COLORS

AW Series Specification

AWS2020

Indoor outdoor IP68 IK10 FLAME RESISTANT SALTWATER RESISTANT SOLVENT RESISTANT

UV RESISTANT CB CE RoHS UK CA Reach

E-mail:colors@colorsled.com

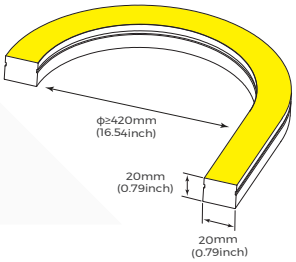
Version：A00

www.colorsled.com

【Optical Features】

- **Light source:** High reliability light source;
- **Structure**: The lamp body shell is made of environmentally friendly, high-strength special materials;
- **Optical design:** unique optical light distribution structure design, uniform light emission on the surface without shadows;
- **Environmental characteristics:** salt resistance, acid and alkali corrosion resistance, resistant to active chlorine in the pool, UV resistance;
  (Chlorine Resistances < 10ppm* ,Salt Resistance < 4%)
- **Working/storage temperature:** Ta: -20~50℃ / 0℃～60℃;
- **Product application:** swimming pool lighting;
- **5 years warranty or working life =60000H,whichever comes first.**

2700 K | 3000 K | 3700 K | 6500 K



* 《ANSI/APSP/ICC-11》: Free available chlorine concentration range: 1.0–3.0 ppm

* 《EN 15288-1:2018 and EN 15288-2:2018》: Free available chlorine concentration range: 0.3–1.5 ppm

【Basic Parameters】

Model	CCT/colors	Color range	CRI	Input voltage (V)	Rated current (A/m)	Rated power (w/m)	Maximum power (w/m)	Lumens (LM/m)	Standard Length	Remark
AWS2020-9XW24CST200CC0500-GV10-EP	2700K	2450-2750K	>90	24V	0.4 (0.24A/ft)	10 (3.05W/ft)	11 (3.35W/ft)	510(155/ft)	5000mm	16LED/50mm
	3000K	2770-3070K						560(171/ft)		
	3700K	3475-3925K						610(186/ft)		
	6500K	6000-7000K						622(190/ft)		

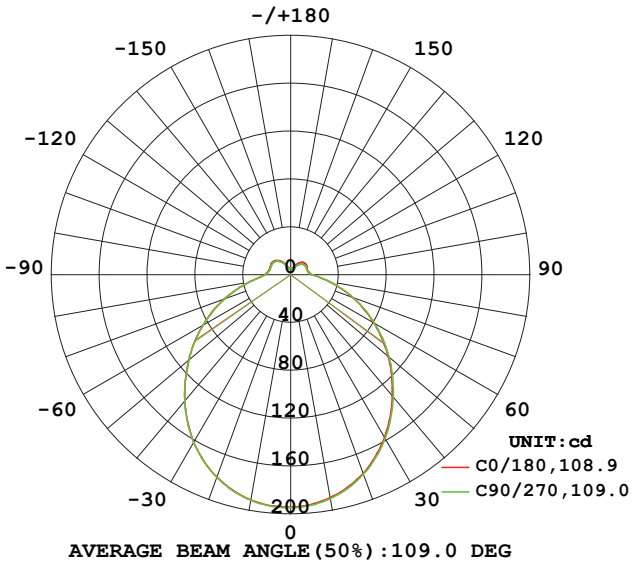
Note:

1、The above data is the testing result of 1M standard product;

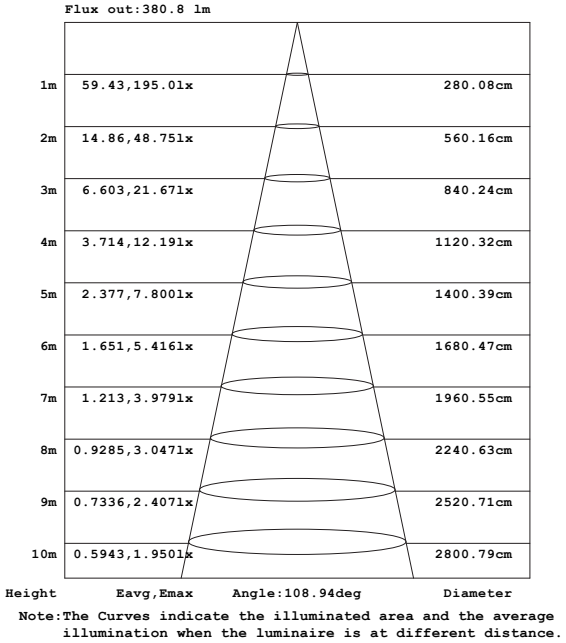
2、The luminous flux is allowed to have an error range of ±15%;

3、The above parameters are all typical values.

