LF-24-735-24.2X16-TC - datasheet, version: 2025-03-28.1
LuxaLight Industrial LED Fixture Transparent cover Far Red 735nm 24.2x16mm (24 Volt, 2835, IP64)

Page 1 / 5

Datasheet

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Page 2 / 5

Product description

The LED fixture is made of durable aluminum, ensuring efficient heat dissipation and long-term performance. It is equipped with a transparent cover that provides mechanical protection while allowing the **735nm** deep red wavelength to pass through effectively for maximum performance and reliability. Additionally, the fixture is coated with silicone on the PCB, offering extra protection against moisture, dust, and other environmental factors.

Key Features:

- **735nm Deep Red Wavelength:** The 735nm wavelength is ideal for applications requiring deep red light, such as horticulture, biological research, and specific industrial processes. It helps promote plant growth, tissue regeneration, and therapeutic applications.
- **Aluminum Fixture:** The durable aluminum housing ensures excellent heat dissipation, which contributes to the long-term efficiency and stability of the LED fixture.
- **24V Power Supply:** The fixture operates on a reliable 24V power supply, ensuring stable and consistent operation, perfect for demanding industrial applications.
- **Silicone Coating on PCB:** The PCB is coated with silicone to provide protection against environmental factors such as moisture and dust, ensuring durability in harsh industrial environments.
- **Transparent Cover with Mechanical Protection:** The transparent cover provides mechanical protection against physical damage while allowing the **735nm** wavelength to pass through effectively, ensuring maximum performance and reliability.
- **Integration with MaNima Pollux Industry Pulsing (Strobing):** The LED fixture supports integration with the MaNima Pollux Industry System for pulsing (strobing), significantly increasing radiation intensity. This feature enables faster reactions and improved efficiency in industrial processes.
- **Real-Time Temperature Monitoring via NTC Sensor:** The integrated NTC sensor provides continuous temperature measurement and adjustment through the MaNima Pollux Industry System. This helps maintain the optimal operating temperature for maximum radiation output and consistent performance.

Applications:

- **Horticulture & Agriculture:** The **735nm** wavelength is highly effective in promoting plant growth, especially in encouraging blooming and fruiting. This makes it ideal for use in greenhouses and other agricultural applications where plant health and growth are critical.
- **Biological Research:** In scientific and medical applications, **735nm** light can be used for processes such as promoting tissue regeneration, cell cultivation, and photobiomodulation therapy (PBM), which can aid in pain relief and wound healing.
- **Medical Therapy:** **735nm** deep red light is used in phototherapy treatments for skin healing, anti-aging treatments, and muscle recovery, stimulating cells and tissues with the benefits of red light.
- **Food Industry:** The **735nm** wavelength can be used for applications such as stimulating growth in food production environments or in the pasteurization process of certain foods.
- **Industrial Material Curing (Non-UV):** The deep red light is used for curing coatings and materials that react to red wavelengths, ensuring effective and rapid curing processes in industrial settings.
- **Cosmetic Industry:** The fixture is ideal for applications in the cosmetic industry, where red light is used for skin treatments such as reducing wrinkles, improving skin tone, and promoting collagen production.

Benefits:

- **High Radiation Intensity:** The ability to pulse with the MaNima Pollux Industry System allows for a significant increase in radiation intensity, resulting in faster reactions and higher productivity.
- **Real-Time Temperature Monitoring for Consistent Performance:** The NTC sensor, combined with the MaNima Pollux Industry System, ensures continuous temperature monitoring, helping to maintain optimal operating conditions and prevent overheating. This extends the lifespan of the LED and enhances efficiency.
- **Industrial Durability:** The aluminum housing provides durability and excellent heat dissipation, while the silicone coating on the PCB protects against environmental factors like dust and moisture, making the fixture ideal for harsh industrial environments.
- **Efficiency and Speed:** The LED fixture provides ample power for fast and efficient performance, making it essential for industrial production systems that need to process or cure large quantities of material quickly.

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Page 3 / 5

Technical specifications

General	
Brand	LuxaLight
Application	Barcode Scanning Machine Vision
LED type	2835
Material	Aluminum
Dimensions	220 × 24,2 × 16 mm
Mounting	Surface mounted
Warranty	5 years
Cover type	PMMA transparent
LEDs per piece	108.00
Lifetime	70000 hours

Lighting	
Wave length	735 nm
Beam angle	120 °

Measurement results

PPFD	Value	Measuring distance
	2119 µmol/m2	50 mm
	1165 µmol/m2	75 mm
	745 µmol/m2	100 mm
	232 µmol/m2	200 mm
	113 µmol/m2	300 mm
	72,8 µmol/m2	400 mm
	47,6 µmol/m2	600 mm

Irradiance	Value	Measuring distance
	424 W/m2	50 mm
	232 W/m2	75 mm
	148 W/m2	100 mm
	46 W/m2	200 mm
	22 W/m2	300 mm
	14 W/m2	400 mm
	9,2 W/m2	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.

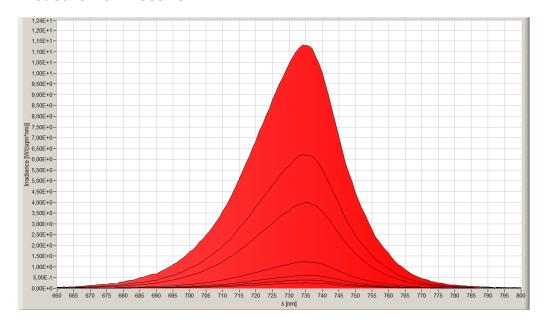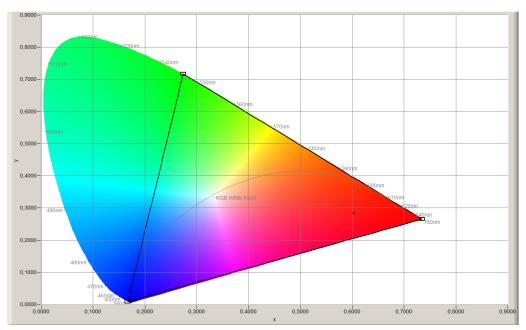| Electronics	
Working voltage	24V
Current per piece	1.25 A / piece

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LuxaLight Industrial LED Fixture Transparent cover Far Red 735nm 24.2x16mm (24 Volt, 2835, IP64)

Page 4 / 5

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

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Page 5 / 5

Measurement results