

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



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: STREETWORKS

Report Number: P1456370

Luminaire Tested: **GLAN-SB1D-722-U-T3LG**

Issue Date: 05/20/2026

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Report Generated By 670245763



**Test Information**

Test Method: LM-79-08  
Report Number: P1456370  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 05/20/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: GLAN-SB1D-722-U-T3LG  
Description: GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 1xLight Square PACKAGE 70CRI 2200K FIXTURE w/ TYPE III LOW GLARE  
Light Source: (26) 2200K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

| Luminaire Equipment: | <u>Sample No.</u> | <u>Condition</u> | <u>Description</u> |
|----------------------|-------------------|------------------|--------------------|
|                      | a                 | good             | reflector          |
|                      | b                 | good             | lens               |
|                      | c                 | good             | housing            |
|                      | d                 | good             | cord               |

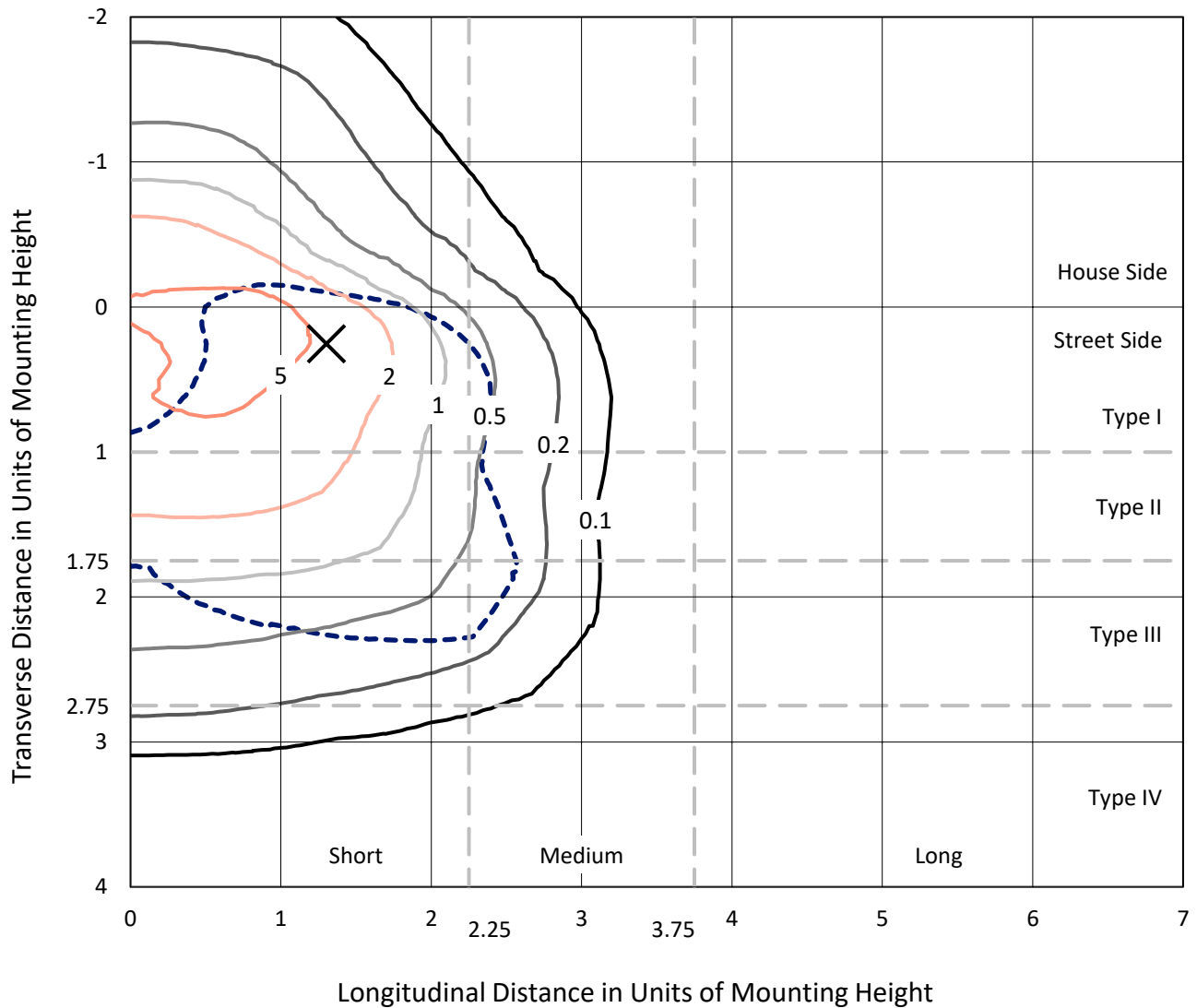
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 8203.8 lumens  
Efficiency: N/A  
Efficacy: 103.1 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - 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

