

TEST REPORT

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| Test Report No. | BSR202203080101-9 |
| Applicant/Address | TroyCSL Lighting Inc 14508 Nelson Ave, City of Industry, CA 91744 |
| Manufacturer | TroyCSL Lighting |
| Description of Sample(s) | Wall Sconce |
| Investigation Requested | IDA Fixture Seal of Approval Criteria as of May 17, 2021 |
| Test Method | IESNA TM-15-11 Luminaire Classification System for Outdoor Luminaires |
| Conclusion(s) | See test data in the following pages |
| Test Laboratory | Bell-Southcn Testing laboratory (Shenzhen) |
| Address | A5 Blding, Tianrui Industrial Park, Fuyuan 1st Road, Fuyong, Baoan District, Shenzhen, Guangdong 518103, CN. Email: Marketing@bell-southcn.com |
| Accreditation Body | International Accreditation Service, Testing Laboratory TL525 |
| Date Sample(s) Received | 2022-03-08 |
| Report Date | 2022-03-15 |
| Test Engineer Signature | WuZhuoHui |
| Witness/Approval | Peter Tao |
| Signature | |

Note: This test report is prepared for the applicant shown above and for the device described herein. It may not be duplicated or use in part without prior written consent from Bell-Southcn Testing Laboratory (shenzhen). This report must not be used by the customer to claim product certification, approval, or endorsement By IAS, NIST, or any agency of the Federal Government. The test data was only obtained from samples submitted by the applicant, Not applicable

Measurement Result :

| | |
|--|---|
| Model No: | B8816-TBK |
| Voltage(V) | 120.000 |
| Current(A) | 0.094 |
| Power(W) | 11.080 |
| PF | 1.000 |
| Lumens(lm) | 645.79 |
| Luminous Efficacy(lm/W) | 58.28 |
| Central intensity(cd) | 152.259 |
| Maximum intensity(cd) | 158.661 |
| Angle of maximum intensity(cd) | C=67.5 γ =15.0 |
| Beam Angle(50%Imax) | [C0/180]Total=155.4 [C90/270]Total=149.8 |
| Field Angle(10%Imax) | [C0/180]Total=169.0 [C90/270]Total=169.7 |
| Maximum s/h(1/2) | C0_180=1.47 C90_270=1.50 |
| Maximum s/h(1/4) | C0_180=1.64 C90_270=1.72 |
| Up flux rate of LUM(%) | 0% |
| Down flux rate of LUM(%) | 100% |
| CIE Type | Direct lighting |
| Lamp Type | A19 12Watt LED |
| Output flux ratio in π solid angle | 66.073% |
| Cut-off/ Non-Cutoff type | Full Cut -off |

Remark:

Full Cut-off: no luminous flux above 90°, no more than 10% of the luminous flux of the light source in the lamp at any position from 80° to 90°

Cut-off: Any position above 90° does not exceed 2.5% of the luminous flux of the light source in the luminaire, and any position between 80°-90° does not exceed 10% of the luminous flux of the light source inside the luminaire

Semi-Cut-off: Any position above 90° does not exceed 5% of the luminous flux of the light source in the luminaire, and any position between 80° and 90° does not exceed 20% of the luminous flux of the light source in the luminaire

Non-Cut-off: Unlimited

Fixture Seal of Approval Criteria as of May 17, 2021 by International Dark-Sky Association

To be listed, a fixture must be fully shielded and emit no light above the horizontal plane. There shall be no sag or drop lenses, side light panels, uplight panels, etc. Approved fixtures shall employ warm-toned (3000K and lower) white light sources or may employ amber light sources or filtered LED light sources. If other cct's or mounting options are available for the luminaire, a notation needs to be made on the web page, spec sheets, and order forms that 3000k or warmer, and fixed mounts must be ordered for IDA certification compliance.

For Commercial luminaires:

Photometric files are needed to validate performance characteristics.

There is an uplight allowance of 0.5% of total output or 50 lumens; whichever is lower, with no more than 10 lumens in 90-100 degree UL zone. Allowable uplight as a byproduct of the structure and not the source, i.e. the fixture is fully shielded.

Street and area lights must have a pre or post-installation shielding option.

Luminaires are required to have fixed mounts to ensure they are mounted as photometered.

There can be up to + or- 10-degree adjustment for leveling if needed.

Luminaires must have dimming capability to 10% of full rating.

