

Advanced Printing

Guidance for ink jet prints using Photoshop

Camera Club of Laguna Woods Village

Jack Salvador - July 14, 2026

Plan Well

Determine logistics in advance

- Why make this print?
- How will it be displayed (size, location)
- Budget?

And Start with a Great Print

...then this class will not be needed

- Minimal prep
- **Great luminance**
- Prints true to the image

Great Print

Kevin Haas
USA

maybe...



Problems

These windows will not print well.
You are a problem solver.



So choose well...

Sebastao Salgado
Brazil

...and yes,
this print took a lot of work.





- Good prints have never been easy! Darkroom print “map” -

Prints Evolve Over Time

Does the print say or feel how you want?



- *Moonrise Over Hernandez, Ansel Adams, original & printed 25 yrs later* -

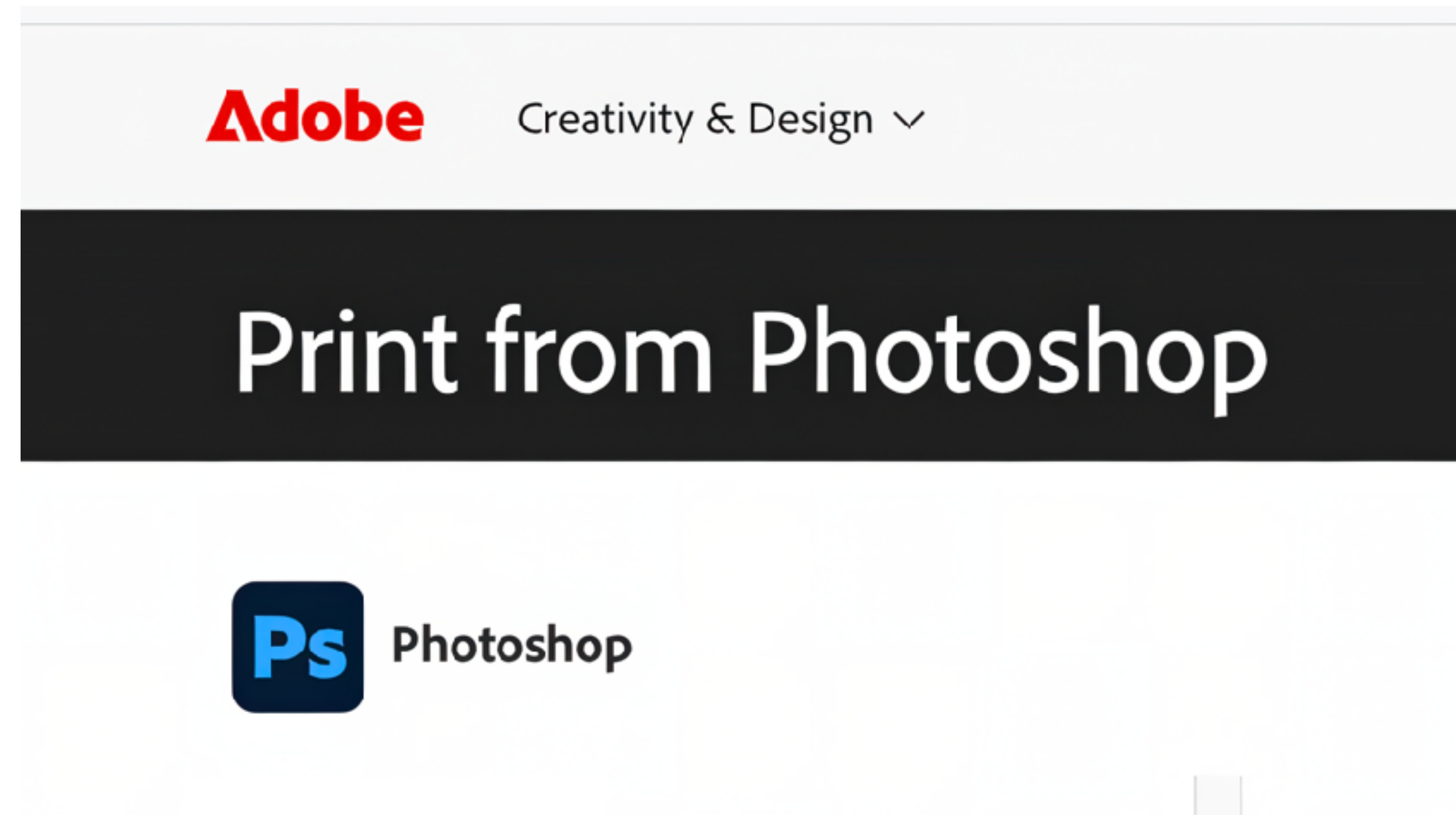
What Makes a “Good” Print?

Same as what makes a good photograph, and...

- Subject
- Moment (Gesture)
- Composition (Structure)
- **Technical quality**
- Point of view
- Uniqueness
- Printing technique
- **Light/Luminance**
- Presentation

First, We'll Start at the End

Assume we have already done the hard stuff...



<https://helpx.adobe.com/photoshop/using/printing-photoshop1.html>

Technical Essentials for a Good Print

What can you actually achieve?

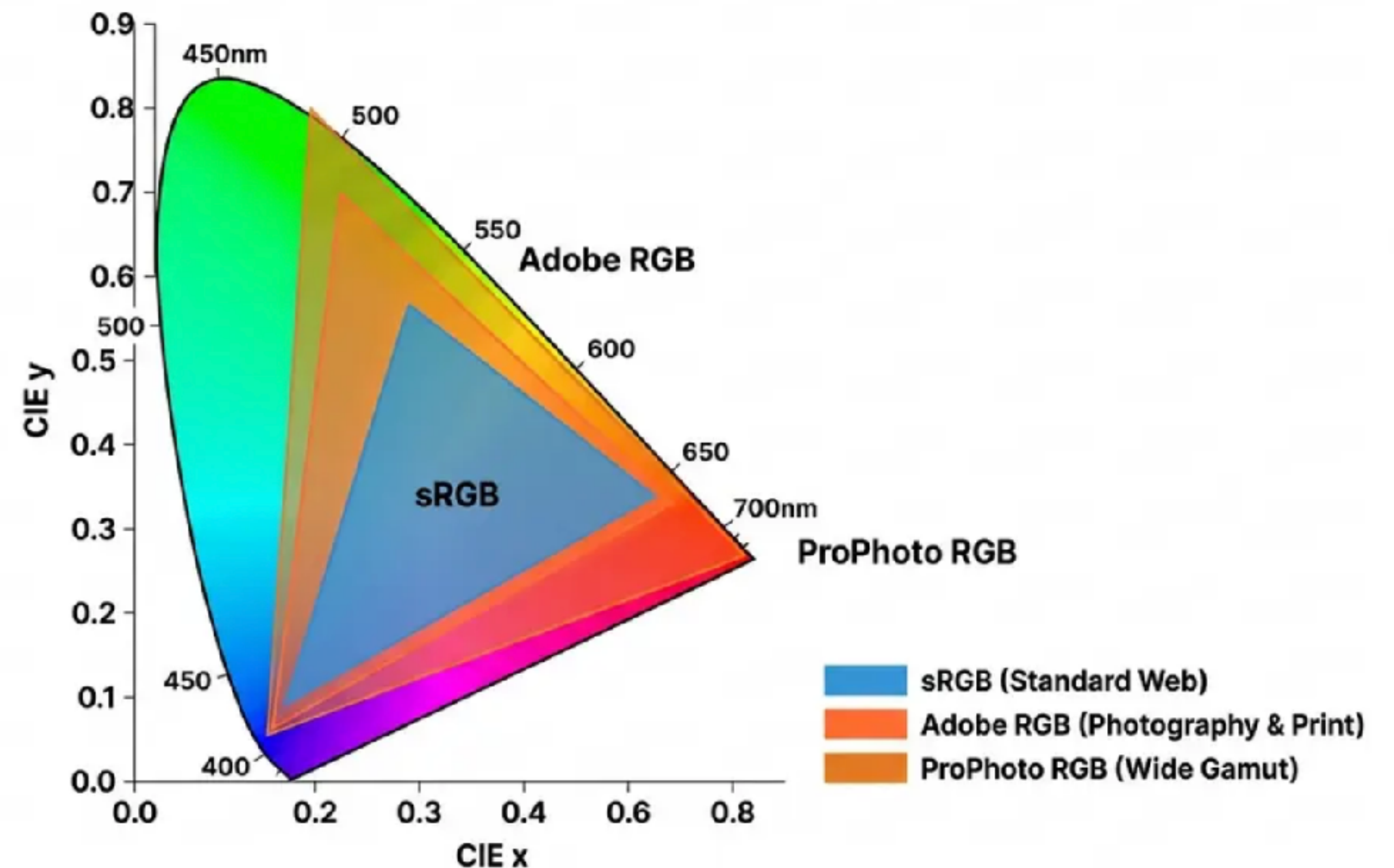
1. Image COLOR PROFILE
2. Image RESOLUTION
3. Color TONAL RANGE & DENSITY
4. SHARPNESS - or not
5. Surface MEDIA
6. Capabilities of COMPUTER & PRINTER

