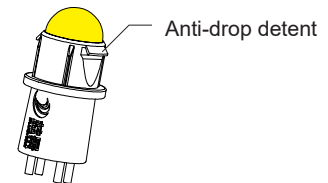


Version: A1.4

Features

- 160° large beam angle
- Large luminous surface, give out light evenly
- With good stability and high efficiency compared with straw-hat LED lights
- Elastic buckle design, suitable for mounting board of 1-4mm
- Integrated injection molding process, great waterproof performance
- Round tail design for easy installation



Application

- Suitable for all kind of supermarket, middle or large advertising signage, bars, indoor atmosphere lighting, signs of aviation and navigation obstacles, etc

Installation

- Through hole installation

Optical & Electrical Parameters

Model No.	Light Color	CCT/Color Available (K/nm)	Beam Angle	Typical Luminous Flux value (lm/pcs)	Efficacy (lm/W)	Ra	Voltage (DC)	Power (W/pcs)
CS001	W	2800-3200	160°	17	95	80+	12V	0.18
		3800-4200		18	100			
		4700-5300		18	100			
		6000-6500		18	100			
		8000-11000		18	98			
		15000-20000		17	95			



Model No.	Light Color	CCT/Color Available (K/nm)	Beam Angle	Typical Luminous Flux value (lm/pcs)	Efficacy (lm/W)	Ra	Voltage (DC)	Power (W/pcs)
CS001	R	620-625	160°	4	21	\	12V	0.18
	G	525-530		7	40			
	B	460-465		1	7			
	Y	575-580		16	91			
	O	600-610		6	35			
	P	\		9	48			
	IB	475-485		12	66			
	F	\		1	7			

Other Parameters

Model No.	LED Qty/pc	Product Size L*W	Standard Run	Max Run	Working Temperature	Storage Temperature
CS001	1	19.8*10.8mm	50pcs	50pcs	-20~+60°C	-20~+70°C

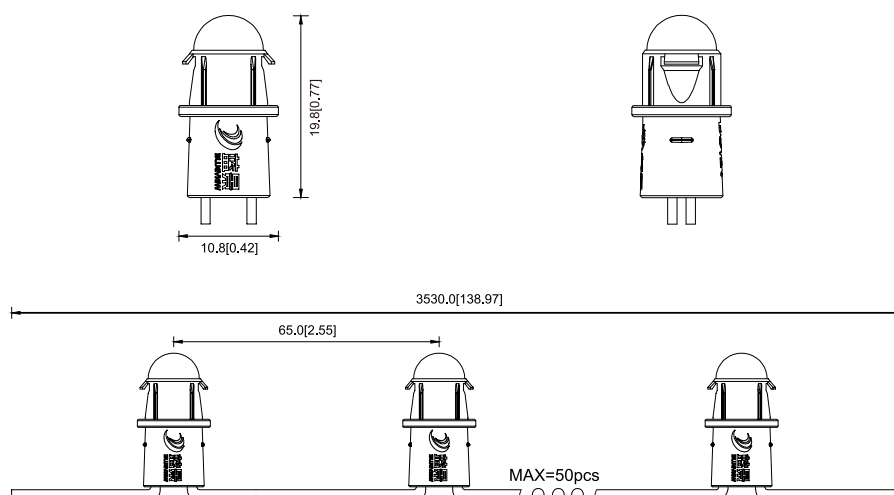
NOTE:

NOTE:

- Test environment temperature : 25±2°C.
- Figures above are typical figures. Actual figures could be different with typical figures, and the data is subject to change without notice.
- Different color temperature will make luminous lux different.
- Power and luminous flux tolerance within ±10%.
- The "LED Qty" above means the LED quantity of single module.
- Max run is based on one end power feed.

