

Goniophotometer with Mirror Arrangement LMT GO-DS





Goniophotometer LMT GO-DS

Technical Data

Marking	LMT GO-DS Goniophotometer
Field of application	Measurement and evaluation of light technical characteristics of all types of lamps and luminaires in their dedicated burning position with respect to gravity
Versions and test object dimensions	<ul style="list-style-type: none"> • GO-DS 1600 for test objects up to 1600 mm length (diagonal) • GO-DS 2000 for test objects up to 2000 mm length (diagonal) • Max. test object load: 50 kg
System conformity	<ul style="list-style-type: none"> • EN-13032-1 • CIE 121, 1996 • CIE 70, 1987 • IES LM 79-08 • Related internationally recognized standards
Tests performed	<ul style="list-style-type: none"> • Luminous intensity distribution in C-planes or on conical surfaces • Absolute and zonal luminous flux • Floodlight testing according to B-β system, conversion to C-γ • CIE color values, with optional colorimetric system
Goniometer type	• Goniometer with centrally rotating mirror, mirror on optical axis for static and narrow light cone
Test distances	<ul style="list-style-type: none"> • Fixed test distances to be placed at selectable positions between 5 m and 50 m • Numerous test distances possible
Straylight screening	• Fixed baffles with adjustable apertures according to test distance and size of object
Mirror	<ul style="list-style-type: none"> • Spectrally constant reflecting, non-polarizing mirror mounted in tempered aluminum base for rigidity, flatness, and long time stability • Max. deviation in uniformity in accordance with EN 13032-1: < 1.5%
C-axis	<ul style="list-style-type: none"> • Test-object mounting on vertically oriented C-axis • Uninterrupted test-object rotation by means of 8-pole slip ring contact • Adjustable speed control • Motor controlled re-orientation of test object in pendant or upright position
γ-axis	• Drive shaft with counterweight and forged cogged wheel for vibration free movement and reproducible positioning under load
Angular measurement	<ul style="list-style-type: none"> • Optical angular encoders fixed to goniometer axes with guaranteed accuracy for encoder lifetime, resolution 0.1° • Correlation of C-axis with γ-axis under rated loads at all positions: < 0.2°
Photometric system	<ul style="list-style-type: none"> • Characteristics in fulfillment of EN 13032-1 Table 3 • Total characteristics ≤ 3% (according to EN 13032-1, Table 3, Footnote C) • V(λ) adaptation f₁ ≤ 1% by means of LMT Mosaic Filtering® with compensation for the spectral characteristics of the mirror • Max. spectral mismatch correction factor f₂ against typical LED spectra for general lighting (white LEDs 2.500 – 7.000 K): < 1% • Measurement range 0.0001 lx – 80000 lx
Colorimetric system (option)	<ul style="list-style-type: none"> • LMT array type spectrometric system in dedicated design for measurement of CIE color values in conjunction with mirror type goniometer • Automatic positioning in and out of optical axis • Software routines for goniocolorimetrics according to LM 79-08 Chap 12
Electrical measurement	• System integration and control of power supplies and wattmeters for supply of test objects and corresponding measurement values
Software	<ul style="list-style-type: none"> • Complete software for system control, creation and execution of test programs, data administration, evaluation, and export to light planning softwares • Presentation of data in graphic and text form • File import and export in IES, Eulumdat and related light-technical file formats
Building requirements	• Narrow light cone of centrally rotating mirror enables building design with compact, temperature controlled goniometer cabin and separate light tunnel for sensors