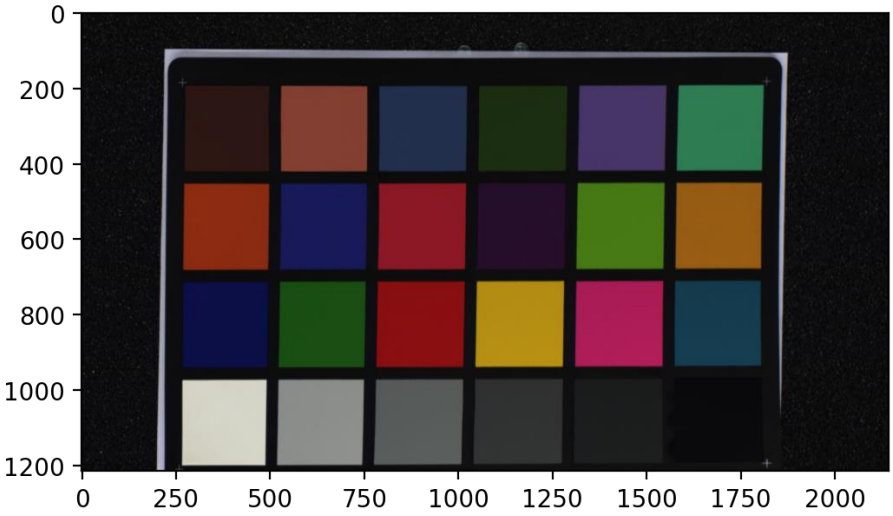
Task 1: White correction

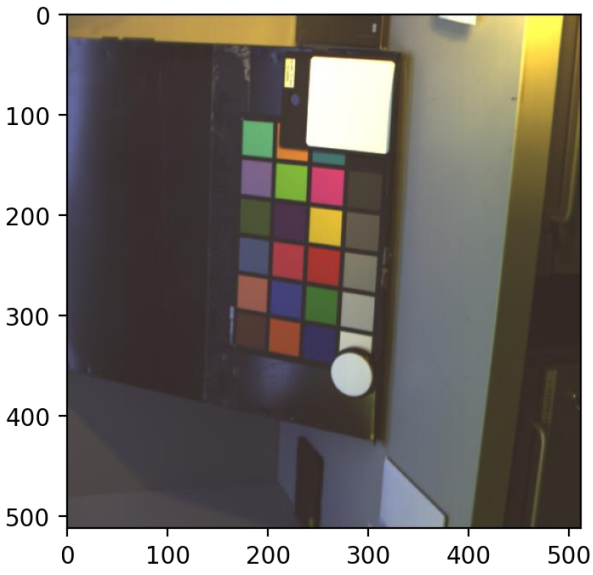
Do white correction (+ dark for scanner case).

Task 1.1: Colorchecker [scanner]

To show the RGB white corrected images I select 64,44 and 23 band correspondingly which have wavelength values 640.47, 539.71 and 435.69.



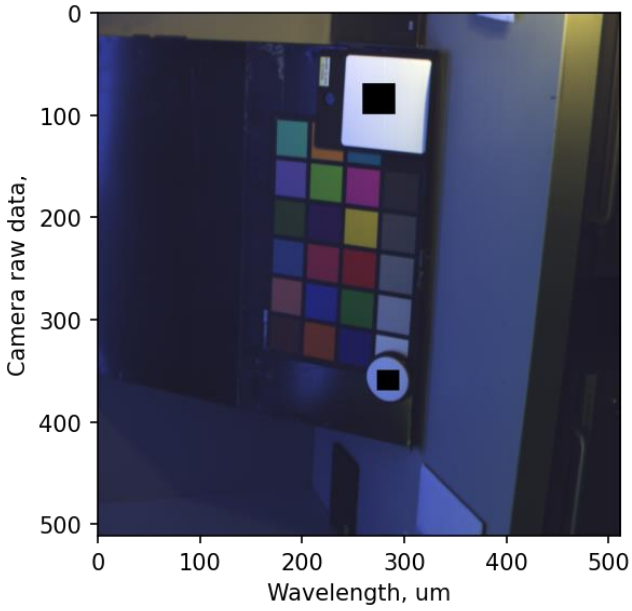
Task 1.2: Color Checker 2 lamps [Specim IQ] + White Sample 2 lamps [Specim IQ]



For this task 1.2 to do the white correction, I used the big white reference we captured using specim IQ.

