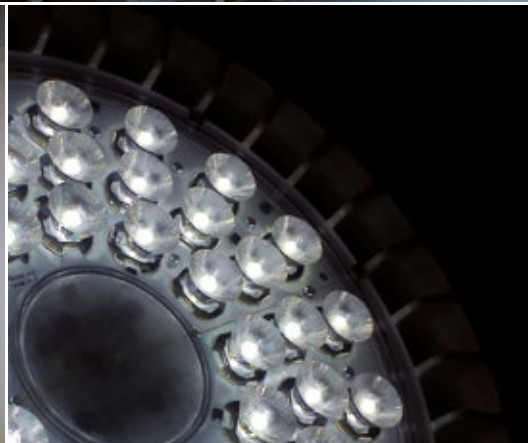
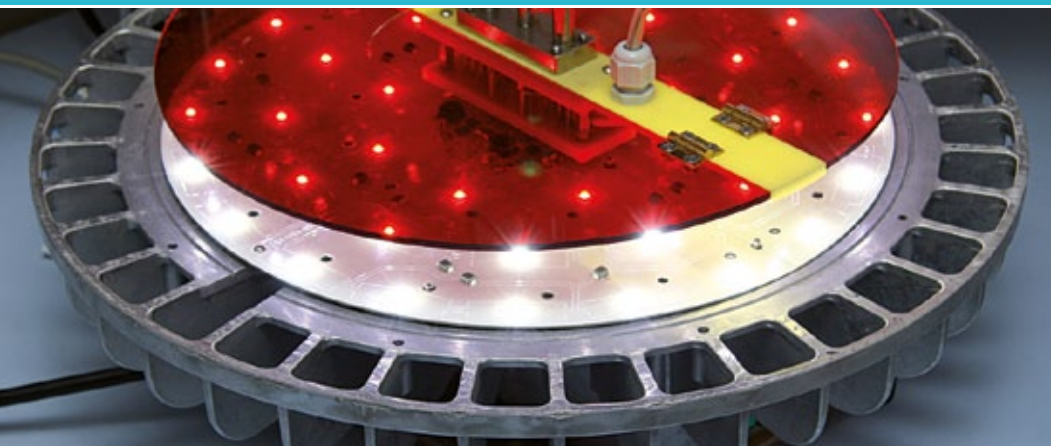


LED lighting for professional use



DATA LINK

From the beginning, DATA LINK has always dedicated a part of its potential towards the development and production of new, innovative, and technologically advanced products, services, and solutions.



While this product catalogue provides an insight into the current technical characteristics and specifications of our LED lighting product line, in our development laboratory we have progressed a lot further and we are continuously working on developing new and improving existing products, testing new systems and patents, which place us among the most innovative companies in the industry of LED technology in Europe.

Over the past few years DATA LINK has been committed to developing and producing professional LED lighting, production technologies, software solutions, and measuring devices which lead to the creation of new technologies and patents in the production of LED lighting.

Following global trends and the need for energy-efficient, environmentally friendly, high-quality and long-term sustainable solutions, we have decided to develop and produce technologically advanced LED luminaires. Thanks to the numerous advantages and positive characteristics of LED technology, this innovative and energy efficient type of lighting is suitable for people, the environment, and the entire eco-system.

We independently perform demanding projects using the most advanced specialised equipment, tools, and measuring devices. We are technologically excellently equipped and capable of realising any project starting from the beginning of a concept all the way through to an automated serial production.

Following the desire for continuous improvement and quality enhancement of our products and services, in 2004 we introduced a quality management system; the ISO 9001: 2000 standard, for which we received a certificate.



