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: P438793

Luminaire Tested: **IST-SA1E-830-U-SLL-HSS**

Issue Date: 12/10/2020

Report Generated By 670245982

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Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P438793 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-21) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 12/10/2020 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | IST-SA1E-830-U-SLL-HSS |
| Description: | IMPACT ELITE LED TRAPEZOID LUMINAIRE |
| | (1) 80 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD |
| Light Source: | - |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 4251 lumens |
| Efficiency: | N/A |
| Efficacy: | 73.0 lumens/watt |
| Luminous Opening: | Rectangular (W 0.5' x L: 0.5' x H: 0') |
| IES Classification: | Type IV - Short |
| BUG Rating: | B1 - U0 - G1 |

| | |
|---|---|
| Input Watts (W): | 58.2 |
| 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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REPORT NUMBER: P438793
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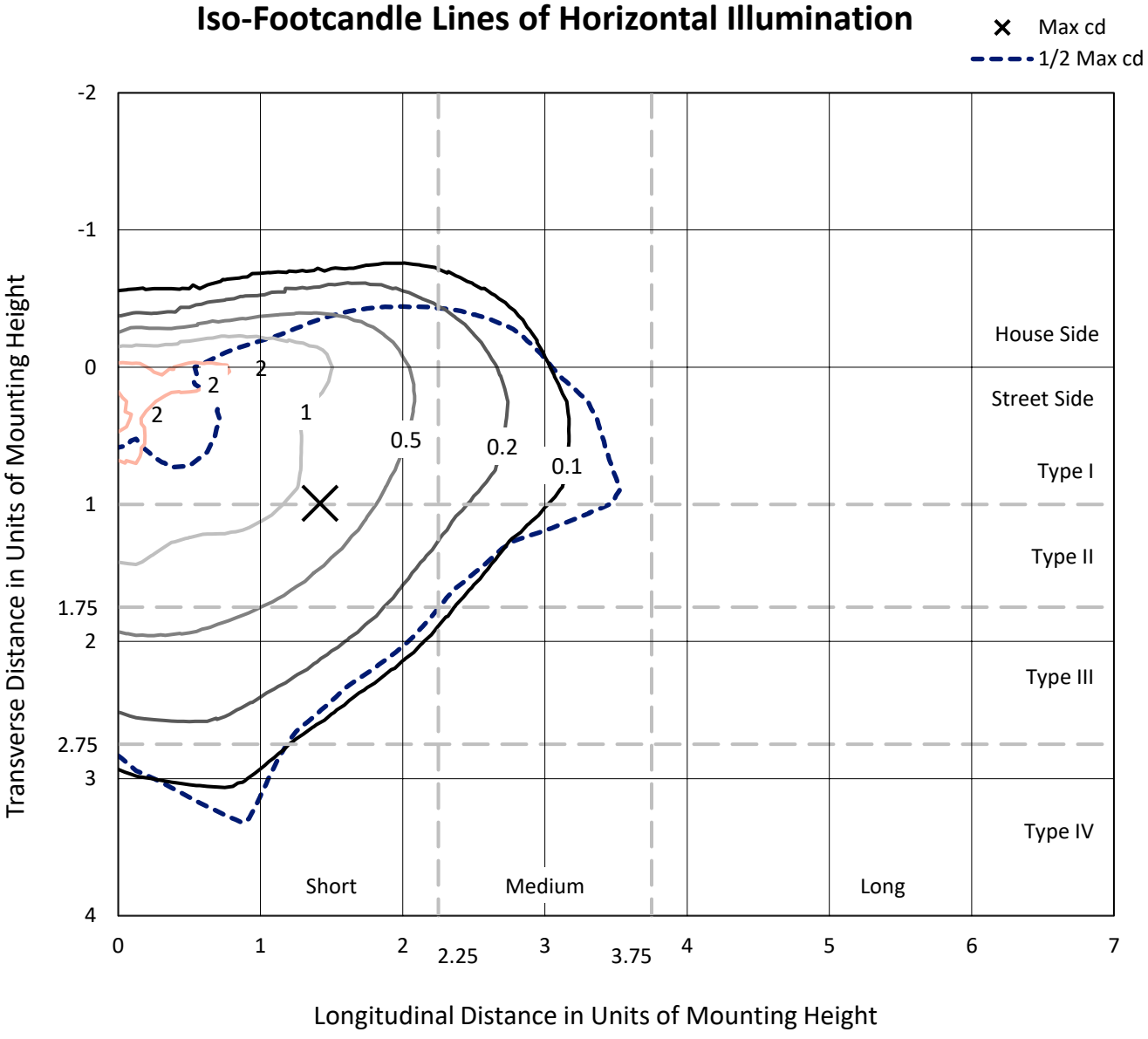
## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 2.9 fc
Type IV - Short - N/A

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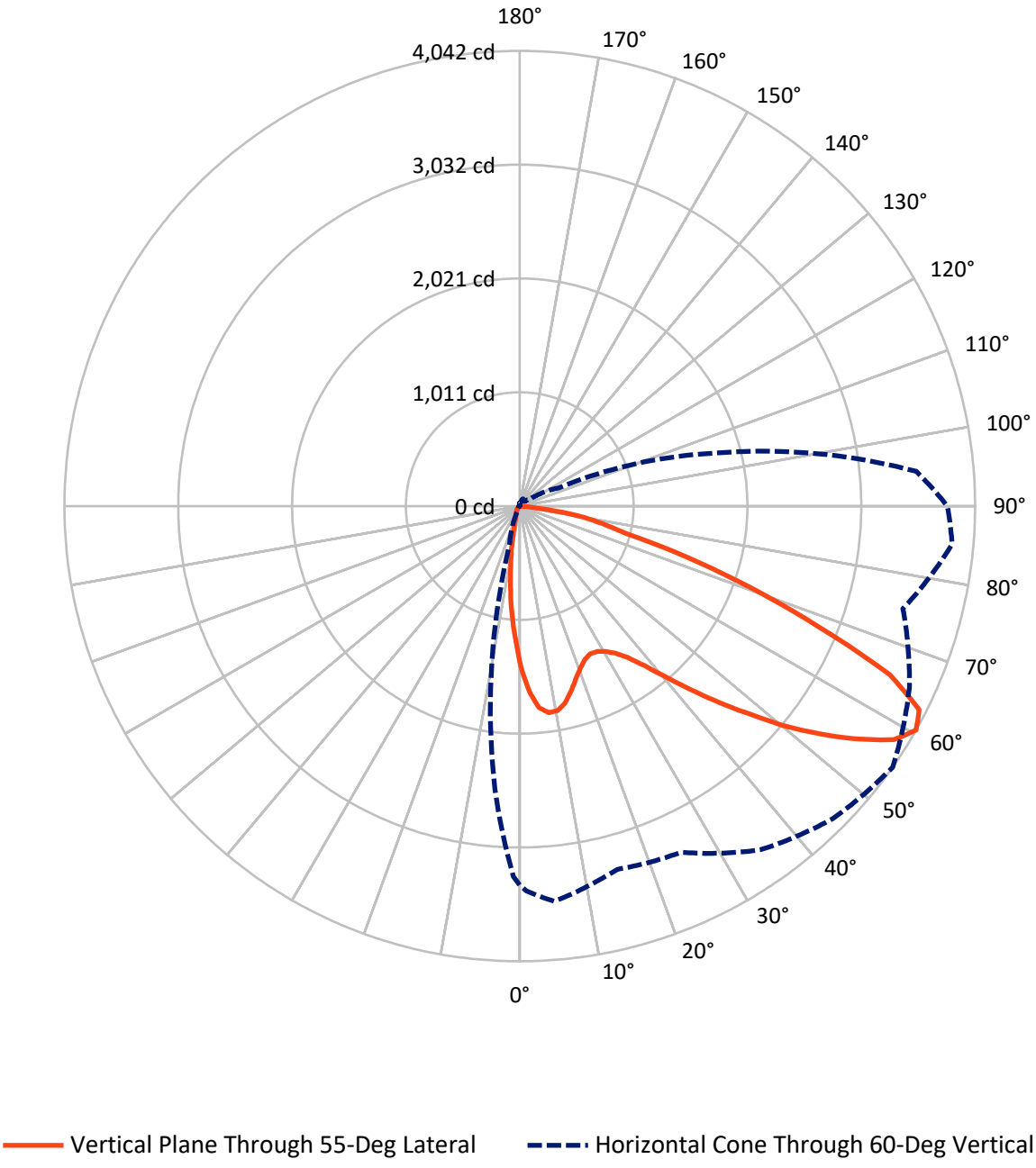
## Luminous Intensity Polar Plot



