

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: P438714

Luminaire Tested: **ISW-SA1E-740-U-SL3**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438714
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-16)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISW-SA1E-740-U-SL3
Description: IMPACT ELITE LED WEDGE LUMINAIRE
(1) 70 CRI, 4000K, 1050mA LIGHTSQUARE WITH 16 LEDS AND TYPE III SPILL
LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7012 lumens
Efficiency: N/A
Efficacy: 120.5 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

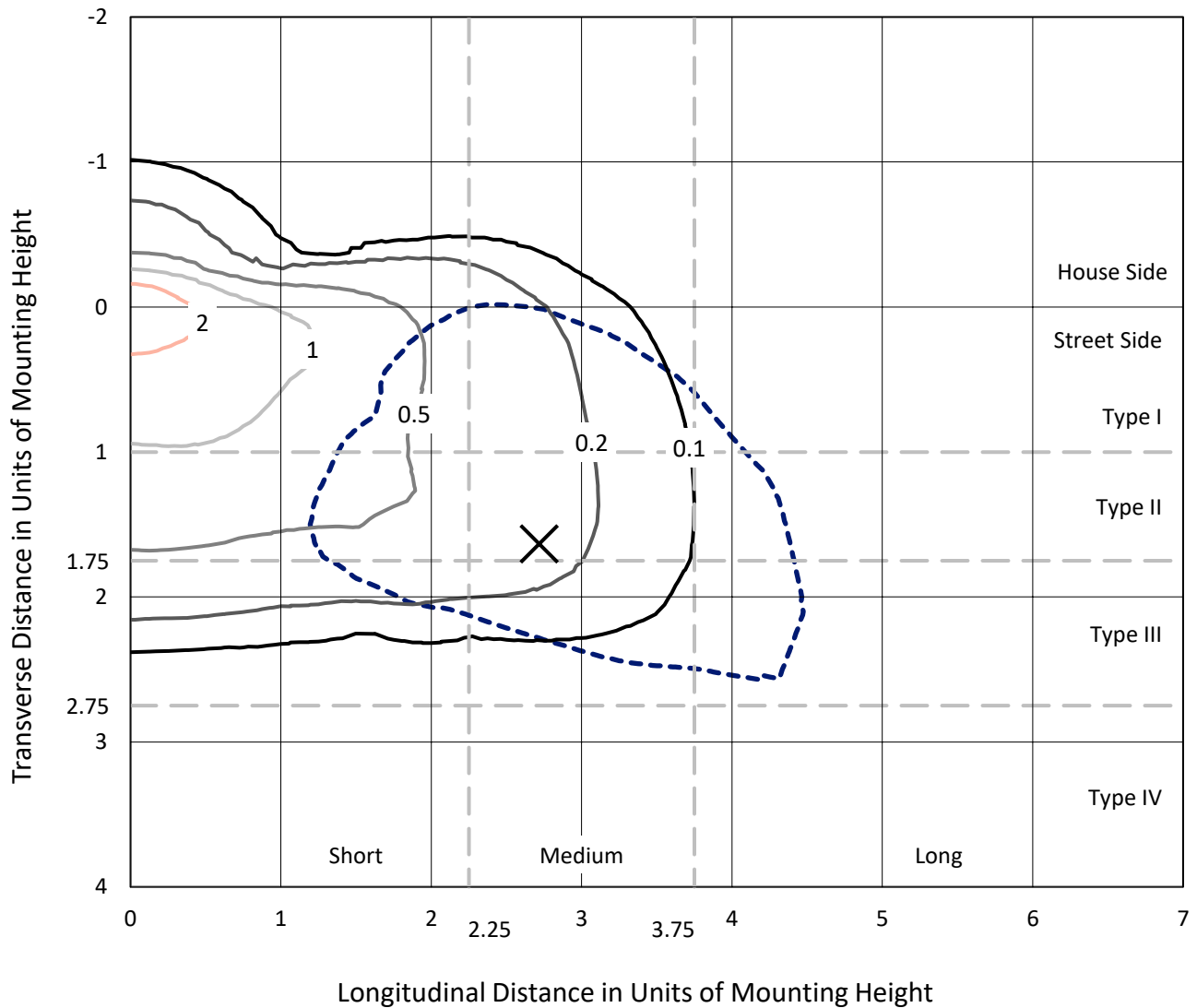
Input Watts (W): 58.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

