

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: P1458782

Luminaire Tested: GLAN-SB1D-735-U-T4LG-HSS

Issue Date: 05/20/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1458782  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 5/21/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: GLAN-SB1D-735-U-T4LG-HSS  
Description: GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 1xLight Square  
PACKAGE 70CRI 3500K FIXTURE w/ TYPE IV LOW GLARE WITH HOUSE SIDE SHIELD  
Light Source: (26) 3500K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

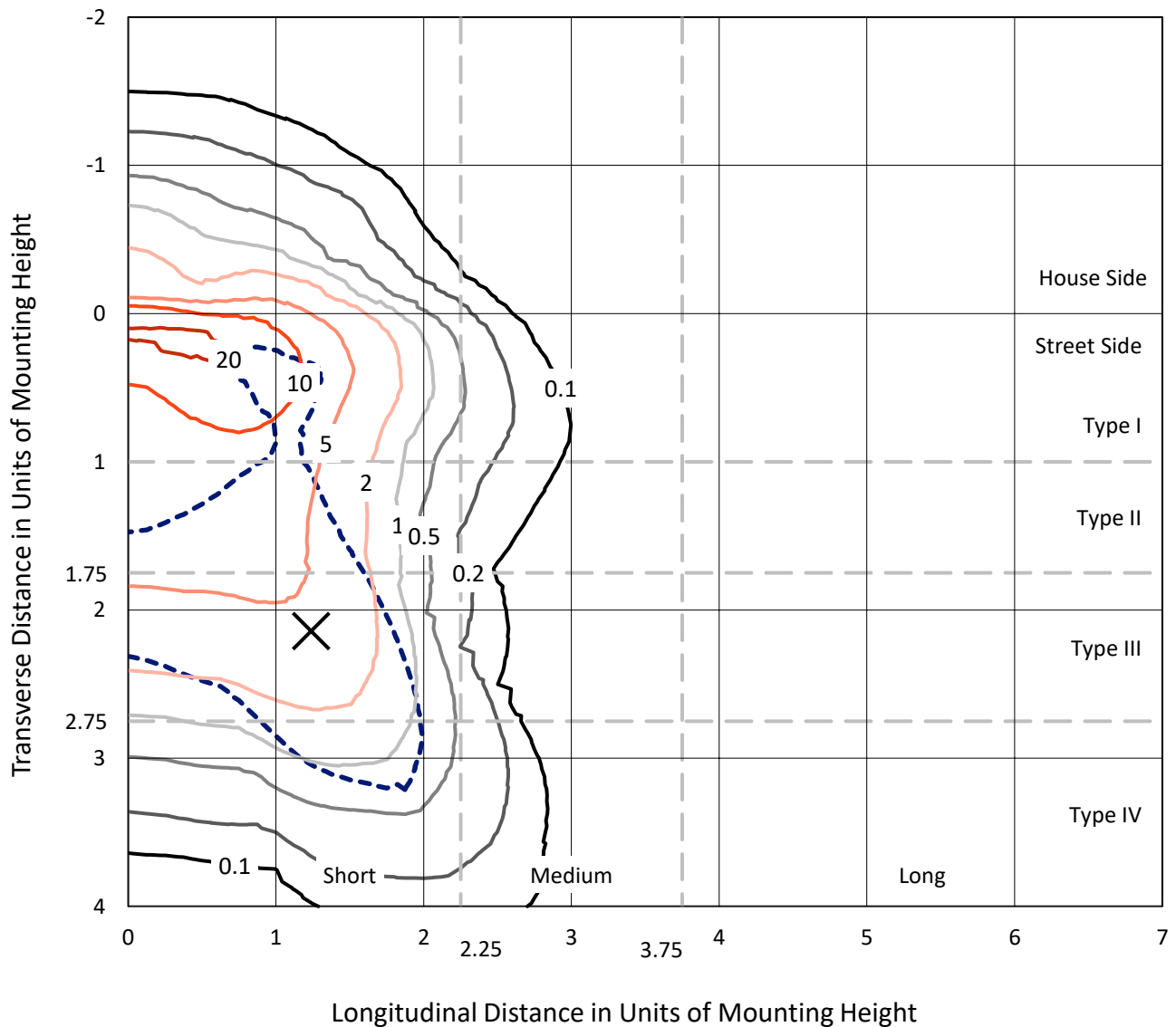
Lumens per Lamp: N/A  
Luminaire Lumens: 7379.5 lumens  
Efficiency: N/A  
Efficacy: 92.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

Input Watts (W): 79.6  
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

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### Iso-Footcandle Lines of Horizontal Illumination

