

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

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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: P1458565

Luminaire Tested: GLAN-SB1C-935-U-T3LG-HSS

Issue Date: 05/20/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1458565  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 5/22/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: GLAN-SB1C-935-U-T3LG-HSS  
Description: GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 615mA 1xLight Square PACKAGE 90CRI 3500K FIXTURE w/ TYPE III LOW GLARE WITH HOUSE SIDE SHIELD  
Light Source: (26) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

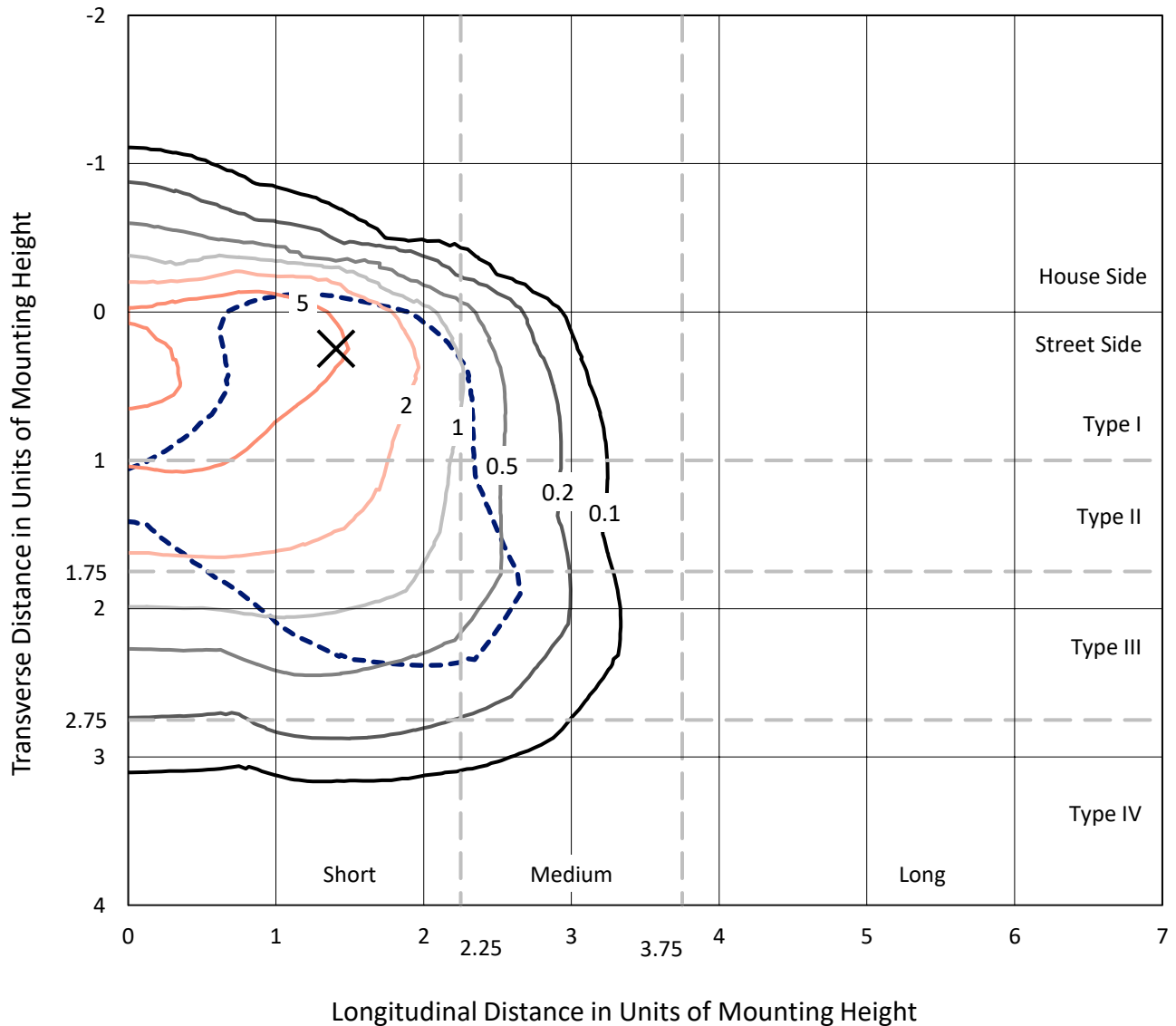
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3986 lumens  
Efficiency: N/A  
Efficacy: 73.3 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B1 - U0 - G1  
  