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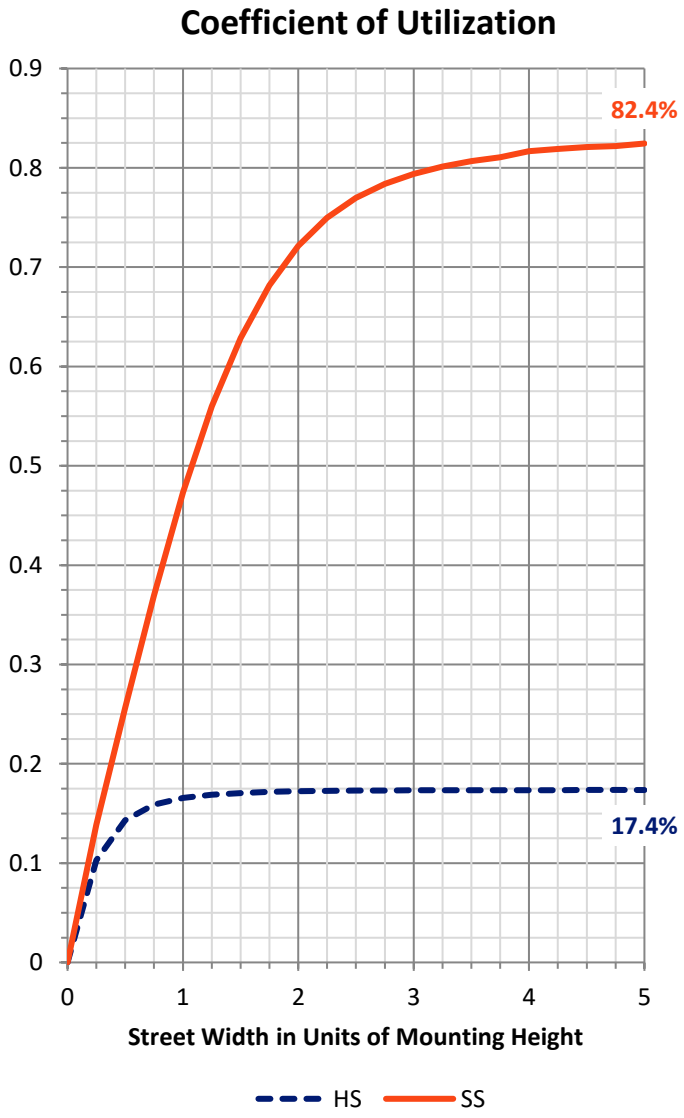
**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 744.7 | 0.0 | 744.7 |
| | % Fixture | 17.5 | 0.0 | 17.5 |
| **Street Side** | Lumens | 3506.4 | 0.0 | 3506.4 |
| | % Fixture | 82.5 | 0.0 | 82.5 |
| **Total** | Lumens | 4251.0 | 0.0 | 4251.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 106.9 | 2.5 |
| 10°-20° | 209.3 | 4.9 |
| 20°-30° | 307.8 | 7.2 |
| 30°-40° | 460.2 | 10.8 |
| 40°-50° | 680.9 | 16.0 |
| 50°-60° | 978.7 | 23.0 |
| 60°-70° | 1049.1 | 24.7 |
| 70°-80° | 423.8 | 10.0 |
| 80°-90° | 34.3 | 0.8 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 4251.0 | 100.0 |
| 0°-180° | 4251.0 | 100.0 |



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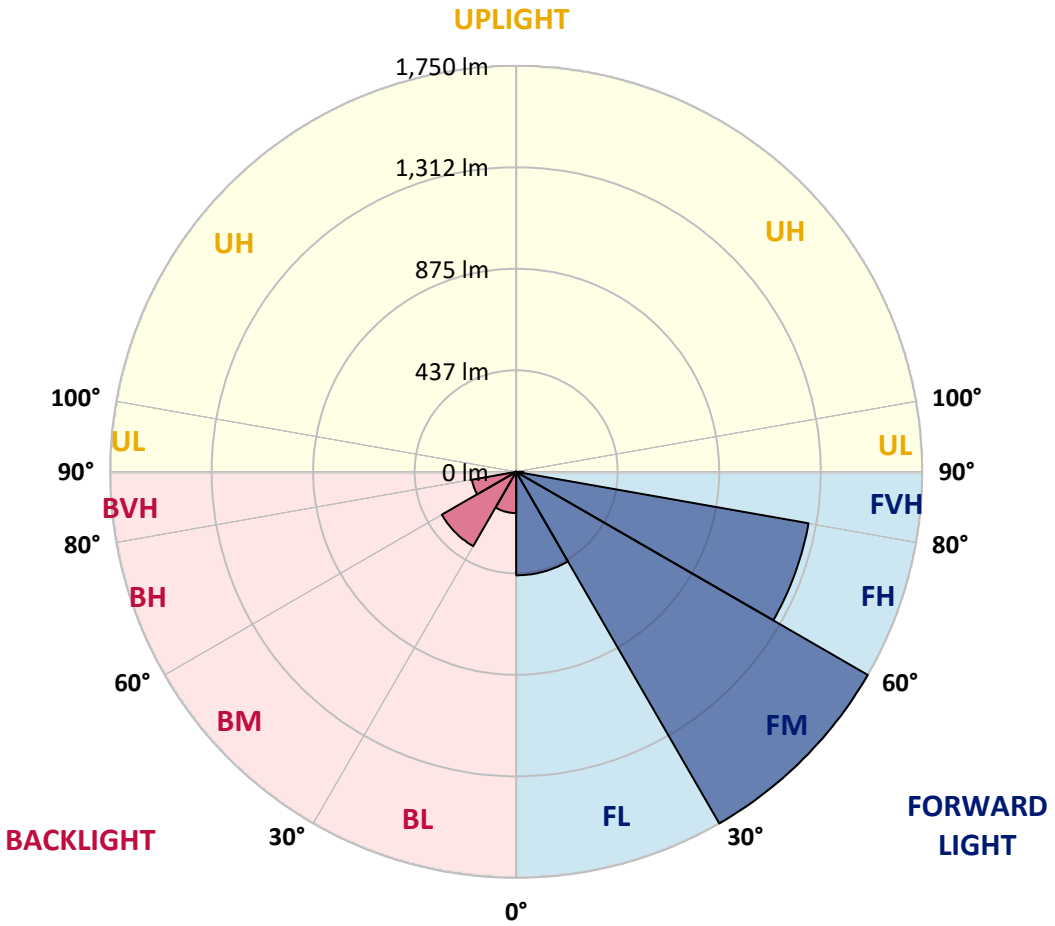
## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 446.1 | 10.5 | | | |
| FM | (30°-60°) | 1749.8 | 41.2 | | | |
| FH | (60°-80°) | 1279.2 | 30.1 | | | G1/1800 |
| FVH | (80°-90°) | 31.2 | 0.7 | | | G1/100 |
| BL | (0°-30°) | 177.9 | 4.2 | B1/500 | | |
| BM | (30°-60°) | 370.0 | 8.7 | B1/1000 | | |
| BH | (60°-80°) | 193.7 | 4.6 | B1/500 | | G1/500 |
| BVH | (80°-90°) | 3.1 | 0.1 | | | 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 IV Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 1° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | *1434.3* | 1434.3 | 1434.3 | 1434.3 |
| 2.5° | 1541.0 | 1541.0 | 1553.4 | 1590.3 | 1631.3 | 1651.8 | 1674.4 | *1651.8* | 1647.7 | 1614.9 | 1590.3 |
| 5° | 1493.8 | 1504.1 | 1543.1 | 1641.6 | 1746.2 | 1799.6 | 1828.3 | *1797.5* | 1742.1 | 1670.3 | 1580.0 |
| 7.5° | 1387.1 | 1399.5 | 1444.6 | 1604.7 | 1748.3 | 1855.0 | 1906.3 | *1852.9* | 1758.6 | 1627.2 | 1495.9 |
| 10° | 1272.2 | 1294.8 | 1354.3 | 1536.9 | 1703.1 | 1830.4 | 1902.2 | *1846.8* | 1729.8 | 1561.6 | 1399.5 |
| 12.5° | 1196.3 | 1212.7 | 1292.8 | 1475.4 | 1653.9 | 1766.8 | 1805.7 | *1793.4* | 1686.7 | 1530.8 | 1360.5 |
| 15° | 1184.0 | 1204.5 | 1288.6 | 1471.3 | 1606.7 | 1674.4 | 1688.8 | *1705.2* | 1668.3 | 1534.9 | 1372.8 |
| 17.5° | 1237.3 | 1259.9 | 1354.3 | 1502.1 | 1563.6 | 1563.6 | 1578.0 | *1610.8* | 1645.7 | 1575.9 | 1446.7 |
| 20° | 1346.1 | 1376.9 | 1481.5 | 1582.1 | 1541.0 | 1491.8 | 1493.8 | *1536.9* | 1631.3 | 1668.3 | 1578.0 |
| 22.5° | 1491.8 | 1532.8 | 1660.1 | 1707.3 | 1565.7 | 1452.8 | 1442.5 | *1479.5* | 1633.4 | 1762.7 | 1758.6 |
| 25° | 1684.7 | 1733.9 | 1857.0 | 1855.0 | 1625.2 | 1436.4 | 1426.1 | *1452.8* | 1651.8 | 1865.3 | 1916.6 |
| 27.5° | 1859.1 | 1900.1 | 2023.3 | 1972.0 | 1684.7 | 1456.9 | 1434.3 | *1463.1* | 1666.2 | 1941.2 | 2058.1 |
| 30° | 2006.8 | 2041.7 | 2150.5 | 2056.1 | 1736.0 | 1491.8 | 1452.8 | *1497.9* | 1697.0 | 1982.2 | 2185.4 |
| 32.5° | 2119.7 | 2171.0 | 2271.5 | 2121.8 | 1797.5 | 1536.9 | 1495.9 | *1557.5* | 1748.3 | 2035.6 | 2296.2 |
| 35° | 2271.5 | 2298.2 | 2417.2 | 2187.4 | 1879.6 | 1633.4 | 1567.7 | *1649.8* | 1832.4 | 2105.3 | 2419.3 |
| 37.5° | 2402.9 | 2472.6 | 2550.6 | 2255.1 | 1980.2 | 1752.4 | 1680.6 | *1797.5* | 1947.3 | 2185.4 | 2562.9 |
| 40° | 2558.8 | 2638.9 | 2723.0 | 2351.6 | 2072.5 | 1908.3 | 1877.6 | *1992.5* | 2119.7 | 2302.3 | 2704.5 |
| 42.5° | 2702.5 | 2776.3 | 2833.8 | 2464.4 | 2185.4 | 2084.8 | 2107.4 | *2228.5* | 2296.2 | 2423.4 | 2825.6 |
| 45° | 2817.4 | 2883.0 | 2969.2 | 2542.4 | 2310.5 | 2281.8 | 2396.7 | *2491.1* | 2470.6 | 2528.0 | 2934.3 |
| 47.5° | 2936.4 | 3016.4 | 3051.3 | 2624.5 | 2472.6 | 2540.4 | 2745.6 | *2766.1* | 2653.2 | 2624.5 | 3028.7 |
| 50° | 3018.5 | 3078.0 | 3100.6 | 2725.0 | 2671.7 | 2881.0 | 3045.1 | *3080.0* | 2852.3 | 2700.4 | 3151.9 |
| 52.5° | 3119.0 | 3176.5 | 3203.2 | 2844.1 | 2885.1 | 3186.7 | 3377.6 | *3369.4* | 3045.1 | 2825.6 | 3272.9 |
| 55° | 3297.5 | 3350.9 | 3377.6 | 2989.7 | 3036.9 | 3449.4 | 3660.7 | *3652.5* | 3275.0 | 3006.2 | 3453.5 |
| 57.5° | 3424.8 | 3469.9 | 3513.0 | 3153.9 | 3225.7 | 3617.7 | 3853.6 | *3915.2* | 3552.0 | 3233.9 | 3650.5 |
| 60° | *3367.3* | *3418.6* | *3523.3* | *3340.6* | *3391.9* | *3726.4* | *3927.5* | *4042.4* | *3816.7* | *3521.2* | *3853.6* |
| 62.5° | 3205.2 | 3281.1 | 3389.9 | 3488.4 | 3521.2 | 3744.9 | 3824.9 | *3978.8* | 3958.3 | 3810.5 | 3946.0 |
| 65° | 3000.0 | 3078.0 | 3182.6 | 3508.9 | 3492.5 | 3469.9 | 3517.1 | *3609.4* | 3753.1 | 3950.1 | 3900.8 |
| 67.5° | 2630.6 | 2743.5 | 2874.8 | 3268.8 | 3036.9 | 2907.7 | 2920.0 | *2868.7* | 3158.0 | 3749.0 | 3671.0 |
| 70° | 2142.3 | 2257.2 | 2398.8 | 2772.2 | 2341.3 | 2171.0 | 2214.1 | *2181.3* | 2409.0 | 3217.5 | 3145.7 |
| 72.5° | 1508.2 | 1631.3 | 1805.7 | 2310.5 | 1631.3 | 1356.4 | 1459.0 | *1545.1* | 1816.0 | 2581.4 | 2310.5 |
| 75° | 999.3 | 1087.6 | 1212.7 | 1740.1 | 1163.5 | 911.1 | 933.7 | *968.5* | 1214.8 | 1951.4 | 1459.0 |
| 77.5° | 517.1 | 605.3 | 660.7 | 931.6 | 720.2 | 718.2 | 701.8 | *746.9* | 759.2 | 1171.7 | 761.3 |
| 80° | 289.3 | 318.1 | 346.8 | 453.5 | 361.1 | 426.8 | 441.2 | *539.7* | 500.7 | 586.9 | 318.1 |
| 82.5° | 141.6 | 178.5 | 194.9 | 279.1 | 231.9 | 170.3 | 84.1 | *176.5* | 297.5 | 318.1 | 147.7 |
| 85° | 2.1 | 4.1 | 10.3 | 22.6 | 6.2 | 6.2 | 0.0 | *6.2* | 30.8 | 39.0 | 51.3 |
| 87.5° | 0.0 | 0.0 | 0.0 | 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 |

