The Basics – In Depth

LIVINGSTON CAMERA CLUB
STEVEN FISCHKOFF
SEPTEMBER 26, 2016

What We'll Cover

- How to Submit Images for Competitions
- What is Color Management?
- How to Calibrate
  - Your Monitor
  - Your Camera
  - Your Printer
- RAW Workflow Using Adobe Camera Raw (ACR)
- Settings for Printing

How to Submit Images for Competitions

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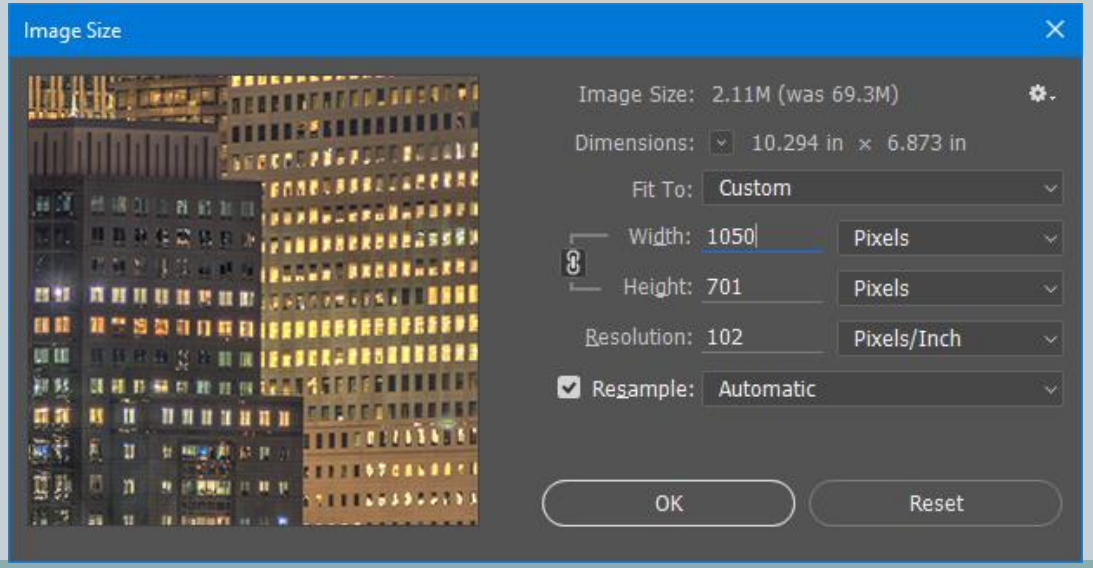
IMAGE REQUIREMENTS
PREPARATION
UPLOADING

Submitting Images for Competition
Prepare the Image

- Requirements
  - 1050 pixels maximum in largest dimension
  - sRGB color space
  - Resolution: 102 pixels / inch
  - JPG file format

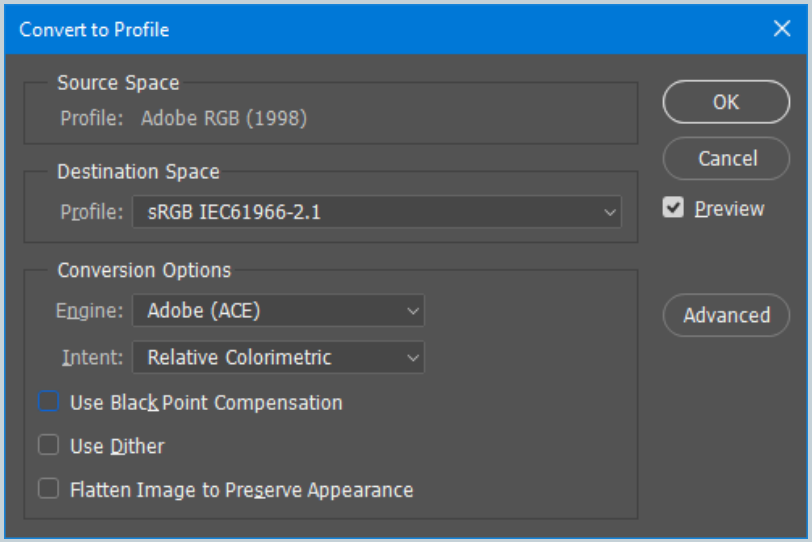
Submitting Images for Competition
Prepare the Image

- Requirements
  - 1050 pixels maximum in largest dimension
    - Image | Image Size
  - sRGB color space
  - Resolution: 102 pixels / inch
  - JPG color space



Submitting Images for Competition
Prepare the Image

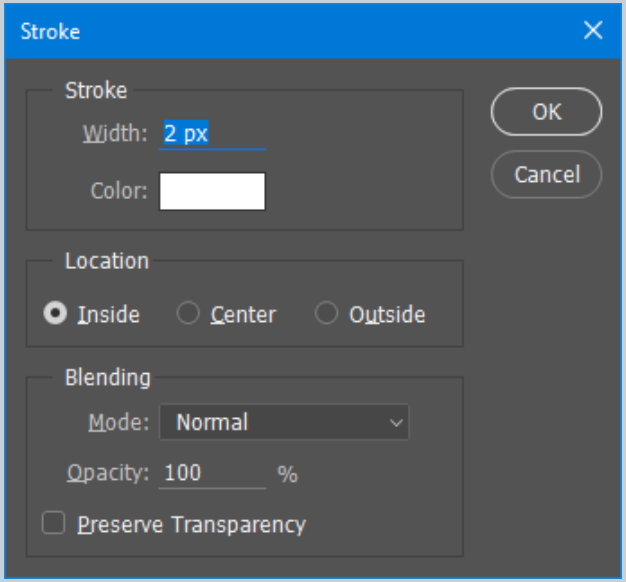
- Requirements
  - 1050 pixels maximum in largest dimension
  - sRGB color space
    - Edit | Convert to Profile
  - Resolution: 102 pixels / inch
  - JPG color space



Submitting Images for Competition
Prepare the Image

- Requirements
  - 1050 pixels maximum in largest dimension
  - sRGB color space
  - Resolution: 102 pixels / inch
  - JPG file format