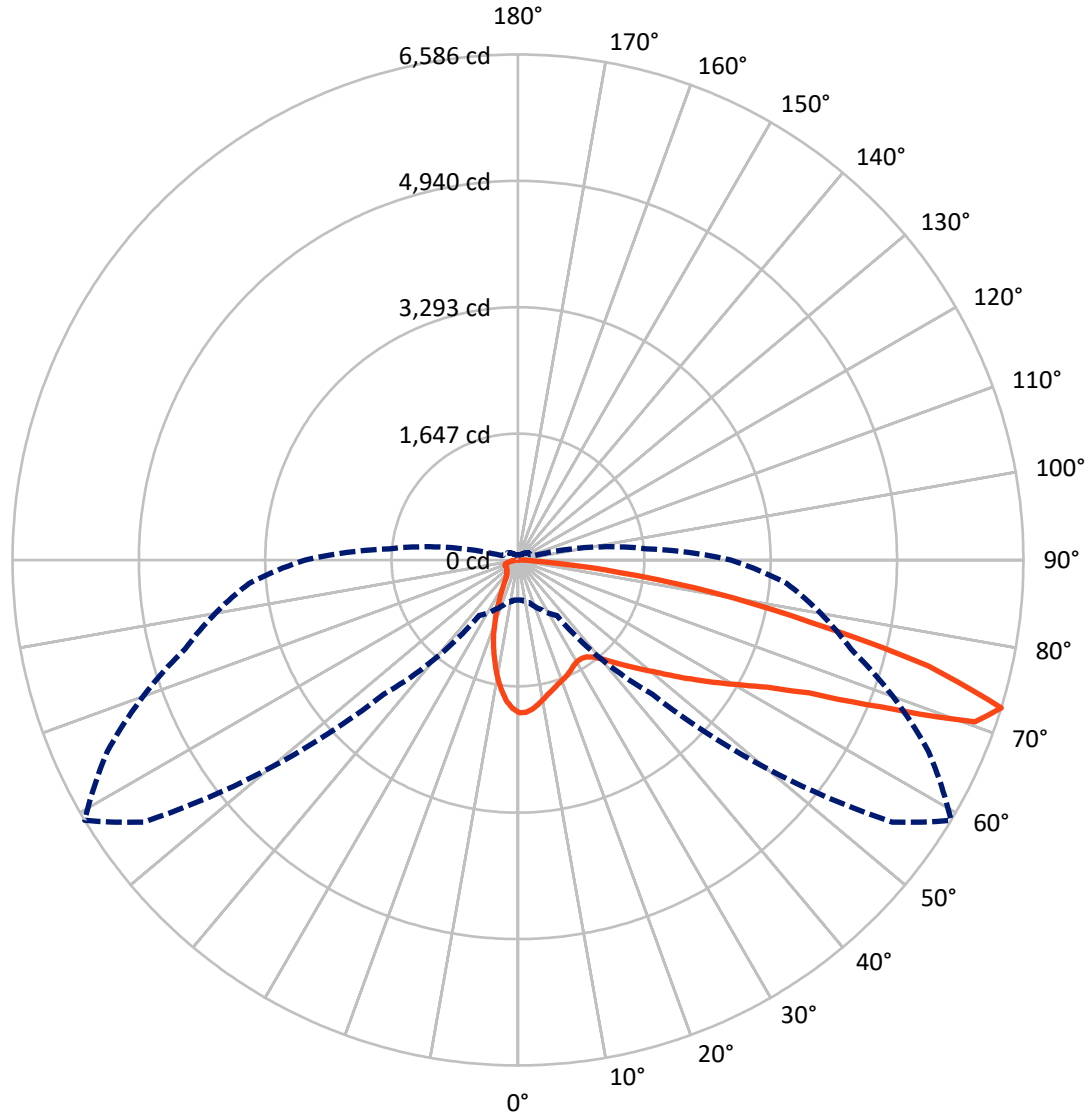
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.2 fc
 Type III - Medium - N/A

