

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

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Peachtree City, GA 30269

Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: STREETWORKS

Report Number: P1458389

Luminaire Tested: GLAN-SB2C-835-U-T3LG-HSS

Issue Date: 05/20/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1458389  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 5/22/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: GLAN-SB2C-835-U-T3LG-HSS  
Description: GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 615mA 2xLight Square PACKAGE 80CRI 3500K FIXTURE w/ TYPE III LOW GLARE WITH HOUSE SIDE SHIELD  
Light Source: (52) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

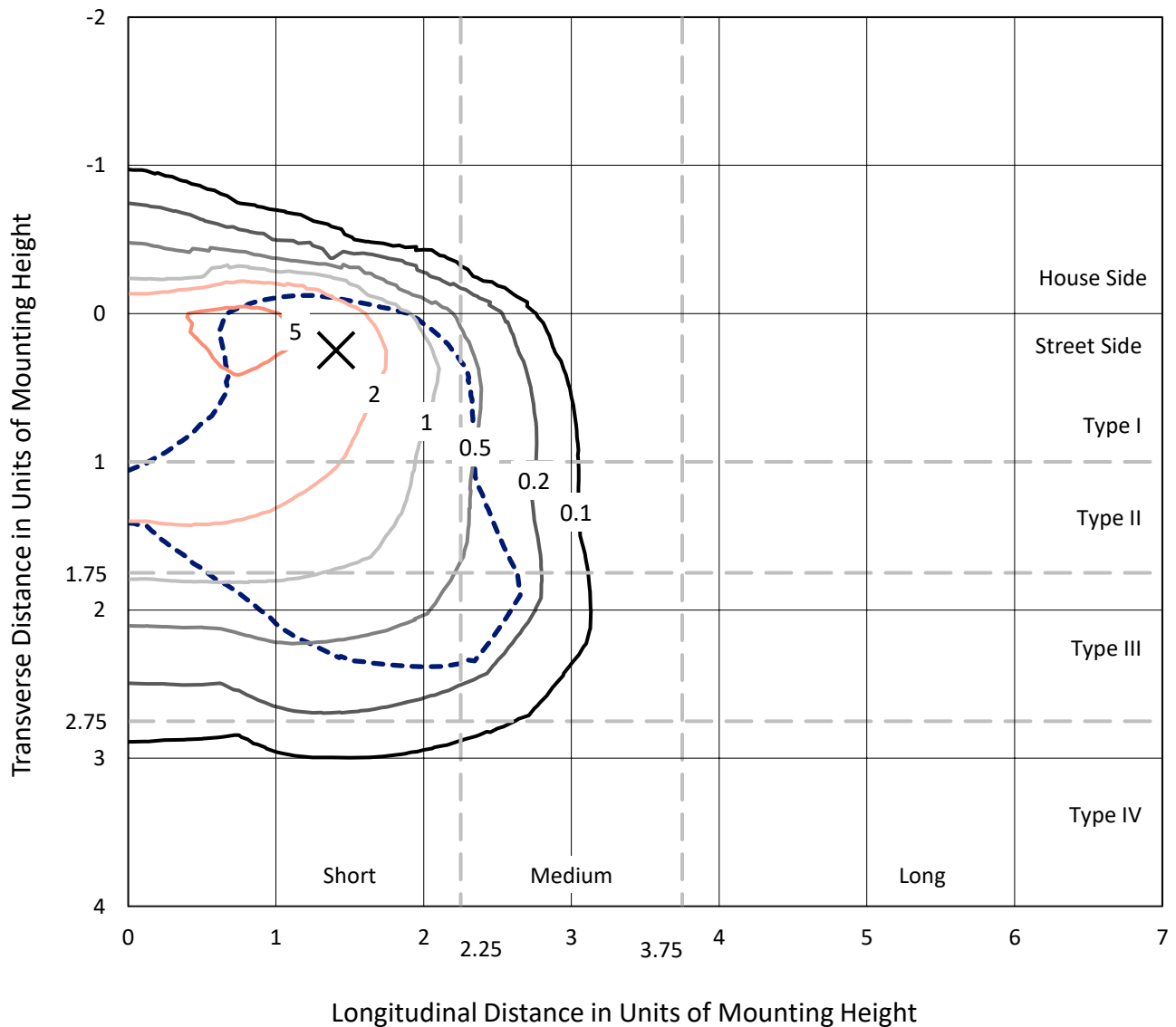
Lumens per Lamp: N/A  
Luminaire Lumens: 10620.8 lumens  
Efficiency: N/A  
Efficacy: 105.3 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G2

Input Watts (W): 100.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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

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 CATALOG NUMBER: GLAN-SB2C-835-U-T3LG-HSS

