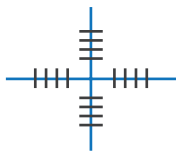




Your specialists for traffic and system engineering

# Safe runway lighting at airports

ORBENA® – the compact system for measuring field distribution in seconds for testing lighting quality, almost with goniometer precision.



## ORBENA® System

Illuminance measurement for in-pavement lights

- Detection of scratched, dirty, and misaligned lights
- Minimal space requirement due to compact size
- Reduction of maintenance costs



## Measurement

- In seconds
- Simultaneous detection of light intensity for all field angles less than 30°
- Independent of ambient light
- From very short distance to the lamp
- Changes in light intensity can be tracked in real-time
- The entire light intensity distribution of a strobe lamp can be captured with a single flash

International airports worldwide are equipped with in-pavement lights on runways. Despite advanced navigation technology, these lights are essential for safety during approach and landing. The ORBENA® system enables regular and comprehensive safety inspections of such runway lighting systems according to ISO 9001 standards.

## Best Practice

The ORBENA® system ensures safe lighting conditions in Frankfurt, Hannover and Wunstorf.



### Thorough safety inspection of runway lighting systems.

The need for quality assurance in all technical areas also has an impact on aviation safety. The ISO 9001 standard requires a thorough control of operational equipment in aviation, such as runway lighting systems. The ORBENA® measuring device utilizes an optical system and special software to determine the luminous intensity distribution of the light in candela. These values are compared with the measurement geometry defined by ICAO for the lighting system, and an assessment is derived to determine whether the light meets the specified requirements or not.

### Our ORBENA® measuring device

The term ORBENA® stands for „**OR**tsaufgelöste **BE**leuchtungsstärkemessung im **NA**hfeld zur Beurteilung des Fernfeldes“ (Spatially Resolved Illuminance Measurement in the Near Field for the Evaluation of the Far Field). With the ORBENA® measurement method, it is possible to quickly measure the far-field distribution with minimal space requirements, approaching the accuracy of a goniometer measurement. The ORBENA® measuring device has been designed in a compact form for stationary operation in the lamp workshop. Using specific mechanical adapters, all common 12" and 8" in-pavement lights can be measured. The computer-controlled constant current source allows lamps with up to 1000W to be operated in all common current ranges.

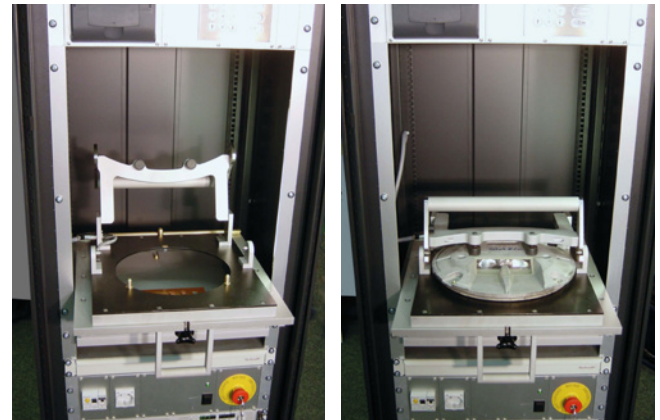
All measurement values, such as horizontal and vertical angles, minimum, maximum, and mean values, can be printed, saved to a hard drive, or transmitted via Ethernet.

### A strong collaboration

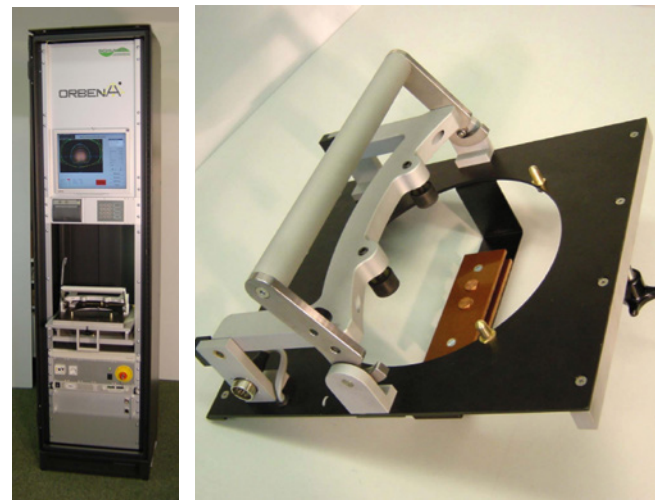
ORBENA® is the result of a joint development by the Darmstadt University of Applied Sciences, ERNI (Switzerland), and Frankfurt Airport (Fraport), under the leadership of Schuh & Co. GmbH.

### We are your strong partner in traffic and system engineering.

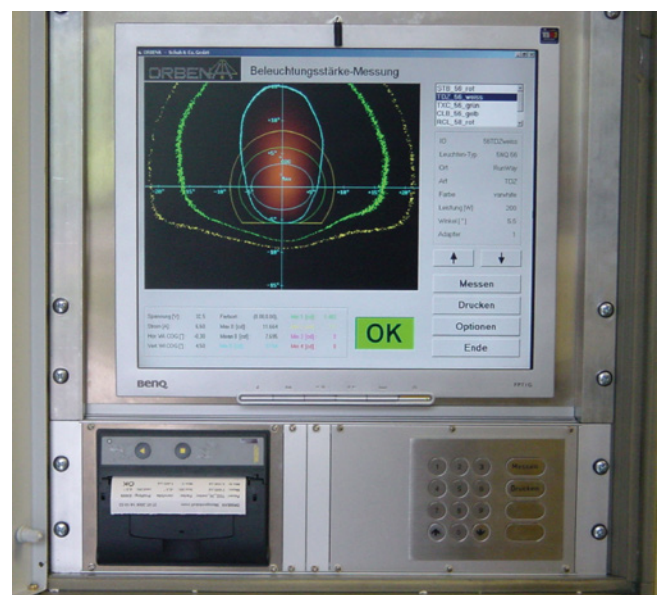
The technical expertise of Schuh & Co. GmbH in airport equipment and road traffic technology is complemented by profound organizational and business management skills. With over 30 years of experience in managing complex projects, we provide a stable foundation for successfully carrying out customer-oriented tasks.



Expanded measurement frame without/with an  
in-pavement light inserted.



Device view, detail of a measurement frame.



## Contact us

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