

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: P438813

Luminaire Tested: **IST-SA1F-722-U-SLL**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438813  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/10/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: MCGRAW-EDISON  
Catalog Number: IST-SA1F-722-U-SLL  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE  
(1) 70 CRI, 2200K, 1200mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5108 lumens  
Efficiency: N/A  
Efficacy: 77.4 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): 66  
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

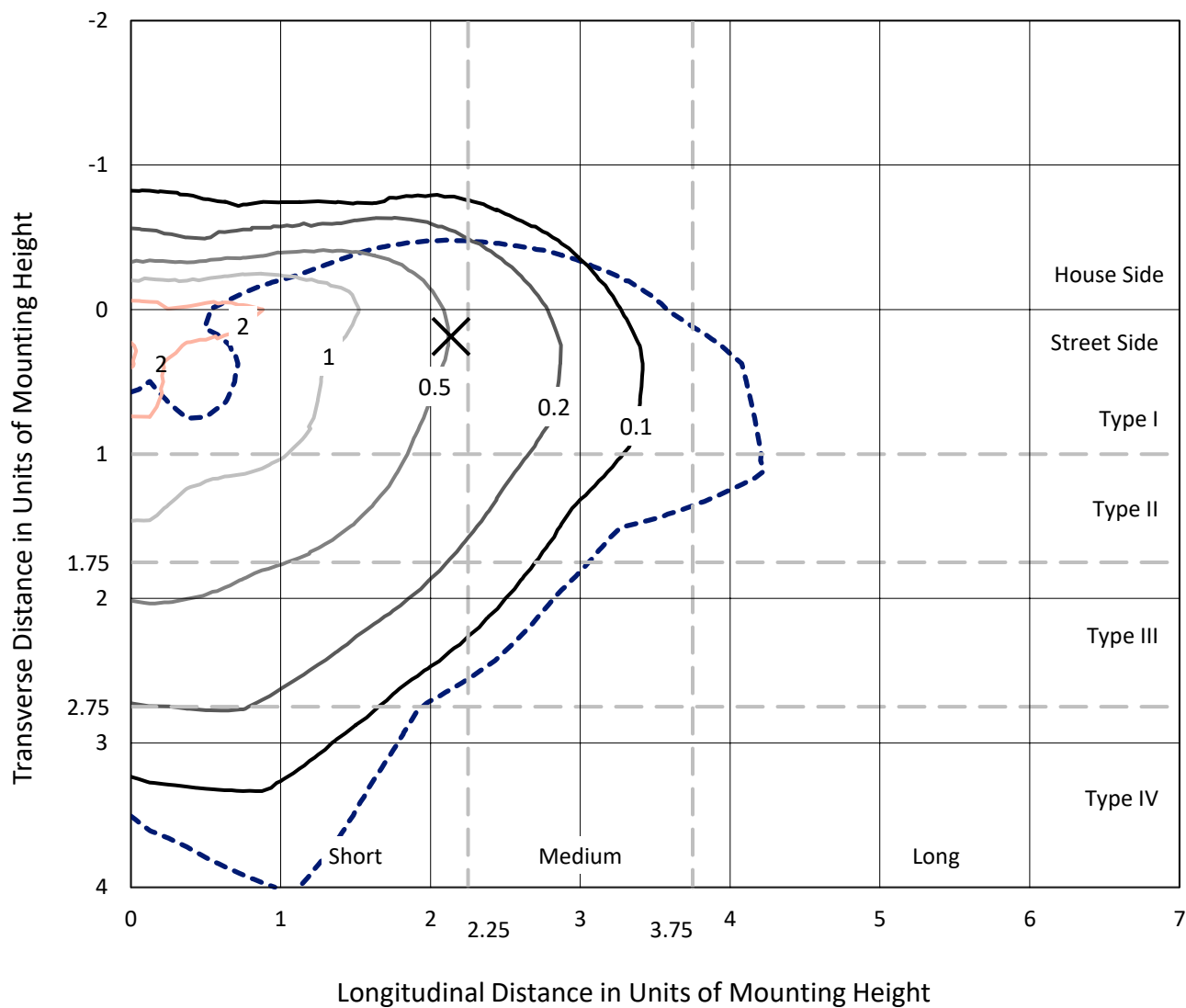


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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

