

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P1064083

Luminaire Tested: **GLAN-SA8C-750-U-T4BC**

Issue Date: 08/07/2025

**Test Information**

Test Method: LM-79-08  
Report Number: P1064083  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 08/07/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GLAN-SA8C-750-U-T4BC  
Description: GALLEON II AREA AND ROADWAY LUMINAIRE 1050mA 8xLight Square PACKAGE  
70CRI 5000K FIXTURE w/ TYPE IV ANGLED BACKLIGHT CONTROL  
Light Source: (112) 5000K CCT, 70 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 44914.2 lumens  
Efficiency: N/A  
Efficacy: 120.4 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B0 - U0 - G5

Input Watts (W): 372.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



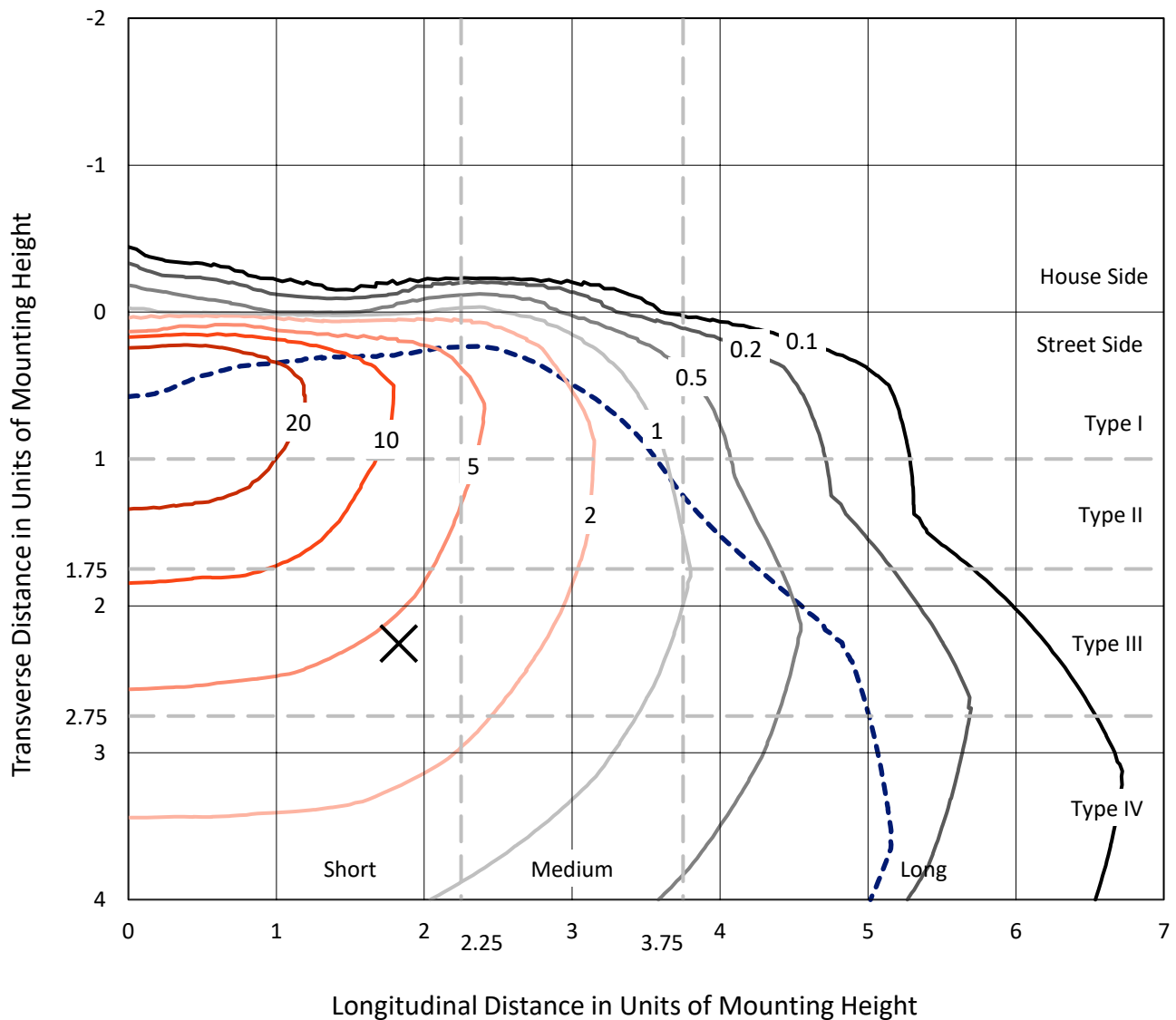
REPORT NUMBER: P1064083

CATALOG NUMBER: GLAN-SA8C-750-U-T4BC

## Iso-Footcandle Lines of Horizontal Illumination

✗ Max cd

--- 1/2 Max cd

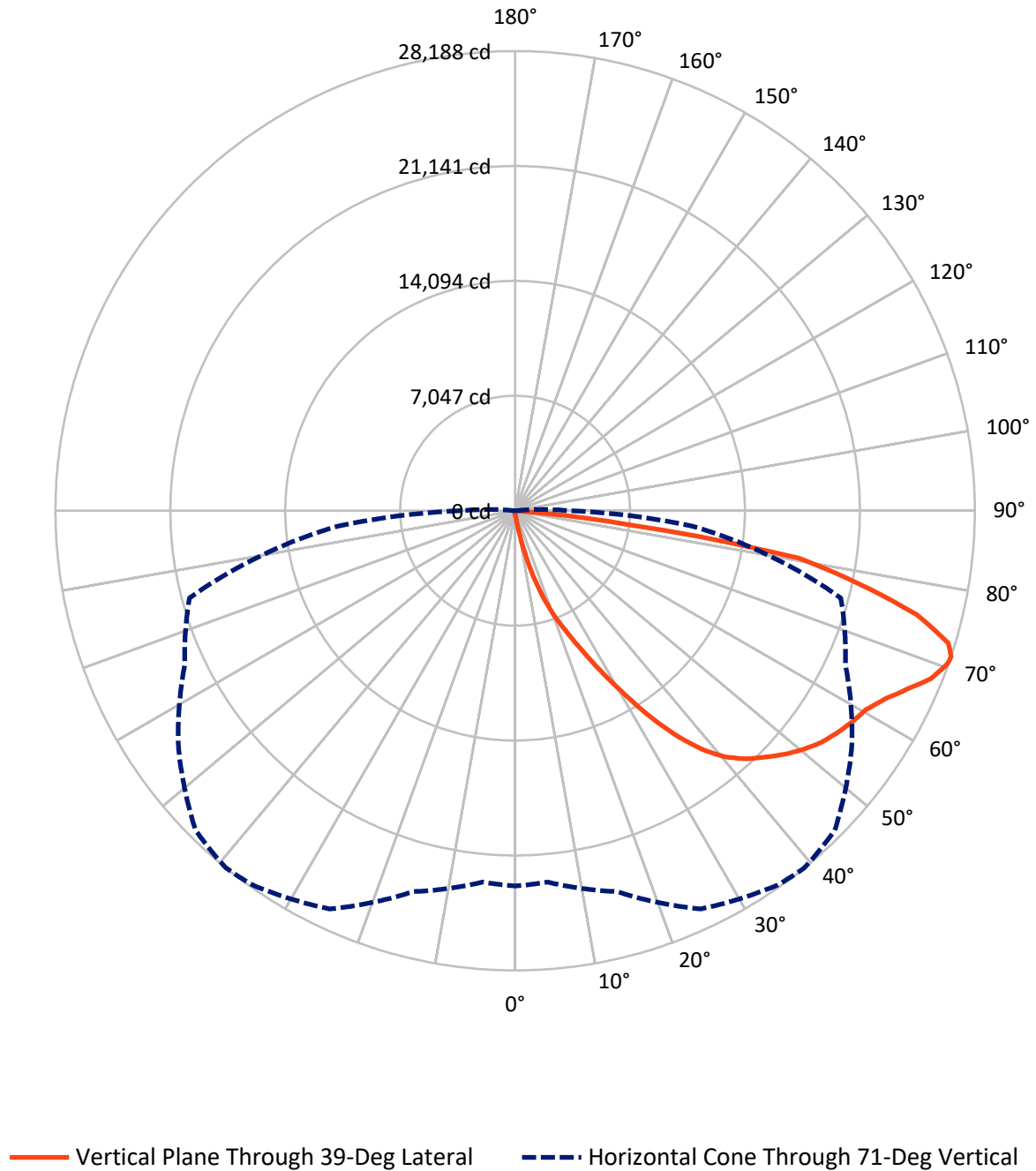


Based on 15 foot mounting height. Maximum calculated value = 46.2 fc  
Type IV - Short - N/A

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CATALOG NUMBER: GLAN-SA8C-750-U-T4BC

