

Light-Dosimeter – Data sheet



The light-dosimeter (lido) is a mobile measurement device to investigate the non-visual responses to light. Attached to a pair of glasses, it records a person's light exposure in the near-corneal plane every 10 seconds. Thanks to a bespoke mounting it can be taken off during a recording, if required. The data can be analysed directly in the custom-made software Lido Studio or exported. The lidos were developed by an interdisciplinary team from the Lucerne School of Engineering and Architecture and three project partners within the framework of a project funded by the Velux Stiftung (Project No. 1134).

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Additional features

- An acceleration sensor, which tracks the tilt of the device
- A push-button, which can be used to mark events as pre-defined by the lead investigator
- An RGB LED, which indicates a device's battery status once activated

Project partners



Lidos were / are used by



Remark

Test reports from the Swiss Federal Institute of Metrology (METAS) for three lidos are available upon request.

Device specifications

Wavelength range	VIS 380 nm to 780 nm
Measurement range	~5 lx to >100'000 lx
Angular response	Close to cosine
Battery life	~7 days
Battery charging time	~2 hours
Memory size	~300 days
Dimensions of the casing	58 mm × 20,6 mm × 16 mm
Weight of the device	~27 g
Interface	Micro USB
Ingress Protection Code	IP20

Lido Studio

- Windows operating system
- Data stored in a local database
- Outputs: 1) PDF report, 2) plots as images, 3) time series data for the event marker and the following metrics as a comma-separated values (CSV) file for further analyses:
 - α -opic irradiance (E_{α})*
 - α -opic equivalent daylight (D65) illuminance ($E_{v,\alpha}^{D65}$)*
 - illuminance (E_v)
 - correlated colour temperature (CCT) and Duv
 - tilt angle (between -90° and +90°)



* CIE S 026/E:2018 - CIE System for Metrology of Optical Radiation for ipRGC-Influenced Responses to Light

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