Unit:mm[inch]

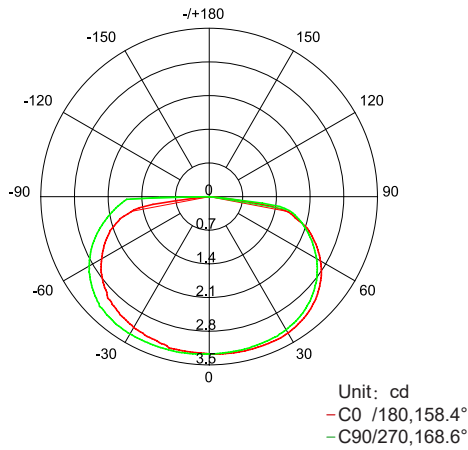
Profile Drawings





Luminous Intensity Distribution Diagram

Average Illumination



AVERAGE BEAM ANGLE(50%): 163.5°

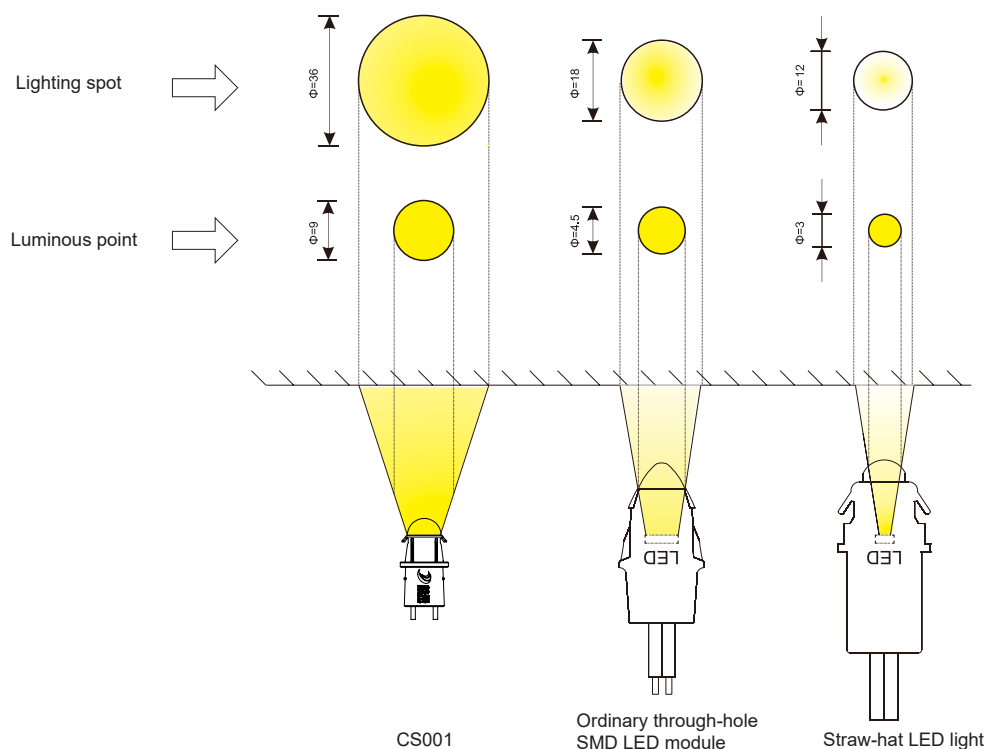
Note: the above two figures are tested with the sample CS001, for other data, please consult sale rep.

Flux Out: 14.18lm

0.3m	1.895,36.54lx	290.62cm
0.6m	0.4737,9.135lx	581.24cm
0.9m	0.2105,4.060lx	871.86cm
1.2m	0.1184,2.284lx	1162.47cm
1.5m	0.0758,1.462lx	1453.09cm
1.8m	0.0526,1.015lx	1743.71cm
2.1m	0.0387,0.7457lx	2034.33cm
2.4m	0.0296,0.5710lx	2324.95cm
2.7m	0.0234,0.4511lx	2615.57cm
3.0m	0.0189,0.3654lx	2906.19cm