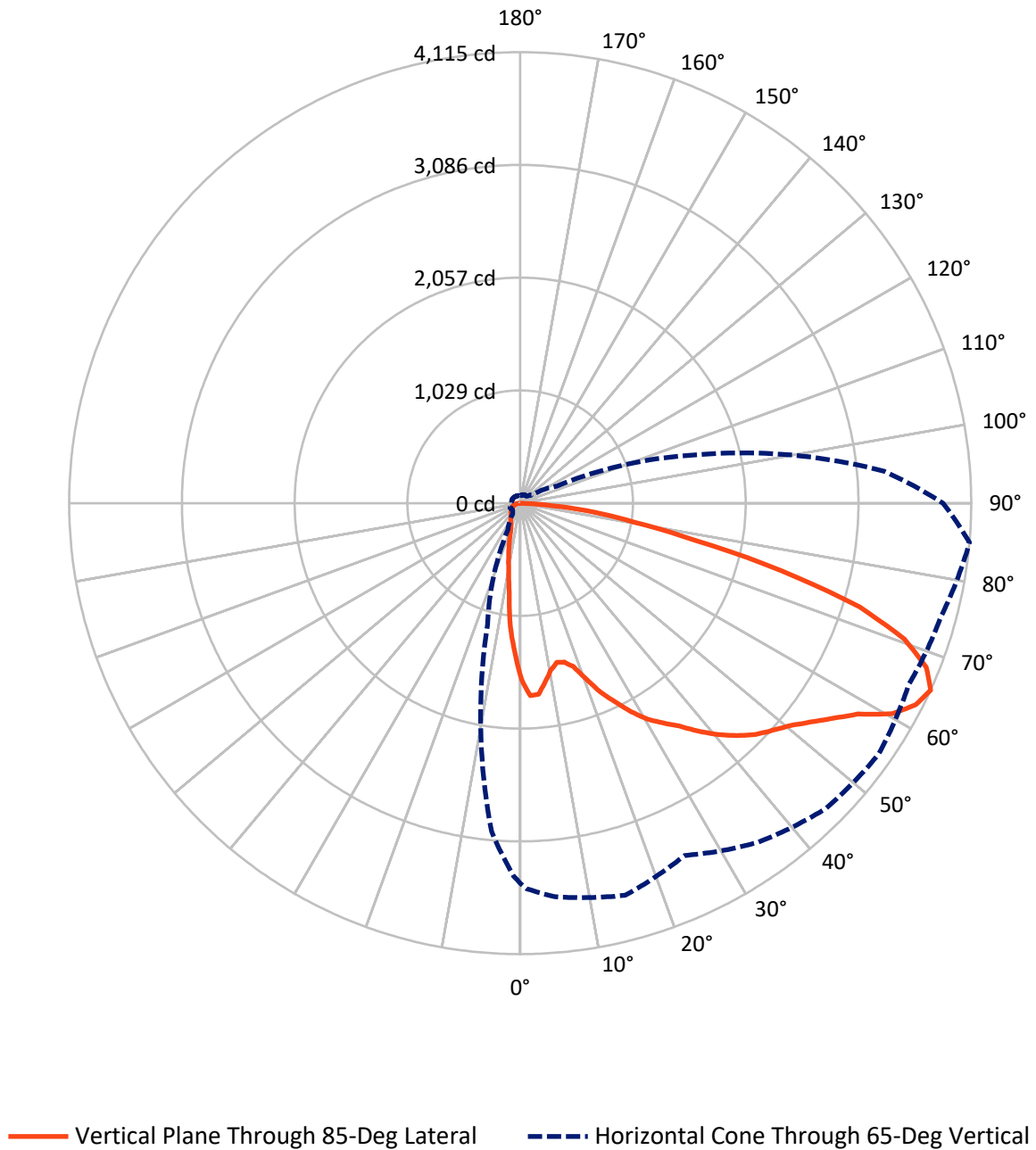
--- 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.1 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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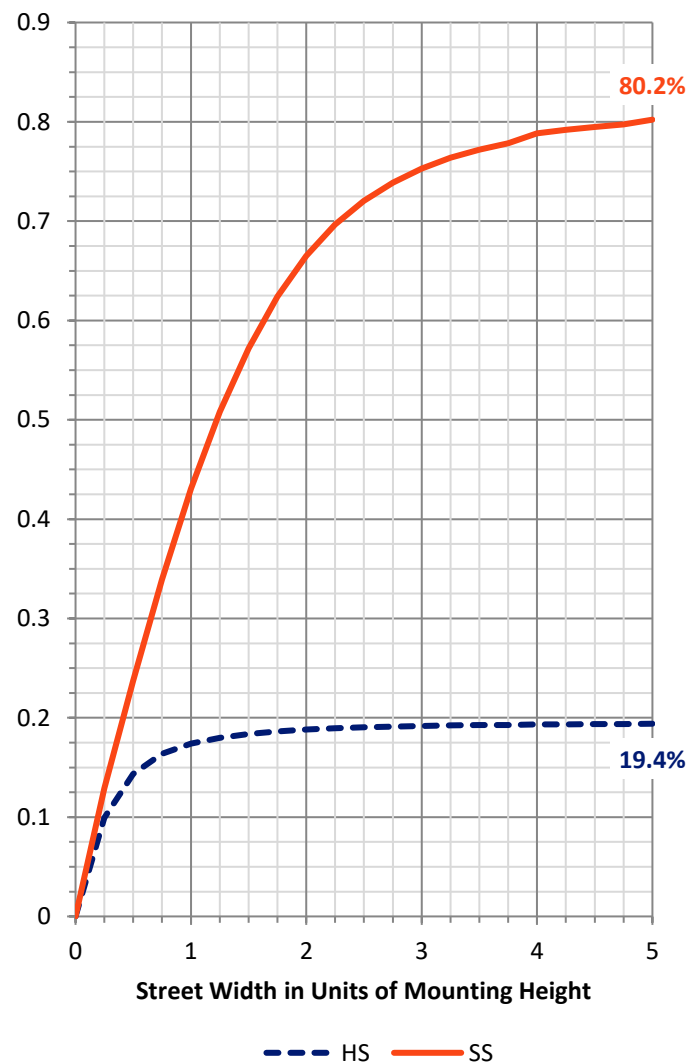
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 999.7    | 0.0    | 999.7  |
|                    | % Fixture | 19.6     | 0.0    | 19.6   |
| <b>Street Side</b> | Lumens    | 4108.3   | 0.0    | 4108.3 |
|                    | % Fixture | 80.4     | 0.0    | 80.4   |
| <b>Total</b>       | Lumens    | 5108.0   | 0.0    | 5108.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 122.9  | 2.4       |
| 10°-20°   | 255.5  | 5.0       |
| 20°-30°   | 367.4  | 7.2       |
| 30°-40°   | 527.5  | 10.3      |
| 40°-50°   | 746.7  | 14.6      |
| 50°-60°   | 1038.2 | 20.3      |
| 60°-70°   | 1236.3 | 24.2      |
| 70°-80°   | 714.6  | 14.0      |
| 80°-90°   | 98.8   | 1.9       |
| 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°    | 5108.0 | 100.0     |
| 0°-180°   | 5108.0 | 100.0     |