【Light Distribution】



Light distribution

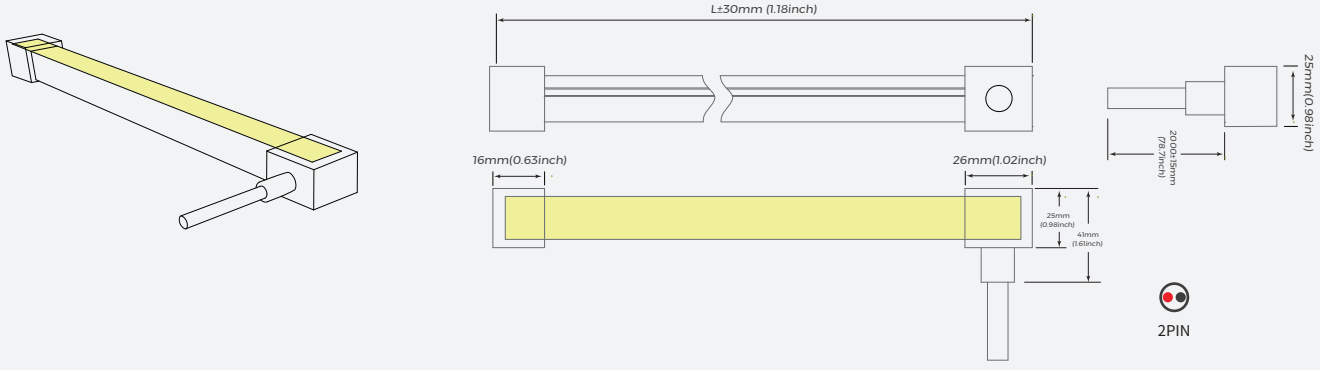


Effective average illuminance

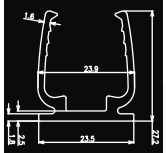
Note: The above data is based on 24V monochrome 4000K color temperature. If you need other models of IES files, please download the corresponding models from the IES database.

【Product Mechanical Parameters】

·IP68 Full encapsulted cap(EP)-side outlet



【Accessory Information】

Name	Description	Imgae	Sectional size	Ordering code	Quantity case (PCS)	net weight (kg)	Per box net weight (kg)	Gross weight (kg)	Packing (mm)	Remark
PC carrier	Flat mount PC slot			AS-AWS-T2020A-950	50	0.18	9	10.8	1180*125*115	Size: L950*W23.9*H27.2mm with screws
PC card	Flat mount PC clip			AS-AWS-T2020A-30	240	0.008	1.92	2.92	250*250*150	Size: L30*W23.9*H27.2mm with screws
Junction box	Waterproof junction box		/	AS-FC-0031	72	0.06	4.32	5.32	250*250*150	/
Glue	Injection molding glue		/	AS-PG-0004	48	0.09	4.32	6.32	365*365*335	/
Wire	2P TPU wire (0.5m)		/	AS-WS-0037	200	0.018	3.6	4.1	250*250*150	Suitable for single color strip
Wire	2P TPU wire (2m)		/	AS-WS-0038	50	0.072	3.6	4.1	250*250*150	Suitable for single color strip

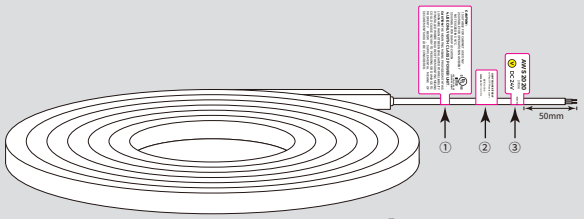
【Product control system solutions】

Product Image	product name	Product number	Product specifications	Applicable Products
	Monochrome remote	R6-1	output signal：RF Working voltage：3VDC(CR2032) Remote control distance：30m Working temperature:Ta:0-30 °C~0+55 °C	Monochrome light strip (Use with CR1-GBA)
	Monotone light controller	CR1-GBA	Input voltage：DC12-48V Output current：15A@12V/24V,10A@36V/48V Output Power：Max 180W@12V/Max 360W @24V/Max 360W@36V/Max 480W@48V Working temperature：-30°C— +55°C	Monochrome light strip (Use with CK1-GBA)

【Packaging Solutions】

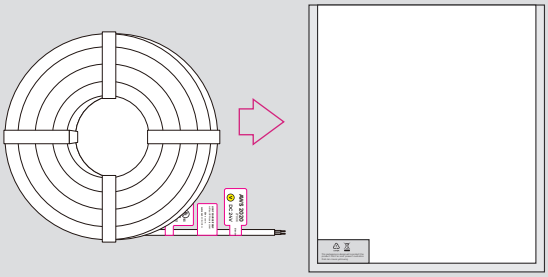
- **Standard Packaging**

1



①UL label
②ErP label
③voltage label
The above labels should be used according to the actual situation.