LED modules on demand

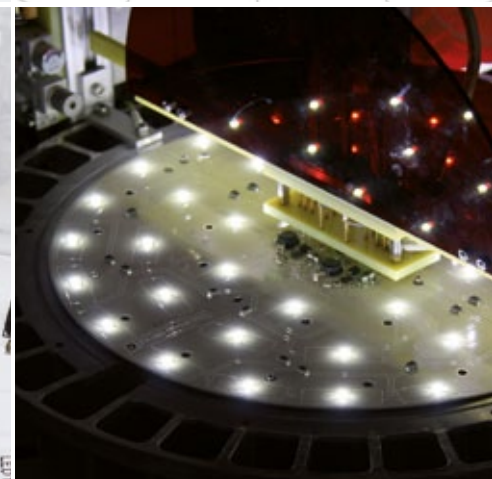
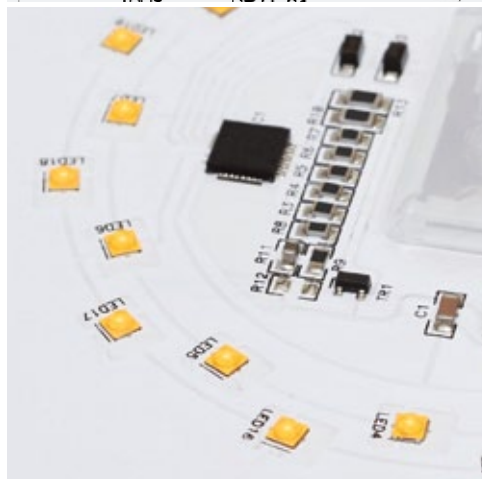
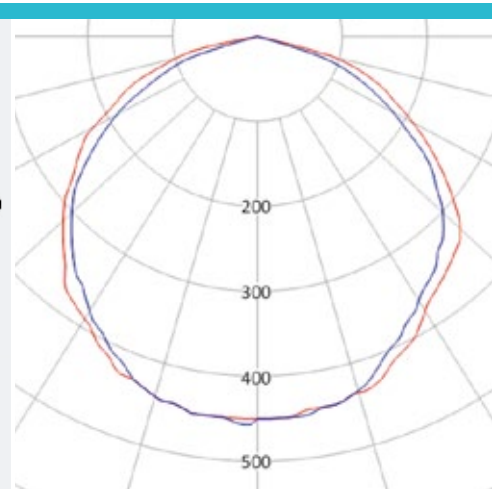
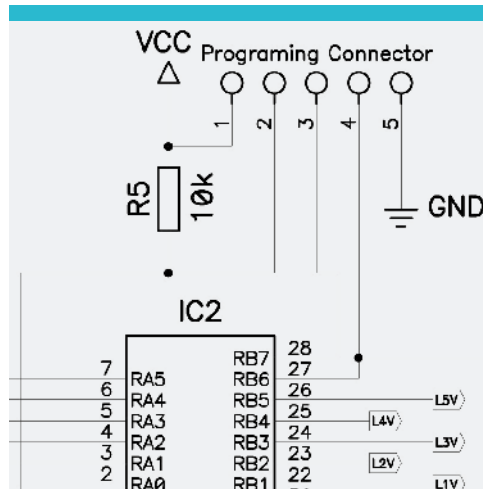
We develop and produce full LED modules on aluminium or FR4 substrates for our users, according to special demands.

Construction includes all necessary solutions, ranging from designing electronic schemes, creating the layout of Printed Circuit Boards (PCB), to optical design, electronic and thermal analysis, and highly serial production of LED modules.

FEATURES

In our own light technology laboratory, we conduct measurement and analysis of LED modules for the following characteristics:

- EMC analysis in the sense of generating interference in the electromagnetic spectrum, both for DC or AC construction of LED modules
- Measuring of all electrical characteristics of the module using high precision equipment
- Thermal analysis of entire LED module and luminarie, with measurements of technical conductivity and LEDs' thermal conductivity and junction temperature
- Analysis of LED modules' behaviour at high environmental temperatures, with or without refrigerator or light fixture
- Measuring of the module lumen output in normal operating conditions and at higher temperatures, both with and without secondary optics
- Photogoniometric measurement of spatial distribution of the LED module and creating the appropriate IES file for use with light technology calculations
- Spectrophotometric measurement of the entire module or LED itself



Using our two fully automated high-capacity SMD lines, we are able to produce a large series of LED modules, with two soldering processes; the standard Reflow technique and the special Vapor Phase welding procedure in strictly controlled temperature conditions. We can produce linear LED modules up to 1200 mm in length, and both lines' capacity exceeds 80,000 components per hour.