Height Eavg, Emax Beam Angle: 156.67° Diameter

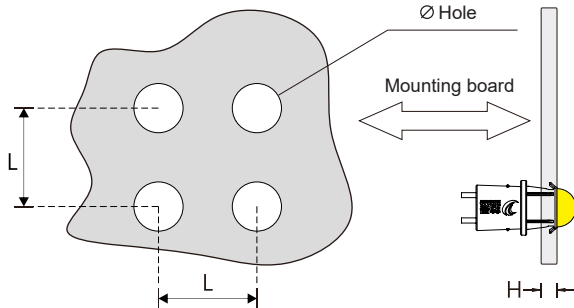
Luminous point VS Lighting spot



Luminous point: observe the size of the luminous part of the light source with naked eyes.
 Lighting spot: the size of the light projection after the light source shines on a wall at a certain distance.



Luminous point VS Lighting spot



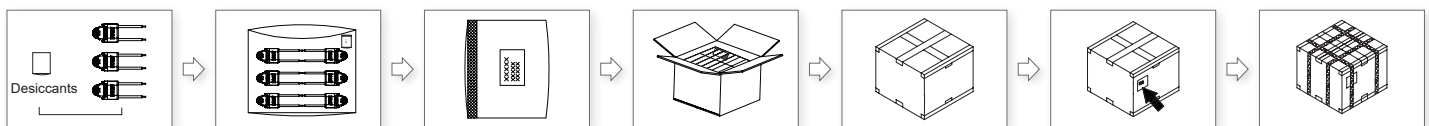
Type	Galvanized board	Aluminum board
"H" Board thickness(mm)	≤1.2mm	≥1.5mm
"Ø" Hole size(mm)	8.9±0.1	9±0.1
"L" Hole spacing(mm)	20~50	20~50

Note: "H" is between 1-4mm

Reliability Test

Type	Name	Standard	Condition	Result
Environmental test	PTC test	Blueview standard	Test temperature: -40°C— 60°C, 2h one cycle (constant temperature: 15 minutes, heating and cooling: 45 minutes)	Pass
	High temperature resistance test		TH=60/80°C, continue power on	
	Anti-UV Test		UVB: 315-400nm; H=50°C/ 5h; water spray 1h	
	Salt spray corrosion test		TH=80°C/4h, TH=-40°C/4h, continue power on	
	Room temperature aging test		TH=25°C, continue power on	
	Waterproof test		Soaking 1.1m/1h	IP68
Other test	Flame retardant test		Placed the sample vertically in the needle flame tester, the flame lasted for 10s and then observe the self-extinguishing time of the sample.	Pass

Packing



1. Prepare the desiccant and bind the product.
2. Put the product and desiccant into static shielding bag.
3. Seal and label the static shielding bag.
4. Put the static shielding bag side by side into carton box.

5. Seal the box.
6. Label the box.
7. Use packing belt to pack after adding the edge protectors.

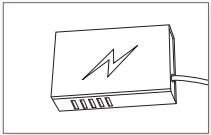
Packaging information

Model No.	Product Size L*W(mm)	Carton Size(mm)	PCS/Bag	Bag/Carton Box	Net Weight(kg)	Gross Weight(kg)
CS001	19.8*10.8	380*380*345	500	20	17.68(1±10%)	18.10(1±10%)

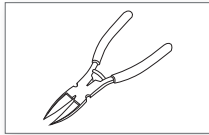
Note:
Packing materials: static shielding bag and carton box.
The above quantity and weight are only for the illustrated packaging method. There will be differences in the quantity and weight with other packaging methods.