## Luminous Intensity Polar Plot



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CATALOG NUMBER: GLAN-SA8C-750-U-T4BC

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 159.6    | 0.0    | 159.6   |
|                    | % Fixture | 0.4      | 0.0    | 0.4     |
| <b>Street Side</b> | Lumens    | 44754.6  | 0.0    | 44754.6 |
|                    | % Fixture | 99.6     | 0.0    | 99.6    |
| <b>Total</b>       | Lumens    | 44914.2  | 0.0    | 44914.2 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 37.5    | 0.1       |
| 10°-20°   | 480.0   | 1.1       |
| 20°-30°   | 1709.6  | 3.8       |
| 30°-40°   | 4120.2  | 9.2       |
| 40°-50°   | 6895.4  | 15.4      |
| 50°-60°   | 8856.3  | 19.7      |
| 60°-70°   | 11207.8 | 25.0      |
| 70°-80°   | 9992.2  | 22.2      |
| 80°-90°   | 1615.2  | 3.6       |
| 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°    | 44914.2 | 100.0     |
| 0°-180°   | 44914.2 | 100.0     |



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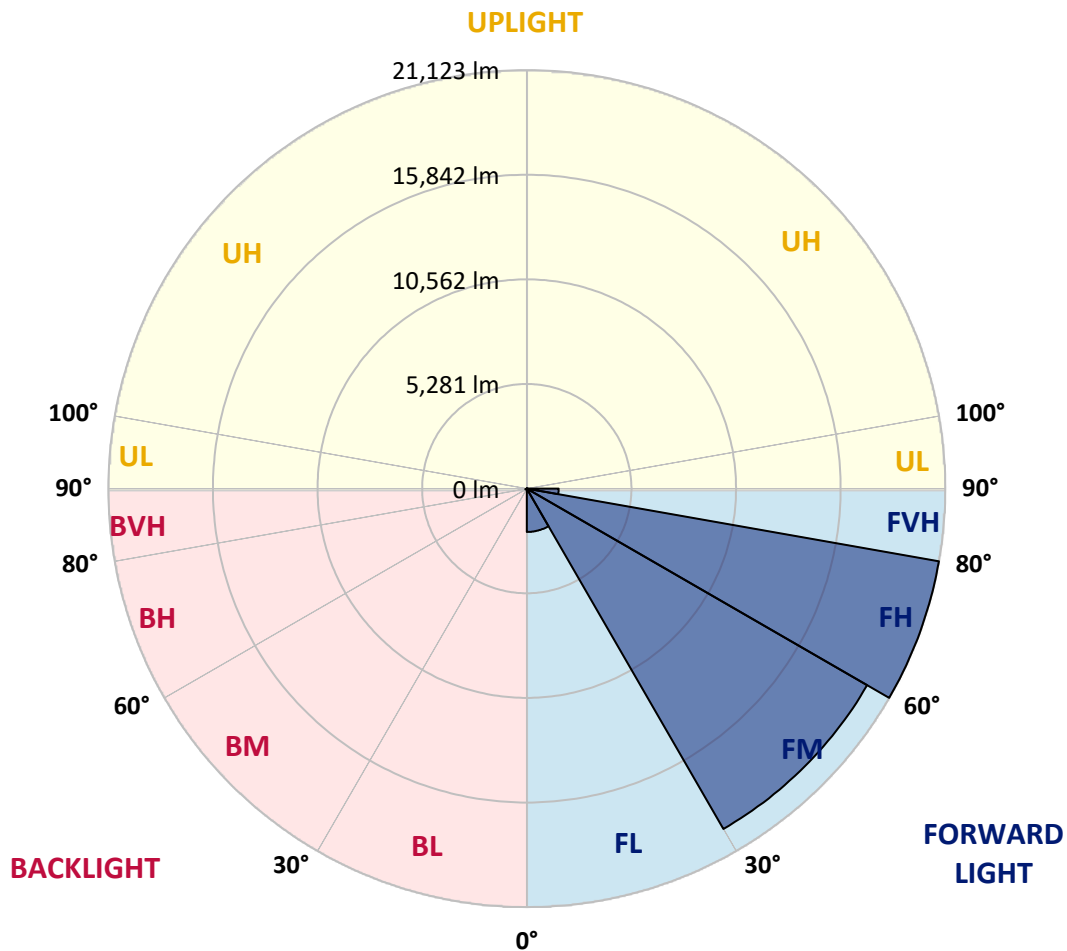
CATALOG NUMBER: GLAN-SA8C-750-U-T4BC