### Iso-Footcandle Lines of Horizontal Illumination

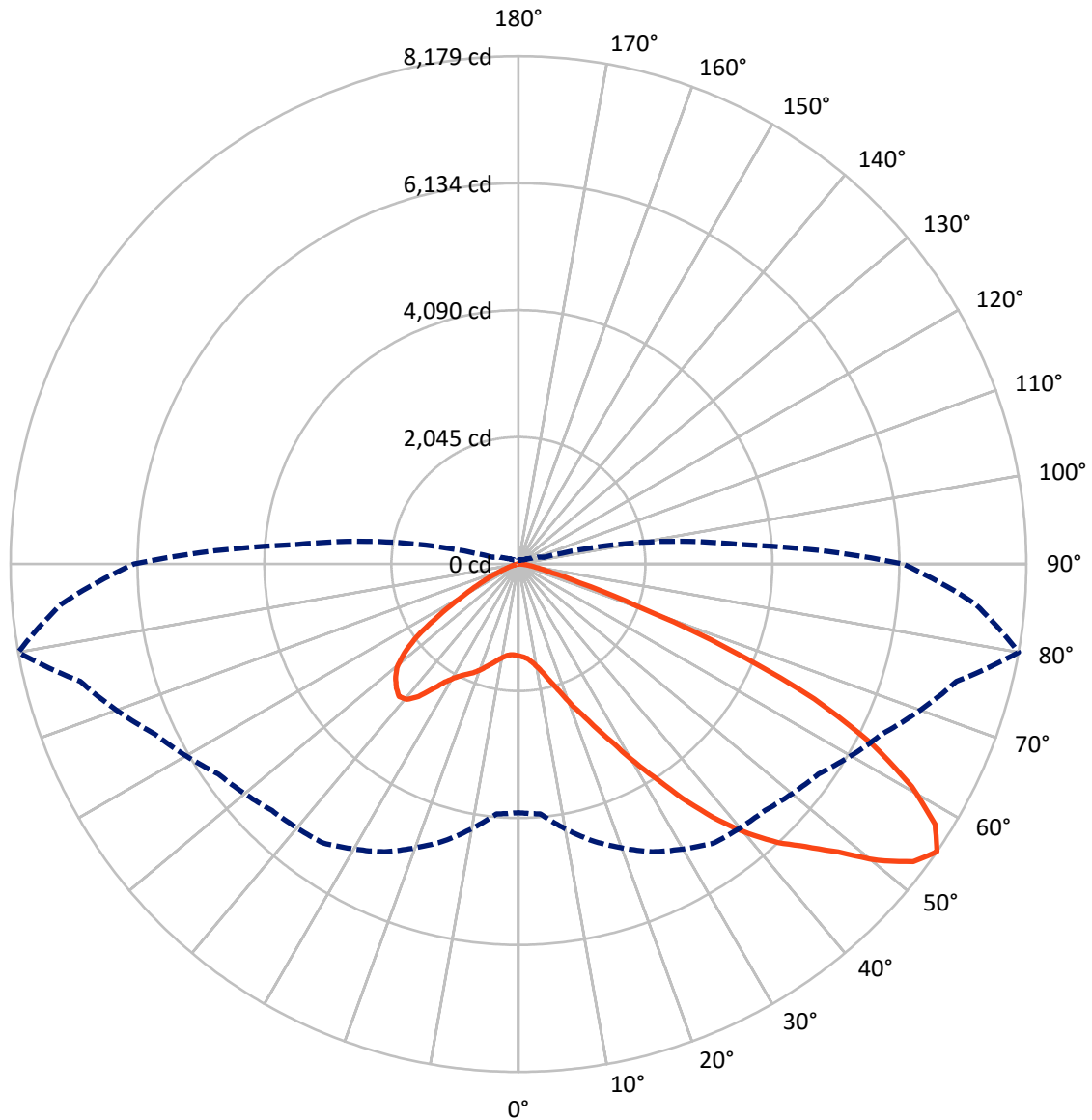
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.5 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 80-Deg Lateral    - - - Horizontal Cone Through 55-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1291.1   | 0.0    | 1291.1  |
|                    | % Fixture | 12.2     | 0.0    | 12.2    |
| <b>Street Side</b> | Lumens    | 9329.7   | 0.0    | 9329.7  |
|                    | % Fixture | 87.8     | 0.0    | 87.8    |
| <b>Total</b>       | Lumens    | 10620.8  | 0.0    | 10620.8 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 124.2   | 1.2       |
| 10°-20°   | 327.3   | 3.1       |
| 20°-30°   | 640.8   | 6.0       |
| 30°-40°   | 1303.7  | 12.3      |
| 40°-50°   | 2197.8  | 20.7      |
| 50°-60°   | 2808.1  | 26.4      |
| 60°-70°   | 2397.5  | 22.6      |
| 70°-80°   | 766.1   | 7.2       |
| 80°-90°   | 55.3    | 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°    | 10620.8 | 100.0     |
| 0°-180°   | 10620.8 | 100.0     |

**Coefficient of Utilization**



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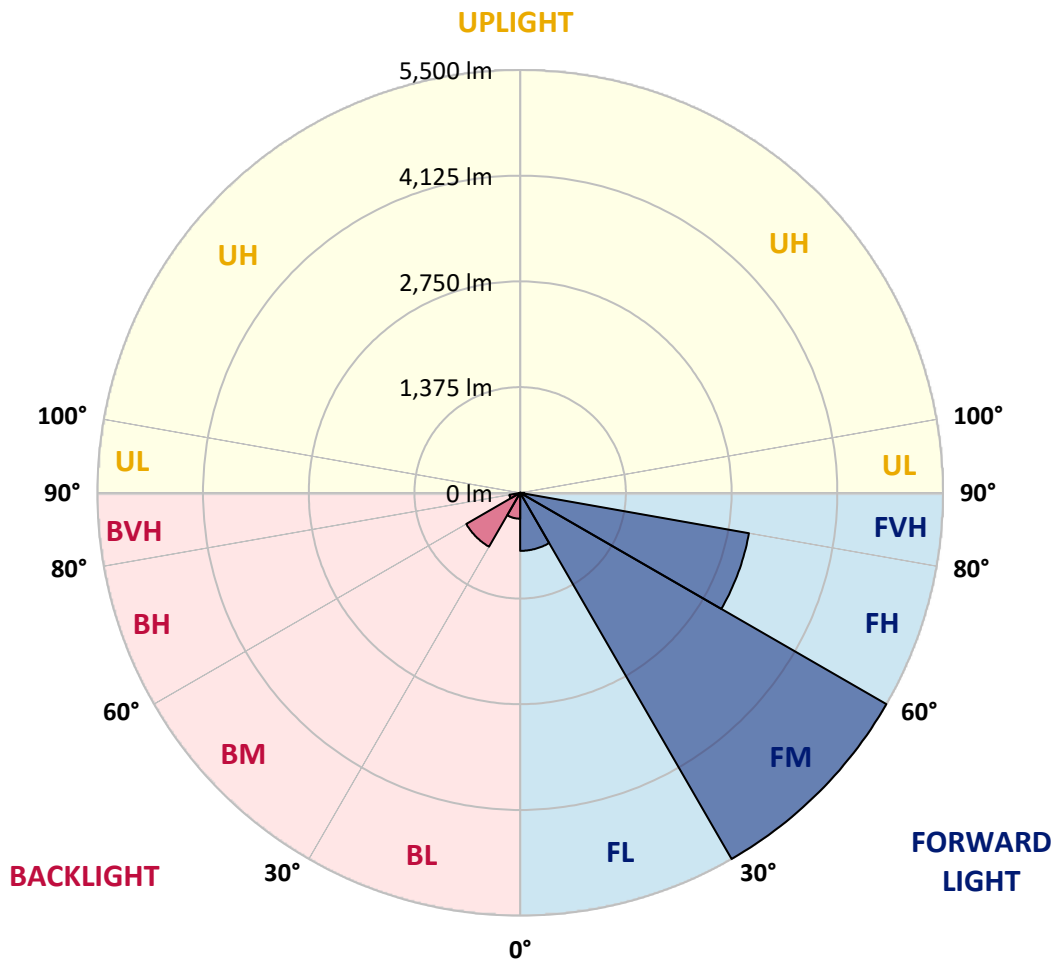
CATALOG NUMBER: GLAN-SB2C-835-U-T3LG-HSS

