Interior Lighting:
How the Pros Do It
by **John Siskin**

I've been photographing interiors for clients for about 20 years. I've shot warehouses and hotel rooms, restaurants and factories for clients as diverse as General Motors and interior designers. I've learned a lot about making images of the inside of a building. The job can be easy, but it usually isn't. In the next few pages I hope to explain an approach that makes shooting interiors simpler.

Goals first

I begin shooting an interior by identifying the client's goals for the image. Then I pick the tools (cameras, lights, and accessories) that will enable me to accomplish those goals. Finally, I'm guided by what I call the doable: you can't tear down a wall to set up your tripod. I'll explain each of these ideas, then apply them to several client images.

The first task is to find out who sets the goals. Is your client the art director or the restaurant owner? Sometimes it's tough to figure out who is responsible for making decisions. If you don't please the decision-maker, you may not get paid. Does the decision-maker understand the process of making an interior photograph? I've had clients who expected me to shoot 30 or 40 images of a room, like you might with a fashion model. Educating the client is sometimes part of the process—and it's better to do this before photography begins.

Eventually the client will tell you how the image will be used, and you can begin choosing your tools. I did a warehouse shot (figure 1) for a client who planned to use the image at 11×17 inches on the inside cover of a facilities brochure. At the time, the only choice was 4×5-inch film because we needed high resolution. I've done other warehouse shots that were going to be used at 3×4 inches in a brochure (figure 2); I shot them in 35mm.

A client may want a romantic shot, which means soft light and soft focus. Another time an art director may want to make a room look bigger, which means an extreme wide-angle lens. If clients ask to make the shot look deeper, they probably want the light to fall off as it gets farther from the camera. If we approach this part of the process carefully we can find out what sort of camera and lights we need.

Equipment—lots of it

Shooting interiors is an excuse to buy a lot of photo equipment! Let's start with cameras. A lot of work still requires a 4×5 monorail view camera. This camera has shift movements that allow cropping and adjusting the perspective of an image in the camera. This means that we can keep the

Figure 1. *Parts Warehouse, photograph printed 11×17-inches. Taken with a 4×5 Toyo with 75mm lens. Ten lights over 12,000 total watt/seconds.*

Figure 2. *Loading Cooling Racks, photograph used on a web site. Nikon 35mm film camera with a 20mm lens. Existing light, 81c filter.*

straight lines straight. One of the advantages of the view camera is perspective control, or shift movements, with most lenses; very few perspective-control lenses are made for 35mm cameras (some are—see page xx).

Another advantage of a view camera (or any film camera) is the ability to do very long exposures: I've made film exposures of more than 10 minutes to burn-in existing lights after the strobes go off. This is often impractical with digital capture because such long exposures produce unacceptable noise or other artifacts. The biggest difficulty of a view camera is the amount of light needed to achieve appropriate depth of field: a 90mm lens on a 4×5 camera requires f/16 to be in focus from 4 to 14 feet, a 28mm lens on a 35mm camera will do the same thing at f/8, needing only 25% as much exposure.

I now use my Kodak DCS Pro 14/n digital SLR for many interior shots. I have the advantage of working with less light because of its 35 mm-size chip, while getting a file of almost 14 megapixels. The Kodak and my Nikon film cameras give me access to some perspective-control lenses (Nikon has both a 28 mm and a 35 mm perspective-control lens, Canon has a 24 mm) as well as lenses having more than

a 105° angle of view. The Kodak camera gives me a file that can be used at more than 10×15 inches, better resolution than I get with 35 mm film. An additional advantage is that I don't need to make Polaroid test prints.

Lights

After I choose my camera, I can pick out the lights I need. When using the 4×5, I need more power, so I take my Norman 900 series strobes—two power packs totaling more than 3000 watt/seconds, plus six heads. If I am using the Kodak DCS Pro 14n I take my Bowens monoblocks—three heads totaling almost 1500 watt/seconds. With either of these light sets I will probably take my Norman 200Bs, which include three battery-power packs and four heads with 600 watt/seconds of power. When I use the digital SLR, I can often get by with just the Norman 200Bs. The Norman battery-pack units are the most flexible lights I have because they don't need a wall plug.