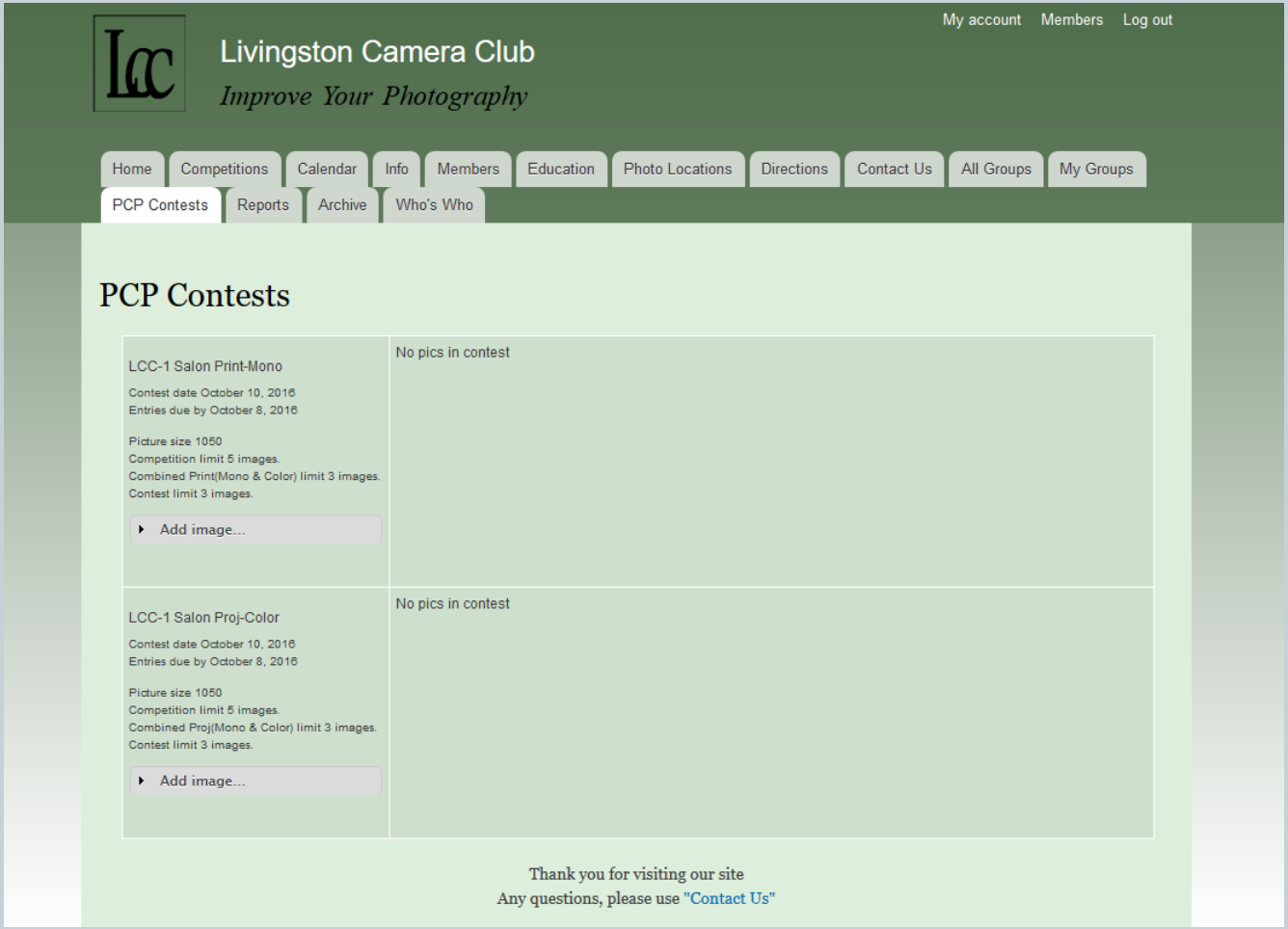
- Consider adding a white border
  - Be on an editable image layer or final JPG
  - Control-A to select whole image
    - Edit | Stroke…



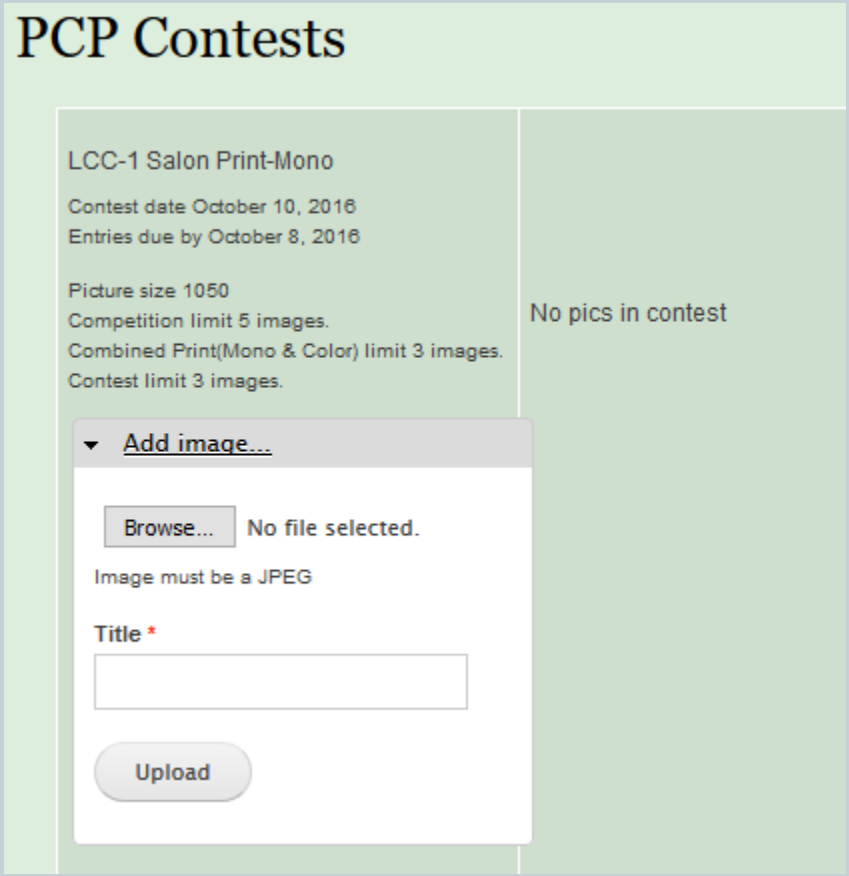
Submitting Images for Competition
Upload the Image

- Navigate to LCC Web Site
- Log in
- Click on “PCP Contests” tab
- Available Competitions for Your Level Displayed
- Click “Add Image” and Select Desired JPG file
- Enter Image’s Title
- Click Upload
- Site Will Track Number of Submitted Images and Guide You How Many per Category are Available

Submitting Images for Competition
Upload the Image



Submitting Images for Competition
Upload the Image



Submitting Images for Competition
Upload the Image

LCC-1 Salon Proj-Color

Contest date October 10, 2016
Entries due by October 8, 2016

Picture size 1050
Competition limit 5 images.
Combined Proj(Mono & Color) limit 3 images.
Contest limit 3 images.

▸ Add image...

Size: 1050 X 1050
ColorSpace: sRGB IEC61966-2.1

What is Color Management?

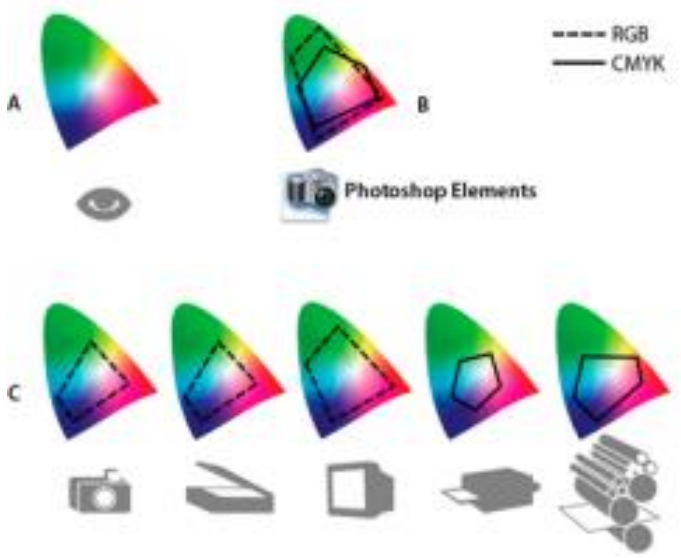
WHAT IS IT?
WHY BOTHER?
HOW SOFTWARE MANAGES COLOR
COLOR SPACES
COLOR PROFILES

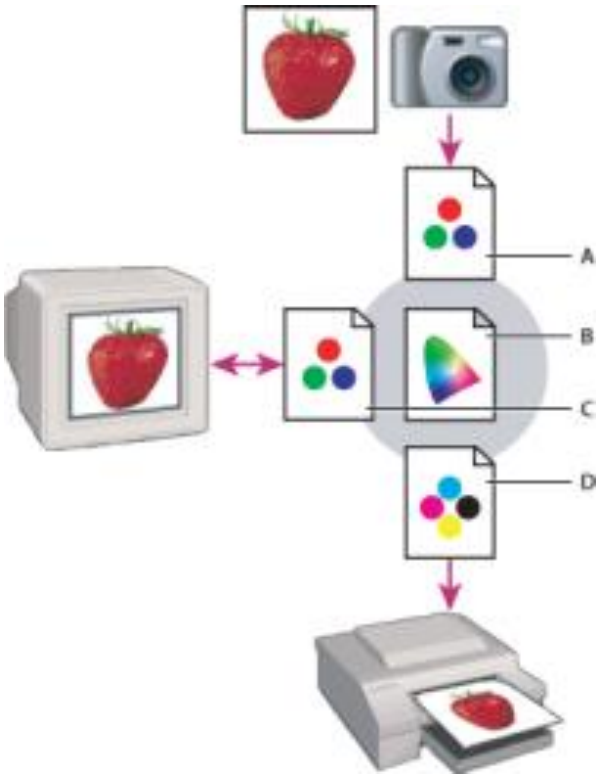
What is Color Management?

