

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: P1456908

Luminaire Tested: GLAN-SB1B-740-U-T4LG

Issue Date: 05/20/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1456908  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 5/21/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: GLAN-SB1B-740-U-T4LG  
Description: GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 450mA 1xLight Square  
PACKAGE 70CRI 4000K FIXTURE w/ TYPE IV LOW GLARE  
Light Source: (26) 4000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5832.3 lumens  
Efficiency: N/A  
Efficacy: 146.5 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1

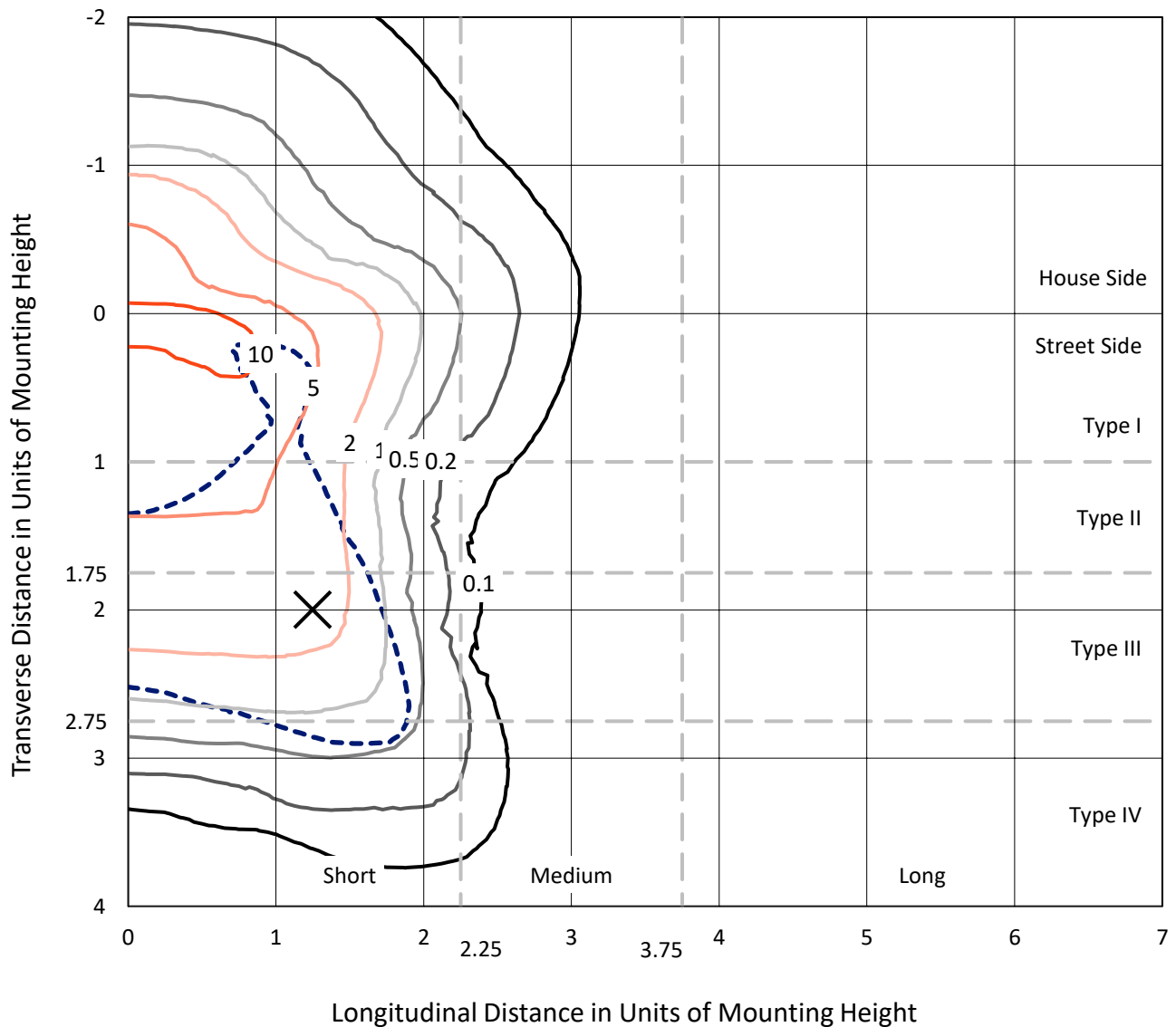
Input Watts (W): 39.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

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### Iso-Footcandle Lines of Horizontal Illumination

