Photography For Contractors

by Steve Greenberg

Get publication-quality photos with a digital camera and expert lighting techniques

Short of dragging prospective clients to your job sites, photography is the only way you're going to be able to show them examples of your work. But dim, blurry, poorly composed images aren't likely to impress anyone. Fortunately, while there may be some special projects where it pays to hire a pro, taking your own high-quality architectural photographs isn't difficult.

The key to getting great photos is your digital camera. Although you could easily spend an arm and a leg on a pro-quality digital SLR (single-lens reflex) camera and the lenses and lighting to go with it, you can also get decent results with a consumer-level camera that costs less than $300 (**see sidebar, page 8**). In this article, I'll give you tips on how to compose your photographs and use improvised lighting and various combinations of filters to show off your projects in the best possible light.

Before thinking about getting those perfect "finish" shots, though, remember to get the "before" photos. These pictures don't need to be great, since bad ones will make your site look as if it really needed a makeover — and help your "after" shots look even better. Documenting every wall, floor, and ceiling in a remodeling project is good practice anyway, for insurance purposes; when the client says, "That scratch wasn't in my floor before you showed up," you have proof that it was.

Composition

To get an idea of what makes a good architectural photograph, take a look at a few "house beautiful" magazines with professional photography in them. Where is the photographer shooting from, and why? What information was the photo meant to convey?

As you frame up your own shots, keep the following basic rules of composition in mind. They'll help your photos look more interesting.

• ***Rule of thirds.*** Never divide your shot into two equal parts,

Figure 1. When the subject is placed in the middle of the frame, the photo feels one-dimensional and lacks movement (left). To improve the composition, move the subject to one of the targeting points created when a tic-tac-toe grid is superimposed on your viewfinder (below left). In the photo below, the diagonal line created by the two workers leads the eye into the shot and creates interest. Placing the horizon in the upper third of the frame helps emphasize the site work rather than the building itself.

horizontally or vertically; instead, divide it into thirds (**see Figure 1**). Frame your photos with the horizon on either the upper one-third line or the lower two-thirds line, not square in the middle. Depending on which line you choose, the photo will emphasize either the sky or the ground.

- ***Lead the eye.*** The easiest way to kill a good photo is to have the viewer's eye stop dead and not know where to go. Give the eye a path that leads through the picture by moving your camera away from the center axis of the room or building. Instead of shooting straight ahead, shoot from a corner, or a bit off-center, creating imaginary lines that lead the eye into the shot. The eye will follow other paths, too: small to large, large to small, up to down, and down to up.
- ***Tic-tac-toe.*** Rather than using the center circle in the viewfinder as a targeting device, take an imaginary pen and divide your viewfinder evenly with two horizontal and two vertical lines (so that the viewfinder resembles a tic-tac-toe board). Your targeting points are now where the vertical and horizontal lines intersect. When you place the subject at one of those intersecting lines, the shot is more interesting and has some "motion" to it.
- ***Balance/counterbalance.*** Two objects in a photograph that are the same size will confuse the viewer. For example, instead of leaving two flower arrangements on a countertop, remove a flower from one vase and place it on the counter near the second vase; that creates a more pleasing and counterbalanced image. Variations on this theme include using lighter and darker objects, or even objects that are nearer and farther away from the camera.
- ***Watch your background.*** Leaving a tool or a piece of photography equipment on a counter way in the back of your shot is going to kill the photo and show your lack of attention to detail. Take the time to close doors, remove construction equipment, and tidy up the shot.

Figure 2. While professional light kits offer greater control and more features, basic work lights are an inexpensive and readily available light source for job-site photography. To soften shadows, bounce light off a reflective surface, such as a ceiling (left), or use heat-resistant spun-fiberglass diffusion material, which can be safely draped over hot work lights (bottom photos).

Lighting

In most cases, you'll need to supplement your room's existing natural and artificial lighting, which can be done with a few simple techniques. First, though, plan on turning off or taping over the built-in flash mounted on your camera. A flash's light is not only inadequate to fill a room — it's too direct and harsh. Moreover, visualizing what the lighting will look like is too difficult when using a flash, which is why I like to use constant-source — or nonflash — lighting.

In addition, plan on using your camera's automatic settings. Experienced photographers may want to set the shutter speed and lens aperture manually, but a discussion of this topic is outside the scope of this article. By using the combination of constant source lighting described here and your camera's automatic settings, you should be able to get excellent results.