Input Watts (W): 54.4  
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

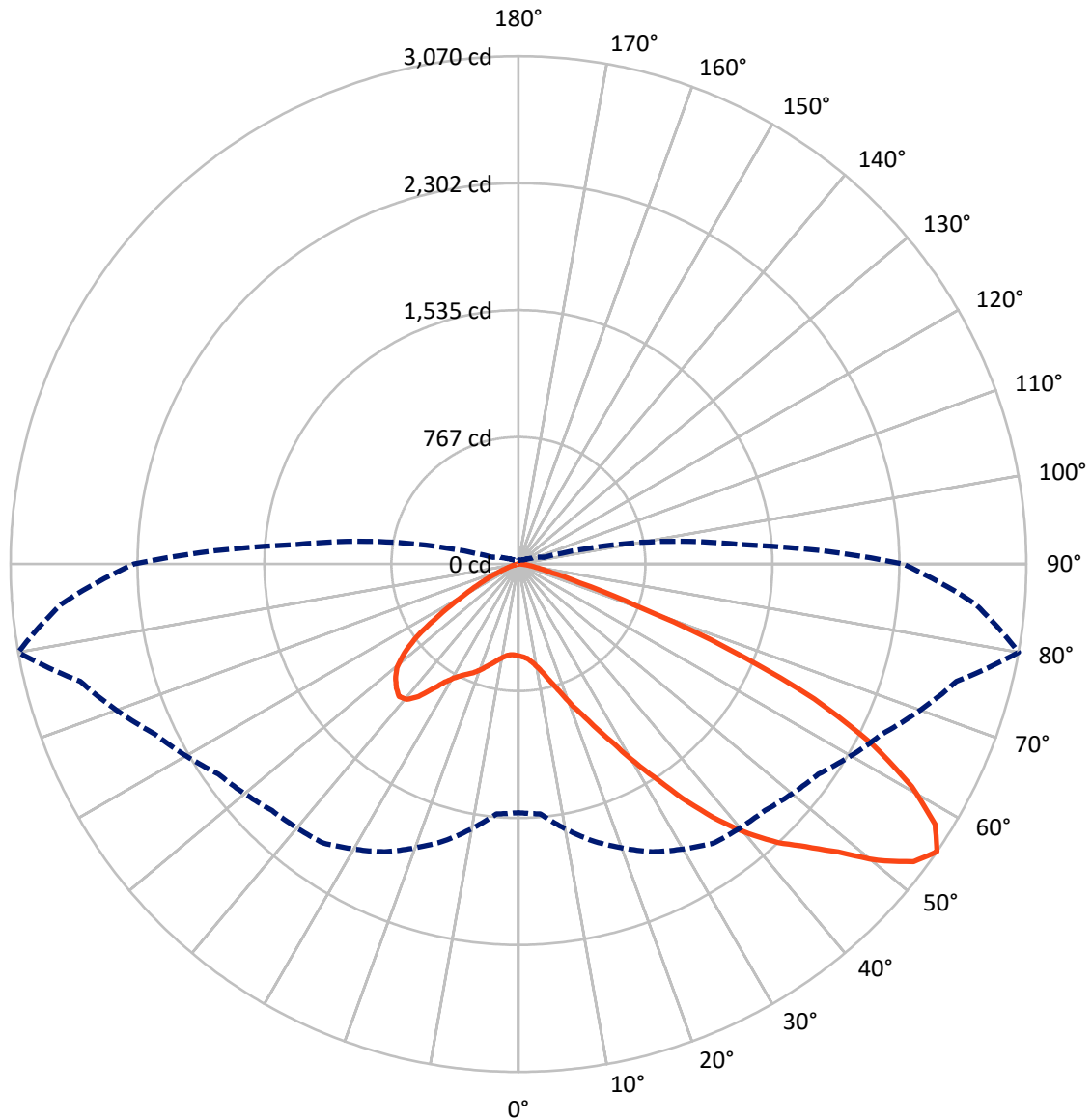
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.8 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



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

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 484.6    | 0.0    | 484.6  |
|                    | % Fixture | 12.2     | 0.0    | 12.2   |
| <b>Street Side</b> | Lumens    | 3501.5   | 0.0    | 3501.5 |
|                    | % Fixture | 87.8     | 0.0    | 87.8   |
| <b>Total</b>       | Lumens    | 3986.0   | 0.0    | 3986.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 46.6   | 1.2       |
| 10°-20°   | 122.8  | 3.1       |
| 20°-30°   | 240.5  | 6.0       |
| 30°-40°   | 489.3  | 12.3      |
| 40°-50°   | 824.8  | 20.7      |
| 50°-60°   | 1053.9 | 26.4      |
| 60°-70°   | 899.8  | 22.6      |
| 70°-80°   | 287.5  | 7.2       |
| 80°-90°   | 20.8   | 0.5       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-90°    | 3986.0 | 100.0     |
| 0°-180°   | 3986.0 | 100.0     |



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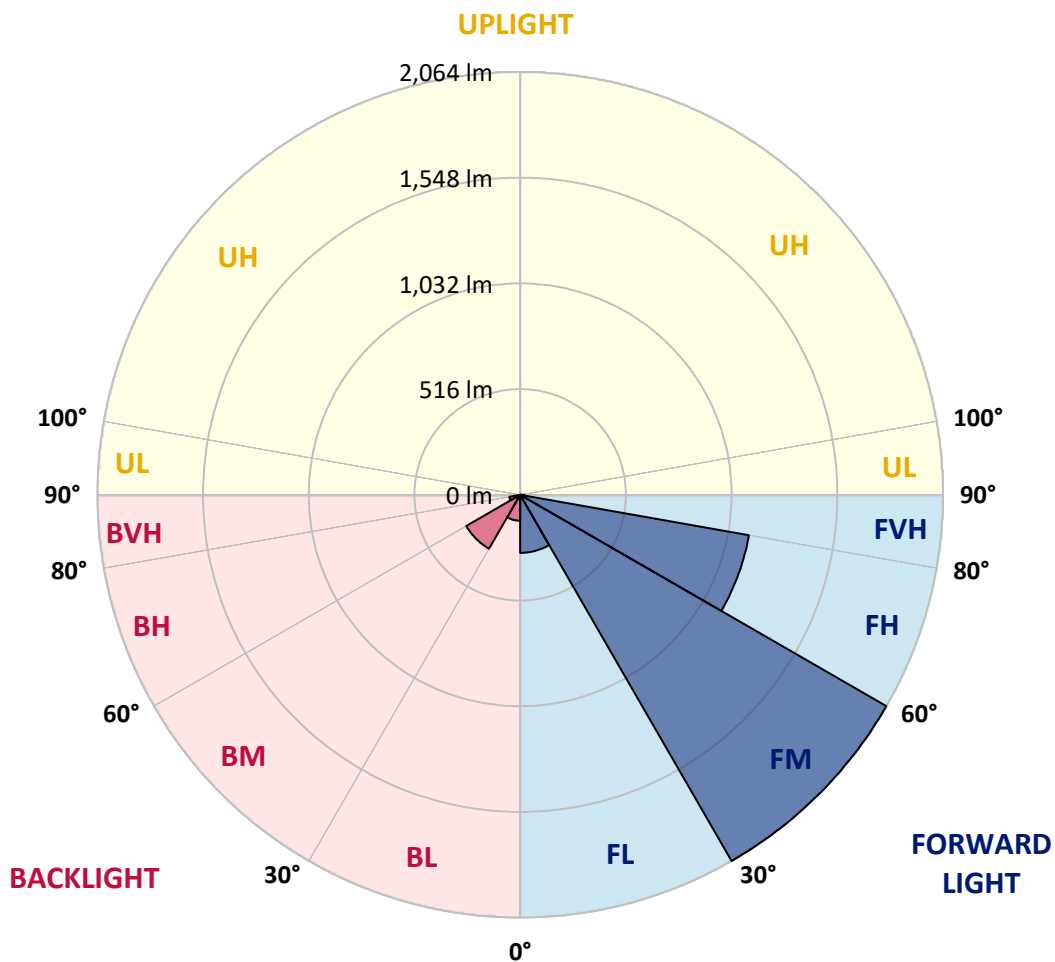
CATALOG NUMBER: GLAN-SB1C-935-U-T3LG-HSS

