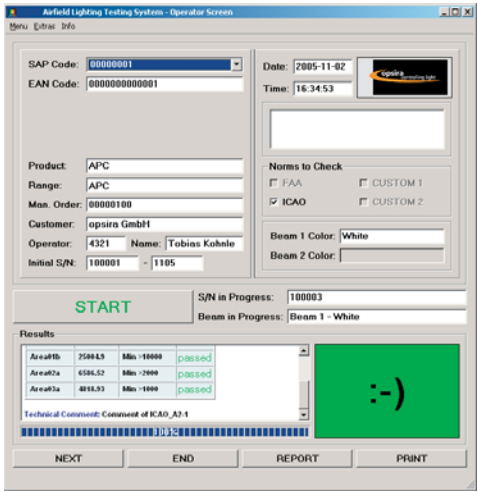


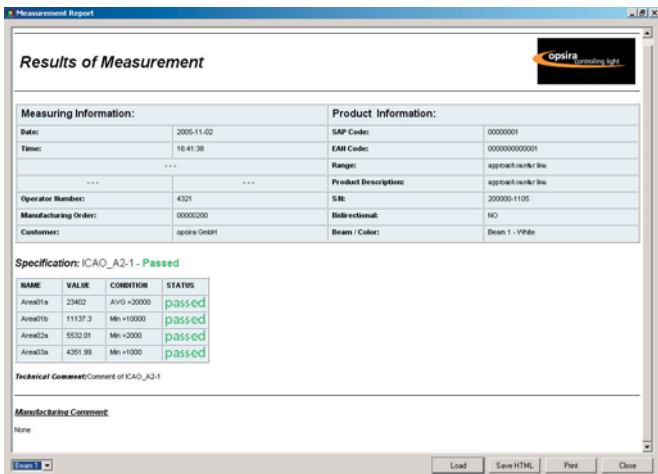
Example Customised Test Client

The test stand is delivered including customised user interfaces depending on the specific demands. All important control elements for the measurement are handed out to the test staff. The basic settings, e.g. the link of the corresponding standards to the airfield lighting are done in an administrator mode.



Example Test Protocol

Test protocols are generated, stored or printed automatically as required by the customer. Thus, each test result can easily be associated and traced to the measured airfield light.



Specifications

- Measuring range of illuminance: 0,01 Lux to 1 MLux¹
- Measuring range of luminous intensity: 0,05 cd to 1 Mcd¹ (covers all airfield lighting systems according to ICAO, FAA and CAP168)
- Measuring dynamics: 12 Bit / 18 Bit²
- Total measuring time of one light: a few seconds³
- Angular resolution: about. 0,025° typical⁴
- Measuring error: < 1%⁵
- Test standards: all photometric ICAO, FAA or CAP168 compliant measurements possible⁶

¹ depending on measuring lens, upper limit is arbitrarily scalable by means of suitable neutral density filters
² 14, 16 or 18 Bit in the HighDyn mode by multiple exposures
³ depending on the respective angular range
⁴ at a measuring distance of 2500 mm and a screen width of 1000 mm
⁵ variation from calibration transfer standard
⁶ evaluation masks changeable and expandable as desired

Typical values of a standard configuration. Changes are possible depending on the system configuration. Variations to the technical data may occur due to the permanent improvement and development of our measurement systems. We do not assume any juristic responsibility or liability whatsoever for such variations or misprints. The General Terms and Conditions of Trade of the opsira GmbH are valid.



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airfield
luca'lux



Airfield lighting test system

The luca'lux - airfield lighting test system allows fast and easy measurement and test of any airfield lighting system in compliance with the ICAO (FAA, CAP168) regulations and any others. Contrary to the time-consuming goniometer measurement, the luca'lux method realizes a precise measurement of the luminous intensity distribution of the lights within only a few seconds. It is understood that the measurement is calibrated according to international measurement standards.

The top-quality measuring camera reaches an angular resolution never achieved so far. Besides the test according to the standards, any inhomogeneity of the luminous intensity of the airfield lights is shown directly and at once. A contemporary documentation and storage of the measurement results is easily done.



View of the complete system with control terminal (including integrated laboratory power supply for the airfield lighting) and measuring chamber to avoid ambient light influences.