Installation

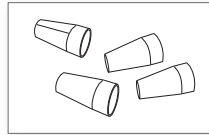
Accessories & Tools



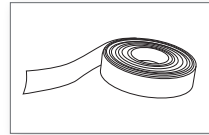
LED power supply



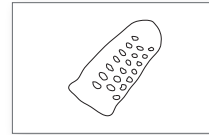
Diagonal pliers



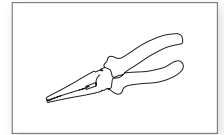
Connection terminal



Insulation tape



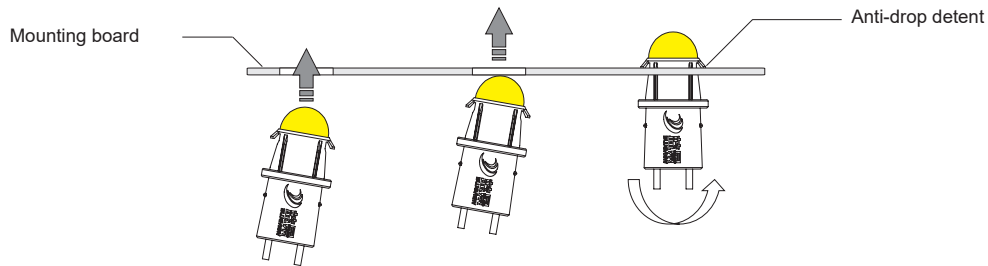
Finger cot



Sharp-nose pliers

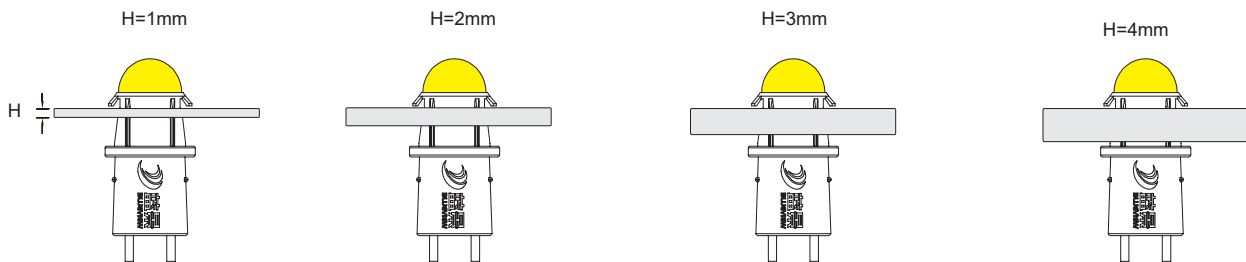
Installation steps

Through Hole Installation

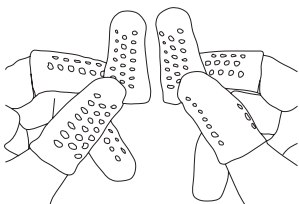


Tip: Install the product into the hole at an angle.

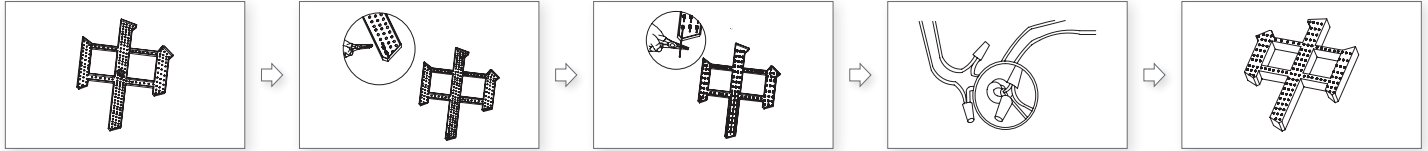
Mounting Board Thickness $H=1\sim 4\text{mm}$



Exposed channel letters installation



Preparation: Please wear finger cots before operation.



1. Clean the mounting surface.
2. Put the through-hole LED module into the reserved hole.
3. Cut the modules according to the requirements and treat the cut place with insulation and waterproof arrangement.
4. If the product needs to be connected, it is better to fix with connection ends.
5. After that, light on for test.

Note: Treat the wire end with insulation, waterproof, and anti-corrosion measure, until it cannot pull out by hands.