**Coefficient of Utilization**



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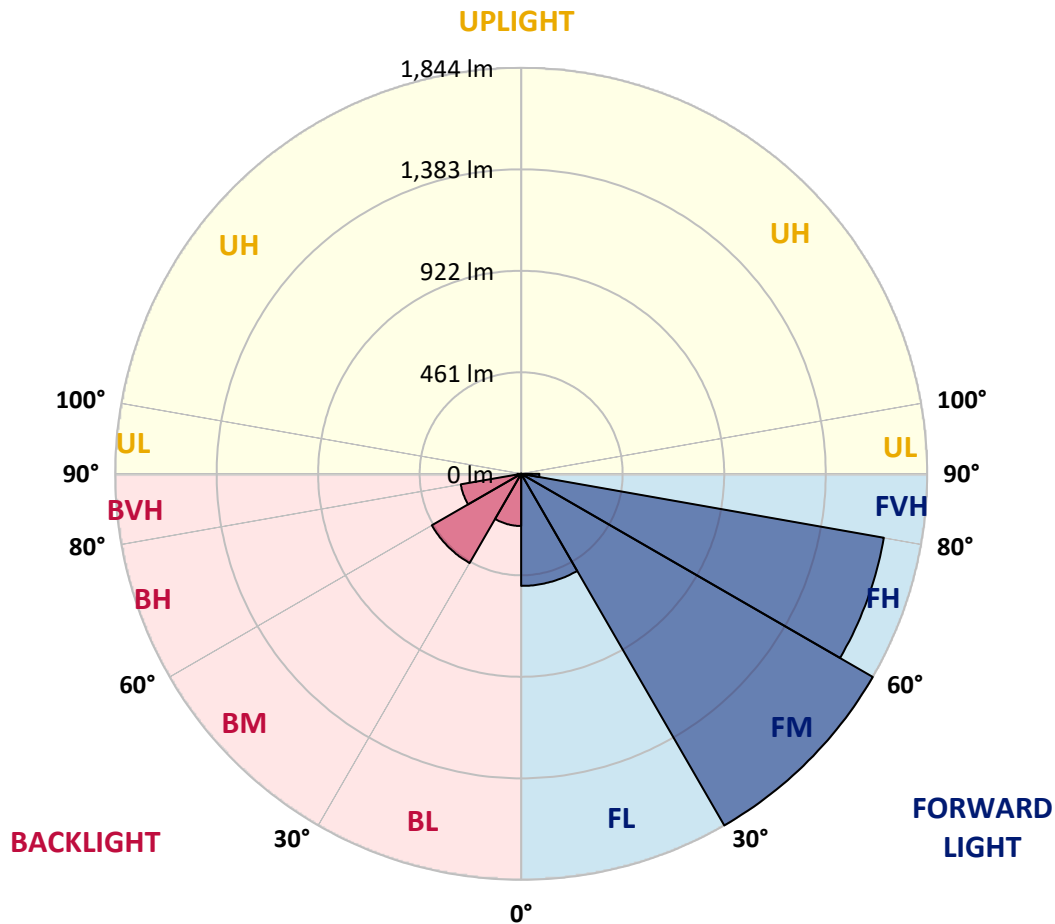
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 509.0  | 10.0      |                         |      |         |
| FM   | (30°-60°)   | 1844.0 | 36.1      |                         |      |         |
| FH   | (60°-80°)   | 1672.6 | 32.7      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 82.7   | 1.6       |                         |      | G1/100  |
| BL   | (0°-30°)    | 236.8  | 4.6       | B1/500                  |      |         |
| BM   | (30°-60°)   | 468.4  | 9.2       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 278.3  | 5.4       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 16.2   | 0.3       |                         |      | G1/100  |
| 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°    | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 |
| 2.5°  | 1690.9 | 1697.2 | 1711.8 | 1761.9 | 1793.2 | 1818.2 | 1849.6 | 1818.2 | 1809.9 | 1768.1 | 1759.8 |
| 5°    | 1630.4 | 1645.0 | 1686.7 | 1780.7 | 1857.9 | 1939.3 | 1981.1 | 1945.6 | 1897.6 | 1824.5 | 1751.4 |
| 7.5°  | 1511.4 | 1530.2 | 1584.4 | 1730.6 | 1876.7 | 1987.3 | 2041.6 | 2004.0 | 1905.9 | 1776.5 | 1645.0 |
| 10°   | 1390.3 | 1419.5 | 1484.2 | 1667.9 | 1822.4 | 1945.6 | 2029.1 | 1989.4 | 1870.4 | 1701.3 | 1544.8 |
| 12.5° | 1317.2 | 1338.1 | 1411.2 | 1603.2 | 1766.1 | 1889.2 | 1951.8 | 1928.9 | 1818.2 | 1657.5 | 1490.5 |
| 15°   | 1300.5 | 1321.4 | 1394.5 | 1580.3 | 1724.3 | 1816.2 | 1830.8 | 1837.0 | 1795.3 | 1672.1 | 1505.1 |
| 17.5° | 1346.5 | 1363.2 | 1463.4 | 1617.8 | 1676.3 | 1695.1 | 1718.0 | 1745.2 | 1766.1 | 1701.3 | 1565.7 |
| 20°   | 1457.1 | 1490.5 | 1578.2 | 1695.1 | 1663.8 | 1619.9 | 1632.5 | 1665.9 | 1745.2 | 1786.9 | 1705.5 |
| 22.5° | 1605.3 | 1642.9 | 1753.5 | 1801.5 | 1672.1 | 1578.2 | 1567.7 | 1597.0 | 1743.1 | 1880.9 | 1872.5 |
| 25°   | 1770.2 | 1822.4 | 1941.4 | 1943.5 | 1707.6 | 1549.0 | 1528.1 | 1555.2 | 1738.9 | 1964.4 | 2006.1 |
| 27.5° | 1941.4 | 1989.4 | 2118.9 | 2054.1 | 1776.5 | 1551.0 | 1526.0 | 1553.1 | 1749.4 | 2054.1 | 2154.3 |
| 30°   | 2068.7 | 2131.4 | 2244.1 | 2158.5 | 1820.3 | 1578.2 | 1540.6 | 1576.1 | 1772.3 | 2100.1 | 2285.9 |
| 32.5° | 2198.2 | 2237.8 | 2356.8 | 2219.1 | 1868.3 | 1619.9 | 1571.9 | 1626.2 | 1830.8 | 2143.9 | 2390.2 |
| 35°   | 2313.0 | 2365.2 | 2486.3 | 2254.5 | 1939.3 | 1690.9 | 1628.3 | 1699.3 | 1914.3 | 2206.5 | 2496.7 |
| 37.5° | 2459.1 | 2509.2 | 2619.9 | 2304.6 | 1997.8 | 1780.7 | 1728.5 | 1820.3 | 2016.6 | 2262.9 | 2638.6 |
| 40°   | 2588.5 | 2667.9 | 2751.4 | 2367.3 | 2064.6 | 1912.2 | 1878.8 | 2004.0 | 2154.3 | 2340.1 | 2776.4 |
| 42.5° | 2715.9 | 2782.7 | 2874.5 | 2438.2 | 2150.2 | 2072.9 | 2087.5 | 2219.1 | 2321.3 | 2457.0 | 2899.6 |
| 45°   | 2807.7 | 2885.0 | 2966.4 | 2494.6 | 2260.8 | 2246.2 | 2344.3 | 2454.9 | 2492.5 | 2580.2 | 3010.2 |
| 47.5° | 2897.5 | 2958.0 | 3031.1 | 2551.0 | 2394.4 | 2440.3 | 2611.5 | 2697.1 | 2659.5 | 2690.8 | 3097.9 |
| 50°   | 3016.5 | 3081.2 | 3102.1 | 2640.7 | 2563.5 | 2686.7 | 2872.5 | 2928.8 | 2820.3 | 2778.5 | 3189.8 |