- Making sure the colors you saw in life are accurately recorded by the camera, displayed on your monitor and produced by your printer
- Avoiding unwanted color shifts at any step along the way
- Allowing you to confidently edit the image knowing it will accurately reproduce down the way including during competitions

Note: There is a presentation in the Education tab of the web site by Howard Fingerhut that goes into depth on the technical aspects of this.

How Does this Fit Together?





From Adobe Photoshop Online Help

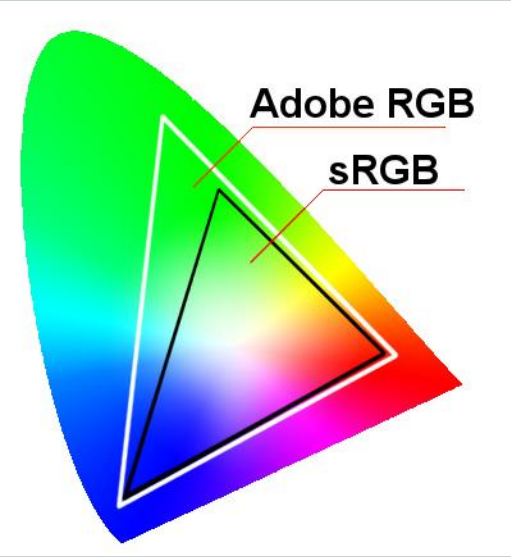
How Software Manages Color

- Some software does, others don't
  - Most software specific for photographers does
  - PowerPoint, most Internet browsers don't (only Safari on the Mac is color managed)
- Software uses profiles (ICC) to understand how each device sees and outputs color
- Profiles are small files that the software uses to know how to import (camera, scanner) or display (monitor, printer, projector) correctly
- Profiles are device specific and can change over time as device (particularly monitors) age
- Printer profiles take into account ink and paper

Color Space vs Color Profiles

- Color profiles are for devices
  - the files that describe how each device uniquely handles color
- Color spaces are for documents (image files)
  - how to specify colors with numbers and how many colors are included (gamut)
- 99+% of the time we use RGB color spaces:
  - sRGB: oldest, but still most common. Most printers and monitors can show all colors included – submit competitions
  - Adobe RGB: newer but includes more vivid colors. Modern printers and monitors can show most colors included
- Embedding color spaces into image files

Should I Use sRGB or Adobe RGB?



Cameras name files with and underscore in AdobeRGB and without in sRGB

- Hot debate topic on the Internet
- Not an issue in RAW, only when convert to JPG
- Adobe RGB can capture more colors but…
  - Few monitors can display them
  - Few printers can full take advantage
  - Web browsers generally can't handle them and will display dull colors instead
  - Commercial labs generally require sRGB
  - LCC competitions require sRGB
- Recommendation:
  - Shoot in RAW so you capture all your sensor is capable of
  - Plan to print a colorful scene on a good printer – Adobe RGB
  - If you understand how and when to convert – Adobe RGB
  - If you have high end monitor and/or printer – Adobe RGB
  - Otherwise, sRGB is a good and safe bet

