which in turn allows more light through to the sensor or film. You may also hear the term "fast lens", this term refers to a lens with an aperture of 2.8 or lower.

Aperture size also determines the depth of field of the final image. In simplified terms "depth of field" refers to the how much of your image is in focus. Lower aperture numbers will reduce the amount of your image in focus. With a very low aperture (1.8 for example) you could take a picture of a person and have their nose tip be in focus and their hair be blurry.

## Quick Takeaway:

Lower number = larger opening = shallow depth of field (blurry background)

Higher number = smaller opening = larger depth of field (crisp background)



Example Images are layered and blended to give a side by side

# ISO {FILM SPEED}

ISO {Film Speed} refers to the light sensitivity of the digital sensor or film loaded in the camera. Digital sensors simulate this sensitivity and therefore it is adjustable from shot to shot. Film however is dependent on the coating applied to the physical film strip so each roll can only have one ISO rating. The higher the ISO rating number the greater the sensitivity to light & the greater the visible grain in the final image

All camera manufacturers provide support for your most common ISO ratings (100, 200, 400, 800 & 1600). However different camera makers and even different models within a single manufacturer's lineup will offer different thresholds on either end of the spectrum. Refer to your manual for your specific settings.

## Quick Takeaway:

Higher number = More sensitivity to light = More Grain



Example images are simulated to show how exposure changes with higher ISO



# STUDIO LIGHTING

At Elysium Studio we use AlienBee lights from Paul C Buff. Here we will cover the controls on these particular lights but the basic concepts should carry over to any strobe.

- **Power ON / OFF Switch:** The POWER switch turns the entire unit on or off

- **Flash power Control Slider:** This slider continuously adjusts the power of the strobe from full power all the way down to 1/32 power.

- **MODEL LAMP Controls:**

**ON:** Pressing this button turns the modeling lamp on/off. If the button is depressed the modeling lamp is on.

**TRACK:** When the TRACK button is depressed, the modeling lamp will track the Flashpower settings, brightening or dimming proportionally as the Flashpower is adjusted up or down. When the TRACK button is released the model lamp will be at full power.

**CYCLE:** When depressed, the modeling lamp visually indicates the flash unit's recycle status by going dark when the unit is flashed and coming back on when the unit is recycled. When released the modeling lamp will remain on during recycle.

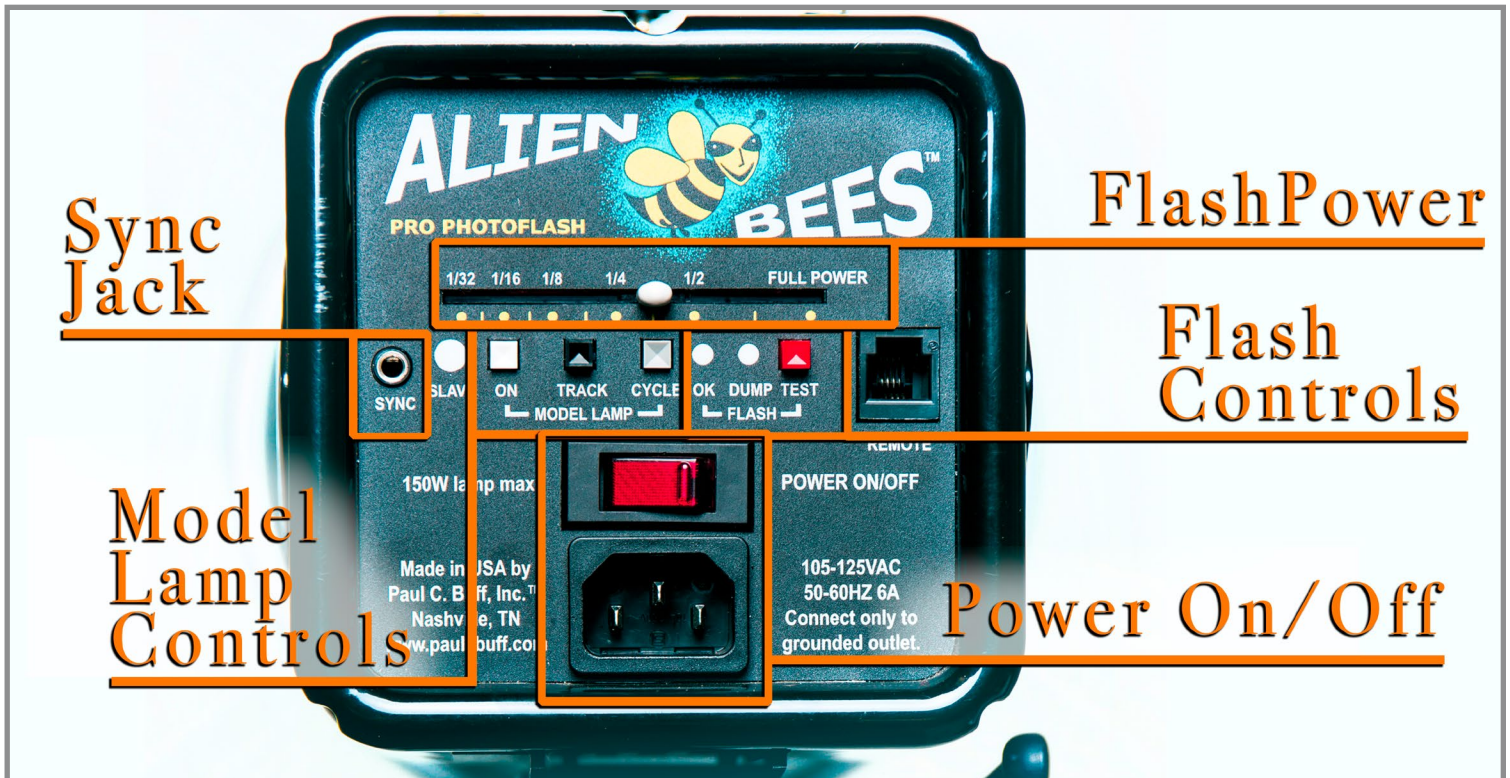
- **MODEL LAMP Controls:**

**OK LED:** When lit green the flash is 100% recycled and ready

**DUMP LED:** When lit, the red LED indicates that the unit is charged to a higher flashpower than what is selected. This occurs when you change the Flashpower from a higher value to a lower value. Pressing TEST will re the unit to immediately dump excess power.

**TEST button:** The TEST button is used for testing/metering or to dump excess power.

- **SYNC Jack:** The 1/8-inch miniplug is used to connect to your camera or flash triggers.



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# LIGHT TRIGGERS

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Triggers are used to remotely activate the strobes. At Elysium Studio we use the basic 10 channel PocketWizards. These particular triggers are pretty straight forward and we will cover the basic functions below.

- **Power ON / OFF Switch:** The power switch is located on side of the unit. The LED blinks to indicate battery power levels.

One green blink indicates between 100% to 50% remaining battery life.