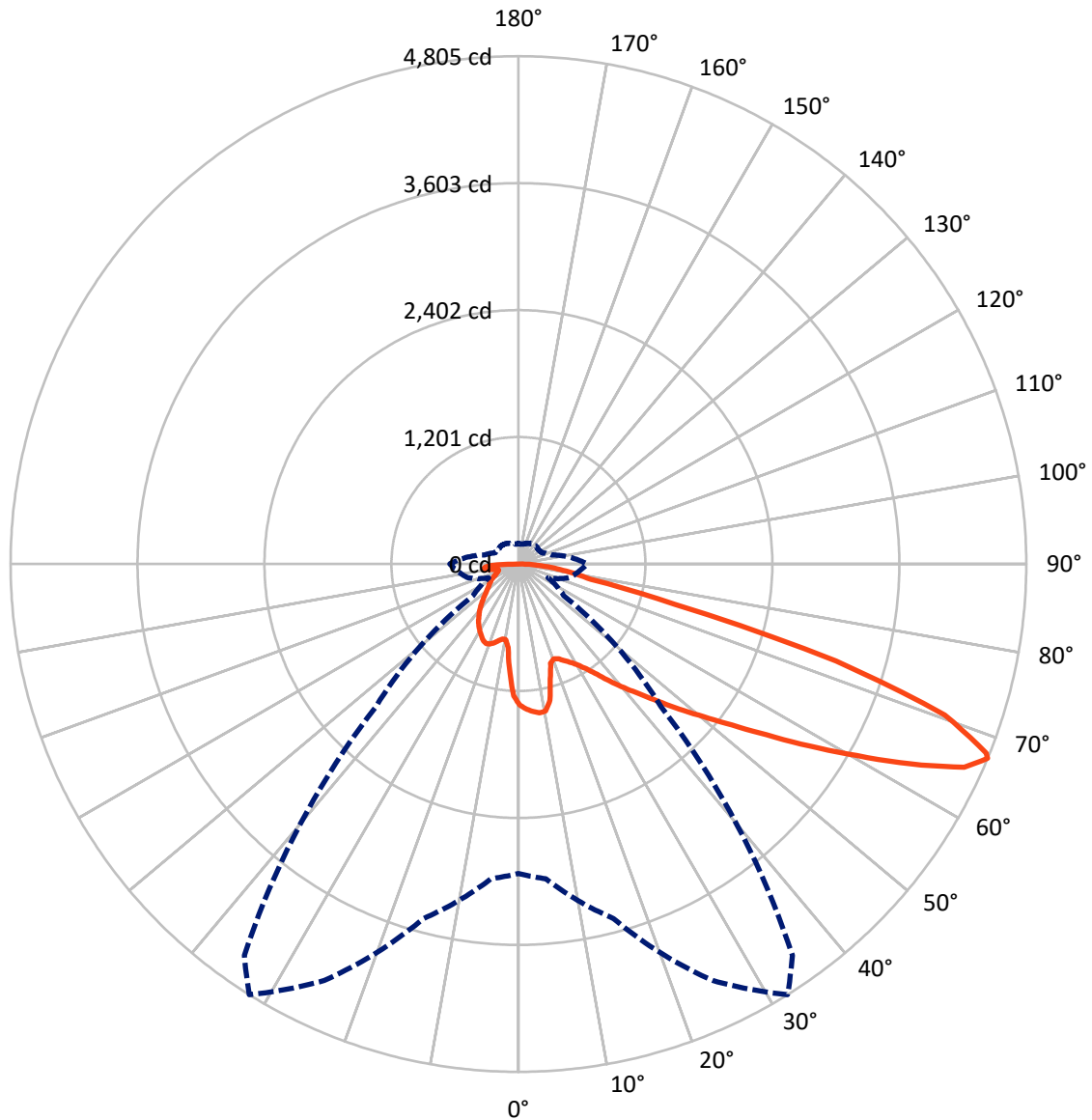
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.4 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 32-Deg Lateral      - - - Horizontal Cone Through 67-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1380.8   | 0.0    | 1380.8 |
|                    | % Fixture | 23.7     | 0.0    | 23.7   |
| <b>Street Side</b> | Lumens    | 4451.5   | 0.0    | 4451.5 |
|                    | % Fixture | 76.3     | 0.0    | 76.3   |
| <b>Total</b>       | Lumens    | 5832.3   | 0.0    | 5832.3 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 116.4  | 2.0       |
| 10°-20°   | 309.1  | 5.3       |
| 20°-30°   | 504.8  | 8.7       |
| 30°-40°   | 744.1  | 12.8      |
| 40°-50°   | 1026.1 | 17.6      |
| 50°-60°   | 1296.3 | 22.2      |
| 60°-70°   | 1254.6 | 21.5      |
| 70°-80°   | 447.8  | 7.7       |
| 80°-90°   | 133.0  | 2.3       |
| 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°    | 5832.3 | 100.0     |
| 0°-180°   | 5832.3 | 100.0     |



