LL12 12-in-1 Lens for Color Mixing

Datasheet

For Edixeon® Multi-Color 12-in-1 and Single-Color LEDs

Features:

- High efficiency
- Available in 2 beam Patterns
- Optimized for color mixing effects
- Lens alone

Typical applications :

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

Table of Contents

General Information

• Compatible Led Type :

The LL12ED-AGxxL lens are optimized for both Multi-Color RGB 12in1 Edixeon® LEDs (EDERTB-1LC6 and EDERTB-1EC1) and Single-Color Edixeon® LEDs from Edison Opto.(1)

• Beam Angle Type :

An optimized profile integrate different front shape enable the generation of two different lens models: Medium beam (25deg) and wide beam (45deg).(2)

• The Way to Assembly :

The lens should be assembled to the MCPCB or heat sink hole by the built-in three installation legs. The three installation legs ensure ideal relative position between the lens and LEDs resulting in the best optical performance.

***Hot Pressure and Ultrasonic Assembly process are recommended.**

• Function :

LL12ED-AGxxL provides exceptional color mixing result with the highest efficiency through careful engineering and precision manufacturing process.

Notes:
(1) Edixeon® is a trademark of Edison Opto, for technical information on LEDs, please refer to Edison Opto website at www.edison-opto.com.tw.
(2) Typical beam divergence will be affected by different color of LEDs.

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%**

Optical Specifications [Typical beam Angle and intensity (cd/lm) of LL12 lenses]

• EDER-1LA3/EDEG-1LA2/EDEB-1LA1

Part Number	Typical Cone Angle (degree)[3] with EDER-1LA3/EDEG-1LA2/EDEB-1LA1			
	Red LEDs	Green LEDs	Blue LEDs	R+G+B
LL12ED-AG25L	30	25	34	32
LL12ED-AG45L	50	44	49	50

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.

Part Number	Typical on axis intensity (cd/lm)[4] with EDER-1LA3/EDEG-1LA2/EDEB-1LA1			
	Red LEDs	Green LEDs	Blue LEDs	R+G+B
LL12ED-AG25L	5200	12000	840	18000
LL12ED-AG45L	1500	3600	360	5000

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

• EDEW-KLC8

Part Number	Typical Cone Angle (degree)[3] with EDEW-KLC8	
	White LEDs	Warm white LEDs
LL12ED-AG25L	30	28
LL12ED-AG45L	46	45

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.

Part Number	Typical on axis intensity (cd/lm)[4] with EDEW-KLC8	
	White LEDs	Warm white LEDs
LL12ED-AG25L	8720	8950
LL12ED-AG45L	4420	4660

Luminous intensity depends on the flux binning and tolerance of the LEDs. Please refer to the LEDs datasheet 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.

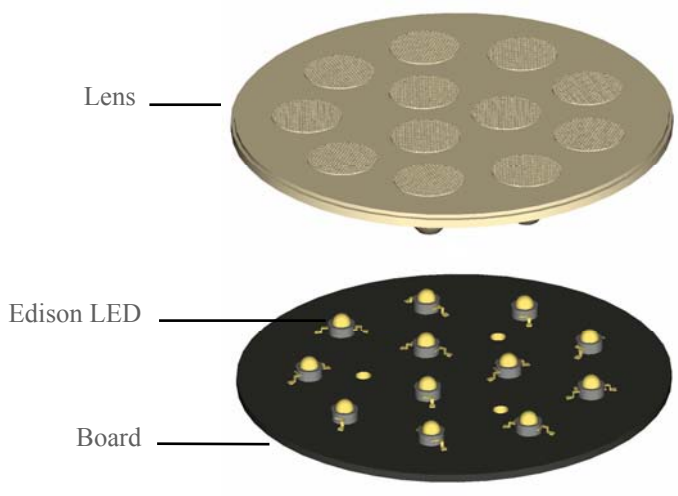
(4) The efficiency value listed above is the total value of the whole Tri-lens model, the value depends on the total flux of the LED used. Luminous intensity depends on the LEDs flux and its tolerances, for more details of LED flux, please check Edixeon® datasheet at www.edison-opto.com.tw.

Mechanical Specifications

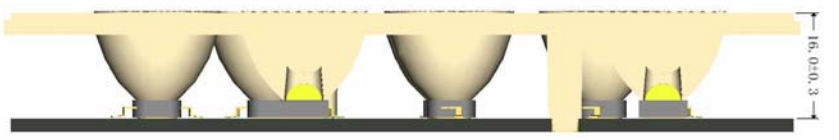
• Usage and Maintenance :

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.