We strive to exceed our customers' expectations by delivering the highest quality solutions, products, and services.

Industrial lighting High Bay 380

High Bay 380 is an industrial LED lamp allowing energy savings in the range of 50% to 80% compared to existing high pressure sodium, mercury, and metal-halide light fixtures. Its lifespan is at least 60.000 hours (15 years).



USES

HB380 industrial lighting is an energy efficient replacement for low-efficiency traditional lighting, suitable for shopping malls, industrial and manufacturing facilities, warehouses, cold stores, distribution centres, bus and railway stations, airports, car dealerships, gas stations, agricultural buildings, shelters, exhibition halls, sports facilities, and other structures with height exceeding 4 m.

The professional industrial LED lamp HB380 is suitable for both interior and exterior use. It is dust and water droplet resistant and does not require standard maintenance measures. LED diodes installed into this electronic circuit are obtained from one of the best LED diode manufacturers, CREE (USA).

FEATURES

- Energy efficiency class A+ and A++ (in accordance with EU Directive 874/2012)
- Lifespan of at least 60.000 hours, while the lumen output will not go below 80% of the nominal
- Protection grade IP 65
- Resistant to humidity, dust, impact, and vibration
- No warm-up time, instant turn "on"
- No UV emission
- Option of regulating the intensity of lumen output from 20% to 100%
- Controllable and suitable for intelligent lighting systems
- Simple installation, no need for standard maintenance measures
- After the expiry of the warranty period of 4 years, electronic components can be replaced and the lamp's useful life extended

Our mission is to continuously acquire new knowledge and technologies so we can actively contribute to the success and needs of our customers.



	HB380-144 with and without lenses	HB380-120
Electrical Characteristics		
Operating Voltage	100 - 270 VAC / 56 - 60 Hz	
Total System Power Consumption	160 W	130 W
Power Factor	> 0,96 at 230 VAC	
Operating Temperature	-40°C to +50°C	
IP rating	IP 65	
Light Technology Characteristics		
LED Power	144 W	120 W
Lumen output	> 15000 lm	> 12676 lm
Luminary Efficacy	> 93 lm/W at 5000 K	> 95 lm/W at 5000 K
CCT (Correlated Colour Temperature)	3500 K to 7500 K (cool white)	2800 K to 7500 K (cool white)
CRI (Colour Rendering Index)	Depending on LED diodes > 70 to > 80	Depending on LED diodes > 75 to > 80
Selectable radiation angle	11°, 18°, 29°, 40°, 60°, 120°	120°
Intensity Regulation		
Regulation Range	20 - 100%	
Remote Control	DC voltage 5 - 24 V	
Construction and Dimensions		
Protective Fixture Cover	Injection-Moulded Polycarbonate 2 mm	
Fixture Body	Die-Cast Aluminium, plasticised in RAL colours	
Fixture Weight	< 6kg	
Dimensions	Ø380 mm, H150 mm	
Mounting		
Fixed Ceiling Suspension	Steel frame with adjustable anchor	
Wall Mounting	Steel frame with 0° - 90° adjustment option	
Flexible Suspension	Pendant for anchoring chain or steel rope	
Connection	Cable H05VV -F (5 x 0.75 mm²), black, length 3m	

Flush Mount Ceiling Lamp

LCL230R-AC / Down Light LED lamp /

The Flush Mount Ceiling Lamp LCL230R-AC is the first in a series of lamps made in a unique patented planar technology.



The incoming AC LED technology has made it possible that this lamp has a minimum of components and no electronic parts susceptible to aging. Additionally, this lamp can endure millions of power cycles and has a very long life.

Flush Mount Ceiling Lamp is a low energy alternative to incandescent and compact fluorescent bulbs. It is designed for hallways, staircases, bathrooms, lounges, or any other areas that need pleasant and high efficiency lighting.