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CATALOG NUMBER: ISW-SA1E-740-U-SL3

Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1144.5 | 0.0 | 1144.5 |
| | % Fixture | 16.3 | 0.0 | 16.3 |
| Street Side | Lumens | 5867.5 | 0.0 | 5867.5 |
| | % Fixture | 83.7 | 0.0 | 83.7 |
| Total | Lumens | 7012.0 | 0.0 | 7012.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 170.8 | 2.4 |
| 10°-20° | 383.8 | 5.5 |
| 20°-30° | 494.5 | 7.1 |
| 30°-40° | 632.6 | 9.0 |
| 40°-50° | 877.9 | 12.5 |
| 50°-60° | 1294.0 | 18.5 |
| 60°-70° | 1741.1 | 24.8 |
| 70°-80° | 1266.6 | 18.1 |
| 80°-90° | 150.6 | 2.1 |
| 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° | 7012.0 | 100.0 |
| 0°-180° | 7012.0 | 100.0 |



REPORT NUMBER: P438714

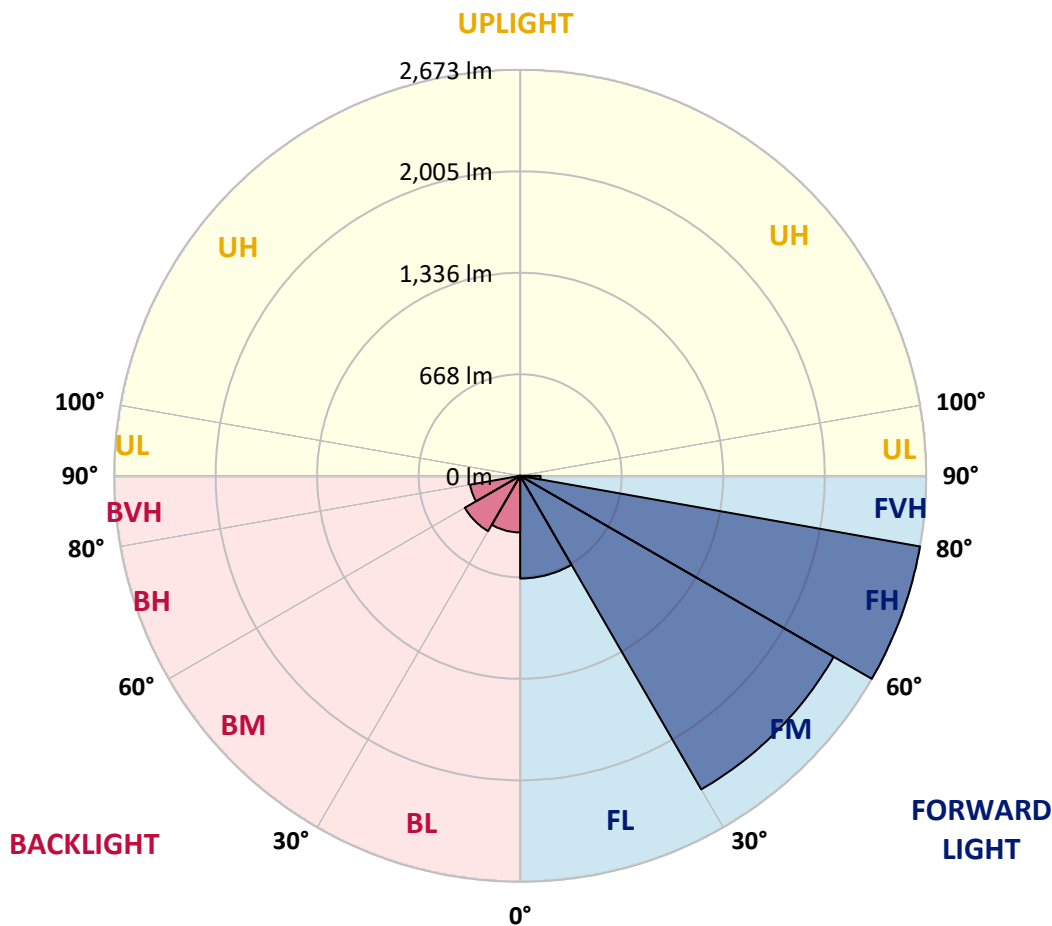
CATALOG NUMBER: ISW-SA1E-740-U-SL3

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 676.3 | 9.6 | | | |
| FM (30°-60°) | 2383.8 | 34.0 | | | |
| FH (60°-80°) | 2673.0 | 38.1 | | | G2/5000 |
| FVH (80°-90°) | 134.4 | 1.9 | | | G2/225 |
| BL (0°-30°) | 372.8 | 5.3 | B1/500 | | |
| BM (30°-60°) | 420.8 | 6.0 | B1/1000 | | |
| BH (60°-80°) | 334.8 | 4.8 | B1/500 | | G1/500 |
| BVH (80°-90°) | 16.2 | 0.2 | | | 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





