

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: STREETWORKS

Report Number: P1381463

Luminaire Tested: **VAL-T-SB5A-727-U-T1**

Issue Date: 02/18/2026

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been  
influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
 Report Number: P1381463  
 Test Lab: INNOVATION CENTER(G3)  
 Issue Date: 02/18/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: VAL-T-SB5A-727-U-T1  
 Description: GALLEON II WALL SLIM HIGH DENSITY LED ARRAYS 55 SQUARE 143W 70CRI  
 2700K FIXTURE w/ TYPE I DISTRIBUTION OPTIC  
 Light Source: (130) 2700K CCT, 70 CRI LEDS  
 Ballast/Driver: ELECTRONIC DRIVER  
 Luminaire Equipment:

| <u>Sample No.</u> | <u>Condition</u> | <u>Description</u> |
|-------------------|------------------|--------------------|
| a                 | good             | reflector          |
| b                 | good             | lens               |
| c                 | good             | housing            |
| d                 | good             | cord               |

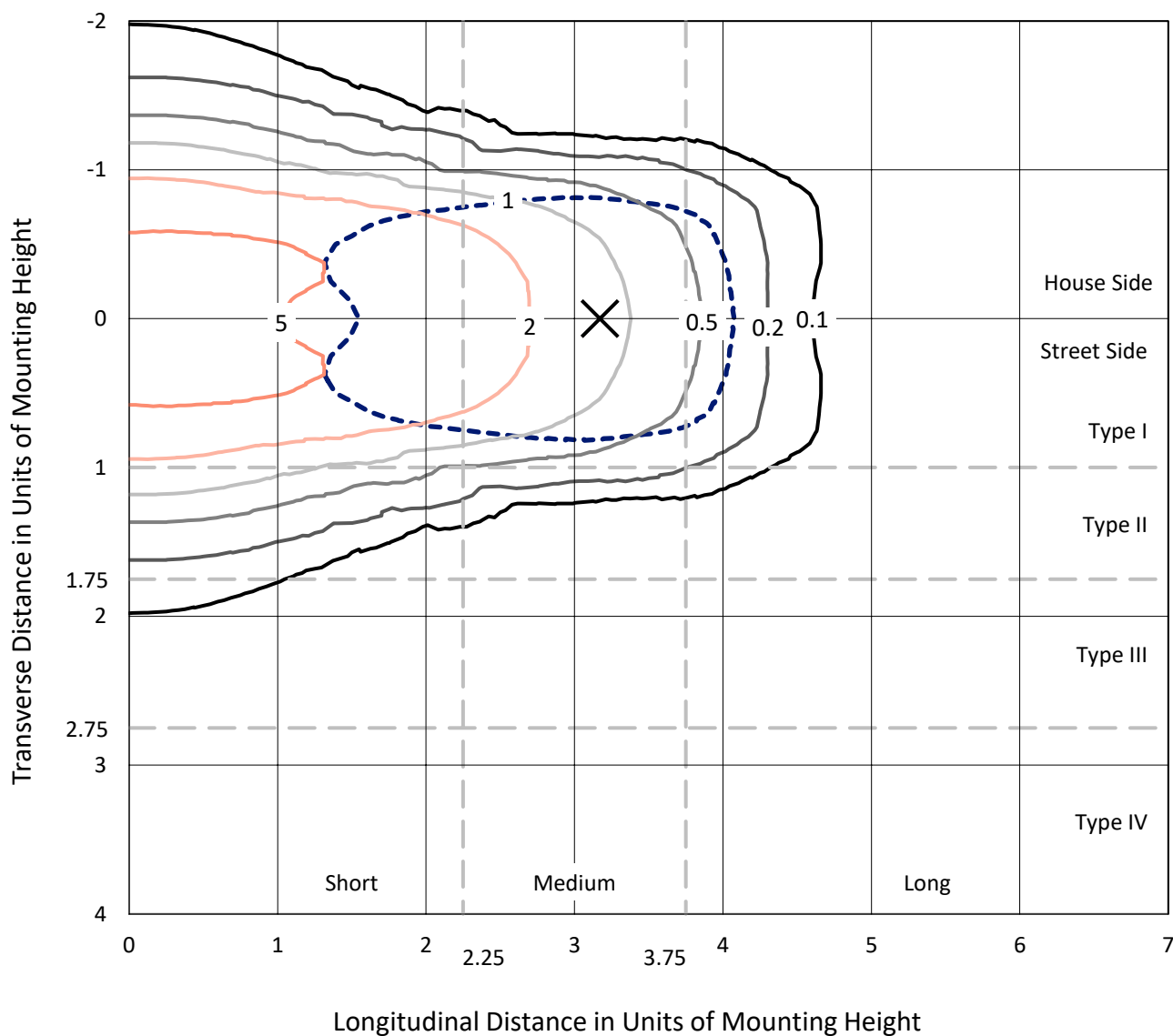
**Summary**

Lumens per Lamp: N/A  
 Luminaire Lumens: 19943.3 lumens  
 Efficiency: N/A  
 Efficacy: 139.5 lumens/watt  
 Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
 IES Classification: Type I - Short  
 BUG Rating: B4 - U0 - G4  
  
 Input Watts (W): 143  
 Input Voltage (V): 120  
 Input Current (Ain): NR  
 Voltage Rise (V): NR  
 Power Factor: 0.98  
 Total Harmonic Distortion (THDi): 10.5%  
 Frequency (hertz): 60  
 Stabilization Time: NR  
 Operation Time: NR  
 Ambient Temperature (°C): NR  
 Test Distance: 28.75 FT

