

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: P1381458

Luminaire Tested: **VAL-T-SB3D-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: P1381458  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 02/18/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: VAL-T-SB3D-727-U-T1  
Description: GALLEON II WALL SLIM HIGH DENSITY LED ARRAYS 3SQUARE 219W 70CRI  
2700K FIXTURE w/ TYPE I DISTRIBUTION OPTIC  
Light Source: (78) 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               |

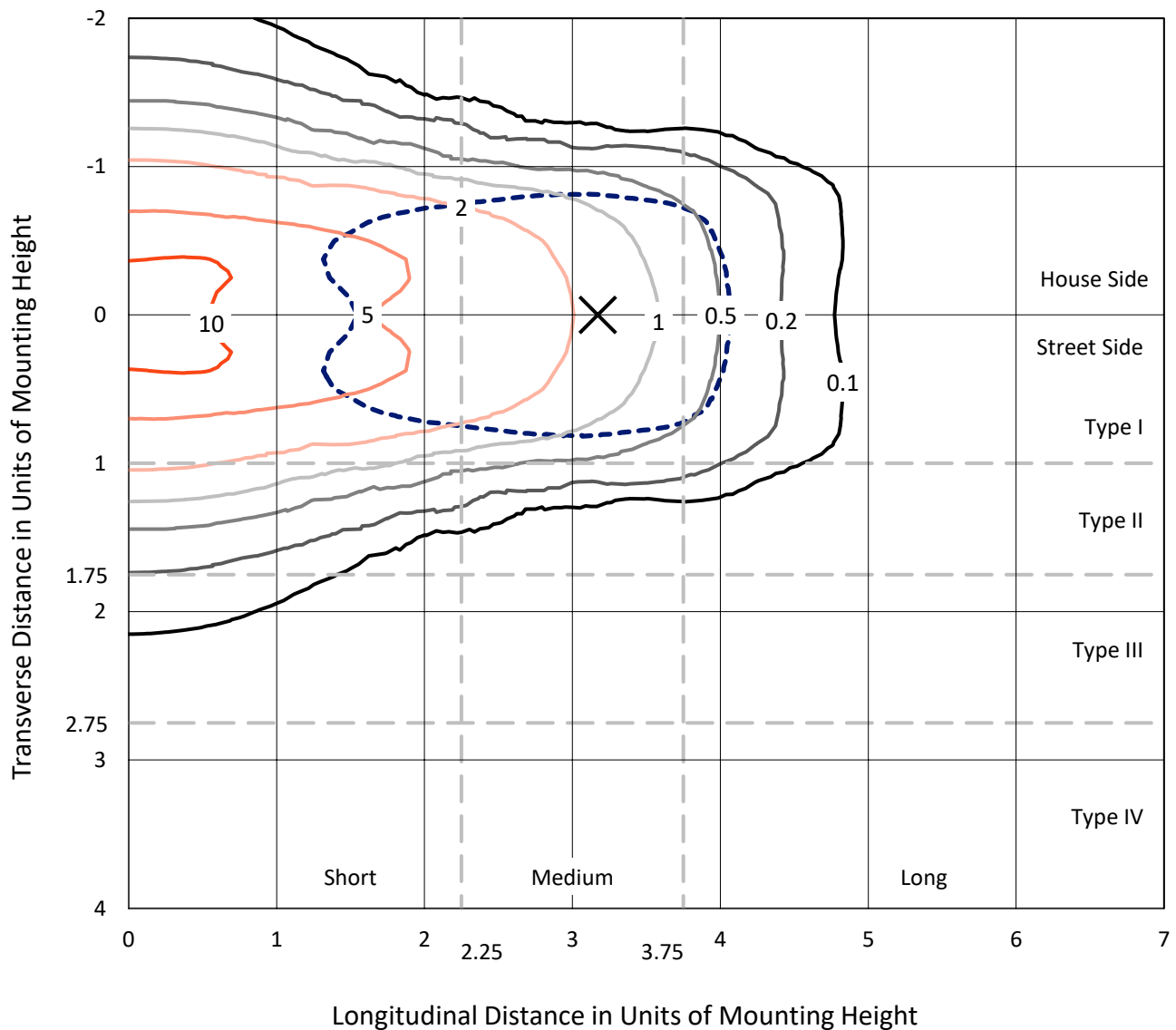
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 26221.1 lumens  
Efficiency: N/A  
Efficacy: 119.7 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')  
IES Classification: Type I - Short  
BUG Rating: B4 - U0 - G4  
  