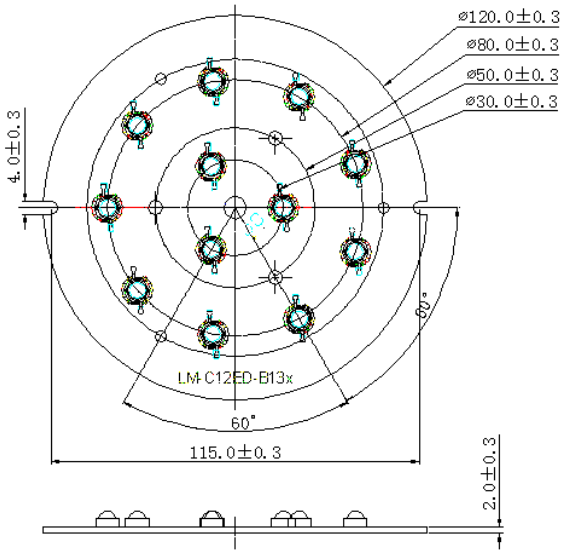
1. Lens + Leds+MCPCB assembly instruction:



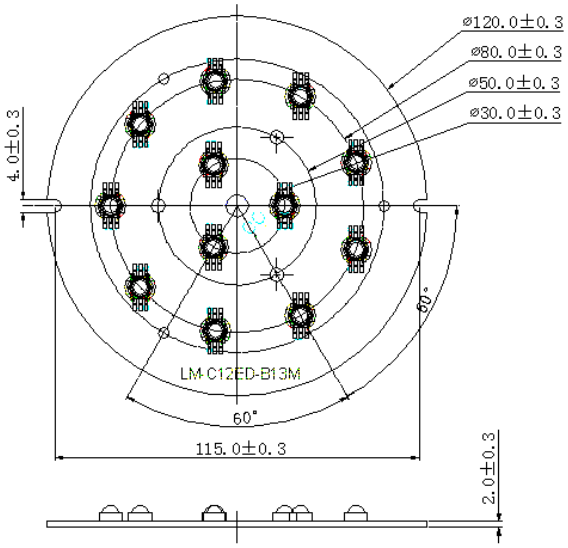
2. View assembly lens with MCPCB:



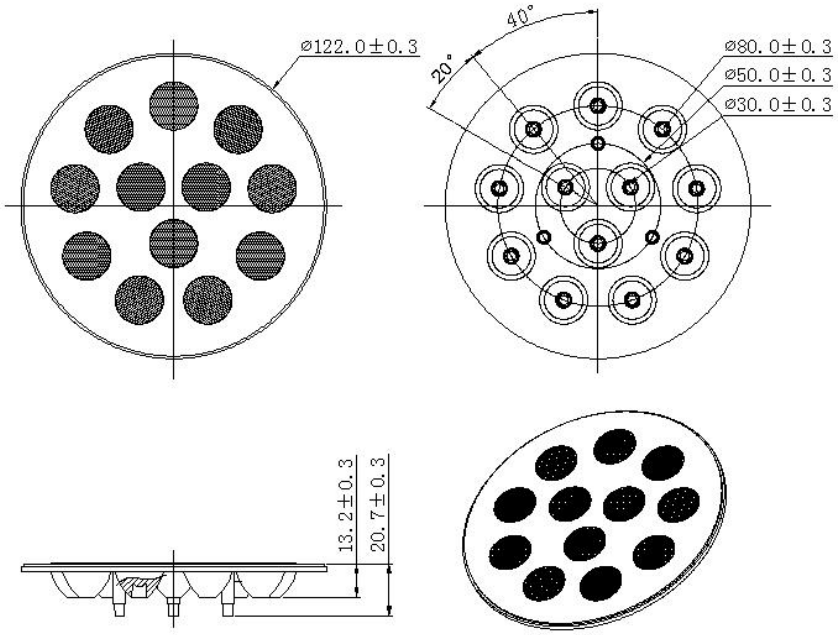
3. Multi-Color RGB Compatible MCPCB Dimensions:



4. Single-Color Compatible MCPCB Dimensions:



5. Lens assembly dimensions and Top Views :



Notes:

(1) All dimensions are in mm.

(2) Drawing not to scale.

(3) Collimator material is PMMA.

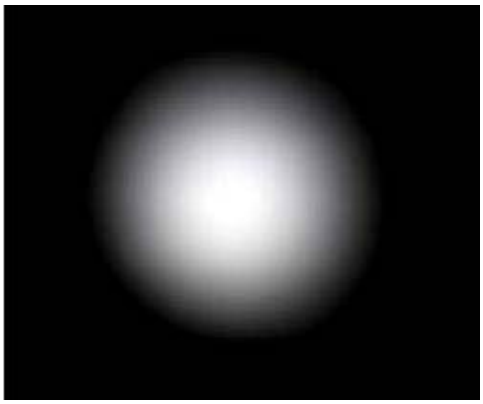
(4) The surface of 25 degree lens is transparent, and 45 degree lens is meshed!

