

# Datasheet

## LuxaLight Industrial LED Fixture Opaline cover Green 525nm 24.2x16mm (24 Volt, 2835, IP64)

**LF-24-525-24.2X16-OC**

**Version: 2025-08-27.3**

## Product description

The LuxaLight Industrial LED Fixture **Opaline Cover Green 525 nm** (24.2 × 16 mm) is designed for industrial applications where **uniform, diffused green light** is required. The opaline PMMA diffuser ensures smooth and homogeneous light distribution, reducing glare and eliminating hotspots. Its modular architecture (220 mm up to 3000 mm) and compatibility with the **MaNima Pollux Industrial System** make it ideal for horticulture, machine vision, and laboratory use.

## Key Specifications

| Property                    | Value / Description                                      |
|-----------------------------|----------------------------------------------------------|
| Wavelength                  | 525 nm (green), measured peak ~524 nm                    |
| Illuminance (5 cm)          | ~124,400 lx                                              |
| PPFD (5 cm, PAR 400–700 nm) | ~1082 µmol/m²/s                                          |
| Cover                       | Opaline PMMA for diffused, uniform emission              |
| Beam angle                  | 120°                                                     |
| Dimensions                  | 220 × 24.2 × 16 mm (fixture profile)                     |
| Supply & Protection         | 24 V DC / ~30 W, integrated NTC sensor, IP64             |
| Electronics (ref.)          | 24 V, 1.25 A; NTC 5 kΩ, β=3950                           |
| Environmental rating        | IP64; operating –20 °C...+60 °C; storage –40 °C...+80 °C |

## Applications

- **Horticultural lighting:** supports balanced plant illumination; uniform green light combined with red/blue for optimized growth.
- **Machine vision:** diffuse green light improves contrast and reduces reflections in inspection systems.
- **Fluorescence and biosciences:** excitation of specific dyes and biological samples.
- **Optical testing setups:** homogeneous illumination for controlled lab environments.
- **Signaling and display systems** requiring stable and diffuse green light.

*Also applicable in R&D and specialized lighting setups.*

## Benefits for Engineers

- Diffused illumination avoids hotspots, ensures consistent results
- Modular scalable design, adaptable to project requirements
- Rugged industrial build: IP64 housing, silicone-coated PCB, opaline diffuser
- Easy integration with MaNima Pollux for pulsed operation and monitoring
- Plug-and-play solution for production and laboratory environments

## Integration with MaNima Pollux Industrial System

- Real-time NTC temperature monitoring
- Pulse/strobe modes for higher peak intensities
- Prevents overheating while maximizing light output
- Delivers data for PLC/SCADA automation systems
- Open UDP-based API for system integration and customization

## Technical specifications

| General                                                      |                                |                 |
|--------------------------------------------------------------|--------------------------------|-----------------|
| Brand                                                        | LuxaLight                      |                 |
| Application                                                  | Horticulture<br>Machine Vision |                 |
| LED type                                                     | 2835                           |                 |
| Material                                                     | Aluminum                       |                 |
| Dimensions                                                   | 220 × 24,2 × 16 mm             |                 |
| Mounting                                                     | Surface mounted                |                 |
| Cover type                                                   | PMMA opal                      |                 |
| LEDs per piece                                               | 108.00                         |                 |
| Lighting                                                     |                                |                 |
| Wave length                                                  | 525nm                          |                 |
| Beam angle                                                   | 120 °                          |                 |
| Measurement results                                          |                                |                 |
| Illuminance (Lux)<br>(Object size: 1 piece)                  |                                | 24V             |
|                                                              | 5cm                            | 124407 lx       |
|                                                              | 10cm                           | 45671.1 lx      |
|                                                              | 15cm                           | 23542.8 lx      |
|                                                              | 20cm                           | 14490 lx        |
|                                                              | 25cm                           | 9804.9 lx       |
|                                                              | 30cm                           | 7472.7 lx       |
|                                                              |                                |                 |
| Total PPFD umol/m2 (PAR 400-700nm)<br>(Object size: 1 piece) |                                | 24V             |
|                                                              | 5cm                            | 1082.15 umol/m2 |
|                                                              | 10cm                           | 399.27 umol/m2  |
|                                                              | 15cm                           | 206.06 umol/m2  |
|                                                              | 20cm                           | 126.77 umol/m2  |
|                                                              | 25cm                           | 85.64 umol/m2   |
|                                                              | 30cm                           | 65.25 umol/m2   |
|                                                              |                                |                 |
| Peak wavelength<br>(Object size: 1 piece)                    | 524 nm                         |                 |
| Peak irradiance<br>(Object size: 1 piece)                    |                                | 24V             |
|                                                              | 5cm                            | 5.55 W/sqm      |
|                                                              | 10cm                           | 2.12 W/sqm      |
|                                                              | 15cm                           | 1.11 W/sqm      |
|                                                              | 20cm                           | 0.68 W/sqm      |
|                                                              | 25cm                           | 0.46 W/sqm      |
|                                                              | 30cm                           | 0.35 W/sqm      |
|                                                              |                                |                 |

