

# Datasheet

## LuxaLight Pixel LED-strip TM1814 Digital RGB+ Warm White High Power Waterproof (24 Volt, 72 LEDs, 5050, IP68)

**LS24RGBWW72TM1814WLX**

**Version: 2025-02-28.2**

## Product description

This **LuxaLight** professional digital RGBW LED strip is designed for applications requiring flexible, customized lighting with a high level of control over each individual LED pixel. The strip consists of **12 segments**, each equipped with **6 RGBW LEDs** (72 LEDs total). It uses the **TM1814 IC** for advanced control and color management, enabling precise color adjustments and brightness control. The LED strip has an **IP68 rating**, meaning it is fully waterproof and protected against total immersion in water. This makes the strip suitable for both indoor and outdoor applications, even in extreme conditions. The **high PWM rate of the IC** allows for smooth pixel filming with cameras up to **34fps**, ensuring clear and accurate visual performance.

### LED Strip Configuration:

- **Voltage:** 24V
- **Number of segments:** 12
- **Number of LEDs per segment:** 6 RGBW LEDs
- **Total LEDs on the strip:** 72 RGBW LEDs (12 segments x 6 LEDs per segment)
- **Adhesive:** The strip is equipped with **4905 VHB (Very High Bond)** tape, ensuring strong and durable adhesion to various surfaces.
- **PCB thickness:** The PCB has a thickness of **3 oz/ft<sup>2</sup>**, providing robust support and efficient heat dissipation.
- **IP Rating:** **IP68**, suitable for both **indoor and outdoor applications**, with protection against total immersion in water and dust.

### TM1814 IC

The LED strip uses the **TM1814 IC** for each LED segment. The **TM1814** is an advanced controller that provides PWM dimming (pulse width modulation) for the RGBW LEDs, allowing for very smooth and precise control over the color range and brightness.

### Key Features of the TM1814 IC:

- **Pixel Addressing:** Each segment can be controlled individually for precise color and brightness settings.
- **Color Management:** Supports **RGBW LEDs**, ensuring optimized color rendering and providing enhanced flexibility for color temperature control.
- **Communication:** The IC uses a serial data interface, passing data from the first to the last IC, which enables the integration of long chains of LED strips.
- **Stability and Performance:** Designed to operate with a wide voltage range, ensuring stability under various environmental conditions.
- **High PWM Rate (1000Hz):** The IC's high PWM rate allows for smooth pixel filming with cameras up to **34fps**, providing clear and precise video recording of the LED strip.
- **Data Transfer Rate (800kbps):** Supports a data transfer rate of **800kbps**, ensuring fast and efficient communication between ICs in the strip.

## Technical specifications

General									
Brand	LuxaLight								
LEDs / meter	72								
LEDs per pixel	6								
LED type	5050								
Length per reel	10 m								
Length per segment	83.33 mm								
LED strip width	14.00 mm								
LED strip thickness	4.00 mm								
PCB color	White								
Dimensions	10.000 × 14 × 4 mm								
Warranty	2 years								
Lifetime	50000 hours								
Lighting									
Color temperature warm white	2600 - 2900 K								
CRI	≥ 80								
Luminous Flux	1395 lm								
Luminous flux red	240 lm								
Luminous flux green	348 lm								
Luminous flux blue	222 lm								
Luminous flux warm white	585 lm								
Wave length Red	620~630 nm								
Wave length Green	510~525 nm								
Wave length Blue	455~470 nm								
Beam angle	120 °								
Electronics									
Working voltage	24V								
Current / meter	0.80 A / meter								
Power consumption per meter	19.20 W / meter								
PCB material	Copper								
Pinout	<table border="1"> <thead> <tr> <th>Symbol</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>V+</td> <td>V+</td> </tr> <tr> <td>GND</td> <td>Ground</td> </tr> <tr> <td>D1</td> <td>Data in</td> </tr> </tbody> </table>	Symbol	Function	V+	V+	GND	Ground	D1	Data in
Symbol	Function								
V+	V+								
GND	Ground								
D1	Data in								
Control									
Number of channels	4								
IC type	TM1814								