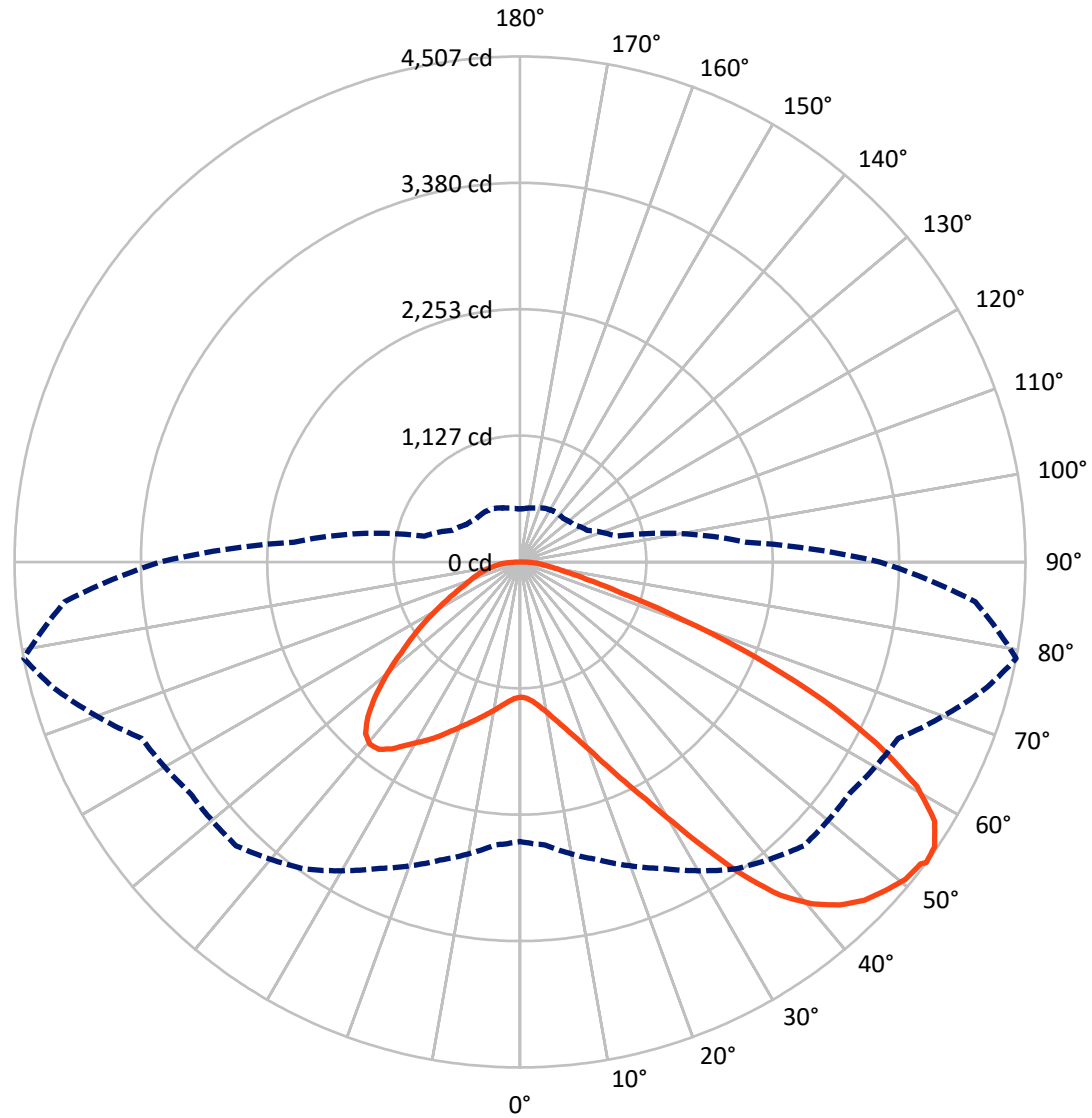
✕ Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 8.3 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 79-Deg Lateral    - - - Horizontal Cone Through 53-Deg Vertical

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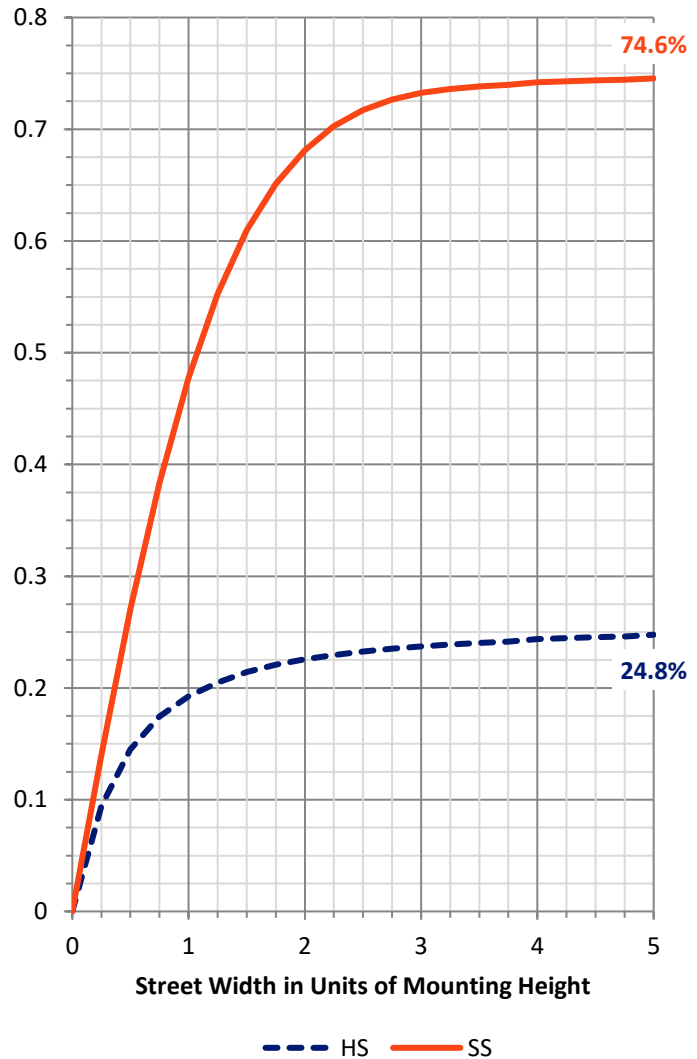
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 2068.1   | 0.0    | 2068.1 |
|                    | % Fixture | 25.2     | 0.0    | 25.2   |
| <b>Street Side</b> | Lumens    | 6135.7   | 0.0    | 6135.7 |
|                    | % Fixture | 74.8     | 0.0    | 74.8   |
| <b>Total</b>       | Lumens    | 8203.8   | 0.0    | 8203.8 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 114.8  | 1.4       |
| 10°-20°   | 355.3  | 4.3       |
| 20°-30°   | 679.4  | 8.3       |
| 30°-40°   | 1166.5 | 14.2      |
| 40°-50°   | 1633.9 | 19.9      |
| 50°-60°   | 1854.2 | 22.6      |
| 60°-70°   | 1626.1 | 19.8      |
| 70°-80°   | 635.8  | 7.8       |
| 80°-90°   | 137.8  | 1.7       |
| 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°    | 8203.8 | 100.0     |
| 0°-180°   | 8203.8 | 100.0     |