2



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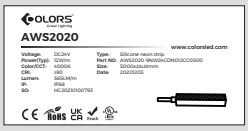
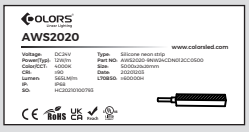
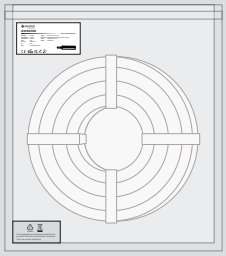


Electrostatic bag label



ErP Electrostatic bag label



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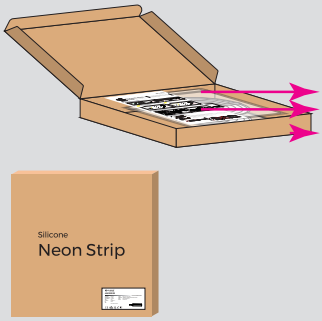

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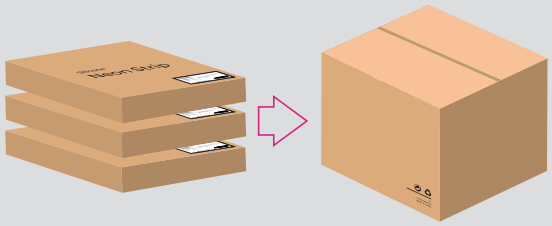

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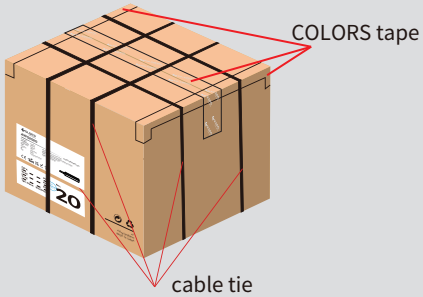
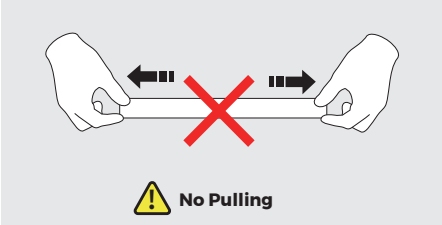


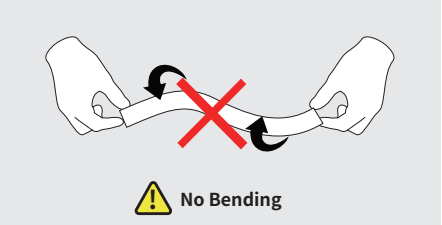
Model	Product size	Product Quantity/ box	Product Quantity/ case	Product net weight (kg)	Net weight per box (kg)	Gross weight (kg)	Carton size (m)
AWS2020-9XW24CST200CC0500-GV10-EP	L5000*20*20mm	5M	15M	2.25	6.75	8.8	0.48*0.48*0.23

【Reliability Test】

Test Item	Classification	Reference	Test method or condition
Safety test	Mechanical strength	IEC 60598-1；IEC 60598-2-21	The hammer spring Impact energy 0.35J
	IP	IEC 60598-1；IEC 60598-2-21	IP68
	Winding Test	IEC 60598-1；IEC 60598-2-21	ϕ150mm cylinder, 60N pull, winding 10 times at（-25°C ±2°C）, and 10 times after(-15°C±2°C, 16h).
	Cold Bend Test	IEC 60598-1；IEC 60598-2-21	wound on mandrel, low-temperature (-15°C±2°C, 16h), around the mandrel for two turns
	Cold Impact test	IEC 60598-1；IEC 60598-2-21	Low-temperature（-15°C±5°C, 16h), hammer falls from a height of 100mm.
	Insulation Resistance	IEC 60598-1；IEC 60598-2-21	≦ 2MΩ
	Electrical strength	IEC 60598-1；IEC 60598-2-21	500V
Mechanical reliability testing	Bending test	Colors	Each 200mm，bending up and down 100 times
	Bending test	Colors	Each 200mm, bending left and right 100 times
	Torsion test	Colors	Twist clockwise 5 times and then release, repeat 200 times
	Disassembly and assembly test	Colors	Repeat disassembly and assembly, 10 times
Environment Reliability testing	High temperature storing test	IEC 60068-2-2	80°C, 168h
	Low temperature storing test	IEC 60068-2-1	-40°C, 168h
	High temperature and Humidity impact	IEC 60068-2-78	60°C, 85%RH
	Salt Spray test	IEC 60068-2-11	5% salt solution concentration, 24h
	IK	IEC 62262	5 times of impact on each exposed surface
	Lifetime aging test	Colors	35°C, 6000h
	switch test	Colors	10s On, 10s Off, 10000 times