REPORT NUMBER: P438714

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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 59° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 |
| 2.5° | 1979.9 | 1979.9 | 1987.6 | 1992.7 | 1985.0 | 1992.7 | 1990.1 | 1987.6 | 1990.1 | 1990.1 | 1985.0 |
| 5° | 1898.2 | 1908.4 | 1908.4 | 1910.9 | 1928.8 | 1941.6 | 1946.7 | 1951.8 | 1954.4 | 1956.9 | 1951.8 |
| 7.5° | 1798.5 | 1803.6 | 1808.7 | 1831.7 | 1842.0 | 1870.1 | 1887.9 | 1898.2 | 1908.4 | 1913.5 | 1898.2 |
| 10° | 1688.7 | 1696.3 | 1711.7 | 1729.5 | 1755.1 | 1793.4 | 1824.1 | 1842.0 | 1857.3 | 1864.9 | 1847.1 |
| 12.5° | 1596.7 | 1599.3 | 1614.6 | 1642.7 | 1673.3 | 1727.0 | 1765.3 | 1785.7 | 1806.2 | 1821.5 | 1801.1 |
| 15° | 1512.4 | 1514.9 | 1527.7 | 1560.9 | 1596.7 | 1655.5 | 1711.7 | 1742.3 | 1770.4 | 1796.0 | 1767.9 |
| 17.5° | 1446.0 | 1453.6 | 1458.7 | 1486.8 | 1530.3 | 1594.1 | 1668.2 | 1698.9 | 1742.3 | 1780.6 | 1744.9 |
| 20° | 1407.6 | 1405.1 | 1407.6 | 1425.5 | 1471.5 | 1535.4 | 1622.2 | 1665.7 | 1716.8 | 1770.4 | 1721.9 |
| 22.5° | 1384.7 | 1389.8 | 1387.2 | 1394.9 | 1423.0 | 1486.8 | 1573.7 | 1635.0 | 1693.8 | 1762.8 | 1701.4 |
| 25° | 1384.7 | 1392.3 | 1389.8 | 1387.2 | 1397.4 | 1440.9 | 1532.8 | 1594.1 | 1668.2 | 1762.8 | 1678.4 |
| 27.5° | 1410.2 | 1412.8 | 1407.6 | 1400.0 | 1400.0 | 1415.3 | 1497.1 | 1553.3 | 1655.5 | 1760.2 | 1665.7 |
| 30° | 1433.2 | 1438.3 | 1438.3 | 1433.2 | 1425.5 | 1417.9 | 1471.5 | 1530.3 | 1642.7 | 1775.5 | 1655.5 |
| 32.5° | 1463.9 | 1469.0 | 1479.2 | 1484.3 | 1474.1 | 1451.1 | 1479.2 | 1527.7 | 1645.2 | 1808.7 | 1658.0 |
| 35° | 1502.2 | 1507.3 | 1522.6 | 1548.2 | 1540.5 | 1502.2 | 1507.3 | 1550.7 | 1665.7 | 1844.5 | 1668.2 |
| 37.5° | 1532.8 | 1540.5 | 1573.7 | 1617.1 | 1619.7 | 1578.8 | 1576.3 | 1606.9 | 1704.0 | 1900.7 | 1704.0 |
| 40° | 1563.5 | 1573.7 | 1622.2 | 1693.8 | 1709.1 | 1686.1 | 1670.8 | 1693.8 | 1773.0 | 1982.5 | 1762.8 |
| 42.5° | 1604.4 | 1614.6 | 1678.4 | 1767.9 | 1806.2 | 1796.0 | 1785.7 | 1819.0 | 1877.7 | 2092.3 | 1854.7 |
