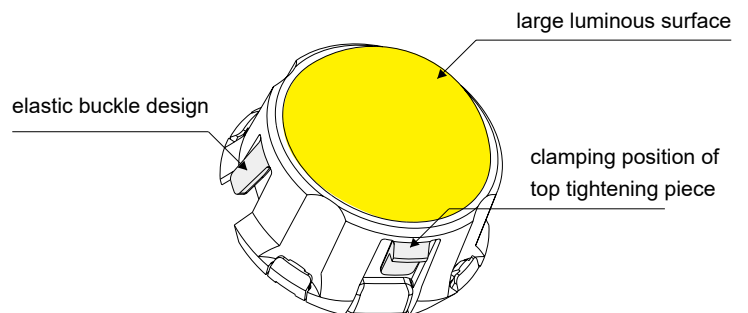


Features

- Large luminous surface, give out light evenly
- Adopt PC color outer case and optical lens
- Adopt elastic buckle design, suitable for light box at 1-3mm depth
- Silicone coating technology, great waterproof performance
- Single module can be cut



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
- Letter shell installation



Optical & Electrical Parameters

Model No.	Light Color	CCT/Wavelength	Beam Angle	Luminous Flux(lm/pcs)	CRI	Efficacy (lm/W)	Voltage (DC V)	Power (W/pcs)
CS20	□ W	2800-3100K	160°	27	80+	88	12	0.3
		6000-7000K		27		91		
		9000-10000K		27		90		
		10000-12000K		27		90		
		12000-15000K		26		88		
		15000-20000K		26		85		
	■ R	620-625	160°	2	/	10	12	0.18
	■ G	520-525		7		39		
	■ B	460-465		2		9		
	■ Y	570-575		17		95		
	■ O	600-610		7		38		
	■ P	/		7		40		
	■ IB	475-485		11		59		
	■ F	/		2		9		

Other Parameters

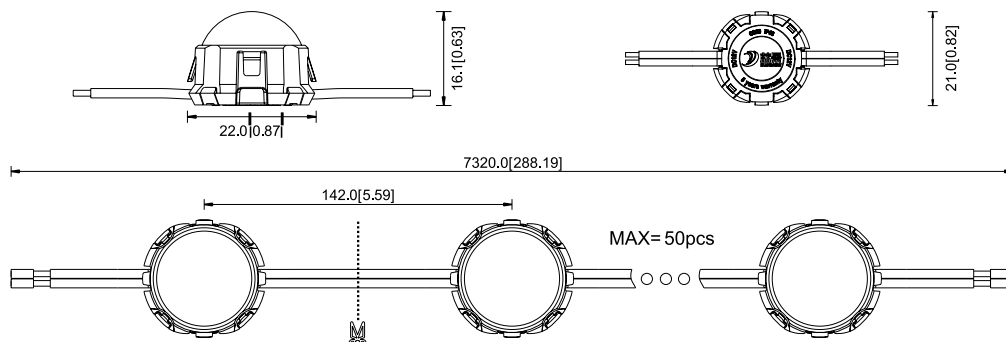
Model No.	LED Qty (pcs)	Standard Run Quantity(pcs)	Max Run(pcs)	Working Temperature	Storage Temperature
CS20	1	50	50	-20~+60℃	-20~+70℃

Note:

1. The test environment temperature is $25 \pm 2^{\circ}\text{C}$;
2. The above data are typical values. The actual parameters of the product may be different from the typical data.
3. If the lamp beads of different gears are selected, the color temperature will be different and the luminous flux will fluctuate to a certain extent.
4. The quantity refers to the number of LEDs in a single product;
5. The error of luminous flux and power is $\pm 10\%$;
6. The maximum run quantity refers to the maximum number of cascades when the power supply is single ended.

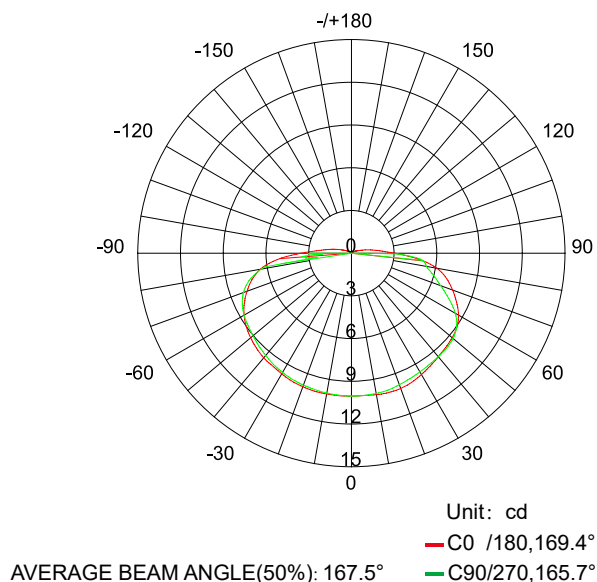
Profile Drawings

Unit:mm[inch]

