Datasheet

LuxaLight LED Engine Blue 450nm Protected (24 Volt, 108 LEDs, 2835, IP64)

LE-24-450-108X2835PLX

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LuxaLight B.V.
Hastelweg 260B
5652 CN Eindhoven
Nederland

KvK-nummer: 57580561
BTW-nummer: NL852642209B01
IBAN: NL87 INGB 0007 8159 75
BIC/SWIFT code: INGBNL2A

Email: info@luxalight.eu
Website: www.luxalight.eu
Tel.: +31 (0)40 - 202 49 04

Product description

The **LuxaLight Industrial LED Engine** is designed as a high-quality component for intensive industrial applications that require high radiation intensity. With a **450nm wavelength**, this LED engine provides an efficient solution for processes that benefit from blue light, such as photochemical processes, certain industrial applications, and healthcare applications.

This LED engine is a semi-finished product, allowing it to be integrated into custom fixtures or housings depending on your specific requirements. It offers flexibility for use in various industrial, research, and medical applications, where the powerful **450nm wavelength** can deliver targeted results. The engine is designed for easy integration into larger systems or custom enclosures.

Key Features:

- **450nm Wavelength**: The 450nm wavelength is ideal for applications that benefit from blue light, such as photochemical processes, industrial applications, and medical treatments.
- **24V Power Supply**: The LED engine operates on a reliable 24V power supply, ensuring stable and consistent operation, perfect for demanding applications.
- **High Radiation Intensity**: This LED engine delivers high radiation intensity, making it suitable for processes that require significant light output.
- **Semi-Finished Product**: The LED engine is designed to be integrated into custom systems or housings, providing flexibility for various industrial, research, or medical setups.
- **Integration with MaNima Pollux Industry Pulsing (Strobing)**: The LED engine supports integration with the MaNima Pollux Industry System for pulsing (strobing), significantly increasing radiation intensity. This feature allows for faster reactions and improved efficiency in industrial processes.
- **Real-Time Temperature Monitoring via NTC Sensor**: The integrated NTC sensor ensures continuous temperature measurement and adjustment through the MaNima Pollux Industry System, helping to maintain the optimal operating temperature for maximum radiation output.

Applications:

- **Industrial Photochemical Processes**: The 450nm wavelength is effective for photochemical processes that require blue light, such as certain chemical production processes or material treatments.
- **Biological Research**: The LED engine can be used in scientific and medical applications, such as cell stimulation, photobiomodulation, and regeneration processes that are useful for promoting tissue repair and pain relief.
- **Medical Therapies**: Blue light is used in phototherapy treatments such as promoting skin healing, muscle recovery, and treating acne and inflammation.
- **Industrial Material Processing (Non-UV)**: Blue light can cure certain coatings and materials that react to blue wavelengths, providing effective and fast curing processes in industrial environments.

Benefits:

- **High Radiation Intensity**: The engine provides high radiation intensity, enabling faster reactions and increased productivity in applications that require blue light.
- **Flexibility in Integration**: As a semi-finished product, the LED engine offers flexibility for integration into custom enclosures or systems tailored to specific industrial, research, or medical applications.
- **Efficient Performance**: The LED engine offers efficient performance with stable output, making it ideal for environments that need consistent light delivery.
- **Real-Time Temperature Monitoring for Consistent Performance**: The integrated NTC sensor, combined with the MaNima Pollux Industry System, ensures continuous temperature monitoring, helping to prevent overheating and maintain optimal operating conditions for long-term reliability.

Technical specifications

General	
Brand	LuxaLight
Application	Machine Vision
LED type	2835
Material	Aluminum
Dimensions	200 × 20 × 2 mm
Mounting	3M tape VHB4905
Warranty	5 years
LEDs per piece	108.00
Lifetime	70000 hours

Lighting	
Wave length	450nm
Beam angle	120 °
LB waarde	L80B50

Measurement results

Illuminance (Lux)
(Object size: 1 piece)

	24V
5cm	24600 lx
10cm	10930 lx
15cm	5581 lx
20cm	3447 lx
25cm	2329 lx
30cm	1777 lx

Total PPFD umol/m2 (PAR 400-700nm)
(Object size: 1 piece)

	24V
5cm	2100.93 umol/m2
10cm	911.416 umol/m2
15cm	465.719 umol/m2
20cm	289.431 umol/m2
25cm	195.906 umol/m2
30cm	149.571 umol/m2

Peak wavelength
(Object size: 1 piece)

452 nm

• By combining Pulse Mode with Real-Time Monitoring, the efficiency of LED systems can be increased, resulting in higher output.
• We have the expertise and equipment to perform measurements tailored to the specific requirements of the application.

Electronics	
Working voltage	24V
Current per piece	1.25 A / piece
Power consumption per piece	30.00 W / piece
PCB material	Aluminium

Pinout	

Symbol	Function
V+	V+
GND	Ground
NTC	NTC sensor
NTC_GND	NTC ground

NTC parameters	Resistance: 5000 Ohm Beta value: 3950

Environmental

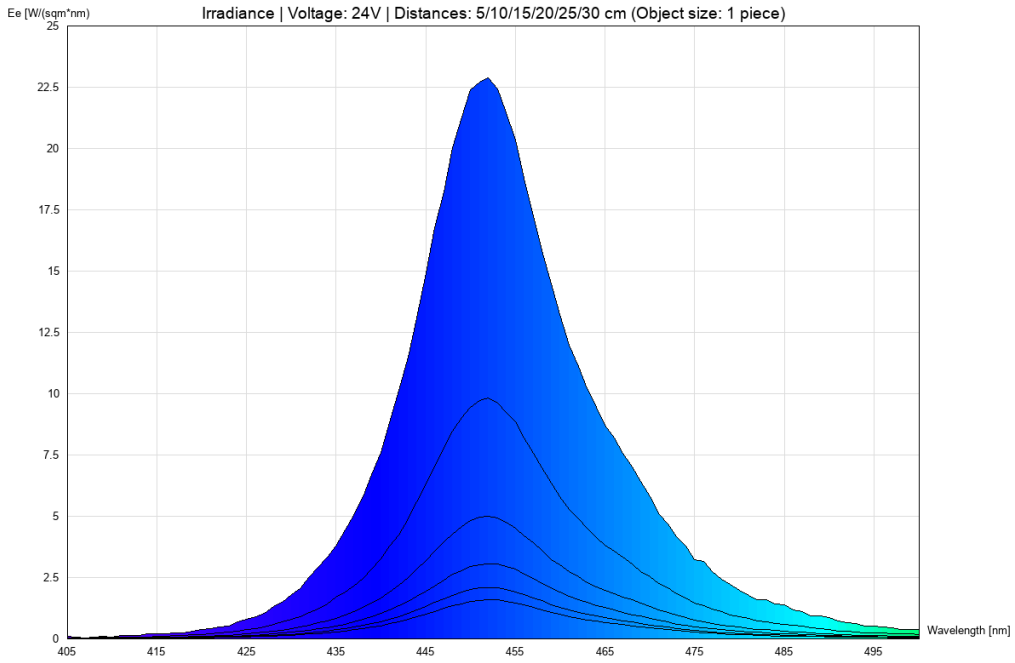
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 405-500-blue (24V)



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