Equipment. All of the constant-source lights used in photography have tungsten filaments inside their bulbs; so do common and inexpensive 500- to 1,000-watt rectangular work lights. If you own some of these, you already have some — if not most — of the lighting you'll need (**Figure 2**).

Of course, there are some good reasons to purchase a professional light kit. Pro lights are designed to be moved around, and you can reposition their lamp heads while they're turned on without getting burned. Many can be focused to throw either a narrow beam or a wide spread of light. They also have the advantage of accepting attachments like barn doors, which allow you to shade or block of some of the light you're casting. This can come in handy when your lights are positioned too close to something, or when you want to shade an area of the photo.

Another inexpensive option — typically less than $25 each — is to buy a few photo flood reflectors. The most basic versions are made of polished aluminum; they're often equipped with spring-clamp mounts (or can be mounted on a stand) and accept different types of lamps for different lighting conditions.

Several other pieces of equipment can come in handy, too, such as stands to hold up the lights and diffusion material to scatter light and soften shadows. Different types of diffusion material are available, including woven polyester and spun fiberglass. Each has its own distinctive properties, but whichever material you choose, make sure it won't melt or catch fire if it comes in contact with hot lights. A 4-foot-by-25-foot roll of Tough Rolux #3000 diffusion material (Rosco, 800/767-2669, www.rosco.com) costs about $150.

You'll also need a few heavy extension cords. I prefer the yellow ones because they're easy to see.

Direct vs. indirect lighting. Pointing lights directly at an area throws the most light, but it can also produce harsh shadows, especially if the lamps are close to what you're shooting. I generally use direct light only when an area is deep in shadow or when I need to open it up a bit to emphasize it. To soften the shadows, I put diffusion material on the lights.

Bouncing the light off a wall or ceiling instead of shining it directly produces better, shadow-free lighting. Keep in mind that light bounced off a colored surface — like a painted wall — will cast that color into your shot. Another option is to reflect the light off a large white card, such as foam core or a white board. Although you'll lose about half your light's output by bouncing it, the results will be much more natural-looking.

Figure 3. To match the 5,500 K color temperature of daylight, the author adds blue CTB conversion filters to his light sources (left). Then he experiments, strategically placing lights — such as this filtered and diffused pro light located in a hallway off the kitchen (right) — to achieve even, natural lighting.

The color of light. Color temperature — measured in degrees Kelvin — varies depending on the light source. For example, an incandescent light bulb has a "warmer" yellow color temperature of about 2,800 K, while sunlight at noon has a "cooler" blue color temperature of 5,500 K. When these different light sources are mixed together, your brain may be able to even out the color imbalances, but your camera can't. It will automatically decide that the interior walls (the majority of the shot) are "normal," or white, which means that the light outside the windows will appear to be 2,700 K bluer (5,500 – 2,800 = 2,700) in the resulting photo.

One way to address this problem is to swap the bulbs in your lights to daylight bulbs. Sold online and in photo stores, 4,800 K to 5,500 K bulbs are blue in color and are rated at up to 500 watts; they cost about $5 each. I often use General Electric's BCA lamps (available through B&H Photo, 800/606-6969, www.bhphotovideo.com).

Another way to balance the color of your lighting is to use conversion filters. CTB (color temperature blue) filters will make regular 3,200 K incandescent lamps look blue, effectively turning them into 5,500 K sources that will match the exterior lighting (**Figure 3**). These filters are made of different materials, including polyester and acetate (commonly known as theater gels); once again, no matter which one you use, make sure it's a hot-light–rated filter material that won't melt or catch fire.

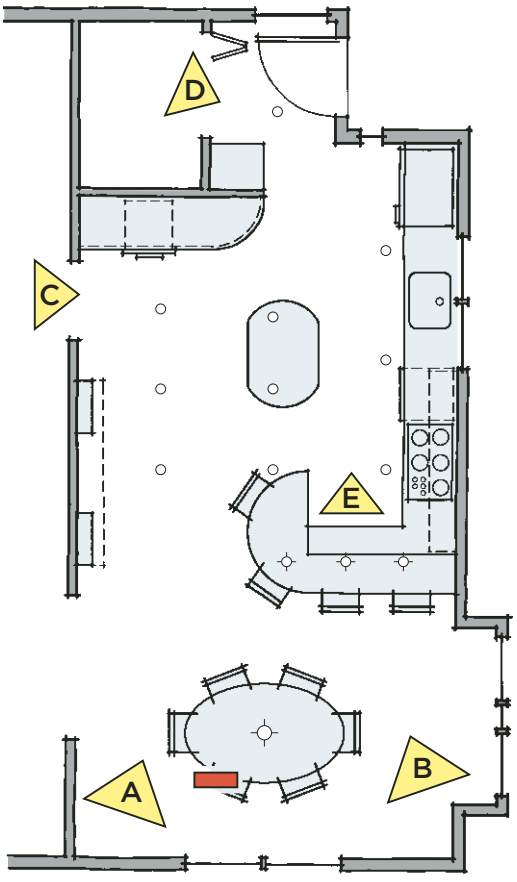
CTO (color temperature orange) filters are used to "warm up" daylight so that it matches 3,200 K incandescent lights; they're usually applied to the outside of the windows. Because they reduce the output of your light source, you have to compensate for them by either adding more lights or increasing your exposure times.

