

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: McGRAW-EDISON

Report Number: P385937

Luminaire Tested: **GPC-SA1C-740-U-SL2**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P385937  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GPC-SA1C-740-U-SL2  
Description: GALLEON PEDESTRIAN LUMINAIRE  
(1) 70 CRI, 4000K, 1050mA LIGHTSQUARE WITH 16 LEDS AND TYPE II SPILL  
LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7399 lumens  
Efficiency: N/A  
Efficacy: 125.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2

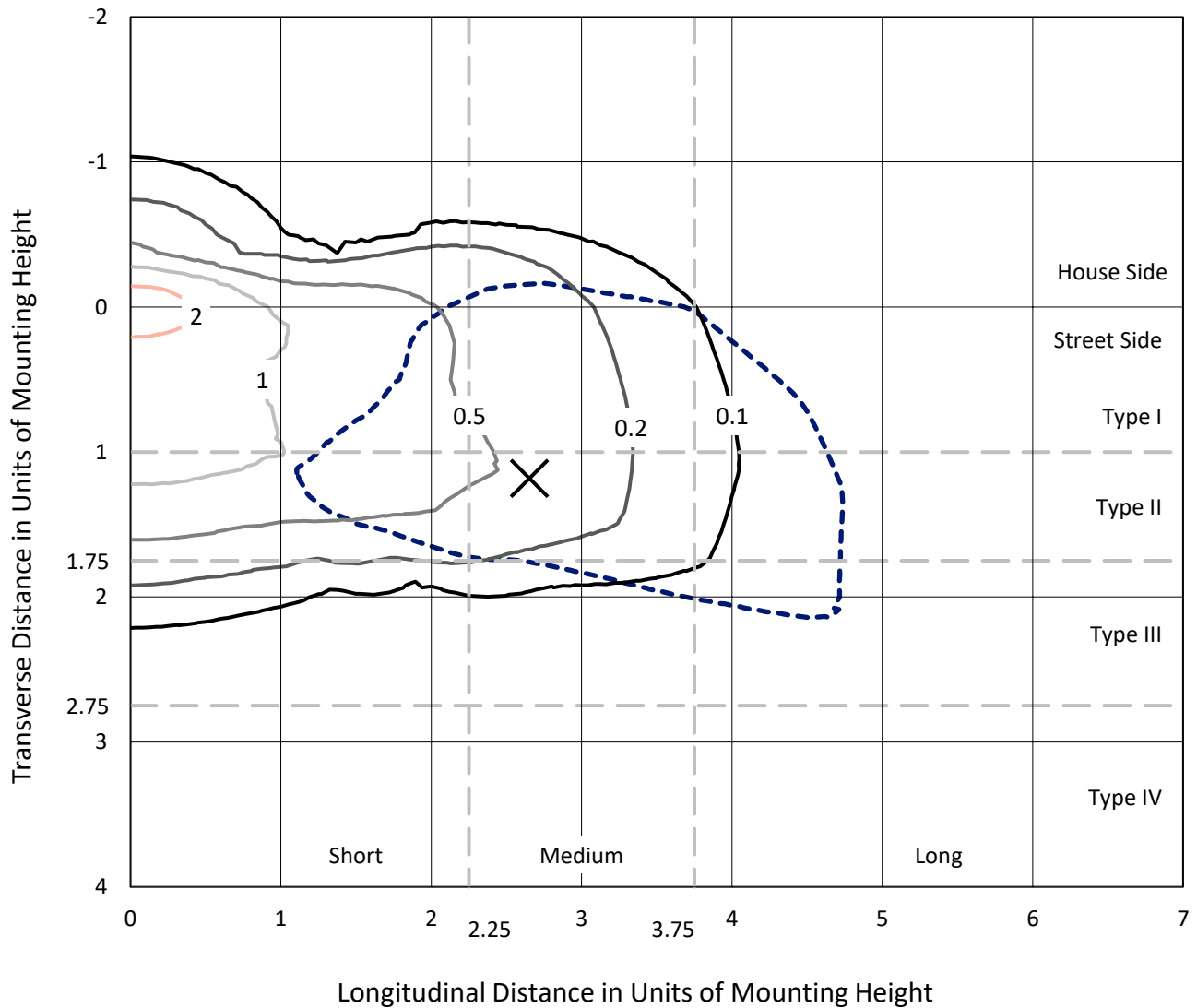
Input Watts (W): 59  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

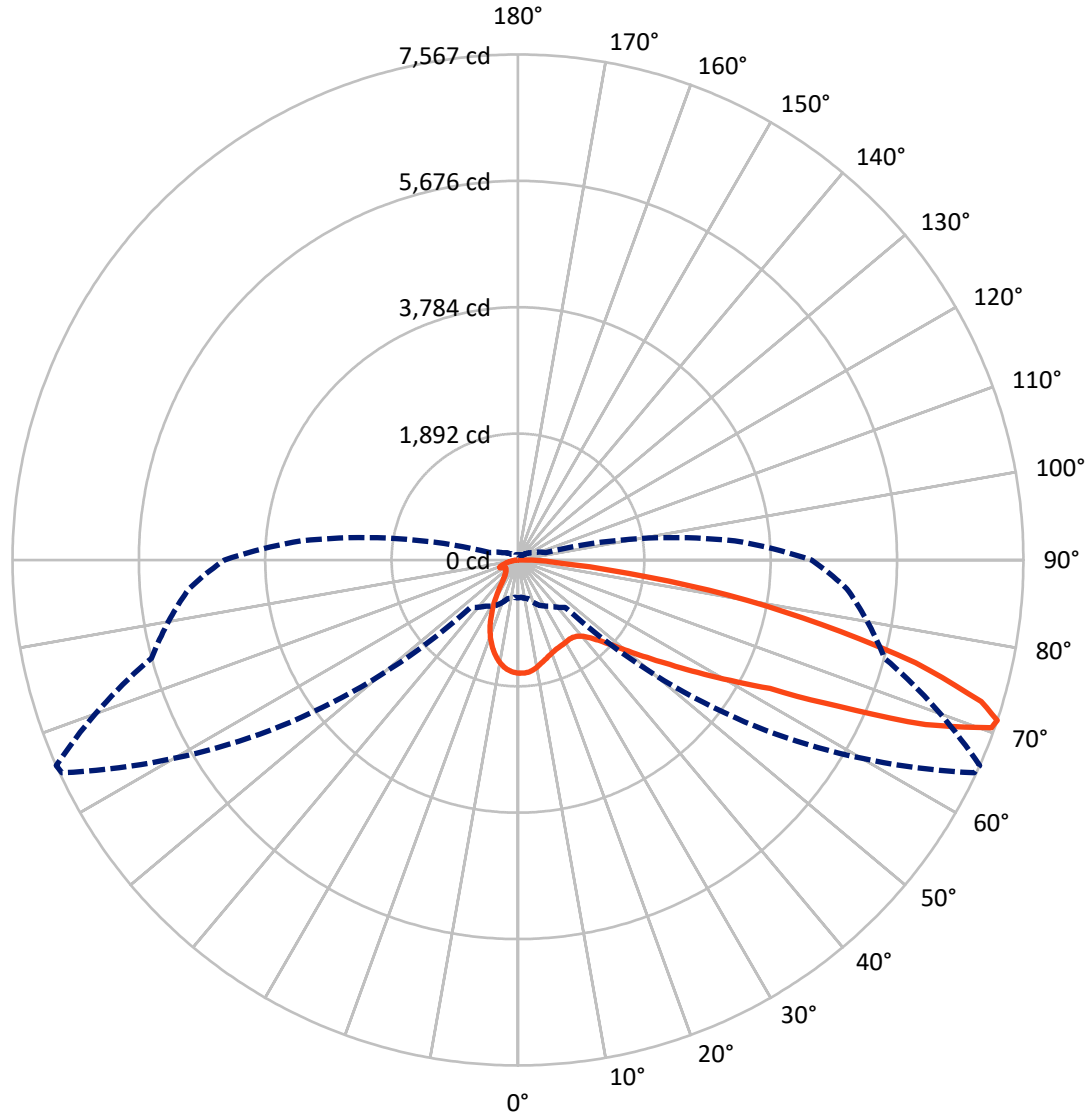
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.7 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral      - - - Horizontal Cone Through 71-Deg Vertical

