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Print the Targets

1) Prepare your Printer & Monitor:

A) *Check that your printer driver software is up-to-date.* **Mac Users: see Appendix D.**

B) *Assure that your printer is loaded with the proper paper & ink.* Remember that you need one profile for every combination of paper, ink, printer and resolution.

C) *It is strongly suggested that you run a Nozzle Check* to assure your printer is operating at 100%. If necessary, use a loupe or magnifying glass to check your results. Go to your Printer's Utility software to do this. Check your printer's documentation for more information.

D) *Your monitor must be properly calibrated and profiled to properly USE your printer profile. If it is not, your printer profile will not be effective.* (See our PDF download "**The Three Steps to Successful Color Management**" at <https://wattsdigital.com/free-useful-downloads> for more information about this and other important color management information).

Please Note: It is NOT necessary to have your monitor calibrated and profiled to CREATE your Printer Profile, only to USE your Printer Profile effectively. *Also, note that your printed targets will NOT necessarily match the targets displayed on your monitor.*

E) *It's strongly recommended that you avoid connecting wirelessly to your printer,* and instead connect directly (usually by a USB cable) - - this will eliminate connectivity & Printer Driver issues.

A note of caution: You'll never get your monitor to be a 100% accurate representation of your print, due to the different physical light properties between your monitor (emitted light) and your print (reflective light). *It will never be perfect, but it will be extremely close!*

2) Download the Targets:

- If necessary, go to <https://wattsdigital.com/custom-printer-profiles> and download the ZIP file.
- The ZIP file contains the 3 Target files (TIF), an order form, and these instructions.
- **Important:** All 3 Targets need to be printed on 8.5" x 11" paper or bigger to complete the profiling process - - **do NOT crop or resize the Targets in any way!**

3) Download the free Adobe Color Print Utility (ACPU):

- The download & simple instructions are here:

<https://helpx.adobe.com/photoshop/kb/no-color-management-option-missing.html>

Or, use these direct links from my website: [Download for PC](#) [Download for Mac](#)

- After installing, double-click the Utility to open. *If you receive an Error Message while opening ACPU on a Mac, see **Appendix C, Page 12.***
- **NOTE:** If you have the *Canon Professional Print* software or *Qimage* software, you can use the standalone programs to print the Targets (instead of ACPU) - - just print with *"Color Management Off"*.

4) Print all 3 Targets using ACPU with the proper Print Dialog Box Settings:

Mac Users: *Ensure that you're NOT using the Apple AirPrint Printer Driver – see **Appendix D, Pg 13***

- A. Select the file *"WattsDigital_Target-1.tif"* in the *"Open"* Dialog Box.
- B. Go to *"File" -> "Page Setup ..."*, select the printer, paper size and orientation (*which is usually horizontal for these files*). Press *"OK"*. Again, do NOT crop or resize the Targets in any way!
- C. Go to *"File" -> "Print ..."*, and your *printer's Print Dialog Box* opens.

To print the Targets correctly, you MUST set 3 parameters in your *Printer's "Print Dialog Box"*, (**AND save them as a "Preset" for correct future use**):

- 1) Turn off any color management in the printer driver
- 2) Choose the proper print media
- 3) Choose the highest print quality

This can get tricky, so, if necessary, go to the appropriate Appendix for your printer to see some examples of this.
(*The appendix will redirect you back to this page.*)

- D. Repeat the process for the 2 other files *"WattsDigital_Target-2.tif"* and *"WattsDigital_Target-3.tif"*.
 - *Important: Don't forget to do all of these steps 3 times, and print all 3 Targets!*
 - *Note: It is not necessary to save the target files or APCU after printing.*

5) Send all 3 Targets to us, & we'll create your profile(s):

Fill out the order form enclosed in the ZIP file, and send the 3 targets and order form to us.

Some things to remember about your targets:

A) Measure your targets with a ruler to assure that they printed are the proper size - see the dark red line at the top of the targets: this should be approximately 9 ½ inches (plus or minus 1/4" or so).

B) There should be no blotches, spots, scratches, nicks or dents – If there are, reprint them; if you don't, this will affect your profile negatively.

C) Let your targets dry for at least 4 hours (preferably overnight) before handling or packing.

D) Pack your targets properly – I'd suggest that you put a sheet of regular copy paper over your target (after they have dried completely) to protect them, then pack them between two stout sheets of corrugated cardboard. Also, you should write "Photos – Do Not Bend" prominently on the front and back of your package.