Light intensity. Daylight coming in through windows is usually brighter than the lighting you supply. Rather than adding more lights (which tend to get hot), you can reduce the intensity of the daylight by putting screens in the windows, or even tacking up extra screens on the exterior. Another option is to cover the windows (usually on the exterior) with neutral-density filter material. I carry Rosco's Cinegel #3402 N.3 (one f/stop) and #3404 N.9 (three f/stops) with me, combining the two as needed to get the proper amount of light reduction. (In photography, each f/stop equals a 50 percent reduction in light level, so that an N.3 filter allows 50 percent of light through and an N.6 filter allows 25 percent of light to pass through).

Lighting Locations

Legend

- A — Key lighting — Double 500-watt work light
- B — Key lighting — 1,000-watt pro light
- C — Fill light — 1,000-watt pro light
- D — Fill light — 500-watt halogen work light
- E — Fill light — 1,000-watt work light
- Tripod-mounted camera
- Pendant light
- Recessed can light



An effective lighting plan balances a room's existing lighting with additional sources that fill in dark areas while avoiding unnatural shadows.

The material comes in 20-inch-by-24-inch sheets and in 57-inch-by-21-foot rolls in various opacities.

Setting Up the Camera and Lights

When setting up your camera, make sure to level it, using either your tripod's bubble level (if it has one) or a carpenter's level. I often position the camera to shoot at a slight down angle, so getting the camera plumb can be tricky. Occasionally it's possible to align one side of the frame with a vertical element, such as a door jamb or window casing, but this can result in too much distortion on the opposite side of the frame. I prefer to put a little error on both sides of the frame to even things out.

To avoid nasty reflections from windows and other shiny surfaces, I frame up shots (keeping in mind the compositional elements noted above) before placing my lights. This makes it easy to see hot spots through the viewfinder.

When changing camera position, it's often necessary to adjust the position of the lights as well. To make setting up the lights easier, pros sometimes cheat by using Krylon Dulling Spray (800/457-9566, www.krylon.com) on reflective surfaces (don't use hairspray, which is a lacquer and can damage the finish).

A good way to determine where additional light is needed is to first shoot the room using available light (**see sidebar, next page**). As I place my lights (**for locations, see floor plan, above**), I like to follow the lighting that's been established in the room by the lighting designer or architect (or even by the electrician). For example, if the lighting is configured to be moody, I try to mimic that ambience. If the room is bright and airy, like the kitchen shown in this article, I try to make my lighting full and even. My goal is to avoid adding too much light to the shot, which would make the room seem unnatural or the windows dark.

By the way, this isn't necessarily a fast process. It takes years of practice to light a room quickly, so plan on spending a day, if necessary, to get the lighting right. Be patient and don't be afraid to move your lights around and experiment. Since you're shooting digitally, the only cost will be your time.

Key light. The main — or "key" — lighting for most shots typically comes from behind the camera, and at a slight angle. On this shoot, I used a double 500-watt work light and a 1,000-watt pro light, for a total of 2,000 watts of key lighting

(**Lights A and B on the floor plan, previous page**). To minimize shadows, I bounced the light off the ceiling, and while I didn't use any diffusion material, I was careful to place the lights so that harsh shadows didn't fall in the foreground, especially on the chairs.

At your own photo shoots, remember to spread out your electrical sources, and try to use the home's 20-amp circuits; otherwise, you'll be running back and forth to the circuit panel a lot. It's also a good idea to disable smoke detectors, since a whiff of smoke from your lights (burning gels or dust) can set them off. And keep some first-aid cream handy: It's easy to get burned moving those hot lights around.