| 52.5° | 3187.7 | 3219.0 | 3208.5 | 2747.2 | 2724.2 | 2943.4 | 3095.8 | 3181.4 | 2987.3 | 2862.0 | 3317.1 |
| 55°   | 3417.3 | 3471.6 | 3404.8 | 2920.5 | 2889.2 | 3189.8 | 3367.2 | 3408.9 | 3173.1 | 2966.4 | 3463.2 |
| 57.5° | 3636.5 | 3684.5 | 3663.6 | 3131.3 | 3104.2 | 3402.7 | 3573.9 | 3613.5 | 3354.7 | 3160.5 | 3630.2 |
| 60°   | 3717.9 | 3732.5 | 3807.7 | 3354.7 | 3319.2 | 3584.3 | 3778.4 | 3784.7 | 3571.8 | 3394.3 | 3901.6 |
| 62.5° | 3630.2 | 3688.7 | 3761.7 | 3563.4 | 3448.6 | 3740.9 | 3914.1 | 3953.8 | 3778.4 | 3678.2 | 4049.8 |
| 65°   | 3467.4 | 3519.6 | 3605.2 | 3703.3 | 3546.7 | 3778.4 | 3941.3 | 3991.4 | 3912.0 | 3976.8 | 4114.5 |
| 67.5° | 3279.5 | 3344.2 | 3402.7 | 3726.3 | 3534.2 | 3563.4 | 3699.1 | 3730.4 | 3841.1 | 4108.3 | 3995.5 |
| 70°   | 3037.4 | 3110.4 | 3160.5 | 3636.5 | 3235.7 | 2945.5 | 3041.5 | 3127.1 | 3296.2 | 3874.5 | 3717.9 |
| 72.5° | 2515.5 | 2632.4 | 2757.6 | 3229.4 | 2617.8 | 2287.9 | 2363.1 | 2419.5 | 2540.5 | 3308.7 | 3237.8 |
| 75°   | 1770.2 | 1855.8 | 2010.3 | 2601.1 | 2010.3 | 1619.9 | 1736.8 | 1736.8 | 1889.2 | 2718.0 | 2459.1 |
| 77.5° | 1058.4 | 1060.5 | 1210.8 | 1711.8 | 1223.3 | 1091.8 | 1158.6 | 1189.9 | 1235.8 | 1924.7 | 1632.5 |
| 80°   | 599.1  | 607.5  | 657.6  | 1106.4 | 724.4  | 745.3  | 824.6  | 908.1  | 839.2  | 1194.1 | 1050.0 |
| 82.5° | 279.7  | 246.3  | 260.9  | 521.9  | 411.2  | 486.4  | 498.9  | 536.5  | 540.7  | 764.0  | 688.9  |
| 85°   | 23.0   | 18.8   | 25.1   | 93.9   | 73.1   | 66.8   | 48.0   | 91.9   | 144.0  | 334.0  | 296.4  |
| 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°    | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 |
| 2.5°  | 1732.7 | 1711.8 | 1665.9 | 1630.4 | 1597.0 | 1534.3 | 1509.3 | 1473.8 | 1455.0 | 1421.6 | 1430.0 |
| 5°    | 1697.2 | 1649.2 | 1544.8 | 1473.8 | 1381.9 | 1306.8 | 1260.9 | 1219.1 | 1202.4 | 1166.9 | 1154.4 |
| 7.5°  | 1567.7 | 1526.0 | 1394.5 | 1277.6 | 1164.8 | 1075.1 | 989.5  | 926.9  | 897.6  | 866.3  | 864.2  |
| 10°   | 1457.1 | 1388.2 | 1237.9 | 1100.1 | 970.7  | 887.2  | 824.6  | 772.4  | 726.5  | 686.8  | 663.8  |
| 12.5° | 1394.5 | 1308.9 | 1141.9 | 974.9  | 885.1  | 826.7  | 757.8  | 693.1  | 640.9  | 594.9  | 567.8  |
| 15°   | 1394.5 | 1294.3 | 1096.0 | 933.1  | 843.4  | 755.7  | 676.4  | 609.6  | 540.7  | 486.4  | 469.7  |
| 17.5° | 1459.2 | 1336.0 | 1106.4 | 906.0  | 778.7  | 680.5  | 580.3  | 492.7  | 425.9  | 377.8  | 361.1  |
| 20°   | 1586.5 | 1438.3 | 1131.4 | 874.7  | 716.0  | 580.3  | 459.3  | 365.3  | 304.8  | 281.8  | 277.6  |
| 22.5° | 1734.7 | 1561.5 | 1169.0 | 845.5  | 651.3  | 473.9  | 344.4  | 277.6  | 250.5  | 242.2  | 242.2  |
| 25°   | 1897.6 | 1699.3 | 1217.0 | 814.1  | 584.5  | 375.8  | 263.0  | 231.7  | 221.3  | 217.1  | 217.1  |
| 27.5° | 2050.0 | 1849.6 | 1302.6 | 801.6  | 521.9  | 304.8  | 229.6  | 206.7  | 200.4  | 196.2  | 198.3  |
| 30°   | 2198.2 | 1983.2 | 1390.3 | 776.6  | 453.0  | 265.1  | 206.7  | 190.0  | 181.6  | 179.5  | 181.6  |
| 32.5° | 2325.5 | 2098.0 | 1450.8 | 739.0  | 405.0  | 238.0  | 192.1  | 175.4  | 167.0  | 164.9  | 167.0  |