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## Iso-Footcandle Lines of Horizontal Illumination

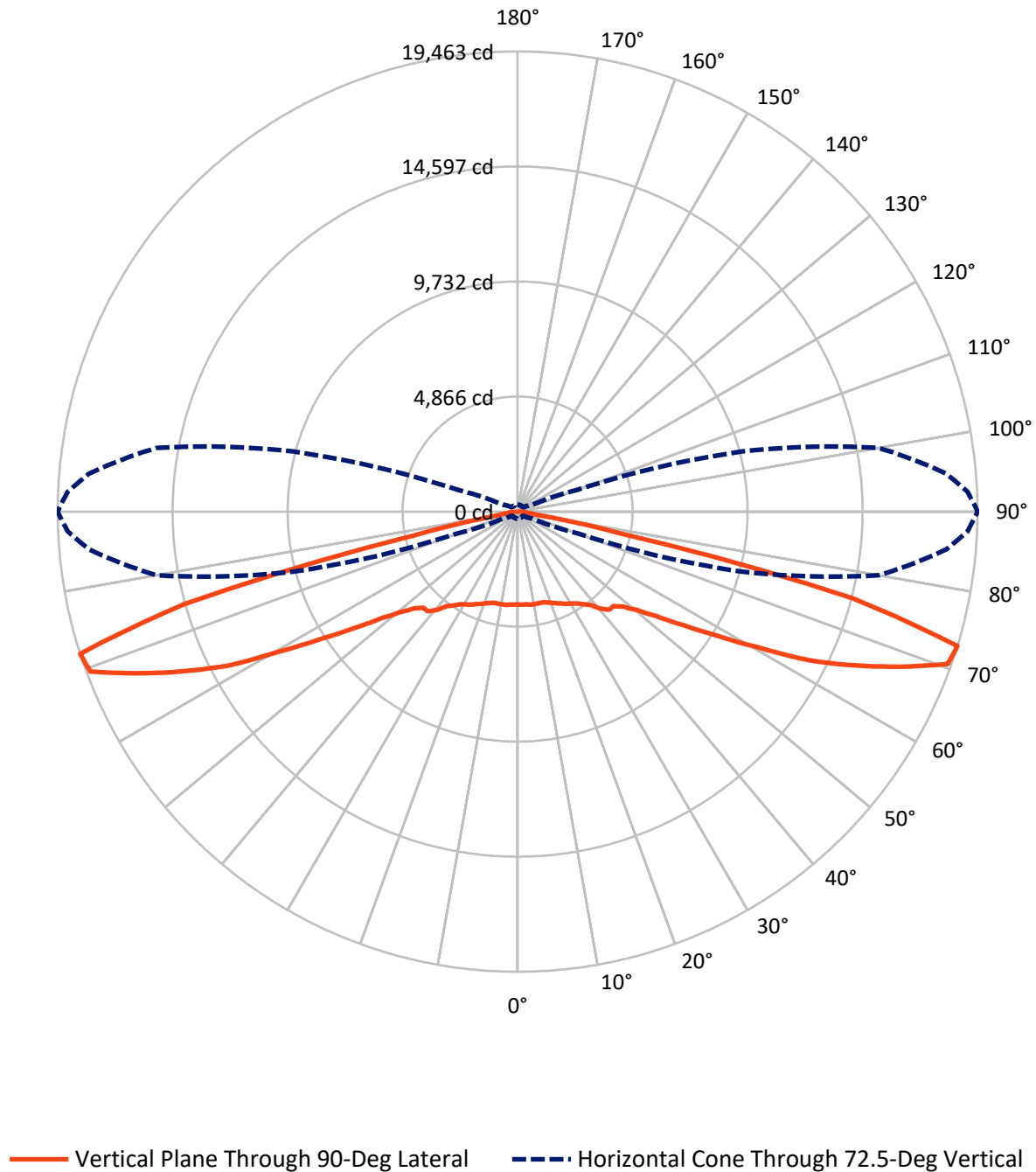
× Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 9.8 fc  
 Type I - Short - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 9971.6   | 0.0    | 9971.6  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 9971.6   | 0.0    | 9971.6  |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 19943.3  | 0.0    | 19943.3 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 380.3   | 1.9       |
| 10°-20°   | 1159.2  | 5.8       |
| 20°-30°   | 1937.5  | 9.7       |
| 30°-40°   | 2671.9  | 13.4      |
| 40°-50°   | 3275.4  | 16.4      |
| 50°-60°   | 3838.3  | 19.2      |
| 60°-70°   | 4262.4  | 21.4      |
| 70°-80°   | 2317.9  | 11.6      |
| 80°-90°   | 100.4   | 0.5       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 19943.3 | 100.0     |
| 0°-180°   | 19943.3 | 100.0     |

