



# Soft Proofing with Adobe Photoshop & Adobe Lightroom

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## Soft proofing workflow

Soft proofing is the term used to describe a workflow that allows the image displayed on the monitor to match the output of a device. Utilizing an ICC profile for color management is not an overly complex process, but it does require a thorough understanding of the process.

**The output profile we are providing is intended to be used in conjunction with Adobe® Photoshop® or Adobe® Lightroom® Soft Proofing options. Please, DO NOT convert/embed an image with the printer profile. The resulting products will be printed incorrectly. All files received should be submitted in sRGB color space.**

Soft proofing is the process of an image file being viewed with the printer profile applied. This is done in conjunction with a calibrated and profiled monitor. The profile itself does not alter the image file. Soft proofing allows the image to be displayed on a calibrated and profiled monitor and be as close as possible to the look of the final print.

To minimize the amount of error in your color management system, diligence must be used to be certain each individual hardware piece is calibrated and the profiles are implemented accurately. There are three areas to be considered: Input, Display and Output.

## Input

Input refers to the capture of the image. In most cases, this will be via a digital camera. Image files must be exposed properly not only for the quantity of light but the color of the light as well, i.e. white balance. Once the image is captured, the file itself must be stored in a known color space. We suggest using sRGB as the working color space for your files.

## Display

Display color is determined by the physics of the monitor itself and the software used to calibrate the display.

Display calibration, in conjunction with ICC profiling, can only be accurately done through instrumentation; using a colorimeter and software. There are numerous colorimeters available that allow a user to automatically generate a monitor profile. Here are a couple of devices we recommend: the **Calibrite ColorChecker Display** or the **Calibrite ColorChecker Display Pro** ([www.calibrite.com](http://www.calibrite.com)), and the **Datacolor SpyderX Elite** ([www.datacolor.com](http://www.datacolor.com)).

Monitor calibration and profiling is a two-step process. The first step is where the monitor is adjusted until a linear response is achieved. The second step involves the characterization of a monitor so the colors being displayed are mapped for their response. Both steps happen automatically through the software provided with each device.

Note: monitor calibration is an ongoing process in which monitors must be re-calibrated periodically to prevent drift of the monitor. We recommend calibrating and profiling a monitor every 30 days.

## Output

The final step in setting up a soft proofing workflow involves installing a printer profile. When the printer profile is used in conjunction with Adobe Photoshop, or Adobe Lightroom, the application will emulate what will happen when the image is printed as a photograph. The transformation that takes place is based on the color from the original file, the output profile, and the monitor's profile. All of this happens in the background for you.

As the image is displayed in a soft proofing workflow, adjustments to the file can be made via Adobe Photoshop, or Adobe Lightroom for the desired “look” of the printed output. As noted before, the printer profile does not change the file.

## Miller’s Printer Profile

The printer profile must be copied to a location on the computer where the operating system (OS) and other applications can access the file. Different OS may deal with profiles differently. The instructions below are intended only for the OS version specified. If you have a version other than what is stated below contact your OS vendor for specific information for installing the profile.

### Windows

Windows XP/Vista/Win7, 8, & 10 - copy and paste the printer profile into the following directory:

C:\WINDOWS\system32\spool\drivers\color

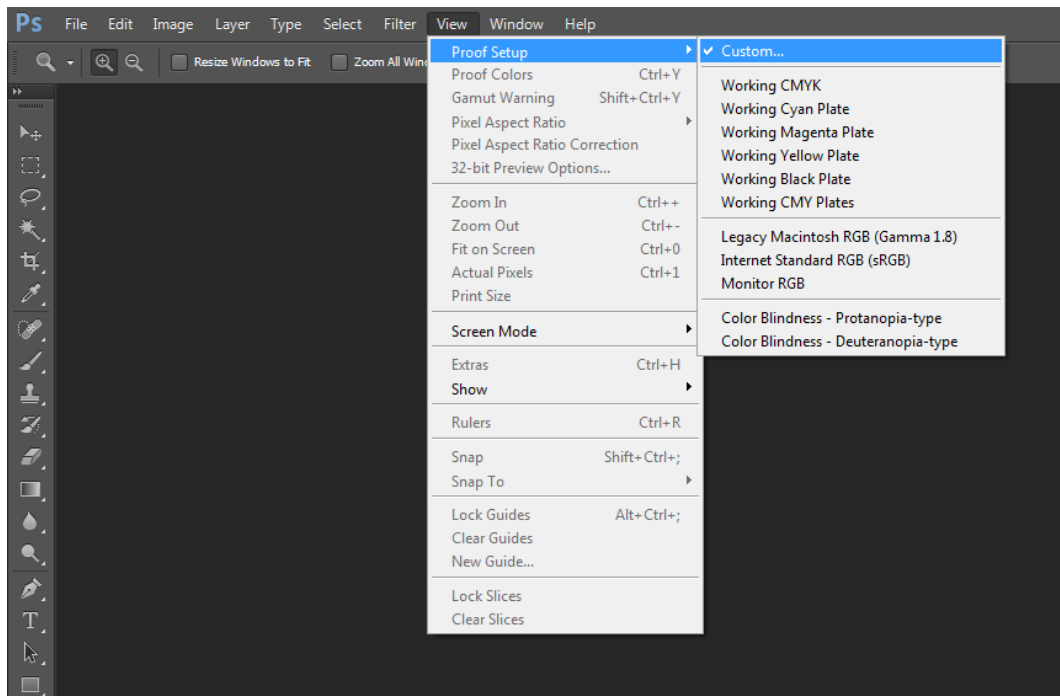
### MAC OS

10.11 & later – Copy the printer profile to the following location: Macintosh HD/library/colorsync/profiles

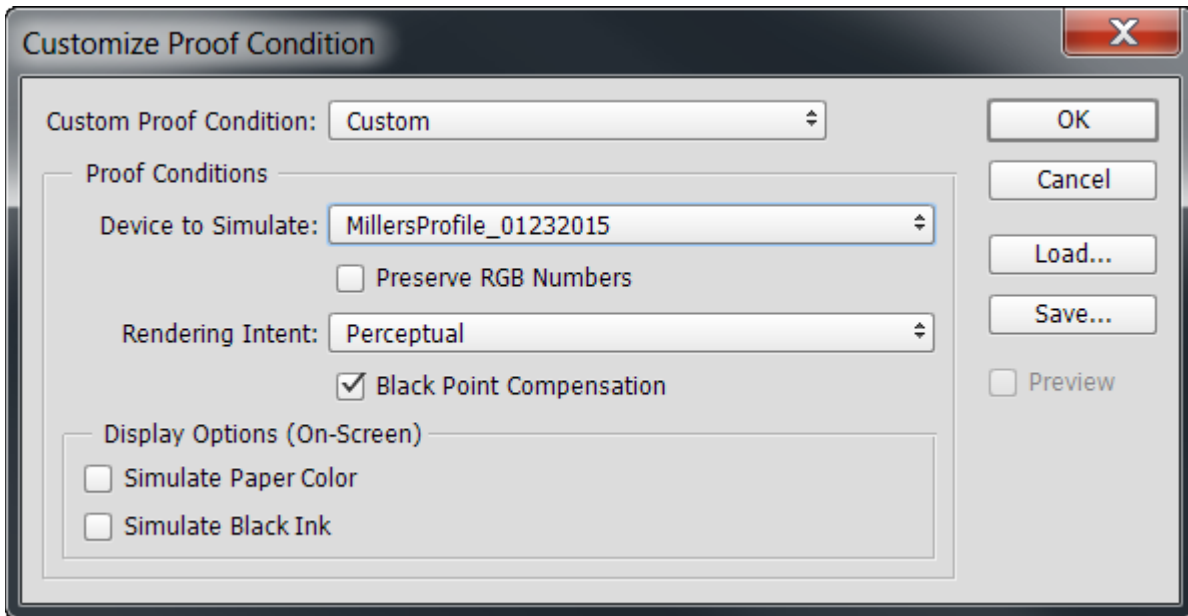
## Discontinue the use of any previous printer profiles from Miller’s

## Configuring Adobe Photoshop for Soft Proofing

1. Open Adobe Photoshop.
  - a. **PLEASE NOTE:** if Adobe Photoshop was open when the Printer Profile was added to the computer’s folders noted above, exit Adobe Photoshop and re-launch the program.
2. Click the **View** menu, select **Proof Setup**, then select the **Custom** option.