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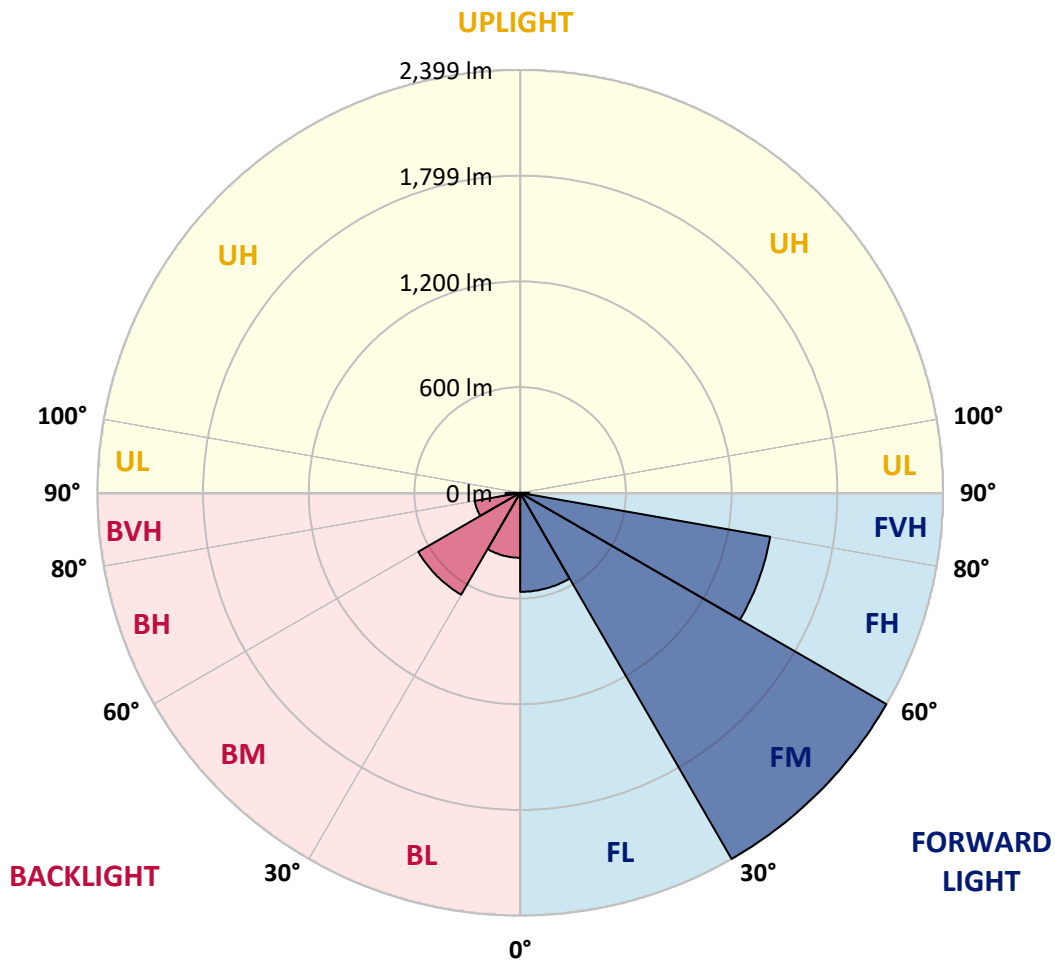
CATALOG NUMBER: GLAN-SB1B-740-U-T4LG

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 562.0  | 9.6       |                         |      |         |
| FM   | (30°-60°)   | 2399.0 | 41.1      |                         |      |         |
| FH   | (60°-80°)   | 1440.4 | 24.7      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 50.1   | 0.9       |                         |      | G1/100  |
| BL   | (0°-30°)    | 368.5  | 6.3       | B1/500                  |      |         |
| BM   | (30°-60°)   | 667.5  | 11.4      | B1/1000                 |      |         |
| BH   | (60°-80°)   | 261.9  | 4.5       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 82.9   | 1.4       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G1**