#### Total irradiance

(Object size: 1 piece)

|      | 24V          |
|------|--------------|
| 5cm  | 253.96 W/sqm |
| 10cm | 92.89 W/sqm  |
| 15cm | 48.01 W/sqm  |
| 20cm | 29.58 W/sqm  |
| 25cm | 19.71 W/sqm  |
| 30cm | 14.99 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<br>Beta value: 3950 |
|----------------|------------------------------------------|

#### Environmental

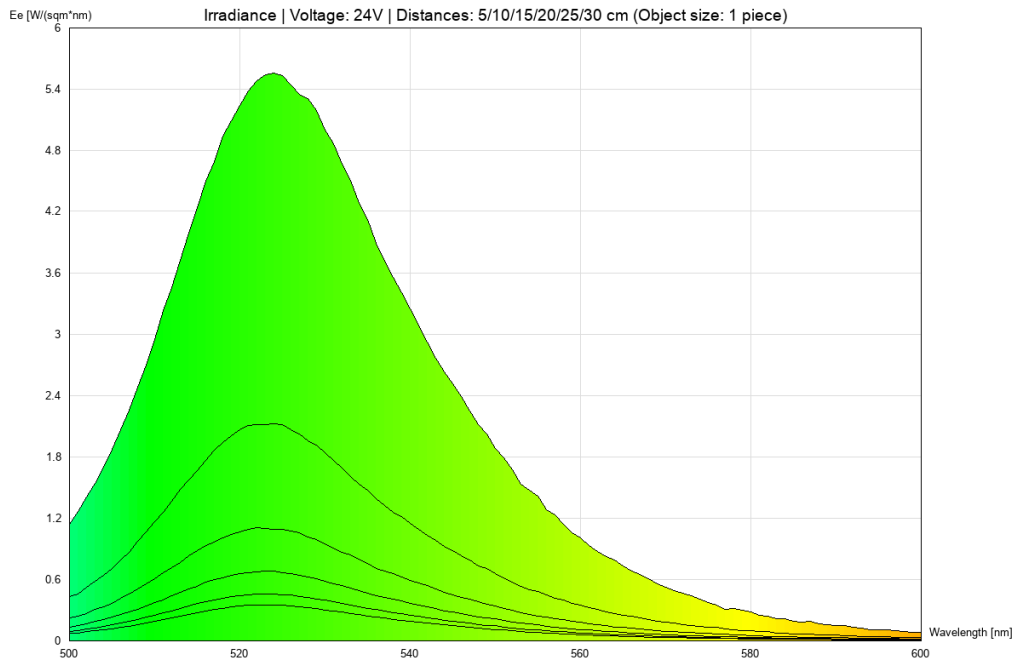
|                       |              |
|-----------------------|--------------|
| Operating temperature | -20 ~ +60 °C |
| Storage temperature   | -40 ~ +80 °C |
| IP class              | IP 64        |

#### Directives - standards - certificates

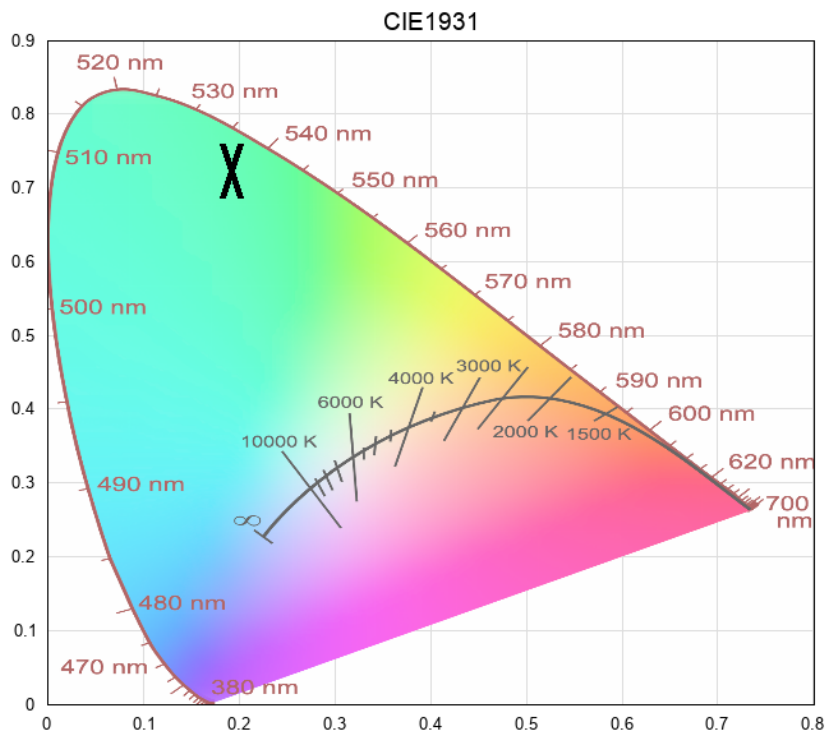
|                  |                                  |
|------------------|----------------------------------|
| Directives       | RoHS<br>CE                       |
| Safety standards | EN60598-1<br>EN62031<br>IEC62471 |

## 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.