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |        |
|------|-------------|---------|-----------|-------------------------|------|--------|
|      |             |         |           | B                       | U    | G      |
| FL   | (0°-30°)    | 2188.5  | 4.9       |                         |      |        |
| FM   | (30°-60°)   | 19835.0 | 44.2      |                         |      |        |
| FH   | (60°-80°)   | 21123.2 | 47.0      |                         |      | G5     |
| FVH  | (80°-90°)   | 1607.9  | 3.6       |                         |      | G5     |
| BL   | (0°-30°)    | 38.6    | 0.1       | B0/110                  |      |        |
| BM   | (30°-60°)   | 36.9    | 0.1       | B0/220                  |      |        |
| BH   | (60°-80°)   | 76.7    | 0.2       | B0/110                  |      | G0/110 |
| BVH  | (80°-90°)   | 7.3     | 0.0       |                         |      | G0/10  |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |        |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |        |

**BUG Rating: B0-U0-G5**

Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 39°     | 45°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 246.3   | 246.3   | 246.3   | 246.3   | 246.3   | 246.3   | 246.3   | 246.3   | 246.3   | 246.3   | 246.3   |
| 2.5°  | 282.8   | 282.8   | 282.8   | 273.6   | 273.6   | 270.6   | 267.6   | 267.6   | 261.5   | 258.4   | 252.4   |
| 5°    | 428.7   | 419.6   | 398.3   | 386.1   | 361.8   | 346.6   | 331.4   | 310.1   | 288.8   | 273.6   | 255.4   |
| 7.5°  | 969.9   | 991.2   | 921.3   | 790.5   | 656.7   | 599.0   | 501.7   | 404.4   | 334.4   | 288.8   | 258.4   |
| 10°   | 2471.9  | 2459.7  | 2222.6  | 1961.1  | 1514.1  | 1334.8  | 1045.9  | 659.8   | 431.7   | 316.2   | 261.5   |
| 12.5° | 4204.9  | 4192.8  | 3913.1  | 3557.3  | 2967.5  | 2593.5  | 2046.2  | 1231.4  | 620.3   | 358.8   | 261.5   |
| 15°   | 5661.3  | 5612.7  | 5524.5  | 5171.8  | 4481.6  | 4168.5  | 3444.8  | 2177.0  | 1003.3  | 431.7   | 267.6   |
| 17.5° | 6625.1  | 6582.6  | 6500.5  | 6372.8  | 5935.0  | 5564.0  | 4983.3  | 3420.5  | 1623.6  | 559.4   | 279.7   |
| 20°   | 7509.9  | 7479.5  | 7412.6  | 7388.3  | 7105.5  | 6907.9  | 6427.5  | 4849.5  | 2529.7  | 760.1   | 298.0   |
| 22.5° | 8726.1  | 8662.2  | 8689.6  | 8543.7  | 8267.0  | 8029.8  | 7734.9  | 6345.4  | 3636.4  | 1094.6  | 331.4   |
| 25°   | 10215.9 | 10185.5 | 10109.5 | 10006.1 | 9623.0  | 9416.3  | 8963.3  | 7756.2  | 4873.8  | 1532.4  | 367.9   |
| 27.5° | 12015.9 | 11982.4 | 11964.2 | 11727.0 | 11286.2 | 11061.2 | 10428.7 | 9087.9  | 6266.4  | 2146.6  | 416.5   |
| 30°   | 14089.5 | 14104.7 | 13986.1 | 13682.0 | 13168.2 | 12852.0 | 12201.3 | 10483.5 | 7692.3  | 2867.1  | 468.2   |
| 32.5° | 16236.0 | 16205.6 | 16023.2 | 15664.4 | 15205.3 | 14910.4 | 14083.4 | 12012.8 | 9188.2  | 3818.8  | 529.0   |
| 35°   | 18549.8 | 18492.0 | 18011.6 | 17601.2 | 17209.0 | 16838.0 | 16084.0 | 13788.4 | 10684.1 | 4886.0  | 611.1   |
| 37.5° | 20884.9 | 20614.3 | 19650.4 | 19130.5 | 18859.9 | 18555.9 | 17853.5 | 15682.6 | 12170.9 | 6077.9  | 711.5   |
| 40°   | 22648.3 | 22438.5 | 21295.3 | 20337.6 | 20121.7 | 19863.3 | 19340.3 | 17318.4 | 13752.0 | 7357.9  | 833.1   |
| 42.5° | 23624.3 | 23508.8 | 22481.1 | 21535.5 | 21027.8 | 20799.7 | 20352.8 | 18747.4 | 15314.8 | 8771.7  | 1009.4  |
| 45°   | 24040.8 | 23861.5 | 23174.3 | 22733.5 | 21924.7 | 21547.7 | 21015.6 | 19826.8 | 16947.5 | 10377.1 | 1255.7  |
| 47.5° | 23913.2 | 23809.8 | 23317.2 | 23478.4 | 22891.6 | 22304.8 | 21523.4 | 20653.8 | 18343.0 | 12219.6 | 1593.2  |
| 50°   | 23110.5 | 23022.3 | 22870.3 | 23742.9 | 23669.9 | 22976.7 | 22180.1 | 21307.5 | 19483.2 | 14119.9 | 2116.2  |
| 52.5° | 21584.2 | 21547.7 | 21936.9 | 23536.1 | 24110.8 | 23569.6 | 22812.5 | 21885.2 | 20547.4 | 16105.3 | 2864.1  |
| 55°   | 19617.0 | 19766.0 | 20878.8 | 23213.8 | 24335.8 | 24007.4 | 23372.0 | 22426.4 | 21401.7 | 17880.9 | 3967.8  |
| 57.5° | 18808.2 | 18847.8 | 20237.2 | 22985.8 | 24436.1 | 24393.5 | 23916.2 | 22943.2 | 22186.2 | 19300.8 | 5652.2  |
| 60°   | 19753.8 | 19693.0 | 20425.8 | 23159.1 | 24636.8 | 24740.2 | 24399.6 | 23423.6 | 22867.2 | 20520.0 | 7896.1  |
| 62.5° | 21462.5 | 21429.1 | 21663.2 | 23897.9 | 25223.6 | 25433.4 | 25071.6 | 23770.2 | 23469.2 | 21322.7 | 10456.1 |
| 65°   | 22988.9 | 22918.9 | 23353.7 | 25208.4 | 26254.3 | 26403.3 | 26087.1 | 24363.1 | 23733.8 | 21906.5 | 12861.1 |
| 67.5° | 23648.6 | 23633.4 | 24332.7 | 26455.0 | 27336.7 | 27497.8 | 27221.2 | 25181.0 | 23673.0 | 22091.9 | 13922.2 |
| 70°   | 23347.6 | 23289.9 | 24408.7 | 26984.0 | 27947.8 | 28130.3 | 27862.7 | 25485.1 | 23013.2 | 21505.1 | 12350.3 |
| 71°   | 23016.2 | 22861.2 | 24180.7 | 26947.5 | 28033.0 | 28188.0 | 27719.8 | 25208.4 | 22350.4 | 20672.0 | 10924.3 |
| 72.5° | 21988.5 | 22015.9 | 23554.4 | 26567.5 | 27829.3 | 27783.6 | 26911.0 | 24217.2 | 21550.7 | 18780.9 | 8774.7  |
| 75°   | 19458.9 | 19620.0 | 21526.4 | 24971.2 | 26011.1 | 25430.3 | 24095.6 | 22323.0 | 19945.4 | 13466.2 | 6093.1  |
| 77.5° | 15901.6 | 16141.8 | 18236.6 | 21900.4 | 21605.4 | 21547.7 | 21493.0 | 19668.7 | 17032.6 | 7233.2  | 4238.4  |
| 80°   | 7592.0  | 8111.9  | 11000.4 | 15634.0 | 16984.0 | 17637.7 | 17227.2 | 15849.9 | 13171.2 | 3444.8  | 2532.7  |
| 82.5° | 495.6   | 489.5   | 693.2   | 1313.5  | 5536.7  | 7157.2  | 11371.3 | 11328.7 | 9182.2  | 1678.3  | 1033.8  |
| 85°   | 234.1   | 240.2   | 264.5   | 301.0   | 349.7   | 383.1   | 529.0   | 3101.3  | 4393.5  | 799.6   | 225.0   |
| 87.5° | 136.8   | 139.9   | 164.2   | 209.8   | 273.6   | 304.0   | 361.8   | 465.2   | 571.6   | 440.9   | 48.6    |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |



REPORT NUMBER: P1064083

CATALOG NUMBER: GLAN-SA8C-750-U-T4BC

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°   | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 246.3  | 246.3 | 246.3 | 246.3 | 246.3 | 246.3 | 246.3 | 246.3 | 246.3 | 246.3 | 246.3 |
| 2.5°  | 249.3  | 246.3 | 237.2 | 228.0 | 218.9 | 212.8 | 209.8 | 212.8 | 212.8 | 215.9 | 215.9 |
| 5°    | 249.3  | 240.2 | 225.0 | 206.8 | 194.6 | 182.4 | 176.3 | 173.3 | 176.3 | 176.3 | 176.3 |
| 7.5°  | 246.3  | 231.1 | 209.8 | 188.5 | 173.3 | 158.1 | 152.0 | 149.0 | 149.0 | 152.0 | 152.0 |
| 10°   | 240.2  | 225.0 | 197.6 | 173.3 | 155.1 | 136.8 | 127.7 | 118.6 | 118.6 | 118.6 | 121.6 |
| 12.5° | 237.2  | 215.9 | 182.4 | 158.1 | 133.8 | 112.5 | 94.3  | 85.1  | 88.2  | 88.2  | 88.2  |
| 15°   | 231.1  | 206.8 | 173.3 | 142.9 | 112.5 | 85.1  | 69.9  | 60.8  | 63.8  | 66.9  | 63.8  |
| 17.5° | 231.1  | 203.7 | 161.1 | 124.7 | 88.2  | 63.8  | 51.7  | 45.6  | 45.6  | 48.6  | 48.6  |
| 20°   | 231.1  | 197.6 | 152.0 | 106.4 | 66.9  | 48.6  | 36.5  | 33.4  | 33.4  | 39.5  | 42.6  |
| 22.5° | 237.2  | 197.6 | 139.9 | 88.2  | 54.7  | 36.5  | 27.4  | 24.3  | 27.4  | 33.4  | 36.5  |
| 25°   | 246.3  | 194.6 | 127.7 | 79.1  | 45.6  | 27.4  | 21.3  | 15.2  | 18.2  | 24.3  | 27.4  |
| 27.5° | 255.4  | 191.5 | 115.5 | 69.9  | 36.5  | 21.3  | 15.2  | 12.2  | 9.1   | 12.2  | 12.2  |
| 30°   | 264.5  | 191.5 | 103.4 | 57.8  | 30.4  | 15.2  | 9.1   | 6.1   | 3.0   | 0.0   | 0.0   |
| 32.5° | 270.6  | 185.5 | 94.3  | 45.6  | 24.3  | 12.2  | 6.1   | 3.0   | 0.0   | 0.0   | 0.0   |
| 35°   | 276.7  | 179.4 | 82.1  | 36.5  | 18.2  | 9.1   | 3.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 37.5° | 282.8  | 170.3 | 69.9  | 30.4  | 15.2  | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 40°   | 288.8  | 158.1 | 57.8  | 27.4  | 9.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 42.5° | 294.9  | 149.0 | 48.6  | 21.3  | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 45°   | 310.1  | 142.9 | 39.5  | 18.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 47.5° | 337.5  | 136.8 | 36.5  | 12.2  | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 50°   | 377.0  | 130.7 | 33.4  | 9.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 52.5° | 431.7  | 127.7 | 30.4  | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 55°   | 529.0  | 124.7 | 27.4  | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 57.5° | 696.3  | 121.6 | 27.4  | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 60°   | 1067.2 | 115.5 | 27.4  | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 62.5° | 1906.4 | 112.5 | 24.3  | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 65°   | 3323.2 | 115.5 | 24.3  | 6.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 67.5° | 4764.4 | 121.6 | 21.3  | 9.1   | 3.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 70°   | 4077.2 | 106.4 | 21.3  | 12.2  | 6.1   | 3.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 71°   | 3323.2 | 94.3  | 21.3  | 12.2  | 6.1   | 3.0   | 3.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 72.5° | 2137.4 | 73.0  | 18.2  | 12.2  | 6.1   | 6.1   | 3.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 75°   | 903.0  | 60.8  | 18.2  | 12.2  | 9.1   | 6.1   | 6.1   | 3.0   | 0.0   | 0.0   | 0.0   |
| 77.5° | 386.1  | 45.6  | 18.2  | 15.2  | 12.2  | 9.1   | 9.1   | 6.1   | 3.0   | 0.0   | 0.0   |
| 80°   | 145.9  | 36.5  | 21.3  | 18.2  | 15.2  | 15.2  | 12.2  | 6.1   | 3.0   | 0.0   | 0.0   |
| 82.5° | 66.9   | 30.4  | 21.3  | 18.2  | 18.2  | 15.2  | 12.2  | 9.1   | 6.1   | 0.0   | 0.0   |
| 85°   | 42.6   | 27.4  | 21.3  | 18.2  | 18.2  | 15.2  | 15.2  | 9.1   | 6.1   | 0.0   | 0.0   |
| 87.5° | 33.4   | 27.4  | 21.3  | 21.3  | 18.2  | 18.2  | 12.2  | 9.1   | 3.0   | 0.0   | 0.0   |
| 90°   | 0.0    | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 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: SP1-2407-184-6

