# Portrait Lighting

How to work with pro and amateur models, and how to sculpt light.

***Intended learning outcome***

The tools to plan and run a portrait session with both models and non-models. How to communicate ideas with a model, where to put the light.

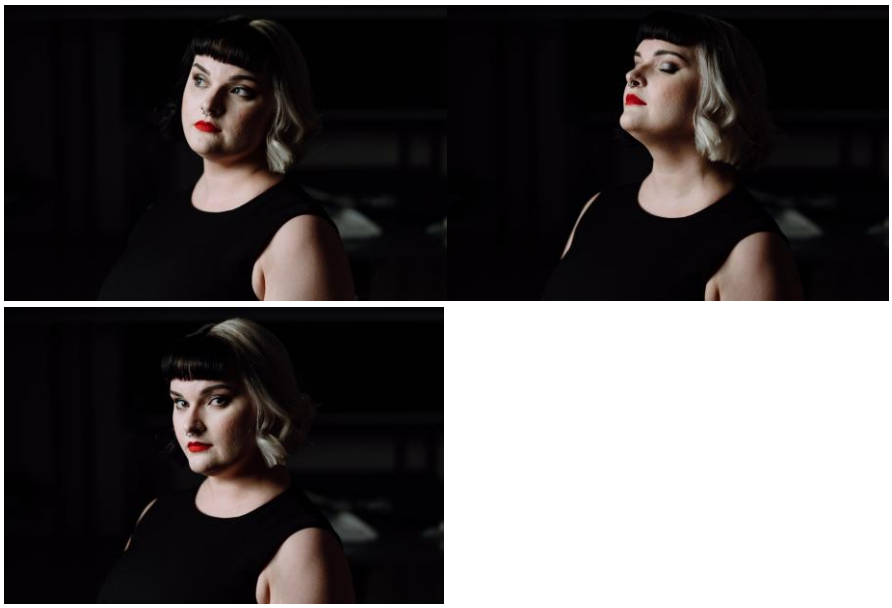
## Part 1: Models

- The importance of having a plan and communicating your intention to your model
- They are a person
- Not making your anxiety/lack of preparation their problem
- The person with the camera has a lot of the power.

***Skillset of a professional model***

The idea that a model is just a pretty person, or even that every pretty person can model, does a disservice to the skillset of a model. A great model, like Shikara, will collaborate with the photographer toward the best possible photo. Models can also hold a pose for a long time without introducing strain and appearing awkward.

In a brief demonstration we showed how a talented model like Shikara will cycle through poses, listening for the sound of the shutter. It's impotant to clearly delineate when you start and stop shooting, as a model will try to sync up the best moment in a post with your shutter. This is in part why 'paparazzi' style photos even of professional models do not look as good.



Moving on, we demonstrated simple, and concrete direction. By asking Shikara to direct her expression toward the light, we can begin to get something which better suits our lighting and intention, but still inviting collaboration. Sometimes we feel like we have to be an encyclopaedia of poses and expressions, but too much focus on the singular perfect pose can suck the life out of a shoot.

### *The difference working with non-models*

When working with non-models the pose, shape, and expression falls into the remit of the photographer. Strategies include providing abstract ideas rather than specific movements, not locking into one 'perfect position', keeping things moving.

- Gregory Heisler: Ask them to change their position every time the shutter clicks, and eventually you might land on something interesting
- Focus on movement and individual parts of the body. If something isn't working, don't dwell on it. Introduce new ideas rather than trying to 'fix' what isn't working.

## Part 2: Qualities of Light

*For the didactics: Start with 45 degrees up and 45 degrees left or right. Position light on the same side as hair part.*

**For our purposes we can split light into angle, and distance. We will note in this segment that light is defined by the shadows it casts.**

***Angle***

As we'll address in the next segment, light angle will provide a consistent look whether the light is in the room or a million miles away. No light angle is better or worse, but specific context cues determine how we read certain angles.

***Demonstration***

Height:
-Low angle feels uncanny
-Too high and the brow ridge starts to create shadows which engulf the eyes
-Goldilocks zone of various heights roughly 15-45 degrees. We can spot these differences in the shadow from the nose

Lateral Angle:
-We have various names for lateral angles. Memorising the names is only useful for communicating what to do, what's most important is understanding the way moving the light changes the way shadow falls on the face. My recommendation is running your own angle test with your subject to see what you like on their face. There are no wrong answers here, only preference.