| 45° | 1647.8 | 1668.2 | 1750.0 | 1849.6 | 1918.6 | 1926.3 | 1936.5 | 1956.9 | 2002.9 | 2245.6 | 1985.0 |
| 47.5° | 1727.0 | 1744.9 | 1839.4 | 1941.6 | 2031.0 | 2071.9 | 2089.8 | 2115.3 | 2143.4 | 2386.1 | 2143.4 |
| 50° | 1834.3 | 1870.1 | 1954.4 | 2054.0 | 2158.7 | 2237.9 | 2283.9 | 2283.9 | 2314.6 | 2554.7 | 2317.1 |
| 52.5° | 1995.2 | 2028.4 | 2079.5 | 2174.1 | 2299.2 | 2424.4 | 2488.3 | 2498.5 | 2488.3 | 2715.7 | 2493.4 |
| 55° | 2130.6 | 2163.8 | 2212.4 | 2281.4 | 2439.8 | 2633.9 | 2743.8 | 2736.1 | 2700.3 | 2886.8 | 2667.1 |
| 57.5° | 2281.4 | 2306.9 | 2350.3 | 2406.5 | 2582.8 | 2851.1 | 3012.0 | 3004.3 | 2937.9 | 3060.6 | 2856.2 |
| 60° | 2345.2 | 2381.0 | 2460.2 | 2575.2 | 2805.1 | 3129.5 | 3318.6 | 3295.6 | 3147.4 | 3247.0 | 3024.8 |
| 62.5° | 2153.6 | 2220.1 | 2381.0 | 2613.5 | 3063.1 | 3594.5 | 3719.7 | 3645.6 | 3443.8 | 3451.4 | 3252.2 |
| 65° | 1721.9 | 1686.1 | 1931.4 | 2317.1 | 3083.5 | 4169.3 | 4332.8 | 4171.9 | 3814.2 | 3712.0 | 3510.2 |
| 67.5° | 983.6 | 998.9 | 1116.4 | 1532.8 | 2539.4 | 4404.3 | 5395.6 | 5112.0 | 4394.1 | 4118.2 | 3821.9 |
| 70° | 666.8 | 682.1 | 733.2 | 909.5 | 1458.7 | 3936.8 | 6261.6 | 6317.8 | 5290.8 | 4478.4 | 3832.1 |
| 72.5° | 521.2 | 523.7 | 577.4 | 715.3 | 883.9 | 2473.0 | 5952.5 | 6586.1 | 5904.0 | 4491.2 | 3515.3 |
| 75° | 398.5 | 401.1 | 449.6 | 610.6 | 794.5 | 1198.2 | 4532.1 | 5523.3 | 5538.6 | 4131.0 | 2871.5 |
| 77.5° | 252.9 | 265.7 | 321.9 | 488.0 | 746.0 | 794.5 | 2886.8 | 3890.8 | 3993.0 | 3060.6 | 1502.2 |
| 80° | 122.6 | 127.7 | 160.9 | 311.7 | 656.6 | 702.5 | 1719.3 | 2587.9 | 2243.0 | 1193.1 | 457.3 |
| 82.5° | 51.1 | 53.6 | 76.6 | 135.4 | 419.0 | 595.2 | 860.9 | 1331.0 | 866.0 | 324.4 | 148.2 |
| 85° | 10.2 | 12.8 | 17.9 | 33.2 | 135.4 | 291.2 | 352.6 | 344.9 | 209.5 | 99.6 | 56.2 |
| 87.5° | 0.0 | 0.0 | 0.0 | 2.6 | 2.6 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 | 5.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P438714