Two amber blinks indicates between 50% to 25% remaining battery life.

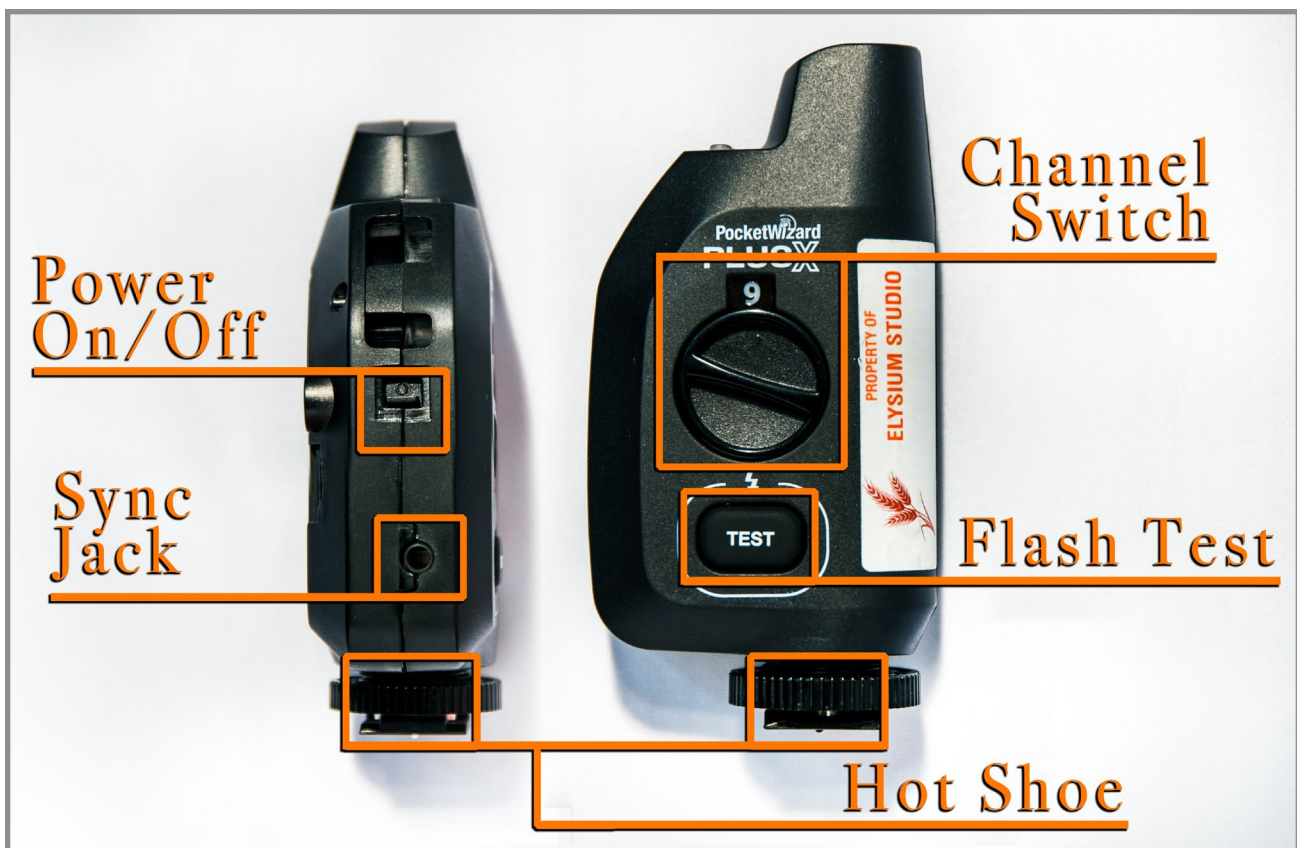
Three red blinks indicates less than 25% remaining battery life.

- **SYNC Jack:** The sync jack can be used to connect the Wizard to your camera if you don't have a hot shoe or to the lights

- **Hot Shoe:** The hot shoe is used to mount the PocketWizard to your camera.

- **Channel Dial:** The channel dial is used to select a frequency to communicate on. All PocketWizards in the same setup must be on the same channel.

- **TEST button:** This button can be used to trigger the light setup for testing or metering without using the camera shutter release.



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# LIGHT METER

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A light meter is a tool used to determine the exposure settings. When using a light meter in the studio you set your ISO and Shutter settings on the meter to match your camera. Then hold the light sensor (usually looks like a ping pong ball on the meter) near the surface of the object you are exposing for. Use your triggers to set off the lights and the meter will return the appropriate F-stop/Aperture setting. You can use a meter to take light measurements on different objects on your set to determine light fall off and exposure readings across your entire image

The example meter shown below is digital but you can also find them in analog formats. Light meters can be an invaluable tool, especially when first learning lighting. They can help you really understand how the different settings can change based on their relation to each other and the lights.