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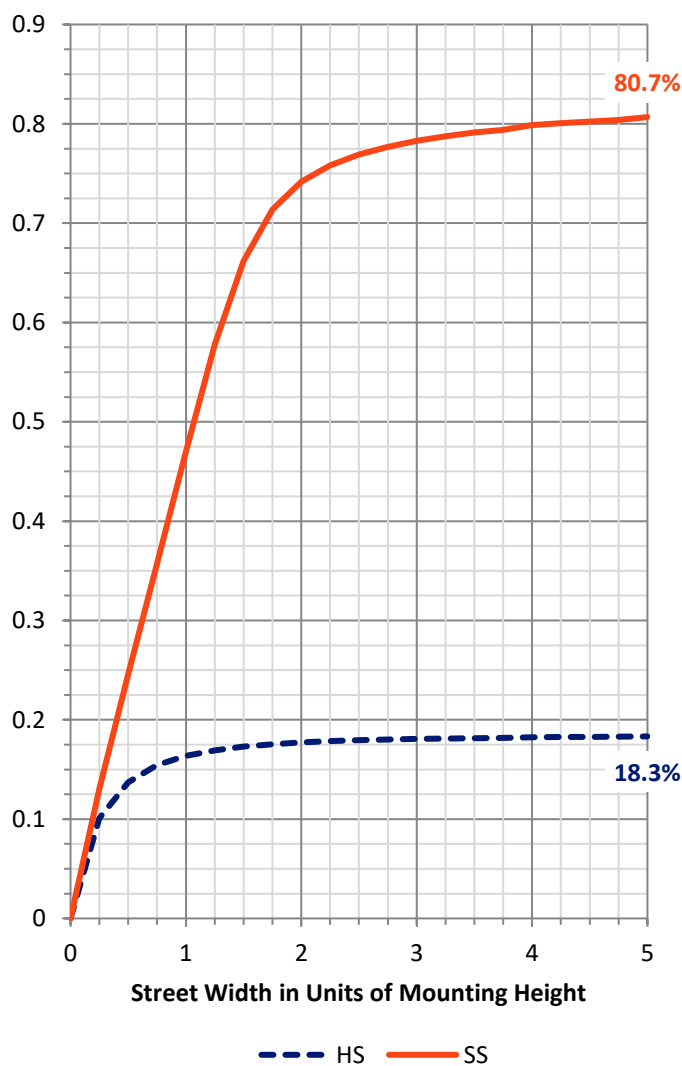
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1371.2   | 0.0    | 1371.2 |
|                    | % Fixture | 18.5     | 0.0    | 18.5   |
| <b>Street Side</b> | Lumens    | 6027.8   | 0.0    | 6027.8 |
|                    | % Fixture | 81.5     | 0.0    | 81.5   |
| <b>Total</b>       | Lumens    | 7399.0   | 0.0    | 7399.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 149.2  | 2.0       |
| 10°-20°   | 357.8  | 4.8       |
| 20°-30°   | 480.7  | 6.5       |
| 30°-40°   | 632.3  | 8.5       |
| 40°-50°   | 919.9  | 12.4      |
| 50°-60°   | 1436.9 | 19.4      |
| 60°-70°   | 1800.0 | 24.3      |
| 70°-80°   | 1373.0 | 18.6      |
| 80°-90°   | 249.3  | 3.4       |
| 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°    | 7399.0 | 100.0     |
| 0°-180°   | 7399.0 | 100.0     |