Type IV Short





REPORT NUMBER: P1456908

CATALOG NUMBER: GLAN-SB1B-740-U-T4LG

**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 32°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 |
| 2.5°  | 1383.1 | 1379.2 | 1375.3 | 1377.9 | 1372.7 | 1371.4 | 1364.9 | 1362.3 | 1354.6 | 1353.3 | 1339.0 |
| 5°    | 1411.6 | 1403.8 | 1402.5 | 1405.1 | 1399.9 | 1399.9 | 1394.7 | 1390.8 | 1379.2 | 1372.7 | 1352.0 |
| 7.5°  | 1411.6 | 1410.3 | 1412.8 | 1421.9 | 1423.2 | 1423.2 | 1423.2 | 1424.5 | 1412.8 | 1403.8 | 1371.4 |
| 10°   | 1331.3 | 1318.3 | 1346.8 | 1392.1 | 1414.1 | 1427.1 | 1450.4 | 1464.6 | 1455.6 | 1449.1 | 1405.1 |
| 12.5° | 1091.7 | 1093.0 | 1138.3 | 1235.4 | 1323.5 | 1361.0 | 1458.2 | 1510.0 | 1513.9 | 1503.5 | 1447.8 |
| 15°   | 925.9  | 932.4  | 955.7  | 1025.6 | 1126.7 | 1182.3 | 1412.8 | 1550.1 | 1581.2 | 1570.8 | 1499.6 |
| 17.5° | 875.4  | 879.3  | 889.7  | 929.8  | 986.8  | 1032.1 | 1289.8 | 1576.0 | 1662.8 | 1649.8 | 1557.9 |
| 20°   | 867.7  | 870.2  | 883.2  | 916.9  | 955.7  | 981.6  | 1164.2 | 1555.3 | 1739.2 | 1734.0 | 1611.0 |
| 22.5° | 868.9  | 871.5  | 888.4  | 935.0  | 975.1  | 997.2  | 1124.1 | 1507.4 | 1819.5 | 1824.7 | 1665.4 |
| 25°   | 871.5  | 872.8  | 898.7  | 960.9  | 1011.4 | 1038.6 | 1150.0 | 1464.6 | 1886.8 | 1930.8 | 1724.9 |
| 27.5° | 885.8  | 889.7  | 924.6  | 994.6  | 1054.1 | 1085.2 | 1210.8 | 1478.9 | 1960.6 | 2051.3 | 1796.2 |
| 30°   | 924.6  | 927.2  | 970.0  | 1042.5 | 1107.2 | 1139.6 | 1283.3 | 1535.9 | 2051.3 | 2175.6 | 1866.1 |
| 32.5° | 985.5  | 988.1  | 1037.3 | 1112.4 | 1182.3 | 1221.2 | 1377.9 | 1644.7 | 2152.3 | 2306.4 | 1936.0 |
| 35°   | 1069.7 | 1071.0 | 1126.7 | 1206.9 | 1280.8 | 1324.8 | 1488.0 | 1767.7 | 2257.2 | 2417.8 | 1987.8 |
| 37.5° | 1169.4 | 1178.5 | 1235.4 | 1319.6 | 1406.4 | 1446.5 | 1617.5 | 1911.4 | 2350.4 | 2512.3 | 2017.6 |
| 40°   | 1306.7 | 1309.2 | 1364.9 | 1446.5 | 1538.5 | 1577.3 | 1747.0 | 2047.4 | 2452.7 | 2568.0 | 2044.8 |
| 42.5° | 1447.8 | 1469.8 | 1516.4 | 1607.1 | 1675.7 | 1706.8 | 1894.6 | 2171.7 | 2534.3 | 2570.6 | 2033.2 |
| 45°   | 1636.9 | 1653.7 | 1700.3 | 1780.6 | 1849.3 | 1885.5 | 2053.9 | 2285.7 | 2575.8 | 2548.6 | 2007.3 |
| 47.5° | 1853.1 | 1863.5 | 1901.1 | 1973.6 | 2050.0 | 2075.9 | 2219.6 | 2350.4 | 2591.3 | 2533.0 | 1995.6 |
| 50°   | 2108.3 | 2108.3 | 2135.5 | 2197.6 | 2267.5 | 2303.8 | 2372.4 | 2389.3 | 2636.6 | 2505.8 | 2025.4 |
| 52.5° | 2323.2 | 2333.6 | 2369.9 | 2457.9 | 2527.8 | 2569.3 | 2491.6 | 2448.9 | 2544.7 | 2354.3 | 2034.4 |
| 55°   | 2529.1 | 2540.8 | 2622.4 | 2732.5 | 2851.6 | 2896.9 | 2640.5 | 2419.1 | 2235.2 | 2132.9 | 1972.3 |
| 57.5° | 2726.0 | 2750.6 | 2852.9 | 3067.9 | 3247.9 | 3244.0 | 2829.6 | 2152.3 | 1824.7 | 1888.1 | 1836.3 |
| 60°   | 3000.5 | 3026.4 | 3189.6 | 3460.2 | 3680.4 | 3588.5 | 2832.2 | 1791.0 | 1421.9 | 1507.4 | 1581.2 |
| 62.5° | 3229.7 | 3273.8 | 3513.3 | 3964.0 | 4166.0 | 4022.3 | 2597.8 | 1371.4 | 944.1  | 1051.5 | 1222.5 |
| 65°   | 3209.0 | 3267.3 | 3639.0 | 4334.4 | 4636.1 | 4502.7 | 2254.6 | 867.7  | 486.9  | 718.7  | 856.0  |
| 67°   | 2926.7 | 2990.2 | 3471.9 | 4347.3 | 4804.5 | 4519.6 | 1903.7 | 524.5  | 309.5  | 498.6  | 594.4  |
| 67.5° | 2764.8 | 2858.1 | 3389.0 | 4322.7 | 4773.4 | 4448.3 | 1745.7 | 439.0  | 291.4  | 463.6  | 541.3  |
| 70°   | 1700.3 | 1850.6 | 2543.4 | 3821.6 | 4278.7 | 3723.1 | 970.0  | 248.6  | 237.0  | 310.8  | 374.3  |
| 72.5° | 511.5  | 556.9  | 981.6  | 2451.4 | 3140.4 | 2759.7 | 436.4  | 191.7  | 212.4  | 249.9  | 288.8  |
| 75°   | 248.6  | 265.5  | 405.3  | 1002.3 | 1529.4 | 1521.6 | 243.5  | 164.5  | 196.8  | 209.8  | 227.9  |
| 77.5° | 159.3  | 169.6  | 252.5  | 560.7  | 700.6  | 624.2  | 176.1  | 143.7  | 174.8  | 172.2  | 169.6  |
| 80°   | 99.7   | 104.9  | 161.9  | 325.0  | 516.7  | 431.2  | 129.5  | 117.8  | 150.2  | 133.4  | 120.4  |
| 82.5° | 64.8   | 71.2   | 103.6  | 198.1  | 369.1  | 321.2  | 85.5   | 84.2   | 124.3  | 106.2  | 93.2   |
| 85°   | 42.7   | 47.9   | 66.0   | 116.6  | 218.9  | 229.2  | 55.7   | 58.3   | 95.8   | 80.3   | 71.2   |
| 87.5° | 15.5   | 19.4   | 33.7   | 51.8   | 102.3  | 126.9  | 23.3   | 22.0   | 46.6   | 37.6   | 29.8   |
| 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: P1456908

