Datasheet

LuxaLight LED Engine Green 525nm Protected (24 Volt, 108 LEDs, 2835, IP64)

LE-24-525-108X2835PLX

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Product description

The **LuxaLight Industrial LED Engine** is designed as a high-performance component for intensive industrial applications that require high radiation intensity. With a **525nm** wavelength, this LED engine provides an efficient solution for processes that benefit from green light, such as plant growth, photobiomodulation, certain industrial processes.

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 525nm wavelength can deliver targeted results. The engine is designed for easy integration into larger systems or custom enclosures.

Key Features:

- **525nm Wavelength:** The 525nm wavelength is ideal for applications that benefit from green light, such as plant growth and photobiomodulation.
- **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:

- **Horticulture & Agriculture:** The 525nm wavelength is highly effective for stimulating plant growth, making it ideal for integration into custom lighting solutions for greenhouses and agricultural applications.
- **Biological Research:** The LED engine can be used in scientific and medical applications for processes such as photobiomodulation, cell stimulation, and tissue regeneration, which is useful for pain relief and wound healing.
- **Medical Therapy:** 525nm light is used in phototherapy treatments such as promoting skin healing, muscle recovery, and stimulating collagen production for anti-aging treatments.
- **Cosmetic Industry:** The LED engine is suitable for use in the cosmetic industry for skin treatments, such as improving skin texture, reducing wrinkles, and stimulating collagen production.
- **Industrial Material Curing (Non-UV):** The green light can cure specific coatings and materials that react to green wavelengths, providing effective and fast curing processes in industrial settings.

Benefits:

- **High Radiation Intensity:** The engine provides high radiation intensity, allowing for faster reactions and increased productivity in applications that require green 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 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	Horticulture Machine Vision
LED type	2835
Material	Aluminum
Dimensions	200 × 20 × 2 mm
Mounting	3M tape VHB4905
LEDs per piece	108.00

Lighting	
Wave length	525 nm
Beam angle	120 °
LB waarde	L80B50

Measurement results

Illuminance (Lux)
(Object size: 1 piece)

	24V
5cm	180300 lx
10cm	66190 lx
15cm	34120 lx
20cm	21000 lx
25cm	14210 lx
30cm	10830 lx

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

	24V
5cm	1545.93 umol/m2
10cm	570.39 umol/m2
15cm	294.37 umol/m2
20cm	181.107 umol/m2
25cm	122.342 umol/m2
30cm	93.2151 umol/m2

Peak wavelength
(Object size: 1 piece)

524 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

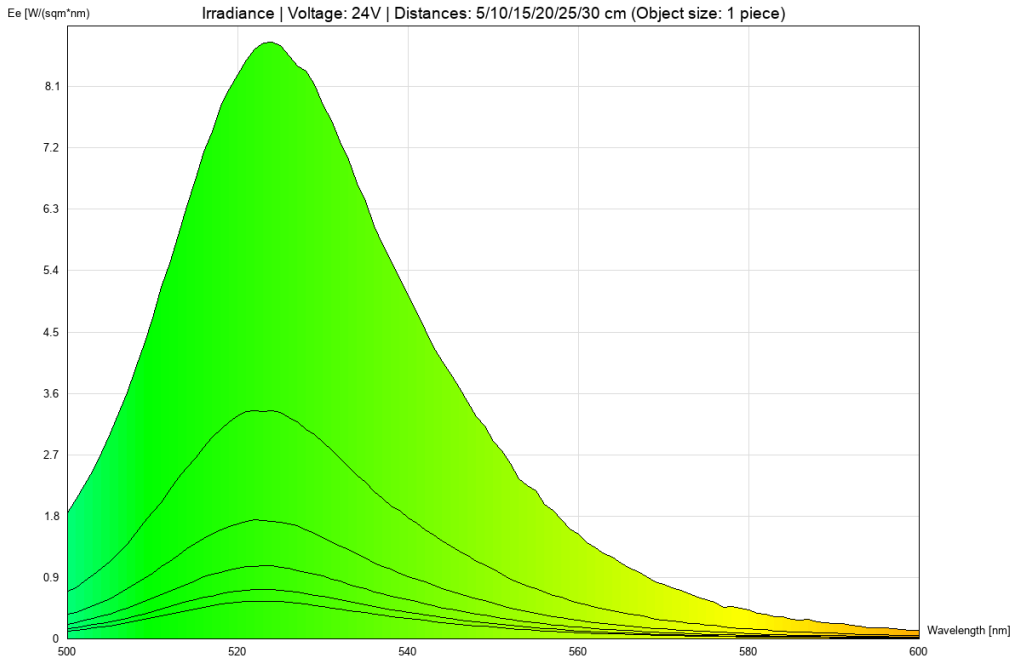
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

irradiance - 500-600-green (24V)



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