FEATURES

- The Flush Mount Ceiling Lamp is only 19 mm deep
- Protection grade IP 65
- LCL230R-AC provides a large luminous flux of at least 1400 lumens, while its consumption is only 16 W
- This lamp (light fixture) has a real lifespan of over 60,000 hours
- LCL230R-AC is especially suitable for extended number of power cycles
- It is suitable for flush mounting to plasterboard and suspended ceilings or alternatively can be surface mounted using the bracket supplied
- It has a broad colour temperature span available from warm white 2700 K to neutral white 4000 K
- This lamp has outstanding thermal management due to the large surface cooler that allows the low LED junction temperature of maximum 65°C
- It is thermally protected, which means that at higher ambient temperatures the intensity of light is reduced and overheating of the LED and shortening of the lifespan prevented
- It is available in three versions - 10W/Ø170 mm, 16W/Ø230 mm, 26W/Ø260 mm

We achieve market recognition through commitment work, innovation, expertise, and commitment to the entire business.



USES

The Flush Mount Ceiling Lamp is intended for working areas which require professional work lighting that have a long life span, can endure an extended number of power cycles, and that can work non-stop in three shifts. At the same time the Flush Mount Ceiling Lamp is innovative, modern, elegant, visually very attractive, and has shape and size which is suitable for any indoor work area.

Examples of such areas are hotels, factories, hospitals, operating rooms, clinics, airports, museums, galleries, showrooms, shops, passenger ships (cruisers), large department stores, shopping malls, office buildings, closet spaces, and other similar spaces that require pleasant and energy efficient lighting. This kind of LED indoor lighting is particularly interesting to lighting project planners, interior designers, and architects.

	Ø170 mm	Ø230 mm	Ø260 mm
Electrical Characteristics			
Operating Voltage	180 - 250 VAC / 50 - 60 Hz		
Total System Power Consumption	10 W	16 W	26 W
Power Factor	> 0,99 at 230 VAC		
Total Harmonic Distortion	Ithd 13%		
Operating Temperature	-40°C to +40°C		
IP rating	IP 65		
Light Technology Characteristics			
Lumen output	~ 970 lm	~ 1400 lm	~ 2500 lm
Luminary Efficacy	~ 94 lm/W at 4000 K		
CCT (Correlated Colour Temperature)	2700 K to 4000 K		
CRI (Colour Rendering Index)	Depending on LED diodes 70 - 85		
Protetction, Construction, Dimensions			
Protection	Overvoltage & Over temperature		
Luminary Protective Cover	Laminated Glass 5 mm		
Fixture Body	Glass & Aluminium		
Fixture Weight	0,46 kg	0,58 kg	0,90 kg
Dimensions	Ø170 mm, H19 mm	Ø230 mm, H19 mm	Ø260 mm, H19 mm

Temporary, portable GALA LED work lighting

GALA LED is temporary work lighting made using the latest technology, with high-efficiency LED.



The biggest advantage of GALA temporary lighting is the possibility of its use during various stages of ship building and ship repair (working in steel, washing, sandblasting, and painting) which saves time and other resources and increases safety. The advantages of GALA lighting compared to classic incandescent and compact fluorescent work lighting on the market are many, with particular emphasis on savings of equipment and material and the costs of maintaining the equipment and lighting, thanks to fewer junction boxes and cables, less time to install the temporary lighting, savings in power consumption of at least 80% and reduced CO₂ emission, high reliability of the lighting even in the hardest working conditions, increased productivity in production due to high-quality illumination, high reliability of the lighting operations, long lifespan, and high level of work safety in accordance with CENELEC norm HD637S1.

The robust design of this professional fixture allows handling without the risk of damaging the lamp. The main characteristics of the "GALA-LED" system are its efficiency, durability, high quality, simple installation, and the product's high reliability. The latest, state of the art LED technology ensures maximum illumination with minimum power consumption.