**Coefficient of Utilization**



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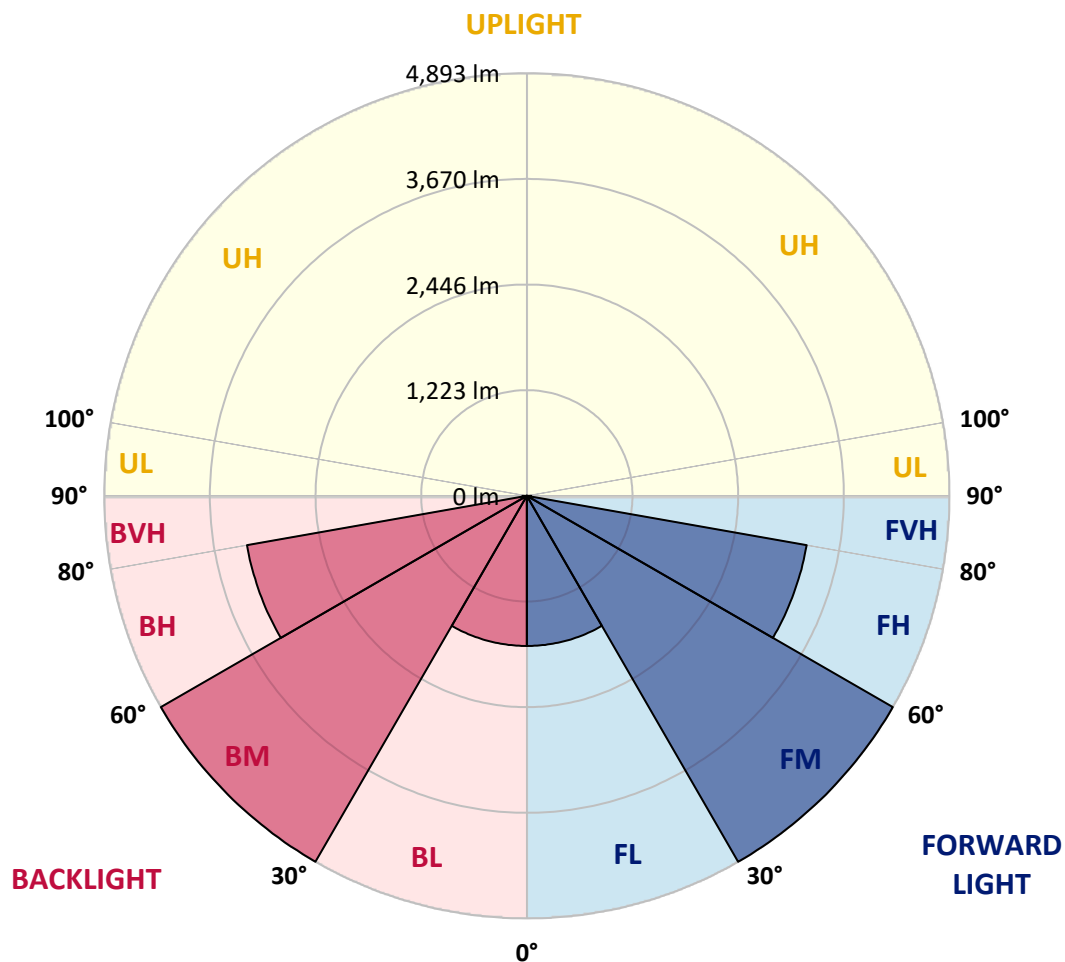
CATALOG NUMBER: VAL-T-SB5A-727-U-T1

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1738.5 | 8.7       |                         |      |         |
| FM   | (30°-60°)   | 4892.8 | 24.5      |                         |      |         |
| FH   | (60°-80°)   | 3290.1 | 16.5      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 50.2   | 0.3       |                         |      | G1/100  |
| BL   | (0°-30°)    | 1738.5 | 8.7       | B3/2500                 |      |         |
| BM   | (30°-60°)   | 4892.8 | 24.5      | B3/5000                 |      |         |
| BH   | (60°-80°)   | 3290.1 | 16.5      | B4/5000                 |      | G4/5000 |
| BVH  | (80°-90°)   | 50.2   | 0.3       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B4-U0-G4**