**Coefficient of Utilization**



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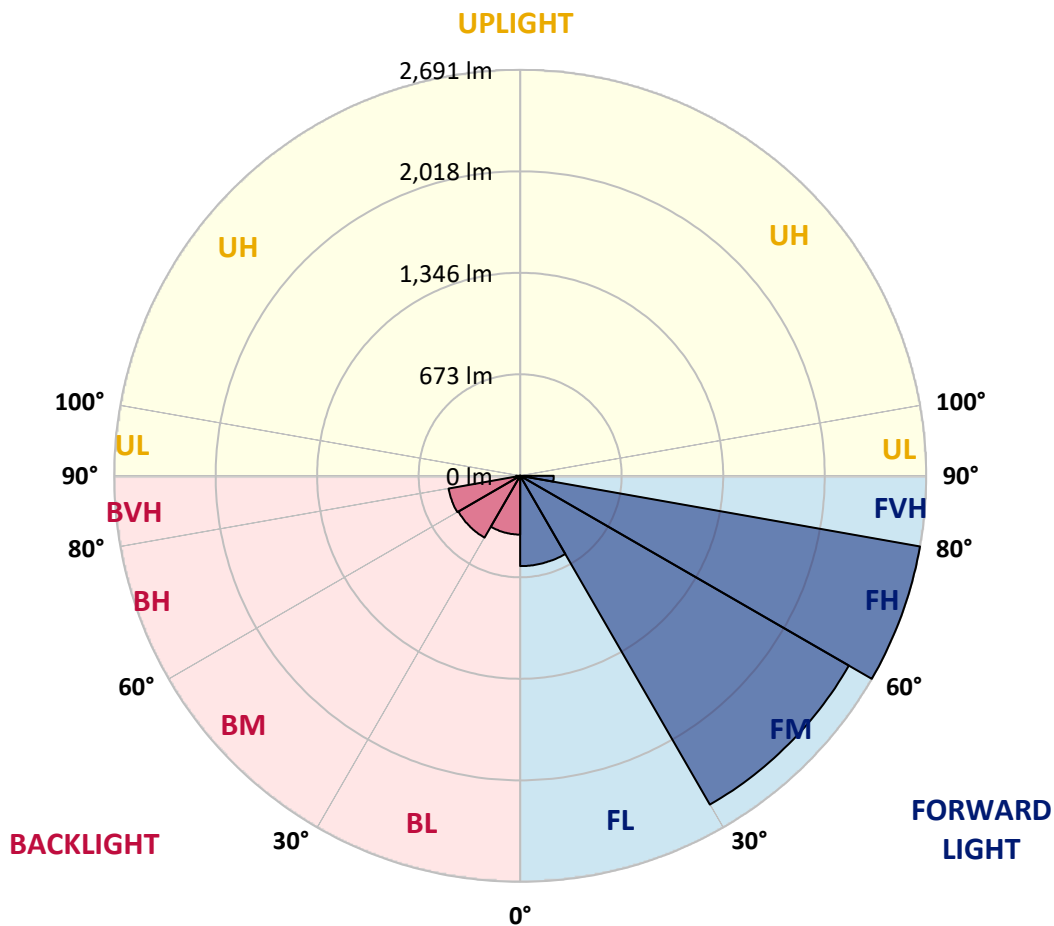
CATALOG NUMBER: GPC-SA1C-740-U-SL2

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

| Zone           | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|--------|-----------|-------------------------|------|---------|
|                |        |           | B                       | U    | G       |
| FL (0°-30°)    | 598.3  | 8.1       |                         |      |         |
| FM (30°-60°)   | 2516.0 | 34.0      |                         |      |         |
| FH (60°-80°)   | 2691.1 | 36.4      |                         |      | G2/5000 |
| FVH (80°-90°)  | 222.3  | 3.0       |                         |      | G2/225  |
| BL (0°-30°)    | 389.4  | 5.3       | B1/500                  |      |         |
| BM (30°-60°)   | 473.0  | 6.4       | B1/1000                 |      |         |
| BH (60°-80°)   | 481.8  | 6.5       | B1/500                  |      | G1/500  |
| BVH (80°-90°)  | 27.0   | 0.4       |                         |      | G1/100  |
| UL (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