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 755.2  | 7.1       |                         |      |         |
| FM   | (30°-60°)   | 5500.4 | 51.8      |                         |      |         |
| FH   | (60°-80°)   | 3021.7 | 28.5      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 52.4   | 0.5       |                         |      | G1/100  |
| BL   | (0°-30°)    | 337.1  | 3.2       | B1/500                  |      |         |
| BM   | (30°-60°)   | 809.2  | 7.6       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 141.9  | 1.3       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 2.9    | 0.0       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 80°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 |
| 2.5°  | 1488.5 | 1491.5 | 1488.5 | 1491.5 | 1497.6 | 1494.6 | 1506.6 | 1503.6 | 1503.6 | 1500.6 | 1488.5 |
| 5°    | 1404.0 | 1407.0 | 1413.0 | 1428.1 | 1449.3 | 1470.4 | 1497.6 | 1515.7 | 1533.8 | 1530.8 | 1518.7 |
| 7.5°  | 1237.9 | 1243.9 | 1268.1 | 1298.3 | 1367.7 | 1431.1 | 1500.6 | 1545.9 | 1585.1 | 1597.2 | 1588.1 |
| 10°   | 1144.3 | 1150.4 | 1165.4 | 1195.6 | 1259.0 | 1364.7 | 1500.6 | 1594.2 | 1663.6 | 1687.8 | 1690.8 |
| 12.5° | 1135.3 | 1138.3 | 1150.4 | 1183.6 | 1237.9 | 1328.5 | 1497.6 | 1657.6 | 1775.3 | 1811.6 | 1823.7 |
| 15°   | 1141.3 | 1147.3 | 1159.4 | 1186.6 | 1250.0 | 1352.6 | 1521.7 | 1757.2 | 1923.3 | 1974.6 | 1977.6 |
| 17.5° | 1165.4 | 1171.5 | 1186.6 | 1216.8 | 1286.2 | 1416.0 | 1597.2 | 1859.9 | 2101.4 | 2158.8 | 2192.0 |
| 20°   | 1213.8 | 1216.8 | 1234.9 | 1274.1 | 1352.6 | 1494.6 | 1708.9 | 1998.8 | 2315.8 | 2400.3 | 2424.5 |
| 22.5° | 1277.2 | 1286.2 | 1310.4 | 1358.7 | 1458.3 | 1603.2 | 1862.9 | 2167.9 | 2551.3 | 2638.9 | 2681.1 |
| 25°   | 1346.6 | 1358.7 | 1394.9 | 1473.4 | 1600.2 | 1769.3 | 2053.1 | 2391.3 | 2829.1 | 2934.8 | 2992.1 |
| 27.5° | 1488.5 | 1491.5 | 1515.7 | 1615.3 | 1778.4 | 1986.7 | 2294.7 | 2678.1 | 3155.2 | 3279.0 | 3342.4 |
| 30°   | 1799.5 | 1802.5 | 1781.4 | 1808.6 | 1974.6 | 2243.3 | 2578.5 | 3013.3 | 3535.6 | 3707.7 | 3759.0 |
| 32.5° | 2179.9 | 2195.0 | 2192.0 | 2173.9 | 2249.4 | 2500.0 | 2916.6 | 3414.8 | 3982.4 | 4163.6 | 4211.9 |
| 35°   | 2611.7 | 2647.9 | 2638.9 | 2632.8 | 2641.9 | 2829.1 | 3303.1 | 3858.7 | 4489.7 | 4710.1 | 4749.3 |
| 37.5° | 3034.4 | 3043.4 | 3085.7 | 3137.0 | 3143.1 | 3272.9 | 3750.0 | 4329.7 | 4960.7 | 5241.5 | 5301.9 |
| 40°   | 3360.5 | 3390.7 | 3496.3 | 3599.0 | 3704.7 | 3807.3 | 4118.3 | 4710.1 | 5335.1 | 5712.5 | 5739.7 |
| 42.5° | 3614.1 | 3686.6 | 3840.5 | 4000.6 | 4214.9 | 4329.7 | 4468.6 | 4978.8 | 5640.0 | 6132.2 | 6120.1 |
| 45°   | 3922.1 | 3952.3 | 4169.6 | 4381.0 | 4598.4 | 4773.5 | 4770.5 | 5205.3 | 5878.6 | 6491.5 | 6416.0 |
| 47.5° | 4130.4 | 4166.6 | 4462.5 | 4710.1 | 4933.5 | 5021.1 | 5039.2 | 5449.8 | 6207.7 | 6926.3 | 6748.1 |
| 50°   | 4242.1 | 4305.5 | 4628.6 | 4942.6 | 5184.1 | 5211.3 | 5292.8 | 5769.9 | 6639.4 | 7502.9 | 7167.8 |
| 52.5° | 4254.2 | 4314.6 | 4685.9 | 5090.5 | 5353.2 | 5407.6 | 5546.4 | 6132.2 | 7059.1 | 7964.9 | 7409.3 |
| 55°   | 4003.6 | 4039.8 | 4616.5 | 5114.7 | 5486.1 | 5612.9 | 5896.7 | 6467.3 | 7303.7 | 8179.3 | 7388.2 |
| 57.5° | 3768.1 | 3804.3 | 4305.5 | 5072.4 | 5621.9 | 5881.6 | 6271.1 | 6696.8 | 7113.5 | 7913.6 | 6917.2 |
| 60°   | 3565.8 | 3583.9 | 4039.8 | 4876.2 | 5673.3 | 6144.3 | 6594.1 | 6470.3 | 6621.3 | 7276.5 | 6111.1 |
| 62.5° | 3185.4 | 3197.4 | 3737.9 | 4522.9 | 5570.6 | 6346.6 | 6705.9 | 5990.3 | 6080.9 | 6397.9 | 5163.0 |
| 65°   | 2406.4 | 2451.7 | 2946.8 | 4257.2 | 5401.5 | 6440.2 | 6446.2 | 5404.5 | 5310.9 | 5235.5 | 4061.0 |
| 67.5° | 1633.4 | 1684.8 | 1983.7 | 3828.5 | 5126.8 | 6479.4 | 5942.0 | 4646.7 | 4045.9 | 3656.4 | 2660.0 |
| 70°   | 1304.3 | 1304.3 | 1407.0 | 3076.7 | 4474.6 | 5978.2 | 5317.0 | 3508.4 | 2569.4 | 2019.9 | 1425.1 |
| 72.5° | 857.5  | 860.5  | 957.1  | 1953.5 | 3173.3 | 4559.1 | 4335.7 | 2029.0 | 1334.5 | 1029.6 | 703.5  |
| 75°   | 311.0  | 311.0  | 419.7  | 782.0  | 1678.7 | 2714.3 | 2641.9 | 969.2  | 724.6  | 561.6  | 425.7  |
| 77.5° | 166.1  | 172.1  | 202.3  | 323.1  | 643.1  | 1105.1 | 1032.6 | 495.2  | 410.6  | 350.2  | 265.7  |
| 80°   | 111.7  | 114.7  | 135.9  | 199.3  | 311.0  | 425.7  | 332.1  | 277.8  | 277.8  | 235.5  | 178.1  |