Attentions before installation

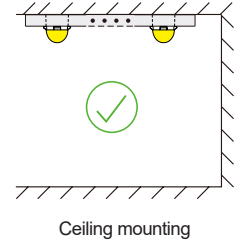
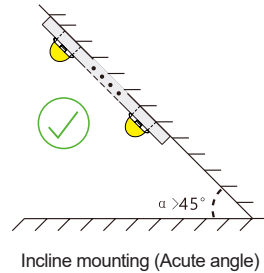
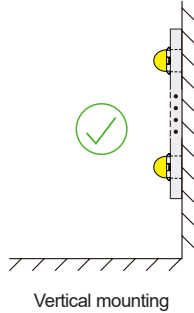
- This product currently has one working voltage, that is, 12V; in the same project, it is recommended to only use products with one voltage.
- In the same project, it is recommended to use products from the same batch. If you need to use products from different batches, the light color consistency must be verified.
- It is strictly prohibited to use this product in an environment with obvious smoke, grease, and other highly volatile organic molecules (environments with strong exhaust gas output from engines, vehicles, or other oil-powered equipment), as it may cause darkening, discoloration, color drift, etc. of the product.
- Avoid contact with cleaning agents during installation.



Note: Please avoid applying pressure to the light-emitting soft cover and light-emitting head, as this may cause deformation and affect the luminous effect.

- CS001 Mounting Position





- Before installation, check that the product parameters are consistent with the requirements (Seeing product specifications or product labels)
- Load voltage, current, power and power supply should be matched with the product.
- Follow the instructions of wiring diagram (first connect the load and then the power supply) to avoid short circuit.
- Make sure the correct connection of positive and negative poles between products and power supply. Otherwise, the light will not be on.
- Make sure the power cord firmly screwed into the terminal and it should not be pulled out by hands.
- The terminal should have insulation, waterproof and anti-corrosive treatment.

Common Faults and Troubleshoot

Quick Guide		
Problems	Reasons	Solutions
	No electric supply.	Fix the short circuit problem.
	Automatic power protection from the open or short circuit in output of the power supply.	
	Wrong connection of power supply.	
LEDs can not light on partly	Some switching mode power supplies are not powered.	Correctly connection.
	Power supply line error.	
	Mistaken wire connection of some of products.	
Brightness of LED is inconsistent tor insufficient.	Power overloaded.	Replace with more powerful power.
	Power supply circuit excessive consumption.	Make sure the working voltage of the product within $\pm 5\%$ of standard voltage, or keep balance by circuit power consumption.
	Excessive quantities in series connection of the product	Reduce the quantities of the product in series connection to meet requirement.
LED flicker.	Connection point fault.	Remove bad connection point.
	Switching power supply failure.	Replace a new power supply.
	Wrong Installation or use of products	Please follow the instructions

Warning

- Do not disassemble or retrofit the light. Do not touch the surface of the light with a sharp object.
- Do not do live-line working during installation, especially for high voltage product.
- Do not use any organic chemical solvents.
- Use neutral glass adhesive to fix this product and it needs to be dried 24 hours in the open environment after operation.
- Treat the ends and the circuit connection points that are not connected to the main line with insulation, waterproof, and anti-corrosion in the installation.
- Use 18AWG (0.75mm² cross-sectional area) or thicker core wire to avoid adverse consequences caused by overheating, if the power cable need to lengthen.
- Make sure the input voltage meets the requirements and lines are connected correctly before lighting on.
- This product is for signage, and do not use as general lighting.
- Series connection within the max run.
- The length of the power cable between the power supply and the led strip should not exceed 2 meters. Otherwise, large circuit loss will lead to inconsistent brightness.
- Installation, maintenance and repair should be operated by a qualified technician.



Statements and Recycling

Statements:

- **Before use, please read this manual carefully and follow the instructions. Failure to do so will void the warranty, and we will not be responsible for any resulting consequences.**
- Repair should be operated by a qualified technician, if the external circuit or main line of this product is damaged.
- The parameters given in this manual are typical values and for reference only.
- All illustrations and drawings in this manual are for reference.
- This product is subject to change without notice.

Recycling:

- LED lighting products belongs to electronic products, please do recycling treatment according to the relevant WEEE directives.

Version	Content	Date
A1.4	Update: installation info	2024-7-29