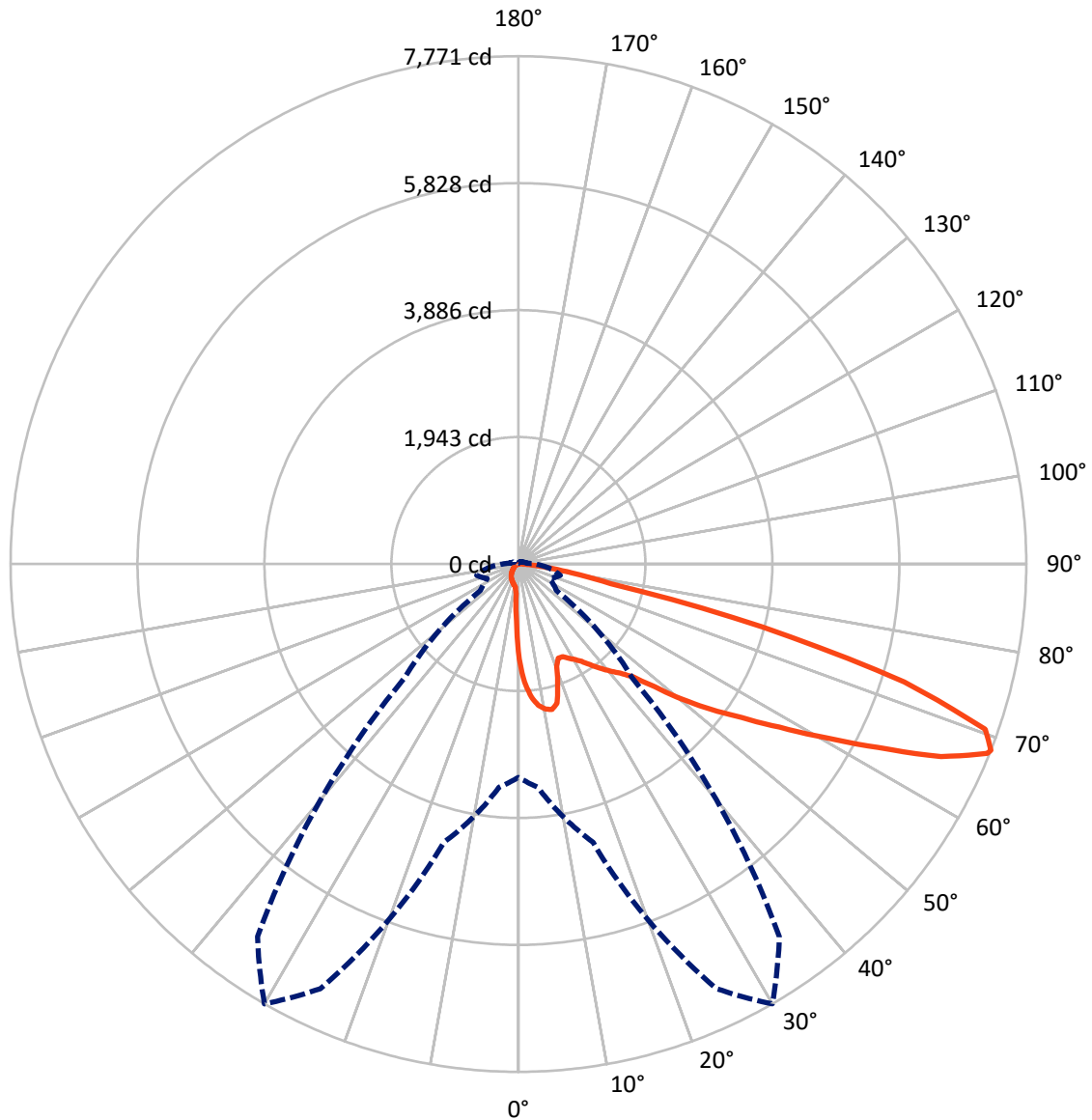
× Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 22.3 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 30-Deg Lateral    - - - Horizontal Cone Through 68-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 563.2    | 0.0    | 563.2  |
|                    | % Fixture | 7.6      | 0.0    | 7.6    |
| <b>Street Side</b> | Lumens    | 6816.3   | 0.0    | 6816.3 |
|                    | % Fixture | 92.4     | 0.0    | 92.4   |
| <b>Total</b>       | Lumens    | 7379.5   | 0.0    | 7379.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 125.6  | 1.7       |
| 10°-20°   | 358.5  | 4.9       |
| 20°-30°   | 563.3  | 7.6       |
| 30°-40°   | 883.5  | 12.0      |
| 40°-50°   | 1320.6 | 17.9      |
| 50°-60°   | 1756.9 | 23.8      |
| 60°-70°   | 1698.3 | 23.0      |
| 70°-80°   | 610.5  | 8.3       |
| 80°-90°   | 62.3   | 0.8       |
| 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°    | 7379.5 | 100.0     |
| 0°-180°   | 7379.5 | 100.0     |