| 82.5° | 60.4   | 63.4   | 90.6   | 129.8  | 166.1  | 199.3  | 160.0  | 163.0  | 196.3  | 160.0  | 102.7  |
| 85°   | 42.3   | 42.3   | 69.4   | 93.6   | 93.6   | 96.6   | 69.4   | 102.7  | 114.7  | 99.6   | 69.4   |
| 87.5° | 24.2   | 24.2   | 39.3   | 45.3   | 45.3   | 42.3   | 21.1   | 36.2   | 45.3   | 51.3   | 30.2   |
| 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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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 | 1479.5 |
| 2.5°  | 1485.5 | 1476.4 | 1458.3 | 1422.1 | 1404.0 | 1379.8 | 1358.7 | 1331.5 | 1325.5 | 1322.5 | 1310.4 |
| 5°    | 1509.6 | 1491.5 | 1437.2 | 1358.7 | 1292.3 | 1228.9 | 1165.4 | 1129.2 | 1099.0 | 1083.9 | 1080.9 |
| 7.5°  | 1570.0 | 1533.8 | 1434.2 | 1295.3 | 1171.5 | 1062.8 | 969.2  | 887.7  | 845.4  | 809.2  | 812.2  |
| 10°   | 1660.6 | 1603.2 | 1440.2 | 1234.9 | 1050.7 | 875.6  | 739.7  | 622.0  | 537.4  | 498.2  | 495.2  |
| 12.5° | 1781.4 | 1699.9 | 1461.3 | 1174.5 | 902.8  | 658.2  | 486.1  | 416.7  | 398.5  | 395.5  | 392.5  |
| 15°   | 1929.3 | 1814.6 | 1482.5 | 1096.0 | 703.5  | 455.9  | 395.5  | 380.4  | 377.4  | 374.4  | 374.4  |
| 17.5° | 2107.5 | 1947.4 | 1494.6 | 963.2  | 513.3  | 392.5  | 371.4  | 362.3  | 359.3  | 356.3  | 356.3  |
| 20°   | 2330.9 | 2095.4 | 1509.6 | 794.1  | 434.8  | 377.4  | 353.3  | 341.2  | 338.2  | 338.2  | 335.1  |
| 22.5° | 2551.3 | 2261.5 | 1497.6 | 646.1  | 419.7  | 359.3  | 332.1  | 320.0  | 314.0  | 314.0  | 311.0  |
| 25°   | 2804.9 | 2430.5 | 1461.3 | 582.7  | 416.7  | 344.2  | 311.0  | 292.9  | 283.8  | 280.8  | 280.8  |
| 27.5° | 3094.8 | 2623.8 | 1404.0 | 585.7  | 416.7  | 332.1  | 283.8  | 259.7  | 253.6  | 247.6  | 247.6  |
| 30°   | 3426.9 | 2859.3 | 1361.7 | 625.0  | 422.7  | 320.0  | 259.7  | 229.5  | 220.4  | 214.4  | 217.4  |
| 32.5° | 3807.3 | 3122.0 | 1358.7 | 688.4  | 431.8  | 301.9  | 232.5  | 199.3  | 190.2  | 187.2  | 190.2  |
| 35°   | 4239.1 | 3448.0 | 1428.1 | 736.7  | 407.6  | 262.7  | 199.3  | 172.1  | 163.0  | 163.0  | 166.1  |
| 37.5° | 4719.2 | 3822.4 | 1521.7 | 724.6  | 329.1  | 208.3  | 172.1  | 151.0  | 141.9  | 144.9  | 147.9  |
| 40°   | 5157.0 | 4115.3 | 1536.8 | 619.0  | 247.6  | 178.1  | 147.9  | 132.8  | 126.8  | 129.8  | 132.8  |
| 42.5° | 5489.1 | 4350.8 | 1391.9 | 480.1  | 208.3  | 151.0  | 126.8  | 114.7  | 111.7  | 117.8  | 117.8  |
| 45°   | 5757.8 | 4444.4 | 1162.4 | 356.3  | 184.2  | 129.8  | 111.7  | 105.7  | 99.6   | 102.7  | 102.7  |
| 47.5° | 6038.6 | 4459.5 | 948.1  | 286.8  | 163.0  | 117.8  | 102.7  | 96.6   | 90.6   | 90.6   | 90.6   |
| 50°   | 6310.3 | 4423.3 | 724.6  | 253.6  | 151.0  | 105.7  | 93.6   | 87.6   | 81.5   | 78.5   | 78.5   |
| 52.5° | 6376.7 | 4133.4 | 531.4  | 235.5  | 138.9  | 99.6   | 87.6   | 81.5   | 75.5   | 72.5   | 72.5   |
| 55°   | 6192.6 | 3583.9 | 416.7  | 211.4  | 126.8  | 90.6   | 81.5   | 75.5   | 66.4   | 63.4   | 63.4   |
| 57.5° | 5585.7 | 2732.5 | 332.1  | 181.2  | 114.7  | 87.6   | 75.5   | 69.4   | 60.4   | 57.4   | 57.4   |
| 60°   | 4797.7 | 1938.4 | 268.7  | 147.9  | 105.7  | 78.5   | 69.4   | 60.4   | 54.3   | 48.3   | 48.3   |
| 62.5° | 3925.1 | 1391.9 | 217.4  | 123.8  | 99.6   | 69.4   | 63.4   | 54.3   | 42.3   | 33.2   | 33.2   |
| 65°   | 3010.2 | 999.4  | 169.1  | 99.6   | 90.6   | 60.4   | 54.3   | 45.3   | 33.2   | 24.2   | 24.2   |
| 67.5° | 1947.4 | 646.1  | 126.8  | 87.6   | 69.4   | 51.3   | 42.3   | 36.2   | 30.2   | 21.1   | 18.1   |
| 70°   | 1026.6 | 377.4  | 93.6   | 75.5   | 51.3   | 39.3   | 36.2   | 30.2   | 24.2   | 15.1   | 15.1   |
| 72.5° | 531.4  | 247.6  | 69.4   | 66.4   | 39.3   | 27.2   | 30.2   | 24.2   | 18.1   | 9.1    | 9.1    |
| 75°   | 341.2  | 166.1  | 51.3   | 54.3   | 24.2   | 21.1   | 21.1   | 15.1   | 9.1    | 6.0    | 3.0    |
| 77.5° | 220.4  | 111.7  | 36.2   | 45.3   | 15.1   | 12.1   | 12.1   | 6.0    | 3.0    | 0.0    | 0.0    |
| 80°   | 129.8  | 69.4   | 24.2   | 30.2   | 6.0    | 6.0    | 3.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 82.5° | 66.4   | 36.2   | 12.1   | 12.1   | 3.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 42.3   | 18.1   | 3.0    | 3.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 21.1   | 6.0    | 3.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 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    |