E) We are not responsible for improperly printed or damaged targets. If we receive the targets in an improper condition, they will need to be reprinted and resubmitted at the client's expense. *Please also note that the targets you send us will not be returned.*

-
- *We'll Email Your Custom Printer Profile(s) to you in approximately 2 to 3 working days from the time we receive your targets.*
 - We'll send your profile back to you via email. It will be sent in the proper file format for effective color management. The file will be about 1 to 3 MB in size. Make sure that your email account can handle a file that big.
 - Oh, and please save these instructions – You'll need the following pages to properly install and use your profile(s).
 - *Important! This address is for target delivery ONLY, and is NOT the main business address:*

Send targets to:

John Watts
Watts Digital Imaging
11949 Riverside Dr. Spc 67
Lakeside, CA 92040

- **Questions? [Please call or email](#) – I'd be happy to help!**

john@wattsdigital.com 1-800-443-9701

Using your Profile(s)

1) Load the Profile on your Computer:

After receiving your profile by email, place the file in the following location depending on your computer's operating system: **Please Note:** *If Photoshop or Lightroom is open, please close and restart after this step so that it will recognize the profiles.*

- **For Mac OSX:** go to “Primary Hard Drive” -> “Library” -> “ColorSync” -> “Profiles”
- **For Windows:** Download to your desktop, right-click on the profile icon, click “Install Profile” - then you can safely delete it from your desktop. Although you shouldn't need to check (or you want to do this manually), it will end up in the following folder: *Primary Hard Drive -> Windows -> System32 -> Spool -> Drivers -> Color*

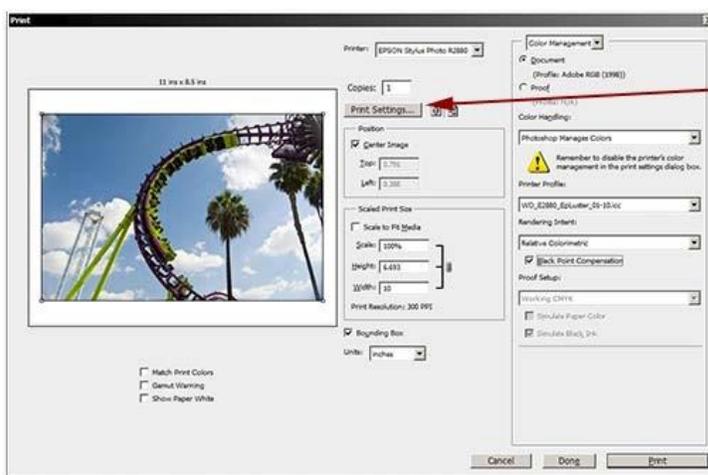
2) Print using your Profile in Photoshop:

A) Open the Photoshop “Print Dialog Box”. To access it, go to “File” -> “Print”.

B) Press the “Print Settings” button and your Printer’s “Print Dialog Box” will open.

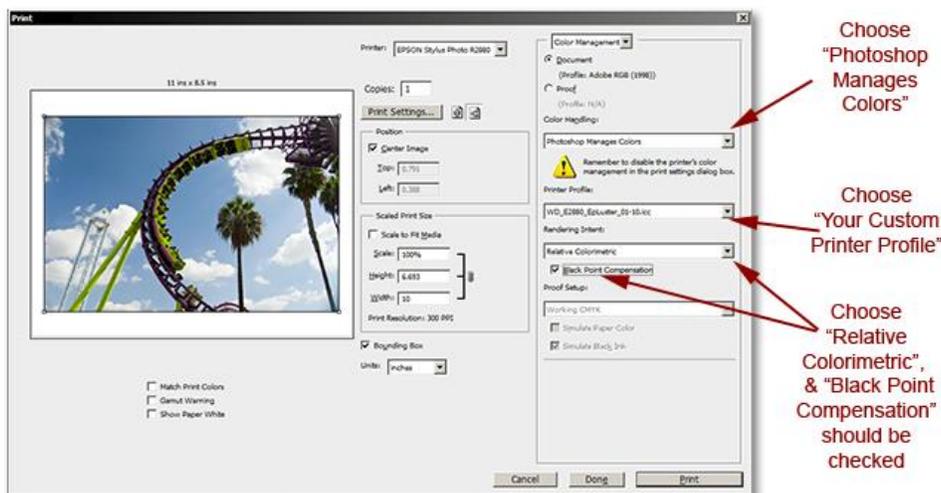
C) Choose the proper “Preset” that was created when you printed the targets – *see page 2 and/or the appropriate Appendix.*

D) Press “Save” or “OK”.