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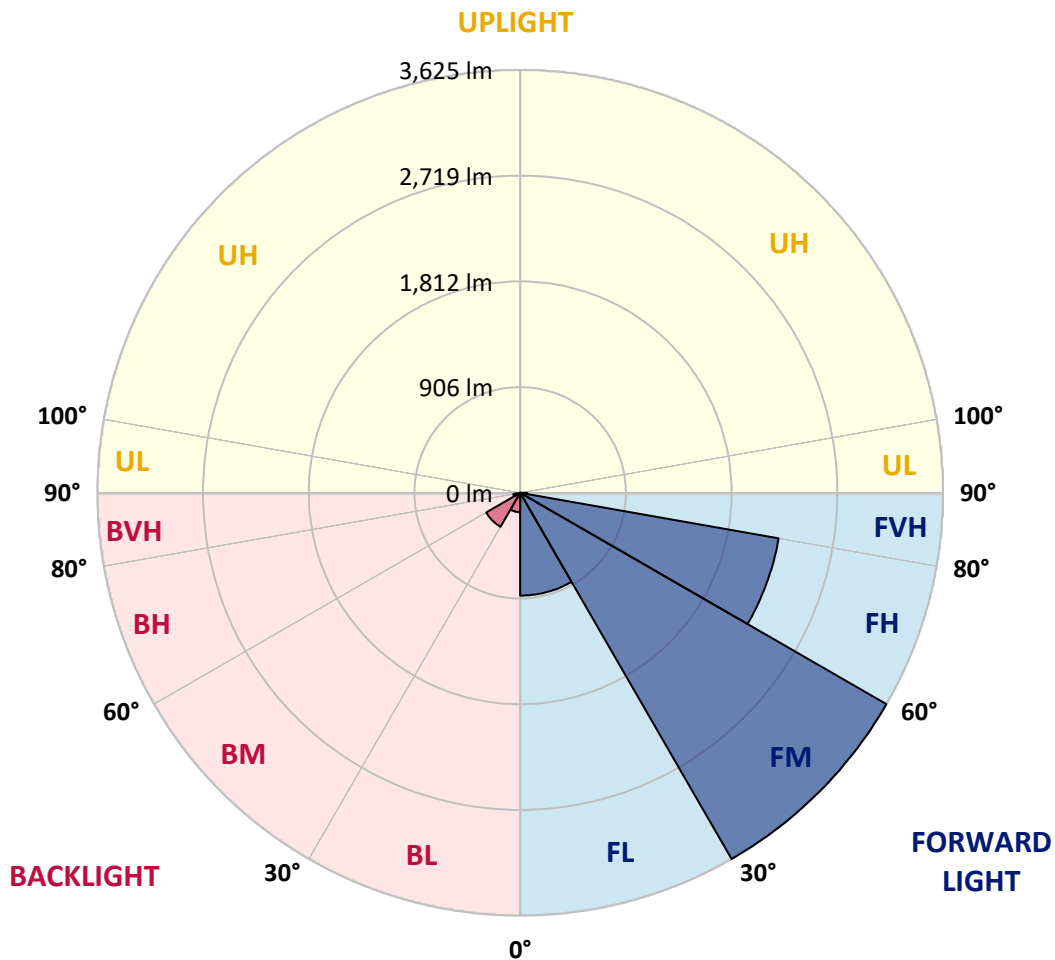
CATALOG NUMBER: GLAN-SB1D-735-U-T4LG-HSS

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 881.1  | 11.9      |                         |      |         |
| FM   | (30°-60°)   | 3624.8 | 49.1      |                         |      |         |
| FH   | (60°-80°)   | 2250.2 | 30.5      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 60.1   | 0.8       |                         |      | G1/100  |
| BL   | (0°-30°)    | 166.2  | 2.3       | B1/500                  |      |         |
| BM   | (30°-60°)   | 336.2  | 4.6       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 58.6   | 0.8       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 2.2    | 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 IV Short





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CATALOG NUMBER: GLAN-SB1D-735-U-T4LG-HSS