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-750-U-5WQ

Data in this report applies to families of products including GSS-SB1A-750-U-5WQ

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-6  
 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-750-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 5000K CCT 26 LEDS

### Spectral Parameters

|                           |          |           |      |      |       |
|---------------------------|----------|-----------|------|------|-------|
| CCT (K):                  | 4896     | CRI (Ra): | 70.2 |      |       |
| CIE u':                   | 0.2101   | R1:       | 68.1 | R9:  | -35.1 |
| CIE v':                   | 0.4901   | R2:       | 73.9 | R10: | 39.3  |
| Duv:                      | 0.0035   | R3:       | 79.4 | R11: | 71.1  |
| CIE x:                    | 0.3489   | R4:       | 72.1 | R12: | 43.8  |
| CIE y:                    | 0.3618   | R5:       | 69.2 | R13: | 68.1  |
| CIE z:                    | 0.2893   | R6:       | 65.7 | R14: | 88.4  |
| Peak Wavelength (nm):     | 443      | R7:       | 78.1 | R15: | 59.7  |
| Dominant Wavelength (nm): | 570      | R8:       | 55.3 |      |       |
| Purity:                   | 13.25435 |           |      |      |       |
| Rf:                       | 70.7     |           |      |      |       |
| Rg:                       | 96.8     |           |      |      |       |



### Test Conditions

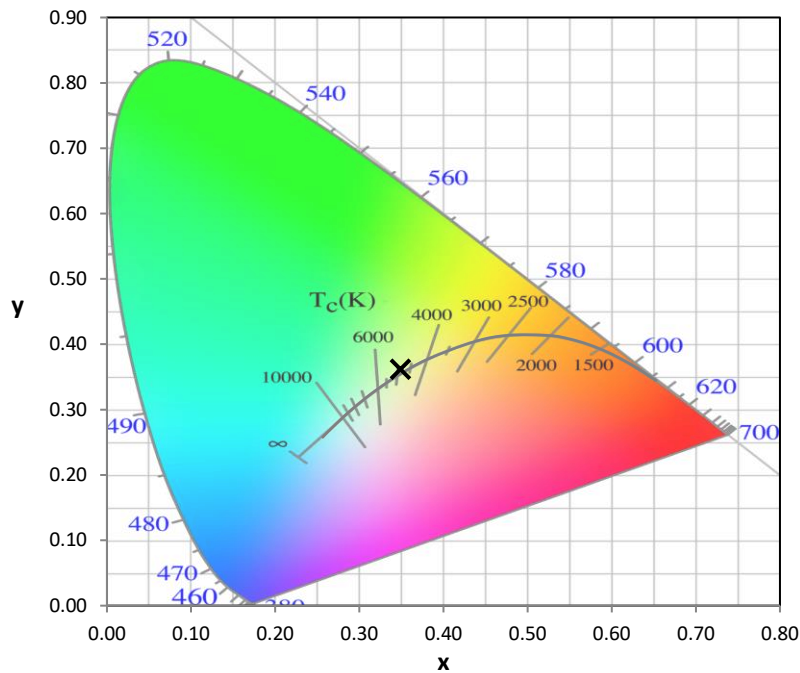
Stabilization Time: 21M  
 Operation Time: 1H 21M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-6

| 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 5000K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-6

### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 118                      | NR            | 620    | 401                      | NR            | 750    | 12                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 168                      | NR            | 625    | 365                      | NR            | 755    | 10                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 230                      | NR            | 630    | 331                      | NR            | 760    | 9                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 299                      | NR            | 635    | 298                      | NR            | 765    | 8                        | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 362                      | NR            | 640    | 266                      | NR            | 770    | 6                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 418                      | NR            | 645    | 236                      | NR            | 775    | 6                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 461                      | NR            | 650    | 209                      | NR            | 780    | 5                        | NR            | 910    | 0                        | NR            |
| 395    | 6                        | NR            | 525    | 491                      | NR            | 655    | 184                      | NR            | 785    | 4                        | NR            | 915    | 0                        | NR            |
| 400    | 9                        | NR            | 530    | 514                      | NR            | 660    | 160                      | NR            | 790    | 4                        | NR            | 920    | 0                        | NR            |
| 405    | 14                       | NR            | 535    | 530                      | NR            | 665    | 140                      | NR            | 795    | 3                        | NR            | 925    | 0                        | NR            |
| 410    | 27                       | NR            | 540    | 539                      | NR            | 670    | 122                      | NR            | 800    | 3                        | NR            | 930    | 0                        | NR            |
| 415    | 55                       | NR            | 545    | 549                      | NR            | 675    | 106                      | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 115                      | NR            | 550    | 557                      | NR            | 680    | 92                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 226                      | NR            | 555    | 565                      | NR            | 685    | 79                       | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 395                      | NR            | 560    | 572                      | NR            | 690    | 68                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 648                      | NR            | 565    | 580                      | NR            | 695    | 59                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 937                      | NR            | 570    | 586                      | NR            | 700    | 51                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 953                      | NR            | 575    | 588                      | NR            | 705    | 44                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 591                      | NR            | 580    | 588                      | NR            | 710    | 38                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 334                      | NR            | 585    | 580                      | NR            | 715    | 32                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 221                      | NR            | 590    | 568                      | NR            | 720    | 28                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 140                      | NR            | 595    | 550                      | NR            | 725    | 24                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 93                       | NR            | 600    | 527                      | NR            | 730    | 21                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 79                       | NR            | 605    | 499                      | NR            | 735    | 18                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 469                      | NR            | 740    | 15                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 87                       | NR            | 615    | 435                      | NR            | 745    | 13                       | NR            | 875    | 0                        | NR            |        |                          |               |

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### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.7

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 118                      | NR            | 620    | 401                      | NR            | 750    | 12                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 168                      | NR            | 625    | 365                      | NR            | 755    | 10                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 230                      | NR            | 630    | 331                      | NR            | 760    | 9                        | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 299                      | NR            | 635    | 298                      | NR            | 765    | 8                        | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 362                      | NR            | 640    | 266                      | NR            | 770    | 6                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 418                      | NR            | 645    | 236                      | NR            | 775    | 6                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 461                      | NR            | 650    | 209                      | NR            | 780    | 5                        | NR            | 910    | 0                        | NR            |
| 395    | 6                        | NR            | 525    | 491                      | NR            | 655    | 184                      | NR            | 785    | 4                        | NR            | 915    | 0                        | NR            |
| 400    | 9                        | NR            | 530    | 514                      | NR            | 660    | 160                      | NR            | 790    | 4                        | NR            | 920    | 0                        | NR            |
| 405    | 14                       | NR            | 535    | 530                      | NR            | 665    | 140                      | NR            | 795    | 3                        | NR            | 925    | 0                        | NR            |
| 410    | 27                       | NR            | 540    | 539                      | NR            | 670    | 122                      | NR            | 800    | 3                        | NR            | 930    | 0                        | NR            |
| 415    | 55                       | NR            | 545    | 549                      | NR            | 675    | 106                      | NR            | 805    | 2                        | NR            | 935    | 0                        | NR            |
| 420    | 115                      | NR            | 550    | 557                      | NR            | 680    | 92                       | NR            | 810    | 2                        | NR            | 940    | 0                        | NR            |
| 425    | 226                      | NR            | 555    | 565                      | NR            | 685    | 79                       | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 395                      | NR            | 560    | 572                      | NR            | 690    | 68                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 648                      | NR            | 565    | 580                      | NR            | 695    | 59                       | NR            | 825    | 1                        | NR            | 955    | 0                        | NR            |
| 440    | 937                      | NR            | 570    | 586                      | NR            | 700    | 51                       | NR            | 830    | 1                        | NR            | 960    | 0                        | NR            |
| 445    | 953                      | NR            | 575    | 588                      | NR            | 705    | 44                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 591                      | NR            | 580    | 588                      | NR            | 710    | 38                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 334                      | NR            | 585    | 580                      | NR            | 715    | 32                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 221                      | NR            | 590    | 568                      | NR            | 720    | 28                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 140                      | NR            | 595    | 550                      | NR            | 725    | 24                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 93                       | NR            | 600    | 527                      | NR            | 730    | 21                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 79                       | NR            | 605    | 499                      | NR            | 735    | 18                       | NR            | 865    | 0                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 469                      | NR            | 740    | 15                       | NR            | 870    | 0                        | NR            | 1000   | 0                        | NR            |
| 485    | 87                       | NR            | 615    | 435                      | NR            | 745    | 13                       | NR            | 875    | 0                        | NR            |        |                          |               |

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### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 3.37**