Type I Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 70°     | 75°     | 80°     |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| 0°    | 3929.3 | 3929.3 | 3929.3 | 3929.3 | 3929.3 | 3929.3 | 3929.3 | 3929.3 | 3929.3  | 3929.3  | 3929.3  |
| 2.5°  | 3933.7 | 3933.7 | 3920.6 | 3938.0 | 3929.3 | 3933.7 | 3938.0 | 3933.7 | 3929.3  | 3933.7  | 3938.0  |
| 5°    | 3955.5 | 3946.8 | 3955.5 | 3964.2 | 3951.1 | 3959.9 | 3955.5 | 3933.7 | 3946.8  | 3946.8  | 3946.8  |
| 7.5°  | 3994.8 | 4003.5 | 3994.8 | 4016.6 | 4003.5 | 4029.7 | 4003.5 | 3986.1 | 3981.7  | 3977.3  | 3977.3  |
| 10°   | 4012.3 | 4012.3 | 4007.9 | 4047.2 | 4055.9 | 4082.1 | 4064.7 | 4038.5 | 4025.4  | 4007.9  | 3990.4  |
| 12.5° | 3964.2 | 3973.0 | 3994.8 | 4069.0 | 4104.0 | 4156.3 | 4143.2 | 4090.9 | 4051.6  | 4038.5  | 4012.3  |
| 15°   | 3911.9 | 3920.6 | 3964.2 | 4055.9 | 4138.9 | 4217.5 | 4213.1 | 4147.6 | 4099.6  | 4064.7  | 4025.4  |
| 17.5° | 3828.9 | 3842.0 | 3903.1 | 4042.8 | 4191.3 | 4278.6 | 4304.8 | 4239.3 | 4186.9  | 4130.1  | 4077.8  |
| 20°   | 3689.2 | 3689.2 | 3798.3 | 3977.3 | 4182.5 | 4379.0 | 4448.9 | 4396.5 | 4335.3  | 4243.7  | 4173.8  |
| 22.5° | 3532.0 | 3540.8 | 3649.9 | 3885.7 | 4178.2 | 4466.3 | 4601.7 | 4544.9 | 4483.8  | 4383.4  | 4278.6  |
| 25°   | 3374.8 | 3374.8 | 3497.1 | 3763.4 | 4121.4 | 4527.4 | 4780.7 | 4750.1 | 4627.9  | 4536.2  | 4400.8  |
| 27.5° | 3230.8 | 3230.8 | 3361.7 | 3641.2 | 4025.4 | 4544.9 | 4959.7 | 4959.7 | 4824.3  | 4689.0  | 4540.5  |
| 30°   | 3060.5 | 3104.2 | 3252.6 | 3545.1 | 3938.0 | 4514.3 | 5090.6 | 5173.6 | 5051.4  | 4876.7  | 4658.4  |
| 32.5° | 2916.4 | 2947.0 | 3099.8 | 3409.8 | 3811.4 | 4479.4 | 5239.1 | 5444.3 | 5317.7  | 5077.5  | 4833.1  |
| 35°   | 2746.2 | 2741.8 | 2916.4 | 3222.0 | 3632.4 | 4400.8 | 5357.0 | 5767.4 | 5645.1  | 5387.5  | 5055.7  |
| 37.5° | 2523.5 | 2523.5 | 2702.5 | 2999.4 | 3462.2 | 4265.5 | 5453.0 | 6125.4 | 6033.7  | 5741.2  | 5387.5  |
| 40°   | 2283.4 | 2309.6 | 2466.7 | 2768.0 | 3257.0 | 4104.0 | 5453.0 | 6417.9 | 6465.9  | 6164.7  | 5797.9  |
| 42.5° | 2108.7 | 2117.5 | 2261.5 | 2545.3 | 3029.9 | 3894.4 | 5383.2 | 6671.1 | 6815.2  | 6562.0  | 6086.1  |
| 45°   | 1925.4 | 1947.2 | 2069.4 | 2331.4 | 2794.2 | 3645.5 | 5260.9 | 6954.9 | 7186.3  | 7011.6  | 6387.3  |
| 47.5° | 1702.7 | 1724.5 | 1864.2 | 2130.6 | 2571.5 | 3374.8 | 5055.7 | 7251.8 | 7736.4  | 7609.8  | 6924.3  |
| 50°   | 1445.1 | 1462.6 | 1593.6 | 1877.3 | 2322.7 | 3064.9 | 4798.1 | 7474.4 | 8286.5  | 8413.1  | 7736.4  |
| 52.5° | 1130.8 | 1143.9 | 1283.6 | 1558.6 | 2025.8 | 2768.0 | 4435.8 | 7609.8 | 8841.0  | 9286.3  | 8823.5  |
| 55°   | 812.1  | 833.9  | 956.1  | 1183.2 | 1632.8 | 2370.7 | 4003.5 | 7679.6 | 9447.8  | 10321.0 | 10172.6 |
| 57.5° | 585.0  | 593.8  | 676.7  | 851.4  | 1213.7 | 1903.5 | 3449.1 | 7561.7 | 9993.6  | 11556.6 | 11866.5 |
| 60°   | 484.6  | 484.6  | 497.7  | 580.7  | 829.5  | 1344.7 | 2785.4 | 7125.2 | 10460.7 | 12805.2 | 13761.3 |
| 62.5° | 445.3  | 445.3  | 454.1  | 467.2  | 545.7  | 873.2  | 1990.9 | 6238.9 | 10513.1 | 14005.8 | 15839.5 |
| 65°   | 406.0  | 406.0  | 414.8  | 423.5  | 441.0  | 567.6  | 1200.6 | 4566.7 | 9487.1  | 14018.9 | 16957.2 |
| 67.5° | 371.1  | 371.1  | 375.5  | 379.8  | 388.6  | 414.8  | 659.3  | 2768.0 | 7592.3  | 13647.8 | 17385.0 |
| 70°   | 336.2  | 336.2  | 336.2  | 331.8  | 344.9  | 349.3  | 436.6  | 1405.8 | 5077.5  | 12325.0 | 17179.8 |
| 72.5° | 296.9  | 296.9  | 292.5  | 283.8  | 288.1  | 288.1  | 323.1  | 689.8  | 2637.0  | 9797.1  | 15512.1 |
| 75°   | 253.2  | 257.6  | 240.1  | 231.4  | 227.0  | 231.4  | 257.6  | 392.9  | 1178.8  | 5942.0  | 11591.5 |
| 77.5° | 213.9  | 222.7  | 196.5  | 179.0  | 174.6  | 174.6  | 200.8  | 244.5  | 506.4   | 2156.8  | 5195.4  |
| 80°   | 161.5  | 165.9  | 144.1  | 126.6  | 126.6  | 122.2  | 148.4  | 179.0  | 240.1   | 641.8   | 1165.7  |
| 82.5° | 91.7   | 91.7   | 83.0   | 74.2   | 69.9   | 74.2   | 100.4  | 122.2  | 148.4   | 227.0   | 318.7   |
| 85°   | 21.8   | 21.8   | 26.2   | 30.6   | 30.6   | 39.3   | 56.8   | 65.5   | 78.6    | 91.7    | 122.2   |
| 87.5° | 4.4    | 4.4    | 4.4    | 8.7    | 13.1   | 13.1   | 21.8   | 30.6   | 39.3    | 48.0    | 52.4    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |



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 CATALOG NUMBER: VAL-T-SB5A-727-U-T1

