

Controlled lighting is critical to print viewing

The right light, Part 2

Last month I discussed the importance of using the right lighting while comparing your prints to the soft proof on your calibrated and profiled display. The color and intensity of the light striking the prints need to be optimized for the closest print-to-screen matching.

Most ICC output profiles assume you are viewing your prints under D50 illuminant. Some high-end software packages allow you to measure your actual illuminant, then substitute the accurate measurement for the default D50. It's also useful to be able to measure this light in calibrating your display, and use this white-point measurement in place of a "standard" white-point target value such as D65. I generally recommended

calibrating a display to its native white point when possible. If the screen-to-print matching is still lacking, it's worth your while to measure and employ the actual white point.

GretagMacbeth's recently released Eye-One Match 3.6 upgrade provides this measurement option (**Figure 1**). You can use either the Eye-One Pro Spectrophotometer or the Eye-One Display 2 Colorimeter for this task. (Remember that the light you're using to view your prints should be controlled so as not to strike the display itself. A monitor hood made of black foam board will shield your display.)

You must correctly set up your soft proof in Adobe Photoshop to ensure the closest

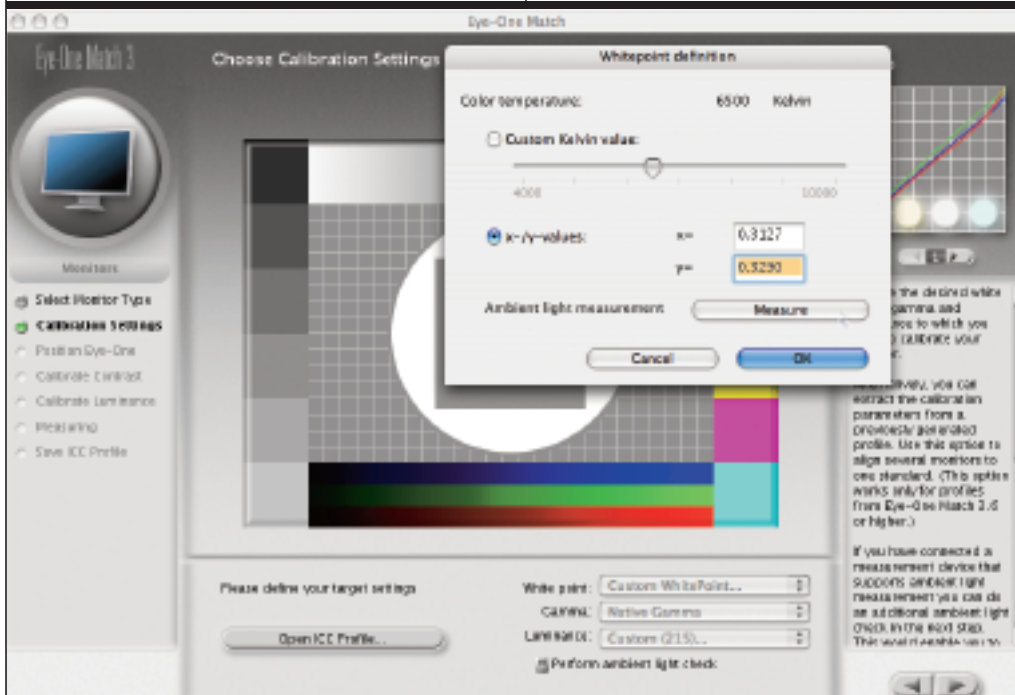


Figure 1. New in Eye-One Match 3.6 can measure a light source for use as a custom white point when calibrating your display. Simply hold the Eye-One instrument under the light source and click on the Measure button.



Figure 2. Here is a soft proof setup for my Epson Stylus Photo R2400 with the Simulate Paper Color and Ink Black display options on. These settings render the soft proof in the background a bit flat looking.

screen-to-print matching. (See this column in the September 2004 edition, available for download in the Bonus Content section at www.ppmag.com.) To produce a soft proof that attempts to match the dynamic range of your print, use the Simulate Paper Color/Ink Black display options (**Figure 2**) while viewing your image in full screen mode (close any open palettes and go to View > Screen Mode > Full Screen Mode or press the F on your keyboard twice).