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

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 66°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 |
| 2.5°  | 1663.5 | 1661.0 | 1668.7 | 1676.6 | 1679.6 | 1684.7 | 1692.4 | 1696.8 | 1696.5 | 1697.3 | 1694.7 |
| 5°    | 1553.2 | 1549.9 | 1565.2 | 1577.7 | 1601.7 | 1628.8 | 1661.8 | 1685.3 | 1685.8 | 1699.1 | 1702.6 |
| 7.5°  | 1448.7 | 1446.4 | 1464.0 | 1484.2 | 1512.1 | 1553.4 | 1606.8 | 1657.4 | 1660.5 | 1696.5 | 1709.0 |
| 10°   | 1364.9 | 1364.4 | 1381.5 | 1403.5 | 1435.9 | 1482.2 | 1543.5 | 1617.6 | 1622.2 | 1684.2 | 1710.0 |
| 12.5° | 1299.5 | 1300.5 | 1315.4 | 1340.4 | 1374.6 | 1422.9 | 1489.3 | 1572.9 | 1580.3 | 1664.8 | 1704.2 |
| 15°   | 1251.2 | 1255.3 | 1267.3 | 1292.6 | 1326.3 | 1375.4 | 1443.6 | 1531.5 | 1542.7 | 1643.1 | 1700.8 |
| 17.5° | 1223.6 | 1228.2 | 1236.7 | 1257.6 | 1289.3 | 1336.6 | 1401.2 | 1497.5 | 1507.7 | 1626.5 | 1701.1 |
| 20°   | 1215.5 | 1219.3 | 1224.2 | 1236.9 | 1263.8 | 1306.7 | 1367.7 | 1466.8 | 1477.8 | 1613.2 | 1703.7 |
| 22.5° | 1231.6 | 1234.4 | 1234.9 | 1233.9 | 1250.2 | 1285.2 | 1343.5 | 1444.4 | 1456.1 | 1604.5 | 1705.4 |
| 25°   | 1266.1 | 1269.9 | 1267.1 | 1257.6 | 1252.3 | 1273.7 | 1330.9 | 1429.5 | 1441.3 | 1598.1 | 1701.9 |
| 27.5° | 1317.9 | 1318.4 | 1316.1 | 1303.9 | 1278.6 | 1275.0 | 1327.1 | 1420.9 | 1432.1 | 1590.7 | 1694.5 |
| 30°   | 1388.4 | 1391.7 | 1387.7 | 1371.0 | 1329.7 | 1295.4 | 1331.7 | 1412.4 | 1422.6 | 1581.3 | 1682.5 |
| 32.5° | 1470.9 | 1479.1 | 1478.8 | 1461.5 | 1402.2 | 1341.2 | 1350.6 | 1407.3 | 1415.2 | 1571.3 | 1667.9 |
| 35°   | 1556.5 | 1567.7 | 1588.7 | 1581.3 | 1508.0 | 1413.5 | 1386.9 | 1415.5 | 1420.9 | 1570.0 | 1657.7 |
| 37.5° | 1645.4 | 1656.6 | 1699.8 | 1719.7 | 1633.9 | 1516.9 | 1444.1 | 1444.4 | 1446.9 | 1585.6 | 1656.9 |
| 40°   | 1738.4 | 1750.4 | 1815.3 | 1867.1 | 1797.2 | 1648.0 | 1536.3 | 1504.7 | 1501.8 | 1624.0 | 1672.0 |
| 42.5° | 1868.7 | 1879.4 | 1957.3 | 2023.5 | 1978.3 | 1815.8 | 1663.8 | 1597.6 | 1591.8 | 1699.1 | 1720.3 |
| 45°   | 2033.5 | 2042.6 | 2125.4 | 2196.2 | 2172.9 | 2007.4 | 1824.0 | 1725.6 | 1724.6 | 1824.2 | 1818.1 |
| 47.5° | 2229.4 | 2236.5 | 2310.9 | 2379.3 | 2387.8 | 2227.9 | 2025.3 | 1923.1 | 1906.5 | 1995.9 | 1969.6 |
| 50°   | 2433.5 | 2441.4 | 2492.0 | 2565.6 | 2628.2 | 2522.9 | 2284.3 | 2165.0 | 2142.8 | 2222.5 | 2184.2 |
| 52.5° | 2568.6 | 2579.1 | 2623.0 | 2716.3 | 2898.4 | 2846.3 | 2590.6 | 2458.3 | 2424.6 | 2497.1 | 2467.7 |
| 55°   | 2508.3 | 2531.8 | 2599.0 | 2748.5 | 3114.6 | 3340.4 | 2968.4 | 2800.3 | 2762.3 | 2822.6 | 2805.2 |
| 57.5° | 2234.2 | 2266.4 | 2358.1 | 2588.8 | 3145.0 | 3775.7 | 3539.6 | 3203.2 | 3176.4 | 3159.0 | 3166.9 |
| 60°   | 1733.3 | 1764.2 | 1877.9 | 2178.6 | 2933.2 | 4093.5 | 4399.3 | 3699.8 | 3661.0 | 3496.7 | 3503.9 |
| 62.5° | 1226.7 | 1211.1 | 1289.0 | 1509.0 | 2383.4 | 4130.8 | 5377.4 | 4364.0 | 4236.3 | 3853.3 | 3821.9 |
| 65°   | 935.5  | 931.9  | 966.9  | 1036.9 | 1443.6 | 3684.5 | 5960.1 | 5480.4 | 5280.8 | 4272.8 | 4198.7 |
| 67.5° | 768.7  | 762.3  | 796.8  | 898.7  | 929.6  | 2377.0 | 5972.9 | 6775.5 | 6579.6 | 4795.0 | 4634.5 |
| 70°   | 632.0  | 624.9  | 657.0  | 788.6  | 859.1  | 1205.5 | 5026.9 | 7534.0 | 7523.5 | 5456.1 | 4963.6 |
| 71°   | 566.6  | 561.5  | 600.1  | 746.2  | 844.0  | 1004.7 | 4340.2 | 7536.0 | 7567.4 | 5679.9 | 4944.1 |
| 72.5° | 461.4  | 463.1  | 504.0  | 664.2  | 832.8  | 887.2  | 3189.9 | 7184.8 | 7251.2 | 5893.2 | 4767.6 |
| 75°   | 306.6  | 308.1  | 361.7  | 510.9  | 807.5  | 868.0  | 1753.2 | 6028.8 | 6150.9 | 5765.4 | 4350.5 |
| 77.5° | 205.9  | 205.4  | 241.9  | 350.5  | 703.5  | 868.0  | 1028.0 | 4509.1 | 4643.2 | 4587.5 | 3353.9 |
| 80°   | 141.8  | 140.8  | 166.6  | 241.9  | 532.6  | 878.5  | 794.7  | 3160.0 | 3200.6 | 2477.4 | 1363.1 |
| 82.5° | 86.9   | 87.6   | 108.8  | 170.9  | 362.5  | 790.6  | 750.3  | 1723.1 | 1678.9 | 694.8  | 340.5  |
| 85°   | 49.8   | 49.6   | 69.5   | 115.7  | 232.7  | 667.3  | 731.6  | 741.6  | 680.3  | 209.2  | 123.1  |
| 87.5° | 17.9   | 19.2   | 37.3   | 64.1   | 133.3  | 464.7  | 620.8  | 385.7  | 347.7  | 94.5   | 55.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 | 1695.0 |
| 2.5°  | 1692.9 | 1694.5 | 1692.7 | 1682.5 | 1673.8 | 1659.7 | 1651.8 | 1640.8 | 1637.5 | 1636.0 | 1640.0 |
| 5°    | 1699.3 | 1699.8 | 1684.7 | 1657.9 | 1627.8 | 1592.3 | 1566.7 | 1535.3 | 1520.5 | 1514.1 | 1518.2 |
| 7.5°  | 1705.2 | 1702.9 | 1669.9 | 1618.6 | 1562.9 | 1501.1 | 1446.2 | 1395.8 | 1366.4 | 1354.4 | 1355.5 |
| 10°   | 1706.0 | 1696.2 | 1643.4 | 1563.9 | 1477.6 | 1386.9 | 1302.6 | 1224.9 | 1175.9 | 1143.9 | 1153.7 |
| 12.5° | 1698.0 | 1681.7 | 1604.3 | 1493.2 | 1373.3 | 1249.7 | 1135.8 | 1019.3 | 949.3  | 916.8  | 917.9  |
| 15°   | 1691.9 | 1662.3 | 1556.3 | 1409.9 | 1248.9 | 1085.2 | 929.6  | 792.7  | 718.1  | 684.9  | 669.3  |
| 17.5° | 1686.8 | 1641.3 | 1500.6 | 1316.1 | 1102.0 | 894.4  | 707.4  | 585.3  | 544.4  | 534.7  | 530.6  |
| 20°   | 1679.6 | 1619.1 | 1438.5 | 1207.6 | 934.7  | 680.8  | 516.5  | 456.2  | 456.5  | 467.7  | 469.3  |
| 22.5° | 1669.7 | 1593.8 | 1372.3 | 1085.7 | 755.1  | 495.8  | 404.9  | 387.5  | 405.2  | 426.6  | 430.4  |
| 25°   | 1654.9 | 1563.9 | 1298.8 | 951.1  | 575.8  | 381.1  | 345.9  | 345.1  | 366.6  | 389.1  | 392.4  |
| 27.5° | 1633.9 | 1524.8 | 1217.0 | 806.5  | 424.3  | 323.9  | 309.9  | 315.2  | 331.1  | 347.4  | 348.7  |
| 30°   | 1605.8 | 1479.4 | 1126.8 | 654.0  | 332.6  | 288.4  | 286.9  | 291.7  | 301.4  | 312.9  | 314.0  |
| 32.5° | 1574.9 | 1433.1 | 1030.5 | 506.3  | 284.8  | 269.3  | 270.8  | 273.1  | 277.7  | 282.3  | 283.3  |
| 35°   | 1546.8 | 1385.9 | 931.9  | 384.7  | 262.1  | 256.7  | 255.7  | 255.2  | 255.7  | 254.2  | 254.4  |
| 37.5° | 1528.7 | 1346.8 | 829.2  | 306.3  | 249.1  | 245.8  | 242.7  | 238.9  | 234.5  | 232.0  | 232.5  |
| 40°   | 1522.0 | 1317.7 | 725.2  | 264.7  | 238.3  | 236.0  | 230.2  | 222.0  | 216.9  | 215.4  | 215.4  |
| 42.5° | 1539.9 | 1302.6 | 624.9  | 243.7  | 229.4  | 225.6  | 215.9  | 206.4  | 202.6  | 202.3  | 202.1  |
| 45°   | 1594.6 | 1308.7 | 529.3  | 232.2  | 221.2  | 213.8  | 201.0  | 193.1  | 190.6  | 191.1  | 190.8  |
| 47.5° | 1692.7 | 1347.3 | 447.6  | 224.5  | 213.1  | 203.3  | 189.0  | 182.7  | 179.6  | 179.6  | 179.8  |
| 50°   | 1859.5 | 1437.5 | 382.4  | 218.2  | 206.2  | 193.6  | 180.4  | 172.4  | 168.3  | 168.1  | 168.1  |
| 52.5° | 2102.4 | 1598.9 | 341.8  | 212.8  | 198.5  | 185.0  | 171.7  | 161.7  | 156.9  | 155.8  | 155.3  |
| 55°   | 2406.9 | 1830.4 | 330.6  | 209.2  | 188.3  | 175.5  | 161.2  | 151.2  | 145.9  | 143.6  | 143.3  |
| 57.5° | 2747.5 | 2111.9 | 352.8  | 204.9  | 177.8  | 164.3  | 149.7  | 140.2  | 134.6  | 131.8  | 131.6  |
| 60°   | 3092.1 | 2419.2 | 443.5  | 198.7  | 169.1  | 152.0  | 137.9  | 129.3  | 123.6  | 120.6  | 120.1  |
| 62.5° | 3437.2 | 2743.1 | 628.7  | 198.2  | 163.0  | 140.2  | 125.9  | 118.5  | 113.2  | 109.8  | 109.1  |
| 65°   | 3826.5 | 3097.7 | 839.2  | 211.8  | 160.9  | 129.5  | 113.7  | 107.8  | 103.2  | 100.1  | 99.9   |
| 67.5° | 4273.6 | 3498.0 | 819.0  | 239.6  | 167.8  | 119.8  | 102.2  | 97.6   | 94.3   | 91.7   | 91.5   |
| 70°   | 4483.3 | 3435.4 | 509.1  | 259.3  | 177.5  | 110.4  | 91.2   | 87.9   | 85.3   | 83.5   | 82.8   |
| 71°   | 4395.4 | 3262.0 | 426.9  | 257.0  | 176.5  | 106.3  | 86.9   | 84.3   | 81.7   | 80.2   | 79.4   |
| 72.5° | 4155.8 | 2974.8 | 356.1  | 239.1  | 165.0  | 98.9   | 81.2   | 78.7   | 76.4   | 74.6   | 74.1   |
| 75°   | 3729.2 | 2656.8 | 285.1  | 191.1  | 131.6  | 83.5   | 71.3   | 68.5   | 66.7   | 65.7   | 64.6   |
| 77.5° | 2741.3 | 1896.0 | 220.5  | 151.0  | 96.8   | 68.2   | 60.8   | 58.8   | 57.0   | 55.4   | 54.7   |
| 80°   | 1050.2 | 734.4  | 148.4  | 112.7  | 71.0   | 53.9   | 49.0   | 48.0   | 46.2   | 45.2   | 45.2   |
| 82.5° | 282.8  | 219.4  | 79.2   | 68.2   | 47.5   | 39.3   | 37.6   | 37.0   | 35.5   | 33.5   | 33.7   |
| 85°   | 114.4  | 96.8   | 44.4   | 37.6   | 29.1   | 23.2   | 25.3   | 25.5   | 23.8   | 21.2   | 21.5   |
| 87.5° | 50.3   | 41.1   | 24.8   | 16.6   | 12.8   | 8.9    | 11.5   | 11.5   | 10.5   | 8.7    | 7.9    |
| 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