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 283.4  | 7.1       |                         |      |         |
| FM   | (30°-60°)   | 2064.3 | 51.8      |                         |      |         |
| FH   | (60°-80°)   | 1134.1 | 28.5      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 19.7   | 0.5       |                         |      | G1/100  |
| BL   | (0°-30°)    | 126.5  | 3.2       | B1/500                  |      |         |
| BM   | (30°-60°)   | 303.7  | 7.6       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 53.3   | 1.3       | B0/110                  |      | G0/110  |
| BVH  | (80°-90°)   | 1.1    | 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-G1**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 80°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 555.2  | 555.2  | 555.2  | 555.2  | 555.2  | 555.2  | 555.2  | 555.2  | 555.2  | 555.2  | 555.2  |
| 2.5°  | 558.6  | 559.8  | 558.6  | 559.8  | 562.0  | 560.9  | 565.4  | 564.3  | 564.3  | 563.2  | 558.6  |
| 5°    | 526.9  | 528.1  | 530.3  | 536.0  | 543.9  | 551.8  | 562.0  | 568.8  | 575.6  | 574.5  | 570.0  |
| 7.5°  | 464.6  | 466.9  | 475.9  | 487.3  | 513.3  | 537.1  | 563.2  | 580.2  | 594.9  | 599.4  | 596.0  |
| 10°   | 429.5  | 431.7  | 437.4  | 448.7  | 472.5  | 512.2  | 563.2  | 598.3  | 624.4  | 633.4  | 634.6  |
| 12.5° | 426.1  | 427.2  | 431.7  | 444.2  | 464.6  | 498.6  | 562.0  | 622.1  | 666.3  | 679.9  | 684.4  |
| 15°   | 428.3  | 430.6  | 435.1  | 445.3  | 469.1  | 507.7  | 571.1  | 659.5  | 721.8  | 741.1  | 742.2  |
| 17.5° | 437.4  | 439.7  | 445.3  | 456.7  | 482.7  | 531.5  | 599.4  | 698.0  | 788.7  | 810.2  | 822.7  |
| 20°   | 455.5  | 456.7  | 463.5  | 478.2  | 507.7  | 560.9  | 641.4  | 750.2  | 869.1  | 900.9  | 909.9  |
| 22.5° | 479.3  | 482.7  | 491.8  | 509.9  | 547.3  | 601.7  | 699.2  | 813.6  | 957.5  | 990.4  | 1006.2 |
| 25°   | 505.4  | 509.9  | 523.5  | 553.0  | 600.6  | 664.0  | 770.5  | 897.5  | 1061.8 | 1101.4 | 1123.0 |
| 27.5° | 558.6  | 559.8  | 568.8  | 606.2  | 667.4  | 745.6  | 861.2  | 1005.1 | 1184.2 | 1230.6 | 1254.4 |
| 30°   | 675.4  | 676.5  | 668.6  | 678.8  | 741.1  | 841.9  | 967.7  | 1130.9 | 1326.9 | 1391.5 | 1410.8 |
| 32.5° | 818.1  | 823.8  | 822.7  | 815.9  | 844.2  | 938.3  | 1094.6 | 1281.6 | 1494.6 | 1562.6 | 1580.8 |
| 35°   | 980.2  | 993.8  | 990.4  | 988.1  | 991.5  | 1061.8 | 1239.7 | 1448.2 | 1685.0 | 1767.7 | 1782.5 |
| 37.5° | 1138.8 | 1142.2 | 1158.1 | 1177.4 | 1179.6 | 1228.3 | 1407.4 | 1625.0 | 1861.8 | 1967.2 | 1989.8 |
| 40°   | 1261.2 | 1272.5 | 1312.2 | 1350.7 | 1390.4 | 1428.9 | 1545.6 | 1767.7 | 2002.3 | 2143.9 | 2154.1 |
| 42.5° | 1356.4 | 1383.6 | 1441.4 | 1501.4 | 1581.9 | 1625.0 | 1677.1 | 1868.6 | 2116.7 | 2301.4 | 2296.9 |
| 45°   | 1472.0 | 1483.3 | 1564.9 | 1644.2 | 1725.8 | 1791.5 | 1790.4 | 1953.6 | 2206.3 | 2436.3 | 2408.0 |
| 47.5° | 1550.2 | 1563.8 | 1674.8 | 1767.7 | 1851.6 | 1884.4 | 1891.2 | 2045.4 | 2329.8 | 2599.5 | 2532.6 |
| 50°   | 1592.1 | 1615.9 | 1737.1 | 1855.0 | 1945.6 | 1955.8 | 1986.4 | 2165.5 | 2491.8 | 2815.9 | 2690.1 |
| 52.5° | 1596.6 | 1619.3 | 1758.7 | 1910.5 | 2009.1 | 2029.5 | 2081.6 | 2301.4 | 2649.3 | 2989.3 | 2780.8 |
| 55°   | 1502.6 | 1516.2 | 1732.6 | 1919.6 | 2059.0 | 2106.5 | 2213.1 | 2427.2 | 2741.1 | 3069.7 | 2772.8 |
| 57.5° | 1414.2 | 1427.8 | 1615.9 | 1903.7 | 2109.9 | 2207.4 | 2353.6 | 2513.3 | 2669.7 | 2970.0 | 2596.1 |
| 60°   | 1338.3 | 1345.1 | 1516.2 | 1830.1 | 2129.2 | 2306.0 | 2474.8 | 2428.4 | 2485.0 | 2730.9 | 2293.5 |
| 62.5° | 1195.5 | 1200.0 | 1402.9 | 1697.5 | 2090.7 | 2381.9 | 2516.7 | 2248.2 | 2282.2 | 2401.2 | 1937.7 |
| 65°   | 903.1  | 920.1  | 1106.0 | 1597.8 | 2027.2 | 2417.0 | 2419.3 | 2028.4 | 1993.2 | 1964.9 | 1524.1 |
| 67.5° | 613.0  | 632.3  | 744.5  | 1436.8 | 1924.1 | 2431.8 | 2230.1 | 1743.9 | 1518.4 | 1372.3 | 998.3  |
| 70°   | 489.5  | 489.5  | 528.1  | 1154.7 | 1679.3 | 2243.7 | 1995.5 | 1316.7 | 964.3  | 758.1  | 534.9  |
| 72.5° | 321.8  | 323.0  | 359.2  | 733.2  | 1191.0 | 1711.1 | 1627.2 | 761.5  | 500.9  | 386.4  | 264.0  |
| 75°   | 116.7  | 116.7  | 157.5  | 293.5  | 630.0  | 1018.7 | 991.5  | 363.7  | 272.0  | 210.8  | 159.8  |
| 77.5° | 62.3   | 64.6   | 75.9   | 121.2  | 241.4  | 414.7  | 387.5  | 185.8  | 154.1  | 131.4  | 99.7   |