Using this simulation, you may find the screen-to-print matching is much closer, yet your images look a bit washed out onscreen. This is to be expected, so be sure to allow your eyes to adapt to this soft proof before making critical color and tone judgments. The Simulate Paper Color/Ink Black options instruct Photoshop to simulate the white of the actual paper as measured and recorded in the ICC profile, not the brightest white

We can't solve problems by using the same kind of thinking we used when we created them. —ALBERT EINSTEIN

the display is capable of producing. The black simulation more accurately shows how dark the black ink, or whatever colorant, should appear on the paper. Use this simulation when you want to show a client how the image

should appear when printed or when you want to judge how well a soft proof and print match.

Last month I promised to share a recipe for building a homemade lighting system using Solux bulbs. This system was created

by color geek expert and fine art photographer Joseph Holmes (www.josephholmes.com).

This affordable system gives you the ability to illuminate even very large prints. The only sticky issues you might encounter are controlling the lights so they don't strike your display and, if the light source is too close to the prints, having an excess of luminance.

You can't use a dimmer for this kind of lighting because it would affect the correlated color temperature. I interviewed Joseph and quote him in my book. He was kind enough to share this excellent solution (slightly abbreviated in the sidebar, below). ■

BUILD YOUR OWN CONTROLLED LIGHT PRINT VIEWING SYSTEM

My favorite viewing light solution costs about a seventh as much as a desktop light box with dimmers, takes up no desk space, is flicker-free, has better light quality colorimetrically and a good color temperature, although it's not useful for viewing transparencies. The system consists of the following items:

1. One 50-watt, 12-volt SoLux 4700K halogen spot (MR-16 type) with a 37-degree beam angle. The best artificial light I know of, this spot has a CRI of 99+ in the main part of the beam. Retail price: \$15. Go to www.SoLux.net for more information, or call Tailored Lighting in Rochester, N.Y., 585-328-2170.

2. One length of basic Halo brand track, single-circuit type. Mine is mounted on the ceiling, parallel to the wall behind my monitor, positioned 21 or 22 inches from the wall (my 19-inch monitor is twisted at a 20-degree angle and almost touches the wall). My track is hardwired and has its own wall switch. Cost: \$10 or \$20 for the track. Find a Halo dealer through Cooper

Lighting at www.cooperlighting.com.

3. A 12-foot, three-wire Halo L950 Cord and Plug Connector with a grounded plug, 10-amp rating, or a hardwired setup. Cost: about \$15 for the cord.

4. One Halo fixture, model L2770 P (P is the color code for white, MB for black). The fixture costs \$127 to \$179, depending on the retailer, but it's the only one I've found that allows this viewing setup to work properly. Beware of using the wrong one, for reasons I'll explain later.

5. One Halo L111 Soft Focus Lens. This glass disk with a bumpy surface goes into the fixture in front of the lamp to yield superior beam smoothness. Cost: \$10 to \$15.

Mount the fixture directly over the monitor's left side, pointed down and to the right, to illuminate prints held just to the right of the monitor. Put a bit of black mat board across the top of the monitor to keep from lighting up the dust on the face of the display. The top of the track (i.e., the ceiling) should be about 45 inches straight up from the center of the monitor to get the intensity right with the 36-

degree SoLux lamp. SoLux also makes 24- and 17-degree beam angle versions, which should be mounted farther away, and so accommodate higher ceilings.

The total cost is about \$200 and maybe three hours of work, including mounting the track and getting the parts.

The lamp works by releasing amber from its dielectric reflector-coated back, and reflecting bluish light out the front, resulting in a color temperature far higher than that of the filament. The amber light must be totally absorbed by the fixture so as not to pollute the room with the wrong color of light (about 2000K). The 3000K light that comes out of the front at a wide angle to the beam, directly from the filament, must also be absorbed. Only the model L2770 fixture achieves sufficient absorption of this unwanted light. To illuminate a large-format print, all you need is two fixtures adjusted accordingly. This is a wonderful solution to a frustrating problem, and I love using it every day.

—Joseph Holmes