**Test Information**

Test Method: LM-79-08  
 Report Number: SP1-2101-121-2  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry: 4π  
 Issue Date: 03/05/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**  
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

**Spectral Parameters**

|                           |         |           |      |      |       |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K):                  | 3905    | CRI (Ra): | 71.2 | R9:  | -29.7 |
| CIE u':                   | 0.2273  | R1:       | 68.9 | R10: | 46.2  |
| CIE v':                   | 0.5024  | R2:       | 77.0 | R11: | 68.8  |
| Duv:                      | -0.0008 | R3:       | 84.0 | R12: | 45.6  |
| CIE x:                    | 0.3841  | R4:       | 71.6 | R13: | 69.5  |
| CIE y:                    | 0.3774  | R5:       | 68.9 | R14: | 90.7  |
| CIE z:                    | 0.2385  | R6:       | 68.3 |      |       |
| Peak Wavelength (nm):     | 443     | R7:       | 78.7 |      |       |
| Dominant Wavelength (nm): | 579     | R8:       | 52.2 |      |       |
| Purity:                   | 28.7    |           |      |      |       |
| Rf:                       | 71.7    |           |      |      |       |
| Rg:                       | 96.9    |           |      |      |       |



**Test Conditions**

Stabilization Time: 211M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.8/312%  
 Sphere Temperature (°C): 24.1

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| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 1/31/2021        | 7/31/2021            |
| Power Meter                    | IN0071                | 12/1/2020        | 12/1/2021            |
| AC Power Source                | IN0063                | 12/1/2020        | 12/1/2021            |
| DC Power Source                | IN0208                | 12/1/2020        | 12/1/2021            |
| Sphere Thermometer             | IN0085                | 12/1/2020        | 12/1/2021            |
| Room Thermometer               | IN0046                | 12/1/2020        | 12/1/2021            |

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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**



