Technical Sheet

GL **OPTI SPHERE**

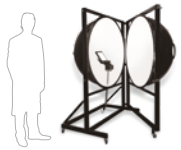
Standards compliance in a flash.

All our spheres connect to any GL spectrometer using a direct connection.
Integrating spheres have become a standard instrument in photometry and radiometry since R. Ulbricht's practical implementation of the light-collecting cubical box more than 115 years ago.

Today, GL Optic produces high reflectance integrating spheres using modern materials such as composite and combining them with the latest calibration technology. They are the optimal solution for luminous flux and radiant power measurement of single LEDs, LED luminaires and modules.

Features:

- Luminous flux and radiant power measurements
- High reflection BaSO4 coating with 98 % reflection
- 2π and 4π configurations
- Suitable for compliance with international standards: EN 62471, IESNA LM-79-08, CIE 127:2007, CIE S 025/E:2015 and others

	 **GL OPTI SPHERE 48**	 **GL OPTI SPHERE 205**	 **GL OPTI SPHERE 500**	 **GL OPTI SPHERE 1100**	 **GL OPTI SPHERE 1500**	 **GL OPTI SPHERE 2000**	 **GL OPTI SPHERE 3000**
APPLICATION							
	Luminous flux and radiant power measurement of single LEDs and other small light sources. Mounts directly on spectrometer.	Luminous flux and radiant power measurement of LEDs and other light sources.	Luminous flux and radiant power measurement of LED modules and retrofit lamps.	Luminous flux and radiant power measurement of large LED modules and luminaires.	Luminous flux and radiant power measurement of large LED modules and large luminaires.	Luminous flux and radiant power measurement of large LED modules and large luminaires.	Radiant power and luminous flux measurements.
TECHNICAL DATA SHEET							
Spectral range*	340 – 1700 nm	340 – 1700 nm	340 – 1700 nm	340 – 1700 nm	340 – 1700 nm	340 – 1700 nm	340 – 1700 nm
Sphere inner diameter	48 mm	205 mm	500 mm	1100 mm	1500 mm	2000 mm	3000 mm
Entrance aperture diameter	9 mm	50 mm	80 mm	168 mm	300 mm	660 mm	500 mm
Sphere material	Aluminium	Aluminium	Composite	Composite	Carbon steel	Carbon steel	Carbon steel
Inner coating	Barium Sulfate ($BaSO_4$) high-reflectance material (R98)	Barium Sulfate ($BaSO_4$) high-reflectance material (R98)	Barium Sulfate ($BaSO_4$) high-reflectance material (R98)	Barium Sulfate ($BaSO_4$) high-reflectance material (R98)	Barium Sulfate ($BaSO_4$) high-reflectance material (R98)	Barium Sulfate ($BaSO_4$) high-reflectance material (R98)	Barium Sulfate ($BaSO_4$) high-reflectance material (R98)
Outer coating	Black textured finish	Black textured finish	Black finish	Black finish	Black textured finish	Black textured finish	Black textured finish

*Spectral range of the coating. Actual spectral range of system may be reduced due to limitations of used optical accessory.

Note: Instrument, firmware and software specification are subject to change without prior notice. All information included in GL OPTIC datasheets and product information available in any form are carefully prepared and include information believed to be true. Please note that discrepancies may occur due to text and/or other errors or changes in the available technology. We advise to contact GL Optic before the use of the product to obtain the latest product specification.

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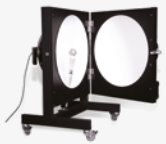
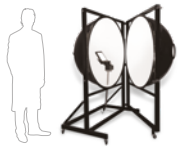
GL OPTIC
Light quality control

Technical Sheet

GL **OPTI SPHERE**

Standards compliance in a flash.

	 **GL OPTI SPHERE 48**	 **GL OPTI SPHERE 205**	 **GL OPTI SPHERE 500**	 **GL OPTI SPHERE 1100**	 **GL OPTI SPHERE 1500**	 **GL OPTI SPHERE 2000**	 **GL OPTI SPHERE 3000**
TECHNICAL DATA SHEET							
Reflectance properties	97%	97%	97%	97%	97%	97%	98%
Auxiliary light source	N/A	White LED	White LED	White LED	White LED or halogen	White LED or halogen	Halogen
Spectrometer port	Direct connection	Direct connection or SMA fiber-optic	Direct connection or SMA fiber-optic	Direct connection or SMA fiber-optic	Direct connection or SMA fiber-optic	Direct connection or SMA fiber-optic	Direct connection or SMA fiber-optic
Standards compliance	N/A	CE, LM 79, CIE 127:2007 CIE S 025/E:2015	CE, LM 79, CIE 127:2007 CIE S 025/E:2015	CE, LM 79, CIE 127:2007 CIE S 025/E:2015	CE, LM 79, CIE 127:2007 CIE S 025/E:2015	CE, LM 79, CIE 127:2007 CIE S 025/E:2015	CE, LM 79, CIE 127:2007 CIE S 025/E:2015
Maximum DUT dimensions in accordance with CIE S 025/E:2015	N/A	20 mm (diameter or diagonal)	50 mm (diameter or diagonal)	100 mm (diameter or diagonal)	150 mm (diameter or diagonal)	200 mm (diameter or diagonal)	300 mm (diameter or diagonal)
Maximum dimension for optimal measurement (1/3 x sphere diameter)	N/A	65 mm (diameter or diagonal)	165 mm (diameter or diagonal)	330 mm (diameter or diagonal)	500 mm (diameter or diagonal)	665 mm (diameter or diagonal)	1000 mm (diameter or diagonal)
Maximum DUT weight	N/A	250 g	3 kg	3 kg	25 kg	25 kg	25 kg
Sphere frame	N/A	N/A	Hinged	Hinged	Hinged	Hinged	Hinged with electric powered opening mechanism
Sphere center positioning	N/A	N/A	N/A	N/A	Cross laser mechanism	Cross laser mechanism	Cross laser mechanism
Mechanical breadboard with post	N/A	For 4 π measurement	For 4 π measurement	For 4 π measurement	For 4 π measurement	For 4 π measurement	For 4 π measurement
USB source controller for auxiliary light source	N/A	With current source and relay switch for external power supply	With current source and relay switch for external power supply	With current source and relay switch for external power supply	With current source and relay switch for external power supply	With current source and relay switch for external power supply	With current source and relay switch for external power supply
Universal post with standard lamp sockets	N/A	N/A	E14, E27, GU10 and G4 for QTH lamp spectral flux source	Universal DUT fixing table (breadboard) for measurement in 4 π geometry	Universal DUT fixing table (breadboard) for measurement in 4 π geometry	Universal DUT fixing table (breadboard) for measurement in 4 π geometry	Universal Device Under Test fixing table (breadboard) for measurement in 4 π geometry
External dimensions [W x H x D]	52 x 88 x 51 mm	264 x 277 x 223 mm	620 x 760 x 590 mm	1260 x 1800 x 1220 mm	1800 x 1800 x 1800	2200 x 2200 x 2300 mm	4200 x 3500 x 3300 mm
Weight	0.126 kg	3.3 kg	17.5 kg	60 kg	218 kg	420 kg	1100 kg

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