Choose “Print Settings” to access your Printer’s “Print Dialog Box”

E) Once you have pressed “**Save**” or “**OK**” in your **Printer’s “Print Dialog Box”**, you are taken back to the **Photoshop “Print Dialog Box”**.



Choose or do the following:

- 1) In the “**Color Handling**” Drop-Down Menu, choose “*Photoshop Manages Colors*”
- 2) In the “**Printer Profile**” Drop-Down Menu, choose “*Your Custom Printer Profile*”
- 3) In the “**Rendering Intent**” Drop-Down Menu, choose “*Relative Colorimetric*”
- 4) “*Black Point Compensation*” should be **checked**.

F) Click “**Print**” to print your photo – *That’s it! Enjoy your Print!*

3) Print using your Profile in Lightroom:

A) Go to the **“Print”** Tab.

- Scroll down to the **“Print Job”** panel, then to **“Color Management”**.
- Choose your **Custom Profile** in the **“Profile”** drop down menu.
- Choose **“Relative”** as your Rendering Intent.



B) Press the **“Printer...”** Button, and your printer’s **“Print Dialog Box”** will open.

Note: You should have saved these settings in your printer’s Print Dialog Box menu when you printed the Profile Targets (See page 2).

To load your settings in Epson's Print Dialog Box:

- For Mac, go to the **“Presets”** drop-down menu.
- For Windows, go to the **“Select Setting”** drop-down menu in the **“Main”** tab.
- For both: choose the “saved-as” name of these settings (as discussed in the appendices), and your settings will load.

C) Once you have pressed **“Save”** or **“OK”** in your **Printer’s “Print Dialog Box”**, you are taken back to Lightroom.

D) Click **“Print”** to print your photo – *That’s it! Enjoy your Print!*

Appendix A: Print Dialog Box Settings for Epson

The following examples are generic setups for an Epson Printer. These settings will vary by Printer Brand and Model – There is no consistency, even among printers by the same manufacturers, and can get confusing. When in doubt, refer to your printer documentation, or contact us.

Important Step for Both Mac and PC: once you've chosen the appropriate final settings, it's imperative that you create a **"Preset"** in your printer's **"Print Dialog Box"** menu, as you'll need to use the same exact settings later to properly use your custom profile.

To save a "Preset" in Epson's Printer Driver Dialog Box:

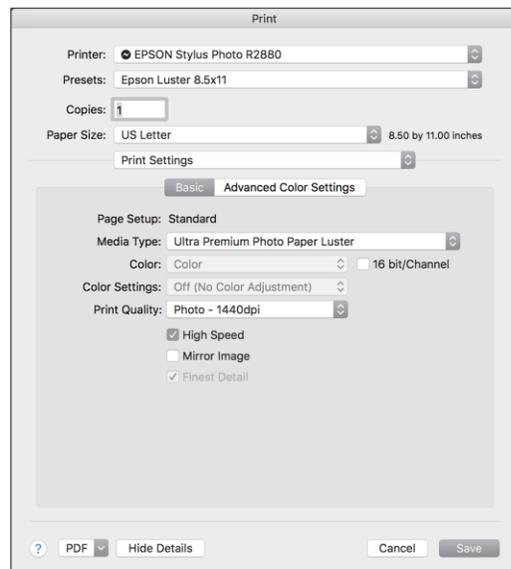
- For Mac, go to the **"Presets"** drop-down menu, choose **"Save Current Settings as Preset ..."**.
- For Windows, press the **"Save/Del"** button in the **"Main"** Tab.
- On both Mac and PC: Save your settings with an appropriate name, such as **"Premium Glossy 8.5x11"**.

Please note (Mac or PC): Choose the options below (if available) for quality prints without wasting ink and time.