Illumination charts

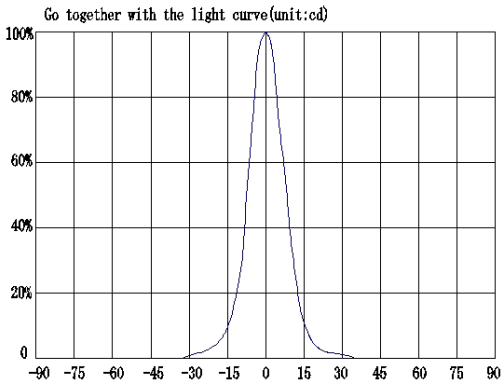
*Edixeon® single white LED:EDEW-KLC8

LL12ED-AG25L

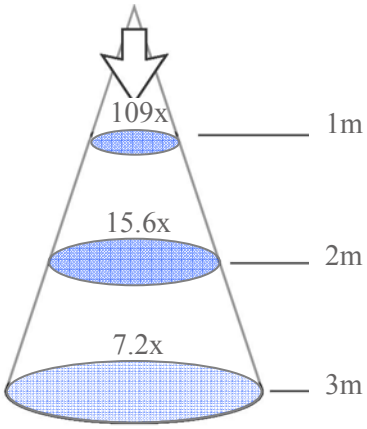
1. Beam Pattern



2. Angular Intensity Distribution



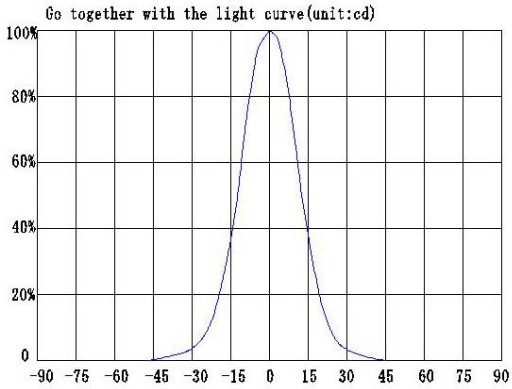
3. Shine on one degree diagram



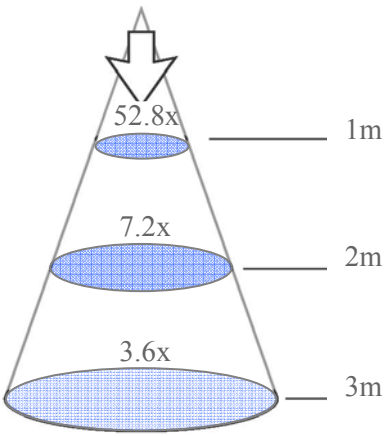
LL12ED-AG45L

1. Beam Pattern

2. Angular Intensity Distribution

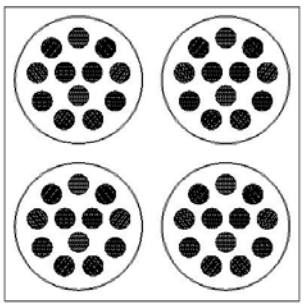


3. Shine on one degree diagram



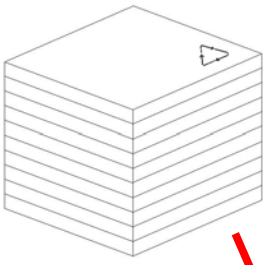
Package

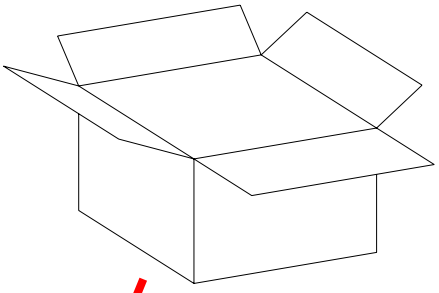
Item	Quantity	Total	Size (long * width * high)
Floar		4 pcs	28*28cm
Inner box	14Floar/box	56pcs	29*29*22 cm
Outer box	2 inner box/outer box	112pcs	60*31*25.8cm



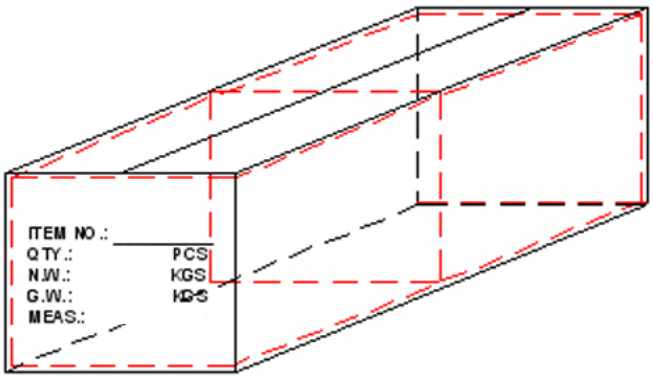
4cs/tray

14Floar





56pcs/inner box



112pcs/outer box

Product Nomenclature