

Phabulous



Transportation Interior Lighting

Free-form micro-optics for generating uniform large area direct-lit LED luminaires with uniform luminance appearance

Pilot Line Use Case by SEISENBACHER



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Free-form micro-lenses have the ability to produce square/rectangular illuminance patterns upon LED illumination. The individual illuminance patterns produced by each LED on an array can hence be overlapped with 100% fill factor thus rendering a uniform luminance over the luminaire outermost surface (exit aperture). SEISENBACHER is a global supplier of interior solutions for the rail vehicle industry. As partner of PHABULO μ S, they will provide key insight towards the design of ultrathin luminaires (thickness < 10 mm) or luminaires with a significantly reduced number of LEDs (less than half for linear lighting) and a customized shape of illumination pattern due to free-form micro-optical films for very homogeneous irradiance on the diffuser plane. The results will be beneficial to the general LED lighting market and specifically trialled for rail vehicles, busses and other means of transport.

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