

LL18ED-BI40L Data Sheet

For CREE Multi-Color and Single-Color LEDs



Features:

- High efficiency
- Available in 1 beam Patterns
- Optimized for uniform effects
- Lens without Housing

Typical applications :

- Stage Lighting
- Street Lights
- Decorative Light
- Architectural Lighting
- Down Light

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General Information

- **Compatible Led Type :**

The LL18ED-BI40L 18 in 1 lenses are optimized for both Multi-Color R.G.B CREE LEDs and Single-Color Cree LEDs (Cree XP-E White) from Cree Opto.⁽¹⁾

- **Beam Angle Type :**

An optimized profile integrate different front shape enable the generation of one lens model: medium beam (40deg)⁽²⁾

- **The Way to Assembly :**

The Lens should be assembled to the PCB board or MCPCB upon LEDs which provides the most appropriate related position, so as to achieve the best uniform results

*** Manually installation or if necessary thermal glue are recommended.**

- **Function :**

LL18ED-BI40L provides exceptional color mixing result with the highest efficiency through careful engineering and precision manufacturing process.

General Specifications

- | | |
|-------------------------------|------------------------------------|
| • Lens Material | Optical Grade PMMA PC |
| • Operating Temperature range | -40°C ~ + 70°C (upper limit +80°C) |
| • Storage Temperature range | -40°C ~ + 70°C (upper limit +80°C) |

*Average transmittance in visible spectrum 400nm~700nm > 90%

Notes:

(1) Cree XP-E is a trademark of Cree, Inc., for technical information on LEDs, please refer to Cree, Inc., www.cree.com/xlamp.

(2) Typical beam divergence will be affected by different color of LEDs.

Optical Specifications [Typical beam Angle and intensity (cd/lm) of LL18 lenses]

• CREE XP-E LED

Typical Cone Angle (degree) ⁽³⁾ with CREE XP-E			
Part Number	Red LEDs	Green LEDs	Blue LEDs
LL18ED-BI40L	--	--	--

The typical cone angle measures where the luminous intensity is 90% of the peak value of intensity. This typical cone varies with LED color due to different chip size and chip position tolerance.

Typical on axis intensity (cd/lm) ⁽⁴⁾ with CREE XP-E			
Part Number	Red LEDs	Green LEDs	Blue LEDs
LL18ED-BI40L	--	--	--

Luminous intensity depends on the flux binning and tolerance of the LEDs. Please refer to the LEDs data sheet for more details on Flux binning and mechanical tolerance.

• CREE XP-E LED

Typical Cone Angle (degree) ⁽³⁾ with CREE XP-E			
Part Number	White LEDs	Warm white LEDs	
LL18ED-BI40L	41	40	

The typical cone angle the full angle measured where the luminous intensity is 90% of the peak value of intensity. That typical cone varies with LED color due to different chip size and chip position tolerance.

Typical on axis intensity (cd/lm) ⁽⁴⁾ with CREE XP-E			
Part Number	White LEDs	Warm white LEDs	
LL18ED-BI40L	7380	5760	

Luminous intensity depends on the flux binning and tolerance of the LEDs. Please refer to the LEDs data sheet for more detail on Flux binning and mechanical tolerance

Notes:

(3) The typical divergence will be changed by different color, chip size and chip position tolerance. The typical total divergence is the full angle measured where the luminous intensity is half of the peak value.

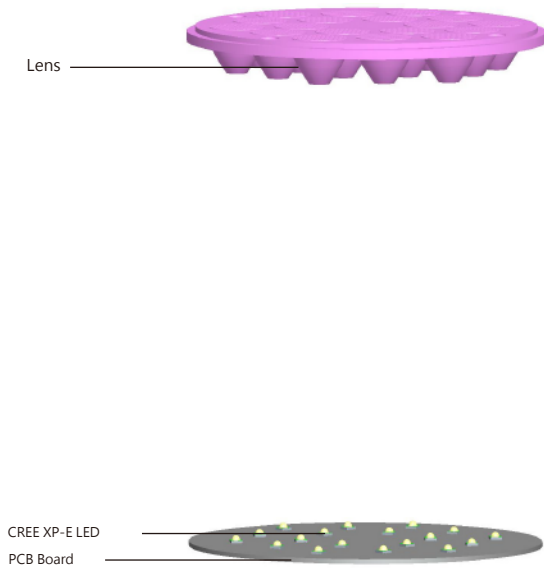
(4) The efficiency value listed above is the total value of the whole lens model, the value depends on the total flux of the LED used. Luminous intensity depends on the LEDs flux and its tolerances, for more details of LED flux, please check Cree data sheet at www.cree.com.

Mechanical Specifications

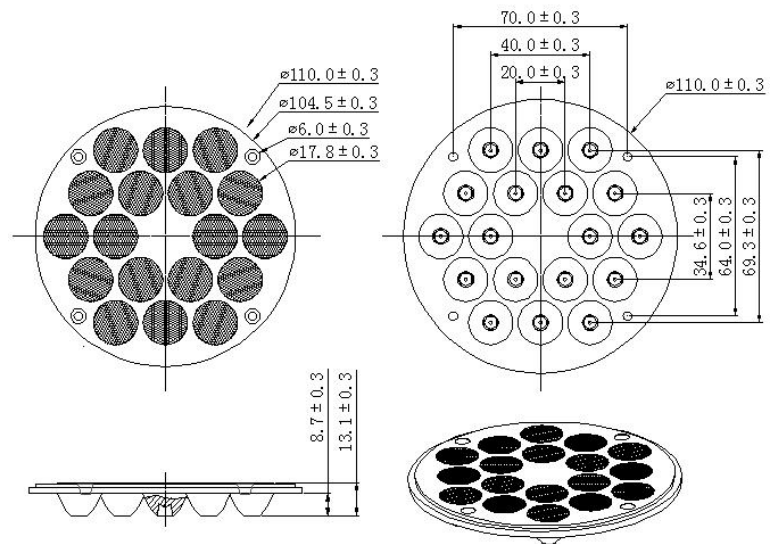
• Usage and Maintenance :

1. If necessary, clean lenses with mild soap, water and soft cloth
2. Never use any commercial cleaning solvents on lenses, like alcohol
3. Please handle or install lenses with wearing gloves, skin oils may damage lens or its optical characteristic.