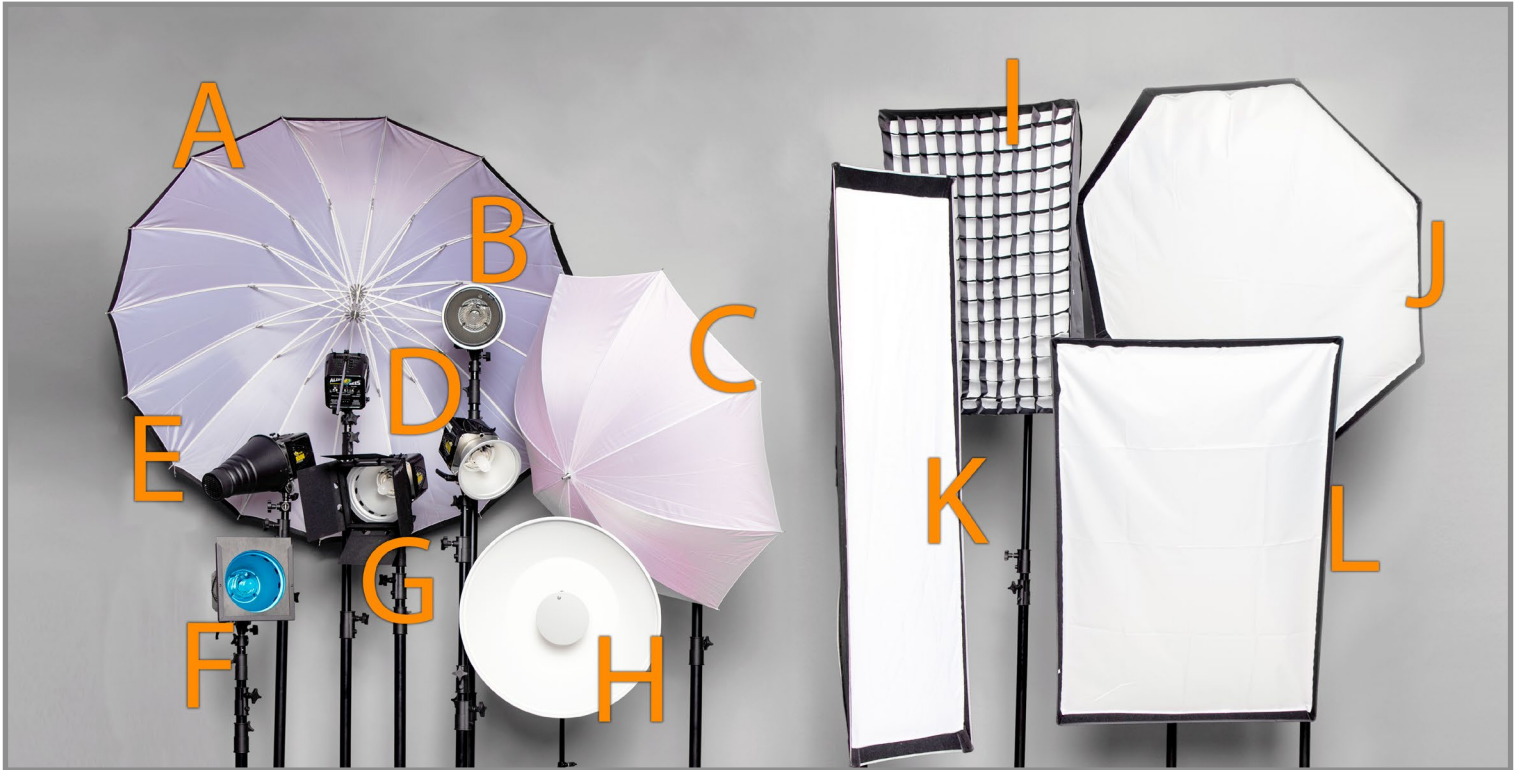


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UNDERSTANDING  
LIGHT MODIFIERS

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# LIGHT MODIFIER TYPES



## - Reference Key -



- A - Reflective Umbrella
- B - Reflective Can with Grid
- C - Shoot Through Umbrella
- D - Reflective Can {Bare Bulb}
- E - Snoot
- F - Color Gel
- G - Barn Doors
- H - Beauty Dish
- I - Small Softbox with Grid
- J - Octobox
- K - Softbox
- L - Strip SoftBox {or Stripbox}
- M - Reflector
- N - Scrim

# — HOW MODIFIERS CAN

The following images are examples of how the different light modifiers change the light affects the image. In each of these images only the light modifier was changed. Both settings and positions of the light and camera stayed the same.

**All Image Settings: AlienBee B800 set to 1/16 power - camer ISO 100, Fstop 6.3, Shutter 1/125**



**Snoot with grid**



**Snoot without grid**



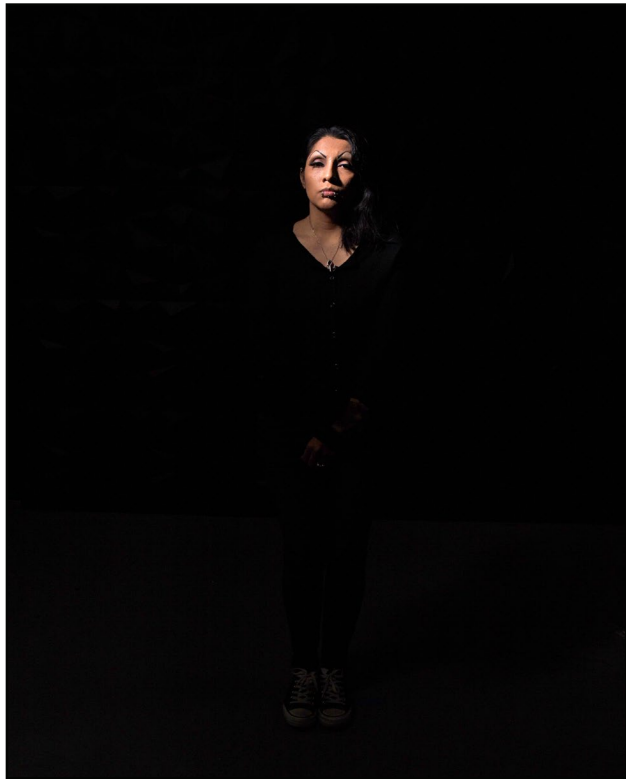
**Bare bulb with silver field reflector**



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# CHANGE THE LIGHT

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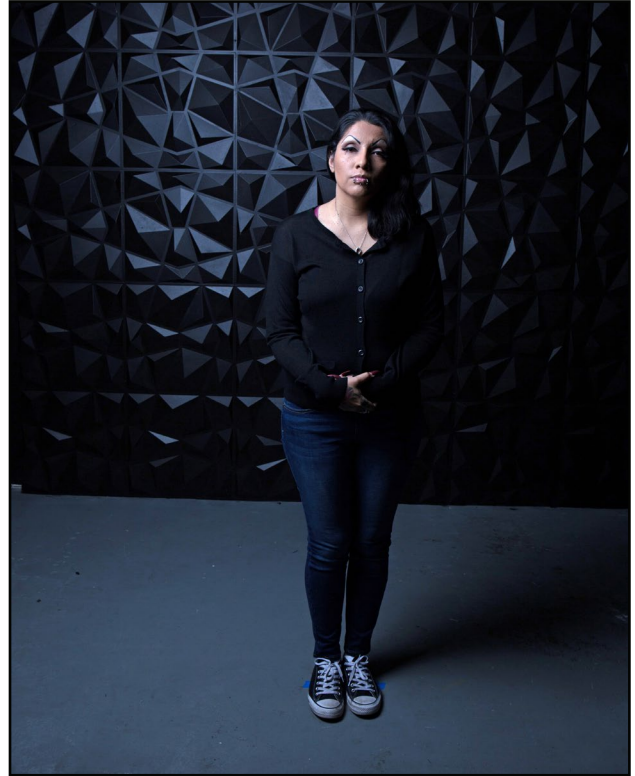


**Bare bulb with silver field reflector & 10° grid**



**Bare bulb with silver field reflector & 40° grid**

# — HOW MODIFIERS CAN



Large Softbox



Small Softbox



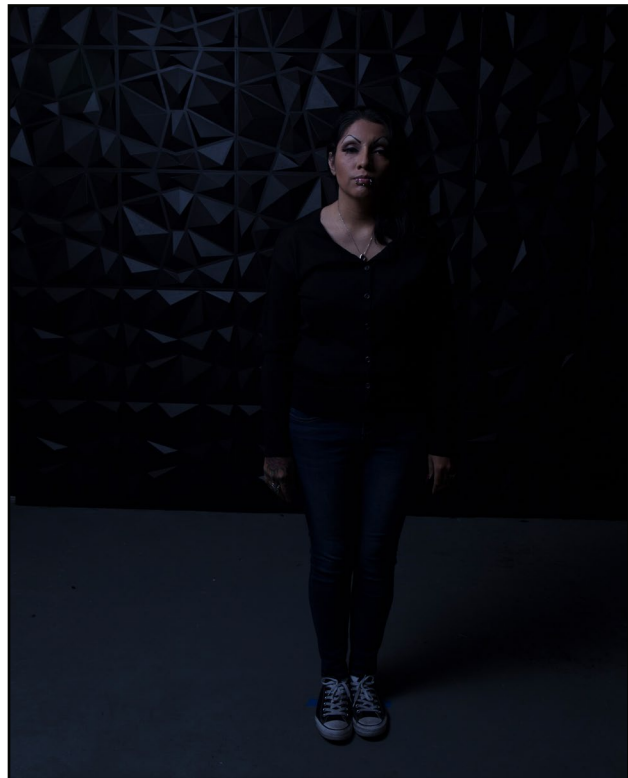
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# CHANGE THE LIGHT

