

# Datasheet

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

**LE-24-525-108X2835PLX**

**Version: 2025-03-28.1**

## 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

PPFD	Value	Measuring distance
	3055 µmol/m <sup>2</sup>	25 mm
1298 µmol/m <sup>2</sup>	50 mm	
749 µmol/m <sup>2</sup>	75 mm	
493 µmol/m <sup>2</sup>	100 mm	
167 µmol/m <sup>2</sup>	200 mm	
89 µmol/m <sup>2</sup>	300 mm	

Irradiance	Value	Measuring distance
	695 W/m <sup>2</sup>	25 mm
304 W/m <sup>2</sup>	50 mm	
176 W/m <sup>2</sup>	75 mm	
115 W/m <sup>2</sup>	100 mm	
39 W/m <sup>2</sup>	200 mm	
20,7 W/m <sup>2</sup>	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										
Pinout	<table border="1"> <thead> <tr> <th>Symbol</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>V+</td> <td>V+</td> </tr> <tr> <td>GND</td> <td>Ground</td> </tr> <tr> <td>NTC</td> <td>NTC sensor</td> </tr> <tr> <td>NTC_GND</td> <td>NTC ground</td> </tr> </tbody> </table>	Symbol	Function	V+	V+	GND	Ground	NTC	NTC sensor	NTC_GND	NTC ground
Symbol	Function										
V+	V+										
GND	Ground										
NTC	NTC sensor										
NTC_GND	NTC ground										
NTC parameters	Resistance: 5000 Ohm Beta value: 3950										

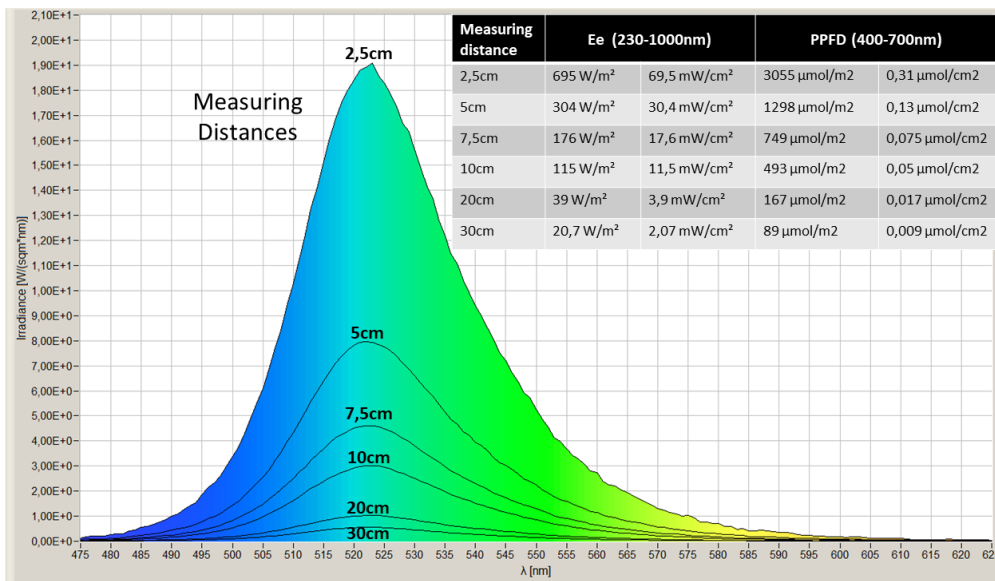
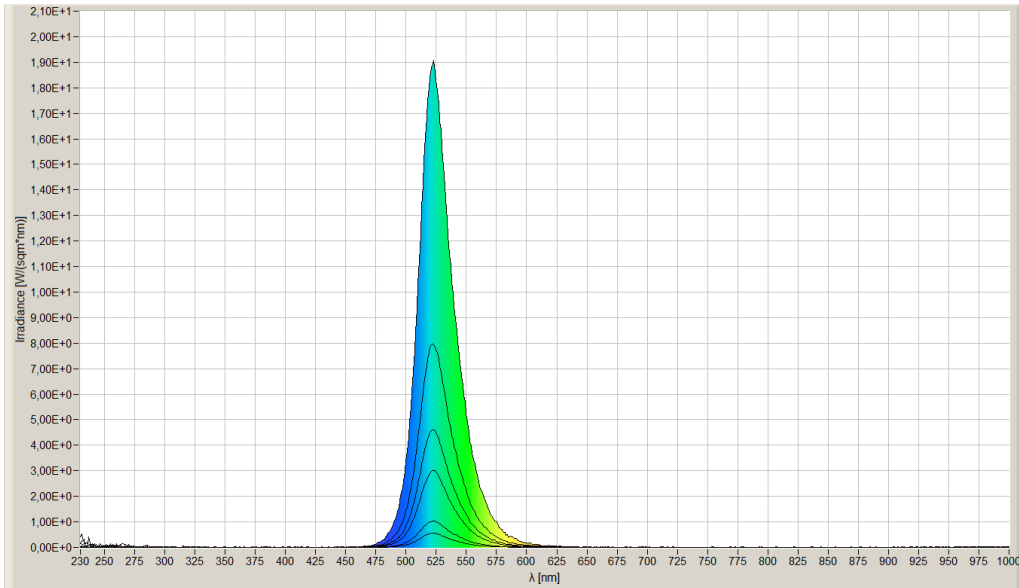
**Environmental**

