

1.4. Color-difference formulas

Evaluation of Degree of Metamerism for Change of Illuminant

Homework exercise 1.4.1

Consider three object colors (0, 1 and 2) with the spectral reflectance given in a file ('Ex_1_Reflect.txt') which are metameric with respect to standard illuminant D_{65} in the CIE 1931 colorimetric system with tristimulus values $X_1=X_2=X_3=42.5$, $Y_1=Y_2=Y_3=33.0$, $Z_1=Z_2=Z_3=15.1$. Compute the illuminant metamerism index when illuminate these three objects with standard illuminant A, F1, F2 and F3 for pairs (0,1) and (0,2) using CIELAB color difference formula (in Ohta's book is done with CIELUV). Plot the respective color signals and discuss the results comparing with table 7.7 of Ohta's book.