Image Color Profile

Determines the color space (gamuts) of your working file

- Shoot ProPhoto (RAW)
- sRGB (smallest), Adobe RGB (medium), and ProPhoto RGB (largest)
- Work in RAW as much as possible
- Adobe RGB is for presentations
- How to RGB Color Space in Photoshop:
 - Top menu Edit
 - Convert to Profile
 - Select Adobe RGB
- Image color profiles are NOT the same as paper color profiles

Color Gamut Comparison: sRGB vs Adobe RGB vs ProPhoto RGB



Print Color Profiles

Optimize the monitor (RGB) view to the paper print (Ink, Dye, CMYK)

- Print color profiles are standardized ICC files
- Proprietary profiles fit brand machines & media (92%)
- Custom profiles work across brands (95-99%)
- Custom profiles require special software or kits
- Monitor calibration is required for accuracy
- Monitor pre-calibration (BenQ, ViewSonic)
- Hardware (ViewSonic) vs. software (BenQ) calibration

<https://www.designyourway.net/blog/what-is-a-print-color-profile/>

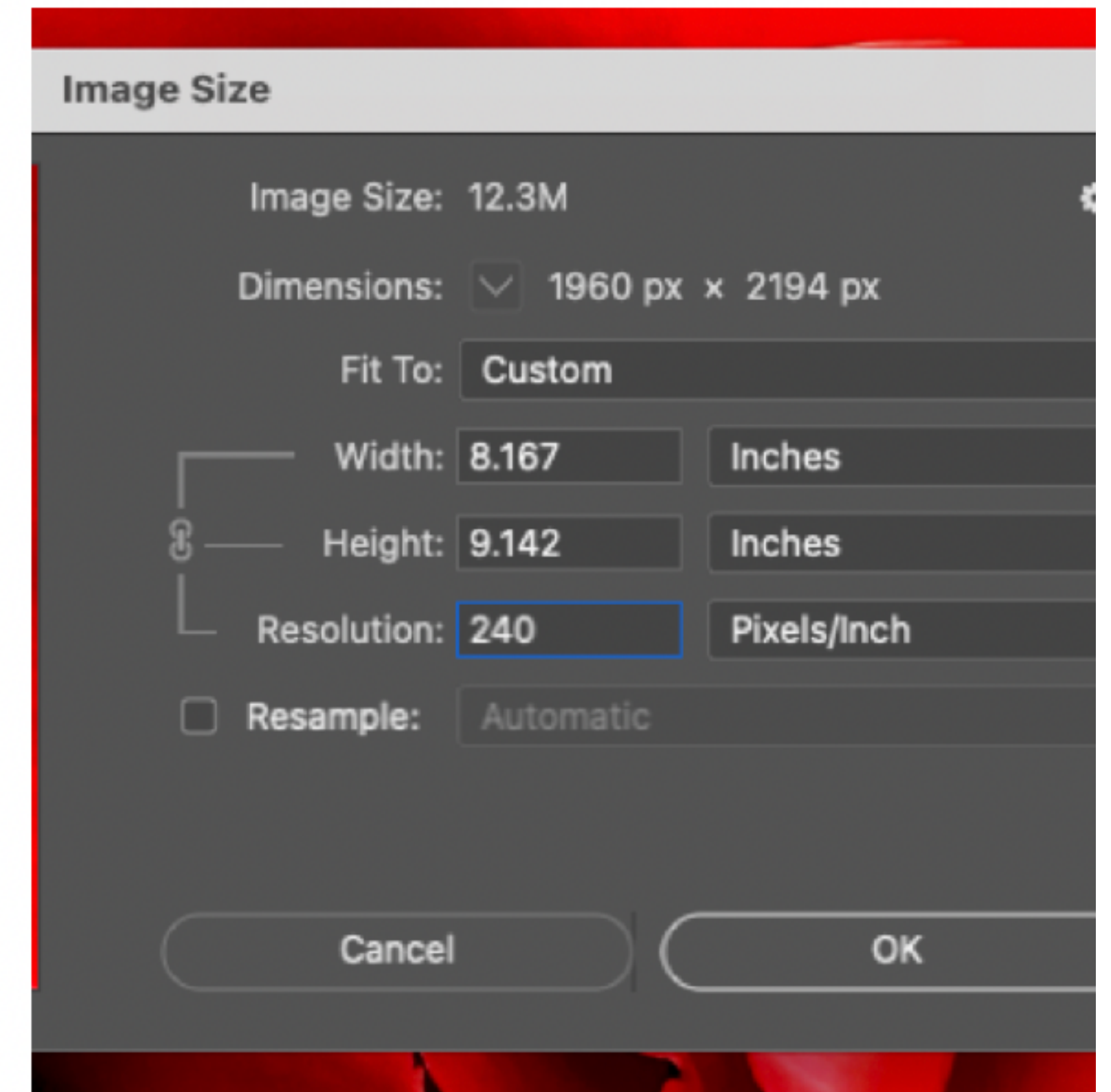
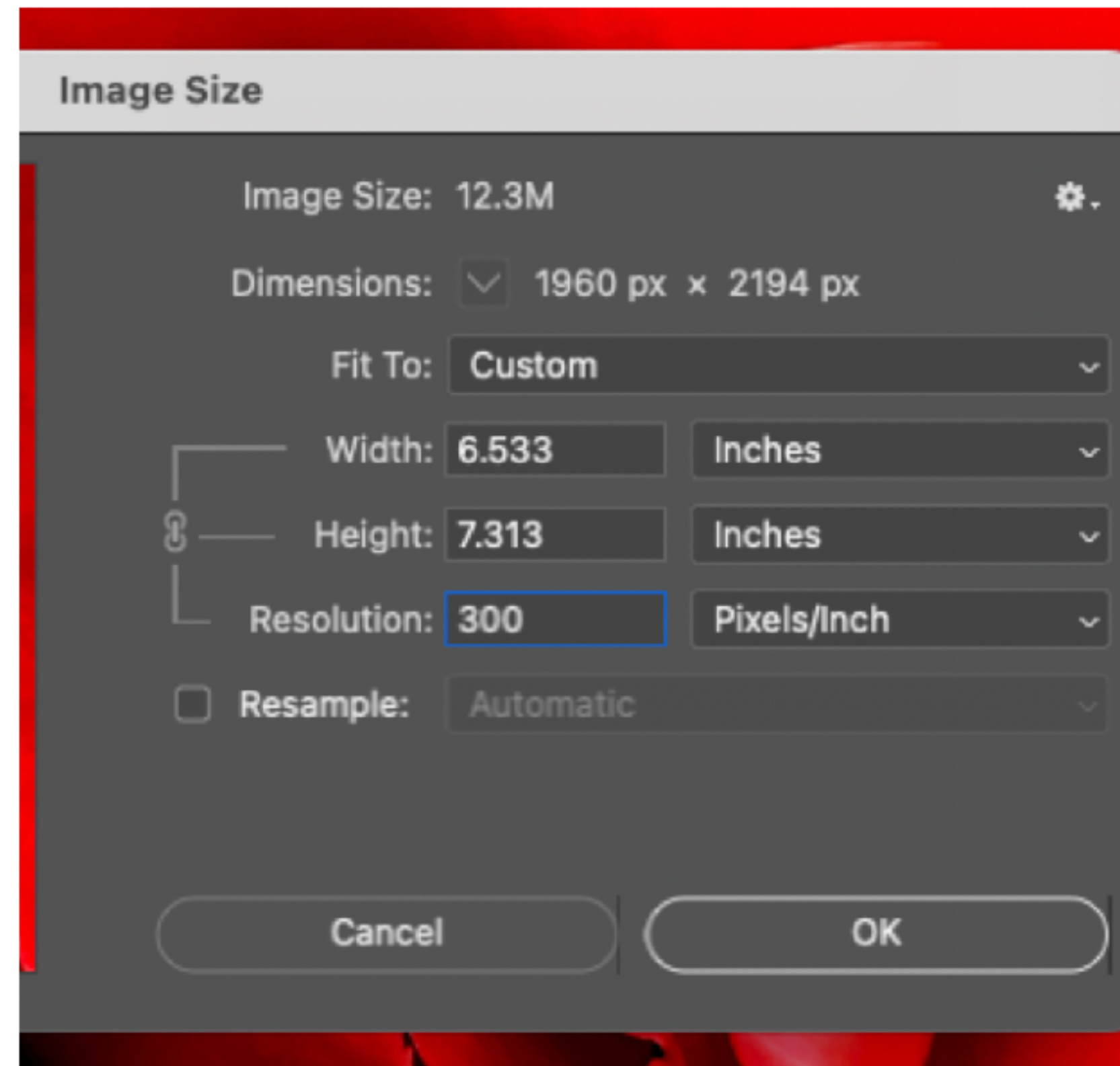
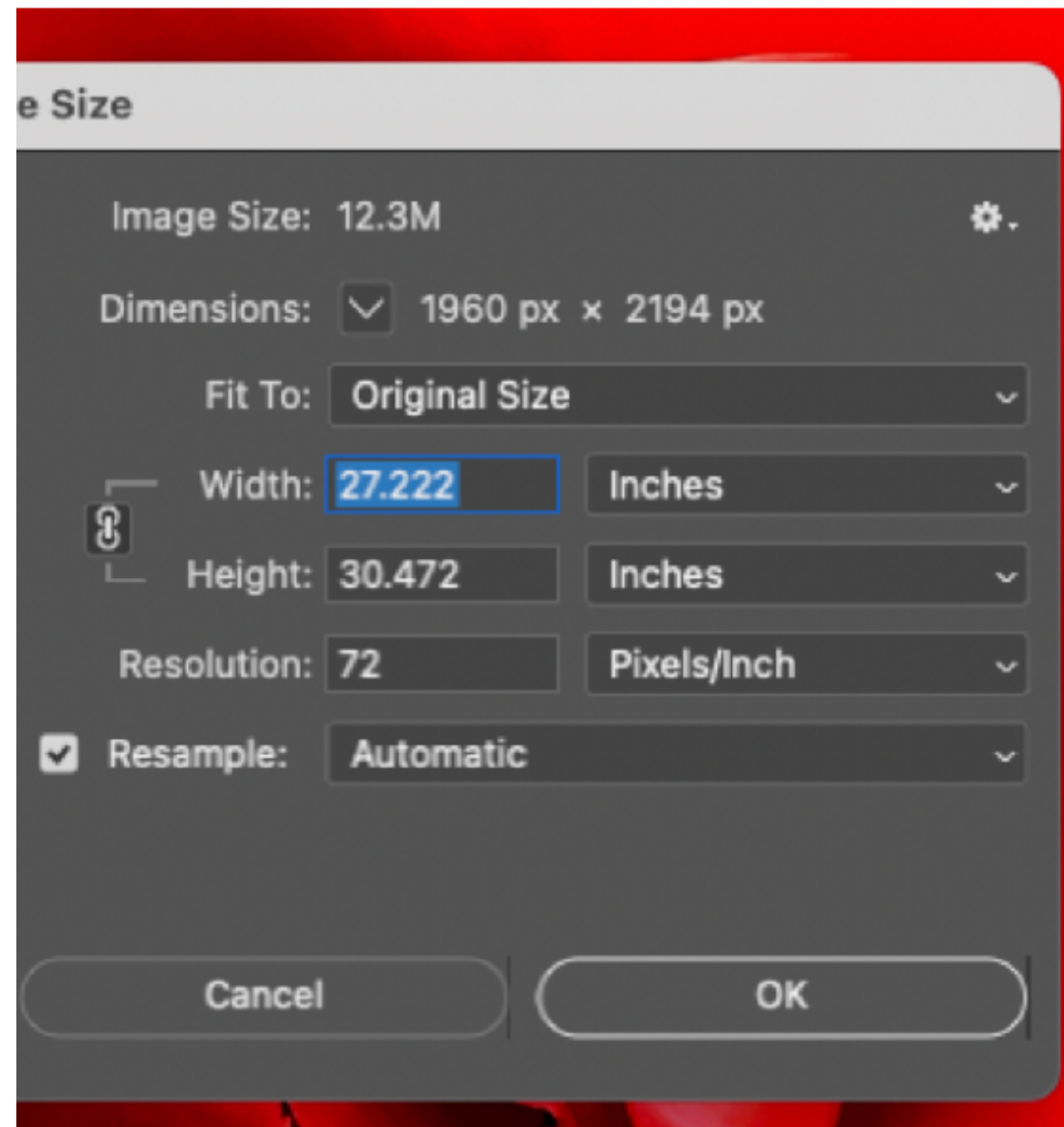
<https://www.redrivercatalog.com/profiles/inkjet-printer-color-icc-profiles-red-river-paper.html>

