

# Datasheet

## **LuxaLight Industrial LED Fixture Polarised cover Green 525nm 24.2x16mm (24 volt, 2835, IP64)**

**LF-24-525-24.2x16-POL**

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## Product description

The **LuxaLight Industrial LED Fixture** is specifically engineered for demanding industrial applications that require high radiation intensity. With a wavelength of **525nm**, this LED fixture is a reliable and efficient solution for a variety of industrial processes, including plant growth stimulation, water purification, biological research, and more. The **525nm** wavelength is ideal for applications such as plant growth enhancement, biological studies, and other specific industrial needs that benefit from green light. The fixture features a **polarized cover** (0°, 60°, 90°, and 120°), allowing you to adjust the light distribution for different applications.

### Key Features:

- **525nm Wavelength:** The **525nm** wavelength is perfect for a range of industrial and scientific applications, including plant growth stimulation, water purification, and biological research, where green light is essential.
- **24V Power Supply:** Powered by a reliable 24V power supply, ensuring stable operation across demanding industrial environments.
- **Aluminum Housing with Polarized Transparent Cover (0°, 60°, 90°, and 120°):** The durable aluminum housing provides robust protection against physical impacts, and the polarized cover ensures that light distribution can be customized depending on your needs. You can choose from 0°, 60°, 90°, or 120° for different levels of light spread, providing flexibility for diverse industrial and scientific applications.
- **Industrial-Grade Durability:** Designed with an industrial focus, this fixture withstands the rigors of tough environments, offering resistance to moisture, dust, and mechanical stresses.
- **Real-Time Temperature Monitoring via NTC Sensor:** Integrated with a temperature monitoring system, the fixture ensures continuous temperature regulation, maintaining an optimal operating temperature for consistent and efficient performance.

### Applications:

- **Water Purification:** The **525nm** wavelength is highly effective in water purification processes, promoting photochemical reactions that help break down pollutants and harmful substances in water.
- **Plant Growth Stimulation:** The **525nm** wavelength is ideal for stimulating plant growth, making it perfect for greenhouse environments, agricultural applications, and other horticultural needs.
- **Biological and Medical Research:** The fixture supports biological research by promoting cell growth and regeneration, making it valuable for cell cultivation, tissue studies, and medical applications such as photobiomodulation therapy (PBM).
- **Medical Therapy:** Used in phototherapy for skin healing, muscle recovery, and anti-aging treatments, the **525nm** light stimulates cell and tissue regeneration for faster recovery.
- **Food Industry:** The green light is utilized in food production environments to stimulate growth or assist in processes such as the pasteurization of specific food products.
- **Cosmetic Industry:** In the cosmetic industry, **525nm** light is beneficial for enhancing skin tone, reducing wrinkles, and promoting collagen production, providing a non-invasive solution for skin treatments.

### Benefits:

- **High Radiation Intensity:** With the ability to pulse, the fixture can significantly increase radiation intensity, resulting in faster reaction times and higher productivity in industrial processes.
- **Efficient Temperature Management:** The NTC sensor continuously monitors temperature, ensuring that the fixture remains at optimal levels for peak performance, thus preventing overheating and extending the lifespan of the fixture.
- **Industrial Durability:** The aluminum housing, combined with the polarized transparent cover, provides robust protection against physical damage while ensuring reliable performance in harsh industrial conditions, extending the fixture's lifespan and minimizing maintenance.
- **Fast and Efficient Performance:** The high efficiency of the **525nm** LED ensures fast processing speeds, ideal for high-throughput industrial applications such as material curing, water purification, and large-scale production processes.

## Technical specifications

| General        |                            |
|----------------|----------------------------|
| Brand          | LuxaLight                  |
| Application    | Machine Vision             |
| LED type       | 2835                       |
| Material       | Aluminum                   |
| Dimensions     | 220 × 24,2 × 16 mm         |
| Mounting       | Surface mounted            |
| Cover type     | PMMA Polarised transparent |
| LEDs per piece | 108.00                     |

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

### Measurement results

| PPFD | Value       | Measuring distance |
|------|-------------|--------------------|
|      | 896 µmol/m2 | 50 mm              |
|      | 426 µmol/m2 | 75 mm              |
|      | 263 µmol/m2 | 100 mm             |
|      | 80 µmol/m2  | 200 mm             |
|      | 42 µmol/m2  | 300 mm             |
|      | 27 µmol/m2  | 400 mm             |
|      | 18 µmol/m2  | 600 mm             |

| Irradiance | Value    | Measuring distance |
|------------|----------|--------------------|
|            | 213 W/m2 | 50 mm              |
|            | 100 W/m2 | 75 mm              |
|            | 62 W/m2  | 100 mm             |
|            | 18 W/m2  | 200 mm             |
|            | 10 W/m2  | 300 mm             |
|            | 6,2 W/m2 | 400 mm             |
|            | 4,1 W/m2 | 600 mm             |

**Illuminance**

| Value    | Measuring distance |
|----------|--------------------|
| 104 klux | 50 mm              |
| 49 klux  | 75 mm              |
| 31 klux  | 100 mm             |
| 10 klux  | 200 mm             |
| 5 klux   | 300 mm             |
| 3,1 klux | 400 mm             |
| 2,1 klux | 600 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<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 |

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