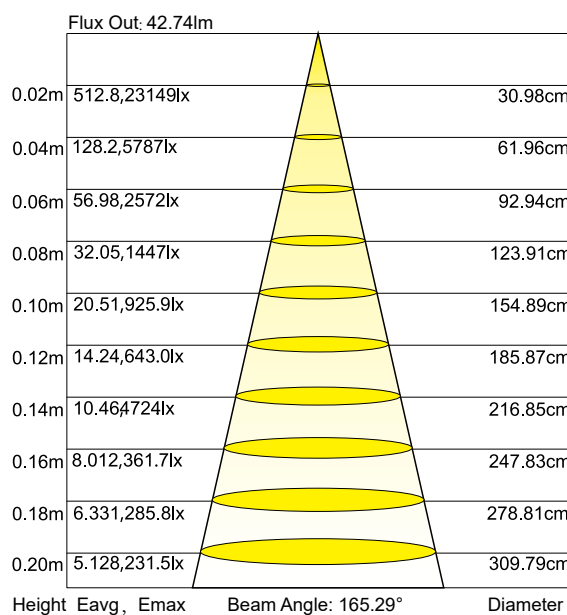


NOTE:for detail drawing,please consult sales rep.

Luminous Intensity Distribution Diagram



Average Illumination



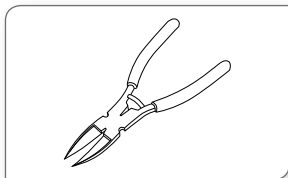
Note: Above picture is the test result of CS20, if you need the parameter of other model, please contact sales Rep

Reliability Test

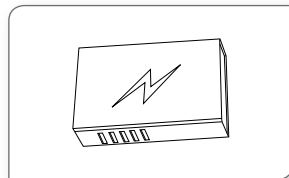
Test name	Test type	Standard	Test condition	Result
Environmental test	High and Low Temperature Cycle Test	Blueview standard	TH=60°C/4h, TH=20°C/1h, TH=-40°C/4h continuous cycle power on	PASS
	High Temperature Resistant Test		TH=60/80°C, continuous power on	
	PTC test		Test temperature: -40°C— 60°C, 2h one cycle (constant temperature: 15 minutes, heating and cooling: 45 minutes)	
	Room Temperature Aging Test		TH=25°C, continuous power on	
	Anti-UV test		TH=60°C, UVB: 280~315nm	
	Red Ink Test		Immerse the sample tested by PTC etc. in the red ink, and observe the status of the sample after 24h	
	Waterproof Performance Test		underwater 1m depth / 1h	
	Flame Retardant Test		Put the sample vertically in the needle flame tester, the open flame burns for 10 seconds and then goes out, and then observe the self-extinguishing time of the sample	

Installation

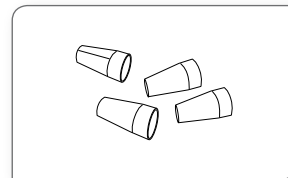
1. Products and Tools



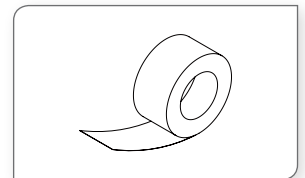
Diagonal Pliers



LED Power Supply

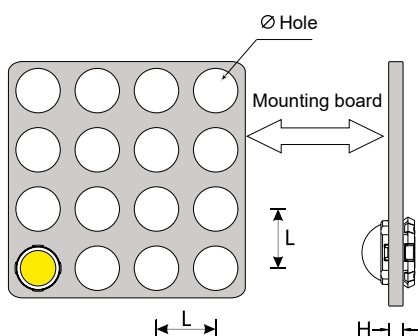


Connection Terminals



Gaffer Tape

2. Mounting board thickness and hole size

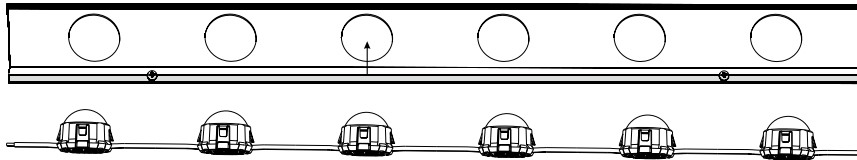


Model No.	CS20
"Ø" Hole size (mm)	20±0.2
"L" Distance (mm)	60-160
"H" Board thickness (mm)	1~3