Light sources shall have a maximum correlated color temperature of 3000K.

Luminaires must have Safety Certification by an independent laboratory.

For Residential luminaires:

Uplight allowance: Not to exceed 50 lumens from source reflection or support structures.

Source is not visible from the horizontal plane, i.e. the fixture is fully shielded.

Require fixed mounts to ensure luminaire is mounted as photometered.

Light sources shall have a maximum correlated color temperature of 3000K.

Safety Lab Certification

Measurement Result :Full Cut-off type <3000K

dimnable less than 10% of full rating.

**Comply with FSA (Fixture Seal of Approval) for Residential
Luminaires**

B8816-TBK

Zonal flux distribution table

ZONAL LUMEN SUMMARY

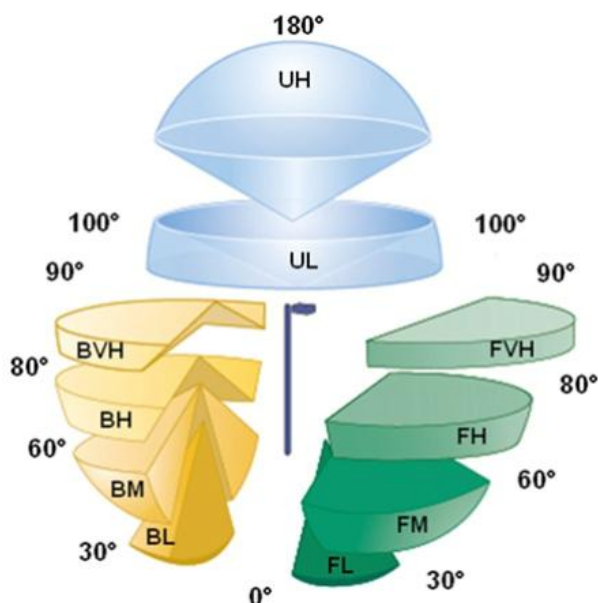
| Zone | Lumens | %Fixt |
|---------|--------|---------|
| 0-30 | 124.09 | 19.21% |
| 0-40 | 211.79 | 32.79% |
| 0-60 | 426.85 | 66.10% |
| 0-90 | 645.79 | 100.00% |
| 0-120 | 645.79 | 100.00% |
| 0-180 | 645.79 | 100.00% |
| 60-90 | 218.95 | 33.90% |
| 90-120 | 0.00 | 0.00% |
| 90-130 | 0.00 | 0.00% |
| 90-150 | 0.00 | 0.00% |
| 90-180 | 0.00 | 0.00% |
| 0-68.26 | 516.64 | 80.00% |

ZONAL LUMEN SUMMARY

| | |
|---------|--------|
| 0-10 | 14.48 |
| 10-20 | 42.38 |
| 20-30 | 67.23 |
| 30-40 | 87.70 |
| 40-50 | 102.99 |
| 50-60 | 112.07 |
| 60-70 | 107.34 |
| 70-80 | 80.87 |
| 80-90 | 30.74 |
| 90-100 | 0.00 |
| 100-110 | 0.00 |
| 110-120 | 0.00 |
| 120-130 | 0.00 |
| 130-140 | 0.00 |
| 140-150 | 0.00 |
| 150-160 | 0.00 |
| 160-170 | 0.00 |
| 170-180 | 0.00 |

LUMINAIRE CLASSIFICATION SYSTEM (LCS)