Input Watts (W): 219  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.98  
Total Harmonic Distortion (THDi): 2.5%  
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

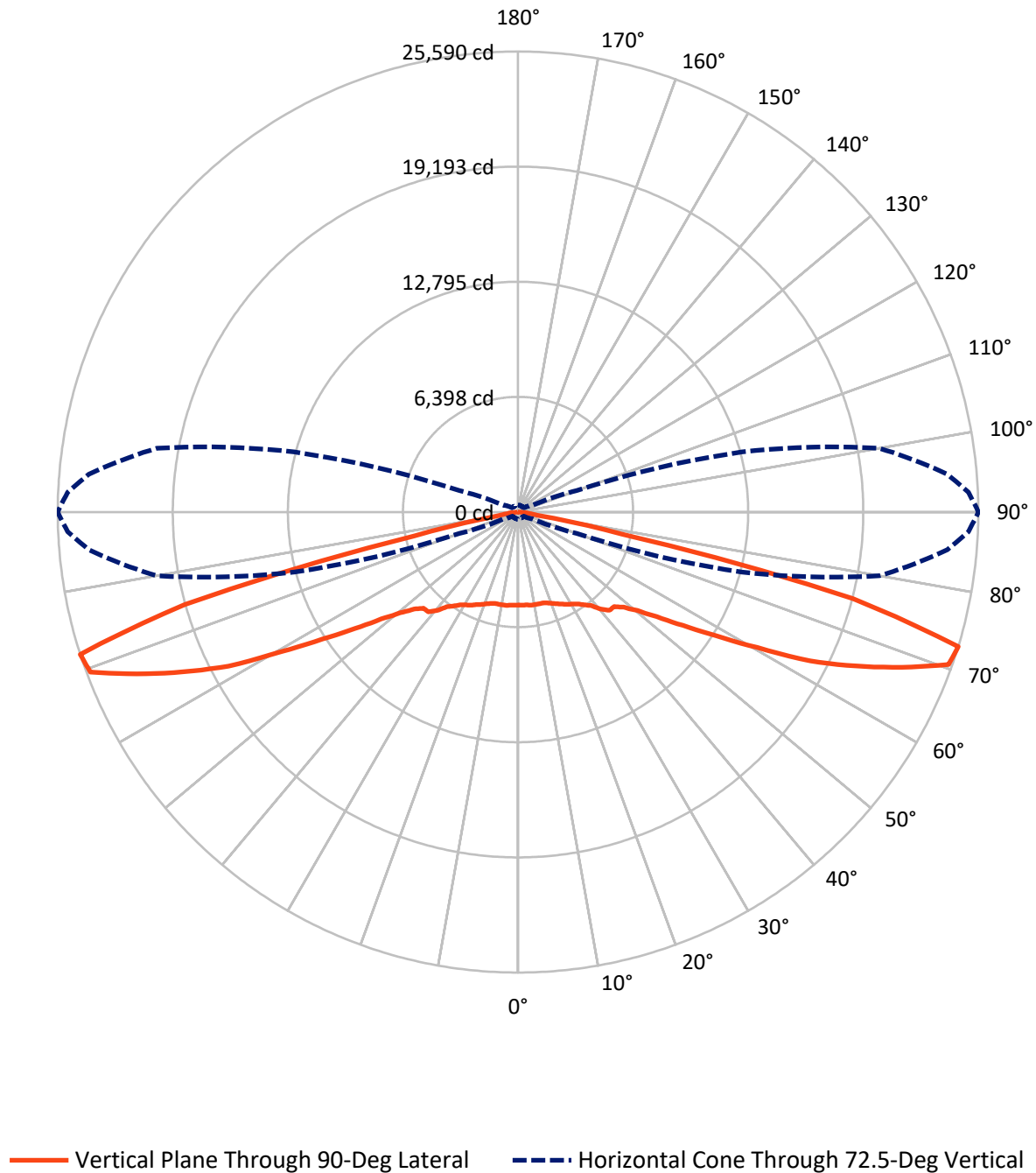
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 12.9 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    | 13110.6  | 0.0    | 13110.6 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Street Side</b> | Lumens    | 13110.6  | 0.0    | 13110.6 |
|                    | % Fixture | 50.0     | 0.0    | 50.0    |
| <b>Total</b>       | Lumens    | 26221.1  | 0.0    | 26221.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 500.1   | 1.9       |
| 10°-20°   | 1524.1  | 5.8       |
| 20°-30°   | 2547.4  | 9.7       |
| 30°-40°   | 3513.0  | 13.4      |
| 40°-50°   | 4306.4  | 16.4      |
| 50°-60°   | 5046.5  | 19.2      |
| 60°-70°   | 5604.1  | 21.4      |
| 70°-80°   | 3047.5  | 11.6      |
| 80°-90°   | 132.1   | 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°    | 26221.1 | 100.0     |
| 0°-180°   | 26221.1 | 100.0     |