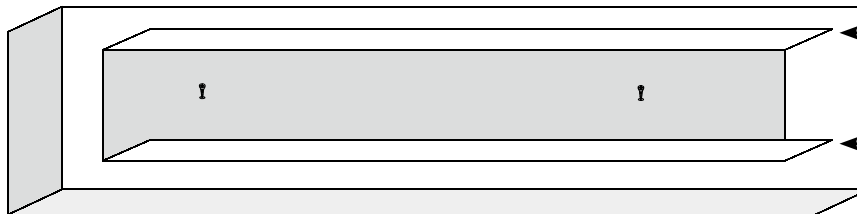


3.Installation Steps

Through-hole installation



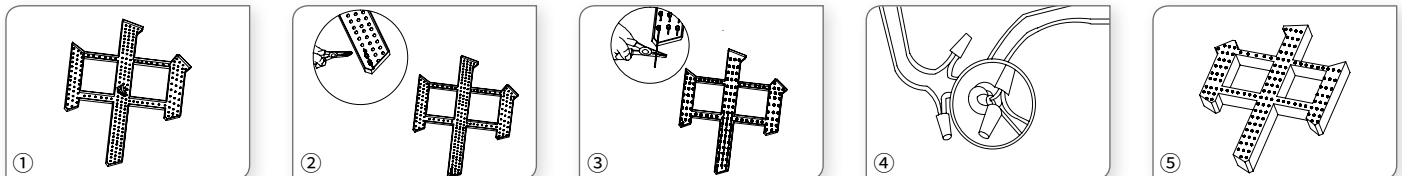
Pass the product through the profile
and clamp it tightly



Screw the Aluminum profile to bottom cover

Screw the bottom cover to the wall

Exposed channel letters installation

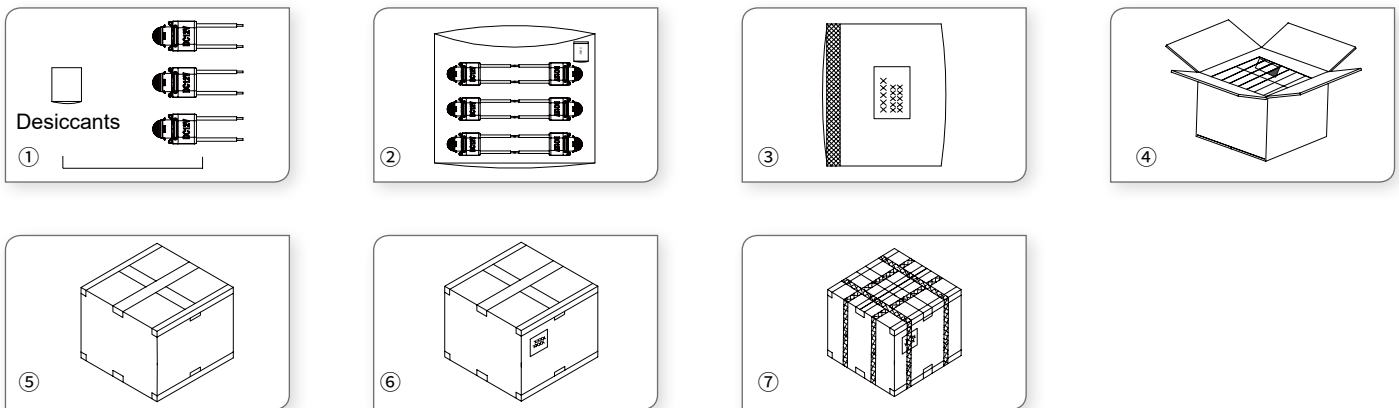


1. Clean the mounting surface.
2. Put the through-hole LED module into the reserved hole.
3. Cut the modules according to the requirements and treat the cut place with insulation and waterproof arrangement.
4. If the product needs to be connected, it is better to fix with connection ends.
5. After that,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

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



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*H(mm)	Carton Size(mm)	PCS/Bag	Bag/carton	Net Weight(kg)	Gross Weight(kg)
CS20	22*21*16.1	380*380*325	150	16	13.55(1±10%)	14.75(1±10%)

NOTE:

The product is sealed in static shielding bag and packed in a special designed 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.

Attentions before installation

- 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
All LEDs can not light on.	No electric supply.	Power on
	Automatic power protection from the open or short circuit in output of the power supply.	Fix the short circuit problem.
	Wrong connection of power supply.	
LEDs can not light on partly.	Some switching mode power supplies are not powered.	Check the power supply system to fix it.
	Power supply line error.	
	Mistaken wire connection of some of products	Correctly connection
Brightness of LED is inconsistent or 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 4 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:

- 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.