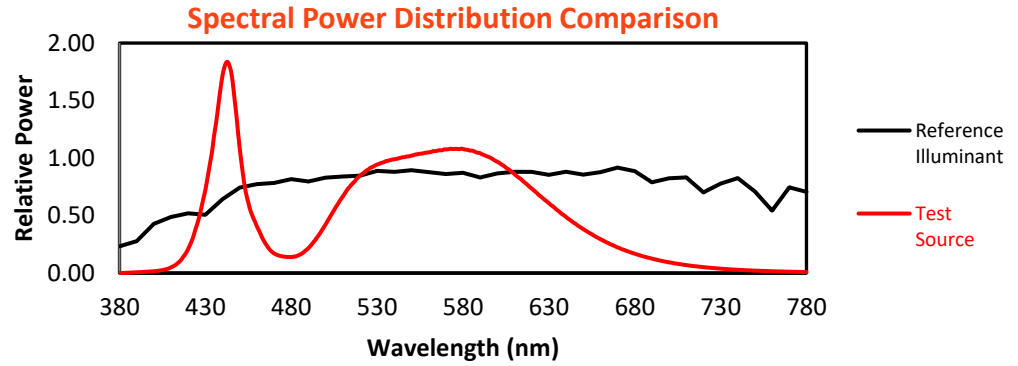
| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<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               | 118                                  | NR                             | 620               | 401                                  | NR                             | 750               | 12                                   | NR                             | 880               | 0                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 168                                  | NR                             | 625               | 365                                  | NR                             | 755               | 10                                   | NR                             | 885               | 0                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 230                                  | NR                             | 630               | 331                                  | NR                             | 760               | 9                                    | NR                             | 890               | 0                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 299                                  | NR                             | 635               | 298                                  | NR                             | 765               | 8                                    | NR                             | 895               | 0                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 362                                  | NR                             | 640               | 266                                  | NR                             | 770               | 6                                    | NR                             | 900               | 0                                    | NR                             |
| 385               | 2                                    | NR                             | 515               | 418                                  | NR                             | 645               | 236                                  | NR                             | 775               | 6                                    | NR                             | 905               | 0                                    | NR                             |
| 390               | 4                                    | NR                             | 520               | 461                                  | NR                             | 650               | 209                                  | NR                             | 780               | 5                                    | NR                             | 910               | 0                                    | NR                             |
| 395               | 6                                    | NR                             | 525               | 491                                  | NR                             | 655               | 184                                  | NR                             | 785               | 4                                    | NR                             | 915               | 0                                    | NR                             |
| 400               | 9                                    | NR                             | 530               | 514                                  | NR                             | 660               | 160                                  | NR                             | 790               | 4                                    | NR                             | 920               | 0                                    | NR                             |
| 405               | 14                                   | NR                             | 535               | 530                                  | NR                             | 665               | 140                                  | NR                             | 795               | 3                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 27                                   | NR                             | 540               | 539                                  | NR                             | 670               | 122                                  | NR                             | 800               | 3                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 55                                   | NR                             | 545               | 549                                  | NR                             | 675               | 106                                  | NR                             | 805               | 2                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 115                                  | NR                             | 550               | 557                                  | NR                             | 680               | 92                                   | NR                             | 810               | 2                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 226                                  | NR                             | 555               | 565                                  | NR                             | 685               | 79                                   | NR                             | 815               | 2                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 395                                  | NR                             | 560               | 572                                  | NR                             | 690               | 68                                   | NR                             | 820               | 2                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 648                                  | NR                             | 565               | 580                                  | NR                             | 695               | 59                                   | NR                             | 825               | 1                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 937                                  | NR                             | 570               | 586                                  | NR                             | 700               | 51                                   | NR                             | 830               | 1                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 953                                  | NR                             | 575               | 588                                  | NR                             | 705               | 44                                   | NR                             | 835               | 1                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 591                                  | NR                             | 580               | 588                                  | NR                             | 710               | 38                                   | NR                             | 840               | 1                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 334                                  | NR                             | 585               | 580                                  | NR                             | 715               | 32                                   | NR                             | 845               | 1                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 221                                  | NR                             | 590               | 568                                  | NR                             | 720               | 28                                   | NR                             | 850               | 1                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 140                                  | NR                             | 595               | 550                                  | NR                             | 725               | 24                                   | NR                             | 855               | 1                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 93                                   | NR                             | 600               | 527                                  | NR                             | 730               | 21                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 79                                   | NR                             | 605               | 499                                  | NR                             | 735               | 18                                   | NR                             | 865               | 0                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 76                                   | NR                             | 610               | 469                                  | NR                             | 740               | 15                                   | NR                             | 870               | 0                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 87                                   | NR                             | 615               | 435                                  | NR                             | 745               | 13                                   | NR                             | 875               | 0                                    | NR                             |                   |                                      |                                |

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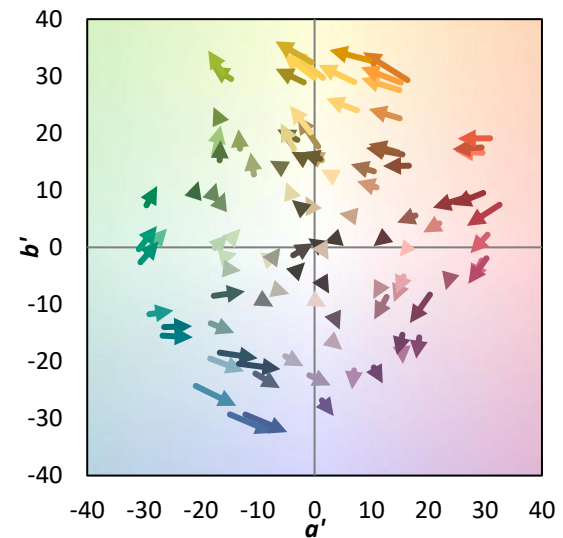
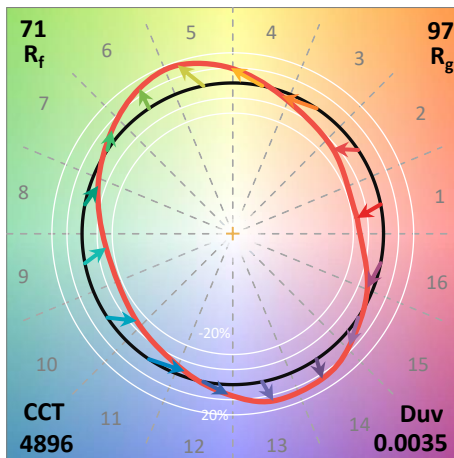
TM-30-18