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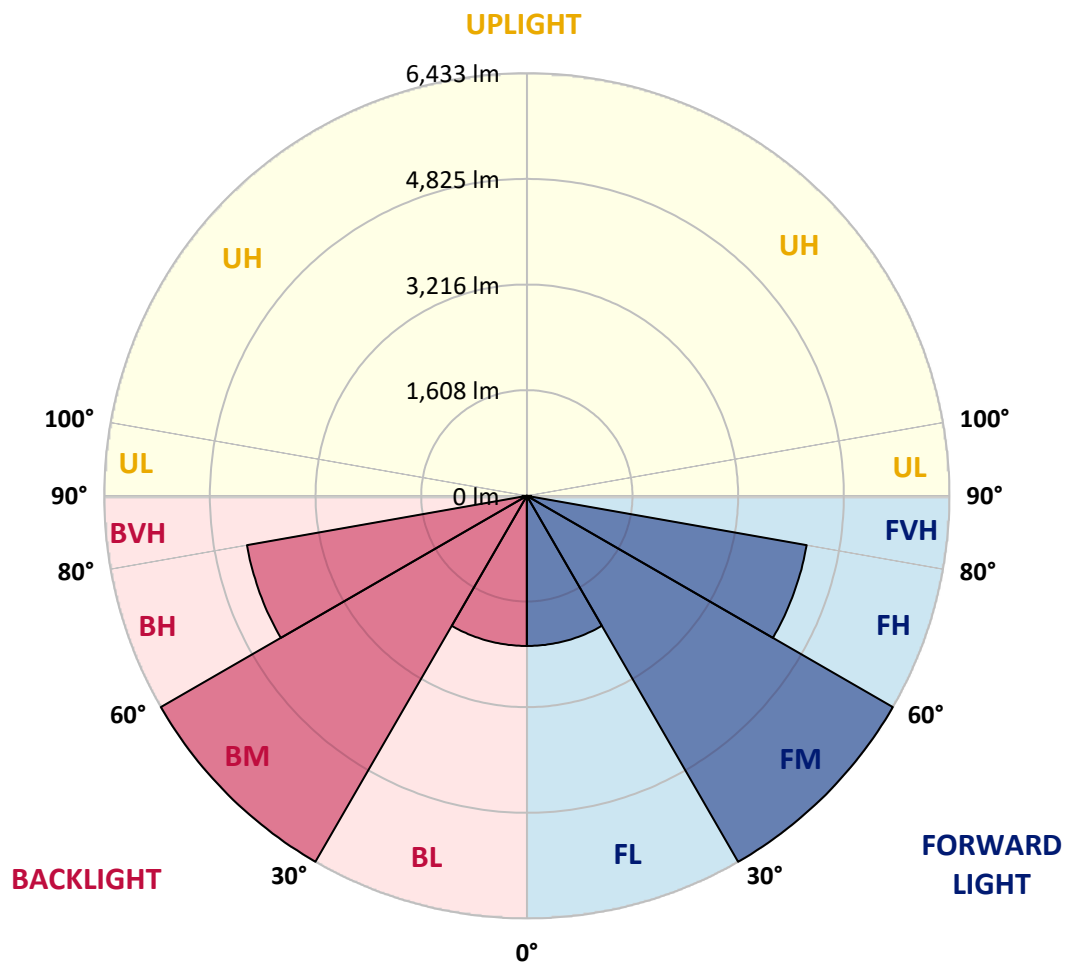
CATALOG NUMBER: VAL-T-SB3D-727-U-T1