Image Resolution

Image resolution must be sufficient for final print size

- Aim for 300 dpi
- Shooting in “Raw” gives higher resolutions, pixel depth
- Some printers can “fudge” resolution
- The Photo Lab printers want 300dpi, OK 200 plus
- Up-rez as needed
- Up-rez not great w/ AI and graphical images

Changing Resolution in Photoshop



- Go to Top Menu “Image”, select “Image Size” from drop down list. Uncheck “Resample” to retain all image data/quality, then adjust -

Work at Full Size 1:1

Define the size of your print before you begin edits

- Work at your largest size
- Working 1:1 eliminates resizing issues
- Test prints will be accurate to the final print
 - Save your working file ALL layers in case

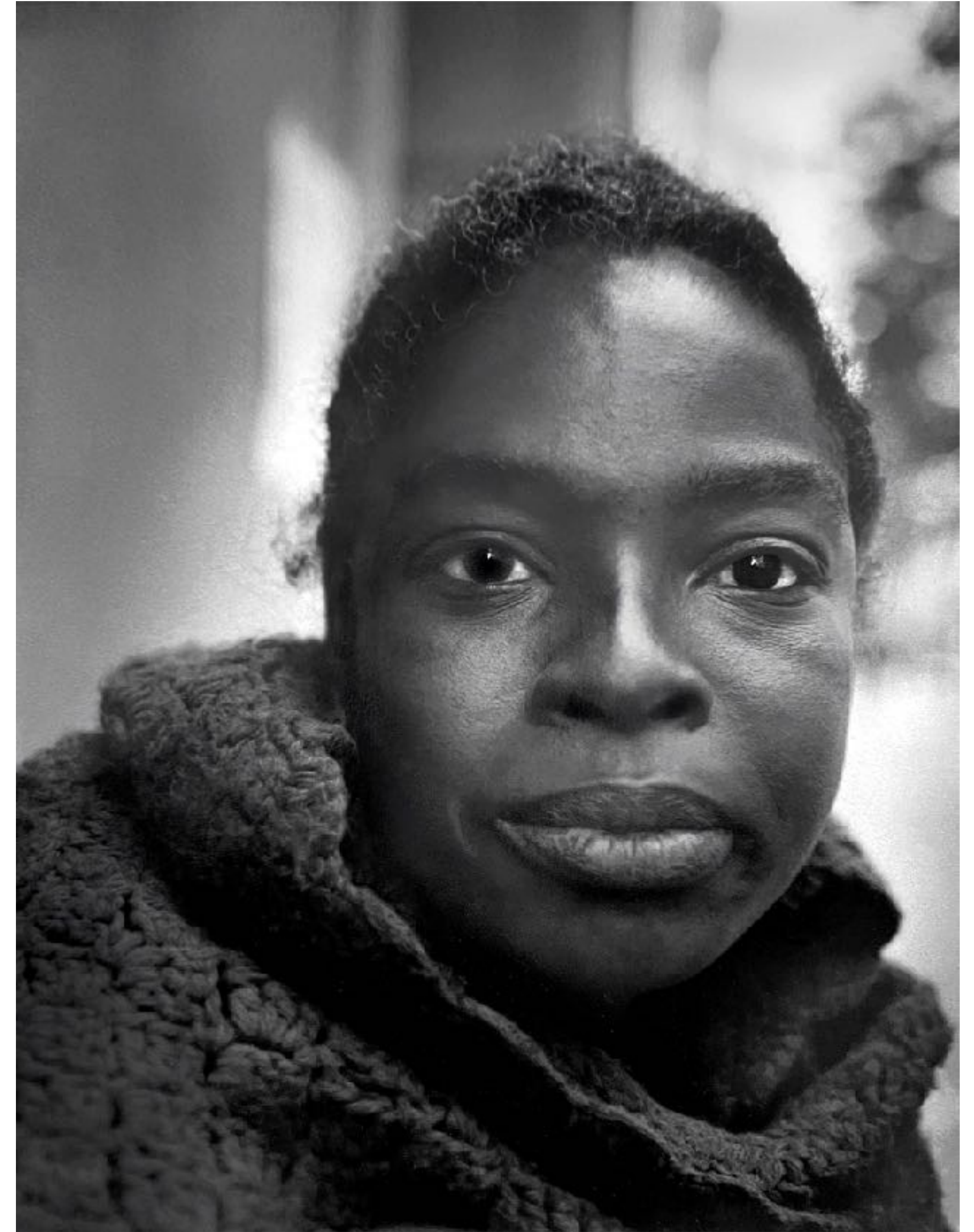
Color/Tonal Range & Density

Expect prints to be darker than screens

- Shadows may “block up”, highlights may “blow out”
- Mid-tones may need more contrast
- Some colors may be out of gamut - not printable
- “Color casts” reduce contrast and sharpness
- Thin exposures will pixelate, posterize, etc.
- Start with a well exposed image!

Flat Exposure

- Low-light improvements
- Image is “opened up”
- Fuller tonal range
- Color tone changed
- Mid tones have contrast
- Spots removed - spots ruin the 3D illusion
- Image is balanced, focused

