

Datasheet

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

LE-24-525-108X2835PLX

Version: 2025-07-01.3

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

Peak irradiance
(Object size: 1 piece)

	24V
5cm	8.75441 W/sqm
10cm	3.34547 W/sqm
15cm	1.74851 W/sqm
20cm	1.06865 W/sqm
25cm	0.719926 W/sqm
30cm	0.544997 W/sqm

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

PPFD

Value	Measuring distance
3055 µmol/m2	25 mm
1298 µmol/m2	50 mm
749 µmol/m2	75 mm
493 µmol/m2	100 mm
167 µmol/m2	200 mm
89 µmol/m2	300 mm

Irradiance

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

Pinout

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

NTC parameters	Resistance: 5000 Ohm Beta value: 3950
----------------	--

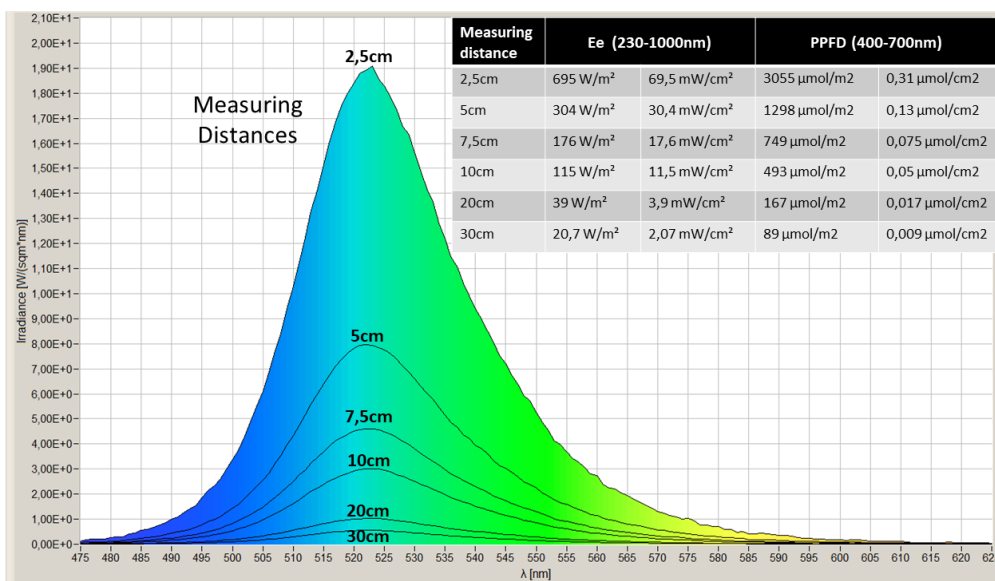
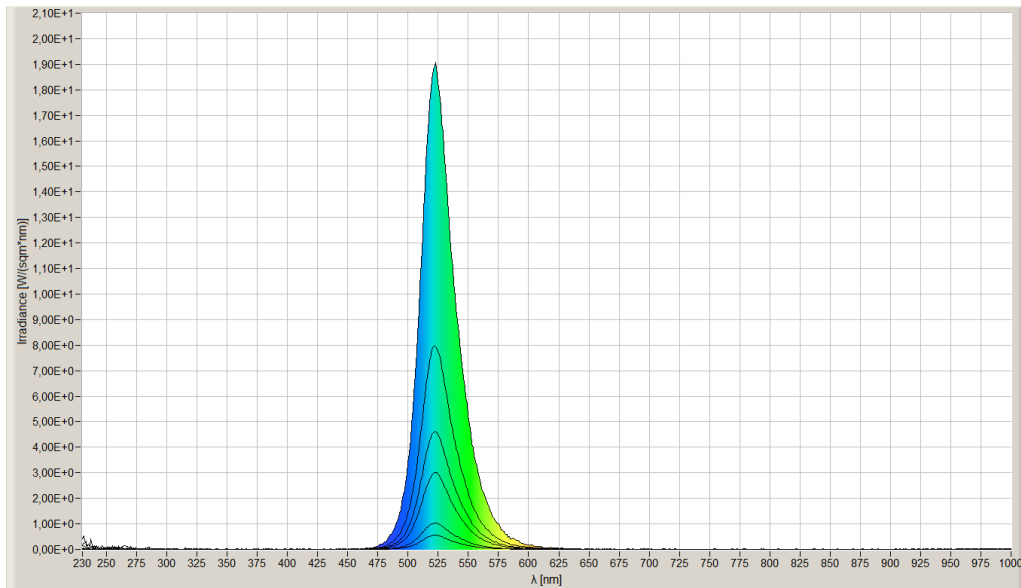
Environmental