#####

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360    | 2304          | 0.0           | 490    | 19043         | 2.7           | 620    | 97577         | 25.4          | 750    | 4830          | 0.0           | 880    | 3505          | 0.0           |
| 365    | 2150          | 0.0           | 495    | 26606         | 4.8           | 625    | 90158         | 19.9          | 755    | 4664          | 0.0           | 885    | 2991          | 0.0           |
| 370    | 2146          | 0.0           | 500    | 36376         | 8.0           | 630    | 82240         | 14.9          | 760    | 4006          | 0.0           | 890    | 2327          | 0.0           |
| 375    | 2332          | 0.0           | 505    | 47714         | 13.3          | 635    | 74361         | 11.2          | 765    | 3715          | 0.0           | 895    | 2775          | 0.0           |
| 380    | 2527          | 0.0           | 510    | 58741         | 20.2          | 640    | 66994         | 8.0           | 770    | 3696          | 0.0           | 900    | 2141          | 0.0           |
| 385    | 2304          | 0.0           | 515    | 68716         | 28.5          | 645    | 60405         | 5.8           | 775    | 3117          | 0.0           | 905    | 2421          | 0.0           |
| 390    | 2064          | 0.0           | 520    | 77136         | 37.4          | 650    | 53806         | 3.9           | 780    | 3062          | 0.0           | 910    | 2200          | 0.0           |
| 395    | 1856          | 0.0           | 525    | 83567         | 44.9          | 655    | 47610         | 2.7           | 785    | 2907          | 0.0           | 915    | 2716          | 0.0           |
| 400    | 1856          | 0.0           | 530    | 89283         | 52.6          | 660    | 42018         | 1.8           | 790    | 2655          | 0.0           | 920    | 2656          | 0.0           |
| 405    | 2374          | 0.0           | 535    | 94097         | 58.4          | 665    | 36742         | 1.2           | 795    | 2467          | 0.0           | 925    | 2671          | 0.0           |
| 410    | 4084          | 0.0           | 540    | 96845         | 63.1          | 670    | 32105         | 0.7           | 800    | 2609          | 0.0           | 930    | 3292          | 0.0           |
| 415    | 8543          | 0.0           | 545    | 100829        | 67.1          | 675    | 27946         | 0.5           | 805    | 2293          | 0.0           | 935    | 3188          | 0.0           |
| 420    | 18394         | 0.1           | 550    | 105648        | 71.8          | 680    | 24146         | 0.3           | 810    | 2188          | 0.0           | 940    | 1997          | 0.0           |
| 425    | 37987         | 0.2           | 555    | 110017        | 75.1          | 685    | 21191         | 0.2           | 815    | 2386          | 0.0           | 945    | 2623          | 0.0           |
| 430    | 67605         | 0.5           | 560    | 114586        | 77.9          | 690    | 18544         | 0.1           | 820    | 2712          | 0.0           | 950    | 2969          | 0.0           |
| 435    | 102160        | 1.2           | 565    | 118987        | 79.1          | 695    | 16058         | 0.1           | 825    | 2473          | 0.0           | 955    | 2277          | 0.0           |
| 440    | 135103        | 2.1           | 570    | 122326        | 79.5          | 700    | 14133         | 0.0           | 830    | 1969          | 0.0           | 960    | 4267          | 0.0           |
| 445    | 140126        | 2.9           | 575    | 125968        | 78.4          | 705    | 12309         | 0.0           | 835    | 1917          | 0.0           | 965    | 2034          | 0.0           |
| 450    | 102339        | 2.7           | 580    | 127613        | 75.8          | 710    | 11142         | 0.0           | 840    | 2248          | 0.0           | 970    | 3586          | 0.0           |
| 455    | 58751         | 2.0           | 585    | 129466        | 71.9          | 715    | 10143         | 0.0           | 845    | 2266          | 0.0           | 975    | 2505          | 0.0           |
| 460    | 36892         | 1.5           | 590    | 128813        | 66.6          | 720    | 9072          | 0.0           | 850    | 2558          | 0.0           | 980    | 2666          | 0.0           |
| 465    | 24637         | 1.3           | 595    | 126387        | 59.9          | 725    | 8130          | 0.0           | 855    | 2767          | 0.0           | 985    | 2934          | 0.0           |
| 470    | 16738         | 1.0           | 600    | 123477        | 53.2          | 730    | 7149          | 0.0           | 860    | 2826          | 0.0           | 990    | 4120          | 0.0           |
| 475    | 13456         | 1.1           | 605    | 118718        | 46.0          | 735    | 6311          | 0.0           | 865    | 2385          | 0.0           | 995    | 3858          | 0.0           |
| 480    | 13081         | 1.2           | 610    | 112091        | 38.5          | 740    | 5711          | 0.0           | 870    | 3194          | 0.0           | 1000   | 3405          | 0.0           |
| 485    | 14734         | 1.7           | 615    | 105039        | 31.7          | 745    | 5111          | 0.0           | 875    | 3189          | 0.0           |        |               |               |