**CANDELA DISTRIBUTION (continued):**

|       | 85°     | 87.5°   | 90°     |
|-------|---------|---------|---------|
| 0°    | 3929.3  | 3929.3  | 3929.3  |
| 2.5°  | 3938.0  | 3942.4  | 3938.0  |
| 5°    | 3964.2  | 3955.5  | 3942.4  |
| 7.5°  | 3968.6  | 3973.0  | 3977.3  |
| 10°   | 3986.1  | 4003.5  | 3977.3  |
| 12.5° | 4003.5  | 3990.4  | 3981.7  |
| 15°   | 4016.6  | 4012.3  | 3986.1  |
| 17.5° | 4064.7  | 4047.2  | 4042.8  |
| 20°   | 4138.9  | 4134.5  | 4121.4  |
| 22.5° | 4226.2  | 4217.5  | 4213.1  |
| 25°   | 4352.8  | 4322.2  | 4304.8  |
| 27.5° | 4457.6  | 4431.4  | 4422.7  |
| 30°   | 4562.4  | 4510.0  | 4510.0  |
| 32.5° | 4654.1  | 4641.0  | 4632.2  |
| 35°   | 4872.4  | 4806.9  | 4815.6  |
| 37.5° | 5138.7  | 5073.2  | 5016.4  |
| 40°   | 5514.1  | 5426.8  | 5391.9  |
| 42.5° | 5754.3  | 5666.9  | 5675.7  |
| 45°   | 5889.6  | 5736.8  | 5697.5  |
| 47.5° | 6256.3  | 6064.2  | 6011.9  |
| 50°   | 6850.1  | 6614.3  | 6548.9  |
| 52.5° | 7810.6  | 7430.8  | 7343.5  |
| 55°   | 9015.6  | 8548.4  | 8461.1  |
| 57.5° | 10665.9 | 10046.0 | 9858.2  |
| 60°   | 12674.2 | 11905.8 | 11622.0 |
| 62.5° | 15088.6 | 14141.2 | 13870.5 |
| 65°   | 16904.8 | 16114.6 | 15695.4 |
| 67.5° | 18358.6 | 17708.1 | 17507.3 |
| 70°   | 19223.1 | 19253.6 | 19306.0 |
| 72.5° | 18223.3 | 19061.5 | 19463.2 |
| 75°   | 13355.3 | 14005.8 | 14630.2 |
| 77.5° | 5160.5  | 4654.1  | 4505.6  |
| 80°   | 833.9   | 781.5   | 807.7   |
| 82.5° | 375.5   | 397.3   | 419.1   |
| 85°   | 244.5   | 283.8   | 301.2   |
| 87.5° | 56.8    | 56.8    | 56.8    |
| 90°   | 0.0     | 0.0     | 0.0     |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-3

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-727-U-5WQ

Data in this report applies to families of products including GSS-SB1A-727-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-727-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 2700K CCT 26 LEDS

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 2672     | CRI (Ra): | 71.1 |      |       |
| CIE u':                   | 0.2638   | R1:       | 68.3 | R9:  | -27.8 |
| CIE v':                   | 0.5276   | R2:       | 79.8 | R10: | 54.4  |
| Duv:                      | -0.0002  | R3:       | 91.2 | R11: | 65.8  |
| CIE x:                    | 0.4619   | R4:       | 69.4 | R12: | 45.6  |
| CIE y:                    | 0.4106   | R5:       | 66.5 | R13: | 69.8  |
| CIE z:                    | 0.1275   | R6:       | 72.6 | R14: | 94.5  |
| Peak Wavelength (nm):     | 601      | R7:       | 77.0 | R15: | 60.1  |
| Dominant Wavelength (nm): | 584      | R8:       | 44.1 |      |       |
| Purity:                   | 61.88407 |           |      |      |       |
| Rf:                       | 67.9     |           |      |      |       |
| Rg:                       | 98.6     |           |      |      |       |



### Test Conditions

Stabilization Time: 21M  
 Operation Time: 1H 21M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-3

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/18/2024        | 12/18/2024           |
| Power Meter                    | INXT2011004           | 2/8/2024         | 2/8/2025             |
| AC Power Source                | IN0063                | 10/24/2023       | 10/24/2024           |
| DC Power Source                | IN0208                | 10/24/2023       | 10/24/2024           |
| Sphere Thermometer             | IN0085                | 10/24/2023       | 10/24/2024           |
| Room Thermometer               | IN0046                | 10/24/2023       | 10/24/2024           |

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**CIE 1931 Chromaticity Diagram**