Same AdobeRGB Image, 2 RGB Profiles

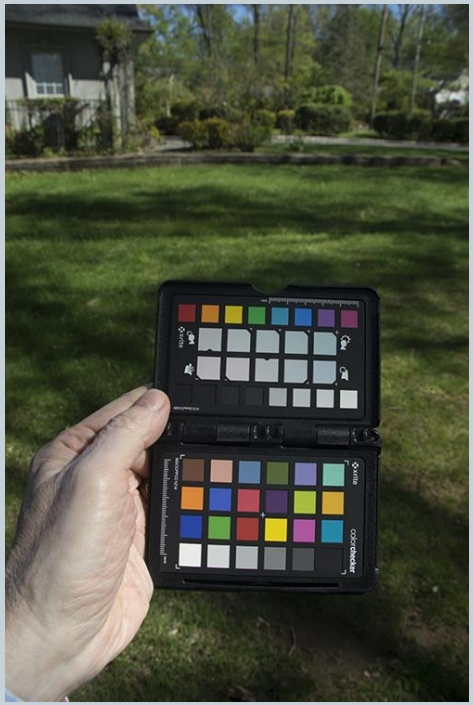
sRGB

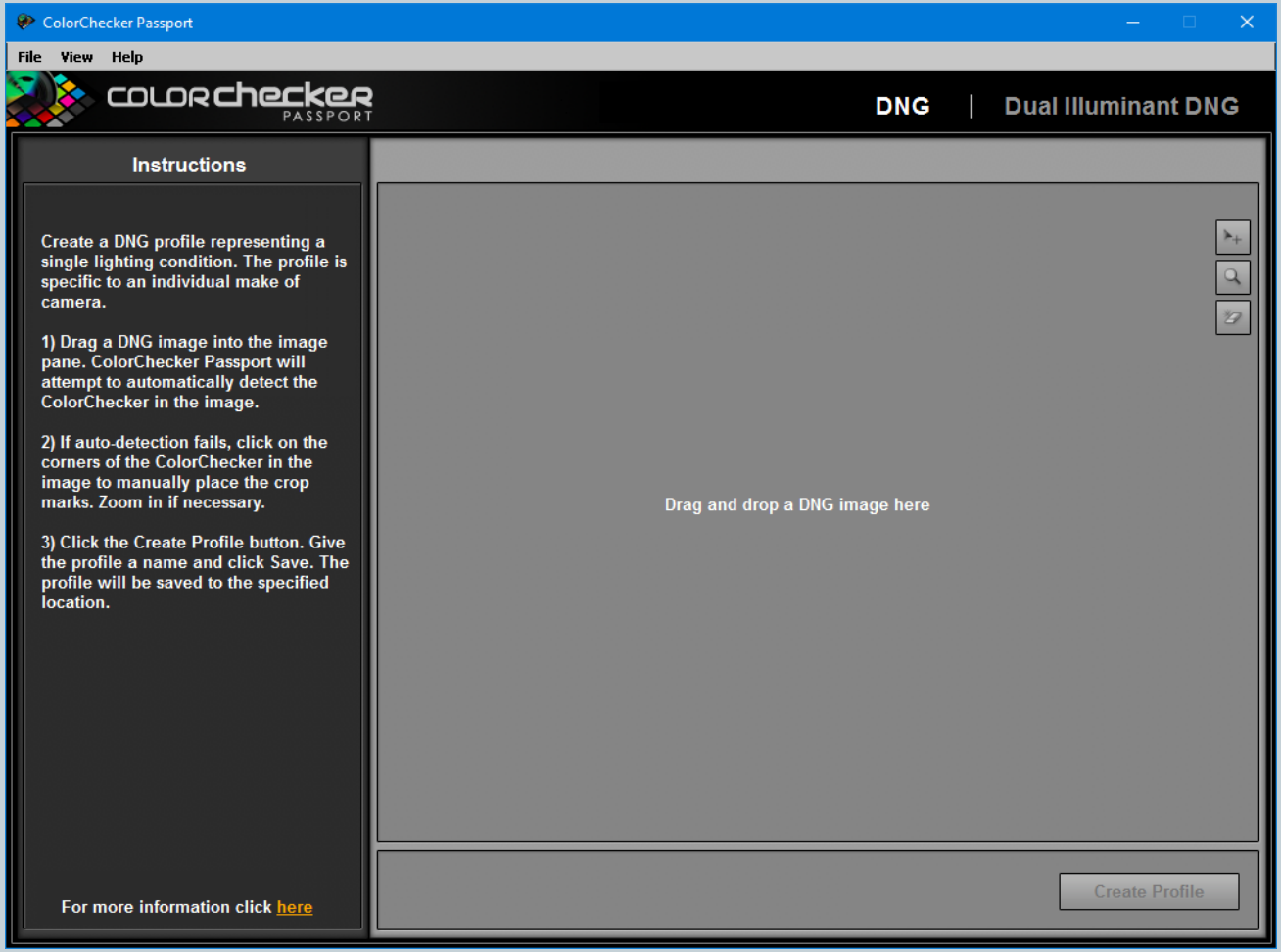
Wide Gamut RGB

How To Calibrate

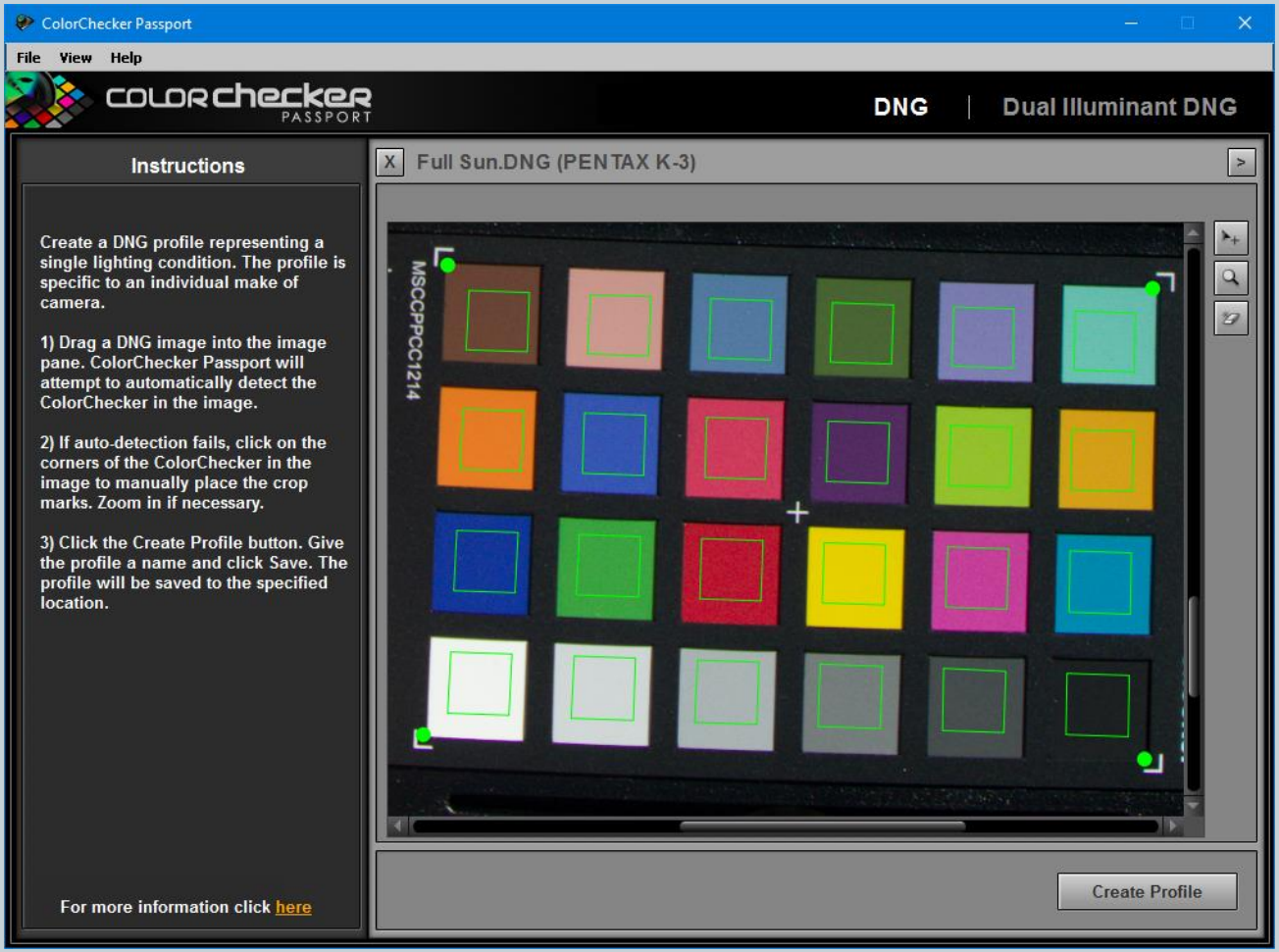
CAMERA
MONITOR
PRINTER

X-Rite Color Checker Passport

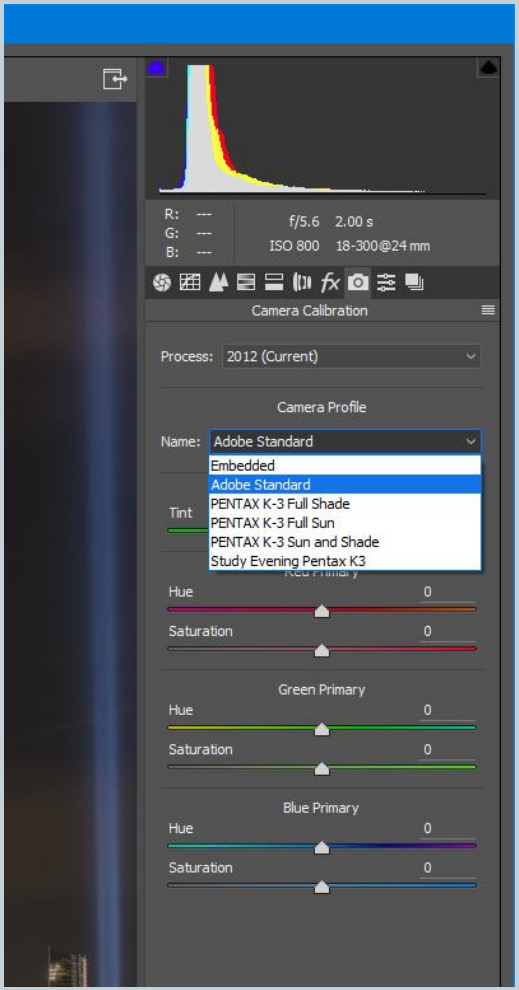




Software Found the Color Checker



Selecting Profile on Camera Calibration Tab Adobe Camera Raw



Colormunki Main Screen

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You are here: InfoCenter » Color Profiles » **Canon Pro-10 Printer Color Profiles**

Printer Color Profiles for the Canon PRO-10

Red River Paper offers the largest online library of color printer profiles. Profiles for the Canon PRO-10 are ready for your free download and use. Using ICC printer profiles for the Canon PRO-10 will afford you more consistent print quality as well as better overall color saturation.

Red River Paper offers the finest inkjet media in the sizes you need. Sourced from the best mills and coaters, Red River Paper offers you the same quality or better than the big name brands.

Each link will download a zipped file with the profile and instructions file.

Red River Paper fully supports the Canon PRO-10 with profiles and a full range of photo & fine art inkjet papers.