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-10

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-835-U-5WQ

Data in this report applies to families of products including GSS-SB1A-835-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-10  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-835-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 80 CRI 3500K CCT 26 LEDS

**Spectral Parameters**

CCT (K): 3411  
 CIE u': 0.2360  
 CIE v': 0.5189  
 Duv: 0.0044  
 CIE x: 0.4154  
 CIE y: 0.4059  
 CIE z: 0.1787  
 Peak Wavelength (nm): 601  
 Dominant Wavelength (nm): 579  
 Purity: 46.51914  
 Rf: 86.6  
 Rg: 95.9

|           |      |      |      |
|-----------|------|------|------|
| CRI (Ra): | 83.5 |      |      |
| R1:       | 81.1 | R9:  | 6.3  |
| R2:       | 88.9 | R10: | 75.4 |
| R3:       | 97.2 | R11: | 84.1 |
| R4:       | 83.8 | R12: | 69.7 |
| R5:       | 81.7 | R13: | 82.8 |
| R6:       | 86.9 | R14: | 98.5 |
| R7:       | 86.1 | R15: | 72.6 |
| R8:       | 62.2 |      |      |



**Test Conditions**

Stabilization Time: 35M  
 Operation Time: 1H 35M  
 Sphere Temperature (°C): 25.2

