**Task 1 – Determining the hue of samples in the NCS atlas and determining the color difference E\* between the subjective assessment and the objective measurement**

**Aim: The effect of the spectral distribution of different illuminants on the subjective perception of color textile samples.**

1. 1. In the first part of the task, at the three selected illuminations (D65, A, and F11), assign the sample with the smallest visually perceived color difference from the NCS atlas based on subjective perception and write down its numerical code in the table, which is located on the back of the card or in its footer.
2. In the second part of the task, measure your subjectively assessed samples using a spectrophotometer with a diffusion geometry of de:8°. Search the NCS Atlas and Pantone database for samples according to the criterion of the smallest measured color difference for the CIELAB formula – ΔE\*.
3. Prepare a protocol. **At the end of the protocol, answer the questions below and comment verbally on the results from the visual assessment and objective measurement. In case your subjective assessment does not match with the sample that is assigned as the sample with the smallest color difference E\* according to the database, comment verbally on this difference at the end of the protocol.**
4. Plot the samples assigned under D65 in a color circle and triangle according to the NCS atlas and also in Pantone space.

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:** 22,1 °C, 33% relative humidity

**Instruments: group 1 –** lighting box AT color technik and spectrophotometer Datacolor Spectraflash 600 with de:8° and 30 mm aperture

**group 2 –** lighting box ICS-Texicon and spectrophotometer Datacolor Spectraflash 300 with de:8° and 10 mm aperture

**Tools:** 3 textile samples, NCS atlas and Pantone

**Question:**

1. **Describe verbally the samples based on the codes obtained during the assessments for illumination D65 and at the same time plot the samples for illumination D65 in the triangle and color circle of the NCS atlas.**
2. **Do the same for Pantone. Also only for D65.**