All Profile Download

Download all Canon PRO-10 profiles in one file (13 mb zipped file)

Photo Papers

- 66lb. Polar Pearl Metallic
- 68lb. UltraPro Gloss 2.0
- 68lb. UltraPro Satin 4.0
- 66lb. Arctic Polar Satin
- 66lb. Palo Duro Satin
- 68lb. Arctic Polar Gloss
- 75lb. Arctic Polar Luster
- 50lb. Arctic Polar Luster Double-sided
- San Gabriel Baryta SemiGloss 2.0
- San Gabriel SemiGloss Fiber - Original version
- 80lb. RR Luster Card Duo
- Palo Duro SoftGloss Rag

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Click for **PROFILE SUPPORT**

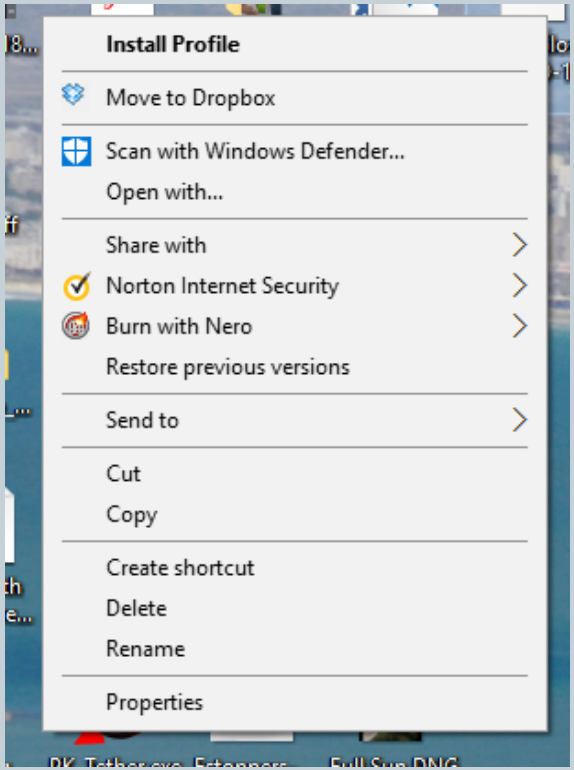
Each link will download a ZIP file that contains:

1 ICC Profile

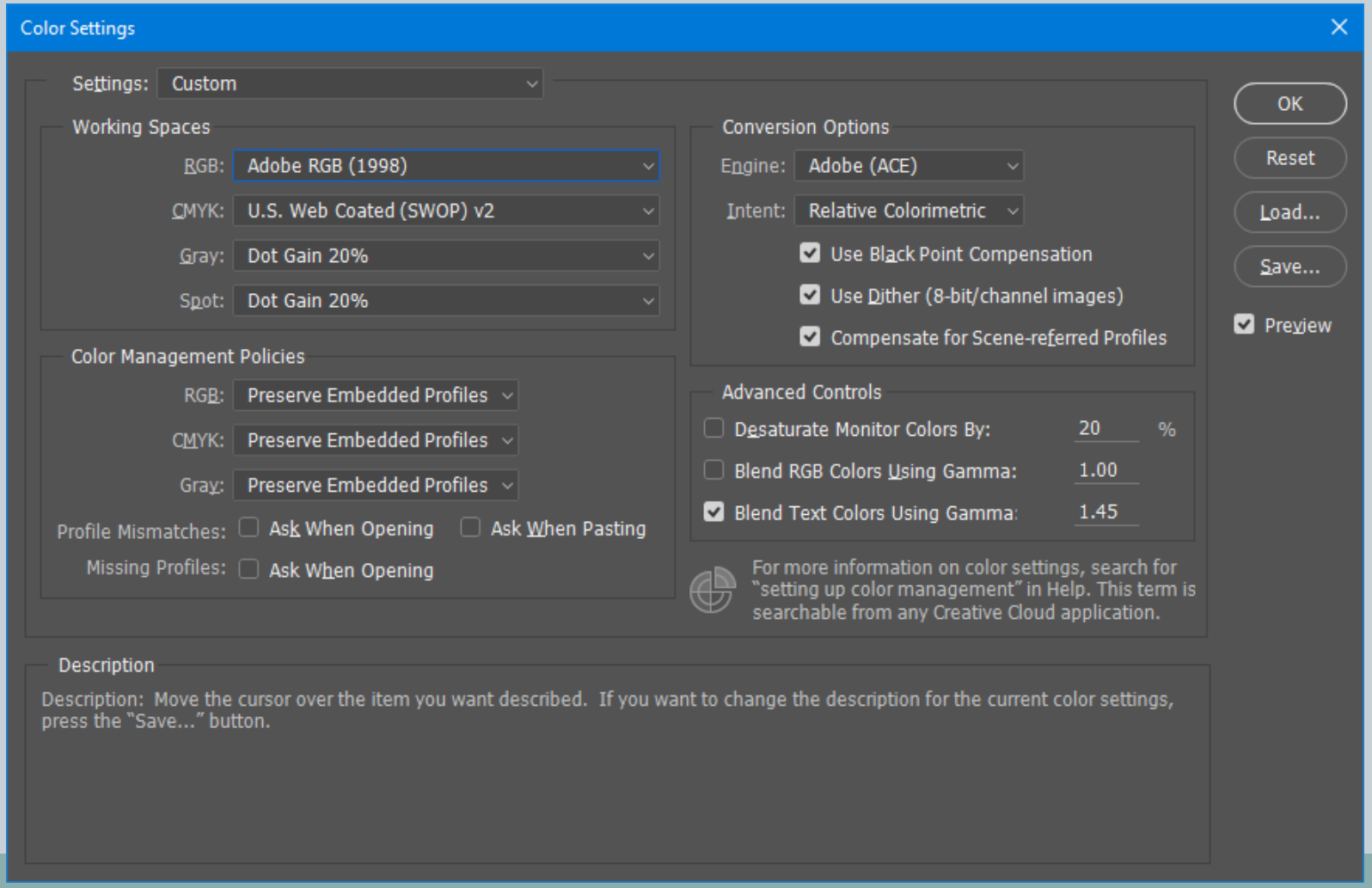
Red River Paper offers profiles as a free service. As such, detailed support via phone is not available. We offer very helpful instructions here. We can answer profile related questions via email here.

Installing a Printer Profile

- Right click on downloaded ICC file (Windows)
- Select “Install Profile”



Setting Up Photoshop for Color Management



RAW Capture

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WHY RAW?
RAW WORKFLOW
DYNAMIC RANGE RECOVERY
BASIC COLOR CORRECTION

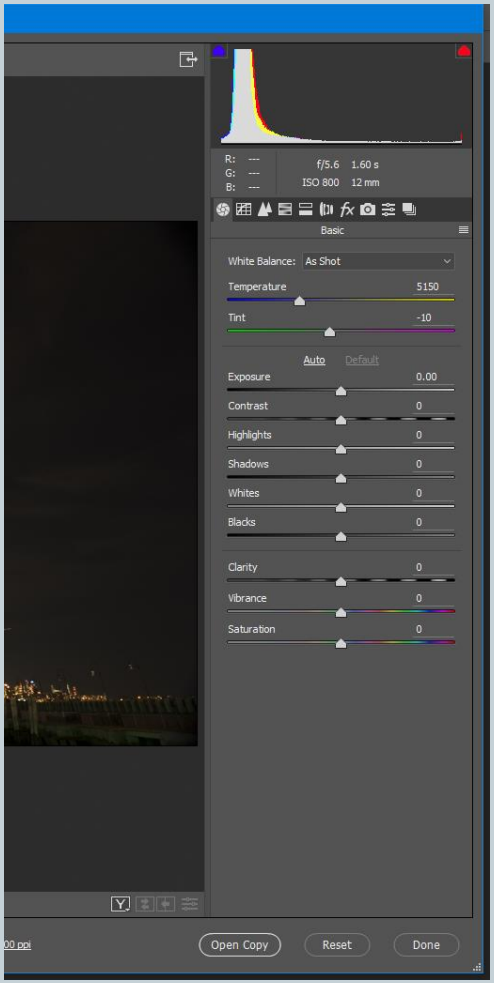
RAW Capture

- Advantages
  - No information or detail lost
  - You make the decisions on color balance, sharpening, color space, etc.
  - Can decide later on these parameters and even change your mind
  - Permits use of lens and camera profiles
  - Full sensor dynamic range – can usually recover shadow and highlight detail lost in JPG
- Disadvantages
  - Larger files size
  - Need for external software to produce JPGs
  - Each camera has own format (exception: DNG) – must keep software up to date to accommodate new cameras
- Most cameras will allow RAW + JPG capture