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| 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 3500K 7-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

| $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) | $\lambda$<br>(nm) | Power<br>W <sup>^</sup> /nm | Lumens<br>( $\phi$ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360               | 0                           | NR                      | 490               | 311                         | NR                      | 620               | 903                         | NR                      | 750               | 26                          | NR                      | 880               | 1                           | NR                      |
| 365               | 0                           | NR                      | 495               | 376                         | NR                      | 625               | 851                         | NR                      | 755               | 22                          | NR                      | 885               | 1                           | NR                      |
| 370               | 0                           | NR                      | 500               | 438                         | NR                      | 630               | 797                         | NR                      | 760               | 19                          | NR                      | 890               | 0                           | NR                      |
| 375               | 0                           | NR                      | 505               | 491                         | NR                      | 635               | 735                         | NR                      | 765               | 16                          | NR                      | 895               | 0                           | NR                      |
| 380               | 0                           | NR                      | 510               | 533                         | NR                      | 640               | 672                         | NR                      | 770               | 14                          | NR                      | 900               | 0                           | NR                      |
| 385               | 0                           | NR                      | 515               | 566                         | NR                      | 645               | 607                         | NR                      | 775               | 12                          | NR                      | 905               | 0                           | NR                      |
| 390               | 0                           | NR                      | 520               | 592                         | NR                      | 650               | 546                         | NR                      | 780               | 10                          | NR                      | 910               | 0                           | NR                      |
| 395               | 1                           | NR                      | 525               | 608                         | NR                      | 655               | 487                         | NR                      | 785               | 9                           | NR                      | 915               | 0                           | NR                      |
| 400               | 3                           | NR                      | 530               | 625                         | NR                      | 660               | 429                         | NR                      | 790               | 7                           | NR                      | 920               | 0                           | NR                      |
| 405               | 6                           | NR                      | 535               | 642                         | NR                      | 665               | 378                         | NR                      | 795               | 6                           | NR                      | 925               | 0                           | NR                      |
| 410               | 12                          | NR                      | 540               | 657                         | NR                      | 670               | 329                         | NR                      | 800               | 5                           | NR                      | 930               | 0                           | NR                      |
| 415               | 22                          | NR                      | 545               | 677                         | NR                      | 675               | 286                         | NR                      | 805               | 5                           | NR                      | 935               | 0                           | NR                      |
| 420               | 43                          | NR                      | 550               | 701                         | NR                      | 680               | 248                         | NR                      | 810               | 4                           | NR                      | 940               | 0                           | NR                      |
| 425               | 80                          | NR                      | 555               | 728                         | NR                      | 685               | 213                         | NR                      | 815               | 3                           | NR                      | 945               | 0                           | NR                      |
| 430               | 140                         | NR                      | 560               | 757                         | NR                      | 690               | 184                         | NR                      | 820               | 3                           | NR                      | 950               | 0                           | NR                      |
| 435               | 243                         | NR                      | 565               | 793                         | NR                      | 695               | 156                         | NR                      | 825               | 3                           | NR                      | 955               | 0                           | NR                      |
| 440               | 412                         | NR                      | 570               | 831                         | NR                      | 700               | 134                         | NR                      | 830               | 2                           | NR                      | 960               | 0                           | NR                      |
| 445               | 610                         | NR                      | 575               | 872                         | NR                      | 705               | 114                         | NR                      | 835               | 2                           | NR                      | 965               | 0                           | NR                      |
| 450               | 597                         | NR                      | 580               | 911                         | NR                      | 710               | 97                          | NR                      | 840               | 2                           | NR                      | 970               | 0                           | NR                      |
| 455               | 412                         | NR                      | 585               | 944                         | NR                      | 715               | 83                          | NR                      | 845               | 1                           | NR                      | 975               | 0                           | NR                      |
| 460               | 330                         | NR                      | 590               | 974                         | NR                      | 720               | 70                          | NR                      | 850               | 1                           | NR                      | 980               | 0                           | NR                      |
| 465               | 274                         | NR                      | 595               | 992                         | NR                      | 725               | 60                          | NR                      | 855               | 1                           | NR                      | 985               | 0                           | NR                      |
| 470               | 211                         | NR                      | 600               | 999                         | NR                      | 730               | 51                          | NR                      | 860               | 1                           | NR                      | 990               | 0                           | NR                      |
| 475               | 200                         | NR                      | 605               | 992                         | NR                      | 735               | 43                          | NR                      | 865               | 1                           | NR                      | 995               | 0                           | NR                      |
| 480               | 220                         | NR                      | 610               | 975                         | NR                      | 740               | 36                          | NR                      | 870               | 1                           | NR                      | 1000              | 0                           | NR                      |
| 485               | 255                         | NR                      | 615               | 944                         | NR                      | 745               | 31                          | NR                      | 875               | 1                           | NR                      |                   |                             |                         |