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Strip Softbox

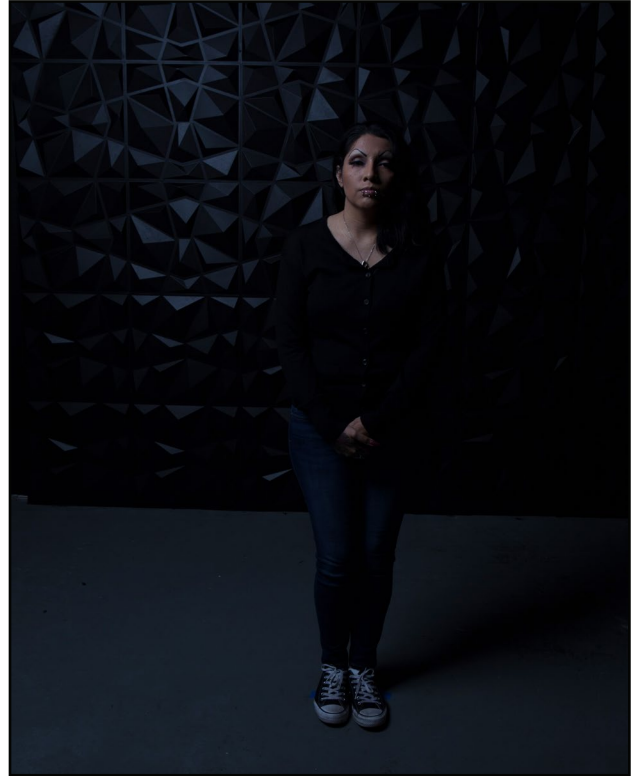


Shoot through Umbrella

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# LIGHT MODIFIERS

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Reflective Umbrella



Dark Blue Gel

vs

Light Blue Gel

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MASTERING  
THE BASIC LIGHTING  
STYLES

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# BUTTERFLY

## Characteristics:

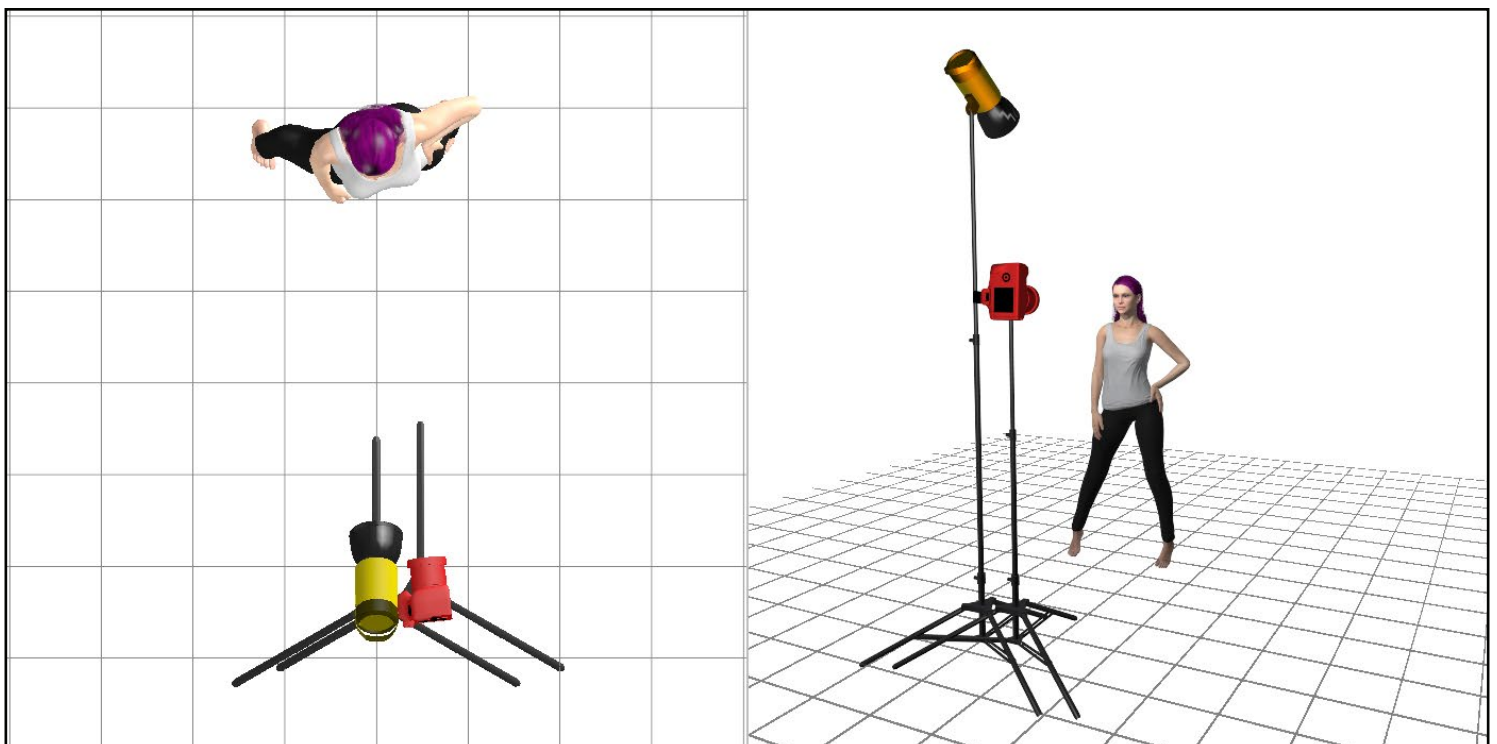
Butterfly lighting is quickly recognized by the shape made by the shadow just below the nose.

## Setup:

The light is setup directly in front of and above the subject.

## Use:

Creates a strong jaw line and softens the bridge of the nose. Double chin, lumpy nose



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# CLAMSHELL

## Characteristics:

Clamshell is usually paired with butterfly lighting but could be paired with other types of overhead light styles.