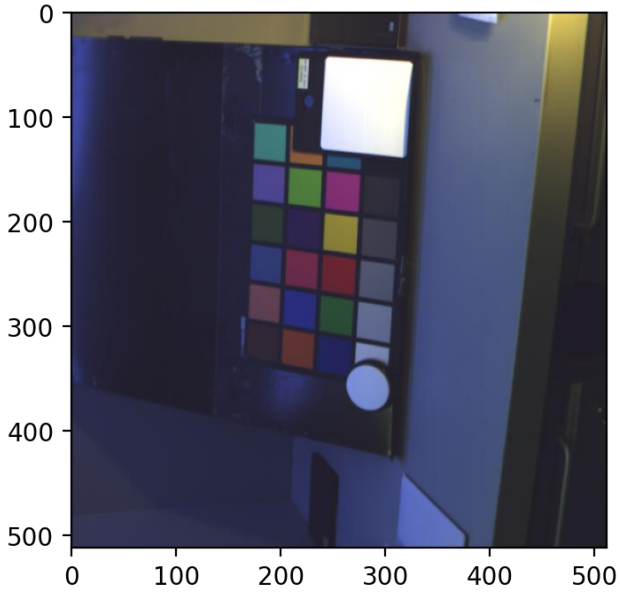
Task 1.3: Color Checker 2 lamps [Specim IQ] using left and right white samples inside the image

Let’s have a look the way we select the white sample from the image first:

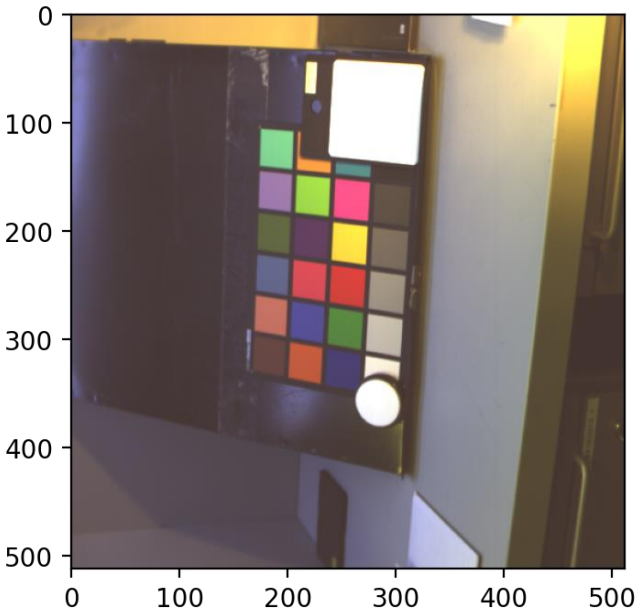


The one in the top(square white sample) here we will be considering as white1 sample and the other one (circular white sample) we will be denoting as white 2.

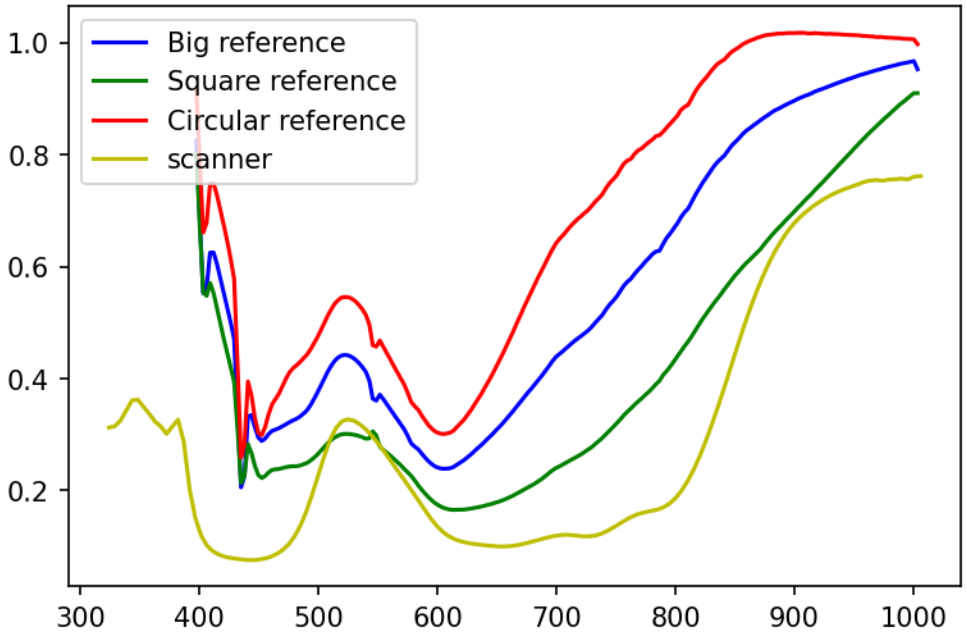
White corrected image using white1:



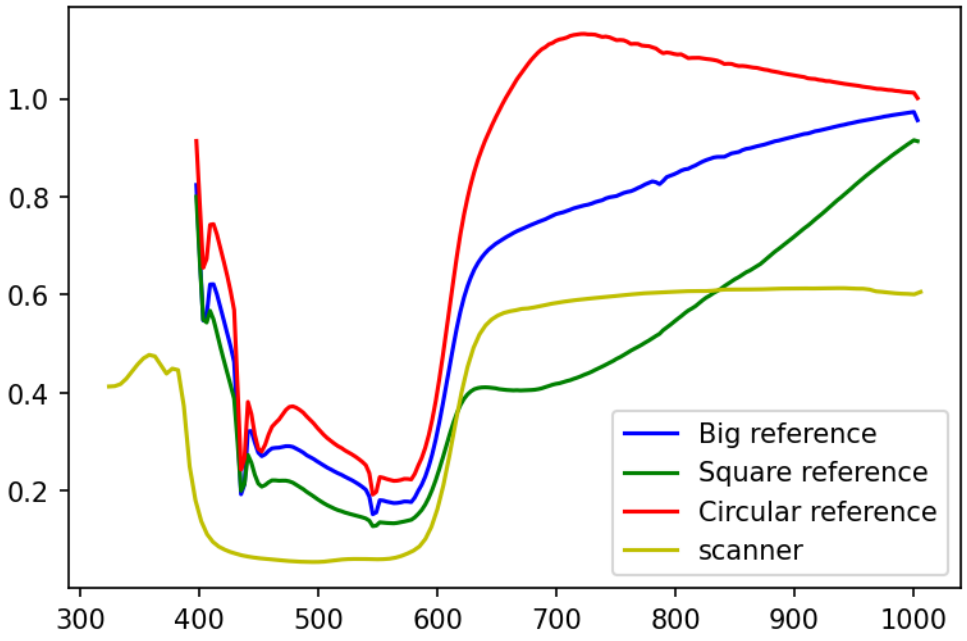
White corrected image using white2:



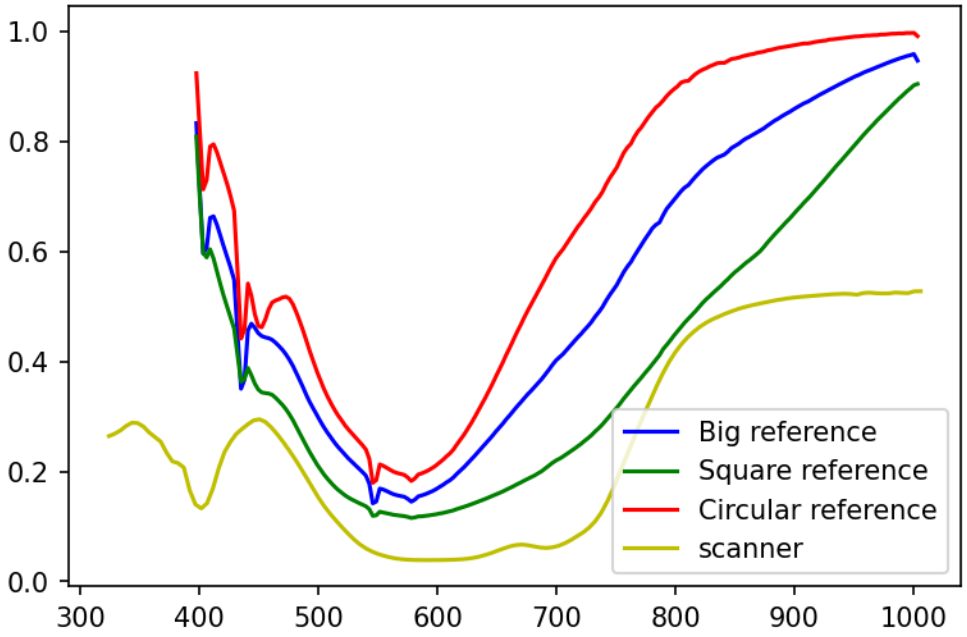
Task 1.4: Plot in the same plot green spectra (4 corrected green spectra obtained from each correction case)