| 35°   | 2471.6 | 2210.7 | 1511.4 | 711.9  | 379.9  | 221.3  | 181.6  | 164.9  | 156.6  | 152.4  | 152.4  |
| 37.5° | 2642.8 | 2346.4 | 1557.3 | 672.2  | 363.2  | 204.6  | 173.3  | 156.6  | 146.1  | 142.0  | 142.0  |
| 40°   | 2872.5 | 2511.3 | 1594.9 | 640.9  | 344.4  | 196.2  | 162.8  | 148.2  | 137.8  | 133.6  | 131.5  |
| 42.5° | 3031.1 | 2655.3 | 1626.2 | 620.0  | 325.7  | 192.1  | 156.6  | 144.0  | 131.5  | 125.3  | 123.2  |
| 45°   | 3139.7 | 2782.7 | 1647.1 | 609.6  | 309.0  | 181.6  | 152.4  | 139.9  | 125.3  | 116.9  | 116.9  |
| 47.5° | 3244.0 | 2887.1 | 1649.2 | 594.9  | 296.4  | 169.1  | 158.7  | 133.6  | 119.0  | 110.6  | 110.6  |
| 50°   | 3360.9 | 3018.6 | 1688.8 | 580.3  | 281.8  | 154.5  | 156.6  | 131.5  | 114.8  | 106.5  | 104.4  |
| 52.5° | 3477.8 | 3198.1 | 1766.1 | 559.5  | 260.9  | 142.0  | 148.2  | 133.6  | 110.6  | 102.3  | 100.2  |
| 55°   | 3686.6 | 3421.5 | 1862.1 | 528.1  | 233.8  | 129.4  | 137.8  | 131.5  | 104.4  | 96.0   | 93.9   |
| 57.5° | 3822.3 | 3630.2 | 1937.2 | 494.7  | 194.1  | 121.1  | 121.1  | 127.3  | 98.1   | 89.8   | 87.7   |
| 60°   | 3899.5 | 3669.9 | 1951.8 | 455.1  | 158.7  | 108.6  | 104.4  | 129.4  | 91.9   | 81.4   | 81.4   |
| 62.5° | 3897.4 | 3534.2 | 1878.8 | 417.5  | 137.8  | 100.2  | 93.9   | 112.7  | 85.6   | 77.2   | 75.2   |
| 65°   | 3857.8 | 3333.8 | 1713.9 | 369.5  | 129.4  | 91.9   | 83.5   | 85.6   | 79.3   | 71.0   | 68.9   |
| 67.5° | 3686.6 | 2987.3 | 1450.8 | 321.5  | 125.3  | 83.5   | 77.2   | 73.1   | 68.9   | 62.6   | 60.5   |
| 70°   | 3271.2 | 2596.9 | 1131.4 | 298.5  | 123.2  | 73.1   | 66.8   | 62.6   | 58.5   | 54.3   | 54.3   |
| 72.5° | 2659.5 | 2024.9 | 864.2  | 286.0  | 125.3  | 66.8   | 56.4   | 54.3   | 50.1   | 48.0   | 45.9   |
| 75°   | 1841.2 | 1496.8 | 626.3  | 252.6  | 121.1  | 56.4   | 48.0   | 43.8   | 41.8   | 37.6   | 37.6   |
| 77.5° | 1183.6 | 979.1  | 415.4  | 202.5  | 98.1   | 45.9   | 35.5   | 33.4   | 31.3   | 29.2   | 29.2   |
| 80°   | 778.7  | 665.9  | 242.2  | 144.0  | 60.5   | 31.3   | 25.1   | 25.1   | 23.0   | 18.8   | 18.8   |
| 82.5° | 494.7  | 503.1  | 125.3  | 66.8   | 35.5   | 18.8   | 14.6   | 12.5   | 12.5   | 8.4    | 8.4    |
| 85°   | 108.6  | 190.0  | 56.4   | 27.1   | 12.5   | 2.1    | 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°    | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 |
| 2.5°  | 1400.7 | 1384.0 | 1377.8 | 1377.8 | 1350.6 | 1352.7 | 1352.7 | 1369.4 | 1367.3 | 1381.9 | 1375.7 |
| 5°    | 1139.8 | 1123.1 | 1123.1 | 1127.3 | 1131.4 | 1112.7 | 1118.9 | 1102.2 | 1133.5 | 1110.6 | 1093.9 |
| 7.5°  | 841.3  | 839.2  | 853.8  | 887.2  | 880.9  | 874.7  | 862.2  | 830.8  | 814.1  | 830.8  | 822.5  |
| 10°   | 645.0  | 651.3  | 647.1  | 661.7  | 663.8  | 661.7  | 640.9  | 634.6  | 626.3  | 634.6  | 645.0  |
| 12.5° | 540.7  | 515.6  | 488.5  | 486.4  | 503.1  | 503.1  | 501.0  | 503.1  | 509.4  | 509.4  | 517.7  |
| 15°   | 450.9  | 434.2  | 398.7  | 382.0  | 394.5  | 386.2  | 388.3  | 396.6  | 402.9  | 411.2  | 407.1  |
| 17.5° | 359.1  | 344.4  | 327.7  | 317.3  | 323.6  | 317.3  | 315.2  | 313.1  | 313.1  | 311.0  | 319.4  |