FEATURES

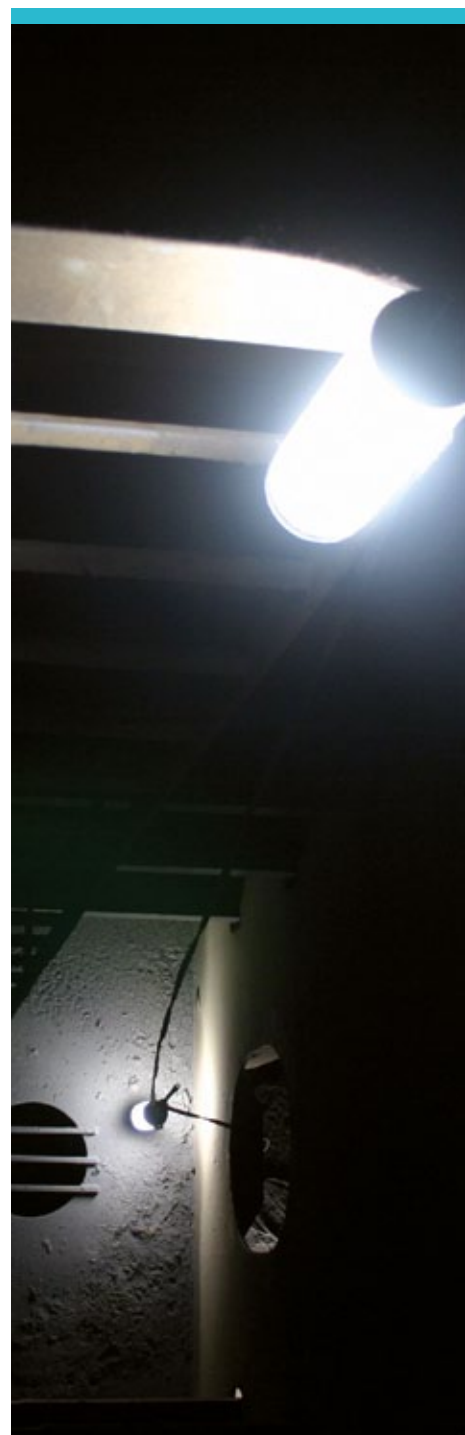
- The lamp is made of high-quality materials – sides made of ABS, transparent cylinders made of acrylic (PMMA) and polycarbonate (PC)
- Savings in power consumption of at least 80%
- Long life span of at least 60.000 working hours
- High level of work safety in accordance with CENELEC norm HD637S1
- Replaceable protective polyamide covering protects the lamp from mechanical damage, sandblasting, painting, etc.
- Robust construction allows unhindered handling even in the hardest working conditions
- Increased productivity in production due to high-quality illumination
- Hot melt cable inlet corresponds to the protection grade IP 66 and prevents cable breakage at the point of entry to the lamp
- It can be suspended from the flat cable, using crossover joint (longline connection), to the power supply cable, or suspension from a hook
- Specially constructed adhesive magnetic dots allows simple and easy installation of lighting on ships



USES

Ship-building, new constructions, restorations, conversions, oil platforms, and other construction sites of this type, other confined and humid areas where high-quality and reliable illumination is needed, construction, civil engineering and building construction, open and closed construction sites, tunnel construction, building of underground canals and pits, other places where high-quality illumination and a high level of safety are needed.