The **Customize Proof Condition** dialog will be displayed (see below):



### 3. Proof Conditions

- a. **Device to Simulate:** Click the pull-down menu and choose the Miller's printer profile:
  - i. **MillersProfile\_01232015**
- b. Uncheck the **Preserve RGB Numbers** option if checked.
- c. **Rendering Intent:** Click the pull-down menu and select a Rendering Intent for viewing the photos. Choose a rendering intent that adjusts the image to what is pleasing to the viewer and how the image is to appear as a photograph. Please review the explanation below for the Perceptual and Relative Colorimetric rendering intents:
  - i. Rendering Intent determines how out-of-gamut colors are returned to in-gamut colors. Different rendering intents use different rules to determine how the colors are adjusted.
    1. For example, colors that fall inside the destination gamut may remain unchanged, or they may be adjusted to preserve the original range of visual relationships when translated to a smaller destination gamut.
  - ii. Apply one of the following rendering intents to photo, and experiment to determine which option creates the desired result.
    1. **Perceptual:** Preserves the visual relationship between colors so the color perceived as natural to the human eye, even though the actual color values may have changed. The Perceptual intent is suitable for photographic images with numerous out-of-gamut colors.
    2. **Relative Colorimetric:** Out-of-gamut colors are shifted to the closest reproducible in-gamut color. Relative Colorimetric preserves more of the original colors in an image.
- d. Place a checkmark in the **Black Point Compensation** check box.
  - i. This option will more accurately scale the black level in your image to the printer's black.

### 4. Display Option

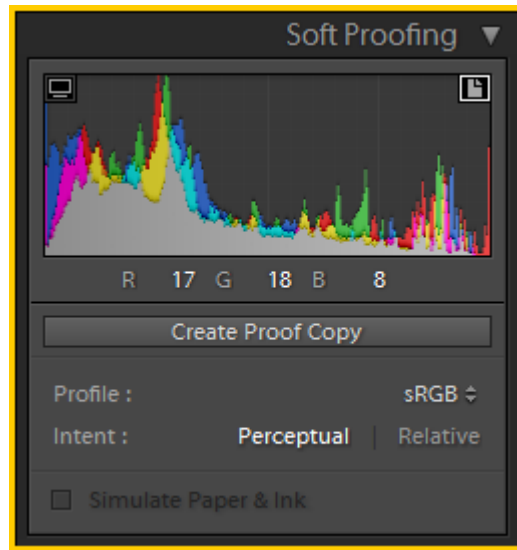
- a. **Simulate Paper Color** and **Simulate Black Ink.**
  - i. These settings decrease the amount of visual contrast between the highlights and shadows.
  - ii. If you work with these options, display your image in Adobe Photoshop's Full Screen (Keyboard shortcut: F) mode for the most accurate viewing of your image.
- b. We recommend the Simulate Paper Color and Simulate Black Ink be unchecked.

5. Once the above changes have been made, click the **Save** button and input a name for this configuration.

Adobe Photoshop has now been configured to use the Soft Proofing feature with your images.

## Configuring Adobe Lightroom for Soft Proofing

1. With an image displayed in the **Develop** module, select the **Soft Proofing** box in the toolbar.
  - a. If the Soft Proofing check box is not visible, use Adobe Lightroom's **Help** menu to learn how to display the check box.
  - b. The Soft Proofing panel is displayed (see below).