| 80°   | 41.9   | 43.1   | 51.0   | 74.8   | 116.7  | 159.8  | 124.6  | 104.3  | 104.3  | 88.4   | 66.9   |
| 82.5° | 22.7   | 23.8   | 34.0   | 48.7   | 62.3   | 74.8   | 60.1   | 61.2   | 73.7   | 60.1   | 38.5   |
| 85°   | 15.9   | 15.9   | 26.1   | 35.1   | 35.1   | 36.3   | 26.1   | 38.5   | 43.1   | 37.4   | 26.1   |
| 87.5° | 9.1    | 9.1    | 14.7   | 17.0   | 17.0   | 15.9   | 7.9    | 13.6   | 17.0   | 19.3   | 11.3   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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CATALOG NUMBER: GLAN-SB1C-935-U-T3LG-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°  | 115°  | 125°  | 135°  | 145°  | 155°  | 165°  | 175°  | 180°  |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0°    | 555.2  | 555.2  | 555.2 | 555.2 | 555.2 | 555.2 | 555.2 | 555.2 | 555.2 | 555.2 | 555.2 |
| 2.5°  | 557.5  | 554.1  | 547.3 | 533.7 | 526.9 | 517.9 | 509.9 | 499.7 | 497.5 | 496.3 | 491.8 |
| 5°    | 566.6  | 559.8  | 539.4 | 509.9 | 485.0 | 461.2 | 437.4 | 423.8 | 412.5 | 406.8 | 405.7 |
| 7.5°  | 589.2  | 575.6  | 538.3 | 486.1 | 439.7 | 398.9 | 363.7 | 333.1 | 317.3 | 303.7 | 304.8 |
| 10°   | 623.2  | 601.7  | 540.5 | 463.5 | 394.3 | 328.6 | 277.6 | 233.4 | 201.7 | 187.0 | 185.8 |
| 12.5° | 668.6  | 638.0  | 548.4 | 440.8 | 338.8 | 247.0 | 182.4 | 156.4 | 149.6 | 148.4 | 147.3 |
| 15°   | 724.1  | 681.0  | 556.4 | 411.3 | 264.0 | 171.1 | 148.4 | 142.8 | 141.6 | 140.5 | 140.5 |
| 17.5° | 790.9  | 730.9  | 560.9 | 361.5 | 192.6 | 147.3 | 139.4 | 136.0 | 134.8 | 133.7 | 133.7 |
| 20°   | 874.8  | 786.4  | 566.6 | 298.0 | 163.2 | 141.6 | 132.6 | 128.0 | 126.9 | 126.9 | 125.8 |
| 22.5° | 957.5  | 848.7  | 562.0 | 242.5 | 157.5 | 134.8 | 124.6 | 120.1 | 117.8 | 117.8 | 116.7 |
| 25°   | 1052.7 | 912.2  | 548.4 | 218.7 | 156.4 | 129.2 | 116.7 | 109.9 | 106.5 | 105.4 | 105.4 |
| 27.5° | 1161.5 | 984.7  | 526.9 | 219.8 | 156.4 | 124.6 | 106.5 | 97.5  | 95.2  | 92.9  | 92.9  |
| 30°   | 1286.1 | 1073.1 | 511.1 | 234.6 | 158.6 | 120.1 | 97.5  | 86.1  | 82.7  | 80.5  | 81.6  |
| 32.5° | 1428.9 | 1171.7 | 509.9 | 258.4 | 162.0 | 113.3 | 87.3  | 74.8  | 71.4  | 70.3  | 71.4  |
| 35°   | 1591.0 | 1294.1 | 536.0 | 276.5 | 153.0 | 98.6  | 74.8  | 64.6  | 61.2  | 61.2  | 62.3  |
| 37.5° | 1771.1 | 1434.6 | 571.1 | 272.0 | 123.5 | 78.2  | 64.6  | 56.7  | 53.3  | 54.4  | 55.5  |
| 40°   | 1935.4 | 1544.5 | 576.8 | 232.3 | 92.9  | 66.9  | 55.5  | 49.9  | 47.6  | 48.7  | 49.9  |
| 42.5° | 2060.1 | 1632.9 | 522.4 | 180.2 | 78.2  | 56.7  | 47.6  | 43.1  | 41.9  | 44.2  | 44.2  |
| 45°   | 2160.9 | 1668.0 | 436.3 | 133.7 | 69.1  | 48.7  | 41.9  | 39.7  | 37.4  | 38.5  | 38.5  |
| 47.5° | 2266.3 | 1673.7 | 355.8 | 107.7 | 61.2  | 44.2  | 38.5  | 36.3  | 34.0  | 34.0  | 34.0  |
| 50°   | 2368.3 | 1660.1 | 272.0 | 95.2  | 56.7  | 39.7  | 35.1  | 32.9  | 30.6  | 29.5  | 29.5  |
| 52.5° | 2393.2 | 1551.3 | 199.4 | 88.4  | 52.1  | 37.4  | 32.9  | 30.6  | 28.3  | 27.2  | 27.2  |
| 55°   | 2324.1 | 1345.1 | 156.4 | 79.3  | 47.6  | 34.0  | 30.6  | 28.3  | 24.9  | 23.8  | 23.8  |
| 57.5° | 2096.3 | 1025.5 | 124.6 | 68.0  | 43.1  | 32.9  | 28.3  | 26.1  | 22.7  | 21.5  | 21.5  |
| 60°   | 1800.6 | 727.5  | 100.9 | 55.5  | 39.7  | 29.5  | 26.1  | 22.7  | 20.4  | 18.1  | 18.1  |
| 62.5° | 1473.1 | 522.4  | 81.6  | 46.5  | 37.4  | 26.1  | 23.8  | 20.4  | 15.9  | 12.5  | 12.5  |
| 65°   | 1129.8 | 375.1  | 63.5  | 37.4  | 34.0  | 22.7  | 20.4  | 17.0  | 12.5  | 9.1   | 9.1   |
| 67.5° | 730.9  | 242.5  | 47.6  | 32.9  | 26.1  | 19.3  | 15.9  | 13.6  | 11.3  | 7.9   | 6.8   |
| 70°   | 385.3  | 141.6  | 35.1  | 28.3  | 19.3  | 14.7  | 13.6  | 11.3  | 9.1   | 5.7   | 5.7   |
| 72.5° | 199.4  | 92.9   | 26.1  | 24.9  | 14.7  | 10.2  | 11.3  | 9.1   | 6.8   | 3.4   | 3.4   |
| 75°   | 128.0  | 62.3   | 19.3  | 20.4  | 9.1   | 7.9   | 7.9   | 5.7   | 3.4   | 2.3   | 1.1   |
| 77.5° | 82.7   | 41.9   | 13.6  | 17.0  | 5.7   | 4.5   | 4.5   | 2.3   | 1.1   | 0.0   | 0.0   |
| 80°   | 48.7   | 26.1   | 9.1   | 11.3  | 2.3   | 2.3   | 1.1   | 0.0   | 0.0   | 0.0   | 0.0   |
| 82.5° | 24.9   | 13.6   | 4.5   | 4.5   | 1.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 85°   | 15.9   | 6.8    | 1.1   | 1.1   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| 87.5° | 7.9    | 2.3    | 1.1   | 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: SP1-2407-184-15