CATALOG NUMBER: GLAN-SB1B-740-U-T4LG

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 | 1332.6 |
| 2.5°  | 1336.4 | 1332.6 | 1314.4 | 1298.9 | 1287.2 | 1271.7 | 1254.9 | 1235.4 | 1222.5 | 1225.1 | 1221.2 |
| 5°    | 1342.9 | 1332.6 | 1297.6 | 1244.5 | 1192.7 | 1127.9 | 1045.1 | 995.9  | 958.3  | 938.9  | 944.1  |
| 7.5°  | 1357.2 | 1339.0 | 1265.2 | 1157.7 | 1023.1 | 891.0  | 809.4  | 762.8  | 740.7  | 731.7  | 730.4  |
| 10°   | 1381.8 | 1350.7 | 1223.8 | 1023.1 | 846.9  | 757.6  | 727.8  | 714.8  | 712.3  | 712.3  | 711.0  |
| 12.5° | 1411.6 | 1362.3 | 1153.8 | 892.3  | 762.8  | 730.4  | 725.2  | 726.5  | 730.4  | 734.3  | 727.8  |
| 15°   | 1447.8 | 1367.5 | 1067.1 | 813.3  | 745.9  | 738.2  | 745.9  | 755.0  | 761.5  | 766.6  | 760.2  |
| 17.5° | 1484.1 | 1362.3 | 985.5  | 775.7  | 748.5  | 758.9  | 774.4  | 788.7  | 792.5  | 800.3  | 795.1  |
| 20°   | 1510.0 | 1344.2 | 915.6  | 761.5  | 755.0  | 778.3  | 797.7  | 813.3  | 821.0  | 826.2  | 821.0  |
| 22.5° | 1529.4 | 1320.9 | 865.1  | 747.2  | 755.0  | 783.5  | 806.8  | 824.9  | 834.0  | 839.2  | 832.7  |
| 25°   | 1546.2 | 1288.5 | 826.2  | 726.5  | 739.4  | 766.6  | 792.5  | 810.7  | 823.6  | 831.4  | 827.5  |
| 27.5° | 1567.0 | 1262.6 | 790.0  | 695.4  | 707.1  | 733.0  | 760.2  | 782.2  | 806.8  | 819.7  | 817.1  |
| 30°   | 1590.3 | 1249.7 | 755.0  | 661.7  | 669.5  | 695.4  | 727.8  | 757.6  | 791.2  | 808.1  | 808.1  |
| 32.5° | 1617.5 | 1240.6 | 722.6  | 629.4  | 635.8  | 664.3  | 695.4  | 722.6  | 758.9  | 786.1  | 784.8  |
| 35°   | 1629.1 | 1230.3 | 696.7  | 599.6  | 612.5  | 635.8  | 660.5  | 678.6  | 716.1  | 748.5  | 751.1  |
| 37.5° | 1640.8 | 1226.4 | 683.8  | 576.3  | 586.6  | 604.8  | 617.7  | 626.8  | 661.7  | 695.4  | 696.7  |
| 40°   | 1655.0 | 1244.5 | 692.8  | 560.7  | 551.7  | 569.8  | 576.3  | 581.5  | 599.6  | 621.6  | 621.6  |
| 42.5° | 1645.9 | 1257.4 | 713.5  | 546.5  | 508.9  | 529.7  | 532.2  | 531.0  | 532.2  | 533.5  | 532.2  |
| 45°   | 1622.6 | 1244.5 | 713.5  | 524.5  | 463.6  | 485.6  | 484.3  | 477.9  | 467.5  | 440.3  | 436.4  |
| 47.5° | 1617.5 | 1236.7 | 686.4  | 488.2  | 418.3  | 436.4  | 439.0  | 426.1  | 396.3  | 367.8  | 358.7  |
| 50°   | 1639.5 | 1251.0 | 643.6  | 444.2  | 379.4  | 395.0  | 401.5  | 379.4  | 345.8  | 316.0  | 310.8  |
| 52.5° | 1671.8 | 1269.1 | 581.5  | 396.3  | 347.1  | 362.6  | 370.4  | 345.8  | 310.8  | 287.5  | 284.9  |
| 55°   | 1668.0 | 1269.1 | 511.5  | 352.2  | 322.5  | 334.1  | 347.1  | 321.2  | 294.0  | 281.0  | 279.7  |
| 57.5° | 1583.8 | 1221.2 | 459.7  | 321.2  | 299.1  | 309.5  | 326.3  | 301.7  | 275.8  | 278.4  | 282.3  |
| 60°   | 1419.3 | 1096.9 | 420.9  | 300.4  | 278.4  | 288.8  | 306.9  | 278.4  | 244.8  | 235.7  | 235.7  |
| 62.5° | 1169.4 | 903.9  | 389.8  | 279.7  | 259.0  | 272.0  | 281.0  | 243.5  | 221.4  | 211.1  | 211.1  |
| 65°   | 876.7  | 699.3  | 357.4  | 262.9  | 242.2  | 256.4  | 246.1  | 227.9  | 205.9  | 198.1  | 199.4  |
| 67°   | 650.1  | 542.6  | 330.2  | 248.6  | 231.8  | 238.3  | 230.5  | 217.6  | 195.5  | 189.1  | 195.5  |
| 67.5° | 584.0  | 515.4  | 323.8  | 244.8  | 229.2  | 234.4  | 226.6  | 216.3  | 193.0  | 186.5  | 193.0  |
| 70°   | 401.5  | 396.3  | 288.8  | 226.6  | 215.0  | 209.8  | 213.7  | 200.7  | 181.3  | 178.7  | 185.2  |
| 72.5° | 305.6  | 316.0  | 259.0  | 211.1  | 199.4  | 193.0  | 202.0  | 189.1  | 169.6  | 173.5  | 180.0  |
| 75°   | 239.6  | 255.1  | 231.8  | 189.1  | 181.3  | 182.6  | 200.7  | 195.5  | 180.0  | 183.9  | 185.2  |
| 77.5° | 177.4  | 205.9  | 198.1  | 164.5  | 158.0  | 176.1  | 226.6  | 242.2  | 215.0  | 208.5  | 199.4  |
| 80°   | 129.5  | 147.6  | 167.1  | 136.0  | 132.1  | 169.6  | 279.7  | 309.5  | 265.5  | 239.6  | 233.1  |
| 82.5° | 95.8   | 103.6  | 137.3  | 108.8  | 95.8   | 151.5  | 310.8  | 363.9  | 316.0  | 266.8  | 259.0  |
| 85°   | 68.6   | 80.3   | 108.8  | 80.3   | 63.5   | 124.3  | 304.3  | 356.1  | 313.4  | 252.5  | 246.1  |
| 87.5° | 24.6   | 35.0   | 46.6   | 36.3   | 32.4   | 85.5   | 251.2  | 256.4  | 195.5  | 89.4   | 90.7   |
| 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: SP1-2407-184-1

