

# Datasheet

## **LuxaLight Industrial LED Fixture Opaline cover UV-A 405nm 24.2x16mm (24 Volt, 2835, IP64)**

**LF-24-405-24.2X16-OC**

**Version: 2025-08-27.4**

## Product description

The LuxaLight Industrial LED Fixture **Opaline Cover UV-A 405 nm** (24.2 × 16 mm) is engineered for demanding industrial environments where durability, precision, and **uniform UV illumination** are essential. The opaline diffuser ensures homogeneous distribution, minimizing hotspots and enhancing process consistency. Its modular architecture (scalable from 220 mm to 3000 mm) and seamless compatibility with the **MaNima Pollux Industrial System** make it an ideal choice for curing, inspection, photochemistry, and disinfection.

## Key Specifications

| Property            | Value / Description                                                     |
|---------------------|-------------------------------------------------------------------------|
| Wavelength          | 405 nm (UV-A) — peak measured ~404 nm                                   |
| Irradiance (5 cm)   | ~223 W/m <sup>2</sup> (Total irradiance)                                |
| 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, IP-68                           |
| Electronics (ref.)  | 24 V, 1.25 A, ~30 W; NTC 5 kΩ, β=3950                                   |
| PCB Protection      | Industrial-grade silicone coating (dust, moisture, chemical resistance) |
| Thermal Monitoring  | Integrated NTC sensor, controllable via MaNima Pollux Industrial System |
| Pulsing/Strobing    | Supported when integrated with MaNima Pollux Industrial System          |
| Environment         | Designed for industrial conditions (dust, vibration, moisture)          |

## Applications

- UV curing of coatings, resins, and adhesives where **uniform exposure** is required
- Fluorescence inspection (labels, tracers, sealants) with diffuse UV excitation
- Photochemical activation in laboratory setups or reactors
- Machine vision using 405 nm-sensitive materials with reduced glare and stray light, thanks to the opaline cover
- Surface treatment, disinfection, or material-ageing tests with controlled homogeneous illumination

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

## Benefits for Engineers

- Process stability via homogeneous illumination—minimizes hotspots and improves repeatability
- Consistent performance with thermal feedback for enhanced reliability and longer LED lifetime
- Rugged industrial design: IP-68 rating, silicone-coated PCB, opaline cover for dust and moisture protection
- Modular and scalable design: customizable length and configuration per application
- Seamless integration: plug-and-play compatibility for both production and R&D environments

## Integration with MaNima Pollux Industrial System

- Real-time NTC sensor control and feedback
- Pulsing/strobing capabilities enable higher peak irradiance
- Prevents thermal overload while maximizing UV output
- Provides process data easily integrated with PLC/SCADA systems
- Open UDP-based API for straightforward system integration and customization

## Technical specifications

| General                                                                                                                                                                                                                                                                                                          |                                                   |              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------|
| Brand                                                                                                                                                                                                                                                                                                            | LuxaLight                                         |              |
| Application                                                                                                                                                                                                                                                                                                      | Curing & Aging<br>Machine Vision<br>UV Inspection |              |
| LED type                                                                                                                                                                                                                                                                                                         | 2835                                              |              |
| Material                                                                                                                                                                                                                                                                                                         | Aluminum                                          |              |
| Dimensions                                                                                                                                                                                                                                                                                                       | 220 × 24,4 × 16 mm                                |              |
| Mounting                                                                                                                                                                                                                                                                                                         | Surface mounted                                   |              |
| Cover type                                                                                                                                                                                                                                                                                                       | PMMA opal                                         |              |
| LEDs per piece                                                                                                                                                                                                                                                                                                   | 108.00                                            |              |
| Lighting                                                                                                                                                                                                                                                                                                         |                                                   |              |
| Wave length                                                                                                                                                                                                                                                                                                      | 405nm                                             |              |
| Beam angle                                                                                                                                                                                                                                                                                                       | 120 °                                             |              |
| Measurement results                                                                                                                                                                                                                                                                                              |                                                   |              |
| Peak wavelength<br>(Object size: 1 piece)                                                                                                                                                                                                                                                                        | 404 nm                                            |              |
| Peak irradiance<br>(Object size: 1 piece)                                                                                                                                                                                                                                                                        |                                                   | 24V          |
|                                                                                                                                                                                                                                                                                                                  | 5cm                                               | 11.71 W/sqm  |
|                                                                                                                                                                                                                                                                                                                  | 10cm                                              | 4.74 W/sqm   |
|                                                                                                                                                                                                                                                                                                                  | 15cm                                              | 2.37 W/sqm   |
|                                                                                                                                                                                                                                                                                                                  | 20cm                                              | 1.43 W/sqm   |
|                                                                                                                                                                                                                                                                                                                  | 25cm                                              | 0.94 W/sqm   |
|                                                                                                                                                                                                                                                                                                                  | 30cm                                              | 0.72 W/sqm   |
| Total irradiance<br>(Object size: 1 piece)                                                                                                                                                                                                                                                                       |                                                   | 24V          |
|                                                                                                                                                                                                                                                                                                                  | 5cm                                               | 222.53 W/sqm |
|                                                                                                                                                                                                                                                                                                                  | 10cm                                              | 93.31 W/sqm  |
|                                                                                                                                                                                                                                                                                                                  | 15cm                                              | 47.3 W/sqm   |
|                                                                                                                                                                                                                                                                                                                  | 20cm                                              | 29.03 W/sqm  |
|                                                                                                                                                                                                                                                                                                                  | 25cm                                              | 19.1 W/sqm   |
|                                                                                                                                                                                                                                                                                                                  | 30cm                                              | 14.61 W/sqm  |
| <ul style="list-style-type: none"><li>• By combining Pulse Mode with Real-Time Monitoring, the efficiency of LED systems can be increased, resulting in higher output.</li><li>• We have the expertise and equipment to perform measurements tailored to the specific requirements of the application.</li></ul> |                                                   |              |
| 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 68 |
|----------|-------|