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 2285.7 | 8.7       |                         |      |         |
| FM   | (30°-60°)   | 6433.0 | 24.5      |                         |      |         |
| FH   | (60°-80°)   | 4325.8 | 16.5      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 66.0   | 0.3       |                         |      | G1/100  |
| BL   | (0°-30°)    | 2285.7 | 8.7       | B3/2500                 |      |         |
| BM   | (30°-60°)   | 6433.0 | 24.5      | B4/8500                 |      |         |
| BH   | (60°-80°)   | 4325.8 | 16.5      | B4/5000                 |      | G4/5000 |
| BVH  | (80°-90°)   | 66.0   | 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°    | 5166.2 | 5166.2 | 5166.2 | 5166.2 | 5166.2 | 5166.2 | 5166.2 | 5166.2  | 5166.2  | 5166.2  | 5166.2  |
| 2.5°  | 5172.0 | 5172.0 | 5154.7 | 5177.7 | 5166.2 | 5172.0 | 5177.7 | 5172.0  | 5166.2  | 5172.0  | 5177.7  |
| 5°    | 5200.7 | 5189.2 | 5200.7 | 5212.1 | 5194.9 | 5206.4 | 5200.7 | 5172.0  | 5189.2  | 5189.2  | 5189.2  |
| 7.5°  | 5252.3 | 5263.8 | 5252.3 | 5281.0 | 5263.8 | 5298.2 | 5263.8 | 5240.8  | 5235.1  | 5229.4  | 5229.4  |
| 10°   | 5275.3 | 5275.3 | 5269.5 | 5321.2 | 5332.7 | 5367.1 | 5344.2 | 5309.7  | 5292.5  | 5269.5  | 5246.6  |
| 12.5° | 5212.1 | 5223.6 | 5252.3 | 5349.9 | 5395.8 | 5464.7 | 5447.5 | 5378.6  | 5326.9  | 5309.7  | 5275.3  |
| 15°   | 5143.2 | 5154.7 | 5212.1 | 5332.7 | 5441.7 | 5545.1 | 5539.3 | 5453.2  | 5390.1  | 5344.2  | 5292.5  |
| 17.5° | 5034.2 | 5051.4 | 5131.8 | 5315.5 | 5510.6 | 5625.4 | 5659.9 | 5573.8  | 5504.9  | 5430.3  | 5361.4  |
| 20°   | 4850.5 | 4850.5 | 4994.0 | 5229.4 | 5499.1 | 5757.5 | 5849.3 | 5780.4  | 5700.1  | 5579.5  | 5487.7  |
| 22.5° | 4643.8 | 4655.3 | 4798.8 | 5108.8 | 5493.4 | 5872.3 | 6050.2 | 5975.6  | 5895.2  | 5763.2  | 5625.4  |
| 25°   | 4437.2 | 4437.2 | 4597.9 | 4948.1 | 5418.8 | 5952.6 | 6285.6 | 6245.4  | 6084.6  | 5964.1  | 5786.2  |
| 27.5° | 4247.8 | 4247.8 | 4420.0 | 4787.4 | 5292.5 | 5975.6 | 6520.9 | 6520.9  | 6343.0  | 6165.0  | 5969.8  |
| 30°   | 4023.9 | 4081.3 | 4276.5 | 4661.1 | 5177.7 | 5935.4 | 6693.1 | 6802.2  | 6641.5  | 6411.8  | 6124.8  |
| 32.5° | 3834.5 | 3874.7 | 4075.6 | 4483.1 | 5011.2 | 5889.5 | 6888.3 | 7158.1  | 6991.6  | 6675.9  | 6354.4  |
| 35°   | 3610.6 | 3604.9 | 3834.5 | 4236.3 | 4775.9 | 5786.2 | 7043.3 | 7582.8  | 7422.1  | 7083.4  | 6647.2  |