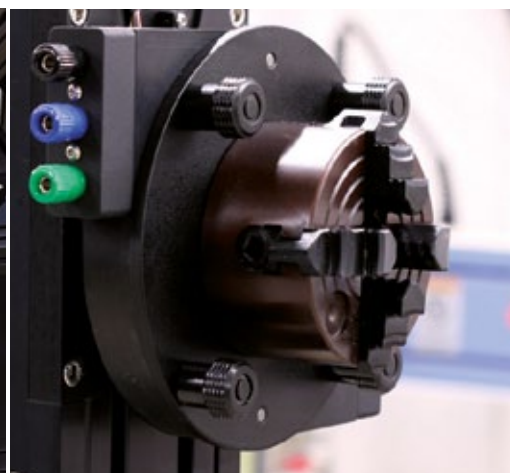
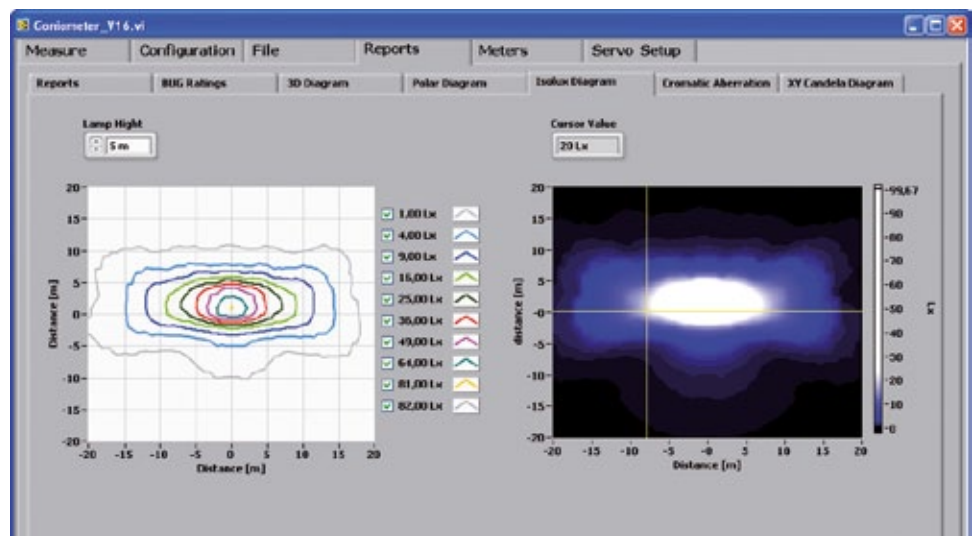
GALA LED	
Electrical Characteristics	
Operating Voltage	38 - 48 VAC / 56 - 60 Hz
Total System Power Consumption	~17 W
Power Factor	> 0,85 at 42 VAC
Total Harmonic Distortion	Ithd ~22%
Operating Temperature	-40°C to +50°C
IP rating	IP 66
Light Technology Characteristics	
Lumen output	~ 1700 lm
Luminary Efficacy	~ 110 lm/W at 5000 K
CCT (Correlated Colour Temperature)	4500 K to 5000 K
CRI (Colour Rendering Index)	Depending on LED diodes 80 - 85
Protection, Construction, Dimensions	
Protection	Overvoltage, Overtemperature & IK10
Luminary Inner Protective Cover	PMMA 2,5 mm
Removable Protective Cover	PC 3 mm
Fixture Body	PMMA, ABS & Hot Melt
Fixture Weight	0,6 kg
Dimensions	Ø90 mm, H260 mm



Light Photogoniometer - LGPM-C3 Controller

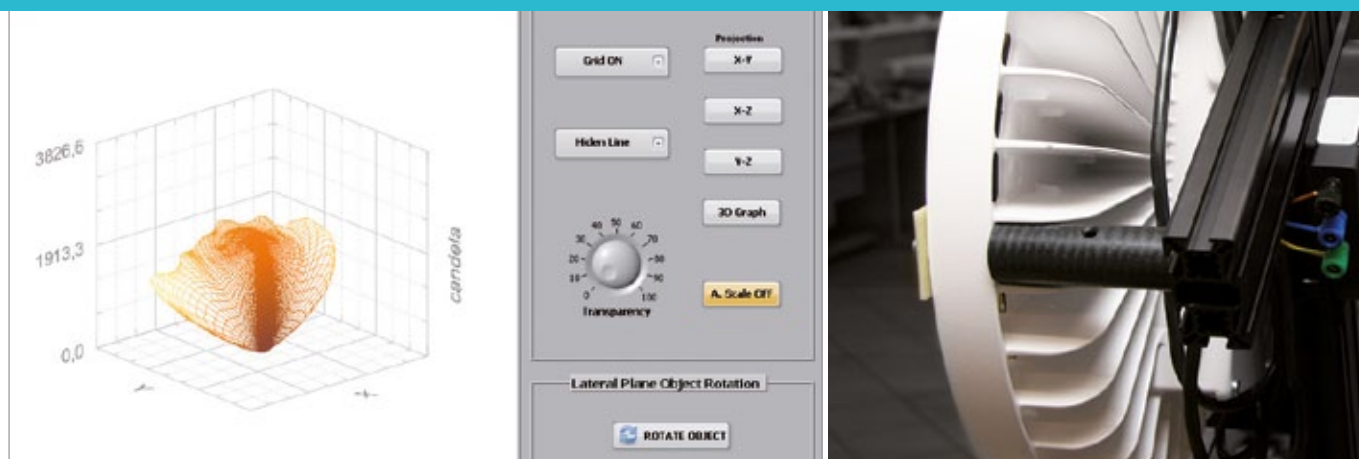
LGPM-C3 is an instrument for measuring spatial distribution of light from the light fixture. The device is based on LabView software platform and is fully programmable.