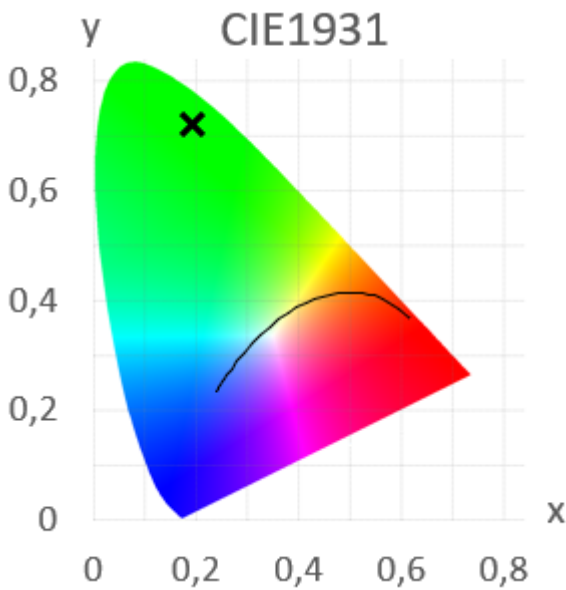
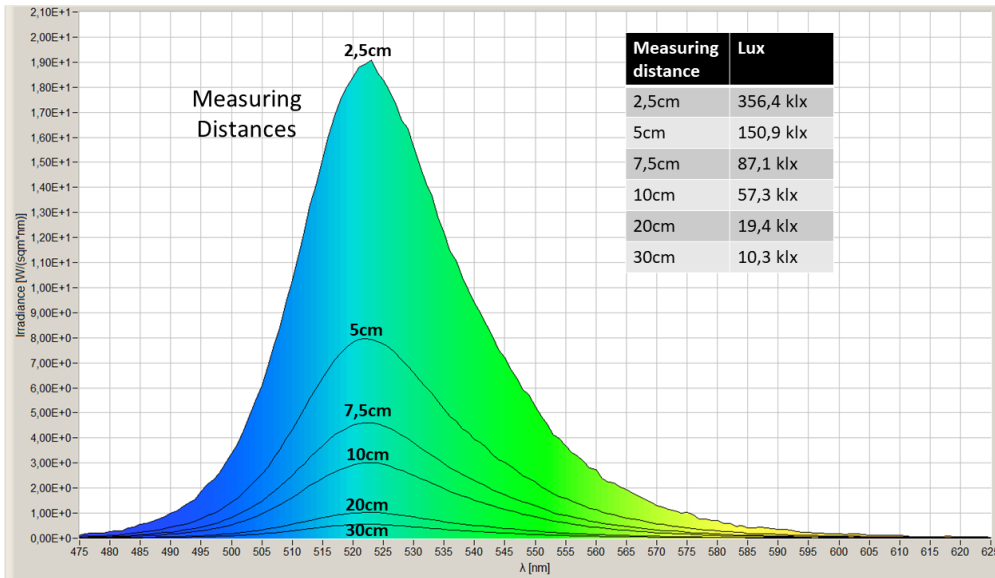
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

**Directives - standards - certificates**

Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

## Measurement results





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