RAW Workflow

- Conversion
  - Camera proprietary software
  - Lightroom (or equivalent, such as ACDSee, etc.)
  - Adobe Camera Raw (convert or import into Photoshop)
- Development
  - Color correction
  - Exposure, contrast, etc.
  - Highlight and shadow detail recovery
  - Lens distortion
- Export to file or import into editing software

Basic (Default) ACR Tab



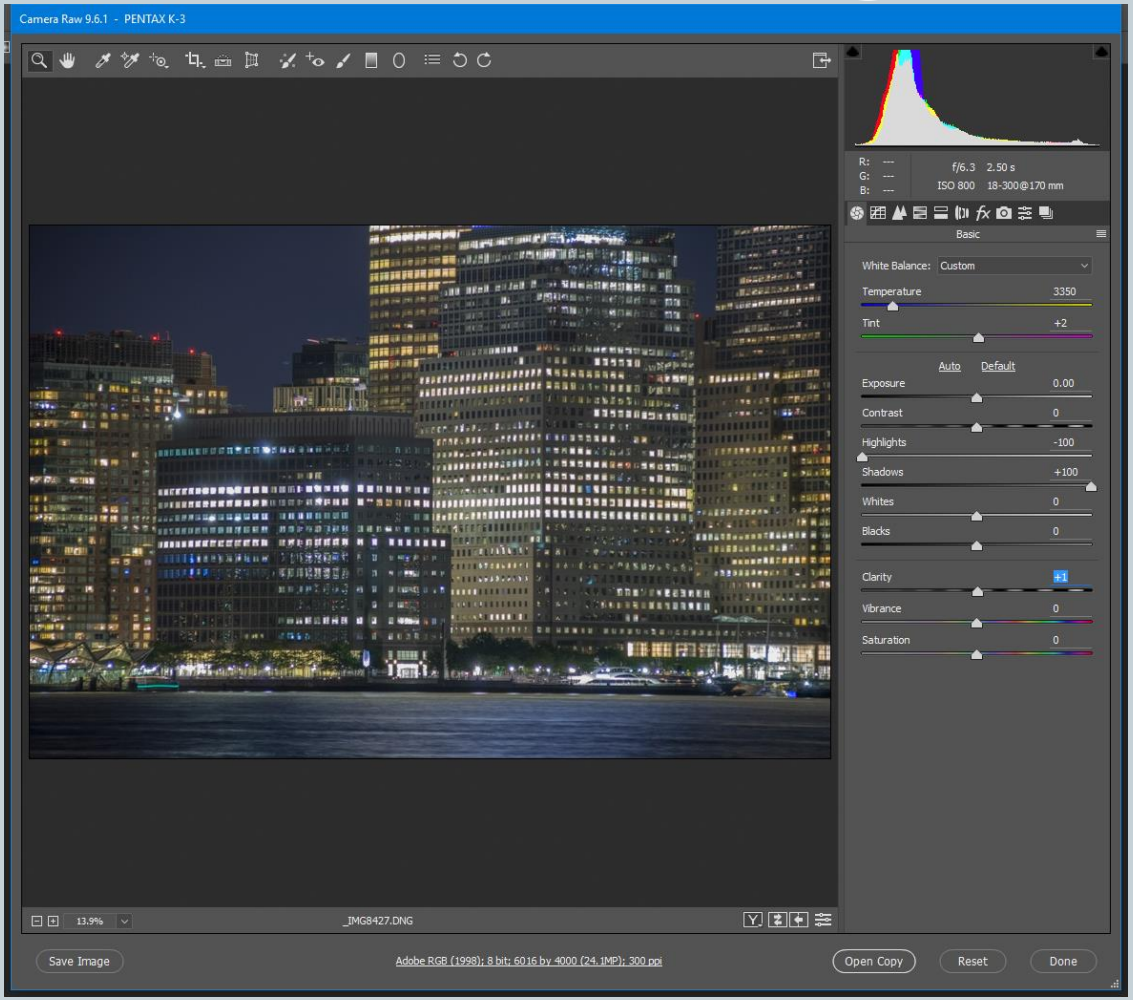
- Color Correction
  - Temperature and Tint
- Exposure and Contrast
  - Recover shadow and highlight detail
  - Adjust white and black points
- Local Contrast and Saturation