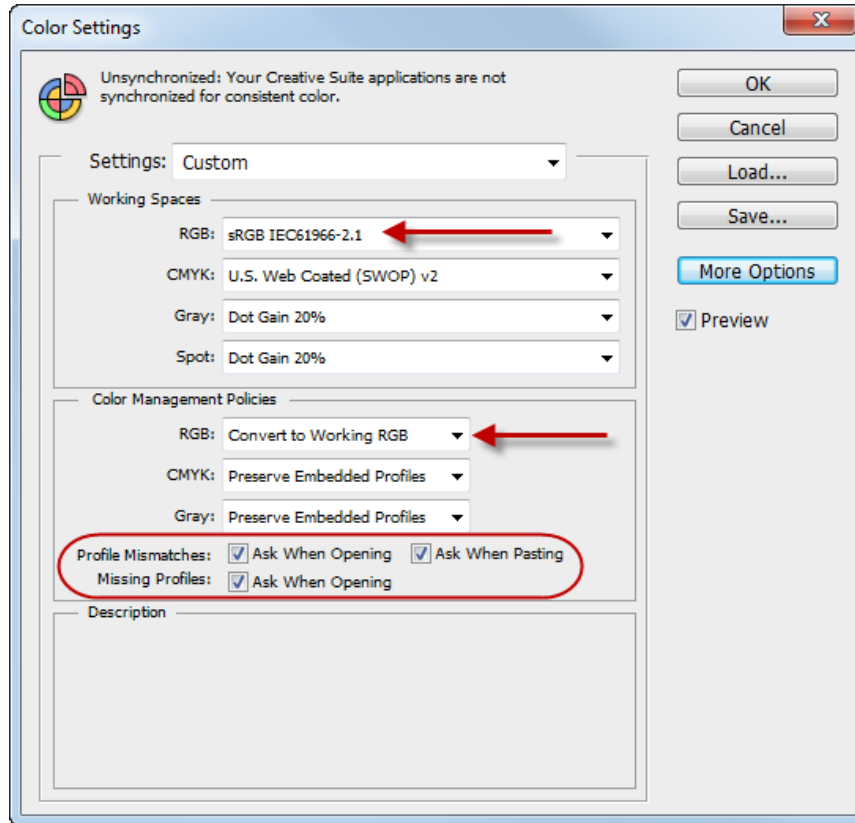


2. **Gamut Warning:**
  - a. **Monitor Gamut Warning:**
    - i. Click the Monitor icon in the upper left corner of the Histogram.
    - ii. Colors outside the display's color capabilities will appear in the image preview area.
  - b. **Destination Gamut Warning:**
    - i. Click the Page icon in the upper right corner of the Histogram.
    - ii. Colors outside the printer's rendering capabilities appear in the image preview area.
  - c. When both Monitor Gamut Warning and Destination Gamut Warning option are selected, colors outside both gamuts will appear in the image preview area.
3. **Profile:**
  - a. From the pull-down menu, click the **Other** option, and choose the Miller's printer profile installed earlier.
4. **Rendering Intent:**
  - a. Review the Rendering Intent description for Perceptual and Relative Colorimetric in the "Configuring Adobe Photoshop for Soft Proofing" section above.
5. **Simulate Paper & Ink:**
  - a. Recommend this option be unchecked.
6. To edit the photo and bring out-of-gamut colors into gamut, click the **Create Proof Copy** button.
  - a. Adobe Lightroom creates a virtual copy to adjust the print as desired.
    - i. Adjust the file as necessary.