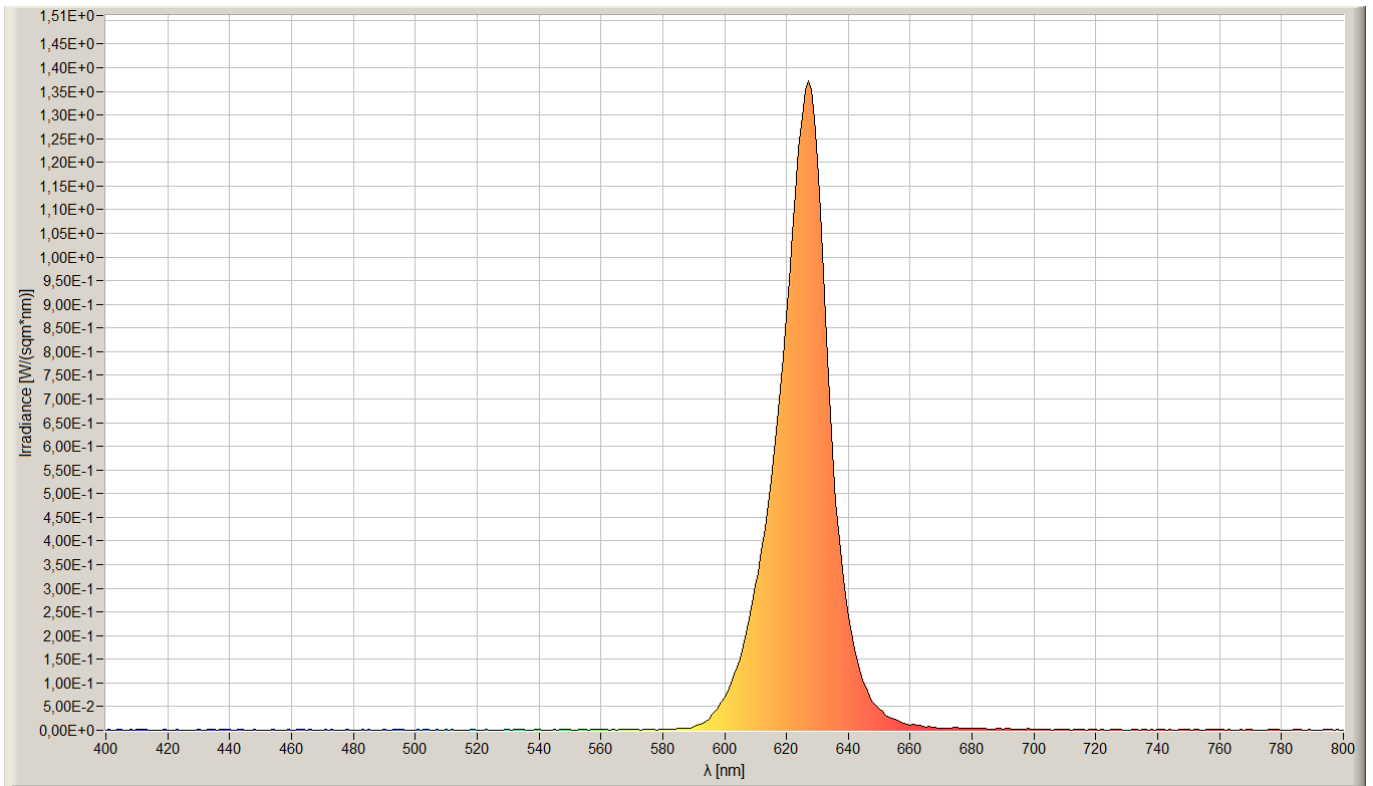
### Environmental

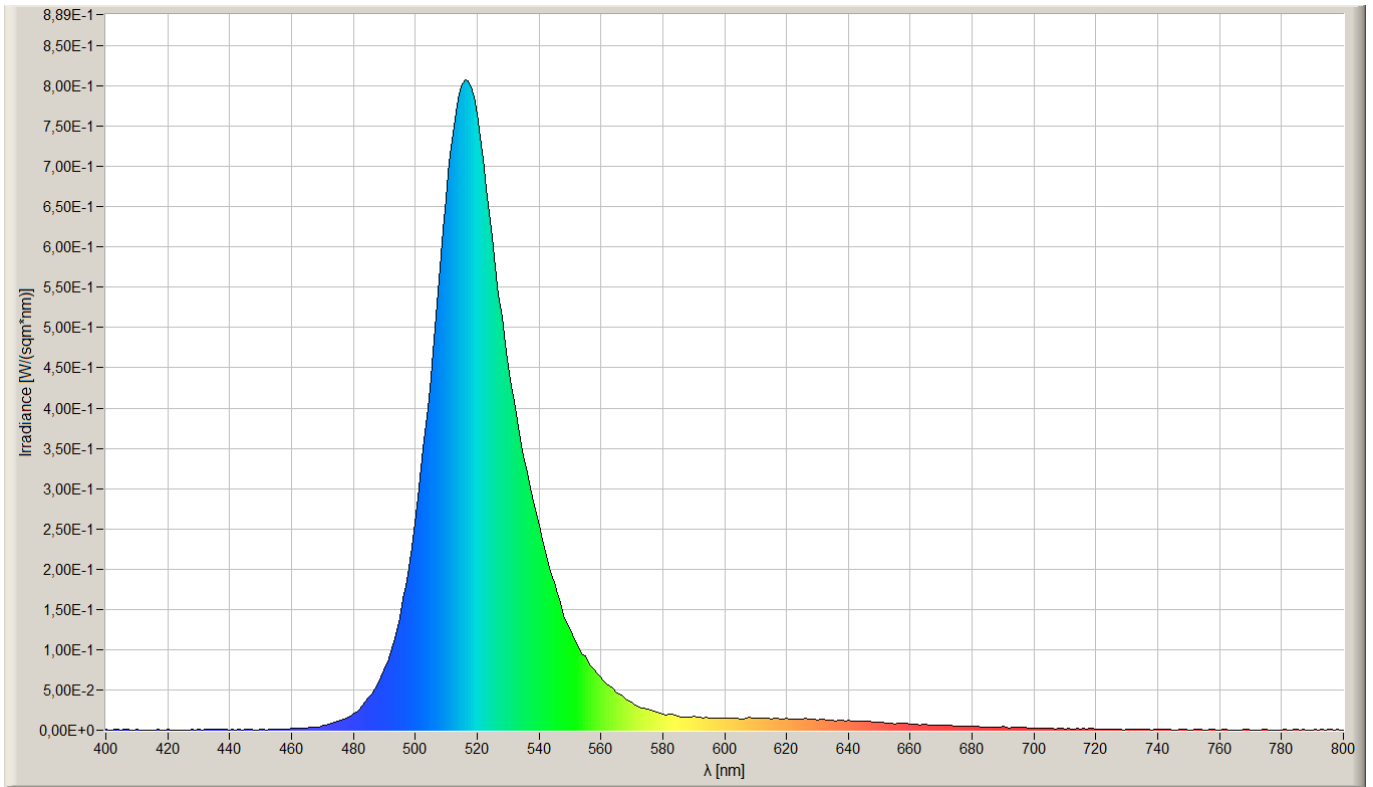
Operating temperature	-20 ~ +60 °C