Recovering Dynamic Range from RAW

HDR

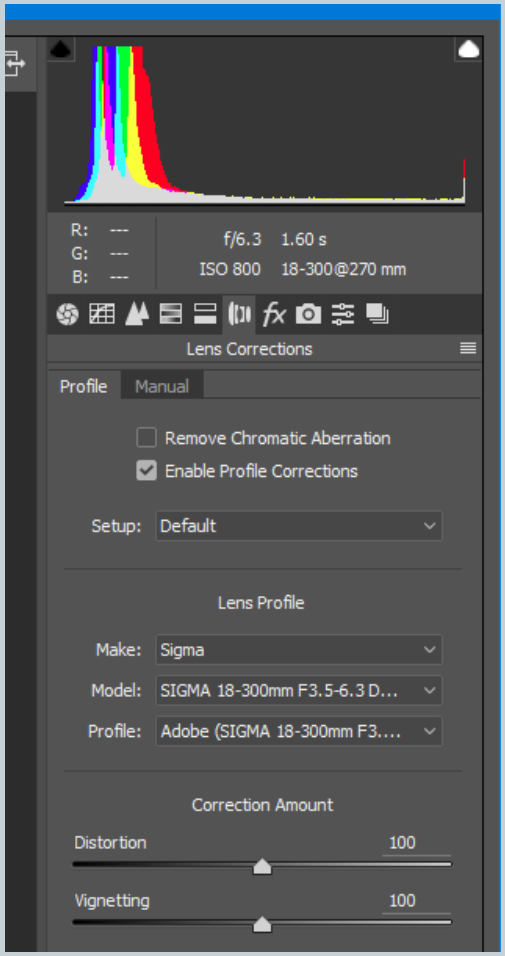
From Middle DNG

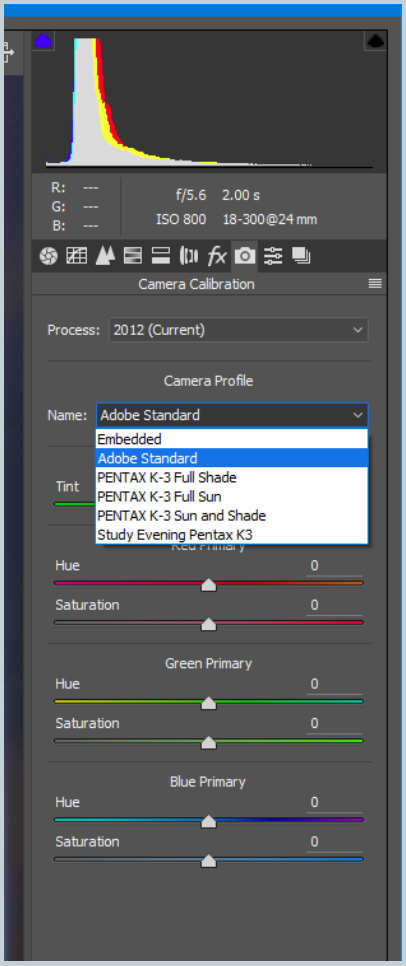
Recovering Highlight & Shadow Detail



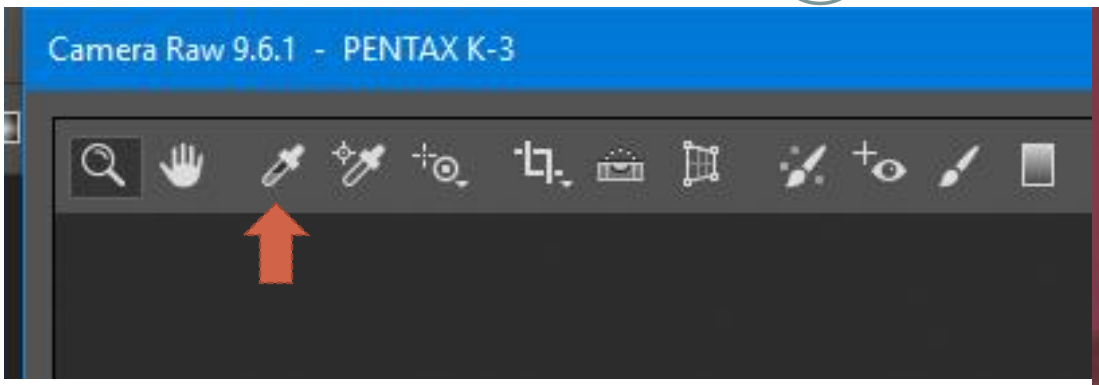
- Overall contrast will be low after recovery and needs to be restored through other means

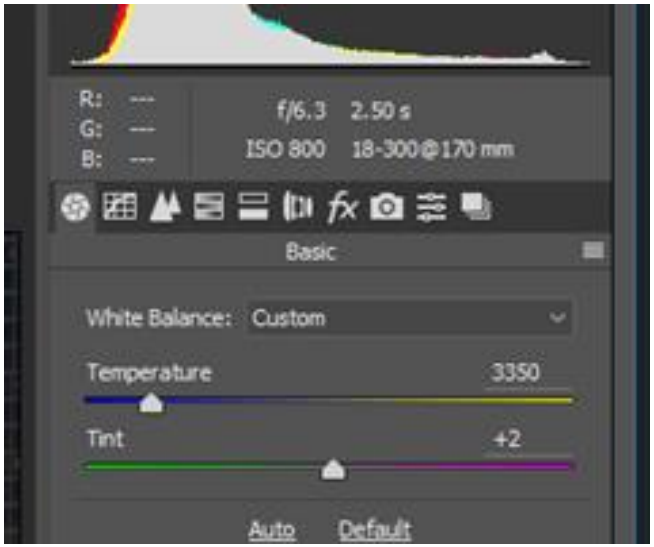
Selecting Color and Lens Profiles on Camera Calibration Tab Adobe Camera Raw