## Setup:

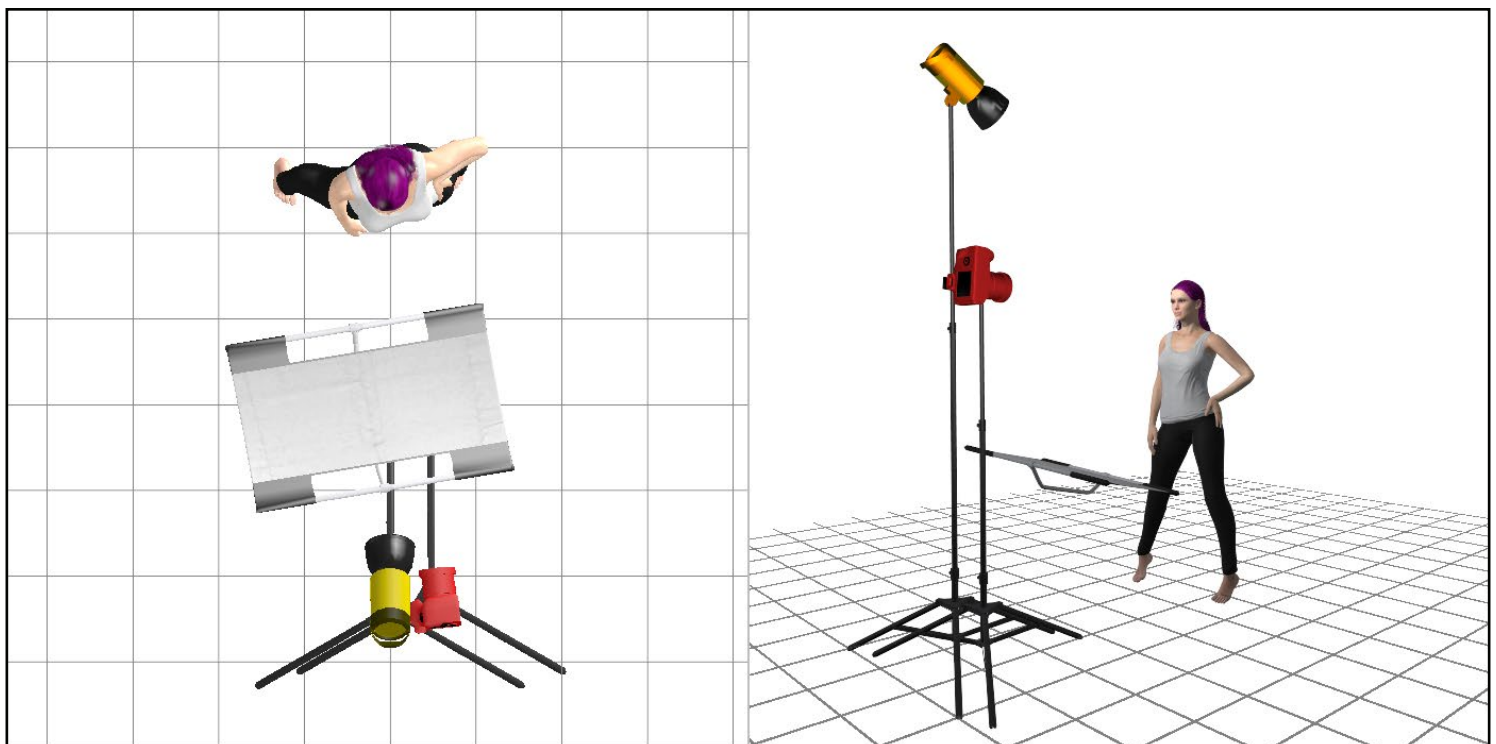
A reflector is setup below the model to reflect light back into the shadows.

## Use:

Softens the shadows to add detail back into those areas.



{The example image is butterfly lighting with a reflector}



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# LOOP

## Characteristics:

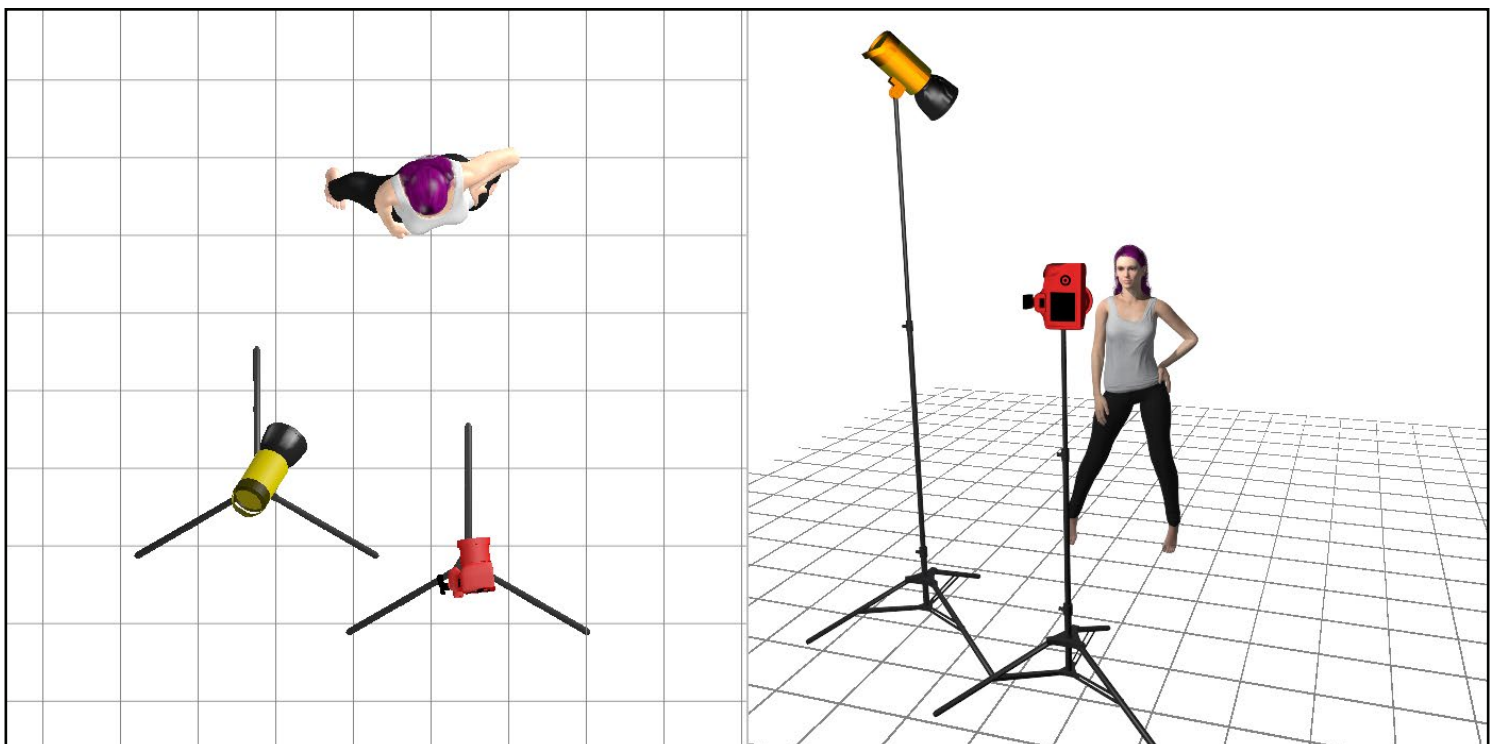
Loop lighting is recognizable by the shadow below the nose that skews toward the shadow side of the face. A key characteristic of loop is that the shadow from the nose does not connect to the shadow on the cheek.