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**CANDELA DISTRIBUTION (continued):**

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 |
| 2.5° | 1563.6 | 1547.2 | 1500.0 | 1459.0 | 1395.4 | 1368.7 | 1325.6 | 1315.3 | 1280.4 | 1245.6 | 1225.0 |
| 5° | 1534.9 | 1487.7 | 1391.2 | 1296.9 | 1210.7 | 1130.6 | 1071.1 | 1021.9 | 966.5 | 943.9 | 958.3 |
| 7.5° | 1420.0 | 1354.3 | 1214.8 | 1104.0 | 980.8 | 888.5 | 804.4 | 761.3 | 710.0 | 689.5 | 675.1 |
| 10° | 1325.6 | 1245.6 | 1085.5 | 939.8 | 822.8 | 751.0 | 699.7 | 638.2 | 578.7 | 531.5 | 525.3 |
| 12.5° | 1266.1 | 1179.9 | 1001.4 | 847.5 | 761.3 | 691.5 | 632.0 | 552.0 | 484.3 | 439.1 | 418.6 |
| 15° | 1264.0 | 1157.3 | 974.7 | 812.6 | 712.0 | 623.8 | 547.9 | 457.6 | 387.8 | 330.4 | 309.8 |
| 17.5° | 1337.9 | 1208.6 | 987.0 | 775.7 | 642.3 | 527.4 | 428.9 | 334.5 | 266.8 | 227.8 | 207.3 |
| 20° | 1467.2 | 1325.6 | 1009.6 | 738.7 | 574.6 | 428.9 | 301.6 | 227.8 | 182.6 | 164.2 | 156.0 |
| 22.5° | 1623.1 | 1454.9 | 1050.6 | 710.0 | 504.8 | 324.2 | 213.4 | 164.2 | 143.6 | 131.3 | 129.3 |
| 25° | 1811.9 | 1619.0 | 1108.1 | 689.5 | 441.2 | 250.3 | 166.2 | 135.4 | 123.1 | 114.9 | 110.8 |
| 27.5° | 1978.1 | 1777.0 | 1194.3 | 673.1 | 379.6 | 205.2 | 141.6 | 119.0 | 106.7 | 100.5 | 98.5 |
| 30° | 2101.2 | 1906.3 | 1292.8 | 636.1 | 330.4 | 178.5 | 133.4 | 112.9 | 98.5 | 90.3 | 88.2 |
| 32.5° | 2242.8 | 2004.8 | 1339.9 | 599.2 | 301.6 | 158.0 | 117.0 | 100.5 | 90.3 | 82.1 | 80.0 |
| 35° | 2398.8 | 2142.3 | 1387.1 | 570.5 | 283.2 | 141.6 | 106.7 | 88.2 | 75.9 | 67.7 | 65.7 |
| 37.5° | 2579.3 | 2294.1 | 1430.2 | 545.8 | 272.9 | 131.3 | 100.5 | 82.1 | 69.8 | 61.6 | 57.5 |
| 40° | 2780.4 | 2413.1 | 1459.0 | 529.4 | 258.6 | 125.2 | 96.4 | 78.0 | 65.7 | 55.4 | 53.4 |
| 42.5° | 2940.5 | 2550.6 | 1467.2 | 523.3 | 244.2 | 123.1 | 92.3 | 75.9 | 61.6 | 53.4 | 49.2 |
| 45° | 3055.4 | 2671.7 | 1495.9 | 517.1 | 233.9 | 114.9 | 90.3 | 73.9 | 57.5 | 49.2 | 45.1 |
| 47.5° | 3139.5 | 2801.0 | 1522.6 | 510.9 | 223.7 | 104.7 | 96.4 | 73.9 | 55.4 | 45.1 | 41.0 |
| 50° | 3295.5 | 2952.8 | 1573.9 | 494.5 | 209.3 | 94.4 | 96.4 | 71.8 | 53.4 | 43.1 | 39.0 |
| 52.5° | 3463.8 | 3149.8 | 1688.8 | 476.1 | 190.8 | 84.1 | 88.2 | 71.8 | 51.3 | 41.0 | 36.9 |
| 55° | 3623.8 | 3389.9 | 1795.5 | 451.4 | 160.1 | 75.9 | 82.1 | 71.8 | 47.2 | 39.0 | 34.9 |
| 57.5° | 3740.8 | 3549.9 | 1852.9 | 420.7 | 127.2 | 67.7 | 67.7 | 67.7 | 41.0 | 32.8 | 30.8 |
| 60° | *3796.2* | *3533.5* | *1826.3* | *381.7* | *102.6* | *59.5* | *55.4* | *69.8* | *36.9* | *28.7* | *26.7* |
| 62.5° | 3753.1 | 3363.2 | 1709.3 | 340.6 | 90.3 | 51.3 | 45.1 | 61.6 | 32.8 | 24.6 | 22.6 |
| 65° | 3619.7 | 3075.9 | 1514.4 | 307.8 | 88.2 | 43.1 | 36.9 | 36.9 | 26.7 | 20.5 | 18.5 |
| 67.5° | 3289.3 | 2698.4 | 1282.5 | 277.0 | 90.3 | 36.9 | 30.8 | 28.7 | 22.6 | 16.4 | 14.4 |
| 70° | 2735.3 | 2168.9 | 970.6 | 262.7 | 90.3 | 30.8 | 26.7 | 22.6 | 16.4 | 14.4 | 12.3 |
| 72.5° | 1738.0 | 1346.1 | 673.1 | 231.9 | 90.3 | 24.6 | 22.6 | 20.5 | 12.3 | 10.3 | 6.2 |
| 75° | 1030.1 | 818.7 | 316.0 | 178.5 | 75.9 | 20.5 | 16.4 | 12.3 | 6.2 | 4.1 | 4.1 |
| 77.5° | 605.3 | 525.3 | 137.5 | 98.5 | 32.8 | 12.3 | 8.2 | 4.1 | 2.1 | 0.0 | 0.0 |
| 80° | 248.3 | 215.5 | 51.3 | 28.7 | 14.4 | 6.2 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 145.7 | 151.8 | 18.5 | 12.3 | 4.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 45.1 | 69.8 | 0.0 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 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 |