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 30°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 |
| 2.5°  | 1859.8 | 1859.8 | 1846.6 | 1828.9 | 1809.0 | 1802.4 | 1764.8 | 1711.7 | 1656.4 | 1592.3 | 1499.4 |
| 5°    | 2098.7 | 2096.5 | 2069.9 | 2069.9 | 2043.4 | 2019.1 | 1981.5 | 1904.1 | 1815.6 | 1700.6 | 1539.2 |
| 7.5°  | 2204.8 | 2209.3 | 2198.2 | 2198.2 | 2182.7 | 2165.0 | 2142.9 | 2067.7 | 1963.8 | 1809.0 | 1579.0 |
| 10°   | 2242.4 | 2244.6 | 2244.6 | 2260.1 | 2255.7 | 2253.5 | 2251.3 | 2209.3 | 2100.9 | 1919.6 | 1621.0 |
| 12.5° | 2151.8 | 2162.8 | 2193.8 | 2262.3 | 2284.5 | 2308.8 | 2342.0 | 2328.7 | 2253.5 | 2058.9 | 1685.1 |
| 15°   | 1859.8 | 1862.1 | 1948.3 | 2118.6 | 2209.3 | 2302.1 | 2430.4 | 2456.9 | 2408.3 | 2209.3 | 1751.5 |
| 17.5° | 1534.8 | 1541.4 | 1610.0 | 1800.1 | 1946.1 | 2160.6 | 2481.3 | 2589.6 | 2571.9 | 2357.4 | 1813.4 |
| 20°   | 1399.9 | 1408.7 | 1441.9 | 1561.3 | 1671.9 | 1870.9 | 2430.4 | 2715.7 | 2722.3 | 2505.6 | 1870.9 |
| 22.5° | 1368.9 | 1375.5 | 1402.1 | 1495.0 | 1563.5 | 1696.2 | 2257.9 | 2815.2 | 2892.6 | 2675.9 | 1939.5 |
| 25°   | 1360.1 | 1366.7 | 1406.5 | 1508.2 | 1572.4 | 1682.9 | 2100.9 | 2868.3 | 3093.9 | 2852.8 | 2005.8 |
| 27.5° | 1353.4 | 1362.3 | 1426.4 | 1556.9 | 1632.1 | 1738.2 | 2072.2 | 2879.3 | 3286.2 | 3040.8 | 2114.2 |
| 30°   | 1362.3 | 1375.5 | 1459.6 | 1607.7 | 1694.0 | 1813.4 | 2140.7 | 2890.4 | 3498.6 | 3255.3 | 2251.3 |
| 32.5° | 1397.7 | 1408.7 | 1510.4 | 1676.3 | 1775.8 | 1910.7 | 2257.9 | 2956.7 | 3699.8 | 3474.2 | 2381.8 |
| 35°   | 1437.5 | 1452.9 | 1574.6 | 1773.6 | 1893.0 | 2045.6 | 2417.1 | 3087.2 | 3892.2 | 3682.1 | 2516.7 |
| 37.5° | 1486.1 | 1503.8 | 1649.8 | 1884.2 | 2021.3 | 2193.8 | 2589.6 | 3268.6 | 4062.5 | 3852.4 | 2651.6 |
| 40°   | 1552.5 | 1572.4 | 1736.0 | 2001.4 | 2149.6 | 2322.0 | 2759.9 | 3447.7 | 4193.0 | 3954.1 | 2740.0 |
| 42.5° | 1813.4 | 1839.9 | 1908.5 | 2116.4 | 2282.2 | 2459.2 | 2928.0 | 3618.0 | 4241.6 | 3987.3 | 2757.7 |
| 45°   | 2299.9 | 2326.5 | 2308.8 | 2348.6 | 2459.2 | 2625.0 | 3111.5 | 3781.6 | 4248.2 | 3978.4 | 2748.9 |
| 47.5° | 2788.7 | 2819.6 | 2804.1 | 2782.0 | 2806.4 | 2886.0 | 3317.2 | 3885.6 | 4212.9 | 3974.0 | 2748.9 |
| 50°   | 3255.3 | 3237.6 | 3239.8 | 3233.2 | 3255.3 | 3297.3 | 3516.2 | 3905.5 | 4204.0 | 4016.0 | 2773.2 |
| 52.5° | 3505.2 | 3514.0 | 3569.3 | 3651.1 | 3699.8 | 3741.8 | 3744.0 | 3936.4 | 4139.9 | 3945.3 | 2744.4 |
| 55°   | 3750.7 | 3768.4 | 3896.6 | 4035.9 | 4144.3 | 4223.9 | 3971.8 | 3916.5 | 3757.3 | 3708.6 | 2594.1 |
| 57.5° | 4027.1 | 4051.4 | 4232.8 | 4520.3 | 4710.4 | 4752.5 | 4197.4 | 3545.0 | 3180.1 | 3370.3 | 2302.1 |
| 60°   | 4407.5 | 4436.2 | 4677.3 | 5108.5 | 5391.6 | 5305.3 | 4215.1 | 2954.5 | 2525.5 | 2797.5 | 1899.7 |
| 62.5° | 4706.0 | 4763.5 | 5199.2 | 5871.5 | 6183.3 | 5909.1 | 3885.6 | 2264.5 | 1764.8 | 1966.0 | 1386.6 |
| 65°   | 4387.6 | 4498.1 | 5208.0 | 6745.0 | 7105.5 | 6618.9 | 3368.1 | 1545.8 | 995.2  | 1271.6 | 886.8  |
| 67.5° | 3547.2 | 3702.0 | 4624.2 | 7169.6 | 7737.9 | 6992.7 | 2651.6 | 820.5  | 570.6  | 738.6  | 466.6  |
| 68°   | 3264.1 | 3432.2 | 4409.7 | 7169.6 | 7771.1 | 6959.5 | 2461.4 | 709.9  | 526.3  | 663.4  | 404.7  |
| 70°   | 2255.7 | 2375.1 | 3390.2 | 6767.1 | 7576.5 | 6344.7 | 1621.0 | 406.9  | 395.9  | 455.6  | 267.6  |
| 72.5° | 1105.7 | 1234.0 | 1813.4 | 5362.8 | 6172.2 | 4876.3 | 738.6  | 269.8  | 300.8  | 333.9  | 210.1  |
| 75°   | 440.1  | 466.6  | 714.3  | 2644.9 | 3856.8 | 3111.5 | 387.0  | 203.5  | 258.7  | 261.0  | 165.9  |
| 77.5° | 252.1  | 267.6  | 395.9  | 973.0  | 1446.3 | 1391.0 | 249.9  | 146.0  | 205.7  | 188.0  | 108.4  |
| 80°   | 141.5  | 143.7  | 223.4  | 513.1  | 827.1  | 740.8  | 170.3  | 106.2  | 157.0  | 132.7  | 73.0   |
| 82.5° | 70.8   | 79.6   | 141.5  | 283.1  | 460.0  | 471.0  | 90.7   | 75.2   | 126.1  | 95.1   | 59.7   |
| 85°   | 50.9   | 55.3   | 101.7  | 157.0  | 212.3  | 318.5  | 55.3   | 37.6   | 95.1   | 64.1   | 42.0   |
| 87.5° | 26.5   | 33.2   | 64.1   | 77.4   | 86.2   | 108.4  | 26.5   | 17.7   | 53.1   | 37.6   | 22.1   |
| 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: P1458782