| 20°   | 273.5  | 271.4  | 277.6  | 273.5  | 275.6  | 271.4  | 265.1  | 256.8  | 250.5  | 254.7  | 258.9  |
| 22.5° | 238.0  | 240.1  | 244.2  | 248.4  | 248.4  | 244.2  | 233.8  | 225.5  | 223.4  | 223.4  | 225.5  |
| 25°   | 219.2  | 219.2  | 225.5  | 227.5  | 229.6  | 223.4  | 210.8  | 204.6  | 204.6  | 204.6  | 204.6  |
| 27.5° | 198.3  | 202.5  | 206.7  | 210.8  | 212.9  | 206.7  | 196.2  | 190.0  | 190.0  | 187.9  | 185.8  |
| 30°   | 183.7  | 185.8  | 190.0  | 192.1  | 194.1  | 187.9  | 181.6  | 175.4  | 175.4  | 175.4  | 173.3  |
| 32.5° | 167.0  | 173.3  | 175.4  | 177.4  | 179.5  | 175.4  | 169.1  | 164.9  | 162.8  | 160.7  | 156.6  |
| 35°   | 154.5  | 156.6  | 162.8  | 162.8  | 164.9  | 162.8  | 158.7  | 154.5  | 148.2  | 146.1  | 146.1  |
| 37.5° | 142.0  | 142.0  | 146.1  | 150.3  | 154.5  | 152.4  | 146.1  | 139.9  | 137.8  | 137.8  | 137.8  |
| 40°   | 133.6  | 131.5  | 133.6  | 139.9  | 144.0  | 144.0  | 135.7  | 131.5  | 131.5  | 129.4  | 129.4  |
| 42.5° | 123.2  | 123.2  | 123.2  | 129.4  | 137.8  | 133.6  | 125.3  | 125.3  | 125.3  | 123.2  | 123.2  |
| 45°   | 116.9  | 114.8  | 116.9  | 116.9  | 127.3  | 121.1  | 119.0  | 116.9  | 119.0  | 116.9  | 119.0  |
| 47.5° | 108.6  | 108.6  | 108.6  | 110.6  | 116.9  | 112.7  | 110.6  | 110.6  | 112.7  | 112.7  | 112.7  |
| 50°   | 102.3  | 102.3  | 102.3  | 104.4  | 106.5  | 106.5  | 106.5  | 106.5  | 106.5  | 108.6  | 108.6  |
| 52.5° | 98.1   | 96.0   | 98.1   | 98.1   | 100.2  | 102.3  | 100.2  | 102.3  | 102.3  | 102.3  | 104.4  |
| 55°   | 93.9   | 91.9   | 93.9   | 93.9   | 98.1   | 96.0   | 96.0   | 98.1   | 98.1   | 100.2  | 102.3  |
| 57.5° | 87.7   | 85.6   | 89.8   | 89.8   | 93.9   | 93.9   | 91.9   | 93.9   | 93.9   | 96.0   | 96.0   |
| 60°   | 81.4   | 81.4   | 83.5   | 83.5   | 87.7   | 89.8   | 89.8   | 89.8   | 89.8   | 89.8   | 89.8   |
| 62.5° | 75.2   | 75.2   | 77.2   | 79.3   | 83.5   | 83.5   | 85.6   | 85.6   | 85.6   | 85.6   | 83.5   |
| 65°   | 68.9   | 71.0   | 73.1   | 73.1   | 77.2   | 79.3   | 79.3   | 79.3   | 79.3   | 79.3   | 79.3   |
| 67.5° | 60.5   | 64.7   | 66.8   | 68.9   | 73.1   | 73.1   | 75.2   | 75.2   | 73.1   | 73.1   | 73.1   |
| 70°   | 54.3   | 56.4   | 58.5   | 60.5   | 66.8   | 66.8   | 68.9   | 68.9   | 66.8   | 66.8   | 68.9   |
| 72.5° | 45.9   | 48.0   | 50.1   | 54.3   | 60.5   | 60.5   | 62.6   | 62.6   | 60.5   | 60.5   | 60.5   |
| 75°   | 39.7   | 39.7   | 41.8   | 45.9   | 54.3   | 54.3   | 54.3   | 56.4   | 54.3   | 54.3   | 52.2   |
| 77.5° | 29.2   | 31.3   | 33.4   | 39.7   | 45.9   | 48.0   | 48.0   | 48.0   | 45.9   | 45.9   | 43.8   |
| 80°   | 18.8   | 20.9   | 25.1   | 29.2   | 35.5   | 37.6   | 39.7   | 39.7   | 37.6   | 37.6   | 35.5   |
| 82.5° | 8.4    | 12.5   | 14.6   | 18.8   | 23.0   | 29.2   | 29.2   | 31.3   | 29.2   | 27.1   | 27.1   |
| 85°   | 0.0    | 0.0    | 2.1    | 6.3    | 10.4   | 16.7   | 18.8   | 20.9   | 18.8   | 16.7   | 16.7   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 4.2    | 4.2    | 4.2    | 2.1    | 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    |