**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 2700K 4-step quadrangle

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### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|-------------------|-------------------------------|--------------------------------|
| 360               | 0                             | NR                             | 490               | 52                            | NR                             | 620               | 888                           | NR                             | 750               | 27                            | NR                             | 880               | 1                             | NR                             |
| 365               | 0                             | NR                             | 495               | 87                            | NR                             | 625               | 834                           | NR                             | 755               | 23                            | NR                             | 885               | 1                             | NR                             |
| 370               | 0                             | NR                             | 500               | 135                           | NR                             | 630               | 776                           | NR                             | 760               | 20                            | NR                             | 890               | 1                             | NR                             |
| 375               | 0                             | NR                             | 505               | 196                           | NR                             | 635               | 712                           | NR                             | 765               | 17                            | NR                             | 895               | 0                             | NR                             |
| 380               | 0                             | NR                             | 510               | 258                           | NR                             | 640               | 648                           | NR                             | 770               | 15                            | NR                             | 900               | 0                             | NR                             |
| 385               | 1                             | NR                             | 515               | 317                           | NR                             | 645               | 583                           | NR                             | 775               | 12                            | NR                             | 905               | 0                             | NR                             |
| 390               | 2                             | NR                             | 520               | 368                           | NR                             | 650               | 523                           | NR                             | 780               | 11                            | NR                             | 910               | 0                             | NR                             |
| 395               | 4                             | NR                             | 525               | 408                           | NR                             | 655               | 465                           | NR                             | 785               | 9                             | NR                             | 915               | 0                             | NR                             |
| 400               | 6                             | NR                             | 530               | 443                           | NR                             | 660               | 410                           | NR                             | 790               | 8                             | NR                             | 920               | 0                             | NR                             |
| 405               | 11                            | NR                             | 535               | 473                           | NR                             | 665               | 360                           | NR                             | 795               | 7                             | NR                             | 925               | 0                             | NR                             |
| 410               | 23                            | NR                             | 540               | 498                           | NR                             | 670               | 313                           | NR                             | 800               | 6                             | NR                             | 930               | 0                             | NR                             |
| 415               | 51                            | NR                             | 545               | 530                           | NR                             | 675               | 272                           | NR                             | 805               | 5                             | NR                             | 935               | 0                             | NR                             |
| 420               | 111                           | NR                             | 550               | 563                           | NR                             | 680               | 236                           | NR                             | 810               | 4                             | NR                             | 940               | 0                             | NR                             |
| 425               | 214                           | NR                             | 555               | 605                           | NR                             | 685               | 203                           | NR                             | 815               | 4                             | NR                             | 945               | 0                             | NR                             |
| 430               | 339                           | NR                             | 560               | 651                           | NR                             | 690               | 175                           | NR                             | 820               | 3                             | NR                             | 950               | 0                             | NR                             |
| 435               | 467                           | NR                             | 565               | 705                           | NR                             | 695               | 150                           | NR                             | 825               | 3                             | NR                             | 955               | 0                             | NR                             |
| 440               | 535                           | NR                             | 570               | 765                           | NR                             | 700               | 128                           | NR                             | 830               | 3                             | NR                             | 960               | 0                             | NR                             |
| 445               | 372                           | NR                             | 575               | 824                           | NR                             | 705               | 110                           | NR                             | 835               | 2                             | NR                             | 965               | 0                             | NR                             |
| 450               | 160                           | NR                             | 580               | 882                           | NR                             | 710               | 94                            | NR                             | 840               | 2                             | NR                             | 970               | 0                             | NR                             |
| 455               | 89                            | NR                             | 585               | 930                           | NR                             | 715               | 80                            | NR                             | 845               | 2                             | NR                             | 975               | 0                             | NR                             |
| 460               | 53                            | NR                             | 590               | 968                           | NR                             | 720               | 69                            | NR                             | 850               | 1                             | NR                             | 980               | 0                             | NR                             |
| 465               | 31                            | NR                             | 595               | 991                           | NR                             | 725               | 59                            | NR                             | 855               | 1                             | NR                             | 985               | 0                             | NR                             |
| 470               | 23                            | NR                             | 600               | 999                           | NR                             | 730               | 50                            | NR                             | 860               | 1                             | NR                             | 990               | 0                             | NR                             |
| 475               | 21                            | NR                             | 605               | 992                           | NR                             | 735               | 43                            | NR                             | 865               | 1                             | NR                             | 995               | 0                             | NR                             |
| 480               | 23                            | NR                             | 610               | 969                           | NR                             | 740               | 36                            | NR                             | 870               | 1                             | NR                             | 1000              | 0                             | NR                             |
| 485               | 32                            | NR                             | 615               | 935                           | NR                             | 745               | 31                            | NR                             | 875               | 1                             | NR                             |                   |                               |                                |

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### Scotopic Flux vs. Wavelength


**Scotopic Lumens: NR**
**S/P: 1.02**

| λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>(Φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 52                          | NR               | 620       | 888                         | NR               | 750       | 27                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 87                          | NR               | 625       | 834                         | NR               | 755       | 23                          | NR               | 885       | 1                           | NR               |
| 370       | 0                           | NR               | 500       | 135                         | NR               | 630       | 776                         | NR               | 760       | 20                          | NR               | 890       | 1                           | NR               |
| 375       | 0                           | NR               | 505       | 196                         | NR               | 635       | 712                         | NR               | 765       | 17                          | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 258                         | NR               | 640       | 648                         | NR               | 770       | 15                          | NR               | 900       | 0                           | NR               |
| 385       | 1                           | NR               | 515       | 317                         | NR               | 645       | 583                         | NR               | 775       | 12                          | NR               | 905       | 0                           | NR               |
| 390       | 2                           | NR               | 520       | 368                         | NR               | 650       | 523                         | NR               | 780       | 11                          | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 408                         | NR               | 655       | 465                         | NR               | 785       | 9                           | NR               | 915       | 0                           | NR               |
| 400       | 6                           | NR               | 530       | 443                         | NR               | 660       | 410                         | NR               | 790       | 8                           | NR               | 920       | 0                           | NR               |
| 405       | 11                          | NR               | 535       | 473                         | NR               | 665       | 360                         | NR               | 795       | 7                           | NR               | 925       | 0                           | NR               |
| 410       | 23                          | NR               | 540       | 498                         | NR               | 670       | 313                         | NR               | 800       | 6                           | NR               | 930       | 0                           | NR               |
| 415       | 51                          | NR               | 545       | 530                         | NR               | 675       | 272                         | NR               | 805       | 5                           | NR               | 935       | 0                           | NR               |
| 420       | 111                         | NR               | 550       | 563                         | NR               | 680       | 236                         | NR               | 810       | 4                           | NR               | 940       | 0                           | NR               |
| 425       | 214                         | NR               | 555       | 605                         | NR               | 685       | 203                         | NR               | 815       | 4                           | NR               | 945       | 0                           | NR               |
| 430       | 339                         | NR               | 560       | 651                         | NR               | 690       | 175                         | NR               | 820       | 3                           | NR               | 950       | 0                           | NR               |
| 435       | 467                         | NR               | 565       | 705                         | NR               | 695       | 150                         | NR               | 825       | 3                           | NR               | 955       | 0                           | NR               |
| 440       | 535                         | NR               | 570       | 765                         | NR               | 700       | 128                         | NR               | 830       | 3                           | NR               | 960       | 0                           | NR               |
| 445       | 372                         | NR               | 575       | 824                         | NR               | 705       | 110                         | NR               | 835       | 2                           | NR               | 965       | 0                           | NR               |
| 450       | 160                         | NR               | 580       | 882                         | NR               | 710       | 94                          | NR               | 840       | 2                           | NR               | 970       | 0                           | NR               |
| 455       | 89                          | NR               | 585       | 930                         | NR               | 715       | 80                          | NR               | 845       | 2                           | NR               | 975       | 0                           | NR               |
| 460       | 53                          | NR               | 590       | 968                         | NR               | 720       | 69                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 31                          | NR               | 595       | 991                         | NR               | 725       | 59                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 23                          | NR               | 600       | 999                         | NR               | 730       | 50                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 21                          | NR               | 605       | 992                         | NR               | 735       | 43                          | NR               | 865       | 1                           | NR               | 995       | 0                           | NR               |
| 480       | 23                          | NR               | 610       | 969                         | NR               | 740       | 36                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 32                          | NR               | 615       | 935                         | NR               | 745       | 31                          | NR               | 875       | 1                           | NR               |           |                             |                  |