Storage temperature	-40 ~ +80 °C
IP class	IP 68

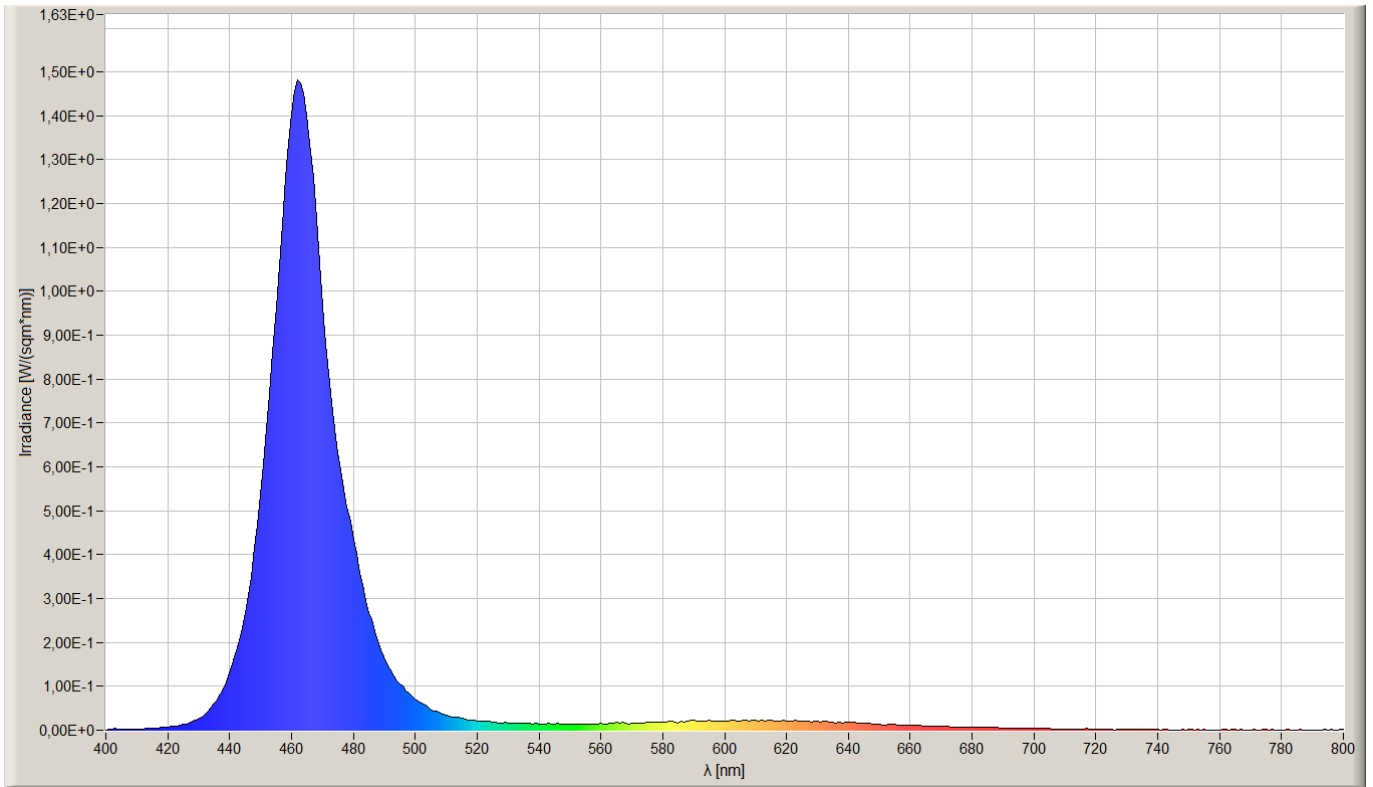
### Directives - standards - certificates