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-740-U-5WQ

Data in this report applies to families of products including GSS-SB1A-740-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-1  
 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-740-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 4000K CCT 26 LEDS

**Spectral Parameters**

CCT (K): 3949  
 CIE u': 0.2248  
 CIE v': 0.5053  
 Duv: 0.0022  
 CIE x: 0.3844  
 CIE y: 0.3840  
 CIE z: 0.2316  
 Peak Wavelength (nm): 440  
 Dominant Wavelength (nm): 578  
 Purity: 30.60026  
 Rf: 71.8  
 Rg: 96.5

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 70.7 |      |       |
| R1:       | 68.0 | R9:  | -36.7 |
| R2:       | 76.0 | R10: | 45.1  |
| R3:       | 84.3 | R11: | 70.7  |
| R4:       | 72.0 | R12: | 47.1  |
| R5:       | 68.6 | R13: | 68.5  |
| R6:       | 68.3 | R14: | 91.1  |
| R7:       | 77.9 | R15: | 58.7  |
| R8:       | 50.3 |      |       |



**Test Conditions**

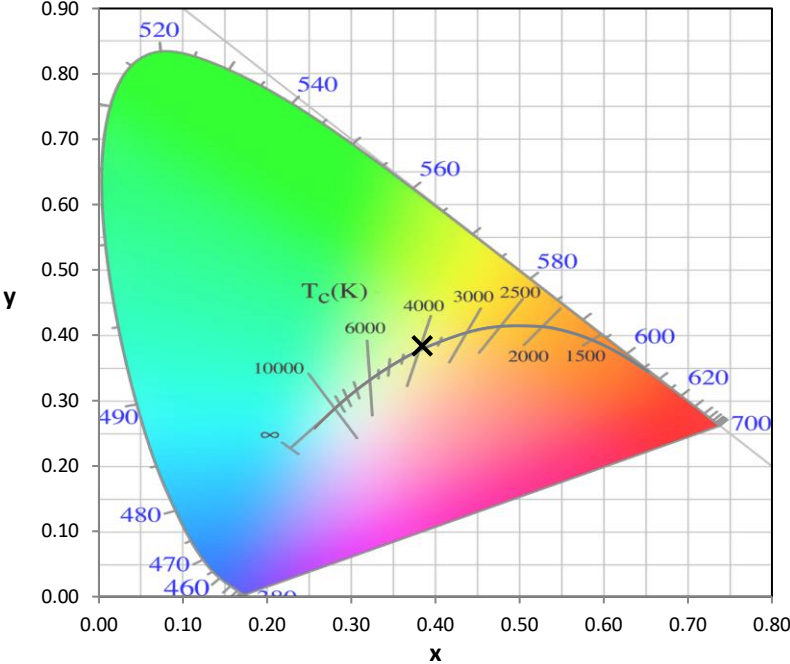
Stabilization Time: 34M  
 Operation Time: 1H 34M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-1

| 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 4000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 139                      | NR            | 620    | 607                      | NR            | 750    | 15                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 198                      | NR            | 625    | 554                      | NR            | 755    | 13                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 267                      | NR            | 630    | 504                      | NR            | 760    | 11                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 343                      | NR            | 635    | 452                      | NR            | 765    | 10                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 410                      | NR            | 640    | 403                      | NR            | 770    | 8                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 470                      | NR            | 645    | 357                      | NR            | 775    | 7                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 516                      | NR            | 650    | 314                      | NR            | 780    | 6                        | NR            | 910    | 0                        | NR            |
| 395    | 7                        | NR            | 525    | 550                      | NR            | 655    | 275                      | NR            | 785    | 5                        | NR            | 915    | 0                        | NR            |
| 400    | 10                       | NR            | 530    | 578                      | NR            | 660    | 240                      | NR            | 790    | 5                        | NR            | 920    | 0                        | NR            |
| 405    | 17                       | NR            | 535    | 601                      | NR            | 665    | 208                      | NR            | 795    | 4                        | NR            | 925    | 0                        | NR            |
| 410    | 35                       | NR            | 540    | 620                      | NR            | 670    | 179                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 70                       | NR            | 545    | 641                      | NR            | 675    | 155                      | NR            | 805    | 3                        | NR            | 935    | 0                        | NR            |
| 420    | 147                      | NR            | 550    | 664                      | NR            | 680    | 133                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 285                      | NR            | 555    | 689                      | NR            | 685    | 114                      | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 487                      | NR            | 560    | 715                      | NR            | 690    | 98                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 787                      | NR            | 565    | 743                      | NR            | 695    | 84                       | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 1000                     | NR            | 570    | 771                      | NR            | 700    | 72                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 783                      | NR            | 575    | 794                      | NR            | 705    | 61                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 417                      | NR            | 580    | 811                      | NR            | 710    | 52                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 261                      | NR            | 585    | 817                      | NR            | 715    | 45                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 167                      | NR            | 590    | 815                      | NR            | 720    | 39                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 104                      | NR            | 595    | 801                      | NR            | 725    | 33                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 79                       | NR            | 600    | 777                      | NR            | 730    | 28                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 73                       | NR            | 605    | 744                      | NR            | 735    | 24                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 704                      | NR            | 740    | 21                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 98                       | NR            | 615    | 657                      | NR            | 745    | 18                       | NR            | 875    | 1                        | NR            |        |                          |               |