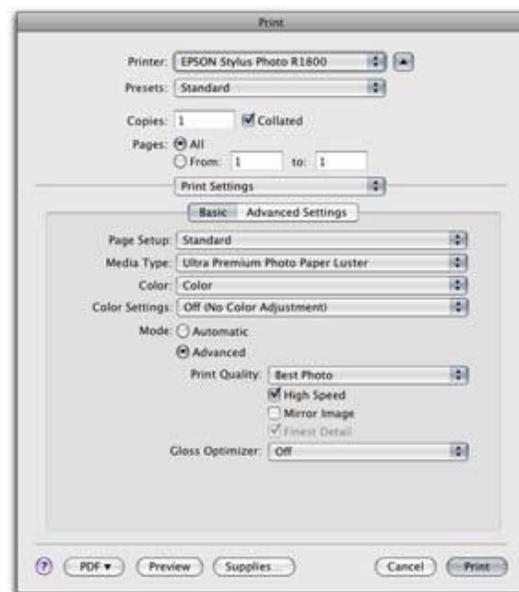
- If you have a choice between **"Best Photo"** and **"Photo RPM"**, choose **"Best Photo"**.
- If you have a choice between **"1400 dpi"** and a higher resolution, choose **"1400 dpi"** – anything more is a waste of time and ink.
- If available, choose **"Gloss Optimizer On"** if you are using Gloss Paper.
- For time savings without loss of quality, I recommend printing with **"High-Speed Printing"** On.

For Mac (two examples):**Example A:**

- 1) Choose your Photo Printer from the *"Printer"* Menu.
- 2) Select *"Print Settings"* from the drop-down menu underneath "Paper Size".
- 3) Select the proper *"Media Type"*
- 4) In the *"Color Settings"* Drop-Down menu, choose *"Off (No Color Adjustment)"* (this may be greyed-out)
- 5) Choose Print Quality of *'Photo-1440dpi'*.
- 6) Check to box next to *"High Speed"*.
- 7) **Save these settings as a "Preset" – See Pg 7.**
- 8) Click on the *"Save"* button to return to Photoshop's or Lightroom's *Print Dialog Box*.

**Example B:**

- 1) Choose your Photo Printer from the *"Printer"* Menu.
- 2) Select *"Print Settings"* from the Drop-down Menu.
- 3) Select the proper *"Media Type"*
- 4) In the *"Color Settings"* Drop-Down menu, choose *"Off (No Color Management)"* (this may be greyed-out)
- 5) Select the *"Advanced"* option
- 6) Select *'Highest Print Quality'* (but no more than 1440x1440), turn on *"High Speed Printing"*, turn *"Gloss Optimizer"* on or off, and turn off *"Edge Smoothing"*.
- 7) **Save these settings as a "Preset" – See Pg 7.**
- 8) Click on the *"Save"* button to return to Photoshop's or Lightroom's *Print Dialog Box*.

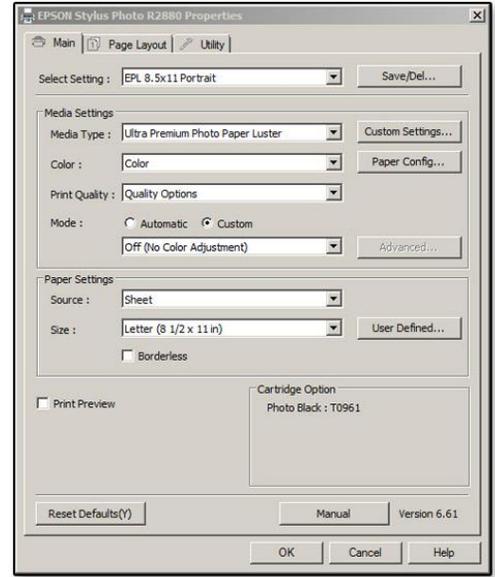
**Now return to:**

- *Page 2 to continue to print Targets*
- *Page 4 to continue to print in Photoshop*
- *Page 6 to continue to print in Lightroom*

For Windows (two examples):

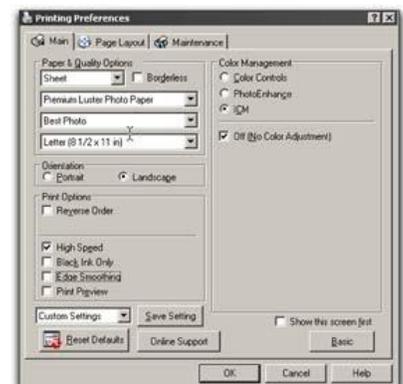
Example A:

- 1) Click on the "Main" tab, select the proper "Media Type"
- 2) For "Mode", Click on the "Custom" radio button.
- 3) In the "Mode" drop-down menu, choose "Off (No Color Adjustment)".
- 4) In the Print Quality drop-down menu, choose "Quality Options", and a sub-menu opens.
- 5) Choose "Print Quality" of "Photo-1440x1440dpi", check the box next to "High Speed", click "OK", and the sub-menu closes.
- 6) Save these settings as a "Preset" – See Pg 7.
- 7) Click on the "OK" button to return to Photoshop's or Lightroom's Print Dialog Box.



