

# SHOT CRAFT

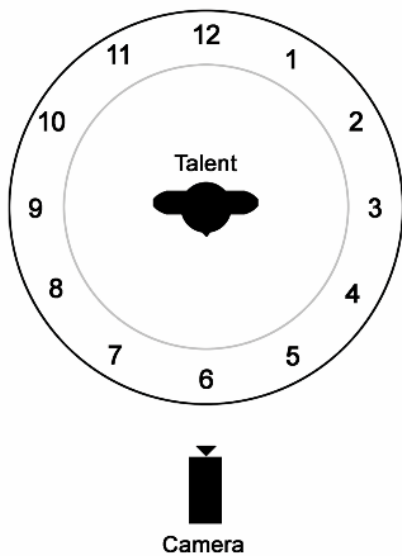
By Jay Holben



Three-point lighting — created with a key, fill and kicker — provides a basic vocabulary for working with lights and communicating with crew.

## I Three-Point Lighting

If you reference many texts on cinematography, or if you have taken any classes or workshops on lighting, you will undoubtedly have encountered the concept of three-point lighting, comprising a key, fill and kicker. This classical and conventional lighting methodology has been passed down from generation to generation, and it makes for a wonderful starting point, but it's important to understand that it's *only* a starting



A clock face offers a convenient means of specifying lighting positions.

point. Rather than rules that must be followed, the principles of three-point lighting are only basic generalizations. However, the beauty of the concept is that it gives us a basic vocabulary for working with different lighting instruments, specifically when using them to shape the human face.

Before we build on three-point lighting's foundation, let's start with a refresher and break the concept down for anyone who might not have encountered it before.

First, in order to have a clear conversation about lighting positions, we need to establish our geography. For the sake of simplicity, let's assume that we have one actor who is directly facing the camera. I like to use a clock face to specify lighting positions; if we imagine the actor is positioned at the center of a clock dial with the camera at the 6:00 position facing the talent, then the 12:00 position is directly behind the actor — and 3:00 is on the actor's left, and 9:00 is on the actor's right. A key light coming from the camera would be at the 6:00 position; a backlight positioned directly behind the talent would be at the 12:00 position.

By classical definition, the **key** source provides the main light that shapes the actor's face. It is a strong, dominant source. This is most often placed anywhere from directly beside the actor to directly in front of him or her — anywhere from 3:00 to 9:00 on the clock face. The classic "Rembrandt" key position is approximately 4:30 or 7:30. (See Quick Tip, page 16.)

The **fill** source is, traditionally, placed on the opposite side of the face as the key light with the intention of "filling in" the shadows created by the key. The fill is usually at a lower intensity than the key and generally of a softer quality so that it doesn't create shadows of its own. Fill can be accomplished with an additional lighting fixture or with a bounce material that returns "wasted" light from the key back onto the actor. When using hard-light sources, the fill light often comes from directly above the lens so that any shadows it creates will not be seen by the camera. (This is not to be confused with an eye light; see Shot Craft, AC July '18).

The **kicker** — also known as the backlight, rim light, edge light, hair light or separation light — is placed behind the subject and serves to separate them from the background by lighting up the back of the head and the tops of the shoulders. The kicker can be positioned above or below the actor's eyeline, but it always comes from behind the talent — somewhere between 9:30 and 2:30 on the clock dial. In almost all cases, no matter how soft this source is, it will read as a hard light due to the nature of its position. Intensity-wise, the kicker is almost always the hottest source — i.e., the brightest — followed by the key and then the fill.

That's it! Now we're ready to light anything!

Three-point lighting photos by Jay Holben and Kaity Williams. Diagrams by Jay Holben.

Well, not so fast. While three-point lighting is invaluable for understanding the basics of classic lighting positions, it should not be taken as a rule for every lighting setup.