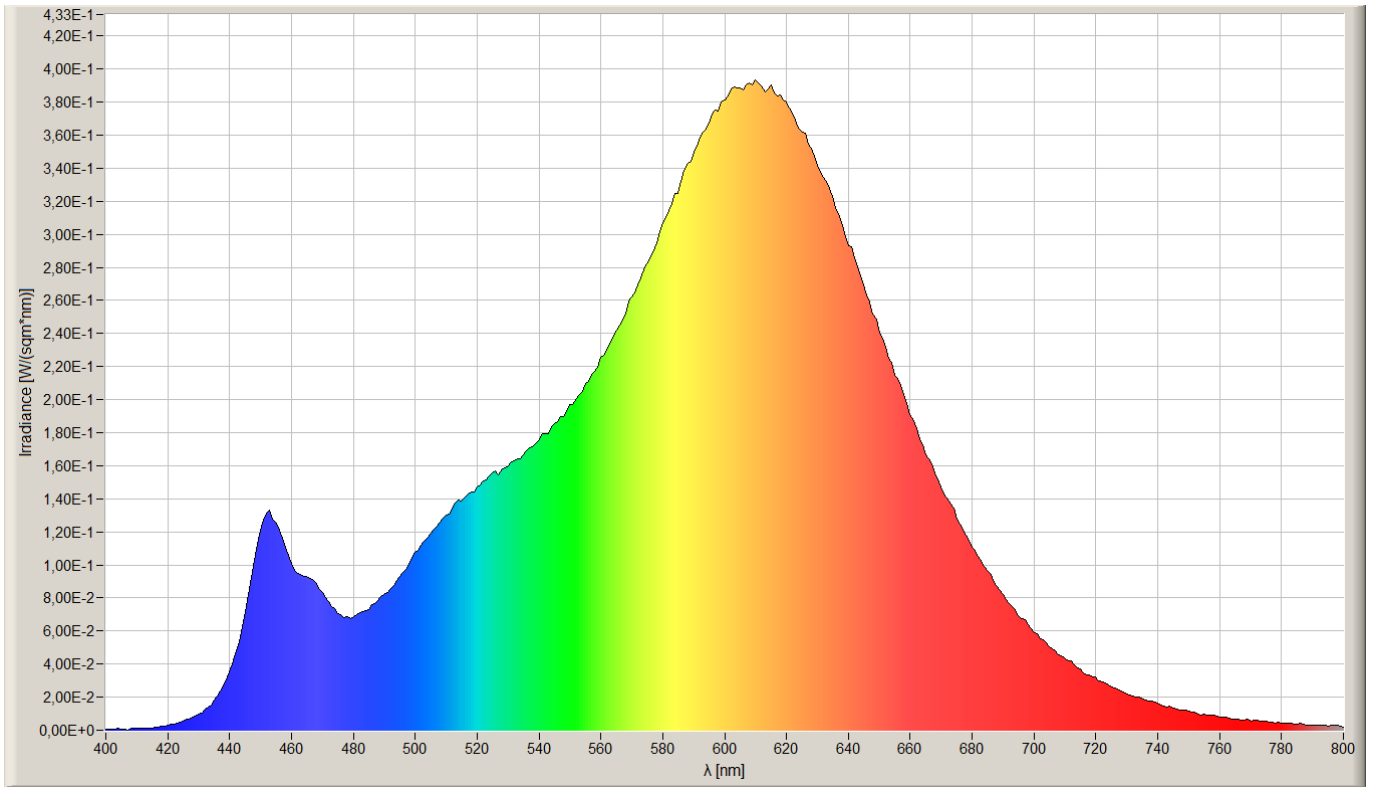
Directives	RoHS CE
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## Measurement results











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