Example B:

- 1) In the "General" Tab, choose your Photo Printer from the "Printer" Menu.
- 2) Click on "Preferences", then the "Main" tab.
- 3) Choose the "Highest Print Quality" option, the proper "Media Type", the proper "Paper Size", then click on the "Advanced" button.
- 4) Turn on "High Speed Printing", turn "Gloss Optimizer" on or off, and turn off "Edge Smoothing".
- 5) Choose the "ICM" radio button.
- 6) Click "Off (No Color Adjustment)".
- 7) Save these settings as a "Preset" – See Pg 7.
- 8) Click on the "OK" button to return to Photoshop's or Lightroom's Print Dialog Box.



Now return to:

- Page 2 to continue to print Targets
- Page 4 to continue to print in Photoshop
- Page 6 to continue to print in Lightroom

Appendix B: Print Dialog Box Settings for Canon:

The following examples are generic setups for a Canon Printer. These settings will vary by Printer Brand and Model – There is no consistency, even among printers by the same manufacturers, and can get confusing. When in doubt, refer to your printer documentation, or [contact me](#).

Important Step for Both Mac and PC: once you've chosen the appropriate final settings, it's imperative that you create a **"Preset"** in your printer's **"Print Dialog Box"** menu, as you'll need to use the *same exact settings* later to properly use your custom profile.

For Windows:

- In the "Main" Tab:

- 1) Choose the proper **"Media Type"** for the paper that you're profiling. If yours is not listed, choose the type that's closest to what you are using.
- 2) Set **"Print Quality"** to **"High"**.
- 3) Under **"Color/Intensity"**, choose **"Manual"**, then press the **"Set ..."** button – a new Dialog Box opens.

- In the "Matching" Tab:

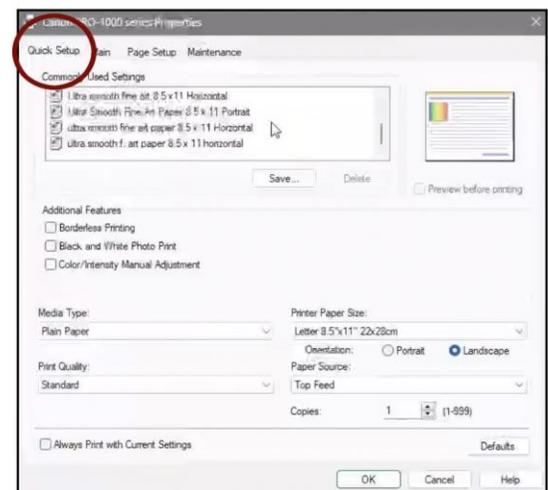
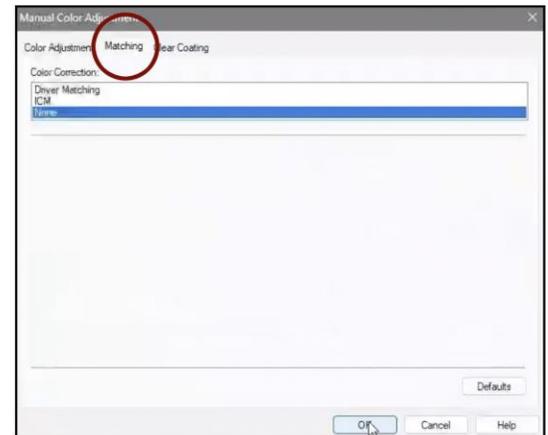
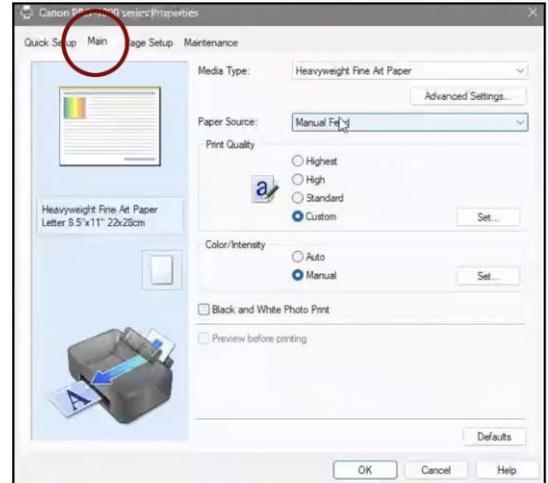
- 1) Under **"Color Correction"**, choose **"None"**, then press **"OK"** – the Dialog Box closes.