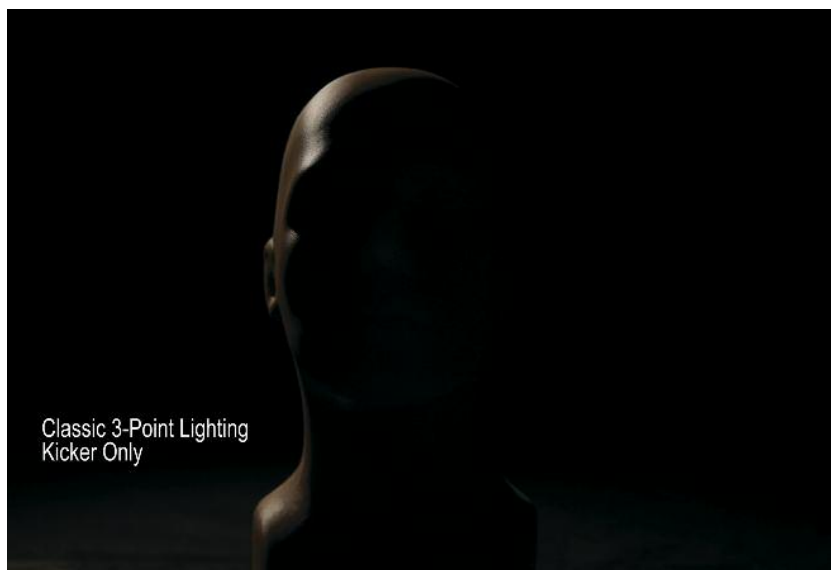
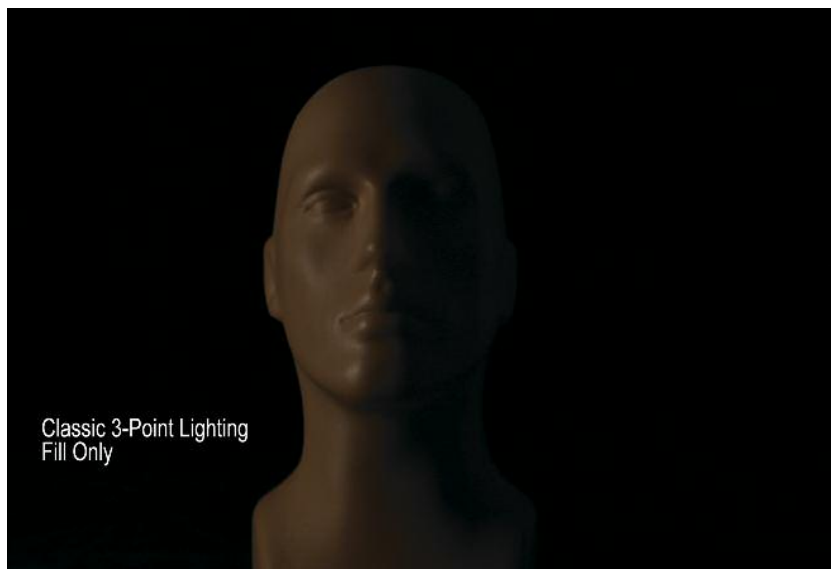
Personally, I think three-point lighting is responsible for more confusion when it comes to the subject of lighting than any other single concept. This is because, as we all soon discover when we step behind the camera, it's popular to have the actors in a motion picture actually *move*. When an actor moves from one position to another, do you maintain three-point lighting? Does the lighting move with them? Should the three points be so broad that they cover the actor in each position?

Truthfully, it all depends on the narrative — the story, the mood, the time of day — as well as the environment, the individual cinematographer's lighting style and the individual director's vision.

If you're shooting a stationary subject such as a talking-head interview for a documentary, three-point lighting is a very useful technique — one that I've used literally hundreds of times. Or, if the actor walks into position and sits down, you might have them land in a three-point setup with a key, fill and kicker.

But it's important to understand that in many other situations, your lighting may well not have three points. You might be working with only a key or only a backlight. The key, fill and kicker might all be coming from the same side of the subject. You might have multiple fill lights or multiple keys. Maybe you have a situation with a key, two fills, an edge, a backlight, an eye light and even more!

I generally identify the key as the primary motivated source of light, regardless of whether it's positioned between 3:00 and 9:00 around the actor. If you're in a daytime interior and sunlight is coming through the windows, then the window light is most often identified as the "key." This is equally true whether the windows are next to or behind the actor; in the latter case, the "key" light might come from between 9:00 and 3:00, anywhere





Fill light can come from the same side as the key, creating a softer light on the key side and helping to wrap the light around the face.

*behind* the actor, and not even hit their face directly! It all depends on what it is that’s motivating the light. In a “no light” situation, where the character is in what’s supposed to be complete darkness or an environment with no identifiable light source, I might use an edge/kicker light, some fill, and no key light at all.