CATALOG NUMBER: GLAN-SB1D-735-U-T4LG-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 | 1455.1 |
| 2.5°  | 1455.1 | 1404.3 | 1300.3 | 1178.7 | 1083.6 | 986.3  | 906.7  | 831.5  | 796.1  | 791.7  | 800.6  |
| 5°    | 1448.5 | 1337.9 | 1101.3 | 869.1  | 678.9  | 546.2  | 473.3  | 435.7  | 415.8  | 406.9  | 409.1  |
| 7.5°  | 1435.2 | 1267.2 | 889.0  | 588.3  | 440.1  | 382.6  | 364.9  | 358.3  | 356.0  | 356.0  | 356.0  |
| 10°   | 1422.0 | 1172.1 | 681.1  | 431.2  | 360.5  | 345.0  | 340.6  | 340.6  | 338.4  | 338.4  | 340.6  |
| 12.5° | 1415.3 | 1083.6 | 528.5  | 360.5  | 336.1  | 329.5  | 325.1  | 322.9  | 322.9  | 322.9  | 325.1  |
| 15°   | 1399.9 | 986.3  | 426.8  | 333.9  | 320.7  | 311.8  | 309.6  | 307.4  | 307.4  | 307.4  | 307.4  |
| 17.5° | 1386.6 | 891.2  | 371.5  | 316.2  | 305.2  | 296.3  | 294.1  | 291.9  | 291.9  | 294.1  | 294.1  |
| 20°   | 1366.7 | 800.6  | 333.9  | 298.5  | 289.7  | 280.9  | 278.6  | 276.4  | 278.6  | 278.6  | 278.6  |
| 22.5° | 1342.4 | 725.4  | 311.8  | 285.3  | 274.2  | 265.4  | 265.4  | 265.4  | 265.4  | 265.4  | 267.6  |
| 25°   | 1326.9 | 672.3  | 296.3  | 269.8  | 258.7  | 252.1  | 249.9  | 249.9  | 254.3  | 254.3  | 256.5  |
| 27.5° | 1351.2 | 659.0  | 298.5  | 265.4  | 245.5  | 238.8  | 236.6  | 236.6  | 241.1  | 243.3  | 245.5  |
| 30°   | 1424.2 | 683.3  | 325.1  | 278.6  | 236.6  | 225.6  | 223.4  | 223.4  | 230.0  | 232.2  | 234.4  |
| 32.5° | 1508.2 | 734.2  | 364.9  | 296.3  | 230.0  | 212.3  | 207.9  | 207.9  | 214.5  | 216.7  | 218.9  |
| 35°   | 1623.2 | 813.8  | 418.0  | 311.8  | 234.4  | 199.0  | 190.2  | 190.2  | 194.6  | 199.0  | 201.2  |
| 37.5° | 1771.4 | 944.3  | 479.9  | 322.9  | 234.4  | 183.6  | 172.5  | 170.3  | 174.7  | 174.7  | 176.9  |
| 40°   | 1926.2 | 1114.6 | 544.0  | 322.9  | 223.4  | 168.1  | 157.0  | 150.4  | 152.6  | 150.4  | 152.6  |
| 42.5° | 2012.4 | 1251.7 | 599.3  | 303.0  | 210.1  | 152.6  | 141.5  | 132.7  | 130.5  | 126.1  | 128.3  |
| 45°   | 2061.1 | 1313.6 | 583.8  | 280.9  | 196.8  | 141.5  | 128.3  | 117.2  | 112.8  | 106.2  | 106.2  |
| 47.5° | 2061.1 | 1320.2 | 499.8  | 263.2  | 183.6  | 132.7  | 115.0  | 103.9  | 97.3   | 90.7   | 92.9   |
| 50°   | 2036.8 | 1260.5 | 395.9  | 245.5  | 168.1  | 123.8  | 103.9  | 95.1   | 86.2   | 81.8   | 81.8   |
| 52.5° | 1935.0 | 1065.9 | 303.0  | 223.4  | 150.4  | 112.8  | 92.9   | 84.0   | 75.2   | 73.0   | 73.0   |
| 55°   | 1760.3 | 782.9  | 245.5  | 201.2  | 134.9  | 103.9  | 84.0   | 77.4   | 68.6   | 64.1   | 64.1   |
| 57.5° | 1430.8 | 535.2  | 203.5  | 181.3  | 119.4  | 92.9   | 75.2   | 68.6   | 57.5   | 53.1   | 53.1   |
| 60°   | 1061.5 | 349.4  | 172.5  | 159.2  | 101.7  | 84.0   | 66.3   | 57.5   | 48.7   | 44.2   | 42.0   |
| 62.5° | 716.5  | 236.6  | 143.7  | 126.1  | 86.2   | 73.0   | 57.5   | 48.7   | 37.6   | 28.7   | 28.7   |
| 65°   | 446.7  | 183.6  | 119.4  | 99.5   | 75.2   | 64.1   | 48.7   | 37.6   | 26.5   | 19.9   | 17.7   |
| 67.5° | 256.5  | 148.2  | 97.3   | 77.4   | 64.1   | 50.9   | 37.6   | 31.0   | 22.1   | 15.5   | 13.3   |
| 68°   | 236.6  | 141.5  | 90.7   | 73.0   | 59.7   | 48.7   | 35.4   | 28.7   | 19.9   | 13.3   | 13.3   |
| 70°   | 192.4  | 126.1  | 77.4   | 59.7   | 50.9   | 39.8   | 31.0   | 24.3   | 15.5   | 8.8    | 8.8    |
| 72.5° | 170.3  | 106.2  | 66.3   | 46.4   | 35.4   | 33.2   | 24.3   | 17.7   | 11.1   | 6.6    | 4.4    |
| 75°   | 139.3  | 84.0   | 53.1   | 35.4   | 24.3   | 24.3   | 17.7   | 11.1   | 4.4    | 0.0    | 0.0    |
| 77.5° | 90.7   | 61.9   | 42.0   | 22.1   | 13.3   | 15.5   | 11.1   | 4.4    | 0.0    | 0.0    | 0.0    |
| 80°   | 59.7   | 46.4   | 28.7   | 11.1   | 6.6    | 6.6    | 2.2    | 0.0    | 0.0    | 0.0    | 0.0    |
| 82.5° | 42.0   | 31.0   | 17.7   | 4.4    | 2.2    | 2.2    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 26.5   | 13.3   | 6.6    | 2.2    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 11.1   | 4.4    | 2.2    | 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: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-5  
 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-735-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS

**Spectral Parameters**

CCT (K): 3369  
 CIE u': 0.2386  
 CIE v': 0.5156  
 Duv: 0.0013  
 CIE x: 0.4143  
 CIE y: 0.3980  
 CIE z: 0.1877  
 Peak Wavelength (nm): 590  
 Dominant Wavelength (nm): 580  
 Purity: 43.80166  
 Rf: 71.4  
 Rg: 96

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 70.1 |      |       |
| R1:       | 66.6 | R9:  | -40.2 |
| R2:       | 77.6 | R10: | 49.1  |
| R3:       | 88.5 | R11: | 66.3  |
| R4:       | 69.5 | R12: | 45.7  |
| R5:       | 66.4 | R13: | 68.0  |
| R6:       | 69.6 | R14: | 93.4  |
| R7:       | 77.5 | R15: | 57.6  |
| R8:       | 44.9 |      |       |



**Test Conditions**

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

REPORT NUMBER: SP1-2407-184-5

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

REPORT NUMBER: SP1-2407-184-5

**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2407-184-5

**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               | 119                         | NR                      | 620               | 778                         | NR                      | 750               | 19                          | NR                      | 880               | 1                           | NR                      |
| 365               | 0                           | NR                      | 495               | 173                         | NR                      | 625               | 711                         | NR                      | 755               | 16                          | NR                      | 885               | 0                           | NR                      |
| 370               | 0                           | NR                      | 500               | 239                         | NR                      | 630               | 648                         | NR                      | 760               | 14                          | NR                      | 890               | 0                           | NR                      |
| 375               | 0                           | NR                      | 505               | 313                         | NR                      | 635               | 582                         | NR                      | 765               | 12                          | NR                      | 895               | 0                           | NR                      |
| 380               | 0                           | NR                      | 510               | 383                         | NR                      | 640               | 520                         | NR                      | 770               | 11                          | NR                      | 900               | 0                           | NR                      |
| 385               | 0                           | NR                      | 515               | 448                         | NR                      | 645               | 460                         | NR                      | 775               | 9                           | NR                      | 905               | 0                           | NR                      |
| 390               | 2                           | NR                      | 520               | 500                         | NR                      | 650               | 406                         | NR                      | 780               | 8                           | NR                      | 910               | 0                           | NR                      |
| 395               | 4                           | NR                      | 525               | 539                         | NR                      | 655               | 355                         | NR                      | 785               | 7                           | NR                      | 915               | 0                           | NR                      |
| 400               | 6                           | NR                      | 530               | 575                         | NR                      | 660               | 309                         | NR                      | 790               | 6                           | NR                      | 920               | 0                           | NR                      |
| 405               | 11                          | NR                      | 535               | 606                         | NR                      | 665               | 269                         | NR                      | 795               | 5                           | NR                      | 925               | 0                           | NR                      |
| 410               | 22                          | NR                      | 540               | 633                         | NR                      | 670               | 231                         | NR                      | 800               | 4                           | NR                      | 930               | 0                           | NR                      |
| 415               | 45                          | NR                      | 545               | 666                         | NR                      | 675               | 199                         | NR                      | 805               | 4                           | NR                      | 935               | 0                           | NR                      |
| 420               | 96                          | NR                      | 550               | 701                         | NR                      | 680               | 171                         | NR                      | 810               | 3                           | NR                      | 940               | 0                           | NR                      |
| 425               | 193                         | NR                      | 555               | 743                         | NR                      | 685               | 147                         | NR                      | 815               | 3                           | NR                      | 945               | 0                           | NR                      |
| 430               | 341                         | NR                      | 560               | 788                         | NR                      | 690               | 126                         | NR                      | 820               | 3                           | NR                      | 950               | 0                           | NR                      |
| 435               | 547                         | NR                      | 565               | 837                         | NR                      | 695               | 107                         | NR                      | 825               | 2                           | NR                      | 955               | 0                           | NR                      |
| 440               | 799                         | NR                      | 570               | 887                         | NR                      | 700               | 92                          | NR                      | 830               | 2                           | NR                      | 960               | 0                           | NR                      |
| 445               | 831                         | NR                      | 575               | 931                         | NR                      | 705               | 78                          | NR                      | 835               | 2                           | NR                      | 965               | 0                           | NR                      |
| 450               | 461                         | NR                      | 580               | 967                         | NR                      | 710               | 67                          | NR                      | 840               | 2                           | NR                      | 970               | 0                           | NR                      |
| 455               | 256                         | NR                      | 585               | 990                         | NR                      | 715               | 57                          | NR                      | 845               | 1                           | NR                      | 975               | 0                           | NR                      |
| 460               | 176                         | NR                      | 590               | 1000                        | NR                      | 720               | 49                          | NR                      | 850               | 1                           | NR                      | 980               | 0                           | NR                      |
| 465               | 107                         | NR                      | 595               | 994                         | NR                      | 725               | 42                          | NR                      | 855               | 1                           | NR                      | 985               | 0                           | NR                      |
| 470               | 74                          | NR                      | 600               | 973                         | NR                      | 730               | 36                          | NR                      | 860               | 1                           | NR                      | 990               | 0                           | NR                      |