Task 1.5: Plot in the same plot red spectra (4 corrected green spectra obtained from each correction case)



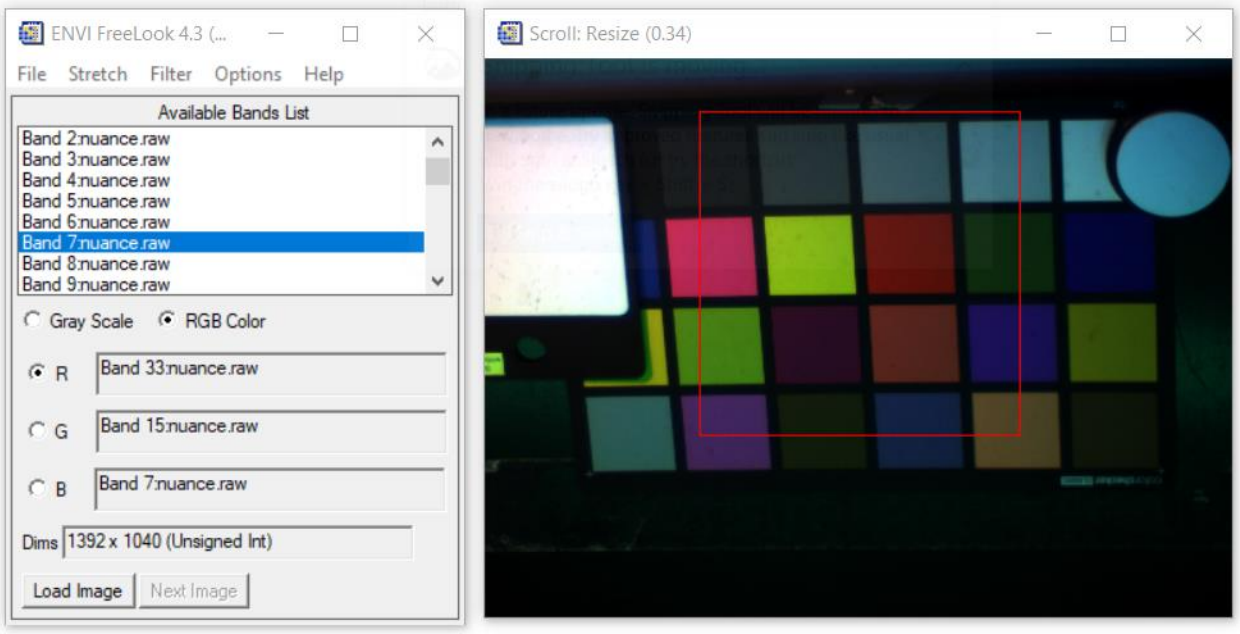
Task 1.6: Plot in the same plot blue spectra (4 corrected green spectra obtained from each correction case)