Watt/seconds are a measure of the power used by a strobe, not actual light output. If you double the watt/seconds, you double the light output. So my big Normans put out about one stop more light than the Bowens, but the Normans take up more than twice as much space and weigh at least twice as much.

The lights that I have now reflect choices made over the course of more than 20 years. I wouldn't make the same choices if I were starting from scratch in 2005. I'd choose flexibility over power, favoring monoblock lights over powerpack lights because I expect to do more work with digital cameras over film in the future.

The digital camera offers another advantage over my 4×5: it can adjust the way the color of light is recorded. If I shot tungsten lights on daylight film they would record as yellow. Fluorescent lights show a greenish cast on daylight film. To control these difficulties, I have a large number of filters that allow me to shift the color balance of the light source. A digital camera does this with software, and allows me to change that choice after the shoot in the camera software (if the images were shot in the RAW format). Please note that digital can't change the color of only some lights in a shot. Just as with film, all the lights used in a shot should be either matched in color balance or be in a pleasing color balance. Therefore, I don't use my stack of filters for my lenses as much as I used to, but I still filter my lights. The digital camera retains the same sensitivity to light (ISO) regardless of the color balance; the filters used with film always absorb light, thus reducing the effective sensitivity of the film.

Grip equipment

Next, I'll need grip equipment: light stands, small light stands, umbrellas, clamps, clay, slaves, tripod, and so on. There really is no end to it. You can do 10 jobs without needing a small light stand but, if you don't bring it, it will prove essential on the 11th job.

I can offer a few hints to make jobs easier. Put pieces of gaffer tape on your equipment cases—that way, if you forget your tape you can peel a piece off your case. If you use hard cases, put a stud you can attach a light to on the case. Buy cases you can stand on. Look at military surplus stores for cases. It's easier, but more time consuming, to carry several smaller cases than to try to move one big case. If a tripod is easy to carry, it is probably useless—long exposures require rigid (heavy) tripods. Work out a way to hang a case from the tripod; the extra weight will make it more stable. Slaves trigger a strobe when another strobe goes off, and keep you from having to run wires everywhere. Bring extra slaves—they sometimes quit working for no reason. Umbrellas are like sawed-off shotguns; they spread light everywhere. The bigger the umbrella, the smoother your light will be: the more reflective your umbrella, the more light will reach your subject. Remember that what you don't have with you limits what you can do at the location.

On location

When we get to the location, we are confronted by reality. Did the client bring the flowers for the table? Did the client move the boxes to the right place in the warehouse? Part of our original discussion with the responsible person or client should have specified the condition of the site on the day of the shoot.

While everyone else is preparing the stage for the photograph, you should be looking for the camera angle. Choosing the appropriate angle is critical for the best shot. Consider how wide an angle of view is necessary. If you have more than one lens that will cover the scene (obviously at different distances), consider that the wider lens will tend to give a distorted image at the edge of the field, while a longer lens will make the scene flatter. The goal of the picture should help you to choose.

Another consideration is the height of the camera: a higher camera position will show more separation between objects in the photo; in a lower position, the look of objects receding from the camera will be more like human sight. For instance, if you are shooting a hotel room, the bed is very important and the height of the camera will directly affect the apparent size of that king-size mattress.

Set up

Setting up the camera first is critical because it establishes where you can and can't put lights. You can't put a light where you can see the light or light stand in the picture (possibly fixable in Photoshop); where the light creates a reflection visible in the camera (possibly fixable in Photoshop); or where the light creates flare in the camera (generally not fixable in Photoshop). If you can avoid needing to fix images after the shoot it will make relations with the client better.