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.47**

| $\lambda$ (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            | 139                      | NR                   | 620            | 607                      | NR                   | 750            | 15                       | NR                   | 880            | 0                        | NR                   |
| 365            | 0                        | NR                   | 495            | 198                      | NR                   | 625            | 554                      | NR                   | 755            | 13                       | NR                   | 885            | 0                        | NR                   |
| 370            | 0                        | NR                   | 500            | 267                      | NR                   | 630            | 504                      | NR                   | 760            | 11                       | NR                   | 890            | 0                        | NR                   |
| 375            | 0                        | NR                   | 505            | 343                      | NR                   | 635            | 452                      | NR                   | 765            | 10                       | NR                   | 895            | 0                        | NR                   |
| 380            | 0                        | NR                   | 510            | 410                      | NR                   | 640            | 403                      | NR                   | 770            | 8                        | NR                   | 900            | 0                        | NR                   |
| 385            | 2                        | NR                   | 515            | 470                      | NR                   | 645            | 357                      | NR                   | 775            | 7                        | NR                   | 905            | 0                        | NR                   |
| 390            | 4                        | NR                   | 520            | 516                      | NR                   | 650            | 314                      | NR                   | 780            | 6                        | NR                   | 910            | 0                        | NR                   |
| 395            | 7                        | NR                   | 525            | 550                      | NR                   | 655            | 275                      | NR                   | 785            | 5                        | NR                   | 915            | 0                        | NR                   |
| 400            | 10                       | NR                   | 530            | 578                      | NR                   | 660            | 240                      | NR                   | 790            | 5                        | NR                   | 920            | 0                        | NR                   |
| 405            | 17                       | NR                   | 535            | 601                      | NR                   | 665            | 208                      | NR                   | 795            | 4                        | NR                   | 925            | 0                        | NR                   |
| 410            | 35                       | NR                   | 540            | 620                      | NR                   | 670            | 179                      | NR                   | 800            | 4                        | NR                   | 930            | 0                        | NR                   |
| 415            | 70                       | NR                   | 545            | 641                      | NR                   | 675            | 155                      | NR                   | 805            | 3                        | NR                   | 935            | 0                        | NR                   |
| 420            | 147                      | NR                   | 550            | 664                      | NR                   | 680            | 133                      | NR                   | 810            | 3                        | NR                   | 940            | 0                        | NR                   |
| 425            | 285                      | NR                   | 555            | 689                      | NR                   | 685            | 114                      | NR                   | 815            | 2                        | NR                   | 945            | 0                        | NR                   |
| 430            | 487                      | NR                   | 560            | 715                      | NR                   | 690            | 98                       | NR                   | 820            | 2                        | NR                   | 950            | 0                        | NR                   |
| 435            | 787                      | NR                   | 565            | 743                      | NR                   | 695            | 84                       | NR                   | 825            | 2                        | NR                   | 955            | 0                        | NR                   |
| 440            | 1000                     | NR                   | 570            | 771                      | NR                   | 700            | 72                       | NR                   | 830            | 2                        | NR                   | 960            | 0                        | NR                   |
| 445            | 783                      | NR                   | 575            | 794                      | NR                   | 705            | 61                       | NR                   | 835            | 1                        | NR                   | 965            | 0                        | NR                   |
| 450            | 417                      | NR                   | 580            | 811                      | NR                   | 710            | 52                       | NR                   | 840            | 1                        | NR                   | 970            | 0                        | NR                   |
| 455            | 261                      | NR                   | 585            | 817                      | NR                   | 715            | 45                       | NR                   | 845            | 1                        | NR                   | 975            | 0                        | NR                   |
| 460            | 167                      | NR                   | 590            | 815                      | NR                   | 720            | 39                       | NR                   | 850            | 1                        | NR                   | 980            | 0                        | NR                   |
| 465            | 104                      | NR                   | 595            | 801                      | NR                   | 725            | 33                       | NR                   | 855            | 1                        | NR                   | 985            | 0                        | NR                   |
| 470            | 79                       | NR                   | 600            | 777                      | NR                   | 730            | 28                       | NR                   | 860            | 1                        | NR                   | 990            | 0                        | NR                   |
| 475            | 73                       | NR                   | 605            | 744                      | NR                   | 735            | 24                       | NR                   | 865            | 1                        | NR                   | 995            | 0                        | NR                   |
| 480            | 76                       | NR                   | 610            | 704                      | NR                   | 740            | 21                       | NR                   | 870            | 1                        | NR                   | 1000           | 0                        | NR                   |
| 485            | 98                       | NR                   | 615            | 657                      | NR                   | 745            | 18                       | NR                   | 875            | 1                        | NR                   |                |                          |                      |