The fill light does *not* have to come from the opposite side of the key. In some cases it’s quite beautiful to have the key and the fill coming from the same side. That might sound confusing — how can you fill shadows from the same side as the key light? Instead of lowering the dynamic range by putting light into the shadows created by the

key, the “fill” is creating a softer light on the key side and helping to control the way the light wraps around the face. In this case, the fill becomes more of a secondary key that, by combining harder and softer sources, helps us to refine the quality of light on the key side of the face. This can give us the best of both worlds: strong definition and contrast

**Quick Tip**  
**“Rembrandt” Lighting**

The “Rembrandt” style of lighting refers to a classic position for a key light that pleasantly shows off the shape of the face while making sure that both eyes are lit. The Rembrandt style positions the key at about the 4:30 or 7:30 position; this extends the shadow of the nose into the cheek shadow so that a triangle of light is formed under the eye on the shadow side. The technique is named for the famous 17th-century Dutch painter Rembrandt Harmenszoon van Rijn — who, ironically, rarely rendered such lighting except in his self-portraits.

A note of caution: A subject’s facial features aren’t always compatible with this style of lighting. The angle of the light and the resulting shadows can accentuate or even appear to exaggerate large features. Nevertheless, the Rembrandt style is often considered to be one of the most “natural” key-light positions, and it serves as a good starting point for many situations.





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from a hard key often placed at 2:00 or 10:00 — just bordering on an edge-light position — and softer, more “pleasing” wrap from the fill that’s right next to it, at the 3:30-4:00 or 7:00-8:30 position. (I can’t think of a case where fill would come from behind the talent, so we can pretty safely say that fill will always come from between, roughly, the 3:00 and 9:00 positions.)

Again, where an understanding of three-point lighting is useful is in establishing a base vocabulary, both for your own understanding and for communicating with your crew. You can say, “We’ll set the key here, and I’d like a kicker from that side, back there,” and the gaffer will immediately understand the intention behind those sources and be able to implement your requests accordingly. If you were to instead say, “Give me a 1K here and a 150 back there,” the gaffer might not know why those lights are being requested or what their intended job is. Having a common vocabulary allows you to work more efficiently.

### Field Guide Unwanted Reflections

We recently discussed working with specular reflections, which are reflections of the light source used to define the shape of a reflective object (see *Shot Craft*, AC April '19). Those are instances when you *want* reflections. This month, though, we’ll look at how to handle situations in which you’re confronted with reflections that you *don’t* want.

I’ve seen many a crewmember, in the heat of the moment, expend a lot of unnecessary effort while scrambling to solve a reflection problem. In truth, though, the source of such reflections doesn’t need to be hard to track down. Luckily for us, light behaves according to a few set rules of physics, one of which we’ve talked about before: *The angle of incidence is equal to the angle of reflection.*

So let’s use that law to help us track down the offending source of the



▲ A nighttime look can be created by eschewing a key light and using only a kicker and some fill.  
▼ Dual key lights can be positioned from opposing angles.



reflection. First, stand at the lens of the camera and note the angle of your vision to the location of the reflection; if you’re dealing with a particularly stealthy offender’s reflection, put your head directly in front of the lens so that your eyes are level with it. Next, walk in a straight line from the lens toward the reflection; the angle at which you arrive at the reflective surface is the exact angle at which you’ll find the offending source in the *opposite* direction.

This process is sometimes easier if you have a laser pointer. From the lens position, point the laser at the reflection and wiggle it around a little. If the surface is reflective enough — or if your

laser is bright enough — you’ll find the laser point wiggling on the source of the reflection like a red-faced tattletale. (However, this technique might not work so well if you’re dealing with glass or another surface that will transmit or absorb instead of reflect most of the laser light.)

Be sure to watch out for compound reflections, which occur when a light source is reflected off of multiple surfaces. Compound reflections can easily happen if you are shooting toward a corner with reflective surfaces on both sides; the light can reflect off of one surface, into the other, and then toward the camera. Keep in