Next, I evaluate the scene to choose the feel of light I need in the picture. If possible, I will have done this before the shoot to help decide which equipment I need. If the original feel of the lighting isn't critical, such as in a factory or office,

Figure 3. *Hotel Room, photograph used in brochure, web site. PC-NIKKOR 28mm lens on Kodak DCS Pro 14/n, using three monoblock lights totalling about 1,300 watt/seconds.*

I am freer with how I light the space. If the image is going to be a space in which the lighting was intentionally designed (an atmospheric restaurant, for instance), I need to maintain that look. This is a very important difference.

I then set up the lights. I generally begin with two large, powerful umbrellas, set as close to the image area as possible. This gives me a large area of relatively low-contrast light, similar to what you might find in an office. Starting with more than two lights makes it hard to figure out all the variables, and it's easier to add lights than to remove them. Once I have my two umbrellas, I may add more diffused lights or harsher light (just a reflector) to fill in shadows or add shape to the image. The trick is to get enough light to maintain focus through the whole shot.

How it works in practice

The warehouse image (figure 1) shows a particularly difficult version of this kind of shot. The goal of this image was to make an 11×17-inch printed piece, requiring the detail of the 4×5 camera. This meant we needed a lot of light. I placed two lights just to the side of the camera (Norman 900 series at 2000 watt/seconds each), which were used with reflectors only to maintain maximum light output. Several yards into the shot, two Bowens 750 watt/second monoblock lights were attached to the top of the shelf systems. It was much easier to attach the self-contained monoblocks here than it would have been to work with powerpack lights. They are somewhat visible in figure 1, but they were cropped out of the final image.

I hid more lights halfway down the aisle at a crossing. I had two lights on each side of the aisle pointed at the opposite side, one toward camera and one away from camera. They served the same purpose as the overhead monoblock light: to add contrast and color to the product stack. These were both powerpack and monoblock lights—I was using all the lights I had! The difficulty was creating enough separation in the back of this shot so that the image didn't go to black as the aisle receded. To help the back of the aisle, I put two more powerpack lights, another 4000 watt/seconds, pointing at the camera from the far side of the aisle. These lights were removed in Photoshop after the film was scanned

(they are still in the figure 1 version).

In figure 2, the goal was to make a small image for use in brochures and on the web. Since I didn't need to save as much detail, I was able to use a 35mm camera (mounted on a tripod). To increase the sense of size in the room, I used a 20mm lens. I filtered the light with a Tiffen 81c (warming filter) filter. I wanted a longer exposure to allow the loader in the front of the picture to show movement; it also increased my depth of field. I tried other filters so that I could bracket my color, as well as my exposure.

I made the image in figure 3 with my Kodak digital SLR. This image needed perspective control and a wide view, so I used my PC-Nikkor 28mm lens. I placed lights to the left and right of the camera. On the left of the camera (facing the subject) were two lights, high and low. The high light, as close to the ceiling as possible, was a monoblock set at 750 watt/second, with a 60-inch umbrella. Near the floor, I put another monoblock set at 200 watt/seconds. I used a 30-inch white umbrella and beamed the light through its fabric. This "shoot-through" technique spread the light to about 180° and softened it. This meant that the low light filled and softened the shadows for the overhead light, which were already soft because of the 60-inch umbrella. On the right side of the shot was a 400 watt/second monoblock set up with a 48-inch umbrella, to help provide the sense of open, shadowless lighting.

The lens was set between $f/8$ and $f/11$, which provided sufficient depth of field. The shutter speed was about 1/30 second. The longer shutter speed helped the lights visible in the room to look "on." The positions of all these lights were affected by the layout of the room. For instance, I wanted an overhead light source, but the ceiling was in the way, so positioning the umbrellas on the left and right was the best I could do. I wanted the camera about three feet to the right, but a wall was in the way. This affected what was doable. I really would have liked to move the mirror, but couldn't.

A digital camera extends what's doable in some ways. The access to a better instant image, with data on color and density is great. The ability to manipulate color balance is fantastic. Film retains the advantage when mixing lights, however. I can shoot some of the light, close the shutter, change the filtration and shoot other lights.

Conclusion

Shooting interiors is challenging but rewarding—after 20 years I'm still getting better at it. As much as possible, I expect to try to expand my capabilities in the future with both film and digital. ■

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