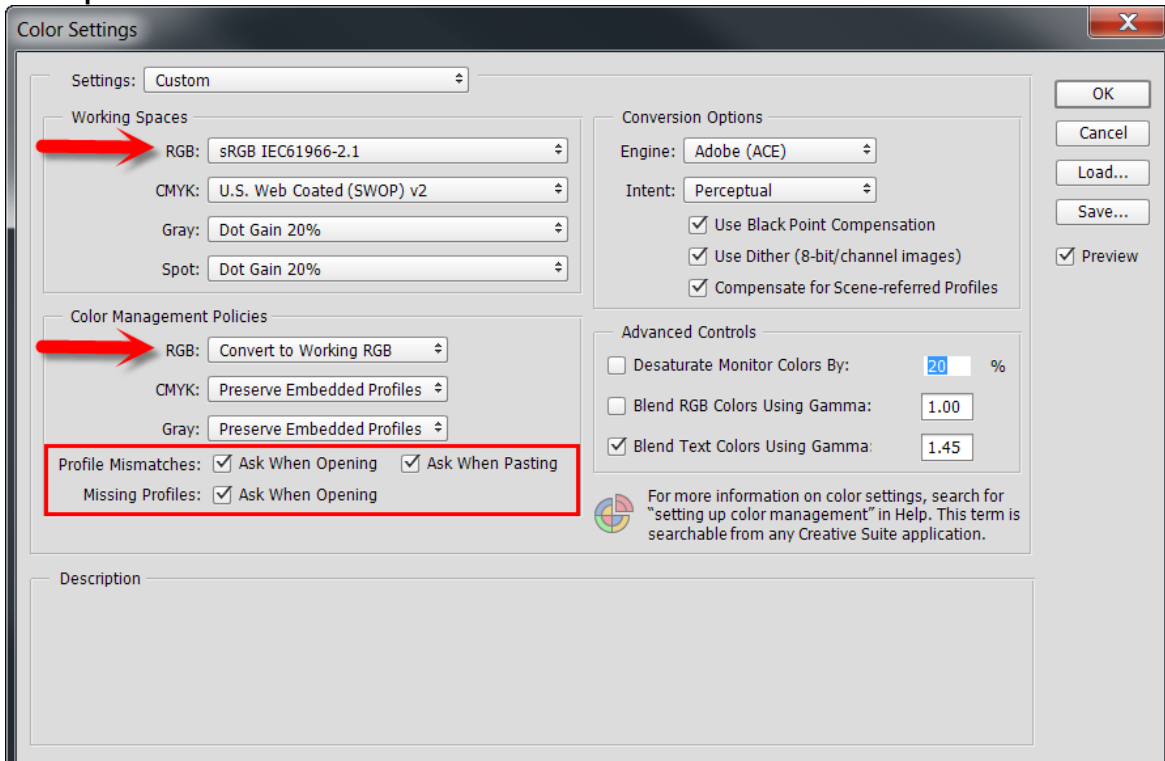
## Configuring Adobe Photoshop's Color Settings

Another important aspect of soft proofing is to be certain the Color Settings in Adobe Photoshop are configured correctly. To confirm the color settings, open Adobe Photoshop, and select the **Color Settings** option from the **Edit** menu.

### Adobe Photoshop CS6 and before:



### Adobe Photoshop Creative Cloud:



### **Working Spaces: RGB**

- Select the working color space the photos will be displayed with while in Adobe Photoshop.
- Select: **sRGB IEC61966-2.1** as the color space.
  - In addition, select the sRGB color space in the camera when images are captured as JPEG or TIFF file types.

### **Color Management Policies: RGB**

- Select the **Convert to Working RGB** option.
  - Any images opened in Adobe Photoshop, and in a color space other than sRGB, the user will be prompted to convert the photos to the working color space selected above.

### **Profile Mismatches**

- Place a check mark in both the **Ask When Opening** and the **Ask When Pasting** options.

### **Missing Profiles**

- Place a check mark in the **Ask When Opening** option.

## **Viewing Environment**

The work environment influences how color on a monitor and a printed output are perceived. For optimum results, control the work environment by:

- View photographs in an environment that provides a consistent light level and color temperature.
  - If the work area is lit by fluorescent lighting, eliminate the color cast from this lighting by installing a daylight balanced lighting condition. A daylight balanced light box would be another option in which to correctly view photographs.
- The amount of lighting is an important aspect to the viewing environment. Strive to create an environment that is neither too dark, nor too bright.
  - Many of the above noted calibration device have the ability to measure the amount of light in your work environment and assist in configuring the correct amount of light.
- Photographs should be viewed in a room with neutral-colored walls and ceiling. A room's color can affect the perception of both monitor color and printed color. The best color for a viewing room is neutral gray. In addition, the color of the viewer's clothing reflecting off the monitor may affect the appearance of colors on-screen.
- Remove colorful background patterns on the monitor's desktop. Busy or bright patterns surrounding a document interfere with accurate color perception. The ideal desktop color is a neutral gray.