## Setup:

The light is setup to the side of and above the subject.

## Use:

Adds dimension to the face by putting shadow on one side of the face. Almost universally safe, natural.



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# REMBRANDT

## Characteristics:

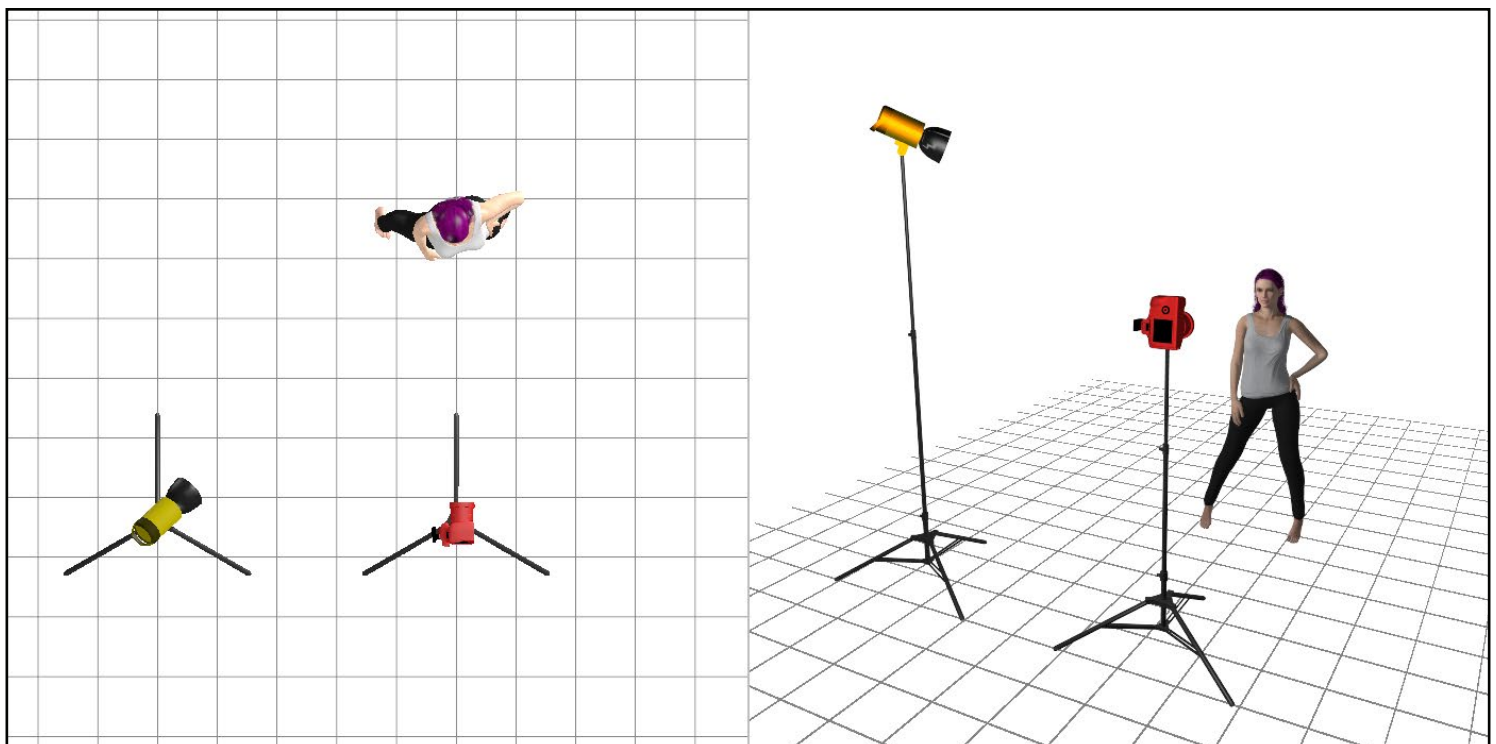
Rembrandt lighting is similar to loop but the shadow from the nose connects to the cheek shadow to create a triangle of light just below the eye. This style was made famous by the Dutch painter Rembrandt.

## Setup:

The light is setup to the side of and above the subject just like loop, but for Rembrandt lighting the light should be pulled back a little further..

## Use:

Adds dimension to the face by putting shadow on one side of the face. Arguably one of the most flattering light style for most people.



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# SHORT

## Characteristics:

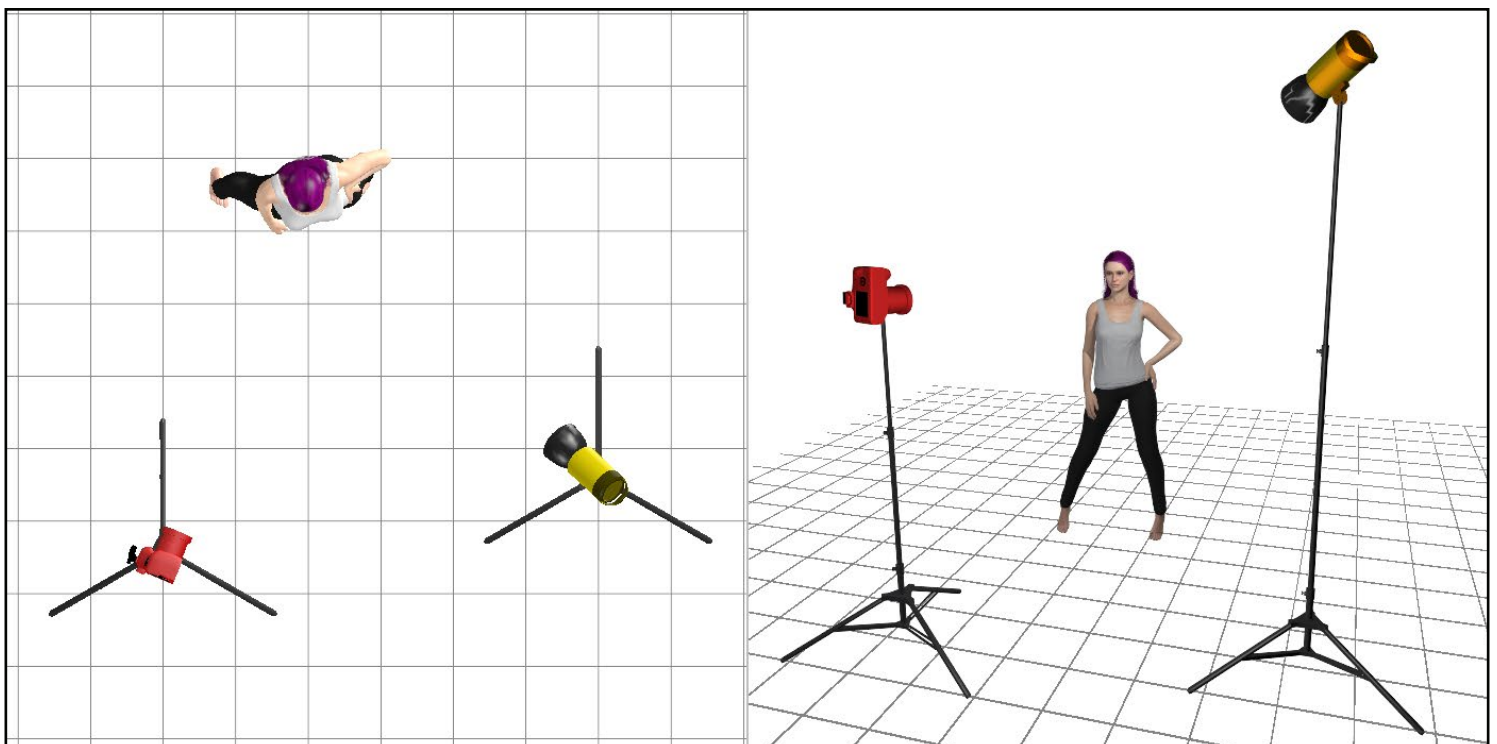
Short lighting is when the shadow side of the face is closest to the camera. This style is combined with other styles of lighting. The example image is short & loop together.