CATALOG NUMBER: ISW-SA1E-740-U-SL3

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 | 1990.1 |
| 2.5° | 1982.5 | 1982.5 | 1962.0 | 1946.7 | 1928.8 | 1916.0 | 1903.3 | 1887.9 | 1885.4 | 1893.0 | 1900.7 |
| 5° | 1941.6 | 1931.4 | 1898.2 | 1867.5 | 1831.7 | 1790.9 | 1765.3 | 1732.1 | 1714.2 | 1721.9 | 1716.8 |
| 7.5° | 1887.9 | 1872.6 | 1811.3 | 1760.2 | 1688.7 | 1624.8 | 1581.4 | 1532.8 | 1499.6 | 1486.8 | 1479.2 |
| 10° | 1831.7 | 1801.1 | 1719.3 | 1627.4 | 1532.8 | 1438.3 | 1359.1 | 1282.5 | 1244.1 | 1241.6 | 1200.7 |
| 12.5° | 1778.1 | 1737.2 | 1622.2 | 1489.4 | 1359.1 | 1231.4 | 1113.9 | 1029.6 | 924.8 | 894.2 | 904.4 |
| 15° | 1734.7 | 1678.4 | 1517.5 | 1348.9 | 1180.3 | 1019.3 | 866.0 | 740.9 | 648.9 | 615.7 | 602.9 |
| 17.5° | 1693.8 | 1614.6 | 1420.4 | 1218.6 | 1006.6 | 804.7 | 618.2 | 523.7 | 467.5 | 447.1 | 447.1 |
| 20° | 1647.8 | 1555.8 | 1315.7 | 1073.0 | 815.0 | 597.8 | 457.3 | 411.3 | 393.4 | 390.9 | 388.3 |
| 22.5° | 1612.0 | 1497.1 | 1208.4 | 919.7 | 636.1 | 454.7 | 378.1 | 357.7 | 357.7 | 360.2 | 360.2 |
| 25° | 1568.6 | 1430.6 | 1093.4 | 756.2 | 490.5 | 365.3 | 334.7 | 327.0 | 334.7 | 342.3 | 342.3 |
| 27.5° | 1537.9 | 1371.9 | 988.7 | 602.9 | 380.7 | 316.8 | 301.5 | 304.0 | 314.2 | 324.4 | 324.4 |
| 30° | 1512.4 | 1315.7 | 878.8 | 475.2 | 316.8 | 281.0 | 278.5 | 283.6 | 293.8 | 304.0 | 301.5 |
| 32.5° | 1486.8 | 1272.2 | 758.8 | 375.5 | 273.4 | 258.0 | 255.5 | 263.1 | 270.8 | 273.4 | 278.5 |
| 35° | 1476.6 | 1236.5 | 638.7 | 309.1 | 247.8 | 240.1 | 240.1 | 242.7 | 245.3 | 247.8 | 247.8 |
| 37.5° | 1484.3 | 1208.4 | 531.4 | 263.1 | 232.5 | 229.9 | 227.4 | 224.8 | 224.8 | 224.8 | 227.4 |
| 40° | 1514.9 | 1198.2 | 439.4 | 237.6 | 219.7 | 219.7 | 214.6 | 206.9 | 204.4 | 206.9 | 204.4 |
| 42.5° | 1576.3 | 1218.6 | 362.8 | 222.3 | 209.5 | 206.9 | 199.3 | 194.2 | 191.6 | 191.6 | 189.0 |
| 45° | 1673.3 | 1254.4 | 311.7 | 212.0 | 201.8 | 194.2 | 186.5 | 181.4 | 178.8 | 181.4 | 181.4 |