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-935-U-5WQ

Data in this report applies to families of products including GSS-SB1A-935-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-15  
 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-935-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 3500K CCT 26 LEDS

**Spectral Parameters**

CCT (K): 3455  
 CIE u': 0.2356  
 CIE v': 0.5159  
 Duv: 0.0028  
 CIE x: 0.4109  
 CIE y: 0.3999  
 CIE z: 0.1892  
 Peak Wavelength (nm): 616  
 Dominant Wavelength (nm): 579  
 Purity: 43.35383  
 Rf: 92.3  
 Rg: 98.5

|           |      |      |      |
|-----------|------|------|------|
| CRI (Ra): | 92.2 |      |      |
| R1:       | 92.0 | R9:  | 59.8 |
| R2:       | 94.4 | R10: | 85.8 |
| R3:       | 95.6 | R11: | 93.2 |
| R4:       | 93.2 | R12: | 78.0 |
| R5:       | 91.4 | R13: | 92.5 |
| R6:       | 92.5 | R14: | 97.0 |
| R7:       | 94.5 | R15: | 88.4 |
| R8:       | 84.2 |      |      |



**Test Conditions**

Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 25.2

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

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CIE 1931 Chromaticity Diagram



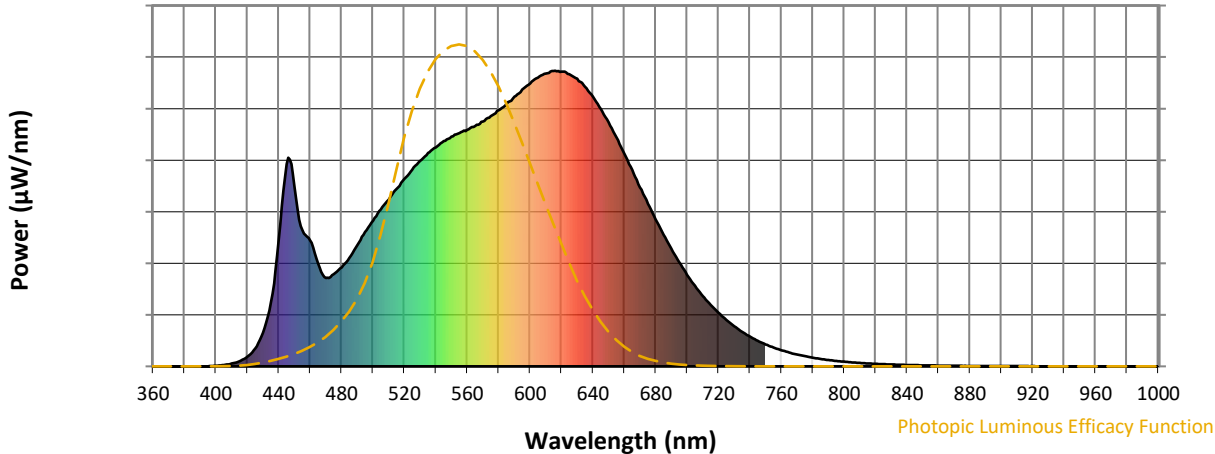
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

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**Photopic Flux vs. Wavelength**