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### Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 1.71

| λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>W <sup>λ</sup> /nm | Lumens<br>(φ/nm) |
|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|-----------|-----------------------------|------------------|
| 360       | 0                           | NR               | 490       | 52                          | NR               | 620       | 888                         | NR               | 750       | 27                          | NR               | 880       | 1                           | NR               |
| 365       | 0                           | NR               | 495       | 87                          | NR               | 625       | 834                         | NR               | 755       | 23                          | NR               | 885       | 1                           | NR               |
| 370       | 0                           | NR               | 500       | 135                         | NR               | 630       | 776                         | NR               | 760       | 20                          | NR               | 890       | 1                           | NR               |
| 375       | 0                           | NR               | 505       | 196                         | NR               | 635       | 712                         | NR               | 765       | 17                          | NR               | 895       | 0                           | NR               |
| 380       | 0                           | NR               | 510       | 258                         | NR               | 640       | 648                         | NR               | 770       | 15                          | NR               | 900       | 0                           | NR               |
| 385       | 1                           | NR               | 515       | 317                         | NR               | 645       | 583                         | NR               | 775       | 12                          | NR               | 905       | 0                           | NR               |
| 390       | 2                           | NR               | 520       | 368                         | NR               | 650       | 523                         | NR               | 780       | 11                          | NR               | 910       | 0                           | NR               |
| 395       | 4                           | NR               | 525       | 408                         | NR               | 655       | 465                         | NR               | 785       | 9                           | NR               | 915       | 0                           | NR               |
| 400       | 6                           | NR               | 530       | 443                         | NR               | 660       | 410                         | NR               | 790       | 8                           | NR               | 920       | 0                           | NR               |
| 405       | 11                          | NR               | 535       | 473                         | NR               | 665       | 360                         | NR               | 795       | 7                           | NR               | 925       | 0                           | NR               |
| 410       | 23                          | NR               | 540       | 498                         | NR               | 670       | 313                         | NR               | 800       | 6                           | NR               | 930       | 0                           | NR               |
| 415       | 51                          | NR               | 545       | 530                         | NR               | 675       | 272                         | NR               | 805       | 5                           | NR               | 935       | 0                           | NR               |
| 420       | 111                         | NR               | 550       | 563                         | NR               | 680       | 236                         | NR               | 810       | 4                           | NR               | 940       | 0                           | NR               |
| 425       | 214                         | NR               | 555       | 605                         | NR               | 685       | 203                         | NR               | 815       | 4                           | NR               | 945       | 0                           | NR               |
| 430       | 339                         | NR               | 560       | 651                         | NR               | 690       | 175                         | NR               | 820       | 3                           | NR               | 950       | 0                           | NR               |
| 435       | 467                         | NR               | 565       | 705                         | NR               | 695       | 150                         | NR               | 825       | 3                           | NR               | 955       | 0                           | NR               |
| 440       | 535                         | NR               | 570       | 765                         | NR               | 700       | 128                         | NR               | 830       | 3                           | NR               | 960       | 0                           | NR               |
| 445       | 372                         | NR               | 575       | 824                         | NR               | 705       | 110                         | NR               | 835       | 2                           | NR               | 965       | 0                           | NR               |
| 450       | 160                         | NR               | 580       | 882                         | NR               | 710       | 94                          | NR               | 840       | 2                           | NR               | 970       | 0                           | NR               |
| 455       | 89                          | NR               | 585       | 930                         | NR               | 715       | 80                          | NR               | 845       | 2                           | NR               | 975       | 0                           | NR               |
| 460       | 53                          | NR               | 590       | 968                         | NR               | 720       | 69                          | NR               | 850       | 1                           | NR               | 980       | 0                           | NR               |
| 465       | 31                          | NR               | 595       | 991                         | NR               | 725       | 59                          | NR               | 855       | 1                           | NR               | 985       | 0                           | NR               |
| 470       | 23                          | NR               | 600       | 999                         | NR               | 730       | 50                          | NR               | 860       | 1                           | NR               | 990       | 0                           | NR               |
| 475       | 21                          | NR               | 605       | 992                         | NR               | 735       | 43                          | NR               | 865       | 1                           | NR               | 995       | 0                           | NR               |
| 480       | 23                          | NR               | 610       | 969                         | NR               | 740       | 36                          | NR               | 870       | 1                           | NR               | 1000      | 0                           | NR               |
| 485       | 32                          | NR               | 615       | 935                         | NR               | 745       | 31                          | NR               | 875       | 1                           | NR               |           |                             |                  |