| 475               | 67                          | NR                      | 605               | 938                         | NR                      | 735               | 31                          | NR                      | 865               | 1                           | NR                      | 995               | 0                           | NR                      |
| 480               | 68                          | NR                      | 610               | 892                         | NR                      | 740               | 26                          | NR                      | 870               | 1                           | NR                      | 1000              | 0                           | NR                      |
| 485               | 84                          | NR                      | 615               | 838                         | NR                      | 745               | 22                          | NR                      | 875               | 1                           | NR                      |                   |                             |                         |

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.29**

| $\lambda$ (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            | 119                      | NR                   | 620            | 778                      | NR                   | 750            | 19                       | NR                   | 880            | 1                        | NR                   |
| 365            | 0                        | NR                   | 495            | 173                      | NR                   | 625            | 711                      | NR                   | 755            | 16                       | NR                   | 885            | 0                        | NR                   |
| 370            | 0                        | NR                   | 500            | 239                      | NR                   | 630            | 648                      | NR                   | 760            | 14                       | NR                   | 890            | 0                        | NR                   |
| 375            | 0                        | NR                   | 505            | 313                      | NR                   | 635            | 582                      | NR                   | 765            | 12                       | NR                   | 895            | 0                        | NR                   |
| 380            | 0                        | NR                   | 510            | 383                      | NR                   | 640            | 520                      | NR                   | 770            | 11                       | NR                   | 900            | 0                        | NR                   |
| 385            | 0                        | NR                   | 515            | 448                      | NR                   | 645            | 460                      | NR                   | 775            | 9                        | NR                   | 905            | 0                        | NR                   |
| 390            | 2                        | NR                   | 520            | 500                      | NR                   | 650            | 406                      | NR                   | 780            | 8                        | NR                   | 910            | 0                        | NR                   |
| 395            | 4                        | NR                   | 525            | 539                      | NR                   | 655            | 355                      | NR                   | 785            | 7                        | NR                   | 915            | 0                        | NR                   |
| 400            | 6                        | NR                   | 530            | 575                      | NR                   | 660            | 309                      | NR                   | 790            | 6                        | NR                   | 920            | 0                        | NR                   |
| 405            | 11                       | NR                   | 535            | 606                      | NR                   | 665            | 269                      | NR                   | 795            | 5                        | NR                   | 925            | 0                        | NR                   |
| 410            | 22                       | NR                   | 540            | 633                      | NR                   | 670            | 231                      | NR                   | 800            | 4                        | NR                   | 930            | 0                        | NR                   |
| 415            | 45                       | NR                   | 545            | 666                      | NR                   | 675            | 199                      | NR                   | 805            | 4                        | NR                   | 935            | 0                        | NR                   |
| 420            | 96                       | NR                   | 550            | 701                      | NR                   | 680            | 171                      | NR                   | 810            | 3                        | NR                   | 940            | 0                        | NR                   |
| 425            | 193                      | NR                   | 555            | 743                      | NR                   | 685            | 147                      | NR                   | 815            | 3                        | NR                   | 945            | 0                        | NR                   |
| 430            | 341                      | NR                   | 560            | 788                      | NR                   | 690            | 126                      | NR                   | 820            | 3                        | NR                   | 950            | 0                        | NR                   |
| 435            | 547                      | NR                   | 565            | 837                      | NR                   | 695            | 107                      | NR                   | 825            | 2                        | NR                   | 955            | 0                        | NR                   |
| 440            | 799                      | NR                   | 570            | 887                      | NR                   | 700            | 92                       | NR                   | 830            | 2                        | NR                   | 960            | 0                        | NR                   |
| 445            | 831                      | NR                   | 575            | 931                      | NR                   | 705            | 78                       | NR                   | 835            | 2                        | NR                   | 965            | 0                        | NR                   |
| 450            | 461                      | NR                   | 580            | 967                      | NR                   | 710            | 67                       | NR                   | 840            | 2                        | NR                   | 970            | 0                        | NR                   |
| 455            | 256                      | NR                   | 585            | 990                      | NR                   | 715            | 57                       | NR                   | 845            | 1                        | NR                   | 975            | 0                        | NR                   |
| 460            | 176                      | NR                   | 590            | 1000                     | NR                   | 720            | 49                       | NR                   | 850            | 1                        | NR                   | 980            | 0                        | NR                   |
| 465            | 107                      | NR                   | 595            | 994                      | NR                   | 725            | 42                       | NR                   | 855            | 1                        | NR                   | 985            | 0                        | NR                   |
| 470            | 74                       | NR                   | 600            | 973                      | NR                   | 730            | 36                       | NR                   | 860            | 1                        | NR                   | 990            | 0                        | NR                   |
| 475            | 67                       | NR                   | 605            | 938                      | NR                   | 735            | 31                       | NR                   | 865            | 1                        | NR                   | 995            | 0                        | NR                   |
| 480            | 68                       | NR                   | 610            | 892                      | NR                   | 740            | 26                       | NR                   | 870            | 1                        | NR                   | 1000           | 0                        | NR                   |
| 485            | 84                       | NR                   | 615            | 838                      | NR                   | 745            | 22                       | NR                   | 875            | 1                        | NR                   |                |                          |                      |