REPORT NUMBER: P438813

CATALOG NUMBER: IST-SA1F-722-U-SLL

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°   | 315°   | 325°   | 335°   | 345°   | 355°   | 359°   | 360°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 | 1613.7 |
| 2.5°  | 1398.7 | 1421.6 | 1457.1 | 1478.0 | 1526.0 | 1569.8 | 1615.8 | 1676.3 | 1688.8 | 1690.9 |
| 5°    | 1110.6 | 1137.7 | 1204.5 | 1231.6 | 1319.3 | 1390.3 | 1494.7 | 1597.0 | 1624.1 | 1630.4 |
| 7.5°  | 847.5  | 868.4  | 941.5  | 993.7  | 1089.7 | 1189.9 | 1323.5 | 1444.6 | 1505.1 | 1511.4 |
| 10°   | 661.7  | 718.1  | 774.5  | 851.7  | 935.2  | 1033.3 | 1173.2 | 1327.7 | 1394.5 | 1390.3 |
| 12.5° | 557.4  | 615.8  | 684.7  | 762.0  | 847.5  | 935.2  | 1062.6 | 1233.7 | 1300.5 | 1317.2 |
| 15°   | 446.7  | 517.7  | 592.9  | 672.2  | 772.4  | 858.0  | 1006.2 | 1196.2 | 1277.6 | 1300.5 |
| 17.5° | 346.5  | 402.9  | 476.0  | 578.2  | 676.4  | 797.4  | 985.3  | 1231.6 | 1323.5 | 1346.5 |
| 20°   | 273.5  | 315.2  | 367.4  | 465.5  | 590.8  | 741.1  | 974.9  | 1298.4 | 1423.7 | 1457.1 |
| 22.5° | 233.8  | 250.5  | 288.1  | 373.7  | 505.2  | 680.5  | 968.6  | 1392.4 | 1549.0 | 1605.3 |
| 25°   | 208.8  | 219.2  | 240.1  | 294.3  | 419.6  | 628.3  | 979.1  | 1509.3 | 1724.3 | 1770.2 |
| 27.5° | 190.0  | 198.3  | 208.8  | 248.4  | 363.2  | 582.4  | 997.8  | 1640.8 | 1874.6 | 1941.4 |
| 30°   | 173.3  | 179.5  | 194.1  | 221.3  | 317.3  | 536.5  | 1004.1 | 1770.2 | 2008.2 | 2068.7 |
| 32.5° | 160.7  | 169.1  | 181.6  | 204.6  | 290.2  | 505.2  | 987.4  | 1868.3 | 2131.4 | 2198.2 |
| 35°   | 148.2  | 158.7  | 171.2  | 190.0  | 267.2  | 478.0  | 949.8  | 1949.8 | 2248.3 | 2313.0 |
| 37.5° | 142.0  | 148.2  | 160.7  | 175.4  | 250.5  | 450.9  | 916.4  | 2031.2 | 2369.4 | 2459.1 |
| 40°   | 133.6  | 139.9  | 152.4  | 164.9  | 229.6  | 421.7  | 893.5  | 2135.6 | 2507.1 | 2588.5 |
| 42.5° | 127.3  | 135.7  | 146.1  | 160.7  | 212.9  | 390.4  | 870.5  | 2219.1 | 2630.3 | 2715.9 |
| 45°   | 123.2  | 131.5  | 142.0  | 160.7  | 198.3  | 365.3  | 845.5  | 2292.1 | 2724.2 | 2807.7 |
| 47.5° | 116.9  | 127.3  | 142.0  | 154.5  | 192.1  | 348.6  | 845.5  | 2379.8 | 2809.8 | 2897.5 |
| 50°   | 114.8  | 125.3  | 148.2  | 150.3  | 187.9  | 342.4  | 880.9  | 2480.0 | 2933.0 | 3016.5 |
| 52.5° | 112.7  | 123.2  | 148.2  | 142.0  | 183.7  | 346.5  | 935.2  | 2661.6 | 3091.6 | 3187.7 |
| 55°   | 106.5  | 121.1  | 142.0  | 131.5  | 173.3  | 350.7  | 995.8  | 2899.6 | 3327.5 | 3417.3 |
| 57.5° | 102.3  | 119.0  | 133.6  | 121.1  | 158.7  | 344.4  | 1077.2 | 3112.5 | 3573.9 | 3636.5 |
| 60°   | 96.0   | 116.9  | 116.9  | 112.7  | 142.0  | 325.7  | 1169.0 | 3248.2 | 3667.8 | 3717.9 |
| 62.5° | 91.9   | 114.8  | 104.4  | 104.4  | 129.4  | 296.4  | 1200.3 | 3214.8 | 3576.0 | 3630.2 |
| 65°   | 85.6   | 100.2  | 93.9   | 96.0   | 119.0  | 263.0  | 1146.1 | 3006.1 | 3402.7 | 3467.4 |
| 67.5° | 79.3   | 85.6   | 83.5   | 87.7   | 114.8  | 229.6  | 999.9  | 2757.6 | 3179.3 | 3279.5 |
| 70°   | 71.0   | 75.2   | 75.2   | 79.3   | 108.6  | 206.7  | 835.0  | 2438.2 | 2889.2 | 3037.4 |
| 72.5° | 64.7   | 66.8   | 66.8   | 73.1   | 102.3  | 194.1  | 659.7  | 2068.7 | 2423.6 | 2515.5 |
| 75°   | 54.3   | 58.5   | 58.5   | 62.6   | 91.9   | 164.9  | 450.9  | 1515.6 | 1695.1 | 1770.2 |
| 77.5° | 48.0   | 48.0   | 50.1   | 52.2   | 73.1   | 110.6  | 265.1  | 933.1  | 1018.7 | 1058.4 |
| 80°   | 37.6   | 39.7   | 37.6   | 37.6   | 45.9   | 73.1   | 144.0  | 546.9  | 620.0  | 599.1  |
| 82.5° | 27.1   | 27.1   | 23.0   | 23.0   | 27.1   | 39.7   | 62.6   | 283.9  | 290.2  | 279.7  |
| 85°   | 14.6   | 10.4   | 8.4    | 8.4    | 8.4    | 8.4    | 8.4    | 60.5   | 29.2   | 23.0   |
| 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    |

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



### Test Information

Test Method: LM-79-2008 Report  
 Number: SP1-1908-441-10-R4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/28/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW-EDISON  
 Catalog Number: **SA1C-722-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.\*\*\*TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