1. Lens + Leds+MCPCB assembly instruction



3. Lens dimensions and Top Views:



2. View assembly lens with MCPCB:

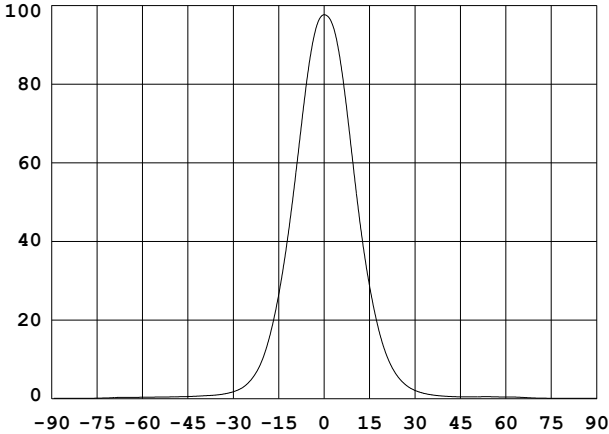
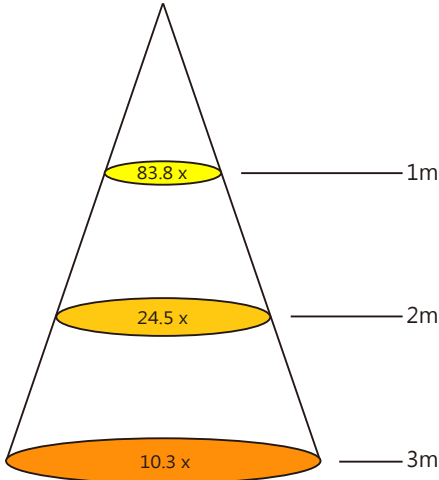


Notes:

- (1) All dimensions are in mm.
- (2) Drawing not to scale.
- (3) Collimator material is PMMA.

Illumination charts

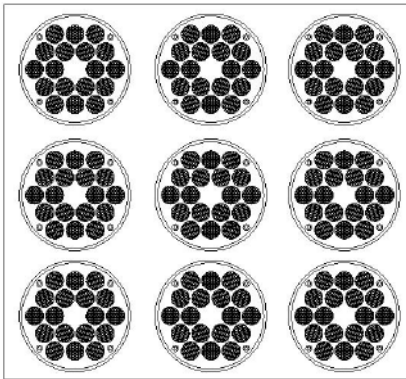
*CREE 18 in 1 white LED: CREE XP-E

LL18ED-BI40L	
1. Beam Pattern	
	
2. Light Distribution Curve	
 The graph shows the light distribution curve for the LL18ED-BI40L LED. The x-axis represents the angle in degrees, ranging from -90 to 90 in increments of 15. The y-axis represents the percentage of light, ranging from 0 to 100 in increments of 20. The curve is a symmetric bell shape, peaking at 100% at 0 degrees. The curve reaches approximately 50% at ±15 degrees and drops to near 0% at ±30 degrees.	
3. Illuminance	
 The diagram illustrates the illuminance at different distances from the LED. A cone of light is shown with three horizontal planes at 1m, 2m, and 3m distances. The illuminance values are indicated on the planes: 83.8 x at 1m, 24.5 x at 2m, and 10.3 x at 3m. The values decrease as the distance increases, following an inverse square relationship.	

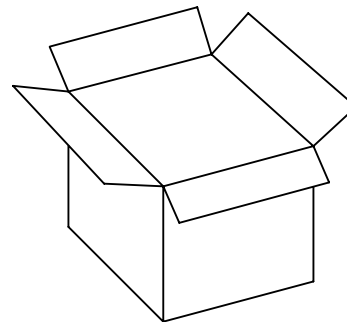
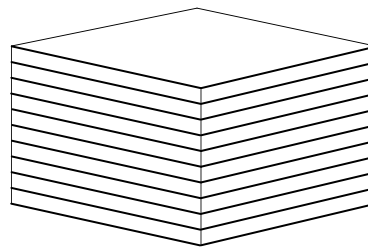
Notes: The Flux of CREE XP-E LED is 88 lm

Package

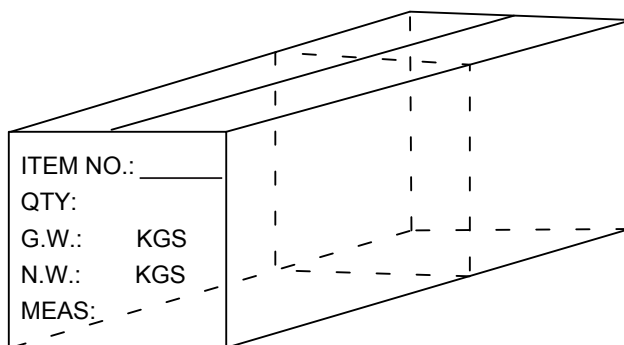
Item	Quantity	Total	Size (long*width* high)
Inner box	9	9pcs	34*30*3.5 cm
Outer box	19tray/box	171pcs	35*31*21 cm
Outer box	2 inner box/outer box	342pcs	64.7*36.5*24 cm



9pcs/tray



171pcs/inner box



342pcs/outer box

Product Nomenclature