### Summary

$R_f = 70.7$   
 $R_g = 96.8$   
 CIE  $R_a = 70.2$   
 $R_g = -35.1$



### Color Vector Graphics

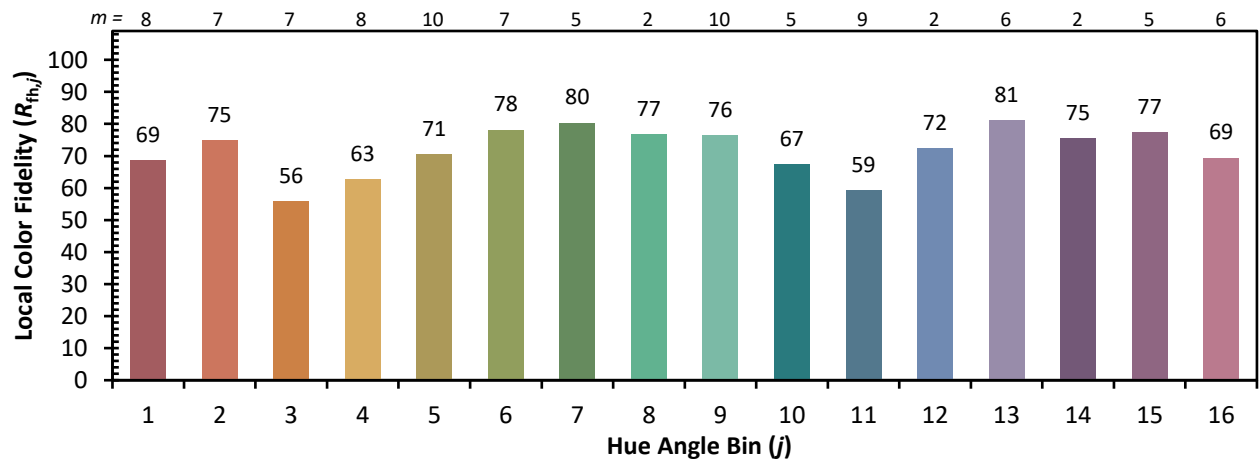
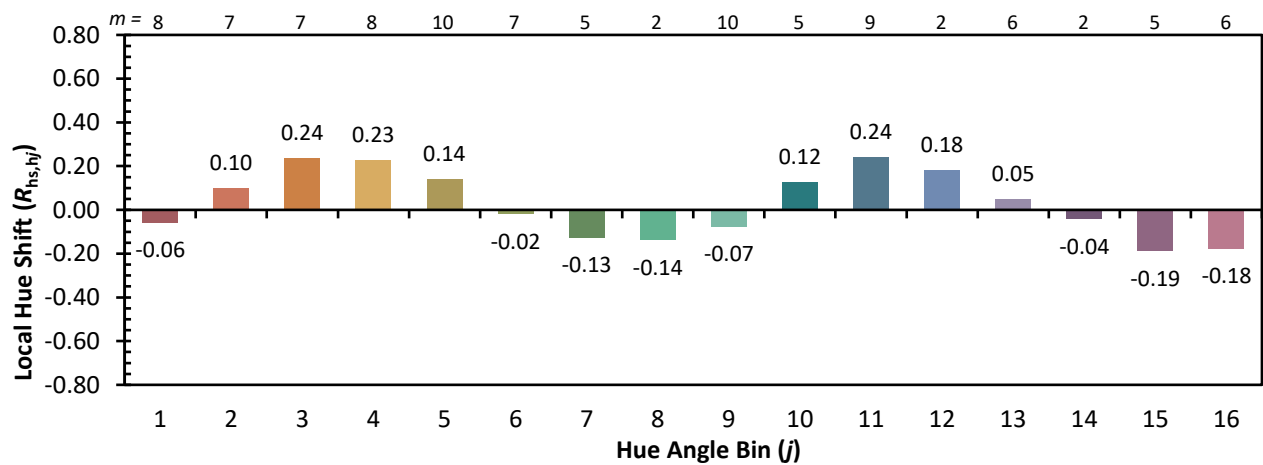
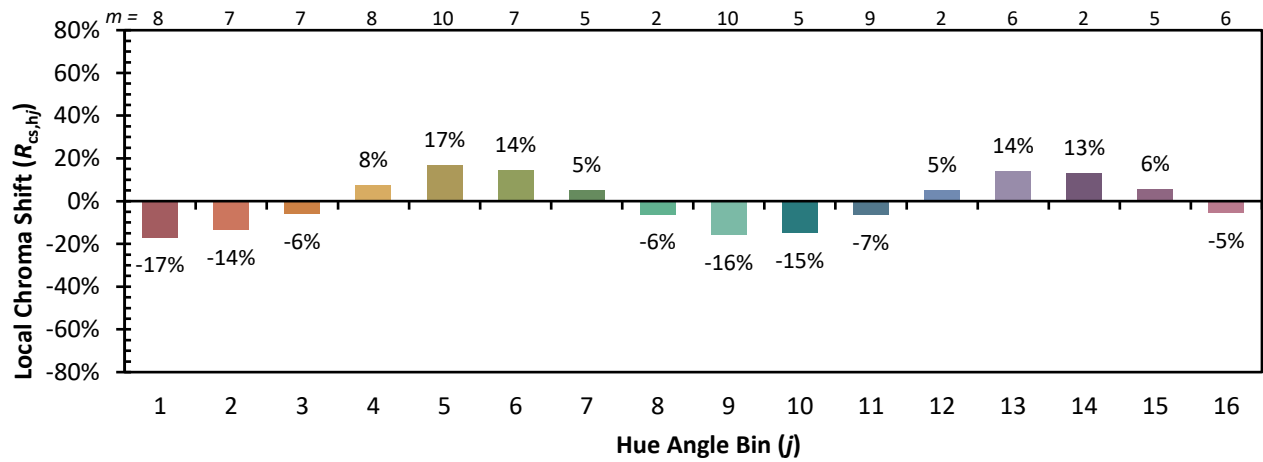


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 53 | CES51 = 87 | CES76 = 42 |
| CES02 = 59 | CES27 = 78 | CES52 = 88 | CES77 = 64 |
| CES03 = 30 | CES28 = 76 | CES53 = 74 | CES78 = 45 |
| CES04 = 69 | CES29 = 48 | CES54 = 80 | CES79 = 74 |
| CES05 = 46 | CES30 = 56 | CES55 = 79 | CES80 = 71 |
| CES06 = 50 | CES31 = 54 | CES56 = 68 | CES81 = 72 |
| CES07 = 39 | CES32 = 50 | CES57 = 65 | CES82 = 88 |
| CES08 = 38 | CES33 = 60 | CES58 = 67 | CES83 = 82 |
| CES09 = 29 | CES34 = 62 | CES59 = 87 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 91 | CES85 = 84 |
| CES11 = 56 | CES36 = 90 | CES61 = 87 | CES86 = 74 |
| CES12 = 61 | CES37 = 72 | CES62 = 79 | CES87 = 75 |
| CES13 = 41 | CES38 = 66 | CES63 = 72 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 70 | CES89 = 74 |
| CES15 = 70 | CES40 = 83 | CES65 = 63 | CES90 = 73 |
| CES16 = 46 | CES41 = 83 | CES66 = 64 | CES91 = 92 |
| CES17 = 49 | CES42 = 70 | CES67 = 62 | CES92 = 67 |
| CES18 = 55 | CES43 = 68 | CES68 = 69 | CES93 = 81 |
| CES19 = 71 | CES44 = 98 | CES69 = 80 | CES94 = 56 |
| CES20 = 64 | CES45 = 78 | CES70 = 56 | CES95 = 71 |
| CES21 = 85 | CES46 = 77 | CES71 = 53 | CES96 = 77 |
| CES22 = 77 | CES47 = 73 | CES72 = 84 | CES97 = 82 |
| CES23 = 91 | CES48 = 65 | CES73 = 46 | CES98 = 71 |
| CES24 = 90 | CES49 = 76 | CES74 = 94 | CES99 = 59 |
| CES25 = 71 | CES50 = 85 | CES75 = 49 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)