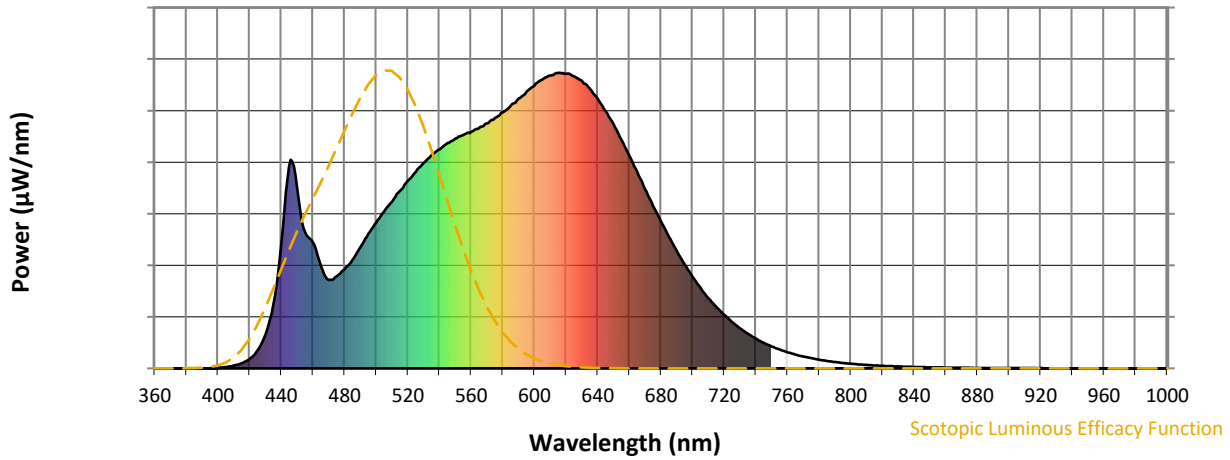


**Photopic Lumens: NR**

| $\lambda$ (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            | 410                      | NR                   | 620            | 997                      | NR                   | 750            | 74                       | NR                   | 880            | 1                        | NR                   |
| 365            | 0                        | NR                   | 495            | 454                      | NR                   | 625            | 988                      | NR                   | 755            | 64                       | NR                   | 885            | 1                        | NR                   |
| 370            | 0                        | NR                   | 500            | 493                      | NR                   | 630            | 973                      | NR                   | 760            | 54                       | NR                   | 890            | 1                        | NR                   |
| 375            | 0                        | NR                   | 505            | 530                      | NR                   | 635            | 946                      | NR                   | 765            | 47                       | NR                   | 895            | 1                        | NR                   |
| 380            | 0                        | NR                   | 510            | 564                      | NR                   | 640            | 913                      | NR                   | 770            | 40                       | NR                   | 900            | 1                        | NR                   |
| 385            | 0                        | NR                   | 515            | 599                      | NR                   | 645            | 870                      | NR                   | 775            | 34                       | NR                   | 905            | 1                        | NR                   |
| 390            | 0                        | NR                   | 520            | 634                      | NR                   | 650            | 826                      | NR                   | 780            | 29                       | NR                   | 910            | 1                        | NR                   |
| 395            | 0                        | NR                   | 525            | 664                      | NR                   | 655            | 774                      | NR                   | 785            | 25                       | NR                   | 915            | 1                        | NR                   |
| 400            | 2                        | NR                   | 530            | 695                      | NR                   | 660            | 720                      | NR                   | 790            | 21                       | NR                   | 920            | 1                        | NR                   |
| 405            | 4                        | NR                   | 535            | 722                      | NR                   | 665            | 664                      | NR                   | 795            | 18                       | NR                   | 925            | 1                        | NR                   |
| 410            | 9                        | NR                   | 540            | 741                      | NR                   | 670            | 605                      | NR                   | 800            | 16                       | NR                   | 930            | 0                        | NR                   |
| 415            | 17                       | NR                   | 545            | 762                      | NR                   | 675            | 550                      | NR                   | 805            | 13                       | NR                   | 935            | 0                        | NR                   |
| 420            | 32                       | NR                   | 550            | 777                      | NR                   | 680            | 497                      | NR                   | 810            | 12                       | NR                   | 940            | 0                        | NR                   |
| 425            | 61                       | NR                   | 555            | 789                      | NR                   | 685            | 445                      | NR                   | 815            | 10                       | NR                   | 945            | 0                        | NR                   |
| 430            | 114                      | NR                   | 560            | 800                      | NR                   | 690            | 398                      | NR                   | 820            | 9                        | NR                   | 950            | 0                        | NR                   |
| 435            | 218                      | NR                   | 565            | 813                      | NR                   | 695            | 352                      | NR                   | 825            | 7                        | NR                   | 955            | 0                        | NR                   |
| 440            | 427                      | NR                   | 570            | 828                      | NR                   | 700            | 309                      | NR                   | 830            | 6                        | NR                   | 960            | 0                        | NR                   |
| 445            | 684                      | NR                   | 575            | 846                      | NR                   | 705            | 273                      | NR                   | 835            | 5                        | NR                   | 965            | 0                        | NR                   |
| 450            | 611                      | NR                   | 580            | 866                      | NR                   | 710            | 237                      | NR                   | 840            | 5                        | NR                   | 970            | 0                        | NR                   |
| 455            | 461                      | NR                   | 585            | 888                      | NR                   | 715            | 208                      | NR                   | 845            | 4                        | NR                   | 975            | 0                        | NR                   |
| 460            | 427                      | NR                   | 590            | 913                      | NR                   | 720            | 181                      | NR                   | 850            | 4                        | NR                   | 980            | 0                        | NR                   |
| 465            | 349                      | NR                   | 595            | 936                      | NR                   | 725            | 157                      | NR                   | 855            | 3                        | NR                   | 985            | 0                        | NR                   |
| 470            | 298                      | NR                   | 600            | 957                      | NR                   | 730            | 136                      | NR                   | 860            | 3                        | NR                   | 990            | 1                        | NR                   |
| 475            | 312                      | NR                   | 605            | 976                      | NR                   | 735            | 117                      | NR                   | 865            | 2                        | NR                   | 995            | 0                        | NR                   |
| 480            | 335                      | NR                   | 610            | 990                      | NR                   | 740            | 100                      | NR                   | 870            | 2                        | NR                   | 1000           | 0                        | NR                   |
| 485            | 367                      | NR                   | 615            | 999                      | NR                   | 745            | 86                       | NR                   | 875            | 2                        | NR                   |                |                          |                      |