REPORT NUMBER: SP1-2407-184-10

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.48**

| $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) | $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) | $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) | $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) | $\lambda$ (nm) | Power W <sup>^</sup> /nm | Lumens ( $\phi$ /nm) |
|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|
| 360            | 0                        | NR                   | 490            | 311                      | NR                   | 620            | 903                      | NR                   | 750            | 26                       | NR                   | 880            | 1                        | NR                   |
| 365            | 0                        | NR                   | 495            | 376                      | NR                   | 625            | 851                      | NR                   | 755            | 22                       | NR                   | 885            | 1                        | NR                   |
| 370            | 0                        | NR                   | 500            | 438                      | NR                   | 630            | 797                      | NR                   | 760            | 19                       | NR                   | 890            | 0                        | NR                   |
| 375            | 0                        | NR                   | 505            | 491                      | NR                   | 635            | 735                      | NR                   | 765            | 16                       | NR                   | 895            | 0                        | NR                   |
| 380            | 0                        | NR                   | 510            | 533                      | NR                   | 640            | 672                      | NR                   | 770            | 14                       | NR                   | 900            | 0                        | NR                   |
| 385            | 0                        | NR                   | 515            | 566                      | NR                   | 645            | 607                      | NR                   | 775            | 12                       | NR                   | 905            | 0                        | NR                   |
| 390            | 0                        | NR                   | 520            | 592                      | NR                   | 650            | 546                      | NR                   | 780            | 10                       | NR                   | 910            | 0                        | NR                   |
| 395            | 1                        | NR                   | 525            | 608                      | NR                   | 655            | 487                      | NR                   | 785            | 9                        | NR                   | 915            | 0                        | NR                   |
| 400            | 3                        | NR                   | 530            | 625                      | NR                   | 660            | 429                      | NR                   | 790            | 7                        | NR                   | 920            | 0                        | NR                   |
| 405            | 6                        | NR                   | 535            | 642                      | NR                   | 665            | 378                      | NR                   | 795            | 6                        | NR                   | 925            | 0                        | NR                   |
| 410            | 12                       | NR                   | 540            | 657                      | NR                   | 670            | 329                      | NR                   | 800            | 5                        | NR                   | 930            | 0                        | NR                   |
| 415            | 22                       | NR                   | 545            | 677                      | NR                   | 675            | 286                      | NR                   | 805            | 5                        | NR                   | 935            | 0                        | NR                   |
| 420            | 43                       | NR                   | 550            | 701                      | NR                   | 680            | 248                      | NR                   | 810            | 4                        | NR                   | 940            | 0                        | NR                   |
| 425            | 80                       | NR                   | 555            | 728                      | NR                   | 685            | 213                      | NR                   | 815            | 3                        | NR                   | 945            | 0                        | NR                   |
| 430            | 140                      | NR                   | 560            | 757                      | NR                   | 690            | 184                      | NR                   | 820            | 3                        | NR                   | 950            | 0                        | NR                   |
| 435            | 243                      | NR                   | 565            | 793                      | NR                   | 695            | 156                      | NR                   | 825            | 3                        | NR                   | 955            | 0                        | NR                   |
| 440            | 412                      | NR                   | 570            | 831                      | NR                   | 700            | 134                      | NR                   | 830            | 2                        | NR                   | 960            | 0                        | NR                   |
| 445            | 610                      | NR                   | 575            | 872                      | NR                   | 705            | 114                      | NR                   | 835            | 2                        | NR                   | 965            | 0                        | NR                   |
| 450            | 597                      | NR                   | 580            | 911                      | NR                   | 710            | 97                       | NR                   | 840            | 2                        | NR                   | 970            | 0                        | NR                   |
| 455            | 412                      | NR                   | 585            | 944                      | NR                   | 715            | 83                       | NR                   | 845            | 1                        | NR                   | 975            | 0                        | NR                   |
| 460            | 330                      | NR                   | 590            | 974                      | NR                   | 720            | 70                       | NR                   | 850            | 1                        | NR                   | 980            | 0                        | NR                   |
| 465            | 274                      | NR                   | 595            | 992                      | NR                   | 725            | 60                       | NR                   | 855            | 1                        | NR                   | 985            | 0                        | NR                   |
| 470            | 211                      | NR                   | 600            | 999                      | NR                   | 730            | 51                       | NR                   | 860            | 1                        | NR                   | 990            | 0                        | NR                   |
| 475            | 200                      | NR                   | 605            | 992                      | NR                   | 735            | 43                       | NR                   | 865            | 1                        | NR                   | 995            | 0                        | NR                   |
| 480            | 220                      | NR                   | 610            | 975                      | NR                   | 740            | 36                       | NR                   | 870            | 1                        | NR                   | 1000           | 0                        | NR                   |
| 485            | 255                      | NR                   | 615            | 944                      | NR                   | 745            | 31                       | NR                   | 875            | 1                        | NR                   |                |                          |                      |

REPORT NUMBER: SP1-2407-184-10

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.88

| 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    | 311                      | NR            | 620    | 903                      | NR            | 750    | 26                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 376                      | NR            | 625    | 851                      | NR            | 755    | 22                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 438                      | NR            | 630    | 797                      | NR            | 760    | 19                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 491                      | NR            | 635    | 735                      | NR            | 765    | 16                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 533                      | NR            | 640    | 672                      | NR            | 770    | 14                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 566                      | NR            | 645    | 607                      | NR            | 775    | 12                       | NR            | 905    | 0                        | NR            |
| 390    | 0                        | NR            | 520    | 592                      | NR            | 650    | 546                      | NR            | 780    | 10                       | NR            | 910    | 0                        | NR            |
| 395    | 1                        | NR            | 525    | 608                      | NR            | 655    | 487                      | NR            | 785    | 9                        | NR            | 915    | 0                        | NR            |
| 400    | 3                        | NR            | 530    | 625                      | NR            | 660    | 429                      | NR            | 790    | 7                        | NR            | 920    | 0                        | NR            |
| 405    | 6                        | NR            | 535    | 642                      | NR            | 665    | 378                      | NR            | 795    | 6                        | NR            | 925    | 0                        | NR            |
| 410    | 12                       | NR            | 540    | 657                      | NR            | 670    | 329                      | NR            | 800    | 5                        | NR            | 930    | 0                        | NR            |
| 415    | 22                       | NR            | 545    | 677                      | NR            | 675    | 286                      | NR            | 805    | 5                        | NR            | 935    | 0                        | NR            |
| 420    | 43                       | NR            | 550    | 701                      | NR            | 680    | 248                      | NR            | 810    | 4                        | NR            | 940    | 0                        | NR            |
| 425    | 80                       | NR            | 555    | 728                      | NR            | 685    | 213                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 140                      | NR            | 560    | 757                      | NR            | 690    | 184                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 243                      | NR            | 565    | 793                      | NR            | 695    | 156                      | NR            | 825    | 3                        | NR            | 955    | 0                        | NR            |
| 440    | 412                      | NR            | 570    | 831                      | NR            | 700    | 134                      | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 610                      | NR            | 575    | 872                      | NR            | 705    | 114                      | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 597                      | NR            | 580    | 911                      | NR            | 710    | 97                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 412                      | NR            | 585    | 944                      | NR            | 715    | 83                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 330                      | NR            | 590    | 974                      | NR            | 720    | 70                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 274                      | NR            | 595    | 992                      | NR            | 725    | 60                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 211                      | NR            | 600    | 999                      | NR            | 730    | 51                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 200                      | NR            | 605    | 992                      | NR            | 735    | 43                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 220                      | NR            | 610    | 975                      | NR            | 740    | 36                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 255                      | NR            | 615    | 944                      | NR            | 745    | 31                       | NR            | 875    | 1                        | NR            |        |                          |               |