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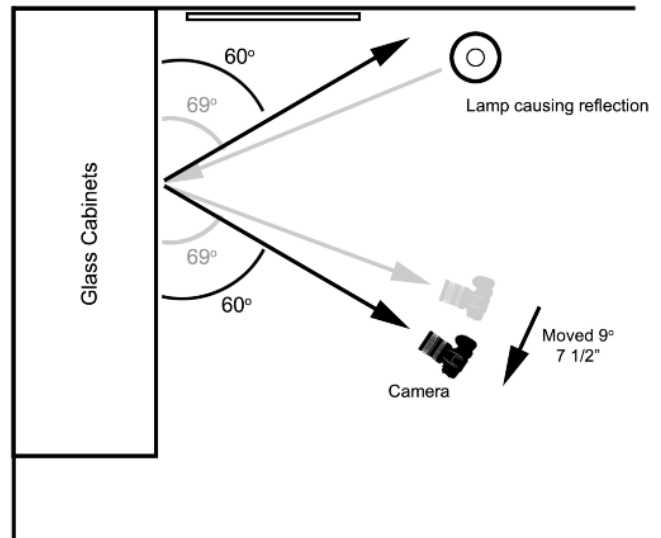
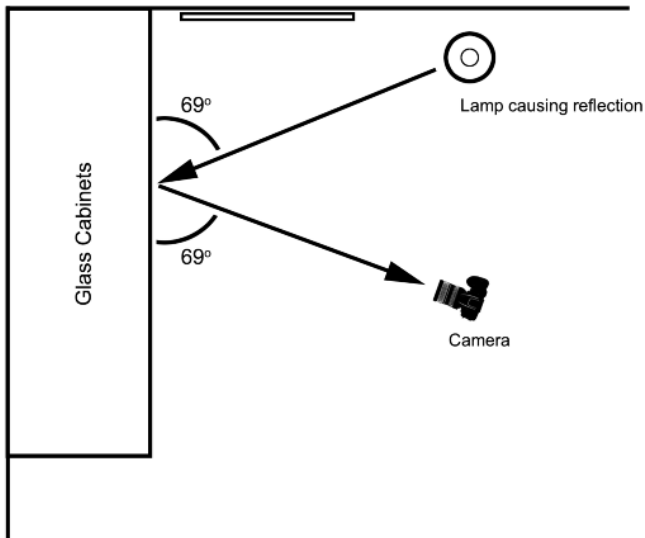
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When dealing with an unwanted reflection, remember: The angle of incidence is equal to the angle of reflection. That angle can be adjusted in multiple ways.

mind that the same laws of physics apply. Trace the path of the reflection from surface to surface and back to the source by remembering that, at each point of reflectance, the angle of incidence is equal to the angle of reflection.

Okay, you've found the offending source. Now to fix the reflection!

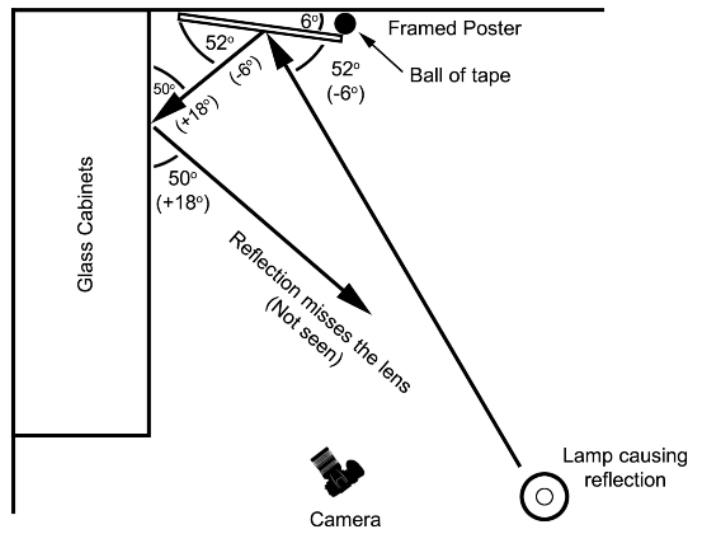
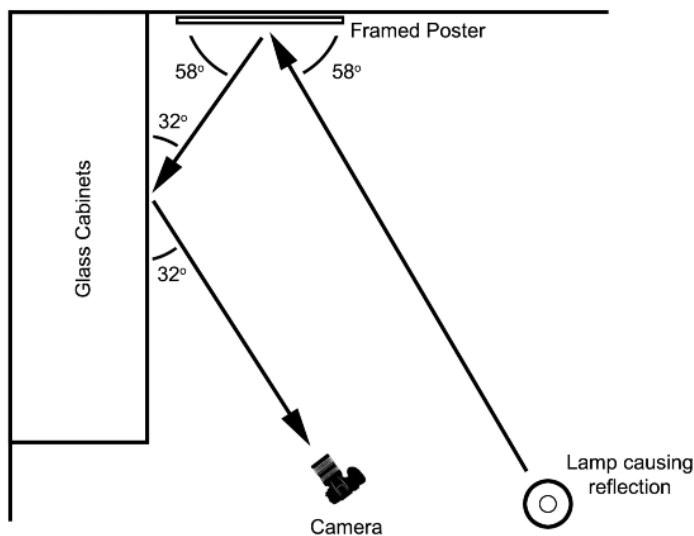
Sometimes the reflection stems from light leaking around the sides of a lighting fixture, either out of the ventilation holes or between the lens and the barn doors. This can generally be solved by wrapping that side of the light with a piece of black wrap to block the light spill, but be careful not to wrap the lamp too tightly, and be sure to *not* wrap the

whole lamp, especially if it's an incandescent source. Wrapping the entire lamp can trap in dangerous heat and damage the fixture or, worse, start a fire. Just use enough black wrap to cover the offending light leak. Alternatively, you might place a flag alongside the lamp to prevent the light from hitting the reflective surface.