**On-Axis**: Light coming more or less from the same direction as the lens gives a sort of early 2000s flash look.
**Butterfly**: Raising the light angle while remaining straight lends a butterfly shape to the shadow underneath the nose. Common in fashion

**Clamshell**: Adding fill from below to butterfly light creates a more lifted version of the same, very popular in fashion. Called so because the use of multiple reflectors looks like a clamshell.
**Loop**: As we move to one side, the nose shadow becomes a loop shape
**Rembrandt**: Move further to the side until the shadow side of the face creates a triangle.
**Split**: Light 'splits' the face into shadow and light. Feels kind of conflicted or evil.
**Edge/Hair/Back**: Light from far behind the subject is usually only used in combination with other lighting, but can have the feeling if etching definition and form into our subject: Separating them from their background.

If our subject is angled away from the lens:
**Broad Light**: Lighting the broad side of the face
**Short light**: Lighting the short side of the face

**Demonstrating different angles with Shikara**

**On Axis** light can evoke a feeling of spontaneity and 90s glam, get it wrong however and you can get a bit of a deer-in-headlights feel. Shikara still looks good here, but I think pairing with more movement would have netted more interesting results than we see here.

Light coming from **below** our subject feels inherently uncanny, as we rarely see this angle in nature. Again, a good model can pull off basically anything, but this is an angle which really requires justification.

Light which is laterally **on axis** but above our subject is called **Butterfly Light** because of the shape it makes under our subject's nose. Ignoring the fact that we had to pump our ISO a bit to compensate for our little torch, it's surprising how

coherent this light appears compared to the above two examples, no wonder beauty & fashion photographers use this pattern so often.

As our light gets too high above our subject it starts to invite shadows from the brow ridge. Not inherently wrong, but a little spooky or different. Shikara pulls it off, but this lighting may not feel so flattering with other subjects. This effect of shadows over the eye is why wedding photographers famously avoid midday overhead sunlight.

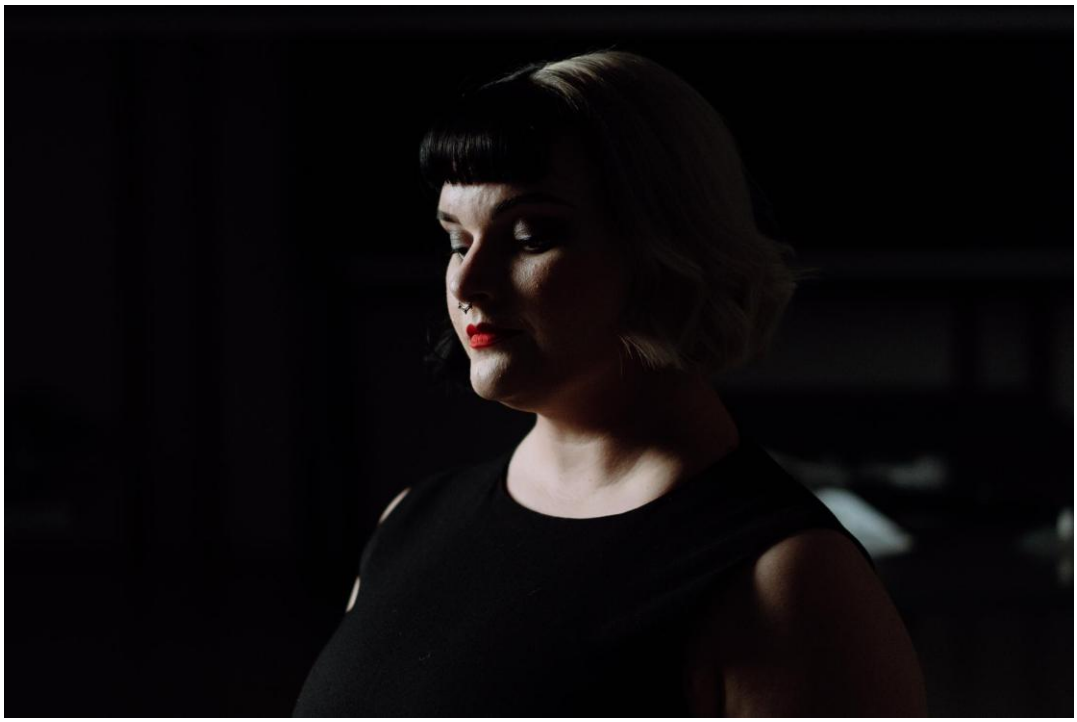
Here **Loop Lighting** from an angle ~30-40 degrees off axis looks coherent and unproblematic. The fact that this lighting doesn't call much attention to itself is why it's such a common go-to.