| 37.5° | 3317.9 | 3317.9 | 3553.2 | 3943.5 | 4552.0 | 5608.2 | 7169.6 | 8053.5  | 7933.0  | 7548.4  | 7083.4  |
| 40°   | 3002.1 | 3036.6 | 3243.2 | 3639.3 | 4282.2 | 5395.8 | 7169.6 | 8438.1  | 8501.3  | 8105.2  | 7623.0  |
| 42.5° | 2772.5 | 2784.0 | 2973.4 | 3346.6 | 3983.7 | 5120.3 | 7077.7 | 8771.1  | 8960.5  | 8627.6  | 8001.9  |
| 45°   | 2531.4 | 2560.1 | 2720.9 | 3065.3 | 3673.7 | 4793.1 | 6917.0 | 9144.2  | 9448.4  | 9218.8  | 8398.0  |
| 47.5° | 2238.7 | 2267.4 | 2451.1 | 2801.2 | 3381.0 | 4437.2 | 6647.2 | 9534.5  | 10171.7 | 10005.2 | 9104.0  |
| 50°   | 1900.0 | 1923.0 | 2095.2 | 2468.3 | 3053.8 | 4029.6 | 6308.5 | 9827.3  | 10895.0 | 11061.4 | 10171.7 |
| 52.5° | 1486.7 | 1503.9 | 1687.6 | 2049.3 | 2663.5 | 3639.3 | 5832.1 | 10005.2 | 11624.0 | 12209.5 | 11601.0 |
| 55°   | 1067.7 | 1096.4 | 1257.1 | 1555.6 | 2146.8 | 3116.9 | 5263.8 | 10097.1 | 12421.9 | 13569.9 | 13374.7 |
| 57.5° | 769.2  | 780.7  | 889.7  | 1119.3 | 1595.8 | 2502.7 | 4534.8 | 9942.1  | 13139.4 | 15194.4 | 15602.0 |
| 60°   | 637.2  | 637.2  | 654.4  | 763.5  | 1090.6 | 1768.0 | 3662.3 | 9368.1  | 13753.6 | 16836.1 | 18093.2 |
| 62.5° | 585.5  | 585.5  | 597.0  | 614.2  | 717.5  | 1148.0 | 2617.5 | 8202.8  | 13822.5 | 18414.7 | 20825.6 |
| 65°   | 533.8  | 533.8  | 545.3  | 556.8  | 579.8  | 746.2  | 1578.6 | 6004.3  | 12473.5 | 18431.9 | 22295.1 |
| 67.5° | 487.9  | 487.9  | 493.7  | 499.4  | 510.9  | 545.3  | 866.8  | 3639.3  | 9982.3  | 17944.0 | 22857.6 |
| 70°   | 442.0  | 442.0  | 442.0  | 436.3  | 453.5  | 459.2  | 574.0  | 1848.4  | 6675.9  | 16204.7 | 22587.8 |
| 72.5° | 390.3  | 390.3  | 384.6  | 373.1  | 378.9  | 378.9  | 424.8  | 907.0   | 3467.1  | 12881.1 | 20395.1 |
| 75°   | 332.9  | 338.7  | 315.7  | 304.2  | 298.5  | 304.2  | 338.7  | 516.6   | 1549.9  | 7812.5  | 15240.3 |
| 77.5° | 281.3  | 292.8  | 258.3  | 235.3  | 229.6  | 229.6  | 264.1  | 321.5   | 665.9   | 2835.7  | 6830.9  |
| 80°   | 212.4  | 218.1  | 189.4  | 166.5  | 166.5  | 160.7  | 195.2  | 235.3   | 315.7   | 843.8   | 1532.6  |
| 82.5° | 120.5  | 120.5  | 109.1  | 97.6   | 91.8   | 97.6   | 132.0  | 160.7   | 195.2   | 298.5   | 419.0   |
| 85°   | 28.7   | 28.7   | 34.4   | 40.2   | 40.2   | 51.7   | 74.6   | 86.1    | 103.3   | 120.5   | 160.7   |
| 87.5° | 5.7    | 5.7    | 5.7    | 11.5   | 17.2   | 17.2   | 28.7   | 40.2    | 51.7    | 63.1    | 68.9    |
| 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-SB3D-727-U-T1

