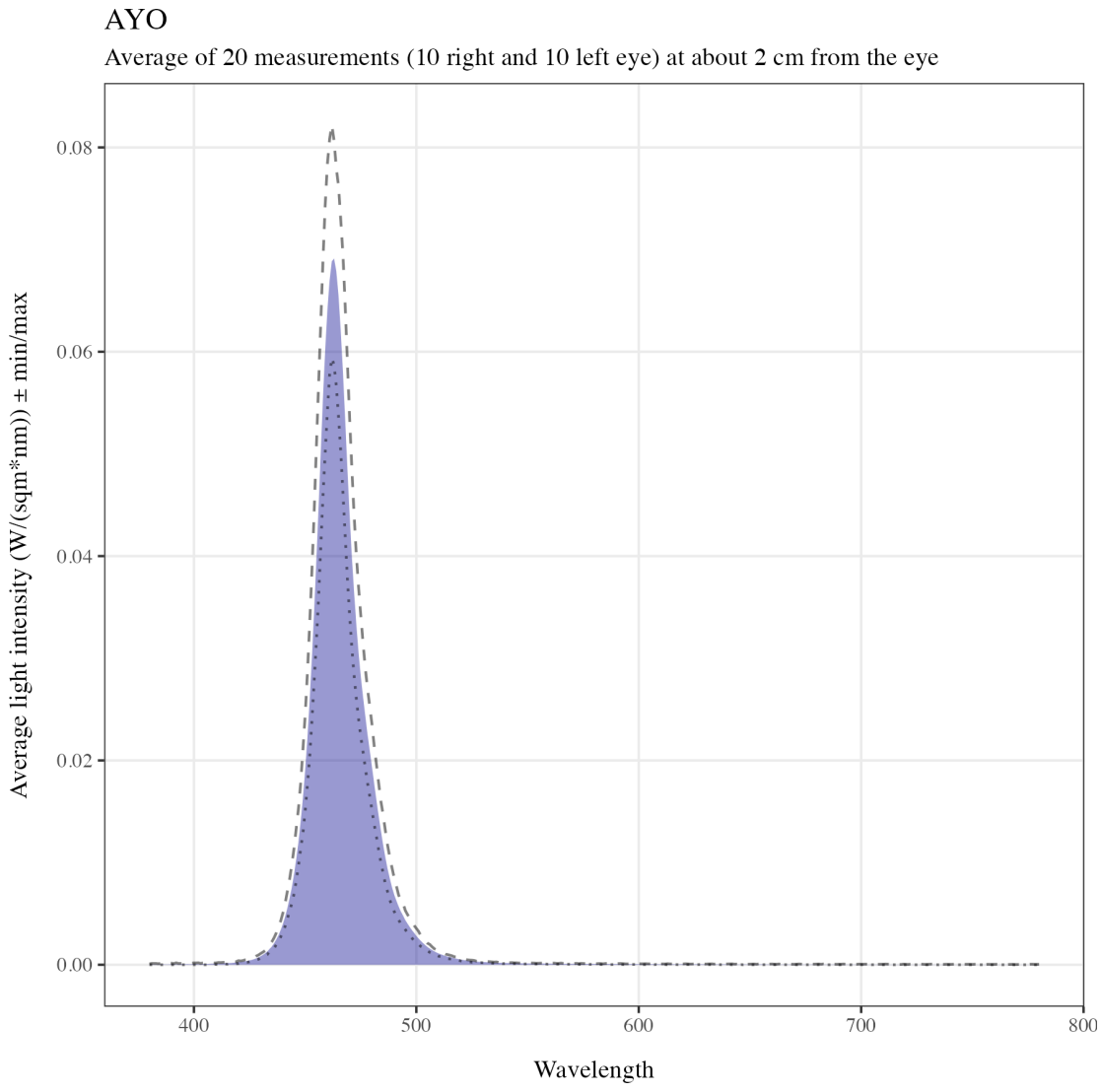
Light measurements

Purpose of the light measurements is to estimate whether the light intensities are potentially able to induce non-image forming effects on the circadian system. Light measurements were made using the Specbos 1211-2 broadband spectroradiometer (https://www.jeti.com/Products/Spectroradiometer/specbos1211-2).

The sensor was centred at eye level at about 2 cm from the frame. Each side (right and left eye) was measured 10 times.

The spectral composition of the AYO light source is shown in the figure below.



Alpha-opic calculations

The different alpha opics [1] have been calculated by importing the spectral distribution data into the luox app (https://luox.app/upload). Luox is managed by the joint research group Chronobiology & Health at the Technical University of Munich and Translational Sensory and Circadian Neuroscience at the Max Planck Institute for Biological Cybernetics (Prof. Dr. Manuel Spitschan).

The results are shown in the figure below. Current recommendations for healthy lighting are based on the Melanopic-EDI values [2]. The recommendations state that vertical light levels should reach at least 250 melanopic-EDI lux during daytime, while in the evening it should remain below 10 melanopic-EDI lux. The results show that the light intensities reach an average of 948 ± 82 (SD) m-EDI.