

# Data Sheet

## Module LED

### Module LED 3W Cree LED



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## General Informations:

Use for outdoor light box which depth more than 150mm,Adopts 1PC Cree 3 watt light source and use Constant current design,Aluminum plate for heat dissipation which coefficient of heat transfer reach 2.0,Injection molding technology, fire retardant ABS housing,Easy to install, 3M adhesive tape and screws for customers to fix it in,15pcs per string, cuttable by every 3 LEDS,50,000 hours long lifespan

## Features:

- Cree 3.0Watt LED as light source,super luminous flux ,
- Rectangular viewing angle with homogenous light
- Suitable for illumination of lightbox, both single & doublesided
- Each 3 LED module group can be separated
- Waterproof class IP65, ideal for outdoor use
- Quick installation and maintenance free
- Must be mounted to a metal frame for better heat sinking

## Application :

- Accent lighting
- Box signs Home Lighting
- Cove lighting
- Logo boxes
- Wide stroke channel

## Electrical and Flux Characteristics

Table 1: Flux Characteristics

Code	Number of LEDs (M)	Case	Color	Wavelength	Lm (M)	Angle
4654	1	Cree 3W	Cool White	6350-7000K	200lm	52°x12°

Notes for Table 1:

1. Parts are tested in pulsed conditions,  $T_j = 25^{\circ}\text{C}$ . Pulse width is 10 ms at rated test current.
2. İlker Elektronik maintains a  $\pm 10\%$  tolerance on flux measurements.
3. Typical R9 value for 80CRI can be change with 90CRI.
4. Center beam candle power is a calculated value based on Lambertian radiation pattern at nominal test current.

Table 2: Electrical Characteristics

Code	Color	Forward Current (mA/M)	Input Voltage (CV)	Power (W/m)	Lm (M)
4654	Cool White	230mA	12 VDC	2,76W	200lm

Notes for Table 2:

1. Parts are tested in pulsed conditions,  $T_j = 25^{\circ}\text{C}$ . Pulse width is 10 ms at rated test current.
2. İlker Elektronik maintains a  $\pm 10\%$  tolerance on Current values.
3. Typical stabilized DC performance values are provided as reference only and are not a guarantee of performance.
4. Voltages must be 12VDC.

**Absolute Maximum Ratings ( $T_A = 25^\circ\text{C}$  unless otherwise noted)**
**Table 3: Maximum Ratings**

Parameter	Maximum Performance
Storage Temperature Range	-30 ~ +80° C
Operating Temperature Range	-20 ~ +50° C
Mounting Surface Temperature	60° C
Input Voltage (DC)	12 V
LED Junction Temperature <sup>1</sup>	125° C
Electrostatic Discharge Classification (JEDEC-JESD22-A114F)	Class 1C
UL Recognition	UL recognized

Notes for Table 3:

1. Proper current de-rating must be observed to maintain junction temperature below the maximum.
2. SMD LEDs are not designed to be driven in reverse bias.
3. At maximum reverse current of 10 $\mu$ A/LED.

**Application Notes:**

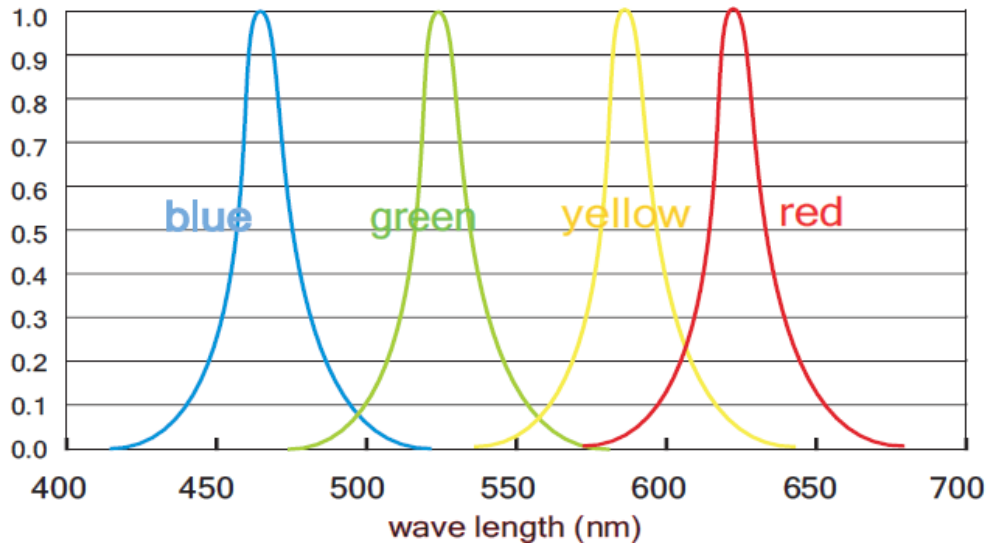
- Cree 3.0Watt LED as light source,super luminous flux.
- Rectangular viewing angle with light spreaded evenly.
- Lower light decay and long life span up to 50000 hours.
- Lower cost against high performance, good color uniformity.
- Low operating voltage, energy saving, environment-friendly.
- Suitable for illumination of lightbox, both signleside & doublesided.
- Light emitted from the edges of light boxes. Cuttable each 1 piece.
- Fire retardant, waterproof, IP65, ideal for outdoor use
- Easy installation and maintenance free. Mounted to a metal frame for better heat sinking