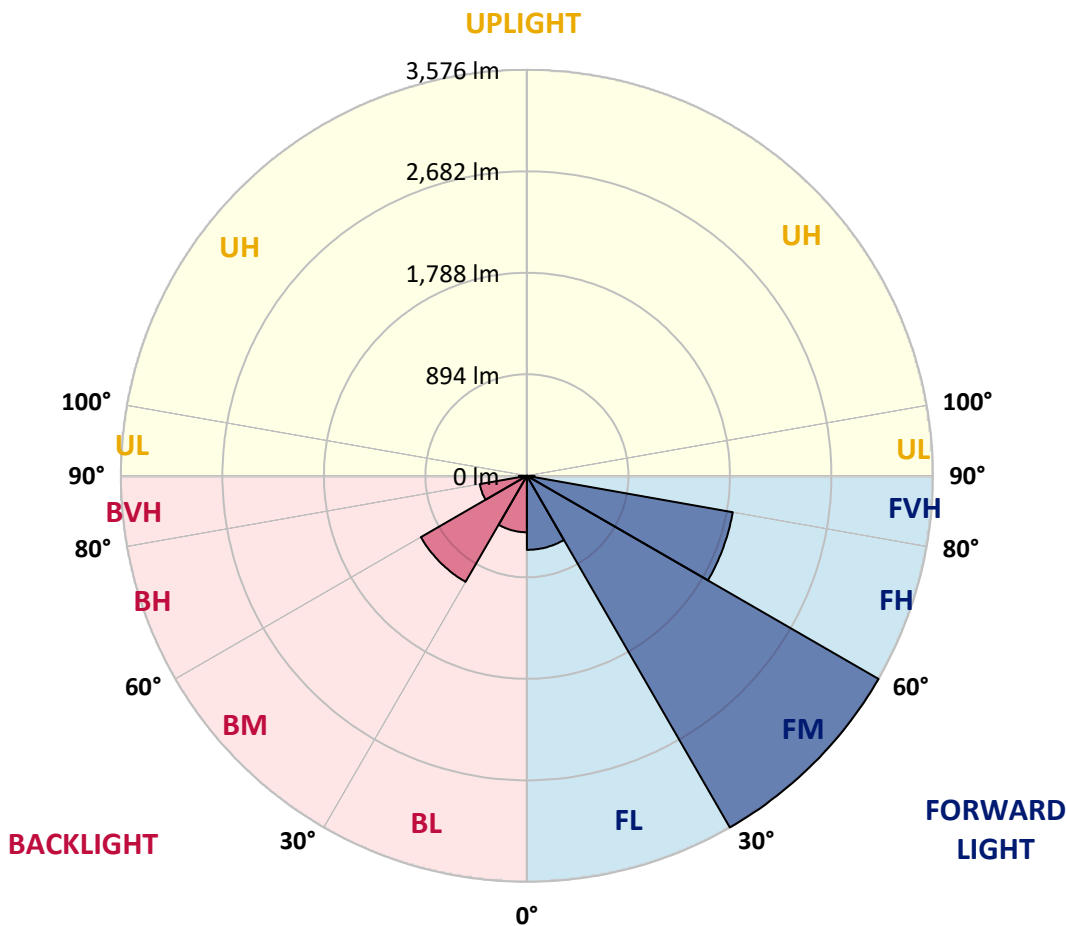


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 652.1  | 7.9       |                         |      |         |
| FM   | (30°-60°)   | 3575.7 | 43.6      |                         |      |         |
| FH   | (60°-80°)   | 1841.0 | 22.4      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 66.8   | 0.8       |                         |      | G1/100  |
| BL   | (0°-30°)    | 497.4  | 6.1       | B1/500                  |      |         |
| BM   | (30°-60°)   | 1078.9 | 13.2      | B2/2500                 |      |         |
| BH   | (60°-80°)   | 420.9  | 5.1       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 70.9   | 0.9       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B2-U0-G2**  
 Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 79°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 |
| 2.5°  | 1206.2 | 1206.2 | 1198.9 | 1206.2 | 1202.5 | 1208.0 | 1211.6 | 1211.6 | 1219.0 | 1217.1 | 1217.1 |
| 5°    | 1186.1 | 1182.4 | 1180.6 | 1193.4 | 1200.7 | 1215.3 | 1231.7 | 1239.1 | 1251.8 | 1251.8 | 1253.7 |
| 7.5°  | 1133.1 | 1131.2 | 1140.4 | 1166.0 | 1189.7 | 1226.3 | 1261.0 | 1281.1 | 1301.2 | 1304.8 | 1304.8 |
| 10°   | 1100.2 | 1098.3 | 1109.3 | 1140.4 | 1178.7 | 1231.7 | 1286.6 | 1328.6 | 1361.5 | 1370.6 | 1370.6 |
| 12.5° | 1100.2 | 1100.2 | 1109.3 | 1140.4 | 1180.6 | 1244.5 | 1319.5 | 1390.7 | 1441.9 | 1452.9 | 1449.2 |
| 15°   | 1131.2 | 1129.4 | 1140.4 | 1173.3 | 1211.6 | 1272.0 | 1363.3 | 1458.4 | 1527.8 | 1547.9 | 1549.7 |
| 17.5° | 1164.1 | 1162.3 | 1178.7 | 1220.8 | 1266.5 | 1326.8 | 1420.0 | 1536.9 | 1635.6 | 1661.2 | 1666.7 |
| 20°   | 1215.3 | 1213.5 | 1233.6 | 1273.8 | 1330.4 | 1399.9 | 1496.7 | 1630.1 | 1767.2 | 1794.6 | 1801.9 |
| 22.5° | 1273.8 | 1275.6 | 1297.5 | 1346.9 | 1403.5 | 1494.9 | 1613.7 | 1761.7 | 1926.2 | 1968.2 | 1975.5 |
| 25°   | 1396.2 | 1390.7 | 1409.0 | 1443.7 | 1504.0 | 1613.7 | 1759.9 | 1920.7 | 2116.3 | 2167.4 | 2176.6 |
| 27.5° | 1558.9 | 1549.7 | 1569.8 | 1604.6 | 1648.4 | 1750.8 | 1918.9 | 2098.0 | 2333.7 | 2397.7 | 2399.5 |
| 30°   | 1705.1 | 1699.6 | 1727.0 | 1798.3 | 1844.0 | 1922.5 | 2101.6 | 2306.3 | 2602.4 | 2695.6 | 2699.2 |
| 32.5° | 1831.2 | 1829.3 | 1880.5 | 1971.9 | 2076.1 | 2160.1 | 2333.7 | 2569.5 | 2942.3 | 3050.1 | 3026.4 |
| 35°   | 1951.8 | 1957.3 | 2021.2 | 2116.3 | 2255.2 | 2423.3 | 2598.7 | 2867.4 | 3300.5 | 3430.2 | 3391.9 |