REPORT NUMBER: SP1-2407-184-15

**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.58**

| 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    | 410                      | NR            | 620    | 997                      | NR            | 750    | 74                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 454                      | NR            | 625    | 988                      | NR            | 755    | 64                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 493                      | NR            | 630    | 973                      | NR            | 760    | 54                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 530                      | NR            | 635    | 946                      | NR            | 765    | 47                       | NR            | 895    | 1                        | NR            |
| 380    | 0                        | NR            | 510    | 564                      | NR            | 640    | 913                      | NR            | 770    | 40                       | NR            | 900    | 1                        | NR            |
| 385    | 0                        | NR            | 515    | 599                      | NR            | 645    | 870                      | NR            | 775    | 34                       | NR            | 905    | 1                        | NR            |
| 390    | 0                        | NR            | 520    | 634                      | NR            | 650    | 826                      | NR            | 780    | 29                       | NR            | 910    | 1                        | NR            |
| 395    | 0                        | NR            | 525    | 664                      | NR            | 655    | 774                      | NR            | 785    | 25                       | NR            | 915    | 1                        | NR            |
| 400    | 2                        | NR            | 530    | 695                      | NR            | 660    | 720                      | NR            | 790    | 21                       | NR            | 920    | 1                        | NR            |
| 405    | 4                        | NR            | 535    | 722                      | NR            | 665    | 664                      | NR            | 795    | 18                       | NR            | 925    | 1                        | NR            |
| 410    | 9                        | NR            | 540    | 741                      | NR            | 670    | 605                      | NR            | 800    | 16                       | NR            | 930    | 0                        | NR            |
| 415    | 17                       | NR            | 545    | 762                      | NR            | 675    | 550                      | NR            | 805    | 13                       | NR            | 935    | 0                        | NR            |
| 420    | 32                       | NR            | 550    | 777                      | NR            | 680    | 497                      | NR            | 810    | 12                       | NR            | 940    | 0                        | NR            |
| 425    | 61                       | NR            | 555    | 789                      | NR            | 685    | 445                      | NR            | 815    | 10                       | NR            | 945    | 0                        | NR            |
| 430    | 114                      | NR            | 560    | 800                      | NR            | 690    | 398                      | NR            | 820    | 9                        | NR            | 950    | 0                        | NR            |
| 435    | 218                      | NR            | 565    | 813                      | NR            | 695    | 352                      | NR            | 825    | 7                        | NR            | 955    | 0                        | NR            |
| 440    | 427                      | NR            | 570    | 828                      | NR            | 700    | 309                      | NR            | 830    | 6                        | NR            | 960    | 0                        | NR            |
| 445    | 684                      | NR            | 575    | 846                      | NR            | 705    | 273                      | NR            | 835    | 5                        | NR            | 965    | 0                        | NR            |
| 450    | 611                      | NR            | 580    | 866                      | NR            | 710    | 237                      | NR            | 840    | 5                        | NR            | 970    | 0                        | NR            |
| 455    | 461                      | NR            | 585    | 888                      | NR            | 715    | 208                      | NR            | 845    | 4                        | NR            | 975    | 0                        | NR            |
| 460    | 427                      | NR            | 590    | 913                      | NR            | 720    | 181                      | NR            | 850    | 4                        | NR            | 980    | 0                        | NR            |
| 465    | 349                      | NR            | 595    | 936                      | NR            | 725    | 157                      | NR            | 855    | 3                        | NR            | 985    | 0                        | NR            |
| 470    | 298                      | NR            | 600    | 957                      | NR            | 730    | 136                      | NR            | 860    | 3                        | NR            | 990    | 1                        | NR            |
| 475    | 312                      | NR            | 605    | 976                      | NR            | 735    | 117                      | NR            | 865    | 2                        | NR            | 995    | 0                        | NR            |
| 480    | 335                      | NR            | 610    | 990                      | NR            | 740    | 100                      | NR            | 870    | 2                        | NR            | 1000   | 0                        | NR            |
| 485    | 367                      | NR            | 615    | 999                      | NR            | 745    | 86                       | NR            | 875    | 2                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2407-184-15

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.14

| 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    | 410                      | NR            | 620    | 997                      | NR            | 750    | 74                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 454                      | NR            | 625    | 988                      | NR            | 755    | 64                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 493                      | NR            | 630    | 973                      | NR            | 760    | 54                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 530                      | NR            | 635    | 946                      | NR            | 765    | 47                       | NR            | 895    | 1                        | NR            |
| 380    | 0                        | NR            | 510    | 564                      | NR            | 640    | 913                      | NR            | 770    | 40                       | NR            | 900    | 1                        | NR            |
| 385    | 0                        | NR            | 515    | 599                      | NR            | 645    | 870                      | NR            | 775    | 34                       | NR            | 905    | 1                        | NR            |
| 390    | 0                        | NR            | 520    | 634                      | NR            | 650    | 826                      | NR            | 780    | 29                       | NR            | 910    | 1                        | NR            |
| 395    | 0                        | NR            | 525    | 664                      | NR            | 655    | 774                      | NR            | 785    | 25                       | NR            | 915    | 1                        | NR            |
| 400    | 2                        | NR            | 530    | 695                      | NR            | 660    | 720                      | NR            | 790    | 21                       | NR            | 920    | 1                        | NR            |
| 405    | 4                        | NR            | 535    | 722                      | NR            | 665    | 664                      | NR            | 795    | 18                       | NR            | 925    | 1                        | NR            |
| 410    | 9                        | NR            | 540    | 741                      | NR            | 670    | 605                      | NR            | 800    | 16                       | NR            | 930    | 0                        | NR            |
| 415    | 17                       | NR            | 545    | 762                      | NR            | 675    | 550                      | NR            | 805    | 13                       | NR            | 935    | 0                        | NR            |
| 420    | 32                       | NR            | 550    | 777                      | NR            | 680    | 497                      | NR            | 810    | 12                       | NR            | 940    | 0                        | NR            |
| 425    | 61                       | NR            | 555    | 789                      | NR            | 685    | 445                      | NR            | 815    | 10                       | NR            | 945    | 0                        | NR            |
| 430    | 114                      | NR            | 560    | 800                      | NR            | 690    | 398                      | NR            | 820    | 9                        | NR            | 950    | 0                        | NR            |
| 435    | 218                      | NR            | 565    | 813                      | NR            | 695    | 352                      | NR            | 825    | 7                        | NR            | 955    | 0                        | NR            |
| 440    | 427                      | NR            | 570    | 828                      | NR            | 700    | 309                      | NR            | 830    | 6                        | NR            | 960    | 0                        | NR            |
| 445    | 684                      | NR            | 575    | 846                      | NR            | 705    | 273                      | NR            | 835    | 5                        | NR            | 965    | 0                        | NR            |
| 450    | 611                      | NR            | 580    | 866                      | NR            | 710    | 237                      | NR            | 840    | 5                        | NR            | 970    | 0                        | NR            |
| 455    | 461                      | NR            | 585    | 888                      | NR            | 715    | 208                      | NR            | 845    | 4                        | NR            | 975    | 0                        | NR            |
| 460    | 427                      | NR            | 590    | 913                      | NR            | 720    | 181                      | NR            | 850    | 4                        | NR            | 980    | 0                        | NR            |
| 465    | 349                      | NR            | 595    | 936                      | NR            | 725    | 157                      | NR            | 855    | 3                        | NR            | 985    | 0                        | NR            |
| 470    | 298                      | NR            | 600    | 957                      | NR            | 730    | 136                      | NR            | 860    | 3                        | NR            | 990    | 1                        | NR            |
| 475    | 312                      | NR            | 605    | 976                      | NR            | 735    | 117                      | NR            | 865    | 2                        | NR            | 995    | 0                        | NR            |
| 480    | 335                      | NR            | 610    | 990                      | NR            | 740    | 100                      | NR            | 870    | 2                        | NR            | 1000   | 0                        | NR            |
| 485    | 367                      | NR            | 615    | 999                      | NR            | 745    | 86                       | NR            | 875    | 2                        | NR            |        |                          |               |