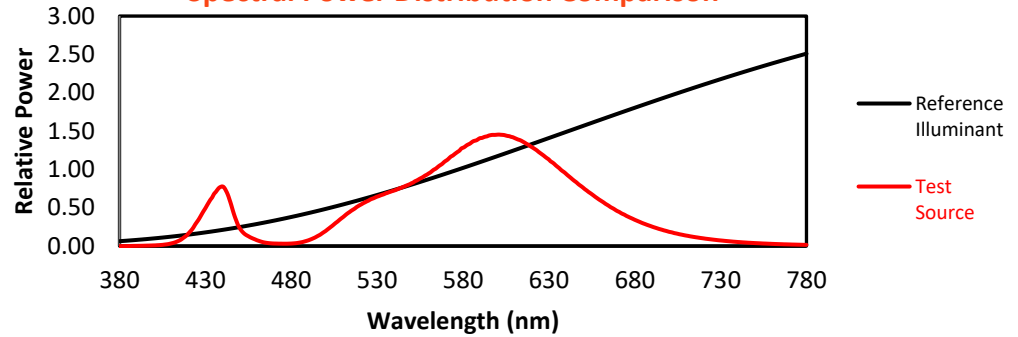
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TM-30-18

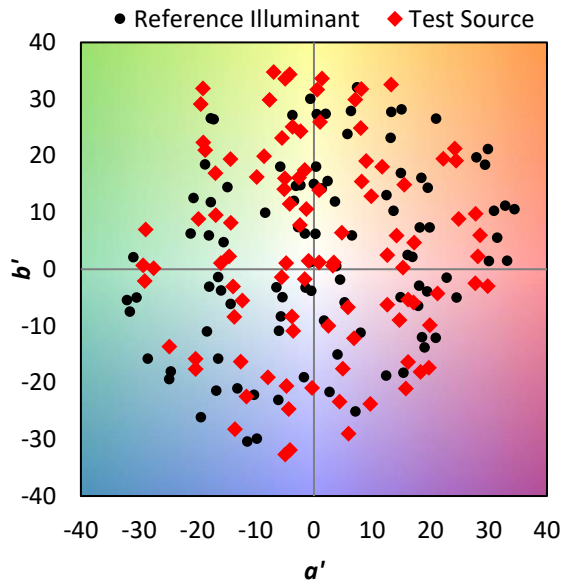
### Summary

$R_f = 67.9$   
 $R_g = 98.6$   
 $CIE R_a = 71.1$   
 $R_g = -27.8$

### Spectral Power Distribution Comparison



### Color Vector Graphics



**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 53 | CES51 = 75 | CES76 = 51 |
| CES02 = 63 | CES27 = 70 | CES52 = 80 | CES77 = 79 |
| CES03 = 31 | CES28 = 81 | CES53 = 64 | CES78 = 58 |
| CES04 = 71 | CES29 = 37 | CES54 = 73 | CES79 = 82 |
| CES05 = 50 | CES30 = 33 | CES55 = 69 | CES80 = 82 |
| CES06 = 52 | CES31 = 44 | CES56 = 60 | CES81 = 69 |
| CES07 = 42 | CES32 = 47 | CES57 = 54 | CES82 = 92 |
| CES08 = 41 | CES33 = 45 | CES58 = 59 | CES83 = 82 |
| CES09 = 29 | CES34 = 67 | CES59 = 85 | CES84 = 92 |
| CES10 = 77 | CES35 = 84 | CES60 = 86 | CES85 = 87 |
| CES11 = 60 | CES36 = 68 | CES61 = 86 | CES86 = 60 |
| CES12 = 66 | CES37 = 77 | CES62 = 59 | CES87 = 79 |
| CES13 = 44 | CES38 = 40 | CES63 = 66 | CES88 = 70 |
| CES14 = 74 | CES39 = 88 | CES64 = 69 | CES89 = 66 |
| CES15 = 72 | CES40 = 82 | CES65 = 64 | CES90 = 64 |
| CES16 = 48 | CES41 = 70 | CES66 = 65 | CES91 = 81 |
| CES17 = 51 | CES42 = 76 | CES67 = 64 | CES92 = 69 |
| CES18 = 57 | CES43 = 63 | CES68 = 73 | CES93 = 81 |
| CES19 = 73 | CES44 = 97 | CES69 = 83 | CES94 = 53 |
| CES20 = 67 | CES45 = 74 | CES70 = 64 | CES95 = 77 |
| CES21 = 88 | CES46 = 67 | CES71 = 60 | CES96 = 79 |
| CES22 = 80 | CES47 = 55 | CES72 = 87 | CES97 = 78 |
| CES23 = 92 | CES48 = 42 | CES73 = 57 | CES98 = 69 |
| CES24 = 92 | CES49 = 65 | CES74 = 84 | CES99 = 60 |
| CES25 = 73 | CES50 = 74 | CES75 = 60 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)