**Summary**

$R_f = 86.6$   
 $R_g = 95.9$   
 $CIE R_a = 83.5$   
 $R_9 = 6.3$

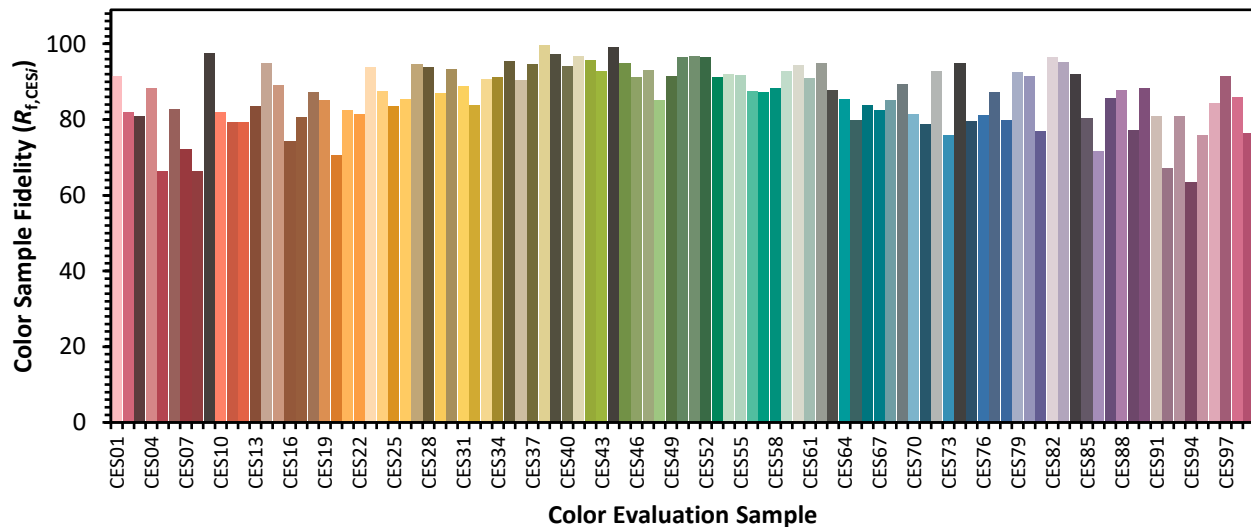


**Color Vector Graphics**



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

|            |             |            |            |
|------------|-------------|------------|------------|
| CES01 = 86 | CES26 = 85  | CES51 = 97 | CES76 = 81 |
| CES02 = 62 | CES27 = 95  | CES52 = 96 | CES77 = 87 |
| CES03 = 31 | CES28 = 94  | CES53 = 91 | CES78 = 80 |
| CES04 = 70 | CES29 = 87  | CES54 = 92 | CES79 = 93 |
| CES05 = 49 | CES30 = 93  | CES55 = 92 | CES80 = 91 |
| CES06 = 51 | CES31 = 89  | CES56 = 88 | CES81 = 77 |
| CES07 = 41 | CES32 = 84  | CES57 = 87 | CES82 = 96 |
| CES08 = 40 | CES33 = 91  | CES58 = 88 | CES83 = 95 |
| CES09 = 29 | CES34 = 91  | CES59 = 93 | CES84 = 92 |
| CES10 = 75 | CES35 = 95  | CES60 = 94 | CES85 = 80 |
| CES11 = 58 | CES36 = 90  | CES61 = 91 | CES86 = 72 |
| CES12 = 64 | CES37 = 95  | CES62 = 95 | CES87 = 86 |
| CES13 = 43 | CES38 = 100 | CES63 = 88 | CES88 = 88 |
| CES14 = 74 | CES39 = 97  | CES64 = 85 | CES89 = 77 |
| CES15 = 71 | CES40 = 94  | CES65 = 80 | CES90 = 88 |
| CES16 = 47 | CES41 = 97  | CES66 = 84 | CES91 = 81 |
| CES17 = 49 | CES42 = 96  | CES67 = 82 | CES92 = 67 |
| CES18 = 56 | CES43 = 93  | CES68 = 85 | CES93 = 81 |
| CES19 = 72 | CES44 = 99  | CES69 = 89 | CES94 = 63 |
| CES20 = 66 | CES45 = 95  | CES70 = 81 | CES95 = 76 |
| CES21 = 86 | CES46 = 91  | CES71 = 79 | CES96 = 84 |
| CES22 = 78 | CES47 = 93  | CES72 = 93 | CES97 = 92 |
| CES23 = 91 | CES48 = 85  | CES73 = 76 | CES98 = 86 |
| CES24 = 90 | CES49 = 92  | CES74 = 95 | CES99 = 77 |
| CES25 = 72 | CES50 = 96  | CES75 = 80 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)