The basic purpose of this device is for creating IES and LTD file's which are later used for light technology calculations in software tools like Dialux and Relux. The operating application allows the creation of a file in PDF format. The report contains data on the lamp, the measuring instrument and measurement parameters, as well as polar, Cartesian, and 3D diagram of the spatial distribution of light, BUG standard, and the illumination shown in isoluxes. The spatial diagram with standard features generates an isolux diagram which shows area luminance. The program can adjust the mounting height of the lamp and the program automatically calculates the new luminance. The device consists of top-quality of the shelf parts used in robotics and there is no need for maintenance.



FEATURES

- Ideal for large SSL lamps and LED modules
- Comprehensive software
- Excellent price/performance ratio
- Top quality materials
- Comply to IES TM-75, LM-63 & TM 15
- Type "C" with horizontal optical axis



LGPM-C3 Controller

Goniometer	
CIE Goniometer type	Type C with horizontal optical axis, comply to LM-75, LM-63 & TM-15
Driver	Servo motors with Harmonic Drives®
Angular range C axis	0° - 360° with optical end switches
Angular range γ axis	± 180° with optical end switches
Angular resolution	0,005°
Repeatability C axis	≤ 0,1° (at maximal load)
Repeatability γ axis	≤ 0,1° (at maximal load))
Angular step C & γ axis	1° to 30°
Travel range Z axis (lamp depth)	0 to 350 mm via hand crank (integrated measuring scale in 0,1 mm steps) Other depths are possible
Clear height	850 mm
Height of optical axes	1500 mm
Dimensions & weight	W720 x D1055 x H1560 (mm); 75 kg
Alignment laser	In the center of rotation of the γ axis, 1 mW laser class 2
Sample Hub	
Maximum luminary size	Ø1500 mm
Maximum rated load	30 kg
Fixing Hub	4 x M5 thread with locating pins
Lamp power connection	AC or DC 2 wire power connection; Kelvin probe return 2 wire connection; PE Remote power ON/OFF
LGPM – C3 Controller	
Functions	Driving the servo motors of the goniometer, supplying the lamp with the AC power
Interfaces	RS-232-C for connecting the servo motors to the PC
Cabinet dimensions	W380 x D155 x H30 (mm)
Power supply	230 V; approx. 150 VA + Lamp power (max. 1500 VA)
LabWIEV Control program	
Controlling device	Laptop or standard PC with available 2 x USB 2.0 ports
Photometric file formats	IES, LDT
PDF reports file	Test & manufacturer data, 3D diagram, Polar diagram, XY Candela diagram, Isolux diagram, CCT Shift, BUG ratings
Photometer type	KONICA MINOLTA CL-200 A

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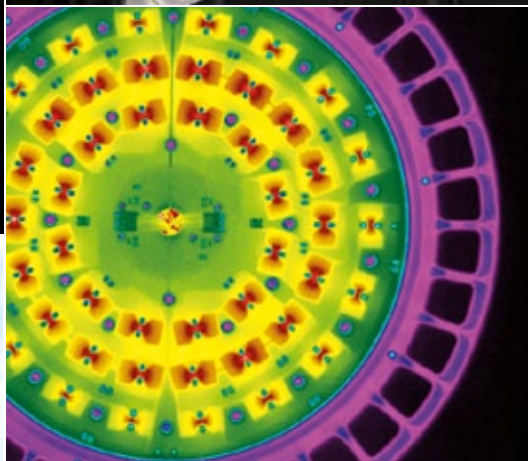
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PT1 - Ministry of Entrepreneurship and Crafts, Ulica grada Vukovara 78, 10000 Zagreb, Croatia; www.minpo.hr

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