【 Notes 】





1. Safe Electricity Use

1. Non-professionals are prohibited from installing or disassembling the light strips.
2. Ensure the driver's voltage matches the product to avoid overload or short circuit.
3. The IP68 wiring system that comes with the product must be selected to prevent electric leakage.
4. Use an isolated power supply to drive the LED light strips. The ripple of the constant voltage source must be less than 5%. Capacitor-drop, non-isolated, or similar types of power supplies are not allowed.
5. In practical applications, the power supply should have a 20% margin (it is recommended to use only 80% of its power) to ensure sufficient voltage for driving the product.
6. Operate with caution. Do not touch the AC power terminals when the power is on to prevent electric shock.
7. Pay attention to the positive and negative poles of the power cord; do not connect them incorrectly. Verify that the voltage of the power supply matches the product to avoid product damage.

2. Installation Environment

1. For swimming pools, fountain pools and water features:
   Active chlorine concentration shall be < 10 ppm, and salt concentration shall be < 4%
   * 《ANSI/APSP/ICC-11》: Free available chlorine concentration range: 1.0–3.0 ppm
   * 《EN 15288-1:2018 and EN 15288-2:2018》: Free available chlorine concentration range: 0.3–1.5 ppm
2. Avoid high-temperature environments (e.g., near heaters and fire sources) and areas with corrosive gas or liquid.

3. Installation Precautions

1. Use dedicated profiles or clips for fixation; avoid bending or pulling the wires.
2. Ensure firm contact during wiring to prevent faults caused by poor connections.
3. During installation, avoid scratching, twisting, or irregularly bending the product, as this may cause irreparable damage.
4. To ensure the light strip's lifespan and reliability, do not bend it beyond the minimum bending radius. An excessively small bending radius will damage the product.
5. If the actual application length exceeds the specified usable length, the light strip may experience overload, overheating, or uneven brightness.
6. Do not use any acidic or alkaline adhesives (including but not limited to glass glue) to fix the product.
7. Due to structural differences, products of different sizes may have slight color deviations under the same color temperature. Confirm this before use.
8. Products with IP68 protection cannot be cut or processed by yourself.
9. For unwinding and placing engineering-packaged neon products during construction, use a pay-off stand to avoid damage from pulling forces.
10. During construction and installation, do not use adhesives (e.g., 502/705) that react with silicone. Silicone sealant is recommended for bonding.
11. For underwater power connection of pool neon products or connection between two product lead wires, use certified or tested professional IP68 waterproof junction boxes with proper installation.
12. Power drivers and control devices for pool neon lights shall be kept away from water sources to prevent malfunction of the drive and control system.

4. Usage and Maintenance

1. Disconnect the power supply when the product is not in use for a long time to extend its lifespan.
2. Ensure proper sealing for products stored long-term or remaining after cutting; avoid exposure to organic environments containing aldehydes/benzenes.
3. To protect eyesight, avoid staring at the light-emitting surface of the lit light strip for a long time.
4. When installing and using the product, ensure the entire product is in the same environmental conditions to prevent uneven color changes of the product's colloid caused by different exposure levels or environmental differences.

5. Environmental Handling

1. Discarded light strips must be recycled in accordance with e-waste regulations; do not discard them randomly.
2. When replacing light strips, prioritize degradable or energy-saving products.

6. Other Statements

1. For mass production, 1-2 splices per 5 meters are allowed.
2. Due to material characteristics, slight color change of the product appearance after long-term use is normal.
3. When using dimmers (e.g., Triac) and dimming power supplies with the product, conduct compatibility tests between the product, dimmer, and dimming power supply to ensure full adaptation. For any issues, please contact COLORS for professional technical support.