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**CANDELA DISTRIBUTION (continued):**

| | 185° | 195° | 205° | 215° | 225° | 235° | 245° | 255° | 265° | 270° | 275° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 |
| 2.5° | 1223.0 | 1202.5 | 1194.3 | 1181.9 | 1171.7 | 1159.4 | 1175.8 | 1190.2 | 1173.7 | 1192.2 | 1220.9 |
| 5° | 943.9 | 913.1 | 954.2 | 927.5 | 941.9 | 925.4 | 902.9 | 907.0 | 911.1 | 902.9 | 925.4 |
| 7.5° | 654.6 | 668.9 | 679.2 | 677.2 | 689.5 | 666.9 | 666.9 | 652.5 | 632.0 | 640.2 | 636.1 |
| 10° | 496.6 | 467.9 | 478.1 | 476.1 | 498.6 | 467.9 | 447.3 | 424.8 | 422.7 | 426.8 | 422.7 |
| 12.5° | 396.0 | 361.1 | 338.6 | 326.3 | 324.2 | 309.8 | 291.4 | 268.8 | 254.4 | 252.4 | 264.7 |
| 15° | 297.5 | 270.9 | 250.3 | 231.9 | 229.8 | 201.1 | 176.5 | 160.1 | 145.7 | 147.7 | 156.0 |
| 17.5° | 205.2 | 197.0 | 190.8 | 174.4 | 164.2 | 139.5 | 119.0 | 108.8 | 104.7 | 104.7 | 106.7 |
| 20° | 149.8 | 145.7 | 141.6 | 135.4 | 125.2 | 106.7 | 94.4 | 90.3 | 88.2 | 88.2 | 90.3 |
| 22.5° | 125.2 | 119.0 | 114.9 | 112.9 | 104.7 | 90.3 | 82.1 | 78.0 | 78.0 | 78.0 | 78.0 |
| 25° | 106.7 | 102.6 | 100.5 | 96.4 | 90.3 | 78.0 | 71.8 | 69.8 | 67.7 | 67.7 | 69.8 |
| 27.5° | 96.4 | 88.2 | 84.1 | 84.1 | 78.0 | 69.8 | 63.6 | 61.6 | 59.5 | 59.5 | 61.6 |
| 30° | 86.2 | 80.0 | 75.9 | 71.8 | 67.7 | 59.5 | 55.4 | 53.4 | 53.4 | 53.4 | 53.4 |
| 32.5° | 75.9 | 71.8 | 67.7 | 63.6 | 57.5 | 53.4 | 49.2 | 47.2 | 45.1 | 45.1 | 45.1 |
| 35° | 61.6 | 57.5 | 57.5 | 55.4 | 49.2 | 45.1 | 41.0 | 39.0 | 36.9 | 39.0 | 39.0 |
| 37.5° | 53.4 | 47.2 | 47.2 | 47.2 | 43.1 | 39.0 | 34.9 | 32.8 | 30.8 | 30.8 | 32.8 |
| 40° | 49.2 | 41.0 | 39.0 | 39.0 | 39.0 | 32.8 | 28.7 | 26.7 | 24.6 | 24.6 | 26.7 |
| 42.5° | 43.1 | 36.9 | 32.8 | 30.8 | 32.8 | 28.7 | 22.6 | 20.5 | 20.5 | 20.5 | 20.5 |
| 45° | 41.0 | 32.8 | 28.7 | 24.6 | 26.7 | 24.6 | 18.5 | 16.4 | 16.4 | 16.4 | 16.4 |
| 47.5° | 36.9 | 28.7 | 24.6 | 18.5 | 18.5 | 18.5 | 14.4 | 12.3 | 12.3 | 12.3 | 12.3 |
| 50° | 34.9 | 26.7 | 18.5 | 16.4 | 14.4 | 14.4 | 12.3 | 10.3 | 8.2 | 8.2 | 10.3 |
| 52.5° | 32.8 | 24.6 | 16.4 | 12.3 | 10.3 | 10.3 | 8.2 | 8.2 | 6.2 | 6.2 | 6.2 |
| 55° | 30.8 | 20.5 | 14.4 | 10.3 | 8.2 | 6.2 | 6.2 | 6.2 | 6.2 | 4.1 | 6.2 |
| 57.5° | 26.7 | 18.5 | 10.3 | 8.2 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 | 4.1 |
| 60° | *24.6* | *14.4* | *8.2* | *4.1* | *2.1* | *2.1* | *2.1* | *2.1* | *2.1* | *2.1* | *2.1* |
| 62.5° | 20.5 | 12.3 | 6.2 | 4.1 | 2.1 | 0.0 | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 |
| 65° | 16.4 | 10.3 | 4.1 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67.5° | 12.3 | 8.2 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70° | 10.3 | 4.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 6.2 | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75° | 2.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 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