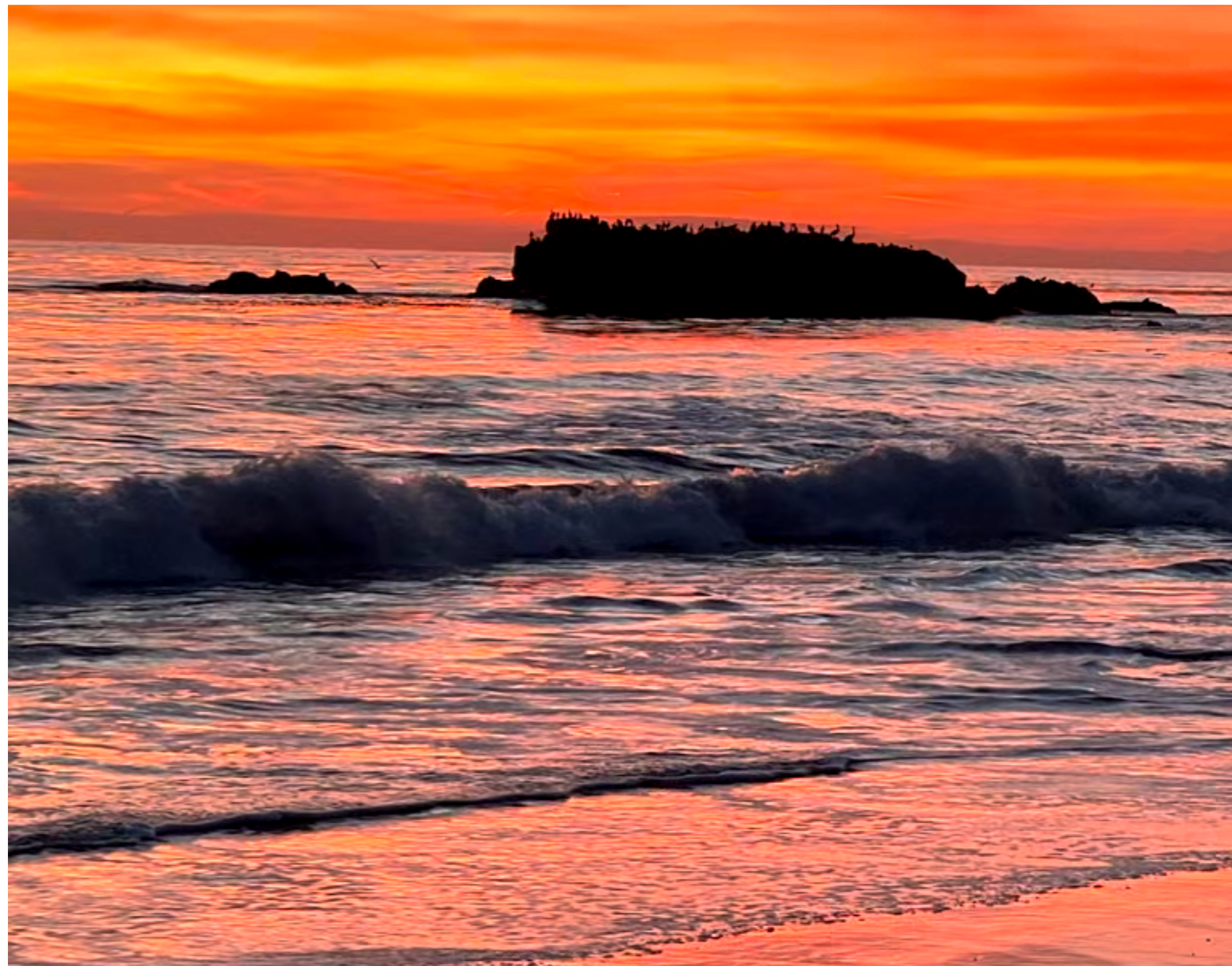


Color Range - In and Out of Gamut



- Irving Penn controlled range. "Hot" sunset, dark shadows need work!

Image Corrected to Print in Gamut



- Left: out of gamut sky, dark waves | Right: close to gamut sky, waves opened

Good Image Density

Prevent thin or blocked images

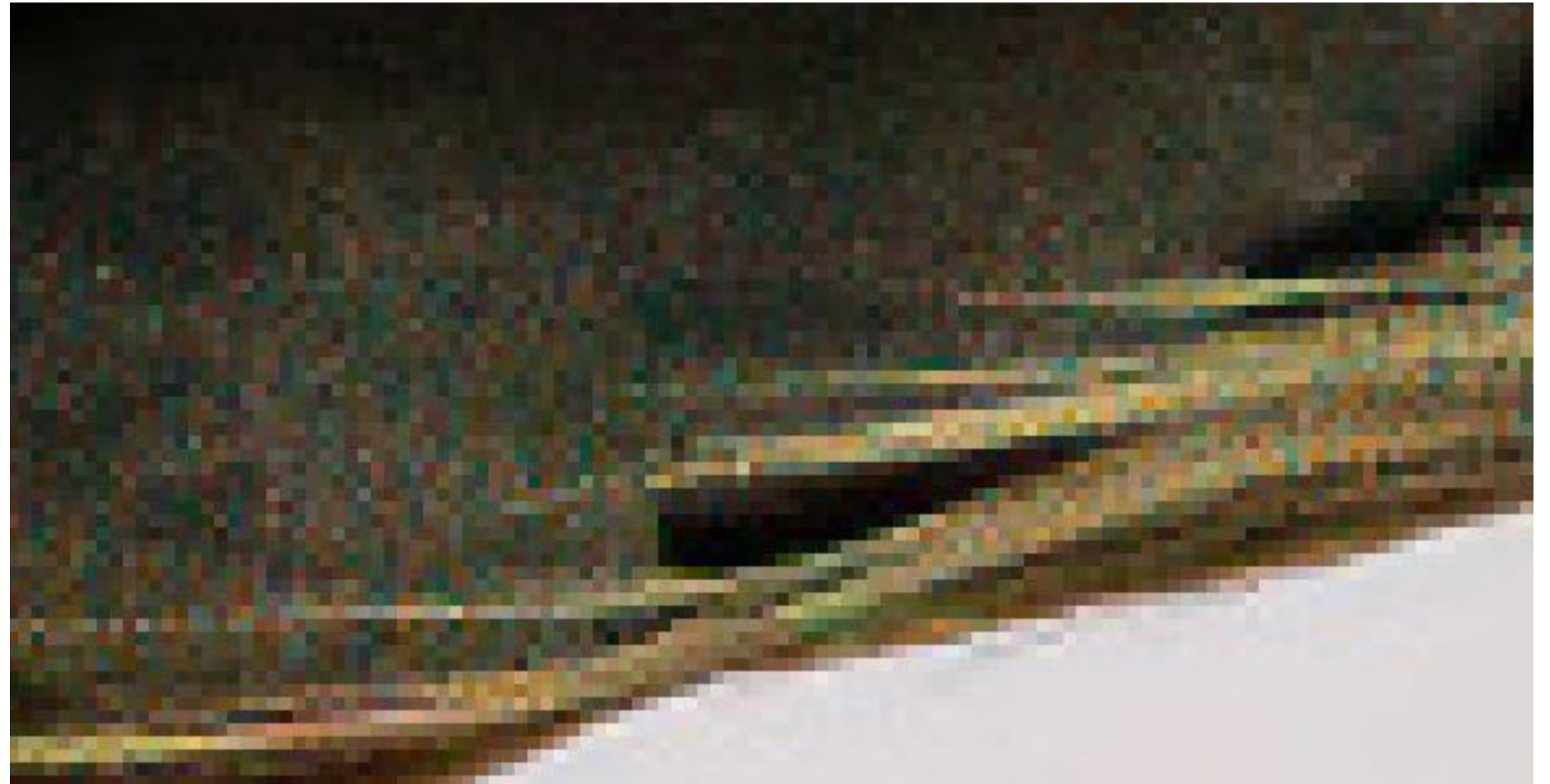
- Work with sufficient light
- Shoot in RAW for pixel depth/expand light capture
- “Bracketing” and “Image stacking” can help
- Post-production may help
- The best solution is start a good photo!

“Out of Gamut” Live Demo

How to compensate for “lost” vibrance...

Images with Low Pixel Density

- Low pixel depth
- Not enough detail to print
- This is NOT an enlargement issue
- This is a density issue
- Fix requires post-production work



Color Layers for Low Density Images



- Original left, Print ready w/ added color layer right, (c) Jack Salvador -

“Low Density” Live Demo

How to add detail where almost none exists... 2 examples

Color Casts

- **Casts reduce contrast**
- Removing color cast reduces need to adjust sharpness or contrast
- Keep prints “in hand” large printing projects to make sure all the prints are the same tone.



“Color Cast” Live Demo

Flatness is not always a contrast issue...

Multiple Techniques Applied



- Original left, Print ready file at right, (c) Jack Salvador -

Break time

Get some air...