Fill lights. For additional lighting, I took advantage of an open doorway leading into the room (**Light C, floor plan**) and a utility closet (**Light D, floor plan**).

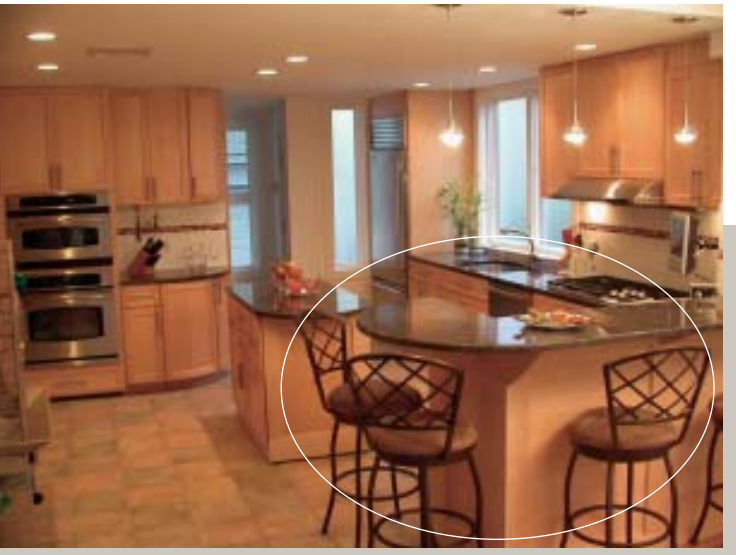
Positioned just outside the room in the hall, Light C was a 1,000-watt pro light on a stand; it was covered with diffusion material and a Rosco Full Blue CTB #3202 gel tungsten conversion filter. To avoid overlighting the shiny ovens, I moved the light around a bit so that the door opening cast a shadow on them.

Placed on the floor in the closet, Light D — a 500-watt halogen work light — helped open up the back of the room. I also positioned another 1,000-watt work light (**Light E, floor plan**) on the floor in front of the island return. This light helped open up the area in front of the sink and filled in the shadows thrown by Light D in the closet.

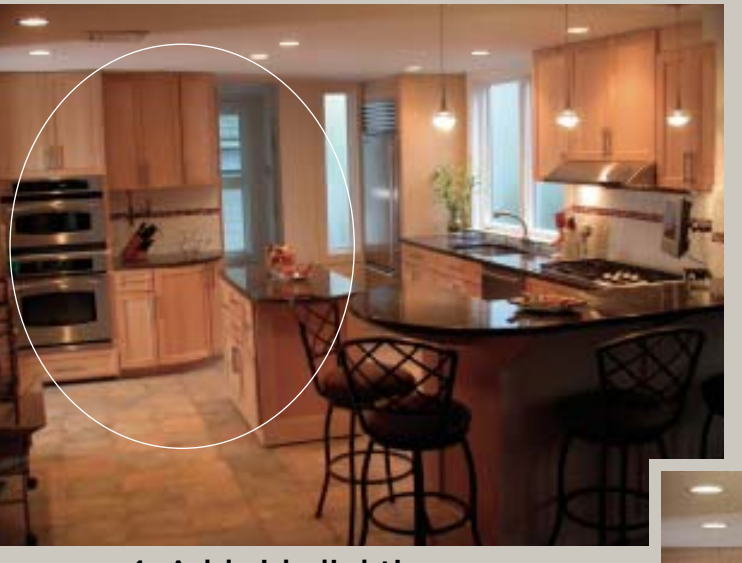
Finally, to balance the daylight and help correct the incoming light to match my tungsten sources and interior tungsten lights, I took advantage of being on the ground floor and covered the windows from the outside with large rolls of ¼ CTO filters (which convert 5,500 K daylight to 4,500 K). I did this even