**Summary**

$R_f = 92.3$   
 $R_g = 98.5$   
 CIE  $R_a = 92.2$   
 $R_9 = 59.8$

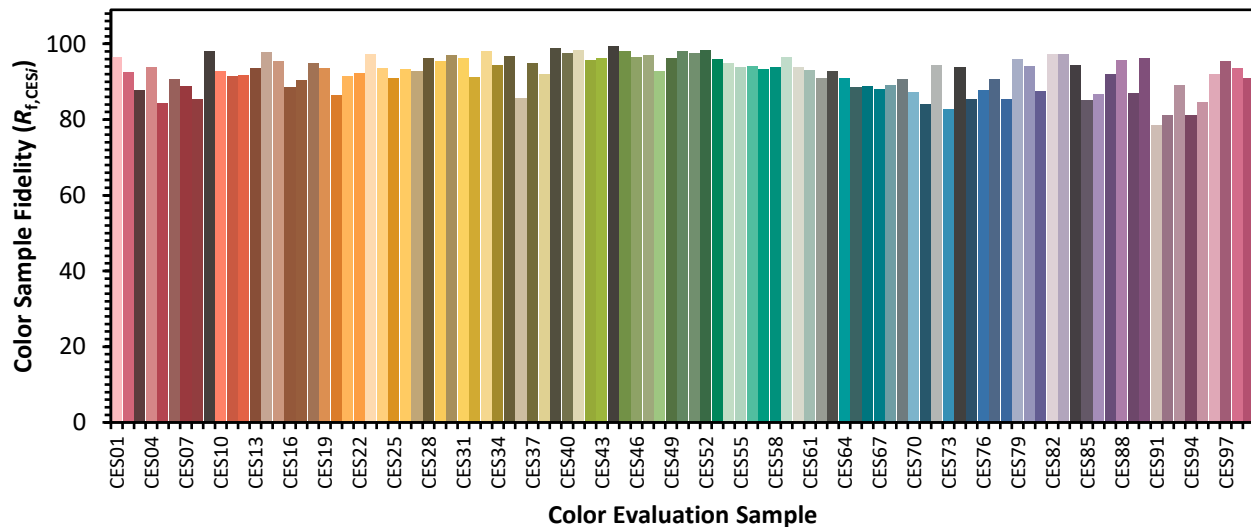


**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 93 | CES51 = 97 | CES76 = 88 |
| CES02 = 62 | CES27 = 93 | CES52 = 98 | CES77 = 91 |
| CES03 = 31 | CES28 = 96 | CES53 = 96 | CES78 = 85 |
| CES04 = 70 | CES29 = 95 | CES54 = 95 | CES79 = 96 |
| CES05 = 50 | CES30 = 97 | CES55 = 94 | CES80 = 94 |
| CES06 = 51 | CES31 = 96 | CES56 = 94 | CES81 = 87 |
| CES07 = 42 | CES32 = 91 | CES57 = 93 | CES82 = 97 |
| CES08 = 41 | CES33 = 98 | CES58 = 94 | CES83 = 97 |
| CES09 = 29 | CES34 = 94 | CES59 = 96 | CES84 = 94 |
| CES10 = 75 | CES35 = 97 | CES60 = 94 | CES85 = 85 |
| CES11 = 58 | CES36 = 86 | CES61 = 93 | CES86 = 87 |
| CES12 = 64 | CES37 = 95 | CES62 = 91 | CES87 = 92 |
| CES13 = 43 | CES38 = 92 | CES63 = 93 | CES88 = 96 |
| CES14 = 74 | CES39 = 99 | CES64 = 91 | CES89 = 87 |
| CES15 = 71 | CES40 = 98 | CES65 = 89 | CES90 = 96 |
| CES16 = 47 | CES41 = 98 | CES66 = 89 | CES91 = 78 |
| CES17 = 49 | CES42 = 96 | CES67 = 88 | CES92 = 81 |
| CES18 = 56 | CES43 = 96 | CES68 = 89 | CES93 = 89 |
| CES19 = 71 | CES44 = 99 | CES69 = 91 | CES94 = 81 |
| CES20 = 66 | CES45 = 98 | CES70 = 87 | CES95 = 85 |
| CES21 = 86 | CES46 = 97 | CES71 = 84 | CES96 = 92 |
| CES22 = 78 | CES47 = 97 | CES72 = 95 | CES97 = 95 |
| CES23 = 91 | CES48 = 93 | CES73 = 83 | CES98 = 94 |
| CES24 = 90 | CES49 = 96 | CES74 = 94 | CES99 = 91 |
| CES25 = 71 | CES50 = 98 | CES75 = 85 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)