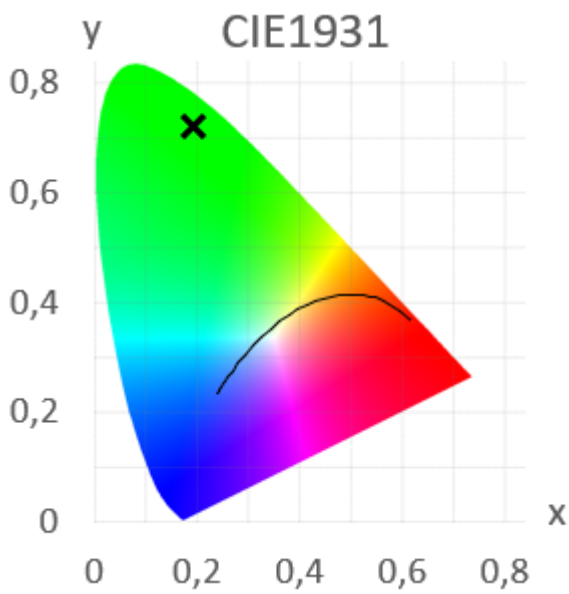
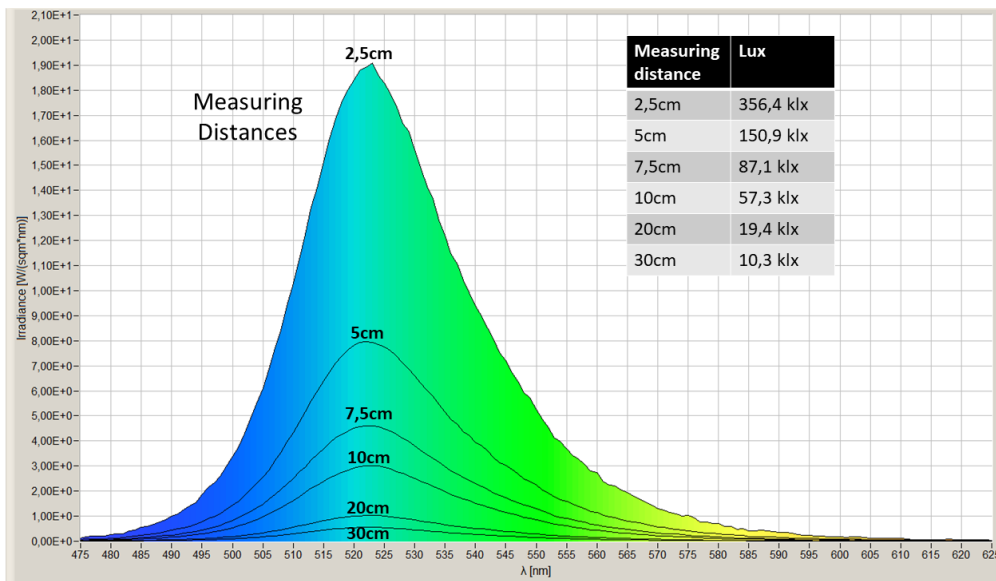
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 64