Use of Neutral Grey Card

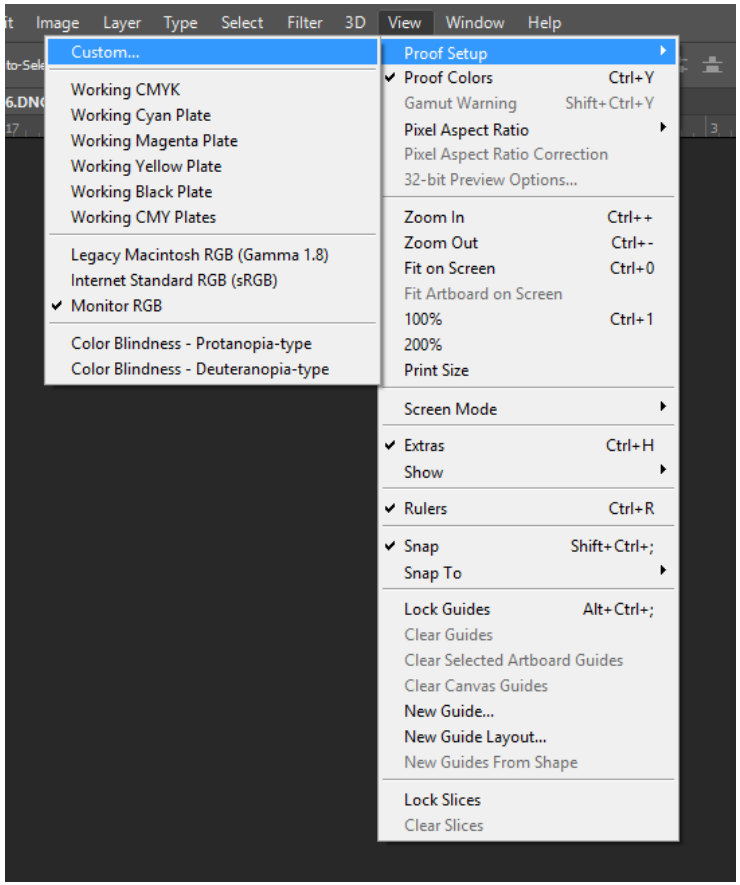


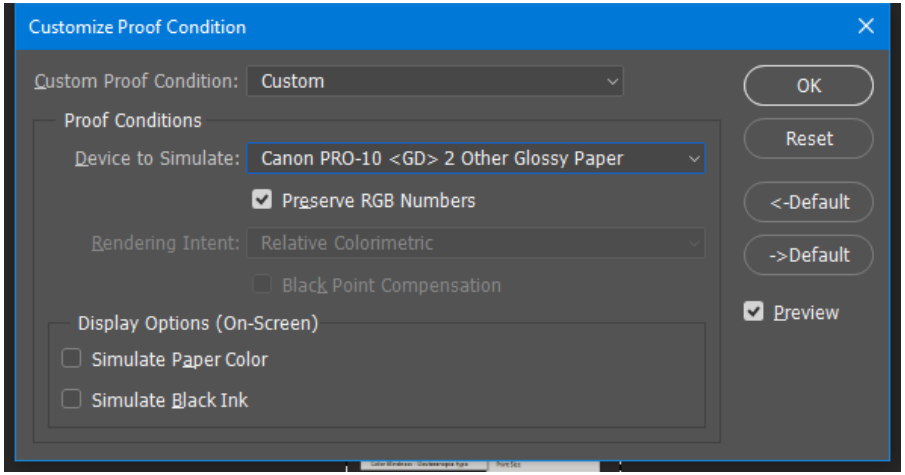


Settings for Printing

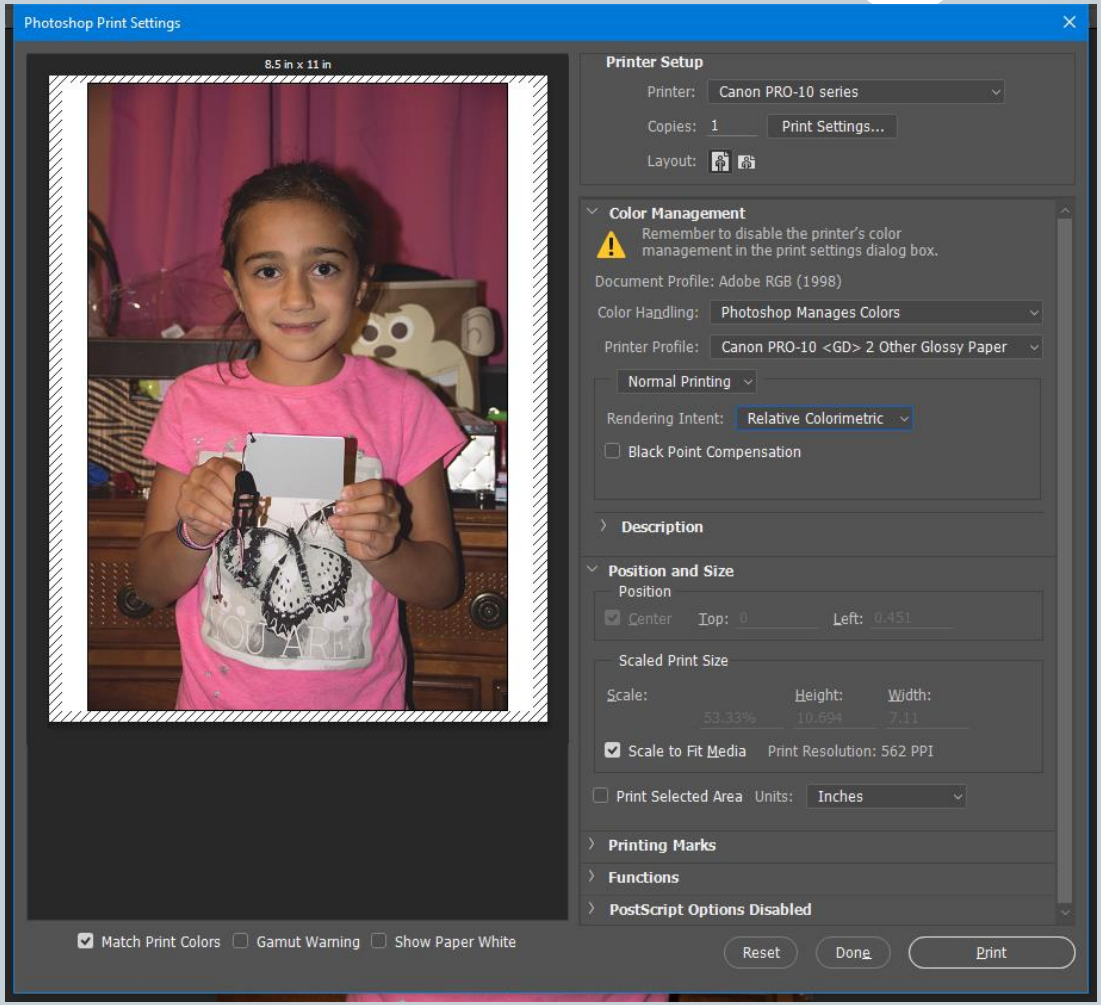
SOFT PROOFING
PHOTOSHOP PRINT DIALOG
PRINTER DIALOG

Soft Proofing





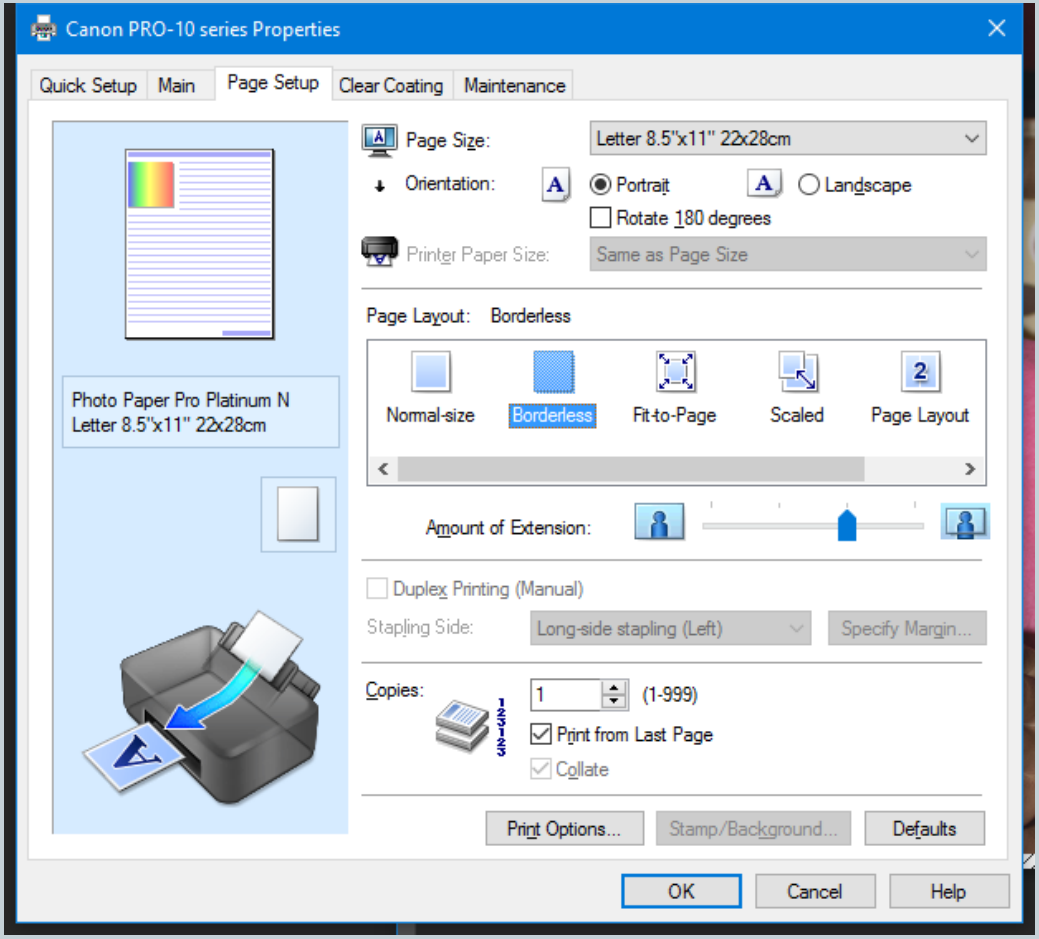
Photoshop Print Dialog



- Printer
- Print Settings
- Layout
- Color Handling
- Printer Profile
- Rendering Intent
- Black Point Compensation
- Position and Size
- Scale to Fit Media

- Viewing Options

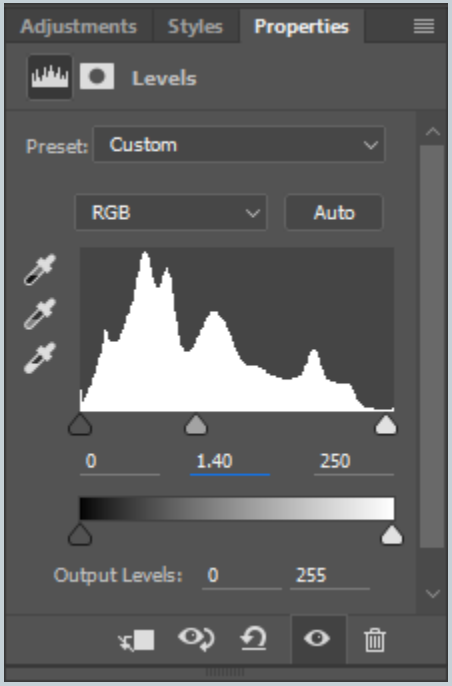
Print Settings Dialog



- Paper Size
- Paper Type
- Orientation
- Page Layout
- Overspray

- Printer Specific Settings
- Maintenance

Getting Print to Match Screen



- Monitor and Printer both calibrated
- Lower brightness of monitor
  - Use calibrator to get to recommended brightness
- If prints still too dark, consider adding a Levels adjustment layer at top prior to printing
  - Gamma 1.4 works well for my setup
  - Consider moving white point if you experience gloss differential

Thanks!