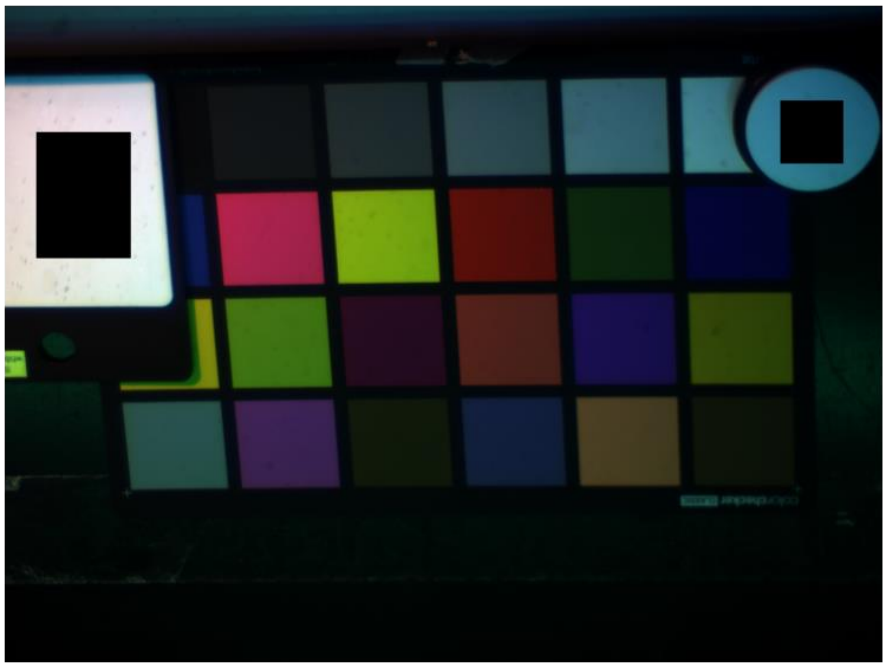
Tasks #2. Nuance camera

Initially, I read Nuance camera **Colorchecker 2 lamps [Nuance]** data and build ENVI spectral cube. Besides the file saved as ENVI with suugested way of creating hdr file.

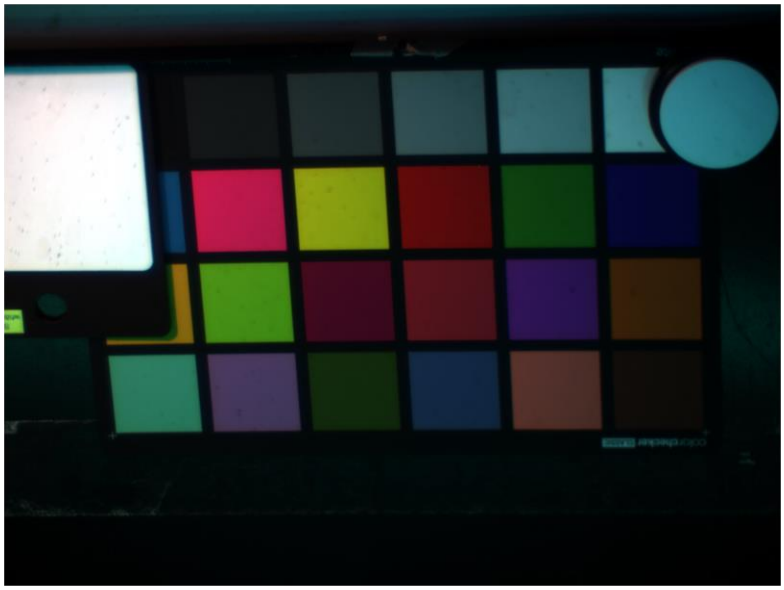
Let’s have a look on freelook RGB visualization using 3 different bands:



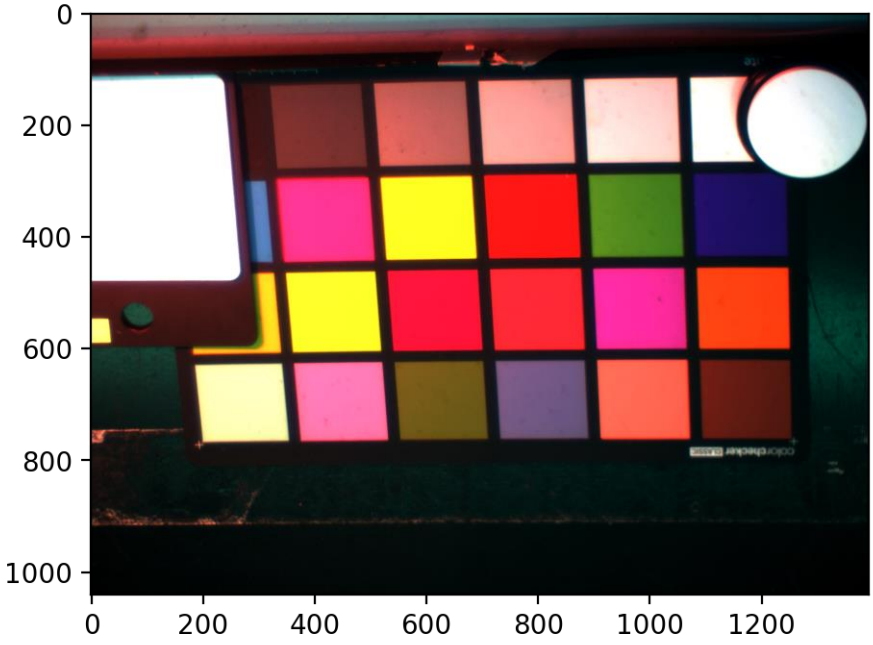
The way I selected the white samples for white correction:



White corrected image using the top left sample (square white sample):

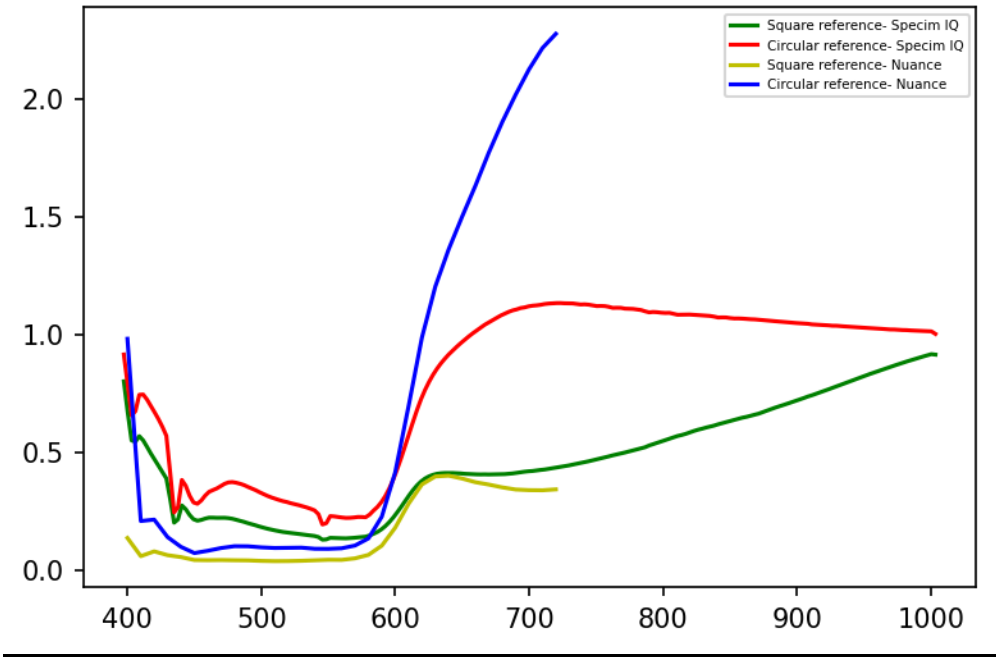


White corrected image using the top right sample (circular white sample):