A little more angle and we start to enter **Rembrandt Lighting,** named for the famous dutch painter, this style is denoted by the triangle of light below our subject's shadow-side eye. Note that slightly more angle may have removed that highlight to the right of Shikara's lips, which is a little distracting. Small features like this are a great example of why it's a good idea to try a number of angles with your subject, as no one specific angle is perfect for every face.

At an even more extreme angle, **Split Lighting** is named for how it splits the face evenly into a lit and shadow side. Commonly used for bad guys or ill intent, even game Shikara looks pretty sick of the exercise when combined with this pattern.

In a setting like this it would be uncommon to use a single light behind our subject, but when multiple or even ambient lighting enters the scene, a **backlight** can etch our subject out of a busy background, or just create a little bit of glamorous halo.

When our subject is at an angle from the camera, we can define the key light as either **Broad Light** which lights the broad side of our subject's face, or **Short Light** which lights the short side.



**Short light** at a fairly extreme angle can be particularly moody and lovely.

### *Distance*

Distance affects our intensity of light following the inverse square law:

the inverse square law can be expressed as an intensity (I) varying as a function of distance (d) from some centre. The intensity is proportional to the reciprocal of the square of the distance thus:

$$\text{intensity} \propto \frac{1}{\text{distance}^2}$$

As Zach Arias says: “I don’t need to understand the math to use the inverse square law”.

Plainly spoken: Every time we double the distance, we quarter the light (lose two stops!), every time we halve the distance, we twice double the light (gain two stops!).

What this means in practical terms is that we’re going to gain a lot of light intensity by increasing the proximity to our subject. When we pay sometimes more than double for a light with more wattage, small changes in proximity can provide a significant improvement for light intensity. **For example:** The godox LS300 is $800, and gives us the same two stops we can achieve by halving the distance between light and subject.

On the flip side, we may find the rapid diminishing of intensity at closer distances contrary to our purposes: **For example:** when photographing large groups, distance becomes our friend. By placing our lights further from our subject, we ensure the falloff of light is more gradual.

**Distance also affects softness of light**

We read hardness or softness in the way the shadows fall off. When using a large modifier light emanates from more angles and this light fills in the edges of shadows, softening the edge.

Note that softness is determined by *apparent size* from our subject's perspective. The sun is very big, but reads as a hard light because it's so far away. Conversely, we can take a relatively small modifier and get it close enough to read as soft.

*Demonstrate:*
Want to see all of the angles from which a soft light will fill a shadow? You can trace the shape of a large modifier using a hard light: the large modifier will light all of those angles simultaneously.

*Demonstrate:*
A small modifier up close will read as equally soft to a larger modifier further away. What will change is the falloff of light intensity due to the inverse square law (we have lost two stops every time we doubled the distance!)

On the left, the **hard light** of a naked light, and on the right, a softbox has diffused the lighting into **soft light.**

We'll have to excuse some pretty poor colour balance here, but proximity and innovation can save us a lot of cash. Here our little torch through a piece of A4 paper looks every bit as soft as our comparatively expensive softbox.

To demonstrate that softness is based on size from our subject's perspective, here the light is much further away, but is shot into the ceiling to create a very large light source. We'll note also that, owing to the inverse square law, there is much less

falloff of light intensity owed to the light source being much further away: this is why the background is suddenly so bright.

**Questions**

**Lightning Round:**

Extra reading via strobist blog and Light: Science and Magic.

Two Lights: When using multiple lights, set up your first light in the way that we have done today, additional lights can then be used either to create edge light or to fill shadows. As a general rule, edge light can be 1-2 stops above the key light, and fill light should be 1-2 stops under, and ideally be either close to camera or soft.

Balancing with ambient: All light works in the way we've addressed today, by thinking of light this way we can start to understand what lights throughout our life are doing. Looking at light and light sources is something it took me embarrassingly long to consider.

Colour: In a single light situation, light can be any tuning of white. When multiple lights (especially ambient light) are in a scene, it is important that they are similarly tuned or you can have the effect of rendering your subject overly warm or cold, and breaking the coherence of the scene.