| 47.5° | 1801.1 | 1320.8 | 275.9 | 201.8 | 194.2 | 181.4 | 171.2 | 168.6 | 168.6 | 173.7 | 173.7 |
| 50° | 1954.4 | 1410.2 | 255.5 | 196.7 | 186.5 | 171.2 | 160.9 | 158.4 | 160.9 | 166.1 | 168.6 |
| 52.5° | 2117.9 | 1522.6 | 250.4 | 194.2 | 178.8 | 160.9 | 153.3 | 150.7 | 153.3 | 158.4 | 160.9 |
| 55° | 2281.4 | 1645.2 | 263.1 | 194.2 | 171.2 | 153.3 | 148.2 | 140.5 | 143.1 | 148.2 | 150.7 |
| 57.5° | 2455.1 | 1778.1 | 301.5 | 189.0 | 166.1 | 148.2 | 140.5 | 132.8 | 132.8 | 138.0 | 138.0 |
| 60° | 2641.6 | 1928.8 | 373.0 | 189.0 | 160.9 | 143.1 | 130.3 | 122.6 | 122.6 | 122.6 | 125.2 |
| 62.5° | 2848.5 | 2110.2 | 457.3 | 191.6 | 163.5 | 138.0 | 120.1 | 109.9 | 109.9 | 112.4 | 109.9 |
| 65° | 3155.1 | 2381.0 | 480.3 | 194.2 | 168.6 | 132.8 | 112.4 | 102.2 | 99.6 | 99.6 | 99.6 |
| 67.5° | 3344.1 | 2411.7 | 373.0 | 189.0 | 176.3 | 132.8 | 104.7 | 92.0 | 89.4 | 86.9 | 86.9 |
| 70° | 3206.2 | 2117.9 | 265.7 | 181.4 | 176.3 | 132.8 | 99.6 | 84.3 | 79.2 | 74.1 | 74.1 |
| 72.5° | 2774.4 | 1681.0 | 217.2 | 171.2 | 163.5 | 125.2 | 92.0 | 76.6 | 69.0 | 63.9 | 63.9 |
| 75° | 2222.6 | 1193.1 | 183.9 | 158.4 | 138.0 | 99.6 | 76.6 | 63.9 | 58.8 | 56.2 | 56.2 |
| 77.5° | 1083.2 | 587.6 | 143.1 | 138.0 | 109.9 | 74.1 | 61.3 | 53.6 | 51.1 | 46.0 | 46.0 |
| 80° | 316.8 | 217.2 | 107.3 | 109.9 | 69.0 | 51.1 | 46.0 | 43.4 | 40.9 | 35.8 | 38.3 |
| 82.5° | 145.6 | 122.6 | 76.6 | 69.0 | 43.4 | 30.7 | 30.7 | 28.1 | 25.5 | 23.0 | 23.0 |
| 85° | 58.8 | 61.3 | 40.9 | 33.2 | 20.4 | 15.3 | 12.8 | 12.8 | 10.2 | 10.2 | 10.2 |
| 87.5° | 5.1 | 7.7 | 7.7 | 5.1 | 5.1 | 2.6 | 0.0 | 0.0 | 0.0 | 2.6 | 2.6 |
| 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 |

REPORT NUMBER: SP1-2101-121-2

| 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 |

REPORT NUMBER: SP1-2101-121-2

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

REPORT NUMBER: SP1-2101-121-2

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 | | | |

REPORT NUMBER: SP1-2101-121-2

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)