

# Why Size Matters: The Surprising Truth About Light Sources

**These are the show notes for the Shootorials Podcast, Episode 05. To listen to the podcast go to [shootorials.com](https://shootorials.com).**

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There is often confusion as to what hard light and soft light are. Soft and hard are what we call qualities of light. And the confusion comes from the fact that the term actually refers to shadows and not light.

Take a look around yourself right now and look at the light and how it illuminates objects around you. If you're indoors in a room with a window for example, look at the light on the wall closest to the window and then on the wall further away from the window. The wall closest to the window is lighter and the light slowly falls off in a gentle shadow as it move across the wall. The shadow is not a distinct line, but its a gradient. The shadow is soft. There's no clear distinction as to where the shadow really starts or ends. That's called soft light.

Now imagine that you're outdoors on a bright sunny day and you look down at your shadow. What does that shadow look like. It looks completely different. It has a very distinct edge, doesn't it? That's what hard light does. It creates shadows with a very sharp or hard edge.

Take a look at this art nude image that I took near an enormous warehouse window. Notice in particular how the light transitions into shadow. There are no shadow lines; just a very subtle gradient. This light is super soft.



Now compare that to this image where I've used a speedlight. If you look at the shadow of her nose on her cheek, the shadow across her neck and on her shoulder, you'll see shadows that have sharp, clearly defined edges. Those kinds of lines are non-existent in the art nude image. That's what we call hard light.



So to sum up, the level of softness or hardness is determined by the amount of gradient shadow. The less obvious the shadow line, the softer the light is. The more defined the shadow line, the harder the light is.

You can use either type of light for portrait photography and they both have different vibes. Hard light is edgy, modern, bold, crisp, dramatic, etc. Soft light on the other hand is smooth, natural, gentle, even dreamy.

However, most portrait photographers prefer using soft light. Why? It's more flattering because the soft shadows minimize or conceal blemishes. If your subject has a pimple and you use hard light, you're going to get a hard contrasty shadow where the pimple is and that contrast draws the viewers attention to that spot. It's like: "Look at me! I'm a pimple!" If you use soft light on the other hand, you get a softened shadow that reduces contrast, and just like the gradual shadow on your walls, you don't even notice it. So for most portraits, especially headshots, you want to use soft light.

## How do you create soft or hard light?

Soft light depends entirely on the size of the light relative to the subject. In simple terms, a big light source produces a soft light. A little light source produces a hard light. But you might be thinking the sun is huge, so why does it give us hard light? That's because it's about the relative size compared to the subject. So even though the sun is enormous, it is so far away from the subject that it looks tiny. You can put your hand out in front of you and completely cover it. So the sun is smaller than your hand, relatively speaking. On the other hand if you are standing by a large window, you get soft light. If you put your hand on the window, it only covers a tiny fraction of the window. So relative to you, that's a large light source.

In the studio I can create large or small light sources. If I have a big softbox next to my subject the light is going to be soft. If I use a speedlight or the flash on my camera which is tiny, I'm going to get hard light. But be careful. Having a big softbox is not necessarily going to give you soft light. If the softbox is positioned far from the subject it becomes smaller relative to the subject. As that softbox gets further away the light is going to become increasingly hard.

In this image, taken in my studio for a lingerie designer, I have a large 6 foot umbrella in front of Rachel with an additional 3 foot octabox to her right (camera left). These are large light sources and the shadow is soft.



This next picture is taken at the same spot in my studio. This time I'm using a bare bulb flash that is positioned as far away from Ahna as possible. It's a small light source and as a result I get an image with clearly defined shadows, the kind of shadows you'd see in bright sunlight. Instead of a soft dreamy feel, you literally get a hard edgy vibe.



## Diffusion confusion!

Now here's another point of confusion that comes up even for experienced photographers. The thinking is that if I drape some translucent or diffusion material over a light, it's going to give me soft light. That's not the case at all. Diffusion material covering the flash on your camera is going to be just as hard. And taking the diffusion material off a large softbox is not going to make your light any less soft.



Diffusion material doesn't affect the hardness or softness of light. It has an impact on another quality of light which we call specularity. You'll see bright sparkly specular reflections off the water of a lake on a bright sunny day. Sometimes if you're taking a picture of a person, you'll get a bright white spot on their nose or forehead. That's a specular reflection. Diffusion material like you see on the fronts of softboxes in the image above will help minimize some of that specularity. However, specularity is also impacted by the surface of your subject. Water, metal and oily skin is much more likely to give you specular highlights. That's all I'll say about specular light right now. It deserves a deep dive of it's own.

So here are our key takeaways:

- Hard and soft light are defined by the transitional shadow area with soft light having a gradient transition and hard light having a distinct edge.
  - Large light sources create soft light. Small light sources create hard light.
  - The use of diffusion material affects specularity, but does not impact the hardness or softness of light.
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