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.36

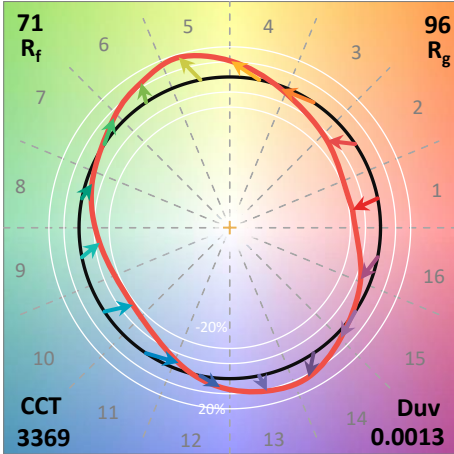
| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 119                      | NR            | 620    | 778                      | NR            | 750    | 19                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 173                      | NR            | 625    | 711                      | NR            | 755    | 16                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 239                      | NR            | 630    | 648                      | NR            | 760    | 14                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 313                      | NR            | 635    | 582                      | NR            | 765    | 12                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 383                      | NR            | 640    | 520                      | NR            | 770    | 11                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 448                      | NR            | 645    | 460                      | NR            | 775    | 9                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 500                      | NR            | 650    | 406                      | NR            | 780    | 8                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 539                      | NR            | 655    | 355                      | NR            | 785    | 7                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 575                      | NR            | 660    | 309                      | NR            | 790    | 6                        | NR            | 920    | 0                        | NR            |
| 405    | 11                       | NR            | 535    | 606                      | NR            | 665    | 269                      | NR            | 795    | 5                        | NR            | 925    | 0                        | NR            |
| 410    | 22                       | NR            | 540    | 633                      | NR            | 670    | 231                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 45                       | NR            | 545    | 666                      | NR            | 675    | 199                      | NR            | 805    | 4                        | NR            | 935    | 0                        | NR            |
| 420    | 96                       | NR            | 550    | 701                      | NR            | 680    | 171                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 193                      | NR            | 555    | 743                      | NR            | 685    | 147                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 341                      | NR            | 560    | 788                      | NR            | 690    | 126                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 547                      | NR            | 565    | 837                      | NR            | 695    | 107                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 799                      | NR            | 570    | 887                      | NR            | 700    | 92                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 831                      | NR            | 575    | 931                      | NR            | 705    | 78                       | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 461                      | NR            | 580    | 967                      | NR            | 710    | 67                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 256                      | NR            | 585    | 990                      | NR            | 715    | 57                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 176                      | NR            | 590    | 1000                     | NR            | 720    | 49                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 107                      | NR            | 595    | 994                      | NR            | 725    | 42                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 74                       | NR            | 600    | 973                      | NR            | 730    | 36                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 67                       | NR            | 605    | 938                      | NR            | 735    | 31                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 68                       | NR            | 610    | 892                      | NR            | 740    | 26                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 84                       | NR            | 615    | 838                      | NR            | 745    | 22                       | NR            | 875    | 1                        | NR            |        |                          |               |

**Summary**

$R_f = 71.4$   
 $R_g = 96$   
 $CIE R_a = 70.1$   
 $R_9 = -40.2$



**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)