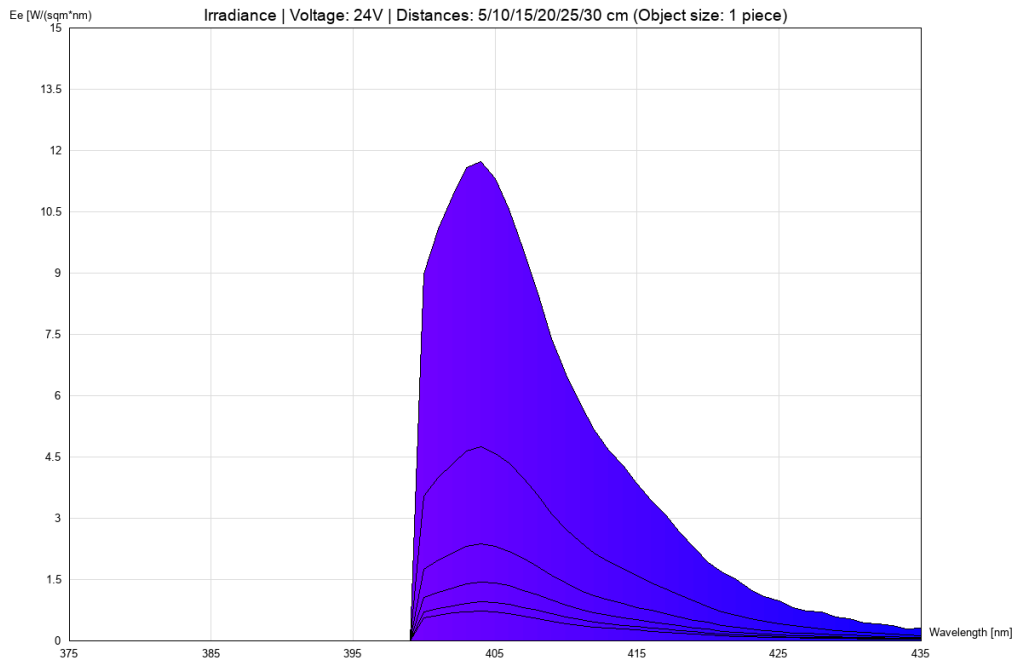
Directives - standards - certificates

|            |            |
|------------|------------|
| Directives | RoHS<br>CE |
|------------|------------|

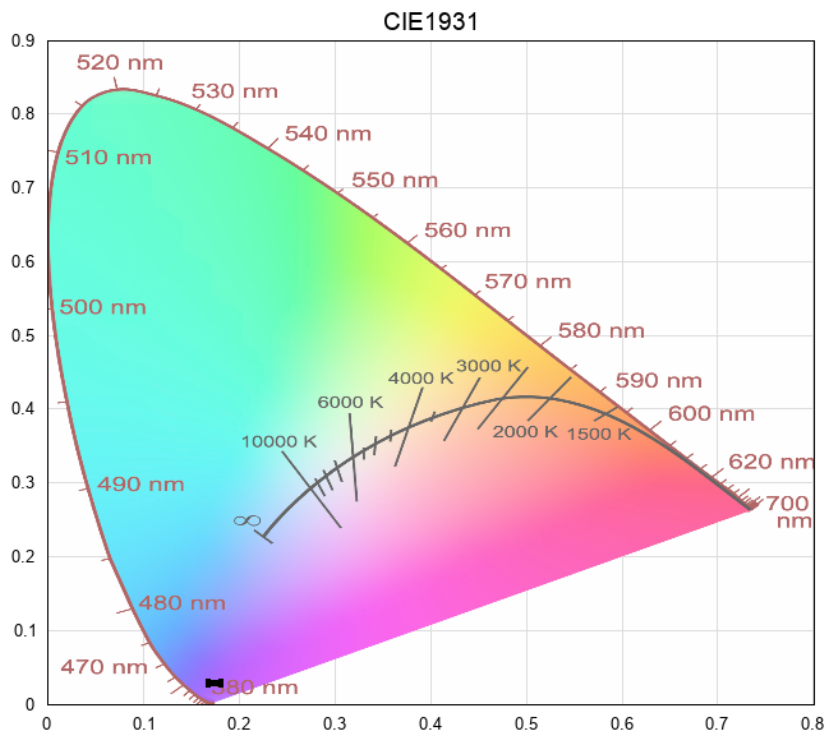
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|------------------|----------------------------------|
| Safety standards | EN60598-1<br>EN62031<br>IEC62471 |
|------------------|----------------------------------|

## Measurement results

### irradiance - 375-435-uv-ablue (24V)



## cie1931



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