**Task 5 – Inter-instrumental agreement**

**Aim: Comparison of measurements with include and exclude specular reflection in terms of agreement or disagreement between them expressed in terms of color differences**

1. Calibrate spectrophotometer with exclude specular reflection.
2. Measure a set of color samples on spectrophotometer with de:8° and LAV settings. Label the measurements with the sample name and the abbreviation de.
3. Calibrate spectrophotometer with include specular reflection.
4. Measure a set of color samples on spectrophotometer with di:8° and LAV settings. Label the measurements with the sample name and the abbreviation di.
5. Write down the total color difference E\* between these measurements for illumination D65 and 10° standard colorimetric observer.
6. **Create a plot of spectral reflectance factor versus wavelength for two selected samples (one glossy and one textile).**
7. **Describe for which samples the spectrophotometer settings had an effect on the resulting measured values.**
8. Prepare a protocol. **At the end of the protocol, answer the questions below and comment the results.**

In the log header, please include the title of the task, your name, the time and day of the practical, your field of study, and the year of study. In the prepared protocol, please indicate the laboratory conditions under which the assessment and measurements were carried out, as well as the instrumentation and tools used in the processing of the task.

In the protocols, follow standard text layout (block alignment, font size for main text 12 and headings 14 with bold).

**Laboratory conditions:** 22,5 °C, 32,9 % humidity

**Instruments: spectrophotometer 1 –** Datacolor Spectraflash 450 with di:8° and de:8°, and 30 mm aperture, 71,6 % amount of UV

**spectrophotometer 2 –** Datacolor Spectraflash 600 with di:8° and de:8°, and 30 mm aperture, 83,6 % amount of UV

**spectrophotometer 3 –** Datacolor Spectraflash 300 with di:8° and de:8°, and 10 mm aperture

**Tools:** color samples (plastics and textiles)

**Question:**

1. **For which geometry can we encounter settings with and without a specular reflection?**