| 37.5° | 2074.2 | 2077.9 | 2162.0 | 2284.4 | 2430.6 | 2649.9 | 2885.6 | 3190.8 | 3611.2 | 3772.0 | 3687.9 |
| 40°   | 2187.5 | 2198.5 | 2311.8 | 2443.4 | 2633.5 | 2856.4 | 3119.6 | 3415.6 | 3850.6 | 4009.6 | 3918.2 |
| 42.5° | 2300.8 | 2317.3 | 2439.7 | 2620.7 | 2823.5 | 3055.6 | 3282.2 | 3552.7 | 4004.1 | 4181.4 | 4040.6 |
| 45°   | 2417.8 | 2428.8 | 2580.5 | 2768.7 | 2999.0 | 3212.8 | 3375.4 | 3640.4 | 4110.1 | 4302.0 | 4110.1 |
| 47.5° | 2496.4 | 2518.3 | 2684.6 | 2902.1 | 3132.4 | 3333.4 | 3450.3 | 3677.0 | 4177.7 | 4380.6 | 4135.7 |
| 50°   | 2527.5 | 2558.5 | 2737.6 | 2978.9 | 3242.0 | 3446.7 | 3508.8 | 3697.1 | 4252.6 | 4450.0 | 4130.2 |
| 52.5° | 2522.0 | 2551.2 | 2746.8 | 3013.6 | 3329.7 | 3550.9 | 3565.5 | 3719.0 | 4305.6 | 4473.8 | 4082.7 |
| 53°   | 2492.7 | 2532.9 | 2752.2 | 3015.4 | 3342.5 | 3578.3 | 3591.1 | 3720.8 | 4312.9 | 4506.7 | 4075.4 |
| 55°   | 2392.2 | 2414.1 | 2695.6 | 3013.6 | 3402.8 | 3680.6 | 3662.3 | 3775.6 | 4333.0 | 4484.7 | 3994.9 |
| 57.5° | 2300.8 | 2322.8 | 2567.7 | 2978.9 | 3452.2 | 3825.0 | 3777.5 | 3766.5 | 4223.4 | 4360.5 | 3792.1 |
| 60°   | 2242.4 | 2249.7 | 2456.2 | 2869.2 | 3432.1 | 3925.5 | 3852.4 | 3658.7 | 3952.9 | 4066.2 | 3435.7 |
| 62.5° | 2193.0 | 2191.2 | 2373.9 | 2712.0 | 3355.3 | 3940.1 | 3867.0 | 3391.9 | 3556.3 | 3574.6 | 2960.6 |
| 65°   | 2081.5 | 2068.7 | 2246.0 | 2534.8 | 3196.3 | 3874.3 | 3687.9 | 2988.0 | 3030.0 | 2969.7 | 2377.6 |
| 67.5° | 1860.4 | 1833.0 | 1990.2 | 2264.3 | 2872.9 | 3687.9 | 3346.2 | 2518.3 | 2388.6 | 2267.9 | 1791.0 |
| 70°   | 1332.3 | 1332.3 | 1458.4 | 1732.5 | 2306.3 | 3187.2 | 2872.9 | 1906.1 | 1644.8 | 1536.9 | 1197.0 |
| 72.5° | 652.4  | 668.9  | 800.5  | 1023.4 | 1546.1 | 2313.6 | 2200.3 | 1235.4 | 997.8  | 944.8  | 767.6  |
| 75°   | 277.8  | 279.6  | 341.7  | 453.2  | 784.0  | 1368.8 | 1377.9 | 712.7  | 639.6  | 614.0  | 508.0  |
| 77.5° | 193.7  | 197.4  | 224.8  | 266.8  | 372.8  | 628.7  | 716.4  | 431.3  | 429.5  | 411.2  | 361.8  |
| 80°   | 148.0  | 151.7  | 170.0  | 199.2  | 250.4  | 321.6  | 371.0  | 292.4  | 307.0  | 288.7  | 261.3  |
| 82.5° | 111.5  | 115.1  | 127.9  | 149.9  | 179.1  | 215.6  | 208.3  | 215.6  | 226.6  | 215.6  | 188.2  |
| 85°   | 74.9   | 76.8   | 85.9   | 104.2  | 115.1  | 129.8  | 129.8  | 157.2  | 164.5  | 160.8  | 148.0  |
| 87.5° | 38.4   | 38.4   | 45.7   | 54.8   | 58.5   | 60.3   | 53.0   | 69.4   | 78.6   | 85.9   | 69.4   |
| 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: P1456370  
 CATALOG NUMBER: GLAN-SB1D-722-U-T3LG