Scaled Data Report

REPORT NUMBER: P438793
CATALOG NUMBER: IST-SA1E-830-U-SLL-HSS

**CANDELA DISTRIBUTION (continued):**

| | 285° | 295° | 305° | 315° | 325° | 335° | 345° | 355° | 359° | 360° |
|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 | 1434.3 |
| 2.5° | 1218.9 | 1231.2 | 1276.3 | 1317.4 | 1362.5 | 1411.8 | 1452.8 | 1512.3 | 1530.8 | 1541.0 |
| 5° | 921.3 | 966.5 | 1021.9 | 1071.1 | 1159.4 | 1241.5 | 1337.9 | 1442.5 | 1485.6 | 1493.8 |
| 7.5° | 664.8 | 695.6 | 755.1 | 853.6 | 933.7 | 1056.8 | 1181.9 | 1321.5 | 1387.1 | 1387.1 |
| 10° | 457.6 | 508.9 | 584.8 | 677.2 | 783.9 | 892.6 | 1038.3 | 1196.3 | 1257.9 | 1272.2 |
| 12.5° | 291.4 | 348.8 | 451.4 | 552.0 | 675.1 | 781.8 | 927.5 | 1106.0 | 1175.8 | 1196.3 |
| 15° | 168.3 | 207.3 | 301.6 | 412.4 | 560.2 | 695.6 | 859.8 | 1077.3 | 1163.5 | 1184.0 |
| 17.5° | 112.9 | 127.2 | 178.5 | 275.0 | 439.1 | 619.7 | 839.3 | 1108.1 | 1212.7 | 1237.3 |
| 20° | 94.4 | 100.5 | 119.0 | 170.3 | 309.8 | 539.7 | 831.1 | 1175.8 | 1303.0 | 1346.1 |
| 22.5° | 82.1 | 88.2 | 100.5 | 125.2 | 221.6 | 455.5 | 824.9 | 1274.3 | 1446.7 | 1491.8 |
| 25° | 71.8 | 78.0 | 88.2 | 106.7 | 156.0 | 371.4 | 835.2 | 1413.8 | 1631.3 | 1684.7 |
| 27.5° | 63.6 | 69.8 | 80.0 | 92.3 | 125.2 | 287.3 | 837.2 | 1545.1 | 1803.7 | 1859.1 |
| 30° | 55.4 | 61.6 | 69.8 | 80.0 | 100.5 | 221.6 | 800.3 | 1678.5 | 1943.2 | 2006.8 |
| 32.5° | 49.2 | 53.4 | 61.6 | 69.8 | 84.1 | 172.4 | 724.4 | 1781.1 | 2058.1 | 2119.7 |
| 35° | 41.0 | 45.1 | 53.4 | 59.5 | 73.9 | 139.5 | 640.2 | 1875.5 | 2195.6 | 2271.5 |
| 37.5° | 34.9 | 39.0 | 45.1 | 53.4 | 65.7 | 108.8 | 556.1 | 1957.6 | 2329.0 | 2402.9 |
| 40° | 28.7 | 34.9 | 41.0 | 47.2 | 59.5 | 84.1 | 463.7 | 2045.8 | 2480.9 | 2558.8 |
| 42.5° | 24.6 | 28.7 | 34.9 | 43.1 | 51.3 | 67.7 | 381.7 | 2101.2 | 2610.1 | 2702.5 |
| 45° | 18.5 | 24.6 | 32.8 | 43.1 | 43.1 | 53.4 | 328.3 | 2142.3 | 2702.5 | 2817.4 |
| 47.5° | 14.4 | 20.5 | 28.7 | 41.0 | 39.0 | 45.1 | 301.6 | 2214.1 | 2829.7 | 2936.4 |
| 50° | 12.3 | 16.4 | 28.7 | 34.9 | 32.8 | 39.0 | 309.8 | 2277.7 | 2926.1 | 3018.5 |
| 52.5° | 10.3 | 14.4 | 24.6 | 26.7 | 28.7 | 34.9 | 326.3 | 2394.7 | 3047.2 | 3119.0 |
| 55° | 8.2 | 12.3 | 18.5 | 22.6 | 24.6 | 32.8 | 352.9 | 2540.4 | 3205.2 | 3297.5 |
| 57.5° | 6.2 | 10.3 | 14.4 | 18.5 | 22.6 | 30.8 | 371.4 | 2632.7 | 3352.9 | 3424.8 |
| 60° | *6.2* | *8.2* | *12.3* | *16.4* | *20.5* | *28.7* | *344.7* | *2523.9* | *3289.3* | *3367.3* |
| 62.5° | 4.1 | 8.2 | 10.3 | 14.4 | 16.4 | 22.6 | 254.4 | 2285.9 | 3098.5 | 3205.2 |
| 65° | 2.1 | 6.2 | 8.2 | 10.3 | 12.3 | 16.4 | 145.7 | 1998.6 | 2872.8 | 3000.0 |
| 67.5° | 0.0 | 4.1 | 6.2 | 8.2 | 8.2 | 12.3 | 67.7 | 1612.9 | 2501.4 | 2630.6 |
| 70° | 0.0 | 2.1 | 4.1 | 4.1 | 6.2 | 10.3 | 34.9 | 1138.9 | 1967.9 | 2142.3 |
| 72.5° | 2.1 | 2.1 | 4.1 | 4.1 | 4.1 | 8.2 | 22.6 | 689.5 | 1323.5 | 1508.2 |
| 75° | 2.1 | 2.1 | 2.1 | 2.1 | 4.1 | 6.2 | 14.4 | 443.2 | 833.1 | 999.3 |
| 77.5° | 2.1 | 4.1 | 2.1 | 2.1 | 2.1 | 4.1 | 8.2 | 246.2 | 455.5 | 517.1 |
| 80° | 2.1 | 2.1 | 2.1 | 2.1 | 2.1 | 4.1 | 4.1 | 22.6 | 215.5 | 289.3 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 2.1 | 2.1 | 2.1 | 2.1 | 110.8 | 141.6 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.1 | 0.0 | 0.0 | 2.1 | 2.1 |
| 87.5° | 0.0 | 0.0 | 0.0 | 2.1 | 2.1 | 2.1 | 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 |

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: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

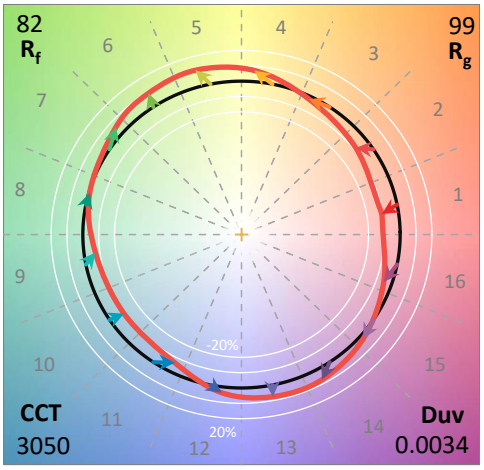
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2408-195-9 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 08/07/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | MCGRAW EDISON |
| Catalog Number: | **GALN-SB1A-830-U-5WQ** |
| Description: | GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS |

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 3050 | CRI (Ra): | 81.0 | | |
| CIE u': | 0.2476 | R1: | 79.6 | R9: | 7.1 |
| CIE v': | 0.5251 | R2: | 85.6 | R10: | 67.0 |
| Duv: | 0.0034 | R3: | 92.0 | R11: | 82.7 |
| CIE x: | 0.4383 | R4: | 82.6 | R12: | 63.2 |
| CIE y: | 0.4131 | R5: | 78.9 | R13: | 80.3 |
| CIE z: | 0.1487 | R6: | 81.7 | R14: | 95.0 |
| Peak Wavelength (nm): | 603 | R7: | 85.2 | R15: | 71.7 |
| Dominant Wavelength (nm): | 581 | R8: | 62.0 | | |
| Purity: | 55.55201 | | | | |

| | |
|---|---|
| Rf: | 81.5 |
| Rg: | 99.2 |




## Test Conditions

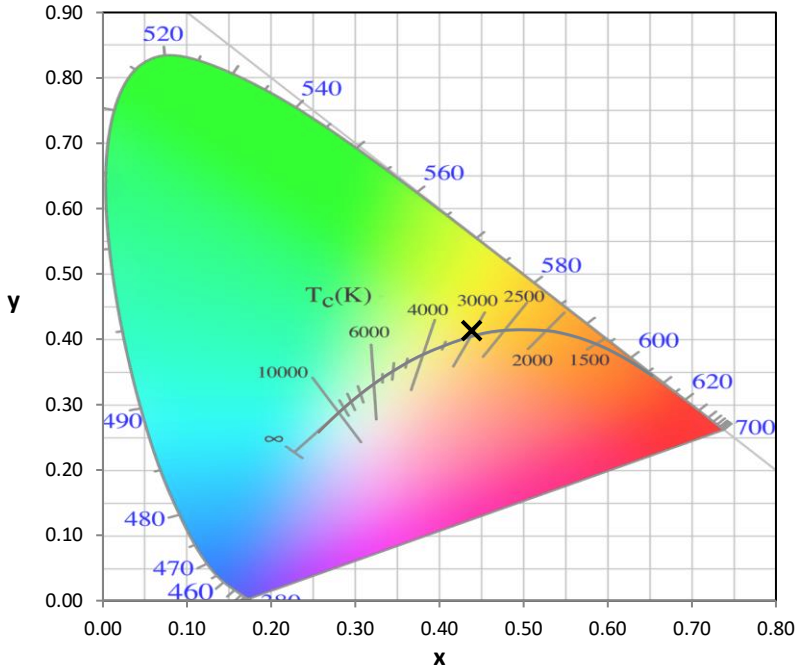
| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 24.2 |

REPORT NUMBER: SP1-2408-195-9

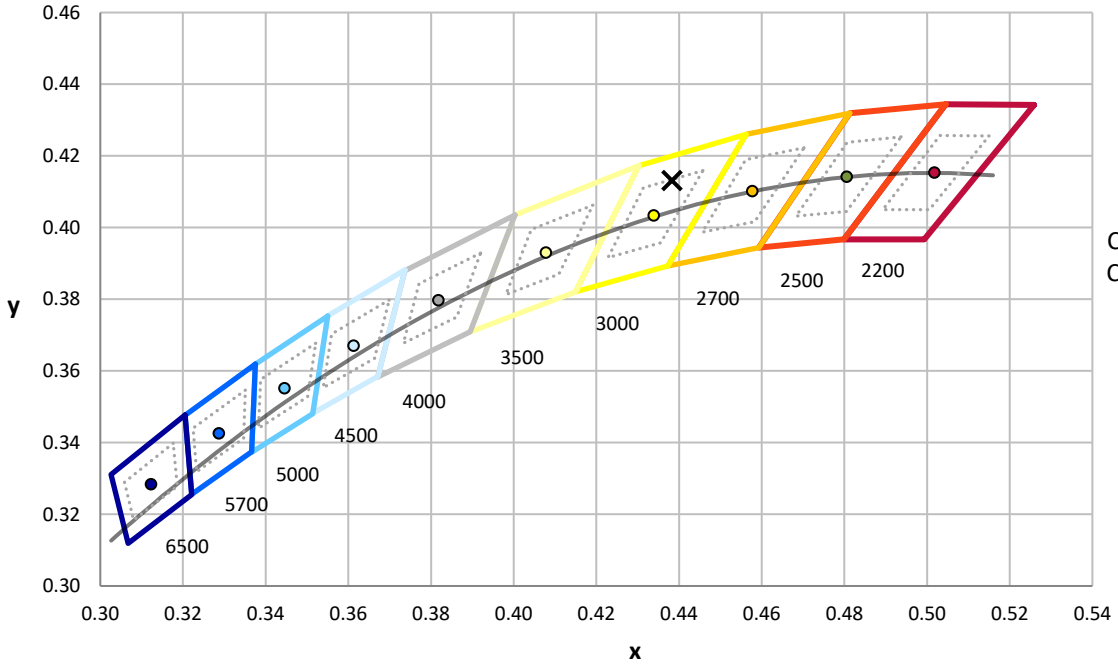
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2408-195-9