- In the "Quick Setup" Tab:

This is where you'll save the all-important **"Preset"** of these settings for future use. Simply click the **"Save ..."** button and give the configuration an appropriate name, such as **"Epson Glossy 8.5x11"**.

Now return to:

- Page 2 to continue to print Targets
- Page 4 to continue to print in Photoshop
- Page 6 to continue to print in Lightroom



Important Step for Both Mac and PC: once you've chosen the appropriate final settings, it's imperative that you create a **"Preset"** in your printer's **"Print Dialog Box"** menu, as you'll need to use the *same exact settings* later to properly use your custom profile.

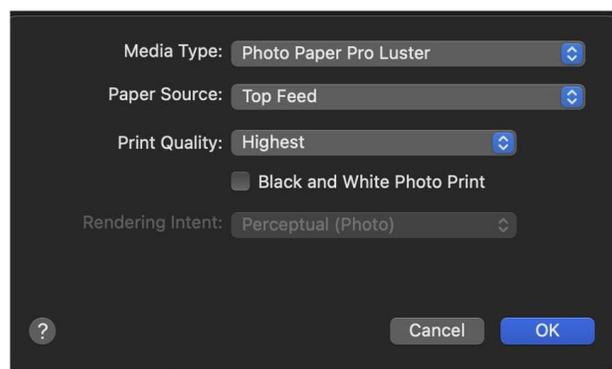
For Mac:

- Go to **"Printer Options"** -> **"Quality & Media"**:

1) Choose the proper **"Media Type"** for the paper that you're profiling. If yours is not listed, choose the type that's closest to what you are using.

2) Set **"Print Quality"** to **"Highest"**.

3) Click **"OK"**.

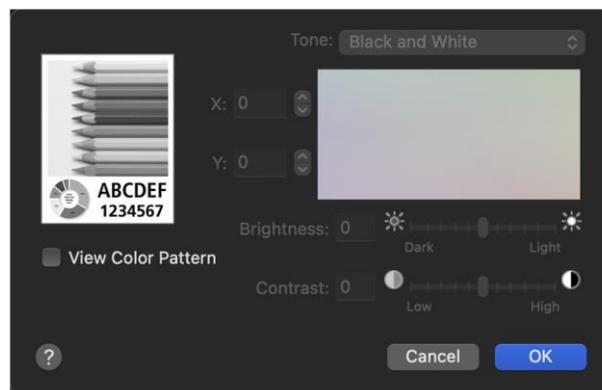


- Go to **"Printer Options"** -> **"Color Options"**:

All controls should be greyed out. *This confirms that the Color Management is turned off in the Canon Printer Driver.* Click **"OK"**.

- To save the **"Preset"**:

This is where you'll save these settings for future use. Go to **"Presets"** -> **"Custom"** and give the configuration an appropriate name, such as **"Epson Glossy 8.5x11"**.



Now return to:

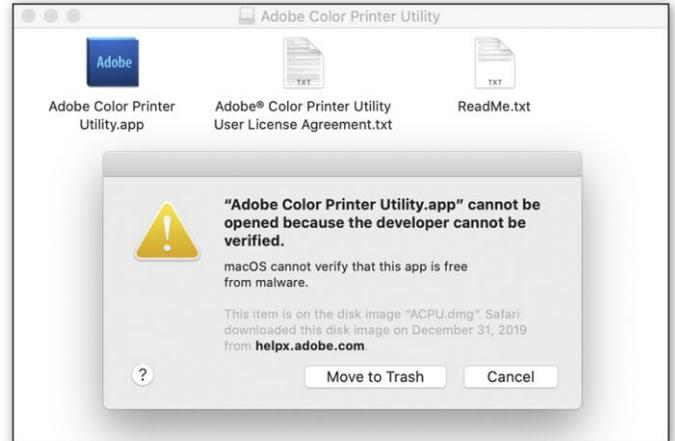
- Page 2 to continue to print Targets
- Page 4 to continue to print in Photoshop
- Page 6 to continue to print in Lightroom

Appendix C: Error Message while installing ACPU on a Mac

If you see the Error Message shown to the right while opening ACPU on a Mac, you'll need to **manually override** the settings in your Mac's "Privacy & Security" Settings.