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 | 1204.3 |
| 2.5°  | 1217.1 | 1219.0 | 1213.5 | 1211.6 | 1209.8 | 1200.7 | 1200.7 | 1191.5 | 1189.7 | 1191.5 | 1186.1 |
| 5°    | 1257.3 | 1253.7 | 1239.1 | 1228.1 | 1215.3 | 1189.7 | 1175.1 | 1155.0 | 1149.5 | 1144.0 | 1138.5 |
| 7.5°  | 1306.7 | 1301.2 | 1275.6 | 1246.4 | 1211.6 | 1162.3 | 1134.9 | 1102.0 | 1091.0 | 1081.9 | 1078.2 |
| 10°   | 1368.8 | 1357.8 | 1317.6 | 1255.5 | 1191.5 | 1131.2 | 1092.9 | 1052.6 | 1034.4 | 1030.7 | 1021.6 |
| 12.5° | 1449.2 | 1429.1 | 1354.2 | 1257.3 | 1173.3 | 1094.7 | 1052.6 | 1021.6 | 1014.3 | 1012.4 | 1003.3 |
| 15°   | 1538.8 | 1509.5 | 1388.9 | 1259.2 | 1149.5 | 1063.6 | 1038.0 | 1021.6 | 1021.6 | 1019.8 | 1014.3 |
| 17.5° | 1648.4 | 1600.9 | 1421.8 | 1251.8 | 1120.3 | 1054.5 | 1041.7 | 1027.1 | 1023.4 | 1025.2 | 1017.9 |
| 20°   | 1780.0 | 1701.4 | 1456.5 | 1242.7 | 1107.5 | 1056.3 | 1041.7 | 1021.6 | 1012.4 | 1010.6 | 1005.1 |
| 22.5° | 1931.7 | 1816.6 | 1494.9 | 1228.1 | 1107.5 | 1054.5 | 1030.7 | 1003.3 | 985.0  | 977.7  | 970.4  |
| 25°   | 2105.3 | 1950.0 | 1535.1 | 1222.6 | 1111.1 | 1047.2 | 1008.8 | 964.9  | 935.7  | 924.7  | 919.2  |
| 27.5° | 2315.5 | 2090.7 | 1564.4 | 1228.1 | 1109.3 | 1030.7 | 970.4  | 913.8  | 880.9  | 862.6  | 858.9  |
| 30°   | 2547.6 | 2242.4 | 1584.5 | 1237.2 | 1098.3 | 999.7  | 924.7  | 860.8  | 815.1  | 793.1  | 787.7  |
| 32.5° | 2821.7 | 2412.3 | 1604.6 | 1237.2 | 1070.9 | 955.8  | 871.7  | 802.3  | 754.8  | 729.2  | 725.5  |
| 35°   | 3125.1 | 2620.7 | 1622.8 | 1235.4 | 1038.0 | 908.3  | 818.7  | 747.5  | 698.1  | 672.5  | 670.7  |
| 37.5° | 3382.7 | 2777.8 | 1632.0 | 1217.1 | 992.3  | 853.4  | 769.4  | 698.1  | 646.9  | 619.5  | 617.7  |
| 40°   | 3541.7 | 2843.6 | 1613.7 | 1180.6 | 937.5  | 796.8  | 714.6  | 648.8  | 597.6  | 564.7  | 557.4  |
| 42.5° | 3602.0 | 2812.5 | 1555.2 | 1120.3 | 871.7  | 740.1  | 668.9  | 599.4  | 531.8  | 504.4  | 498.9  |
| 45°   | 3581.9 | 2691.9 | 1430.9 | 1034.4 | 798.6  | 689.0  | 628.7  | 550.1  | 506.2  | 482.5  | 480.6  |
| 47.5° | 3514.3 | 2505.5 | 1275.6 | 926.6  | 721.9  | 643.3  | 575.7  | 537.3  | 497.1  | 471.5  | 469.7  |
| 50°   | 3395.5 | 2306.3 | 1089.2 | 804.1  | 652.4  | 595.8  | 562.9  | 531.8  | 498.9  | 478.8  | 475.2  |
| 52.5° | 3243.8 | 2081.5 | 917.4  | 685.3  | 592.1  | 553.7  | 550.1  | 528.2  | 502.6  | 480.6  | 471.5  |
| 53°   | 3209.1 | 2023.1 | 884.5  | 665.2  | 583.0  | 548.3  | 546.4  | 528.2  | 498.9  | 478.8  | 471.5  |
| 55°   | 3042.8 | 1842.1 | 780.3  | 593.9  | 537.3  | 530.0  | 546.4  | 526.3  | 489.8  | 473.3  | 467.8  |
| 57.5° | 2776.0 | 1604.6 | 679.8  | 528.2  | 489.8  | 508.0  | 540.9  | 519.0  | 478.8  | 449.6  | 440.4  |
| 60°   | 2454.4 | 1332.3 | 603.1  | 484.3  | 455.1  | 480.6  | 519.0  | 493.4  | 438.6  | 424.0  | 422.2  |
| 62.5° | 2070.6 | 1078.2 | 544.6  | 447.7  | 425.8  | 451.4  | 486.1  | 442.3  | 402.1  | 391.1  | 387.4  |
| 65°   | 1617.4 | 857.1  | 498.9  | 420.3  | 396.6  | 416.7  | 440.4  | 413.0  | 387.4  | 378.3  | 376.5  |
| 67.5° | 1202.5 | 672.5  | 462.4  | 396.6  | 367.3  | 380.1  | 407.5  | 400.2  | 378.3  | 372.8  | 371.0  |
| 70°   | 829.7  | 546.4  | 429.5  | 374.6  | 330.8  | 345.4  | 387.4  | 392.9  | 371.0  | 367.3  | 365.5  |
| 72.5° | 581.1  | 462.4  | 394.7  | 350.9  | 301.5  | 316.2  | 378.3  | 378.3  | 354.5  | 360.0  | 356.4  |
| 75°   | 436.8  | 389.3  | 354.5  | 321.6  | 265.0  | 286.9  | 365.5  | 361.8  | 338.1  | 361.8  | 352.7  |
| 77.5° | 329.0  | 314.3  | 307.0  | 285.1  | 232.1  | 254.0  | 339.9  | 332.6  | 301.5  | 303.4  | 286.9  |
| 80°   | 239.4  | 243.1  | 263.2  | 243.1  | 193.7  | 210.2  | 286.9  | 283.3  | 244.9  | 252.2  | 232.1  |
| 82.5° | 171.8  | 180.9  | 224.8  | 195.5  | 140.7  | 149.9  | 197.4  | 213.8  | 191.9  | 180.9  | 184.6  |
| 85°   | 129.8  | 135.2  | 180.9  | 144.4  | 87.7   | 98.7   | 135.2  | 153.5  | 149.9  | 138.9  | 140.7  |
| 87.5° | 54.8   | 62.1   | 84.1   | 67.6   | 51.2   | 51.2   | 84.1   | 107.8  | 96.9   | 82.2   | 85.9   |
| 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: SP1-2407-184-2