## CIE 1931 Chromaticity Diagram




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

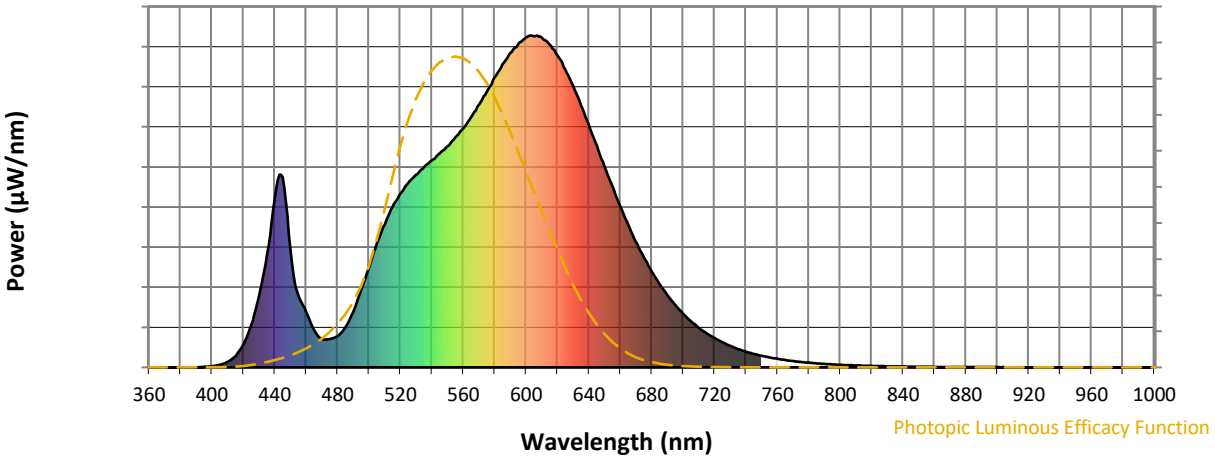



CCT = 3050K
CIE x = 0.4383
CIE y = 0.4131
Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

## Photopic Flux vs. Wavelength

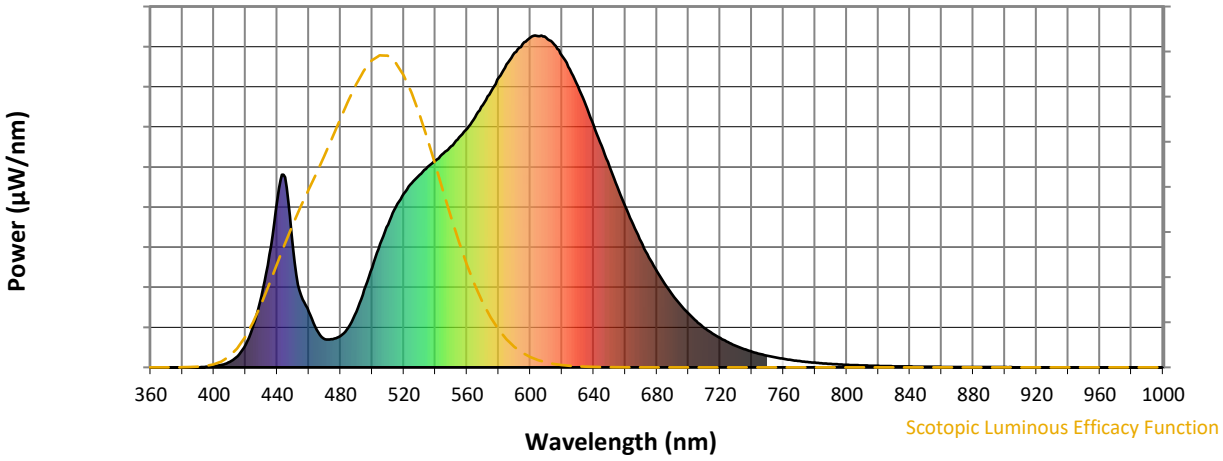



## Photopic Lumens: NR

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 168 | NR | 620 | 940 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 233 | NR | 625 | 897 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 300 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 372 | NR | 635 | 790 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 430 | NR | 640 | 730 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 483 | NR | 645 | 668 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 524 | NR | 650 | 605 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 555 | NR | 655 | 545 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 581 | NR | 660 | 485 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 604 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 623 | NR | 670 | 378 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 645 | NR | 675 | 331 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 68 | NR | 550 | 667 | NR | 680 | 290 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 128 | NR | 555 | 693 | NR | 685 | 251 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 214 | NR | 560 | 719 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 339 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 507 | NR | 570 | 791 | NR | 700 | 162 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 573 | NR | 575 | 830 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 356 | NR | 580 | 873 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 217 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 168 | NR | 590 | 948 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 113 | NR | 595 | 974 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 85 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 85 | NR | 605 | 998 | NR | 735 | 55 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 94 | NR | 610 | 994 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 120 | NR | 615 | 973 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2408-195-9

## Scotopic Flux vs. Wavelength

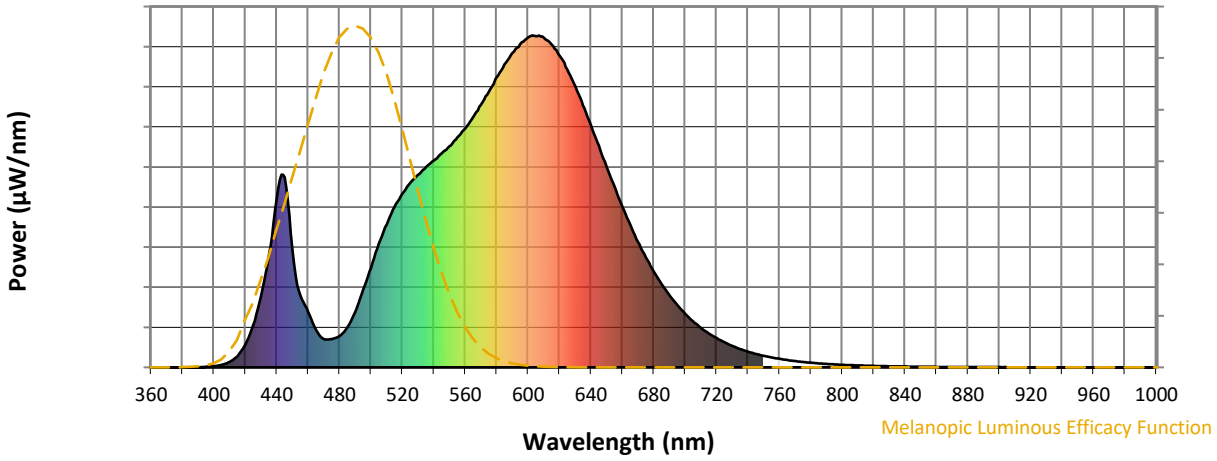



**Scotopic Lumens: NR** **S/P: 1.27**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 168 | NR | 620 | 940 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 233 | NR | 625 | 897 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 300 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 372 | NR | 635 | 790 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 430 | NR | 640 | 730 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 483 | NR | 645 | 668 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 524 | NR | 650 | 605 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 555 | NR | 655 | 545 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 581 | NR | 660 | 485 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 604 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 623 | NR | 670 | 378 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 645 | NR | 675 | 331 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 68 | NR | 550 | 667 | NR | 680 | 290 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 128 | NR | 555 | 693 | NR | 685 | 251 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 214 | NR | 560 | 719 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 339 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 507 | NR | 570 | 791 | NR | 700 | 162 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 573 | NR | 575 | 830 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 356 | NR | 580 | 873 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 217 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 168 | NR | 590 | 948 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 113 | NR | 595 | 974 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 85 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 85 | NR | 605 | 998 | NR | 735 | 55 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 94 | NR | 610 | 994 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 120 | NR | 615 | 973 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2408-195-9

## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 2.32**

| λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) | λ (nm) | Power W^/nm | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 0 | NR | 490 | 168 | NR | 620 | 940 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 233 | NR | 625 | 897 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 300 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 372 | NR | 635 | 790 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 430 | NR | 640 | 730 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 483 | NR | 645 | 668 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 524 | NR | 650 | 605 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 555 | NR | 655 | 545 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 581 | NR | 660 | 485 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 604 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 623 | NR | 670 | 378 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 645 | NR | 675 | 331 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 68 | NR | 550 | 667 | NR | 680 | 290 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 128 | NR | 555 | 693 | NR | 685 | 251 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 214 | NR | 560 | 719 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 339 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 507 | NR | 570 | 791 | NR | 700 | 162 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 573 | NR | 575 | 830 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 356 | NR | 580 | 873 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 217 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 168 | NR | 590 | 948 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 113 | NR | 595 | 974 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 85 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 85 | NR | 605 | 998 | NR | 735 | 55 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 94 | NR | 610 | 994 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 120 | NR | 615 | 973 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

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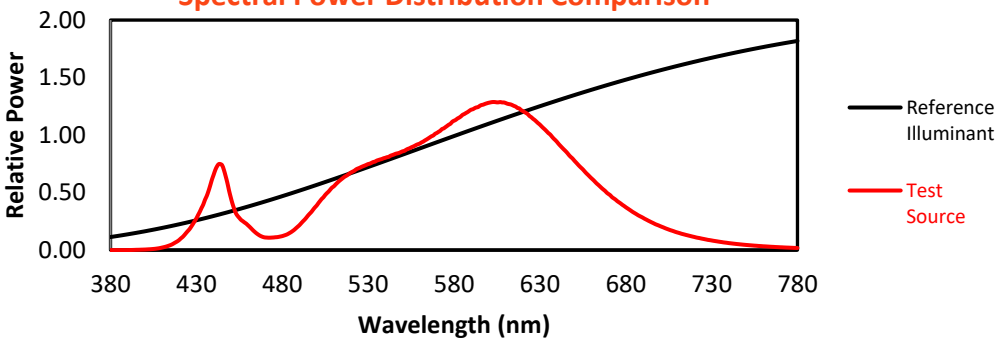
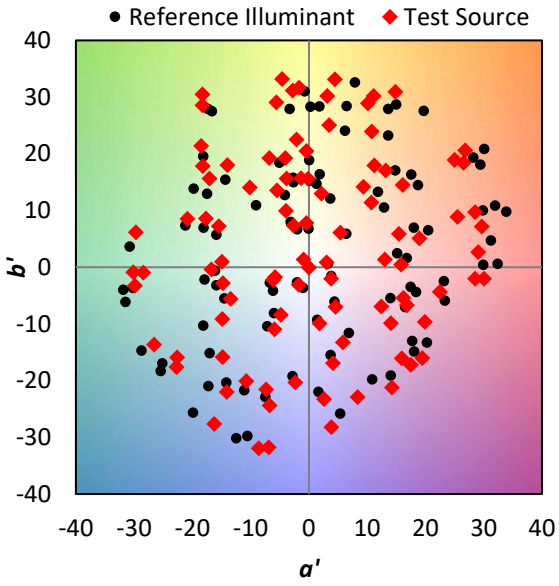
## Summary

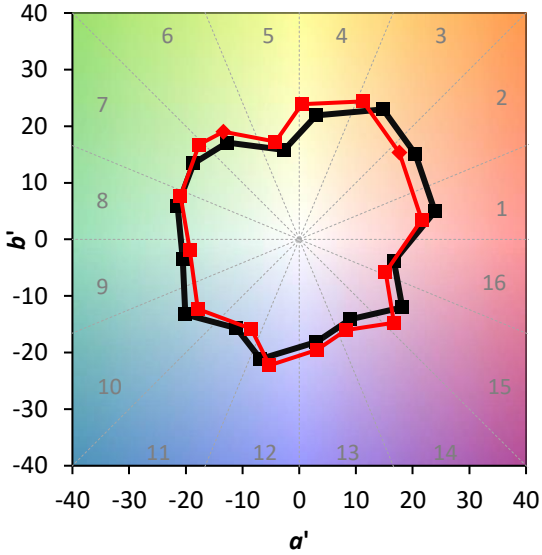
$R_f$ = 81.5
$R_g$ = 99.2
CIE $R_a$ = 81.0
$R_9$ = 7.1

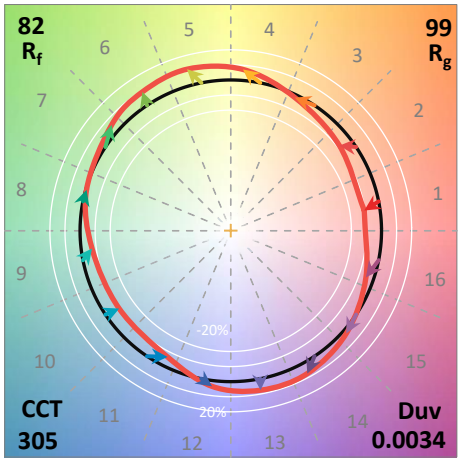
## Spectral Power Distribution Comparison

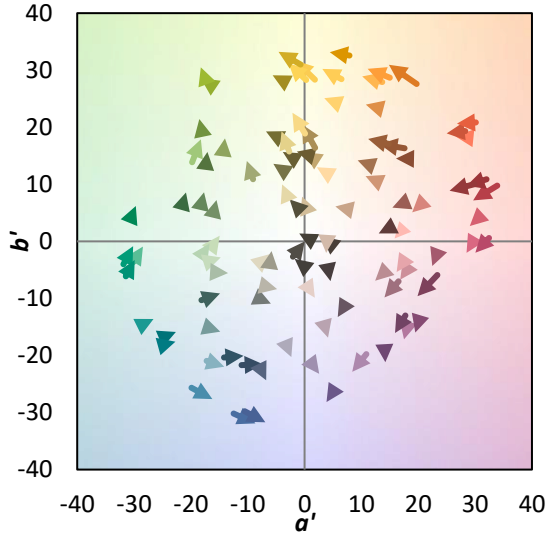



## Color Vector Graphics



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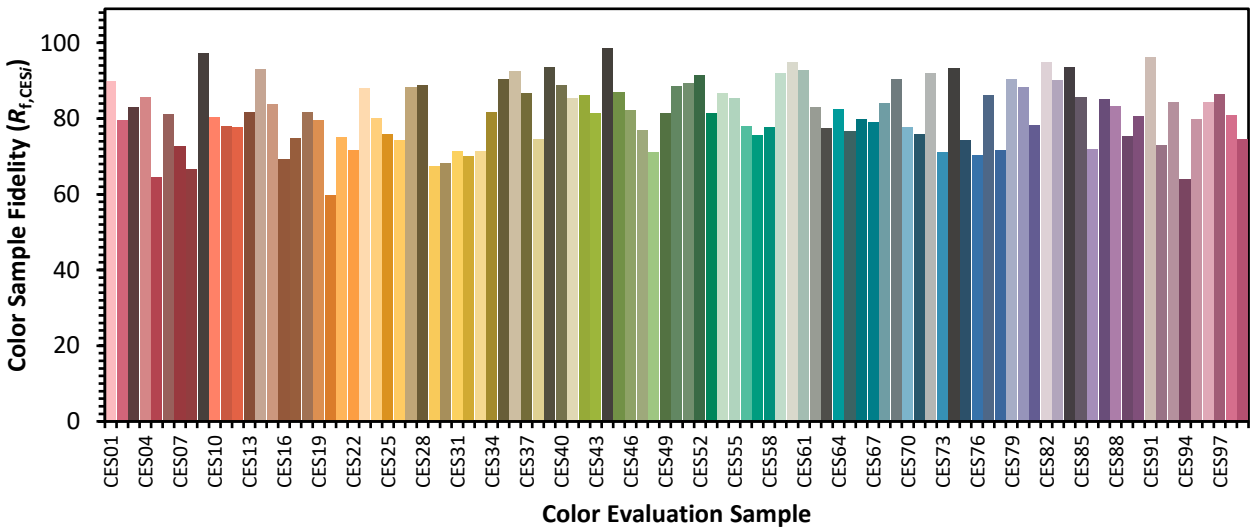
## Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|---|---|---|---|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 92 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 51 | CES31 = 71 | CES56 = 78 | CES81 = 78 |
| CES07 = 42 | CES32 = 70 | CES57 = 76 | CES82 = 95 |
| CES08 = 41 | CES33 = 71 | CES58 = 78 | CES83 = 90 |
| CES09 = 29 | CES34 = 82 | CES59 = 92 | CES84 = 94 |
| CES10 = 76 | CES35 = 90 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 93 | CES61 = 93 | CES86 = 72 |
| CES12 = 65 | CES37 = 87 | CES62 = 83 | CES87 = 85 |
| CES13 = 43 | CES38 = 75 | CES63 = 77 | CES88 = 83 |
| CES14 = 74 | CES39 = 94 | CES64 = 83 | CES89 = 75 |
| CES15 = 71 | CES40 = 89 | CES65 = 77 | CES90 = 81 |
| CES16 = 47 | CES41 = 85 | CES66 = 80 | CES91 = 96 |
| CES17 = 50 | CES42 = 86 | CES67 = 79 | CES92 = 73 |
| CES18 = 56 | CES43 = 81 | CES68 = 84 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 91 | CES94 = 64 |
| CES20 = 66 | CES45 = 87 | CES70 = 78 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 76 | CES96 = 84 |
| CES22 = 79 | CES47 = 77 | CES72 = 92 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 71 | CES98 = 81 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 74 |
| CES25 = 72 | CES50 = 89 | CES75 = 74 | |