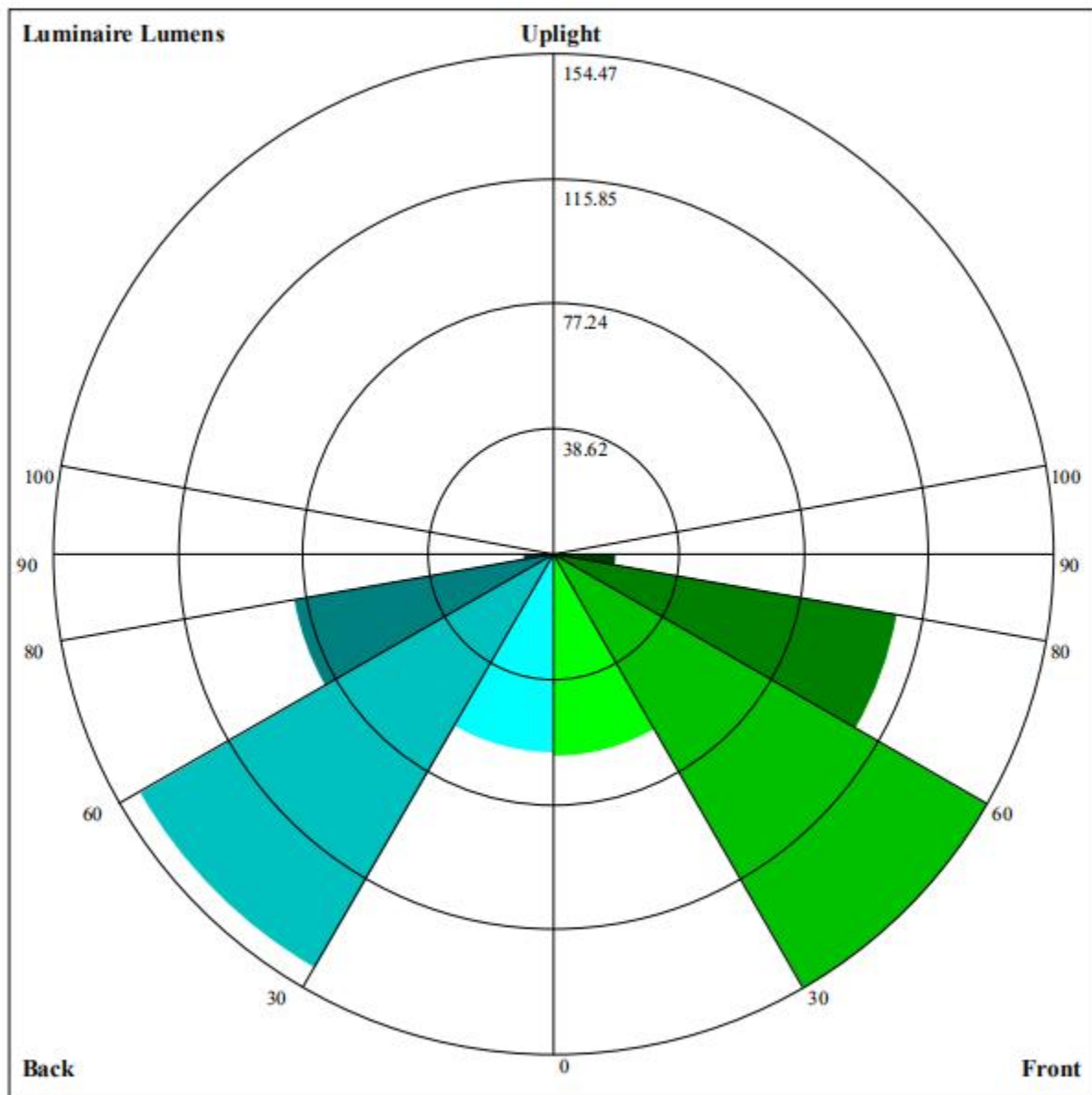
| | Lumens | %Lamp | %Luminaire |
|----------------------------|---------------|-----------------|----------------|
| FL-Front-Low(0-30) | 62.64 | 9.70% | 9.70% |
| FM-Front-Medium(30-60) | 154.47 | 23.92% | 23.92% |
| FH-Front-High(60-80) | 107.70 | 16.68% | 16.68% |
| FVH-Front-Very High(80-90) | 19.55 | 3.03% | 3.03% |
| BL-Back-Low(0-30) | 61.27 | 9.49% | 9.49% |
| BM-Back-Medium(30-60) | 147.60 | 22.86% | 22.86% |
| BH-Back-High(60-80) | 81.69 | 12.65% | 12.65% |
| BVH-Back-Very High(80-90) | 9.73 | 1.51% | 1.51% |
| UL-Uplight-Low(90-100) | 0.00 | 0.00% | 0.00% |
| UH-Uplight-High(100-180) | 0.00 | 0.00% | 0.00% |
| Total | 645.79 | 100.00% | 100.00% |
| BUG Rating | | B0-U0-G1 | |



Remark:

The Luminaire Classification System (LCS) defines the distribution of light from a luminaire within three primary solid angles. These are further divided into 10 secondary solid angles. LCS can be described as either percent bare lamp lumens or luminaire lumens for each primary and secondary solid angle. It is based in part on IES-funded research. The LCS quantifies light distribution in front of the luminaire (Forward Light), behind the luminaire (Back Light), and above the luminaire (Uplight).