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-722-U-5WQ

Data in this report applies to families of products including GSS-SB1A-722-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-2  
 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-722-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI  
 2200K CCT 26 LEDS

**Spectral Parameters**

CCT (K): 2160  
 CIE u': 0.2927  
 CIE v': 0.5388  
 Duv: 0.0015  
 CIE x: 0.5130  
 CIE y: 0.4197  
 CIE z: 0.0674  
 Peak Wavelength (nm): 609  
 Dominant Wavelength (nm): 587  
 Purity: 79.96089  
 Rf: 70.6  
 Rg: 97.6

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 71.9 |      |       |
| R1:       | 68.7 | R9:  | -17.8 |
| R2:       | 82.6 | R10: | 60.5  |
| R3:       | 95.5 | R11: | 60.2  |
| R4:       | 66.4 | R12: | 48.2  |
| R5:       | 65.4 | R13: | 70.7  |
| R6:       | 75.9 | R14: | 96.8  |
| R7:       | 77.2 | R15: | 61.8  |
| R8:       | 43.5 |      |       |



**Test Conditions**

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

REPORT NUMBER: SP1-2407-184-2

| 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: SP1-2407-184-2

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 2200K 7-step quadrangle

REPORT NUMBER: SP1-2407-184-2

**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               | 27                          | NR                      | 620               | 966                         | NR                      | 750               | 46                          | NR                      | 880               | 1                           | NR                      |
| 365               | 0                           | NR                      | 495               | 42                          | NR                      | 625               | 930                         | NR                      | 755               | 39                          | NR                      | 885               | 1                           | NR                      |
| 370               | 0                           | NR                      | 500               | 67                          | NR                      | 630               | 888                         | NR                      | 760               | 34                          | NR                      | 890               | 1                           | NR                      |
| 375               | 0                           | NR                      | 505               | 101                         | NR                      | 635               | 835                         | NR                      | 765               | 30                          | NR                      | 895               | 1                           | NR                      |
| 380               | 0                           | NR                      | 510               | 139                         | NR                      | 640               | 778                         | NR                      | 770               | 26                          | NR                      | 900               | 1                           | NR                      |
| 385               | 0                           | NR                      | 515               | 183                         | NR                      | 645               | 717                         | NR                      | 775               | 22                          | NR                      | 905               | 1                           | NR                      |
| 390               | 0                           | NR                      | 520               | 224                         | NR                      | 650               | 656                         | NR                      | 780               | 19                          | NR                      | 910               | 1                           | NR                      |
| 395               | 0                           | NR                      | 525               | 262                         | NR                      | 655               | 595                         | NR                      | 785               | 17                          | NR                      | 915               | 1                           | NR                      |
| 400               | 1                           | NR                      | 530               | 299                         | NR                      | 660               | 536                         | NR                      | 790               | 15                          | NR                      | 920               | 1                           | NR                      |
| 405               | 3                           | NR                      | 535               | 332                         | NR                      | 665               | 480                         | NR                      | 795               | 13                          | NR                      | 925               | 1                           | NR                      |
| 410               | 7                           | NR                      | 540               | 365                         | NR                      | 670               | 425                         | NR                      | 800               | 11                          | NR                      | 930               | 1                           | NR                      |
| 415               | 17                          | NR                      | 545               | 400                         | NR                      | 675               | 376                         | NR                      | 805               | 10                          | NR                      | 935               | 0                           | NR                      |
| 420               | 36                          | NR                      | 550               | 437                         | NR                      | 680               | 332                         | NR                      | 810               | 8                           | NR                      | 940               | 0                           | NR                      |
| 425               | 67                          | NR                      | 555               | 479                         | NR                      | 685               | 291                         | NR                      | 815               | 8                           | NR                      | 945               | 0                           | NR                      |
| 430               | 105                         | NR                      | 560               | 525                         | NR                      | 690               | 255                         | NR                      | 820               | 7                           | NR                      | 950               | 0                           | NR                      |
| 435               | 141                         | NR                      | 565               | 579                         | NR                      | 695               | 221                         | NR                      | 825               | 6                           | NR                      | 955               | 0                           | NR                      |
| 440               | 169                         | NR                      | 570               | 639                         | NR                      | 700               | 192                         | NR                      | 830               | 5                           | NR                      | 960               | 0                           | NR                      |
| 445               | 173                         | NR                      | 575               | 703                         | NR                      | 705               | 167                         | NR                      | 835               | 4                           | NR                      | 965               | 0                           | NR                      |
| 450               | 136                         | NR                      | 580               | 769                         | NR                      | 710               | 144                         | NR                      | 840               | 4                           | NR                      | 970               | 0                           | NR                      |
| 455               | 80                          | NR                      | 585               | 832                         | NR                      | 715               | 125                         | NR                      | 845               | 3                           | NR                      | 975               | 0                           | NR                      |
| 460               | 45                          | NR                      | 590               | 890                         | NR                      | 720               | 109                         | NR                      | 850               | 3                           | NR                      | 980               | 0                           | NR                      |
| 465               | 32                          | NR                      | 595               | 937                         | NR                      | 725               | 94                          | NR                      | 855               | 3                           | NR                      | 985               | 0                           | NR                      |
| 470               | 23                          | NR                      | 600               | 972                         | NR                      | 730               | 81                          | NR                      | 860               | 2                           | NR                      | 990               | 0                           | NR                      |
| 475               | 18                          | NR                      | 605               | 992                         | NR                      | 735               | 70                          | NR                      | 865               | 2                           | NR                      | 995               | 0                           | NR                      |
| 480               | 18                          | NR                      | 610               | 998                         | NR                      | 740               | 61                          | NR                      | 870               | 2                           | NR                      | 1000              | 0                           | NR                      |
| 485               | 20                          | NR                      | 615               | 990                         | NR                      | 745               | 53                          | NR                      | 875               | 2                           | NR                      |                   |                             |                         |