1. Frame the shot

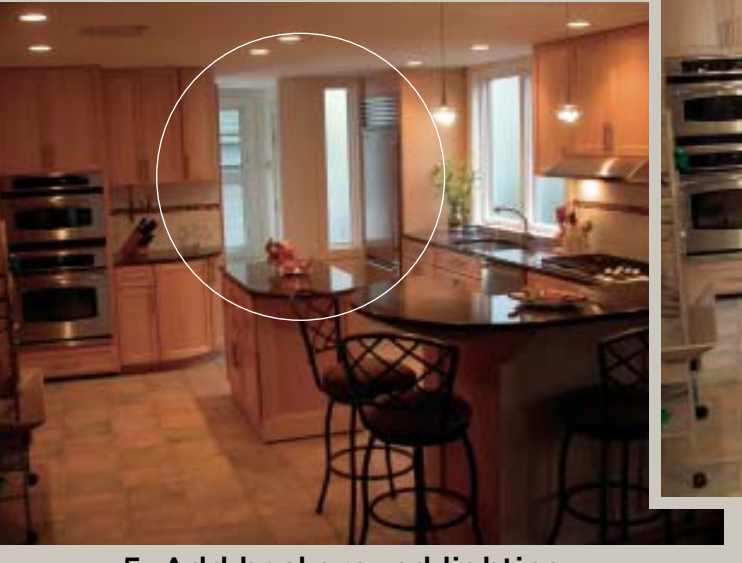
2. Check natural light



3. Add foreground lighting



4. Add side lighting



5. Add background lighting

Setting Up a Shot

Once the shot has been framed, I always double-check to make sure that carpentry tools, photo equipment, and other distractions — such as the open garage door visible through the window in this shot — have been removed (**1**). To determine how much extra lighting will be needed, I start by shooting with available light only (**2**). I shot this kitchen on an overcast day, which made it easier to balance the natural light with additional lighting.

Next, to brighten the foreground without casting harsh shadows across the chairs, I placed key lighting behind the camera and bounced its light off the ceiling (**3**). Positioned just outside the room in the hall, another light opened up the middle part of the kitchen (**4**). And to light the back of the room, I put a 500-watt work light in a closet (**5**), with diffusion material layered over the lamp.

In the final shot, all of the natural and artificial light sources work together to create a natural-looking image free of harsh shadows and distracting reflections (**6**).

6. Finished shot

What Kind of Camera Should You Buy?

I used a Nikon Coolpix 4500 4-megapixel camera to take the shots in this article. It's no longer made, but I recommend any similar split-body camera because it can be held over the head (or at a very low angle) and twisted so that its back LCD screen is still viewable (**see photo**). Whatever you decide to buy — a digital SLR or a less-expensive point-and-shoot camera — here are the features to consider:

Resolution. The size of the digital film chip in your camera is not as important as you might think. While newer cameras boast 6- and 7-megapixel chips — which are big enough to produce high-resolution prints of 8x10 or bigger — 4 to 5 megapixels are more than enough for smaller photos or for Web-site use. This means you can buy last year's camera or a used one and still have more than enough detail in your shots.

Viewing system. Don't buy a camera that doesn't have an eyepiece, because using a mini-LCD screen as a primary viewing device is very difficult, especially when the site has a lot of extraneous light. Also, look for a large LCD display, which makes it easier to view and review your shot. If you can get a clear view of the shot you just took when you test out the camera in the store, odds are it will be okay on the job site.

Storage cards. Most cameras use either CF (compact flash) or SD (secure digital) cards to store digital information; in my experience, CF cards are sturdier and harder to damage. While card memory and costs vary, I recommend high-speed cards, which decrease the time needed between shots.

Controls. Some cameras have dedicated software controls for such features as review/delete, flash, and white balance; on other cameras with fewer controls, you have to dig through layers of menu options to get to the function you want.

Size. On a job site, smaller isn't necessarily better — your camera should fit comfortably in your hand and balance well.

Extras. Be sure your camera has a tripod mount. And buy a good case: I like the waterproof, dirt-proof, crew-proof hardened plastic ones made by Pelican (800/882-4730, www.casesbypelican.com), which come in a number of sizes and configurations.

though I'd left in the window screens to help cut down the light and had used full CTB filters on my light sources; it allowed me to warm up the daylight even more.

As I frame up my shots, I always try to shoot a bit loose (I can crop the pictures later). That way, I don't have to worry about hiding every light. Also, with most midrange camera lenses, the edges of the shot are not all that sharp and they tend to have the most distortion. Plus I find it hard to bend my eye into the edges of the viewfinder (especially since I wear glasses), so I occasionally miss things on the periphery.

There's Always Photoshop

I bring a laptop computer to photo shoots so that I can check my images as I take them. If I've made a technical mistake, it's better to know about it while my equipment is still set up and I'm on site.

Later on, I'll open up the images using Adobe Photoshop software and do some spot color correction, retouching, and cropping. Most new cameras come with basic editing software that allows you to adjust brightness, contrast, and color balance; crop and resize the image; and perform other editing tasks.

Photoshop — which comes in several versions with varying levels of tools and cost — offers even more editing options.

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