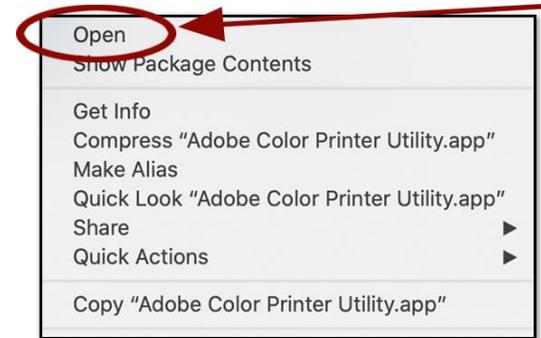
Fear not - - this is expected behavior from an older program, **and will not harm your computer**. ACPU is years old, *but it's a solid (and safe) Adobe software workhorse!*

So, to begin with, click on this Error Message's "Cancel" button.



To Manually Override (4 easy steps):

- 1) Drag the ACPU app out of the folder & to your Desktop.
- 2) **Control** + **Click** (or "right-mouse" click) on the ACPU app.
- 3) Click "Open" in the drop-down menu (see diagram to the right).
- 4) You'll now get a new Error Message, shown to the right, but with more options - Click "Open" (your password may be required).



Now the ACPU App is saved as an exception to your security settings, and you can open it in the future by double-clicking It - just as you can in any authorized app.

Feel free to delete the app after printing the Targets.

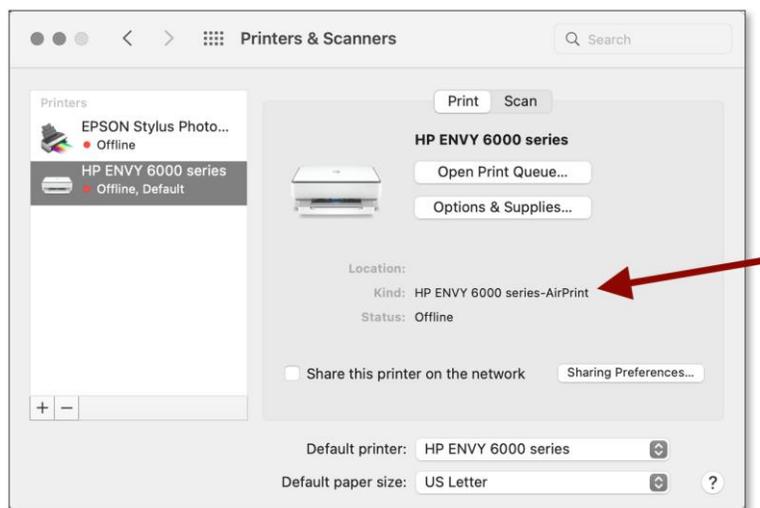
Now return to:

- Page 2 to continue to print Targets
- Page 4 to continue to print in Photoshop
- Page 6 to continue to print in Lightroom



Appendix D: Apples' AirPrint Printer Driver Confusion on a Mac

- There's currently a "bug" in Mac's OS (from OS10.14 Mojave on) that has been causing major Color Management issues: **Apples' AirPrint Printer Driver**.
- Instead of installing the robust full "professional" version of the software available for your printer (required for proper Color Management), Mac OS may install a "consumer-based" printer driver called "AirPrint" - - and t's usually installed inadvertently, via a wireless install or an install from a disk.
- **If it's installed, proper Color Management techniques cannot be used to print correctly.**
- To check if you have the *AirPrint Driver* installed, go to the "Apple" Menu -> "System Preferences ..." -> "Printers & Scanners".



Highlight your photo printer in the box on he left, then see if the word "AirPrint" shows up anywhere in the "Kind" description. *If it does, then you'll need to:*

- 1) Delete the "AirPrint" Printer Driver
- 2) Download the Printer Driver directly from the printer manufacturer's website
- 3) Install the manufacturers' Printer Driver.

- By the way, you may have problems installing the manufacturers' Printer Driver *if you're using a wireless connection to your printer.*

Now return to:

- *Page 2 to continue to print Targets*
- *Page 4 to continue to print in Photoshop*
- *Page 6 to continue to print in Lightroom*