REPORT NUMBER: SP1-2407-184-2

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 0.8**

| 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    | 27                       | NR            | 620    | 966                      | NR            | 750    | 46                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 42                       | NR            | 625    | 930                      | NR            | 755    | 39                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 67                       | NR            | 630    | 888                      | NR            | 760    | 34                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 101                      | NR            | 635    | 835                      | NR            | 765    | 30                       | NR            | 895    | 1                        | NR            |
| 380    | 0                        | NR            | 510    | 139                      | NR            | 640    | 778                      | NR            | 770    | 26                       | NR            | 900    | 1                        | NR            |
| 385    | 0                        | NR            | 515    | 183                      | NR            | 645    | 717                      | NR            | 775    | 22                       | NR            | 905    | 1                        | NR            |
| 390    | 0                        | NR            | 520    | 224                      | NR            | 650    | 656                      | NR            | 780    | 19                       | NR            | 910    | 1                        | NR            |
| 395    | 0                        | NR            | 525    | 262                      | NR            | 655    | 595                      | NR            | 785    | 17                       | NR            | 915    | 1                        | NR            |
| 400    | 1                        | NR            | 530    | 299                      | NR            | 660    | 536                      | NR            | 790    | 15                       | NR            | 920    | 1                        | NR            |
| 405    | 3                        | NR            | 535    | 332                      | NR            | 665    | 480                      | NR            | 795    | 13                       | NR            | 925    | 1                        | NR            |
| 410    | 7                        | NR            | 540    | 365                      | NR            | 670    | 425                      | NR            | 800    | 11                       | NR            | 930    | 1                        | NR            |
| 415    | 17                       | NR            | 545    | 400                      | NR            | 675    | 376                      | NR            | 805    | 10                       | NR            | 935    | 0                        | NR            |
| 420    | 36                       | NR            | 550    | 437                      | NR            | 680    | 332                      | NR            | 810    | 8                        | NR            | 940    | 0                        | NR            |
| 425    | 67                       | NR            | 555    | 479                      | NR            | 685    | 291                      | NR            | 815    | 8                        | NR            | 945    | 0                        | NR            |
| 430    | 105                      | NR            | 560    | 525                      | NR            | 690    | 255                      | NR            | 820    | 7                        | NR            | 950    | 0                        | NR            |
| 435    | 141                      | NR            | 565    | 579                      | NR            | 695    | 221                      | NR            | 825    | 6                        | NR            | 955    | 0                        | NR            |
| 440    | 169                      | NR            | 570    | 639                      | NR            | 700    | 192                      | NR            | 830    | 5                        | NR            | 960    | 0                        | NR            |
| 445    | 173                      | NR            | 575    | 703                      | NR            | 705    | 167                      | NR            | 835    | 4                        | NR            | 965    | 0                        | NR            |
| 450    | 136                      | NR            | 580    | 769                      | NR            | 710    | 144                      | NR            | 840    | 4                        | NR            | 970    | 0                        | NR            |
| 455    | 80                       | NR            | 585    | 832                      | NR            | 715    | 125                      | NR            | 845    | 3                        | NR            | 975    | 0                        | NR            |
| 460    | 45                       | NR            | 590    | 890                      | NR            | 720    | 109                      | NR            | 850    | 3                        | NR            | 980    | 0                        | NR            |
| 465    | 32                       | NR            | 595    | 937                      | NR            | 725    | 94                       | NR            | 855    | 3                        | NR            | 985    | 0                        | NR            |
| 470    | 23                       | NR            | 600    | 972                      | NR            | 730    | 81                       | NR            | 860    | 2                        | NR            | 990    | 0                        | NR            |
| 475    | 18                       | NR            | 605    | 992                      | NR            | 735    | 70                       | NR            | 865    | 2                        | NR            | 995    | 0                        | NR            |
| 480    | 18                       | NR            | 610    | 998                      | NR            | 740    | 61                       | NR            | 870    | 2                        | NR            | 1000   | 0                        | NR            |
| 485    | 20                       | NR            | 615    | 990                      | NR            | 745    | 53                       | NR            | 875    | 2                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2407-184-2

