Datasheet

LuxaLight LED Engine Far Red 735nm Protected (24 Volt, 108 LEDs, 2835, IP64)

LE-24-735-108X2835PLX

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Product description

The LuxaLight Industrial LED Engine is designed as a high-performance component for intensive industrial applications requiring high radiation intensity. With a 735nm deep red wavelength, this LED engine provides an efficient solution for processes that benefit from deep red light, such as plant growth stimulation, tissue regeneration, and more.

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 735nm wavelength can deliver targeted results. The engine is designed for easy integration into larger systems or custom enclosures.

Key Features:

- **735nm Deep Red Wavelength:** The 735nm deep red wavelength is ideal for applications that require deep red light, such as horticulture, biological research, and certain industrial processes. It is also beneficial for promoting tissue regeneration and therapeutic applications.
- **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 high-efficiency processes and applications requiring significant light output.
- **Semi-Finished Product:** The LED engine is designed to be integrated into custom systems or housings, providing flexibility for adapting to 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. This helps maintain the optimal operating temperature for maximum radiation output and consistent performance.

Applications:

- **Horticulture & Agriculture:** The 735nm wavelength is highly effective in stimulating plant growth, especially in promoting flowering and fruiting, making it ideal for use in greenhouses and vertical farming environments.
- **Biological Research:** This LED engine is effective for scientific and medical applications requiring deep red light, such as promoting tissue regeneration, enhancing cell cultivation, and conducting photobiomodulation (PBM) therapy.
- **Medical Therapy:** 735nm deep red light is used in phototherapy treatments for skin healing, anti-aging therapies, and muscle recovery, where the light stimulates cells and tissues.
- **Food Industry:** The 735nm wavelength can be used to stimulate growth in food production environments or in the pasteurization process of certain food products requiring exposure to deep red light.
- **Industrial Material Curing (Non-UV):** The deep red light can cure coatings and materials that respond to red wavelengths, offering effective and fast curing processes in industrial settings.
- **Cosmetic Industry:** The LED engine is suitable for use in the cosmetic industry for skin treatments like wrinkle reduction, skin tone improvement, and stimulating collagen production.

Benefits:

- **High Radiation Intensity:** The engine provides high radiation intensity, allowing for faster reactions and increased productivity in applications requiring deep red light.
- **Flexibility in Integration:** As a semi-finished product, the LED engine offers flexibility for integration into custom housings or systems tailored to specific industrial, research, or medical applications.
- **Efficient Performance:** The LED engine provides efficient performance with stable output, making it ideal for environments that require 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	Barcode Scanning Machine Vision
LED type	2835
PCB color	White
Material	Aluminum
Dimensions	200 × 20 × 2 mm
Mounting	3M tape VHB4905
LEDs per piece	108.00

Lighting	
Wave length	735nm
Beam angle	120 °

Measurement results	
Peak wavelength (Object size: 1 piece)	739 nm

Peak irradiance
(Object size: 1 piece)

	24V
5cm	9.67481 W/sqm
10cm	3.71685 W/sqm
15cm	1.91466 W/sqm
20cm	1.17996 W/sqm
25cm	0.792167 W/sqm
30cm	0.593195 W/sqm

Total irradiance
(Object size: 1 piece)

	24V
5cm	416.3 W/sqm
10cm	159.7 W/sqm
15cm	82.65 W/sqm
20cm	51.08 W/sqm
25cm	34.48 W/sqm
30cm	25.66 W/sqm

• 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

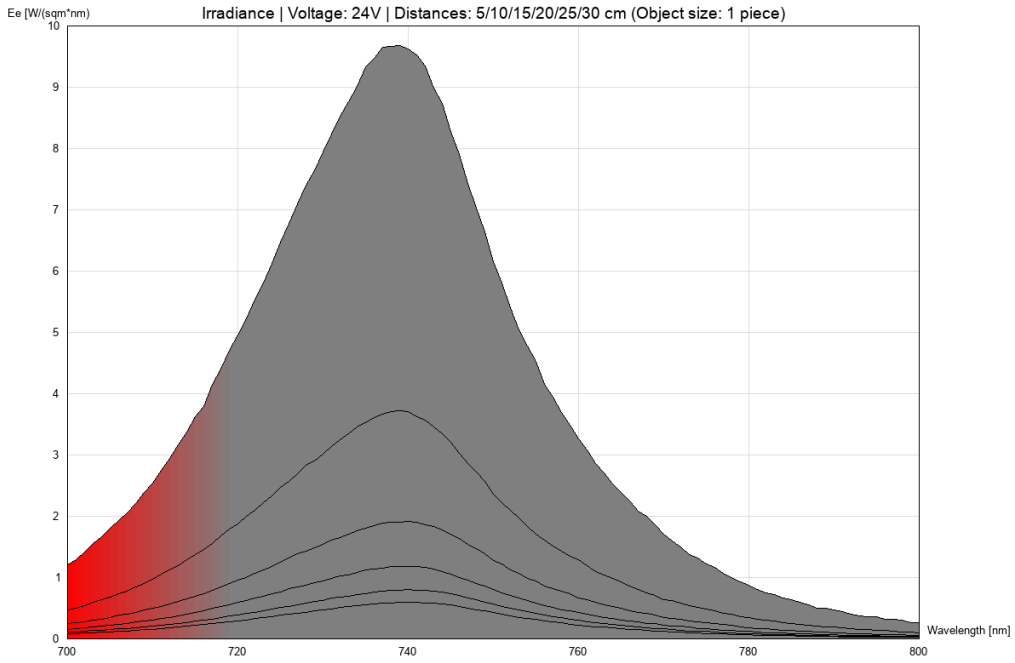
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 700-800-deep-far-red (24V)



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