Datasheet

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

LE-24-525-108X2835PLX

Version: 2025-07-01.3

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

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

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		30cm	0.544997 W/sqm		

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Value

3055 µmol/m2

1298 µmol/m2

749 µmol/m2

Total irradiance

(Object size: 1 piece)

	24V
5cm	362.8 W/sqm
10cm	132.7 W/sqm
15cm	68.58 W/sqm
20cm	42.25 W/sqm
25cm	28.16 W/sqm
30cm	21.42 W/sqm

Measuring distance

25 mm

50 mm

75 mm

493 µmol/m2	100 mm	
167 µmol/m2	200 mm	
89 µmol/m2	300 mm	
Value	Measuring distance	
695 W/m2	25 mm	
304 W/m2	50 mm	
176 W/m2	75 mm	
115 W/m2	100 mm	
39 W/m2	200 mm	

	20,7 W/m2	300 mm
Illuminance	Value	Measuring distance
	356,4 klux	25 mm
	150,9 klux	50 mm
	87,1 klux	75 mm
	57,3 klux	100 mm
	19,4 klux	200 mm
	10,3 klux	300 mm

· By combining Pulse Mode with Real-Time Monitoring, the efficiency of LED systems can be increased,

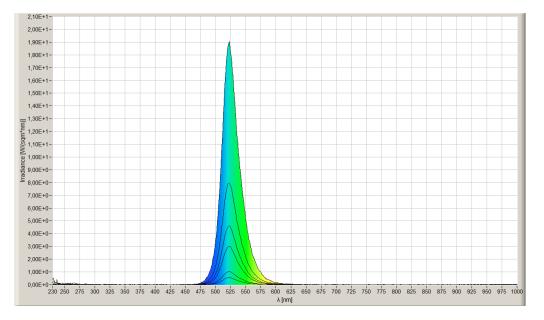
resulting in higher output. • We have the expertise and equipment to perform measurements tailored to the specific requirements of the application.

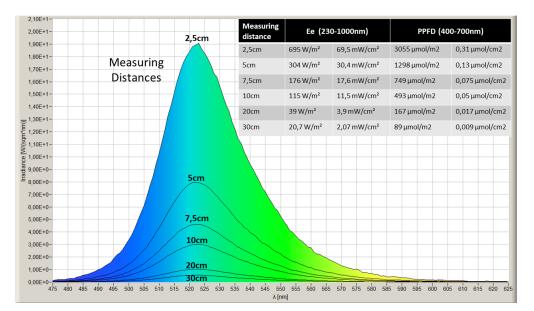
Electronics		
Working voltage	24V	
Current per piece	1.25 A / piece	
Power consumption per piece	30.00 W / piece	
PCB material	Aluminium	

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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	

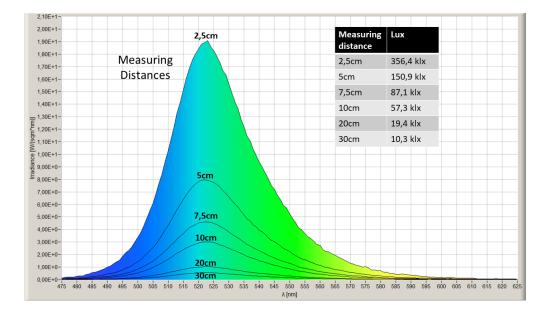
Measurement results

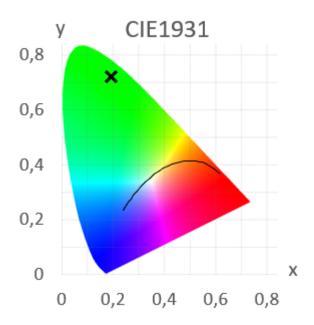




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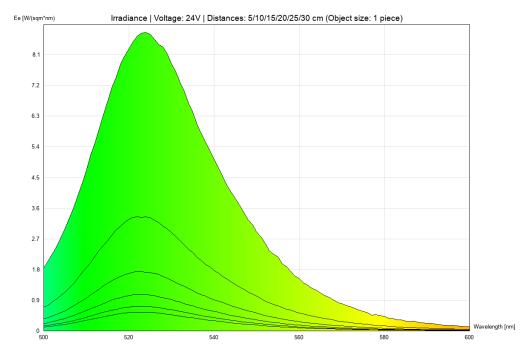




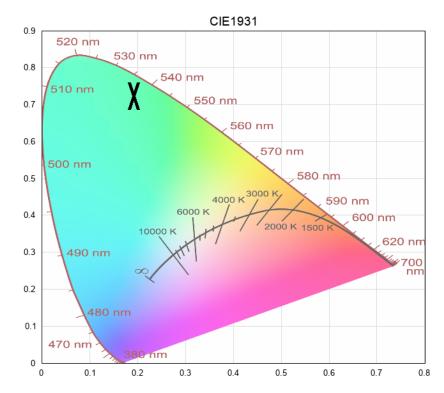
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irradiance - 500-600-green (24V)



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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

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