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: NR**

**M/P: 1.21**

| 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    | 27                       | NR            | 620    | 966                      | NR            | 750    | 46                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 42                       | NR            | 625    | 930                      | NR            | 755    | 39                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 67                       | NR            | 630    | 888                      | NR            | 760    | 34                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 101                      | NR            | 635    | 835                      | NR            | 765    | 30                       | NR            | 895    | 1                        | NR            |
| 380    | 0                        | NR            | 510    | 139                      | NR            | 640    | 778                      | NR            | 770    | 26                       | NR            | 900    | 1                        | NR            |
| 385    | 0                        | NR            | 515    | 183                      | NR            | 645    | 717                      | NR            | 775    | 22                       | NR            | 905    | 1                        | NR            |
| 390    | 0                        | NR            | 520    | 224                      | NR            | 650    | 656                      | NR            | 780    | 19                       | NR            | 910    | 1                        | NR            |
| 395    | 0                        | NR            | 525    | 262                      | NR            | 655    | 595                      | NR            | 785    | 17                       | NR            | 915    | 1                        | NR            |
| 400    | 1                        | NR            | 530    | 299                      | NR            | 660    | 536                      | NR            | 790    | 15                       | NR            | 920    | 1                        | NR            |
| 405    | 3                        | NR            | 535    | 332                      | NR            | 665    | 480                      | NR            | 795    | 13                       | NR            | 925    | 1                        | NR            |
| 410    | 7                        | NR            | 540    | 365                      | NR            | 670    | 425                      | NR            | 800    | 11                       | NR            | 930    | 1                        | NR            |
| 415    | 17                       | NR            | 545    | 400                      | NR            | 675    | 376                      | NR            | 805    | 10                       | NR            | 935    | 0                        | NR            |
| 420    | 36                       | NR            | 550    | 437                      | NR            | 680    | 332                      | NR            | 810    | 8                        | NR            | 940    | 0                        | NR            |
| 425    | 67                       | NR            | 555    | 479                      | NR            | 685    | 291                      | NR            | 815    | 8                        | NR            | 945    | 0                        | NR            |
| 430    | 105                      | NR            | 560    | 525                      | NR            | 690    | 255                      | NR            | 820    | 7                        | NR            | 950    | 0                        | NR            |
| 435    | 141                      | NR            | 565    | 579                      | NR            | 695    | 221                      | NR            | 825    | 6                        | NR            | 955    | 0                        | NR            |
| 440    | 169                      | NR            | 570    | 639                      | NR            | 700    | 192                      | NR            | 830    | 5                        | NR            | 960    | 0                        | NR            |
| 445    | 173                      | NR            | 575    | 703                      | NR            | 705    | 167                      | NR            | 835    | 4                        | NR            | 965    | 0                        | NR            |
| 450    | 136                      | NR            | 580    | 769                      | NR            | 710    | 144                      | NR            | 840    | 4                        | NR            | 970    | 0                        | NR            |
| 455    | 80                       | NR            | 585    | 832                      | NR            | 715    | 125                      | NR            | 845    | 3                        | NR            | 975    | 0                        | NR            |
| 460    | 45                       | NR            | 590    | 890                      | NR            | 720    | 109                      | NR            | 850    | 3                        | NR            | 980    | 0                        | NR            |
| 465    | 32                       | NR            | 595    | 937                      | NR            | 725    | 94                       | NR            | 855    | 3                        | NR            | 985    | 0                        | NR            |
| 470    | 23                       | NR            | 600    | 972                      | NR            | 730    | 81                       | NR            | 860    | 2                        | NR            | 990    | 0                        | NR            |
| 475    | 18                       | NR            | 605    | 992                      | NR            | 735    | 70                       | NR            | 865    | 2                        | NR            | 995    | 0                        | NR            |
| 480    | 18                       | NR            | 610    | 998                      | NR            | 740    | 61                       | NR            | 870    | 2                        | NR            | 1000   | 0                        | NR            |
| 485    | 20                       | NR            | 615    | 990                      | NR            | 745    | 53                       | NR            | 875    | 2                        | NR            |        |                          |               |

**Summary**

$R_f = 70.6$   
 $R_g = 97.6$   
 $CIE R_a = 71.9$   
 $R_g = -17.8$



**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 60 | CES51 = 74 | CES76 = 58 |
| CES02 = 65 | CES27 = 77 | CES52 = 77 | CES77 = 82 |
| CES03 = 32 | CES28 = 85 | CES53 = 65 | CES78 = 65 |
| CES04 = 72 | CES29 = 50 | CES54 = 77 | CES79 = 86 |
| CES05 = 52 | CES30 = 49 | CES55 = 74 | CES80 = 85 |
| CES06 = 53 | CES31 = 55 | CES56 = 64 | CES81 = 61 |
| CES07 = 44 | CES32 = 55 | CES57 = 60 | CES82 = 93 |
| CES08 = 43 | CES33 = 55 | CES58 = 64 | CES83 = 83 |
| CES09 = 29 | CES34 = 75 | CES59 = 84 | CES84 = 93 |
| CES10 = 79 | CES35 = 88 | CES60 = 89 | CES85 = 81 |
| CES11 = 62 | CES36 = 78 | CES61 = 84 | CES86 = 55 |
| CES12 = 68 | CES37 = 82 | CES62 = 68 | CES87 = 79 |
| CES13 = 45 | CES38 = 54 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 86 | CES65 = 66 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 89 |
| CES17 = 51 | CES42 = 83 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 68 | CES68 = 71 | CES93 = 78 |
| CES19 = 74 | CES44 = 98 | CES69 = 81 | CES94 = 52 |
| CES20 = 68 | CES45 = 76 | CES70 = 65 | CES95 = 76 |
| CES21 = 89 | CES46 = 68 | CES71 = 64 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 88 | CES97 = 76 |
| CES23 = 92 | CES48 = 47 | CES73 = 59 | CES98 = 71 |
| CES24 = 92 | CES49 = 65 | CES74 = 85 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)