10-minutes please.

MacBeath Color Chart

- Evaluate your print color
- 18 basic color blocks
- 6 grayscale blocks
- Can be photographed in situ
- Comes with skin tone options

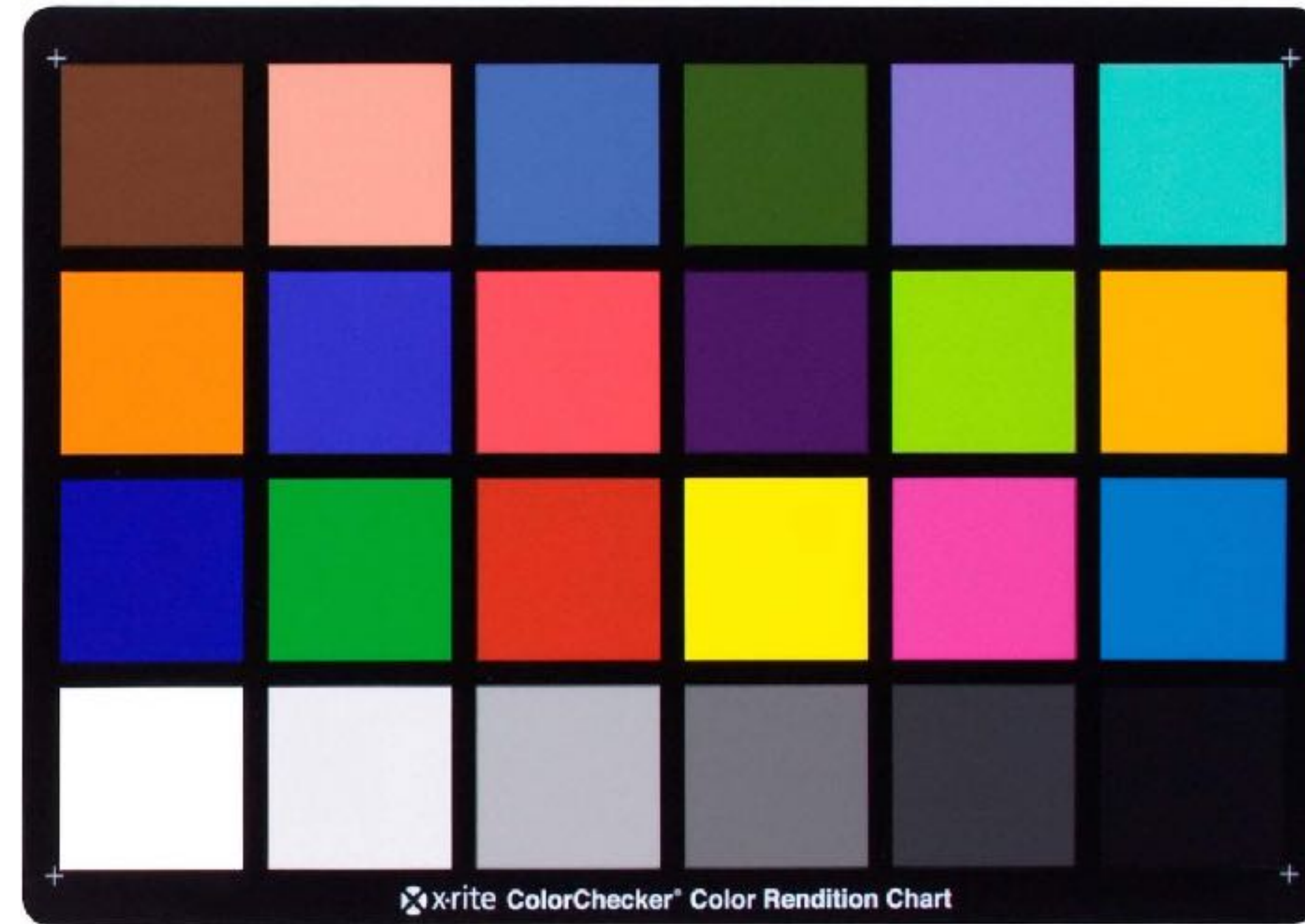
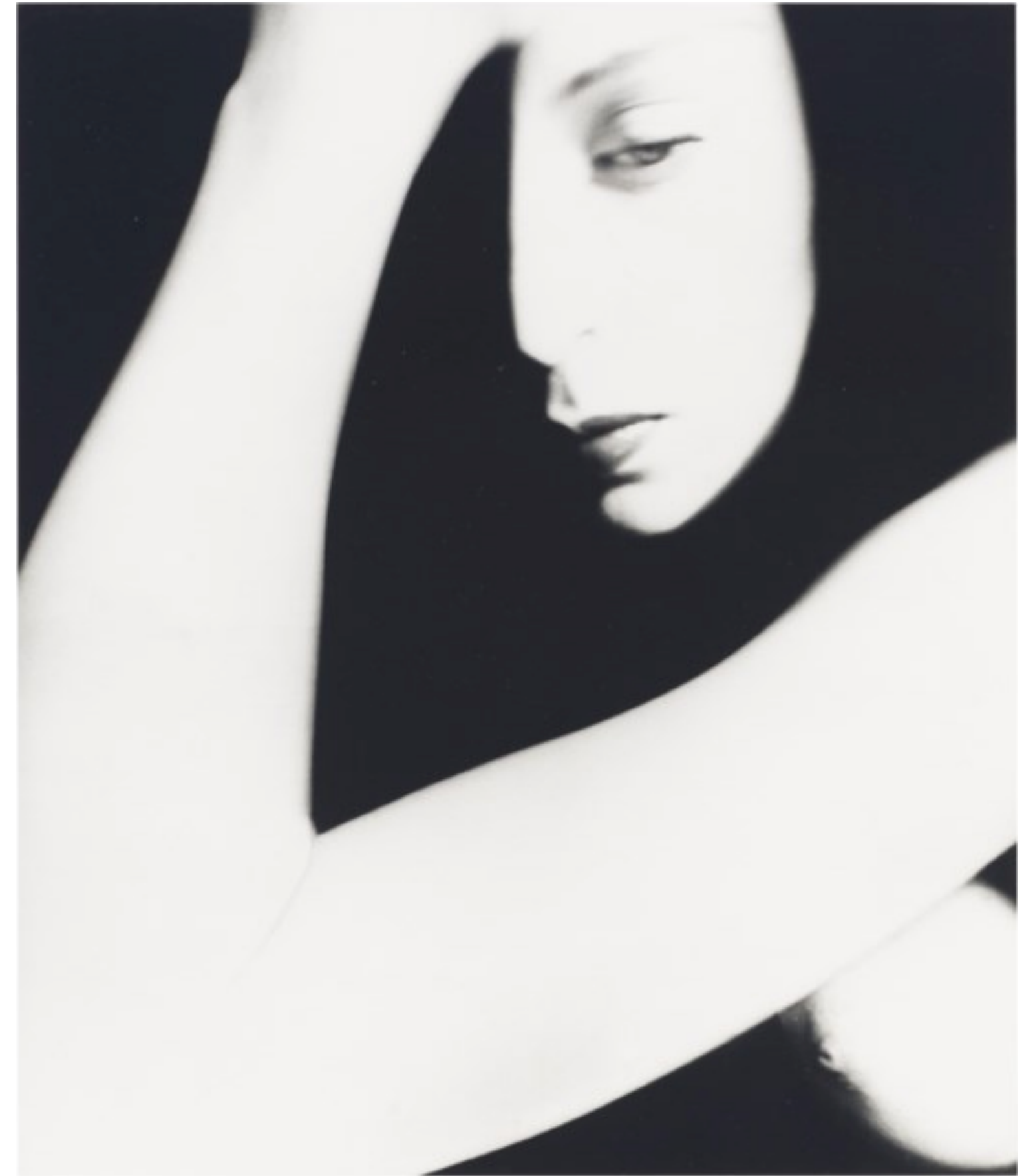


Image Sharpness



- *Miles Davis*, Irving Penn, *London*, Bill Brandt -

Image Sharpness

It's both technical and personal.

