Appendix 1. Photograph Processing Instructions:

A. <u>For calibrating photograph colors (SpyderCheckr 1.6):</u>

1) Import photo to Adobe Lightroom Classic
2) Enter Develop Mode
3) Crop around the edge of the palette
    a. Cropping is done with the Lightroom crop tool. Crop to just outside the color patches. Use the rotate function of the crop tool to straighten the target image.
4) Adjusting the Target Shot
    a. Any of the light or medium gray patches can be used to gray balance/white balance your image in Lightroom, ACR, or Phocus. The 20% gray patch (E2, or the gray patch adjacent to the white patch) is recommended. Use the white balance eyedropper tool in Lightroom's Develop mode.
    b. Next look at RGB values or Percentages of the White patch (E1). Adjust the exposure slider until the white patch lists as approximately 90% in Lightroom. Next check the black patch (E6). The Blacks adjustment (and in some cases also the Shadows adjustment) is used to set the black value to 4% in Lightroom.
5) Right click photo -> edit in -> SpyderCheckr -> Edit a copy with lightroom presets/adjustments -> SpyderCheckr automatically launches
6) Processing target shot
    a. The sampling squares will be pretty well placed within the correct patches of your Target shot if you shot and cropped appropriately. If not, you can drag on any edge or corner of the image area to adjust the fit.
    b. The colors inside the sampling squares should be a somewhat less saturated version of the patch colors. If the patch and sample colors are of different colors, check that your target image is not upside down or inverted (48 patch SpyderCheckr only; the SpyderCheckr24 is automatically rotated in software).
7) Colorimetric (offers most literal results and is best when attempting to reproduce artwork or product colors) -> Save to lightroom -> save calibration -> make sure to save it under identifying name
8) Close SpyderCheckr AND Lightroom
9) Reopen Lightroom, wait for presets to load then import original photo of interest
10) Open original photo in develop modem -> click on the appropriate preset on the left side of the screen
11) Right click photo -> export -> save under identifying name and in correct location

B. <u>For extracting RGB values from all photographs:</u>

12) Open Adobe Photoshop -> import photographs
13) Click individual photo to open
14) Zoom 200%
15) Set eyedropper tool to select average of 5x5 pixels (right click)
16) Points to select colors are located above, below, anterior, and posterior to the center of the pupil. Points are selected from the inner iris adjacent to the pupil.
17) Record the RGB values from each of the four points
    a. If one of these four points has reflection or shadow, do not select this location.
18) Calculate the average and standard deviation for each color value – these are what will be utilized in the analysis.