LCS Graph



Luminaire Lumens:

FL=62.64,FM=154.47,FH=107.7,FVH=19.55

BL=61.27,BM=147.6,BH=81.69,BVH=9.73

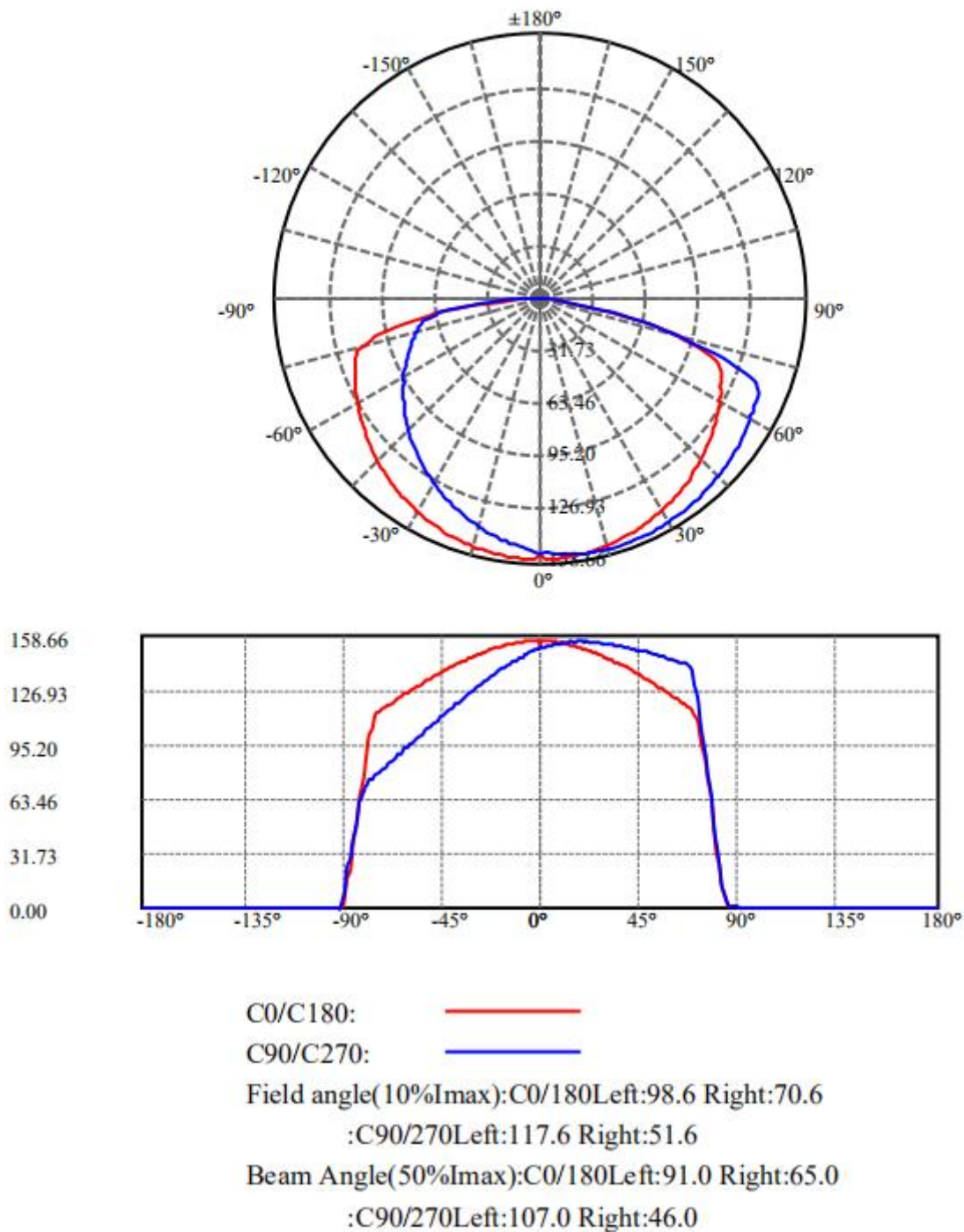
UL=0,UH=0

BUG Rating:B0-U0-G1

B8816-TBK

Light Distribution Curve [Unit:cd]

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Product Photos:

(Luminaire Position Under Test: Lighting Downward)



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