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: 10425.8 S/P: 1.47**

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360    | 2304          | 0.0           | 490    | 19043         | 29.3          | 620    | 97577         | 1.2           | 750    | 4830          | 0.0           | 880    | 3505          | 0.0           |
| 365    | 2150          | 0.0           | 495    | 26606         | 43.0          | 625    | 90158         | 0.8           | 755    | 4664          | 0.0           | 885    | 2991          | 0.0           |
| 370    | 2146          | 0.0           | 500    | 36376         | 60.8          | 630    | 82240         | 0.5           | 760    | 4006          | 0.0           | 890    | 2327          | 0.0           |
| 375    | 2332          | 0.0           | 505    | 47714         | 81.1          | 635    | 74361         | 0.3           | 765    | 3715          | 0.0           | 895    | 2775          | 0.0           |
| 380    | 2527          | 0.0           | 510    | 58741         | 99.6          | 640    | 66994         | 0.2           | 770    | 3696          | 0.0           | 900    | 2141          | 0.0           |
| 385    | 2304          | 0.0           | 515    | 68716         | 113.9         | 645    | 60405         | 0.1           | 775    | 3117          | 0.0           | 905    | 2421          | 0.0           |
| 390    | 2064          | 0.0           | 520    | 77136         | 122.6         | 650    | 53806         | 0.1           | 780    | 3062          | 0.0           | 910    | 2200          | 0.0           |
| 395    | 1856          | 0.0           | 525    | 83567         | 125.0         | 655    | 47610         | 0.0           | 785    | 2907          | 0.0           | 915    | 2716          | 0.0           |
| 400    | 1856          | 0.0           | 530    | 89283         | 123.1         | 660    | 42018         | 0.0           | 790    | 2655          | 0.0           | 920    | 2656          | 0.0           |
| 405    | 2374          | 0.1           | 535    | 94097         | 117.3         | 665    | 36742         | 0.0           | 795    | 2467          | 0.0           | 925    | 2671          | 0.0           |
| 410    | 4084          | 0.2           | 540    | 96845         | 107.0         | 670    | 32105         | 0.0           | 800    | 2609          | 0.0           | 930    | 3292          | 0.0           |
| 415    | 8543          | 0.9           | 545    | 100829        | 96.7          | 675    | 27946         | 0.0           | 805    | 2293          | 0.0           | 935    | 3188          | 0.0           |
| 420    | 18394         | 3.0           | 550    | 105648        | 86.4          | 680    | 24146         | 0.0           | 810    | 2188          | 0.0           | 940    | 1997          | 0.0           |
| 425    | 37987         | 9.3           | 555    | 110017        | 75.2          | 685    | 21191         | 0.0           | 815    | 2386          | 0.0           | 945    | 2623          | 0.0           |
| 430    | 67605         | 23.0          | 560    | 114586        | 64.0          | 690    | 18544         | 0.0           | 820    | 2712          | 0.0           | 950    | 2969          | 0.0           |
| 435    | 102160        | 45.7          | 565    | 118987        | 53.4          | 695    | 16058         | 0.0           | 825    | 2473          | 0.0           | 955    | 2277          | 0.0           |
| 440    | 135103        | 75.5          | 570    | 122326        | 43.2          | 700    | 14133         | 0.0           | 830    | 1969          | 0.0           | 960    | 4267          | 0.0           |
| 445    | 140126        | 93.8          | 575    | 125968        | 34.3          | 705    | 12309         | 0.0           | 835    | 1917          | 0.0           | 965    | 2034          | 0.0           |
| 450    | 102339        | 79.3          | 580    | 127613        | 26.3          | 710    | 11142         | 0.0           | 840    | 2248          | 0.0           | 970    | 3586          | 0.0           |
| 455    | 58751         | 51.3          | 585    | 129466        | 19.8          | 715    | 10143         | 0.0           | 845    | 2266          | 0.0           | 975    | 2505          | 0.0           |
| 460    | 36892         | 35.6          | 590    | 128813        | 14.3          | 720    | 9072          | 0.0           | 850    | 2558          | 0.0           | 980    | 2666          | 0.0           |
| 465    | 24637         | 26.0          | 595    | 126387        | 10.1          | 725    | 8130          | 0.0           | 855    | 2767          | 0.0           | 985    | 2934          | 0.0           |
| 470    | 16738         | 19.3          | 600    | 123477        | 7.0           | 730    | 7149          | 0.0           | 860    | 2826          | 0.0           | 990    | 4120          | 0.0           |
| 475    | 13456         | 16.8          | 605    | 118718        | 4.7           | 735    | 6311          | 0.0           | 865    | 2385          | 0.0           | 995    | 3858          | 0.0           |
| 480    | 13081         | 17.7          | 610    | 112091        | 3.0           | 740    | 5711          | 0.0           | 870    | 3194          | 0.0           | 1000   | 3405          | 0.0           |
| 485    | 14734         | 21.4          | 615    | 105039        | 1.9           | 745    | 5111          | 0.0           | 875    | 3189          | 0.0           |        |               |               |

REPORT NUMBER: SP1-2101-121-2

**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 3927.2 M/P: 0.55**

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360    | 2304          | 0.0           | 490    | 19043         | 15.8          | 620    | 97577         | 0.1           | 750    | 4830          | 0.0           | 880    | 3505          | 0.0           |
| 365    | 2150          | 0.0           | 495    | 26606         | 22.0          | 625    | 90158         | 0.0           | 755    | 4664          | 0.0           | 885    | 2991          | 0.0           |
| 370    | 2146          | 0.0           | 500    | 36376         | 29.2          | 630    | 82240         | 0.0           | 760    | 4006          | 0.0           | 890    | 2327          | 0.0           |
| 375    | 2332          | 0.0           | 505    | 47714         | 36.6          | 635    | 74361         | 0.0           | 765    | 3715          | 0.0           | 895    | 2775          | 0.0           |
| 380    | 2527          | 0.0           | 510    | 58741         | 42.2          | 640    | 66994         | 0.0           | 770    | 3696          | 0.0           | 900    | 2141          | 0.0           |
| 385    | 2304          | 0.0           | 515    | 68716         | 44.9          | 645    | 60405         | 0.0           | 775    | 3117          | 0.0           | 905    | 2421          | 0.0           |
| 390    | 2064          | 0.0           | 520    | 77136         | 44.9          | 650    | 53806         | 0.0           | 780    | 3062          | 0.0           | 910    | 2200          | 0.0           |
| 395    | 1856          | 0.0           | 525    | 83567         | 42.4          | 655    | 47610         | 0.0           | 785    | 2907          | 0.0           | 915    | 2716          | 0.0           |
| 400    | 1856          | 0.0           | 530    | 89283         | 38.6          | 660    | 42018         | 0.0           | 790    | 2655          | 0.0           | 920    | 2656          | 0.0           |
| 405    | 2374          | 0.0           | 535    | 94097         | 33.9          | 665    | 36742         | 0.0           | 795    | 2467          | 0.0           | 925    | 2671          | 0.0           |
| 410    | 4084          | 0.2           | 540    | 96845         | 28.3          | 670    | 32105         | 0.0           | 800    | 2609          | 0.0           | 930    | 3292          | 0.0           |
| 415    | 8543          | 0.6           | 545    | 100829        | 23.4          | 675    | 27946         | 0.0           | 805    | 2293          | 0.0           | 935    | 3188          | 0.0           |
| 420    | 18394         | 2.1           | 550    | 105648        | 19.0          | 680    | 24146         | 0.0           | 810    | 2188          | 0.0           | 940    | 1997          | 0.0           |
| 425    | 37987         | 5.9           | 555    | 110017        | 14.8          | 685    | 21191         | 0.0           | 815    | 2386          | 0.0           | 945    | 2623          | 0.0           |
| 430    | 67605         | 14.3          | 560    | 114586        | 11.3          | 690    | 18544         | 0.0           | 820    | 2712          | 0.0           | 950    | 2969          | 0.0           |
| 435    | 102160        | 27.3          | 565    | 118987        | 8.4           | 695    | 16058         | 0.0           | 825    | 2473          | 0.0           | 955    | 2277          | 0.0           |
| 440    | 135103        | 45.1          | 570    | 122326        | 6.0           | 700    | 14133         | 0.0           | 830    | 1969          | 0.0           | 960    | 4267          | 0.0           |
| 445    | 140126        | 55.3          | 575    | 125968        | 4.2           | 705    | 12309         | 0.0           | 835    | 1917          | 0.0           | 965    | 2034          | 0.0           |
| 450    | 102339        | 47.2          | 580    | 127613        | 2.9           | 710    | 11142         | 0.0           | 840    | 2248          | 0.0           | 970    | 3586          | 0.0           |
| 455    | 58751         | 30.8          | 585    | 129466        | 1.9           | 715    | 10143         | 0.0           | 845    | 2266          | 0.0           | 975    | 2505          | 0.0           |
| 460    | 36892         | 21.7          | 590    | 128813        | 1.3           | 720    | 9072          | 0.0           | 850    | 2558          | 0.0           | 980    | 2666          | 0.0           |
| 465    | 24637         | 16.1          | 595    | 126387        | 0.8           | 725    | 8130          | 0.0           | 855    | 2767          | 0.0           | 985    | 2934          | 0.0           |
| 470    | 16738         | 12.0          | 600    | 123477        | 0.5           | 730    | 7149          | 0.0           | 860    | 2826          | 0.0           | 990    | 4120          | 0.0           |
| 475    | 13456         | 10.3          | 605    | 118718        | 0.3           | 735    | 6311          | 0.0           | 865    | 2385          | 0.0           | 995    | 3858          | 0.0           |
| 480    | 13081         | 10.5          | 610    | 112091        | 0.2           | 740    | 5711          | 0.0           | 870    | 3194          | 0.0           | 1000   | 3405          | 0.0           |
| 485    | 14734         | 12.1          | 615    | 105039        | 0.1           | 745    | 5111          | 0.0           | 875    | 3189          | 0.0           |        |               |               |