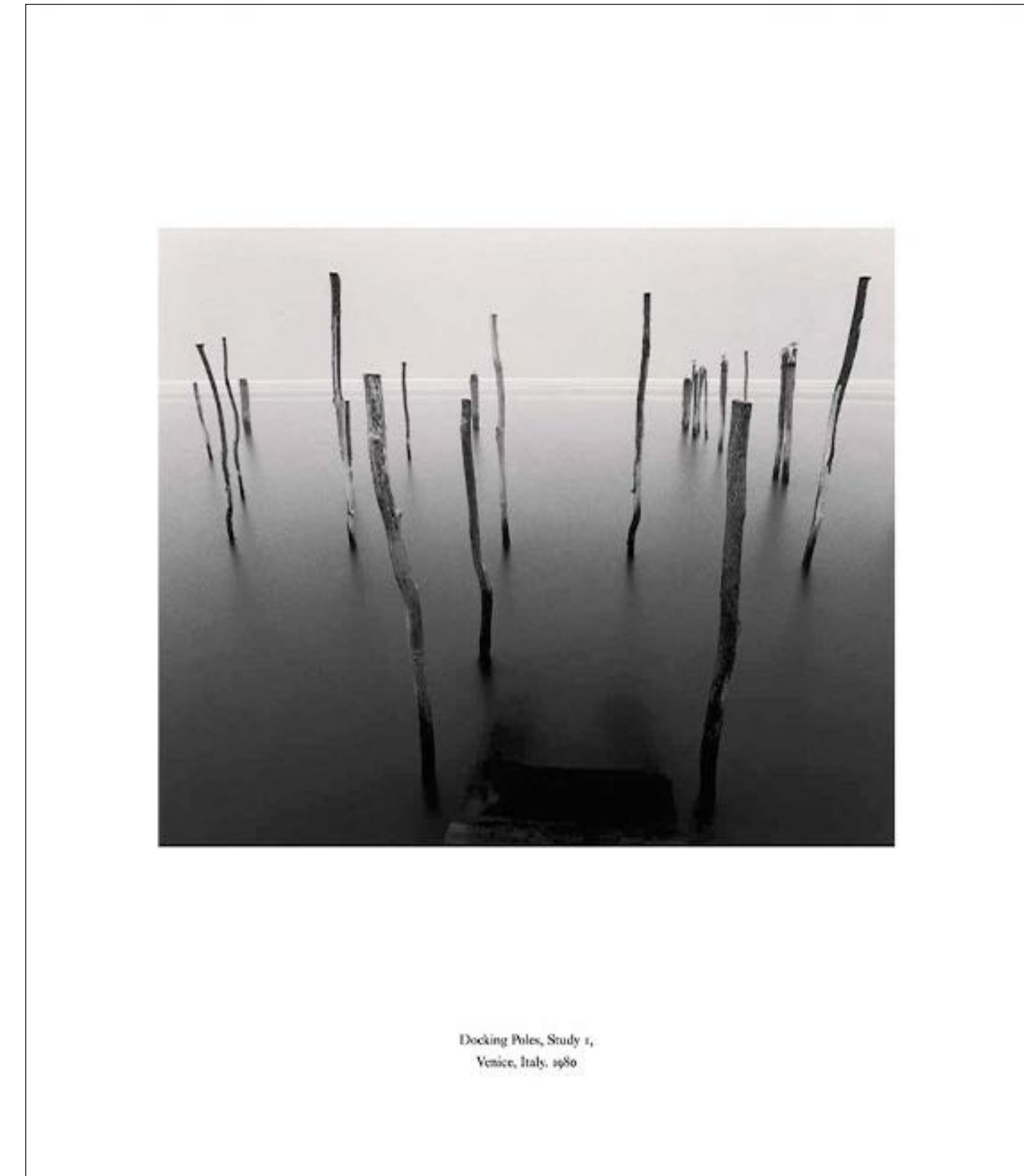
- Always work in PSD or TIFF, never JPG
- Enlarging images degrades sharpness
- Downsizing images does not degrade sharpness
- Both these 'rules' are true within limits
- Software can help, but not always
- Do NOT over sharpen

Media

Papers & inks affect the print.

- Papers can impact image sharpness
- Glossy is sharp, luster is softer, mat is most “soft”
- Papers vary in tone/color, and texture
- Paper dimensions and weights vary
- Specialty are available for printing
- The Lab uses archival inks
- The Lab has six (6) paper types

Processes, Papers, Presentation - It's up to you



- **Gossip, Alfred Stieglitz, Docking Poles, Venice, Micheal Kenna -**

Printers

Equipment fundamentally affect a print.

- Printers can affect image sharpness (dot pattern)
- Pro printers can “spoof” resolution/sharpness
- Printers can accept alternative medium
- Printers can print with archival inks or not
- The Lab printers use Epson archival inks
- The Lab printers can handle a range of paper types

Photo Lab Papers/Medium

- **The Photo Lab uses Epson papers**

- Matt
- Glossy (8.5 x 11)
- Premium Luster
- Metallic Luster
- Canvas Glossy
- 5x7 up to 44 in x 100 ft.

- **Other Papers / Processes**

- Red River Paper
- Hahnemuhle B&W papers
- Watercolor papers
- Velum

EPSON®


RED RIVER PAPER

Monitors

Monitors casts and brightness will affect a print.

- Monitors can have color casts, warm to cool
- Monitors can be set to too low or too high brightness
- These ‘distortions’ interfere with prepping your image
- Monitors can be brought to “neutral” with calibration
- Monitors can be purchased with pre-calibrated
- The Photo Lab has calibrated monitors

- Monitor calibration can require specialized tools -

<https://support.apple.com/guide/mac-help/calibrate-your-display-mchlp1109/mac>

Computer – Workstation

Work on a computer that can manage your prints

- Have sufficient CPU cores and flash memory
- Image software double/triple file sizes during editing
- Keep your computation time minimal
- Save your time for exploring and creating
- The Photo Lab has two new iMacs with Adobe Photo Suite and one has Topaz

Prepare Your Image for Print

Look beyond your expectations & know that your eyes “lie”

- Make your image adjustments
- Be objective, “step back”, be open to changes/mistakes
- Review under consistent daylight lamps
- Compare prints by side-by-side, “Your Eyes Lie”
- Post your image in your house - live with it
- Is the image saying what you want?