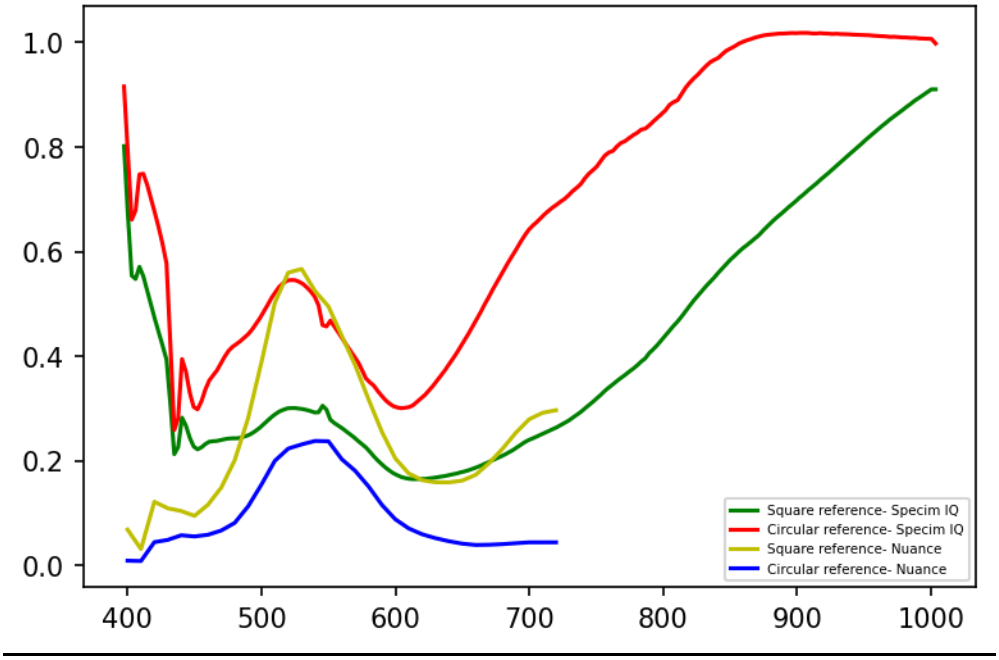


Now after doing the white correction next task is to plot red, green, blue spectra from Specim IQ and from Nuance after the white correction is applied to both:

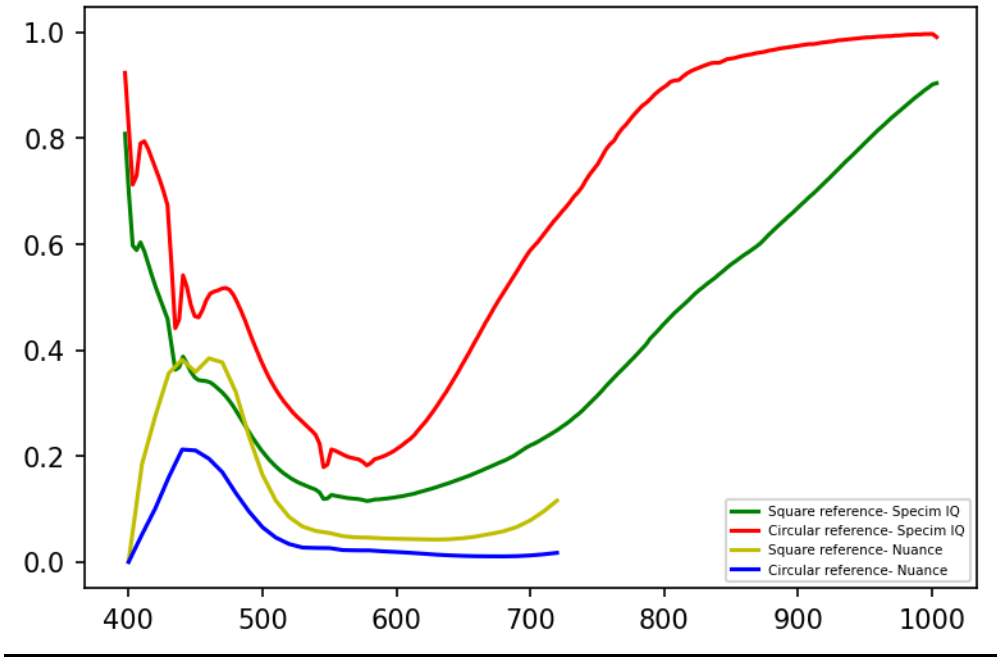
Red:



Green:



Blue:


1.0
0.8
0.6
0.4
0.2
0.0
400
500
600
700
800
900
1000
Square reference- Specim IQ
Circular reference- Specim IQ
Square reference- Nuance
Circular reference- Nuance