opsira
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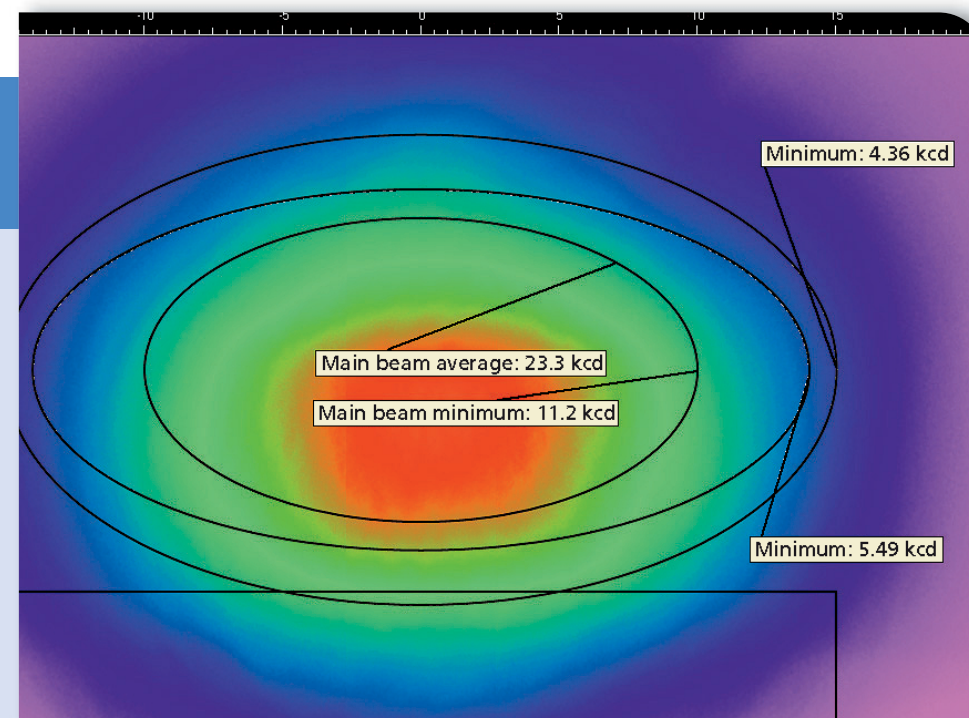
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Measuring Principle

The luminous intensity emitted by the airfield lighting systems is reflected on a white high-quality measuring surface. The respective illuminance distribution is created on this measuring surface. The absolutely calibrated measuring camera system measures this illuminance distribution and converts the measuring values directly into the corresponding luminous intensity values. This method of speedy and precise light measurement has been successfully field-tested in a great variety of applications, such as automobile headlamps, medical lamps, large format video displays and airfield lighting.

For automatic measurement of airfield lighting systems emitting with a high angular divergence, either a corresponding large measuring surface or a turntable or a goniometer is used. In case of the turntable method, the device under test is turned to and measured in different angle positions towards the measuring surface during the measurement. These single measurements are generated into a total measurement by the measuring software automatically with regard to the angular measuring range required by the standard. A complete measurement including the output of a professional test report can be done by little more than a mouse click.



Measuring scene of an airfield lighting (approach center line) within an angular range of -20 degrees to +20 degrees. The evaluation according to ICAO, ANNEX 14, figure 2-1, is carried out fully automatically within splits of a second. The quality of the luminous intensity distribution is apparent at once and is recorded and stored the way our customers desire.



loading drawer



calibration

Calibration

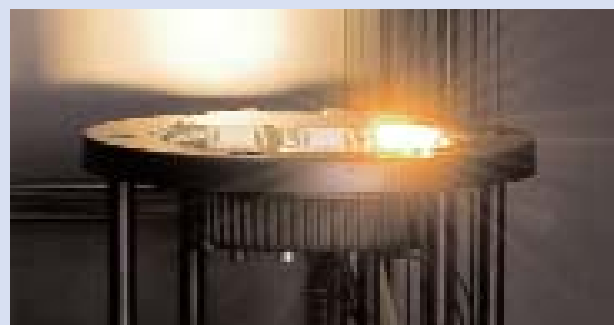
When installing the test system on site, the opsira GmbH engineers calibrate the system in compliance with international photometric transfer standards. The calibration records extensively document the traceability to international photometric standards.

Turntable

The turntable integrated in the test stand allows a fully automatic measurement of the airfield lighting at a highly precise adjustment of the respective measuring angle. Due to the turntable it is possible to test AGL systems of very large emission angles while requiring very little space for the test stand.

Furthermore, we offer the recalibration and maintenance of the system which is carried out once a year normally.

The software provides a comfortable and easy-to-use calibration assistant which enables the user to carry out the calibration himself/herself.



Software

Basic Software

Via the basic software the luminous intensity distribution of the airfield lights can be measured and analysed in any way. The user is able to define any standards or testing regulations. Thus, the amendment of a standard is no longer a problem for the user. The corresponding ICAO, FAA or CAP168 compliant evaluation masks are delivered with the system, if desired.

Customised Test Client

The use of an easy-to-handle front-end is advantageous not only for maintenance at the airports, but also for final inspection at the manufacturers' plants. The reduced number of control elements on the user interface minimises the chance of incorrect handling and optimises clarity. By means of the password protected login the measurement can easily be traced back to the person who carried out the measurement. The test protocol includes a precise qualification of the test sample, of the type and of the date and is stored in a database. An automated printout of the test protocol is possible, too.