## Setup:

The light is setup on the far side of the subject's face from the camera.

## Use:

When used with broad or rounder/thicker faces short lighting works by slimming down the face.





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# BROAD

## Characteristics:

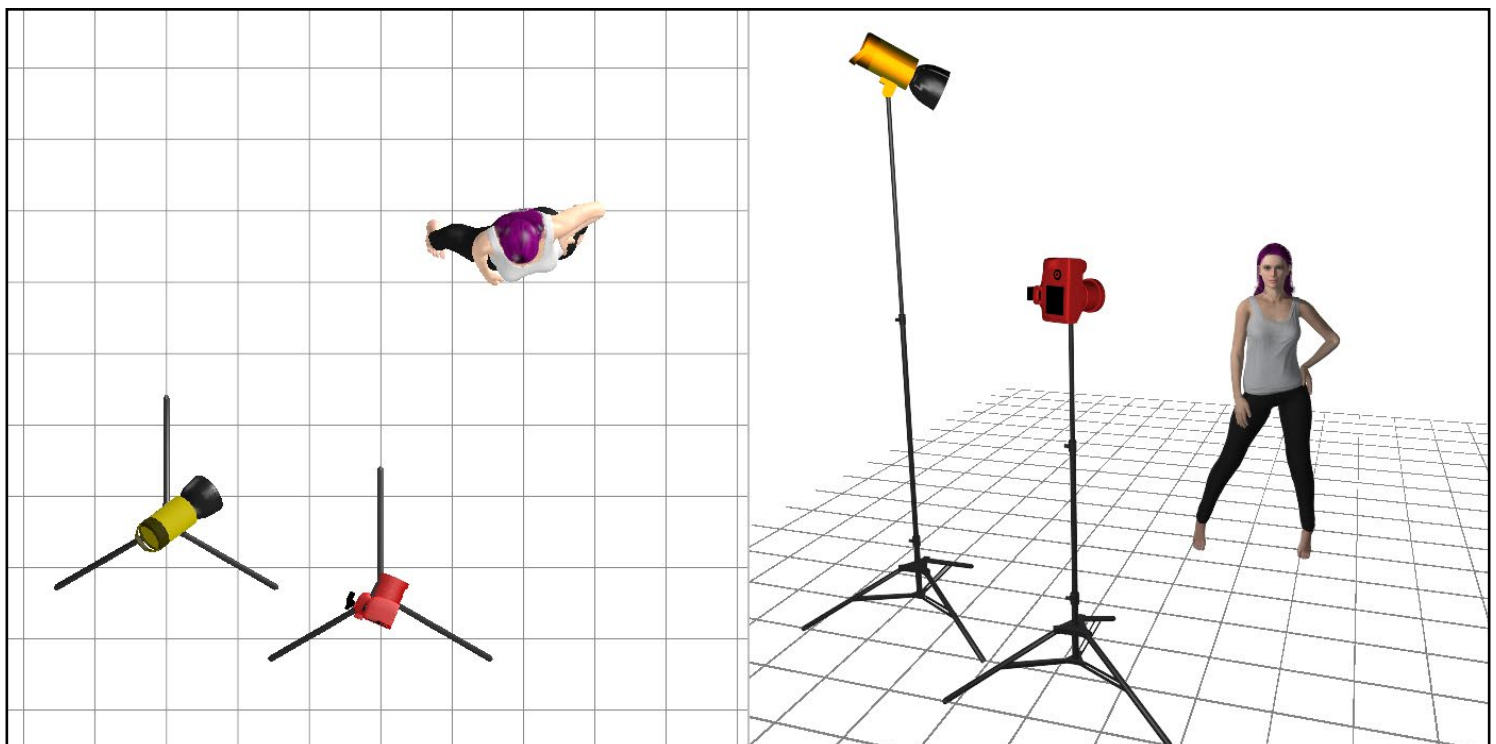
Broad lighting is when the shadow side of the face is away from the camera. This style is combined with other styles of lighting. The example image is broad & Rembrandt together.

## Setup:

The light is setup on the side of the subject's face that is closest to the camera.

## Use:

Works by adding volume and removes texture. It is best used on slim faces, hollow cheeks and textured skin.



