

SOLLEKTOR

Illumination of
rooms with
natural sunlight



the SOLLEKTOR principle

The SOLLEKTOR is at the same time both a compact and cost-effective system to transport daylight into rooms. Sunlight is concentrated via a highly efficient optical system into light-guiding fibers on the roofs. Then it can be transmitted via an optical lightguides into the rooms where daylight is required.

The natural character and quality of the visible part of the sunlight remain unchanged, while at the same time unwanted heat and UV-radiation are not transported into the rooms to be illuminated.



technical specifications

600 x 600 x 250	length x width x height (mm)
25 kg	weight
0,27 m ²	light collecting area
20 m	recommended maximum light transmission length
380 nm – 780 nm	transmitted wavelength range (visible light)
ca. 700	concentration ratio
868	number of optical fibers
0,75 mm	diameter of optical fiber – polymer optical fiber (POF)

sustainability

CO ₂	Due to the minimized demand of lighting via artificial light, the SOLLEKTOR can avoid the emission of up to one ton of CO ₂ per year.
energy	With an average of 1700 hours of sunlight in Germany a year one SOLLEKTOR can substitute approximately 2000 kWh of high quality electrical energy for artificial lighting. Therefore the consumer saves around 400 € per year on lighting costs with a calculated price for electricity of 0.20 € per kWh.
area of illumination	By means of a SOLLEKTOR, according to DIN ¹ , up to 30 m ² of workspace, about 50 m ² conference room and over 100 m ² of storage room can be illuminated.

contact

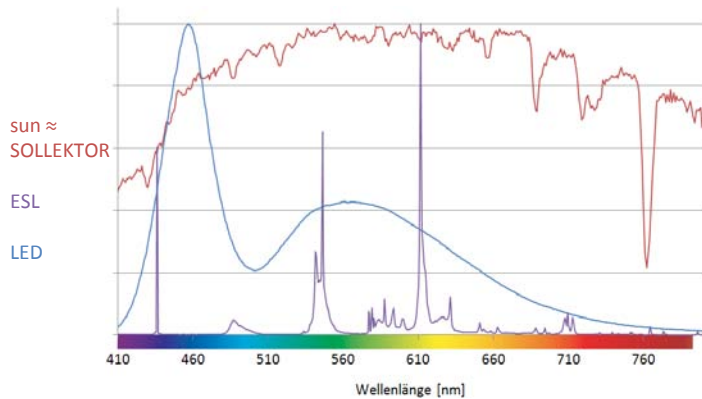
company
info@BavarianOptics.de

research and development
POF-AC (GSO-University of Applied Sciences)

¹ DIN: German institute for standardization

light quality

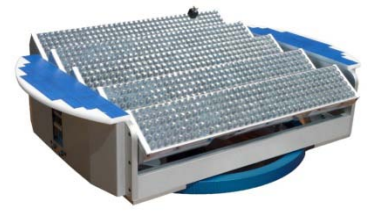
Natural sunlight is directly transported into rooms. Therefore the light spectrum is maintained almost completely, with a resulting color rendering index of 100 after 20 m. Modern lighting like ESL² or LED offer only a minor quality of color rendering.



The color of sunlight – white during the day and reddish in the evening is maintained completely. This is the reason why man's natural chronobiological rhythm remains unaltered.

The SOLLEKTOR transmits only the visible light – the infrared radiation is not transported. This means that rooms are not heated up and objects cannot bleach.

solar spectrum



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chronobiological
rhythm

spectrum

presentations

Light+Building
11. – 16. April 2010 in Frankfurt on the Main
(Germany)
exhibition hall 5.1 booth D20

Intersolar EUROPE
9. – 11. June 2010 in Munich (Germany)
exhibition hall C2 booth 230

Intersolar NORTH AMERICA
13. – 15. July 2010 in San Francisco (USA)

light+building

inter
solar
2010

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solar
2010

² ESL: energy saving lamp