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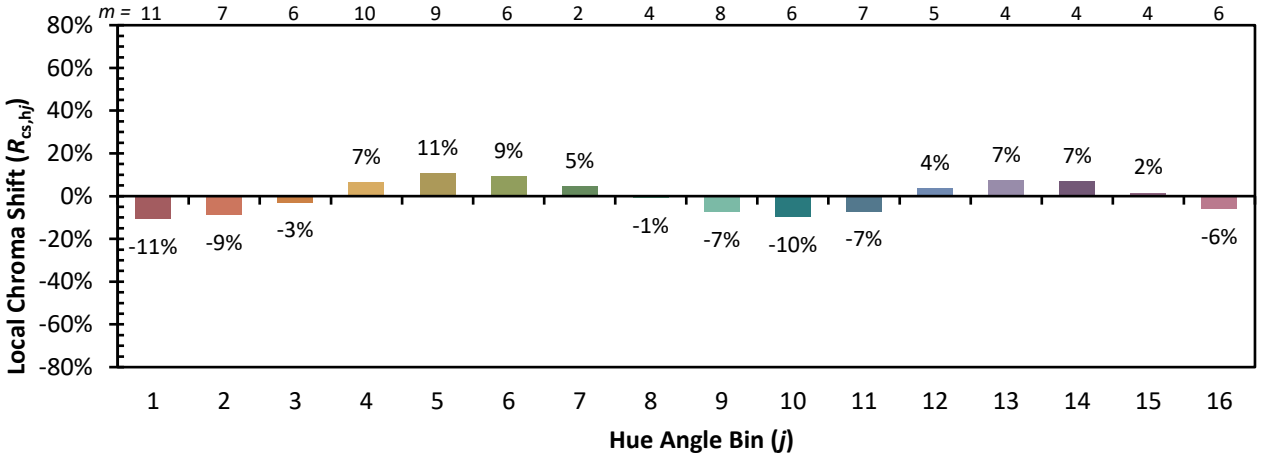
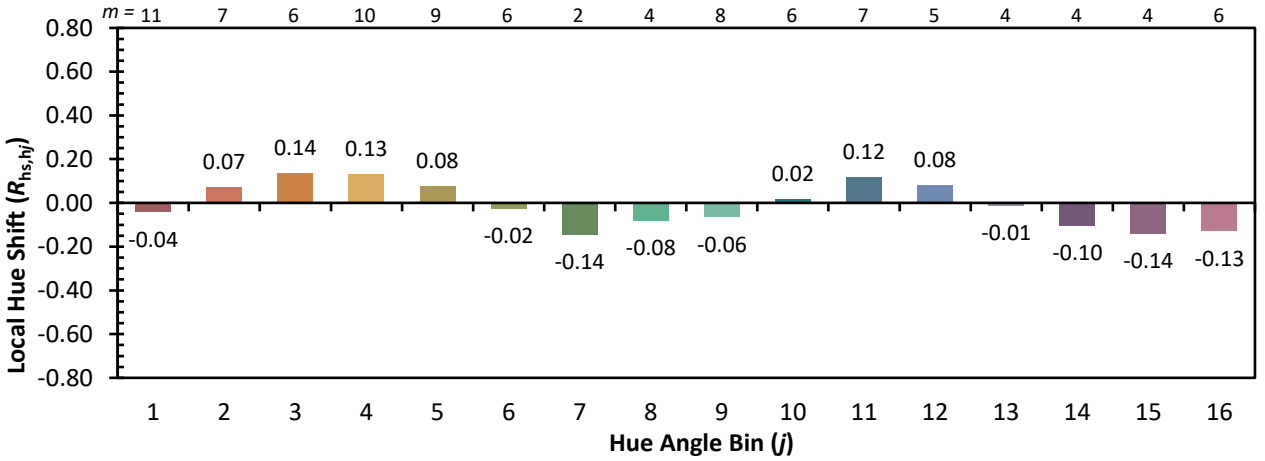
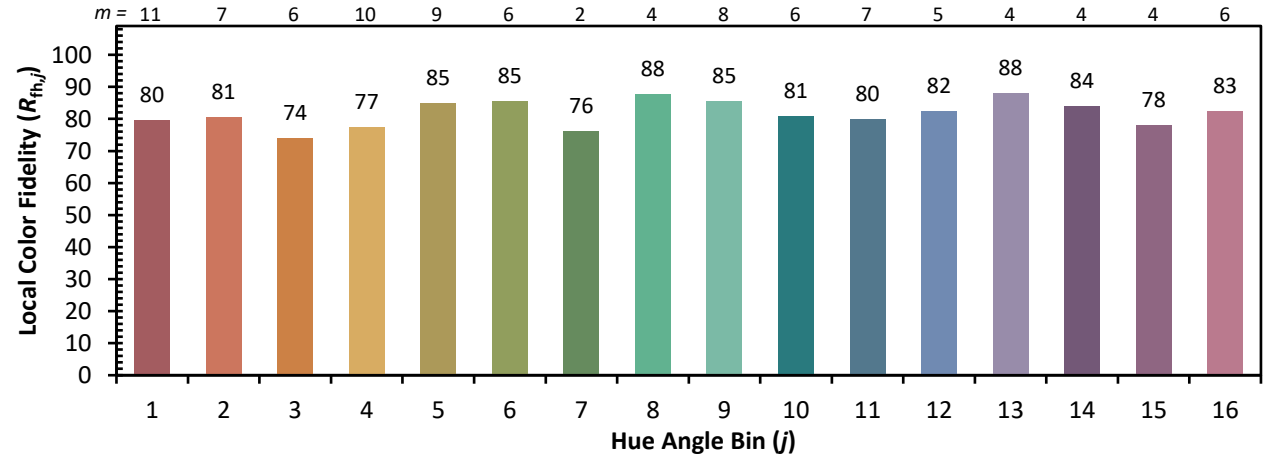
## Color Rendition by Hue-Angle Bin



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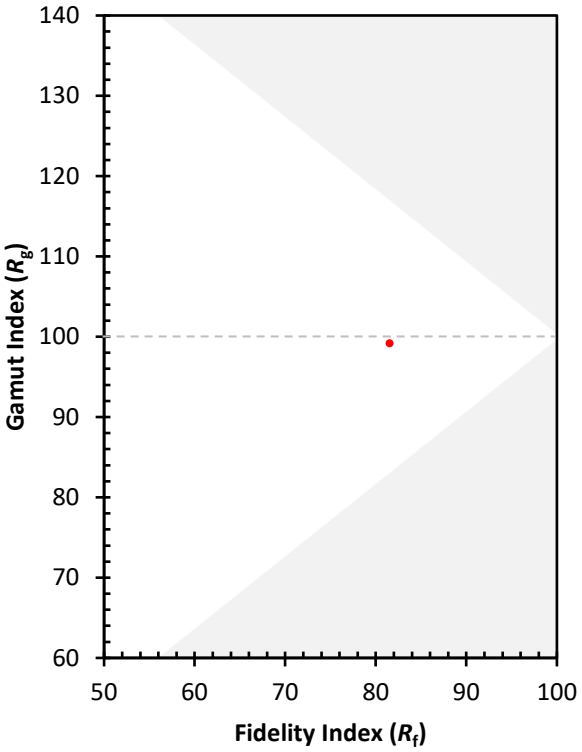
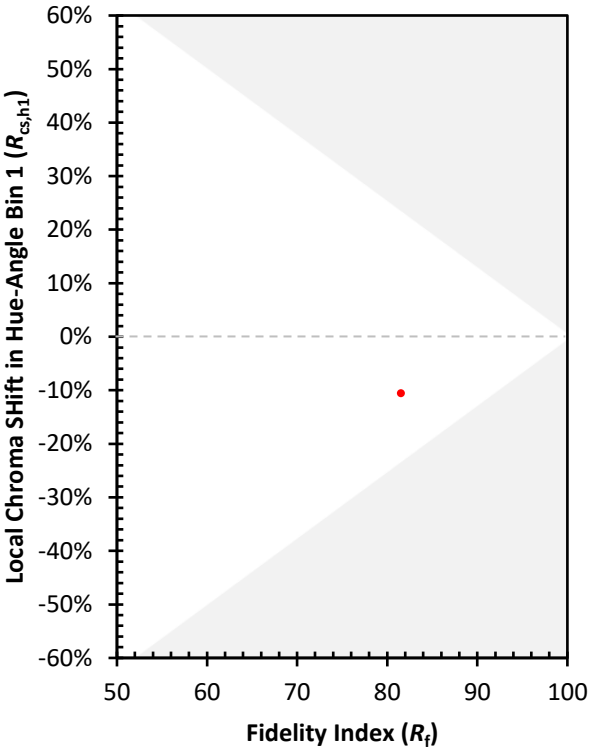
## Measure Comparisons




(END OF REPORT)