Directives - standards - certificates

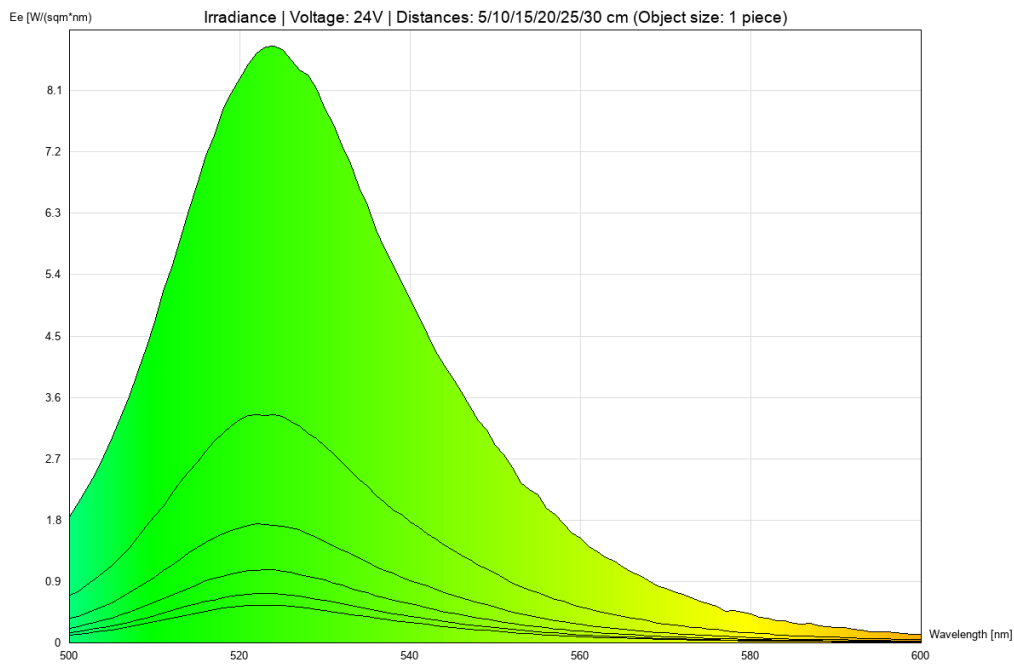
Directives	RoHS CE
Safety standards	EN60598-1 EN62031 IEC62471

Measurement results

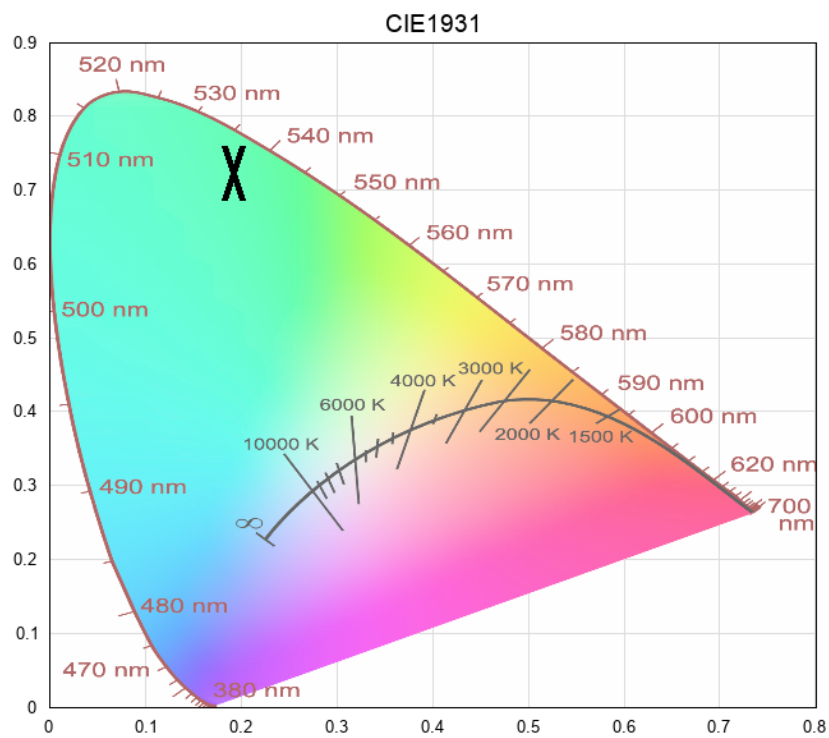




irradiance - 500-600-green (24V)



cie1931



While LuxaLight has made every reasonable effort to ensure the accuracy of the information in this brochure, LuxaLight does not guarantee that it is error - free, nor does LuxaLight make any other representation, warranty or guarantee that the information is accurate, correct, reliable or current. LuxaLight reserves the right to make any adjustments to the information contained herein at any time without notice. LuxaLight expressly disclaims all implied warranties regarding the information contained herein, including, but not limited to, any implied warranties of merchantability or fitness for a particular purpose. The dimensions in this catalogue are for reference purposes only and are subject to change without notice. Specifications are subject to change without notice. Consult LuxaLight for the latest dimensions and design specifications.