Soft Proof

Print simulation of a specific color profile/color space

- Color profiles must be loaded to use the “soft proof” option
- Photoshop, Lightroom can provide soft proofs
- **PHOTOSHOP - top menu “View” then “Proof Setup”**
- **Select “Custom”** - to open a floating palette
- **Select “Device to Simulate”** select the paper preset
- **OR select** a color space (Adobe RGB, Apple RGB)
- Estimates the “luminance” loss, color shifts, that may occur

- “Soft Proof” give you a rough idea how the print will look -

<https://support.apple.com/guide/mac-help/calibrate-your-display-mchlp1109/mac>

Make Test Prints



- Extend parameters to find limits (Brightness -20, -30, -40)

Making Test Prints

Adobe Photoshop Live Demo

- Work with PS/Tiff at full print size
- Select a representative section of the image
- About 2” to 3” high x full image width “slice”
- Transfer slice to new file, canvas size 3x size height
- Make two more slice layers, separate layers so visible
- Apply edits in equal increments, “clipped” to each layer
- Print test print to paper used for the final print

Evaluate Your Print

After making the print, look at it under daylight.

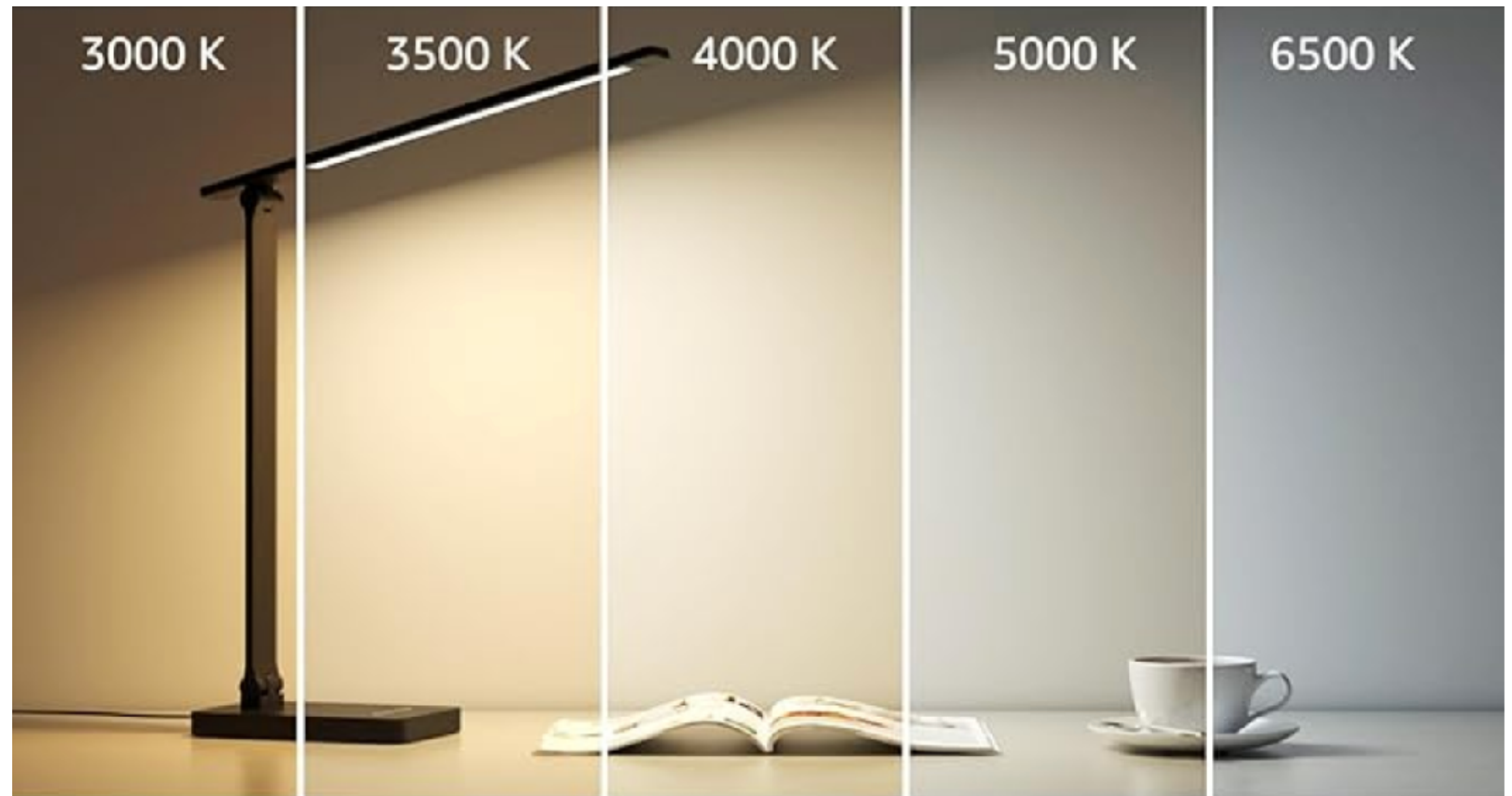
- **“Daylight”** - light in the 6500 Kelvin temperature range
- 6500K correlates to “bright daylight” - the most true colors
- So... go outside! Review the print by a window.
- OR, Buy a daylight lamp with adjustable light temperature
- Looking at prints under “other” light will affects the color
- 5400K(sunset) is warm, yellow. Some fluorescent is green.

- “Daylight” desk lamps range \$22 - \$350 -

Search for “Full spectrum LED adjustable desk lamp”

Color Viewing Lamps

Daylight Range 3,000 to 6,500 - CRI (95+) - Maintain Consistent Evaluation



VCC Ilford Ilfolux Color Viewing Lamp 3009000 (95 CRI) \$179 - Lepro LED Desk Lamp fDesk Light, 5 Color Modes (?) \$22

<https://onenerdydad.com/guides/best-daylight-lamp-for-artists/>

Print Your Image

Printers & papers have specific procedures.

- Load the paper/medium
- Exactly follow procedures for your printer
- Test prints should result in good prints
- To replicate a print, repeat every step
- Is the image saying what you want?
- Step back from the image, live with it

Beginning Printing Summarized

Remember these points.

- Printing is methodical
- Printing is specific to your image & equipment
- Use test prints
- **The proof is in the prints**

Establish your system, follow it, refine it

Thank you!

Robert Mapplethorpe
US



Print Terminology

Jargon check!

Pixel Depth (PPI)

Pixel depth means how much information can you capture in the camera for each photo. This is relative to the sensor size of your camera, and the quality of your lens.

The more pixels in an image, the more detail you will be visible in the image, and there will be more latitude in the editing options. Also you will be able to make bigger prints.

Tonal Range

Cameras have a limit to how wide a range of light to dark their sensors can record accurately. So a scene with deep shadow, and bright light will not be fully captured by many cameras because they cannot simultaneously handle both ends of an extreme range of light. High end cameras have built-in features that can be set to overcome these limitations.

Resources for Print Materials

Local Resources

- Pro Photo, OC Camera, SAMYS
- Laguna Art Supply (10% discount Club)
- Art Supply Warehouse (Westminster)
- Michaels, Hobby Lobby, Staples
- Local art framing shops
- Local photo print shops