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# SPLIT

## Characteristics:

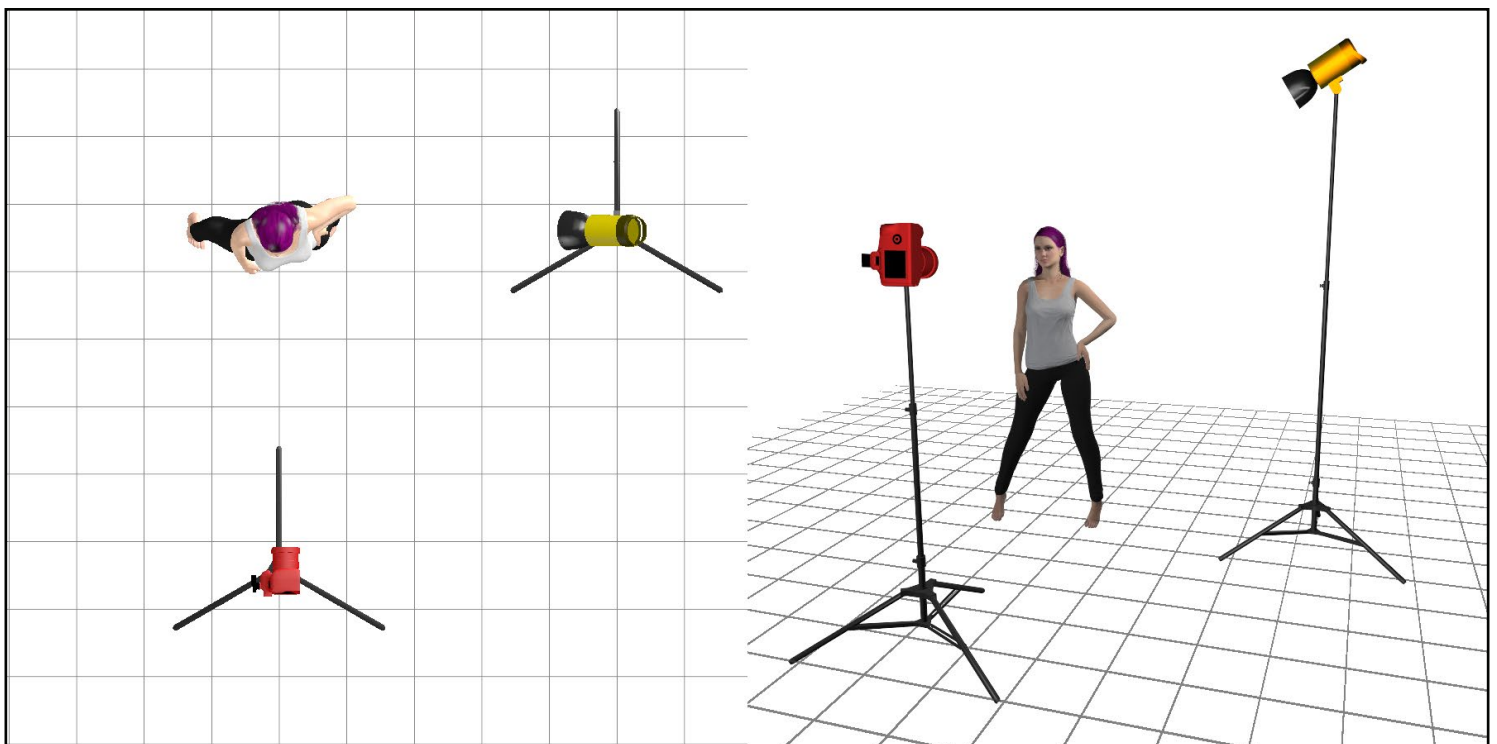
Split lighting divides the face in half so that its 50% lighted and 50% in the shadows.

## Setup:

The light is setup directly to the side of the subject..

## Use:

Split lighting is not flattering & is best used when there is a need to add drama & emotion to your subject.



# HIGH KEY VS LOW KEY

**High key** lighting is a lighting setup that minimizes mid tones and shadows. While containing many shades of white and lighter tones. In the example image to the right even though the model is wearing black you will notice there are very few dark shadows and you can make out a lot of the details of her outfit that would normally be lost in shadow.



**Low key** on the other hand minimizes the lighter tones in favor of shadows and darker tones. It is quite literally the opposite of high key. You can see in the example image to the left that there is very little bright highlight and most of the coat and hair details are lost in shadow.

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COMMON LIGHTING  
PITFALLS & HOW TO  
AVOID THEM

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IV

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# LIGHT FALL OFF

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By moving the light and subject away from the background perceived color of the backdrop changes. In the sample images below the light was placed 5 feet away from the subject and the subject started 5 feet off the backdrop. In the second image the light and subject were both moved 5 more feet away from the backdrop & finally in the last image the light and subject were moved another 5 feet.

As the light and subject move away from the backdrop the light cast on the background get less and less, effectively changing the look. This is light fall off. This can be a good or bad thing depending on the look you are going for. If you need to move the light and subject away from the background but need to keep the color you will need to add another light to counteract the falloff.



**Image #1 - Subject is 5' from the backdrop & the light is 10'**



**Image #1 - Subject is 10' from the backdrop & the light is 15'**



**Image #1 - Subject is 15' from the backdrop & the light is 20'**

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# SEPARATION

When lighting your subject you may run into issues where the subject blends into the background. When this happens you can use multiple lights to help define and separate your subject from the background. Looking at the sample images below you can see the difference in adding lights to the same image. Image #1 (upper left) is a single main light setup to use Rembrandt lighting. In image #2 I added a gelled light against the background to help separate the subject from the background on the left. Image #3 adds a hair light on the right to add definition to the subject and to further pull her from the background. In the final image I added a fill light to the right side of the subjects face to add some definition to shadows.



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# COLOR CAST

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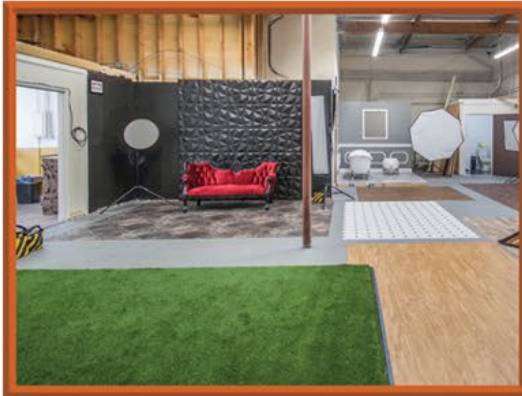
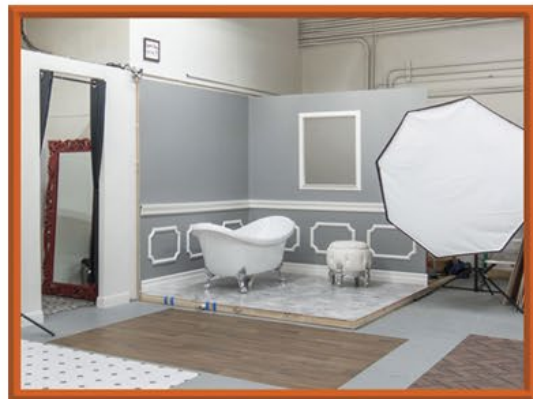
Color cast occurs when light bouncing off of an object reflects onto your subject and carries with it the color of the reflective object. The examples below were shot using a single light source using paper for the backdrop and a black piece of Plexiglas for the floor. As you can see looking at each example the ball is placed close to the backdrop and the light reflecting in the shadow side carries with it the color of the backdrop.

To avoid this you can use a scrim to block the reflective light, move the subject away from the reflective color surface or use multiple lights to fill the shadow and over power the reflective light.



Presented at

# Elysium Studio



Elysium Studio is a production studio located in Garden Grove, CA and has been carefully designed to provide everything a photographer or videographer would need to create a high quality production for their clients.

Easy and convenient booking available online at <http://elysium.studio>

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