At other times, the reflection might be from the face of the light, in which case you can't necessarily cover or flag the offending source, as doing so would cut the light off of your subject or whatever else the fixture is lighting. If you can move the lighting fixture, that's often the best solution. Move it to a new

position where its angle of incidence to the reflective surface will result in an angle of reflection somewhere other than to the lens. Sometimes this simply means moving the fixture a couple inches or a couple feet to one side or another.

You might also be able to change the angle of reflection by changing the angle of the actual reflective surface in relation to the camera. If the reflection appears on a glass door, slightly opening or closing the door might eliminate the reflection without requiring you to adjust your lighting. If the reflection is in a glass picture frame on the wall, you can wad up a little ball of paper tape or



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gaff tape and place it between the wall and the lower corner of the frame, thereby tipping the angle of the glass enough to eliminate the reflection but not so much that it will be noticeable to the camera.

Finally, you can alter the reflective

quality of the reflective surface, usually by making the surface more diffuse. Most commonly this is done with dulling spray or hair spray, which will “gunk up” the surface and eliminate the specular nature of the reflection. This can, however, make the reflective surface

look odd, unnatural or unrealistic. Therefore, in my opinion, this is the least desirable solution. In most cases it should be a last resort, only turned to if all else fails. ♦

## Meter Case Jay Holben

What’s in *my* meter case? Quite a lot, actually. Although I was never a Boy Scout, I always try to be prepared, and I live by the adage that it’s better to have something and not need it than to need it and not have it. And so, over the years, my case has become a varied collection of tools that I *might* need — and many that I use on a regular basis.

- **Pelican 1490 Laptop Case**
- **Sekonic L-508 C** — This combination incident and spot meter remains my favorite meter. It’s got a lot of mileage, but it keeps on reading.
- **Alan Gordon Mark V 12-to-1 Director’s Viewfinder** — While this has become fairly obsolete in the age of smartphone-app viewfinders (such as Chemical Wedding’s Artemis), this used to be indispensable on a set that couldn’t afford a PL-mount viewfinder. It’s still nice to sometimes hand a director a physical viewfinder to go play with.
- **Suaoki Laser Measuring Tool**
- **Blue-Point MT135 Digital Probe** — Primarily used as a voltage and continuity checker.
- **Ideal E-Z Check Plus Circuit Identifier with Circuit Tester** — This is a great duo. The tester alone is terrific for checking standard Edison outlets for power and proper wiring, and for testing GFCI [ground fault circuit interrupter] functions. When the tester’s plugged in, you can take the identifier to the breaker box, and it will “ring” when it hits the breaker that the tester is plugged into. This is an easy and unobtrusive way to map-out the circuits in a practical location.
- **OpenX Dual Blade Package Opener** — I was introduced to this product by producer Robert Lewis, whom I worked with on *Dexter*. It’s great for opening packages, cutting twine, trimming gel, etc.
- **Box cutter utility knife**
- **Leatherman Multi-Tool** — I start to really date myself if you look at the vintage of some of these items. This one goes back to my theater days in the late ’80s.
- **Spyderco Police Model folding knife** — This one dates back to about 1987. It’s served me well for many, many years.
- **Laser pointer** — Phenomenal for communicating exactly which fixture or pick point you’re talking about.
- **Silva Ranger Type 15** — Compass and clinometer.
- **Small keychain bubble level**
- **6" adjustable spanner** — Commonly referred to as a Crescent wrench.
- **Jamestown “4 in One” screwdriver**
- **LED flashlight**
- **Medium base to polarized Edison ungrounded adapter** — Also known as a “pig nose,” this is for converting a standard bulb socket into a plug.
- **Four-pack of AA batteries** — For the Sekonic and my laser tape measure.
- **One pair of ear plugs** — For loud locations.
- **Motorola walkie-talkie headset**
- **Barbizon *Electrician’s Handbook*** — A handy, pocket-sized volume filled with tables and charts.
- **Pen, Sharpie and highlighter** — I always have at least one of each with me.
- And of course my **iPhone**, with all its various apps. I couldn’t really survive without them anymore! (For notes on specific apps, see my posts on AC’s Instagram feed, @american\_cinematographer.)