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 2.78**

| 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    | 139                      | NR            | 620    | 607                      | NR            | 750    | 15                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 198                      | NR            | 625    | 554                      | NR            | 755    | 13                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 267                      | NR            | 630    | 504                      | NR            | 760    | 11                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 343                      | NR            | 635    | 452                      | NR            | 765    | 10                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 410                      | NR            | 640    | 403                      | NR            | 770    | 8                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 470                      | NR            | 645    | 357                      | NR            | 775    | 7                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 516                      | NR            | 650    | 314                      | NR            | 780    | 6                        | NR            | 910    | 0                        | NR            |
| 395    | 7                        | NR            | 525    | 550                      | NR            | 655    | 275                      | NR            | 785    | 5                        | NR            | 915    | 0                        | NR            |
| 400    | 10                       | NR            | 530    | 578                      | NR            | 660    | 240                      | NR            | 790    | 5                        | NR            | 920    | 0                        | NR            |
| 405    | 17                       | NR            | 535    | 601                      | NR            | 665    | 208                      | NR            | 795    | 4                        | NR            | 925    | 0                        | NR            |
| 410    | 35                       | NR            | 540    | 620                      | NR            | 670    | 179                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 70                       | NR            | 545    | 641                      | NR            | 675    | 155                      | NR            | 805    | 3                        | NR            | 935    | 0                        | NR            |
| 420    | 147                      | NR            | 550    | 664                      | NR            | 680    | 133                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 285                      | NR            | 555    | 689                      | NR            | 685    | 114                      | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 487                      | NR            | 560    | 715                      | NR            | 690    | 98                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 787                      | NR            | 565    | 743                      | NR            | 695    | 84                       | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 1000                     | NR            | 570    | 771                      | NR            | 700    | 72                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 783                      | NR            | 575    | 794                      | NR            | 705    | 61                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 417                      | NR            | 580    | 811                      | NR            | 710    | 52                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 261                      | NR            | 585    | 817                      | NR            | 715    | 45                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 167                      | NR            | 590    | 815                      | NR            | 720    | 39                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 104                      | NR            | 595    | 801                      | NR            | 725    | 33                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 79                       | NR            | 600    | 777                      | NR            | 730    | 28                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 73                       | NR            | 605    | 744                      | NR            | 735    | 24                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 704                      | NR            | 740    | 21                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 98                       | NR            | 615    | 657                      | NR            | 745    | 18                       | NR            | 875    | 1                        | NR            |        |                          |               |

**Summary**

$R_f = 71.8$   
 $R_g = 96.5$   
 $CIE R_a = 70.7$   
 $R_9 = -36.7$



**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 56 | CES51 = 86 | CES76 = 48 |
| CES02 = 61 | CES27 = 79 | CES52 = 88 | CES77 = 71 |
| CES03 = 30 | CES28 = 80 | CES53 = 73 | CES78 = 52 |
| CES04 = 70 | CES29 = 49 | CES54 = 79 | CES79 = 79 |
| CES05 = 47 | CES30 = 53 | CES55 = 77 | CES80 = 77 |
| CES06 = 50 | CES31 = 55 | CES56 = 67 | CES81 = 75 |
| CES07 = 40 | CES32 = 53 | CES57 = 64 | CES82 = 90 |
| CES08 = 39 | CES33 = 59 | CES58 = 67 | CES83 = 84 |
| CES09 = 29 | CES34 = 67 | CES59 = 87 | CES84 = 89 |
| CES10 = 74 | CES35 = 82 | CES60 = 91 | CES85 = 86 |
| CES11 = 57 | CES36 = 86 | CES61 = 87 | CES86 = 71 |
| CES12 = 63 | CES37 = 76 | CES62 = 76 | CES87 = 78 |
| CES13 = 42 | CES38 = 62 | CES63 = 73 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 71 | CES89 = 72 |
| CES15 = 71 | CES40 = 84 | CES65 = 64 | CES90 = 72 |
| CES16 = 46 | CES41 = 81 | CES66 = 67 | CES91 = 97 |
| CES17 = 49 | CES42 = 76 | CES67 = 65 | CES92 = 66 |
| CES18 = 56 | CES43 = 71 | CES68 = 72 | CES93 = 81 |
| CES19 = 72 | CES44 = 98 | CES69 = 82 | CES94 = 55 |
| CES20 = 65 | CES45 = 80 | CES70 = 61 | CES95 = 73 |
| CES21 = 86 | CES46 = 76 | CES71 = 59 | CES96 = 78 |
| CES22 = 78 | CES47 = 71 | CES72 = 86 | CES97 = 83 |
| CES23 = 92 | CES48 = 61 | CES73 = 52 | CES98 = 72 |
| CES24 = 91 | CES49 = 76 | CES74 = 93 | CES99 = 60 |
| CES25 = 72 | CES50 = 84 | CES75 = 56 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)