**Summary**

$R_f = 71.7$   
 $R_g = 96.9$   
 CIE  $R_a = 71.2$   
 $R_g = -29.7$



**Color Vector Graphics**



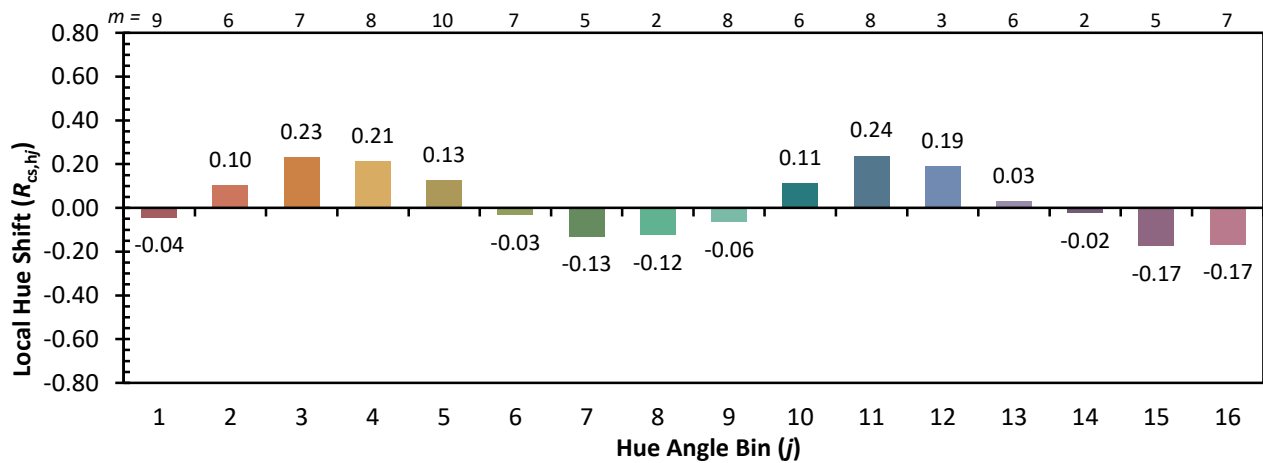


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 55 | CES51 = 86 | CES76 = 45 |
| CES02 = 61 | CES27 = 80 | CES52 = 87 | CES77 = 68 |
| CES03 = 30 | CES28 = 79 | CES53 = 74 | CES78 = 49 |
| CES04 = 70 | CES29 = 51 | CES54 = 81 | CES79 = 77 |
| CES05 = 47 | CES30 = 60 | CES55 = 80 | CES80 = 75 |
| CES06 = 50 | CES31 = 56 | CES56 = 69 | CES81 = 75 |
| CES07 = 40 | CES32 = 52 | CES57 = 67 | CES82 = 90 |
| CES08 = 39 | CES33 = 62 | CES58 = 69 | CES83 = 85 |
| CES09 = 29 | CES34 = 65 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 81 | CES60 = 91 | CES85 = 83 |
| CES11 = 57 | CES36 = 92 | CES61 = 85 | CES86 = 72 |
| CES12 = 63 | CES37 = 74 | CES62 = 81 | CES87 = 77 |
| CES13 = 42 | CES38 = 69 | CES63 = 72 | CES88 = 77 |
| CES14 = 74 | CES39 = 92 | CES64 = 69 | CES89 = 72 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 75 |
| CES16 = 46 | CES41 = 84 | CES66 = 63 | CES91 = 91 |
| CES17 = 49 | CES42 = 75 | CES67 = 60 | CES92 = 66 |
| CES18 = 56 | CES43 = 70 | CES68 = 67 | CES93 = 80 |
| CES19 = 72 | CES44 = 98 | CES69 = 77 | CES94 = 56 |
| CES20 = 65 | CES45 = 80 | CES70 = 57 | CES95 = 72 |
| CES21 = 86 | CES46 = 77 | CES71 = 53 | CES96 = 78 |
| CES22 = 78 | CES47 = 74 | CES72 = 84 | CES97 = 83 |
| CES23 = 92 | CES48 = 66 | CES73 = 47 | CES98 = 73 |
| CES24 = 91 | CES49 = 76 | CES74 = 96 | CES99 = 63 |
| CES25 = 72 | CES50 = 85 | CES75 = 52 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)