**CANDELA DISTRIBUTION (continued):**

|       | 85°     | 87.5°   | 90°     |
|-------|---------|---------|---------|
| 0°    | 5166.2  | 5166.2  | 5166.2  |
| 2.5°  | 5177.7  | 5183.4  | 5177.7  |
| 5°    | 5212.1  | 5200.7  | 5183.4  |
| 7.5°  | 5217.9  | 5223.6  | 5229.4  |
| 10°   | 5240.8  | 5263.8  | 5229.4  |
| 12.5° | 5263.8  | 5246.6  | 5235.1  |
| 15°   | 5281.0  | 5275.3  | 5240.8  |
| 17.5° | 5344.2  | 5321.2  | 5315.5  |
| 20°   | 5441.7  | 5436.0  | 5418.8  |
| 22.5° | 5556.5  | 5545.1  | 5539.3  |
| 25°   | 5723.0  | 5682.8  | 5659.9  |
| 27.5° | 5860.8  | 5826.3  | 5814.9  |
| 30°   | 5998.5  | 5929.7  | 5929.7  |
| 32.5° | 6119.1  | 6101.9  | 6090.4  |
| 35°   | 6406.1  | 6320.0  | 6331.5  |
| 37.5° | 6756.3  | 6670.2  | 6595.5  |
| 40°   | 7249.9  | 7135.1  | 7089.2  |
| 42.5° | 7565.6  | 7450.8  | 7462.3  |
| 45°   | 7743.6  | 7542.7  | 7491.0  |
| 47.5° | 8225.8  | 7973.2  | 7904.3  |
| 50°   | 9006.4  | 8696.5  | 8610.4  |
| 52.5° | 10269.3 | 9769.9  | 9655.1  |
| 55°   | 11853.6 | 11239.4 | 11124.6 |
| 57.5° | 14023.4 | 13208.3 | 12961.4 |
| 60°   | 16663.9 | 15653.6 | 15280.5 |
| 62.5° | 19838.2 | 18592.6 | 18236.7 |
| 65°   | 22226.2 | 21187.2 | 20636.1 |
| 67.5° | 24137.7 | 23282.4 | 23018.3 |
| 70°   | 25274.3 | 25314.4 | 25383.3 |
| 72.5° | 23959.7 | 25061.9 | 25590.0 |
| 75°   | 17559.4 | 18414.7 | 19235.5 |
| 77.5° | 6785.0  | 6119.1  | 5923.9  |
| 80°   | 1096.4  | 1027.5  | 1061.9  |
| 82.5° | 493.7   | 522.4   | 551.1   |
| 85°   | 321.5   | 373.1   | 396.1   |
| 87.5° | 74.6    | 74.6    | 74.6    |
| 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           |



REPORT NUMBER: SP1-2407-184-3

### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| 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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### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.02

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | 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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### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 1.71**

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | 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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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)