**Precautions:**

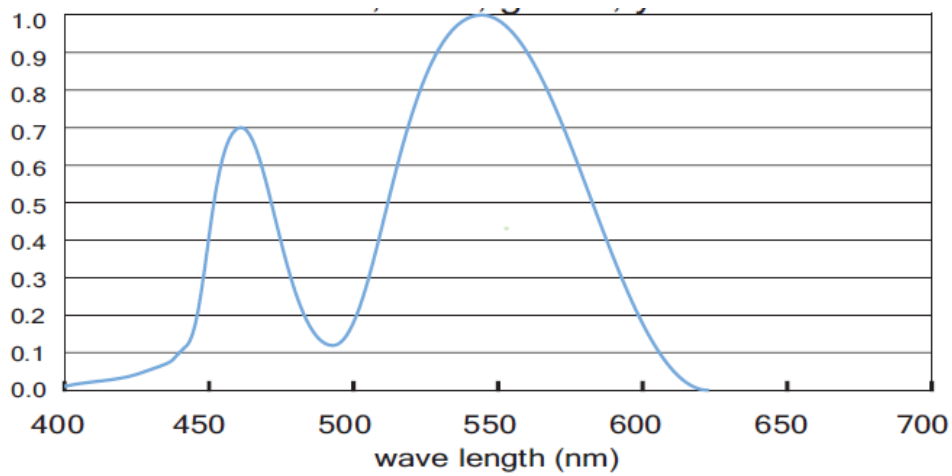
- Current should be derated in order to keep junction temperature below maximum by reducing power dissipation.
- Current spikes should be avoided especially during power up. It is good practice to initially connect PCB to unactivated supply, then gradually ramp up voltage to desired value.
- Proper management of the thermal path should be observed. Adequate heatsinking of strip should be provided in order to maintain junction temperature below maximum. Proper thermal conduction layers should be introduced at all interfaces to prevent insulating air gaps in the thermal path.
- As with all semiconductor devices, it is good practice to avoid electrostatic discharge (ESD).

**Color Wavelength Diagram:**

LED Color Spectrum for Red, Green, Blue, Yellow:



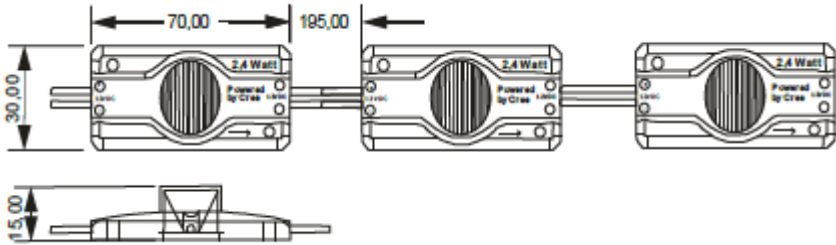
LED Color Spectrum for White (80 CRI) :



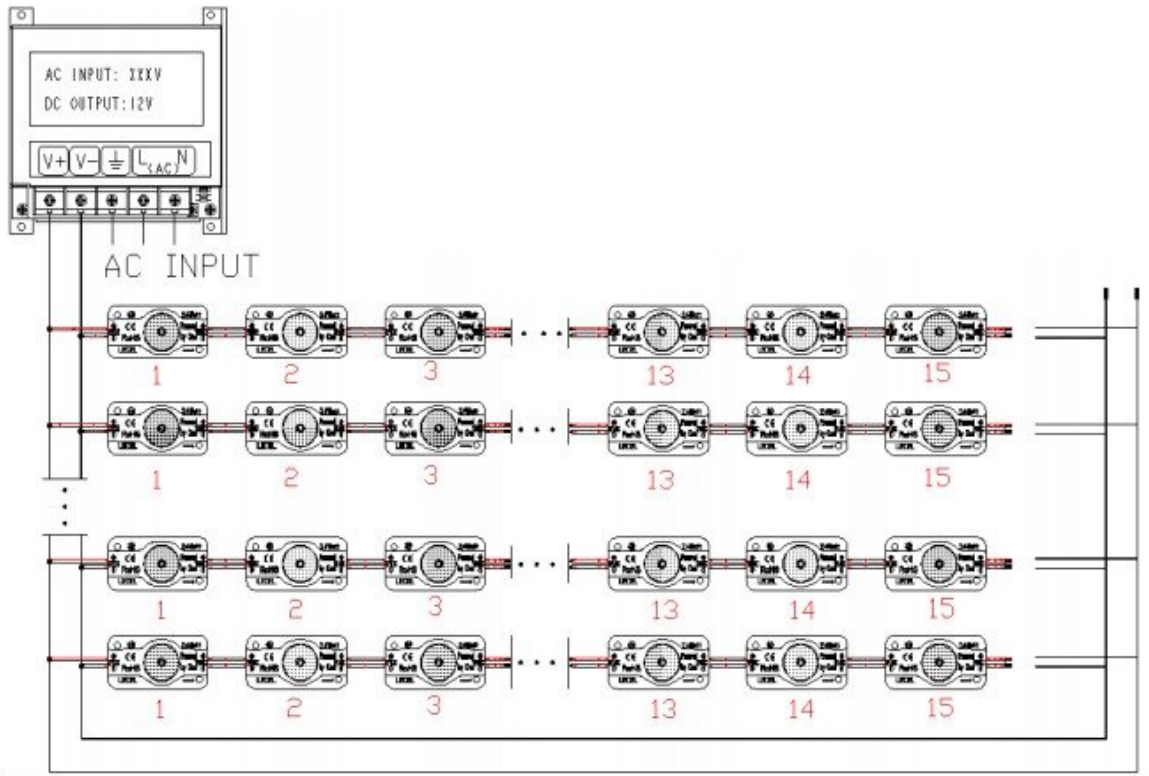
**DO NOT LOOK DIRECTLY  
AT LED WITH UNSHIELDED  
EYES OR DAMAGE TO  
RETINA MAY OCCUR.**

**Mechanical Dimensions:**

**Technical Drawing:**



**Electrical Connection:**



**Optical Characteristics:**