### Spectral Parameters

|                           |         |           |      |      |       |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K):                  | 2237    | CRI (Ra): | 72.0 |      |       |
| CIE u':                   | 0.2876  | R1:       | 68.9 | R9:  | -17.4 |
| CIE v':                   | 0.5346  | R2:       | 83.0 | R10: | 61.3  |
| Duv:                      | -0.0006 | R3:       | 95.2 | R11: | 59.8  |
| CIE x:                    | 0.5005  | R4:       | 66.2 | R12: | 50.5  |
| CIE y:                    | 0.4134  | R5:       | 65.9 | R13: | 71.1  |
| CIE z:                    | 0.0860  | R6:       | 76.3 | R14: | 96.9  |
| Peak Wavelength (nm):     | 603     | R7:       | 76.7 |      |       |
| Dominant Wavelength (nm): | 587     | R8:       | 43.8 |      |       |
| Purity:                   | 74.5    |           |      |      |       |
| Rf:                       | 69.8    |           |      |      |       |
| Rg:                       | 99.2    |           |      |      |       |



### Test Conditions

Stabilization Time: 71M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.7/41%  
 Sphere Temperature (°C): 25.6

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| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/28/2019        | 12/28/2019           |
| Power Meter                    | IN0071                | 12/5/2018        | 12/5/2019            |
| AC Power Source                | IN0063                | 12/5/2018        | 12/5/2019            |
| DC Power Source                | IN0208                | 12/5/2018        | 12/5/2019            |
| Sphere Thermometer             | IN0085                | 12/5/2018        | 12/5/2019            |
| Room Thermometer               | IN0046                | 12/5/2018        | 12/5/2019            |

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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 2200K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



#####

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 1768             | NR               | 490       | 5206             | NR               | 620       | 130919           | NR               | 750       | 8553             | NR               | 880       | 2713             | NR               |
| 365       | 1569             | NR               | 495       | 7286             | NR               | 625       | 125335           | NR               | 755       | 7696             | NR               | 885       | 2316             | NR               |
| 370       | 1594             | NR               | 500       | 10654            | NR               | 630       | 118388           | NR               | 760       | 6978             | NR               | 890       | 2539             | NR               |
| 375       | 1744             | NR               | 505       | 15189            | NR               | 635       | 111855           | NR               | 765       | 6377             | NR               | 895       | 1933             | NR               |
| 380       | 1659             | NR               | 510       | 20541            | NR               | 640       | 104062           | NR               | 770       | 5600             | NR               | 900       | 2216             | NR               |
| 385       | 1504             | NR               | 515       | 26492            | NR               | 645       | 96365            | NR               | 775       | 5000             | NR               | 905       | 2067             | NR               |
| 390       | 1541             | NR               | 520       | 32294            | NR               | 650       | 88651            | NR               | 780       | 4709             | NR               | 910       | 1959             | NR               |
| 395       | 1355             | NR               | 525       | 38123            | NR               | 655       | 81152            | NR               | 785       | 4305             | NR               | 915       | 1874             | NR               |
| 400       | 1243             | NR               | 530       | 43232            | NR               | 660       | 73523            | NR               | 790       | 4040             | NR               | 920       | 1484             | NR               |
| 405       | 1417             | NR               | 535       | 48012            | NR               | 665       | 66123            | NR               | 795       | 3642             | NR               | 925       | 1914             | NR               |
| 410       | 2147             | NR               | 540       | 52623            | NR               | 670       | 58677            | NR               | 800       | 3594             | NR               | 930       | 1948             | NR               |
| 415       | 3837             | NR               | 545       | 57516            | NR               | 675       | 52349            | NR               | 805       | 3190             | NR               | 935       | 2079             | NR               |
| 420       | 7159             | NR               | 550       | 62613            | NR               | 680       | 46159            | NR               | 810       | 3241             | NR               | 940       | 2263             | NR               |
| 425       | 12599            | NR               | 555       | 68554            | NR               | 685       | 40525            | NR               | 815       | 2732             | NR               | 945       | 1688             | NR               |
| 430       | 19019            | NR               | 560       | 75325            | NR               | 690       | 35615            | NR               | 820       | 2612             | NR               | 950       | 1560             | NR               |
| 435       | 24875            | NR               | 565       | 82533            | NR               | 695       | 31158            | NR               | 825       | 2966             | NR               | 955       | 2826             | NR               |
| 440       | 29103            | NR               | 570       | 90909            | NR               | 700       | 27409            | NR               | 830       | 2574             | NR               | 960       | 1477             | NR               |
| 445       | 29901            | NR               | 575       | 99621            | NR               | 705       | 24204            | NR               | 835       | 2633             | NR               | 965       | 1568             | NR               |
| 450       | 24862            | NR               | 580       | 108484           | NR               | 710       | 21558            | NR               | 840       | 2526             | NR               | 970       | 2030             | NR               |
| 455       | 15942            | NR               | 585       | 116679           | NR               | 715       | 19222            | NR               | 845       | 2631             | NR               | 975       | 1986             | NR               |
| 460       | 9916             | NR               | 590       | 123752           | NR               | 720       | 17310            | NR               | 850       | 2079             | NR               | 980       | 2540             | NR               |
| 465       | 7051             | NR               | 595       | 129324           | NR               | 725       | 15280            | NR               | 855       | 2309             | NR               | 985       | 1139             | NR               |
| 470       | 5227             | NR               | 600       | 134082           | NR               | 730       | 13282            | NR               | 860       | 2528             | NR               | 990       | 2018             | NR               |
| 475       | 4257             | NR               | 605       | 135698           | NR               | 735       | 11753            | NR               | 865       | 2121             | NR               | 995       | 3445             | NR               |
| 480       | 4052             | NR               | 610       | 135144           | NR               | 740       | 10654            | NR               | 870       | 2751             | NR               | 1000      | 3704             | NR               |
| 485       | 4298             | NR               | 615       | 134180           | NR               | 745       | 9451             | NR               | 875       | 2317             | NR               |           |                  |                  |

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Scotopic Flux vs. Wavelength



Scotopic Lumens: 4696.9

S/P: 0.85

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 1768             | NR               | 490       | 5206             | NR               | 620       | 130919           | NR               | 750       | 8553             | NR               | 880       | 2713             | NR               |
| 365       | 1569             | NR               | 495       | 7286             | NR               | 625       | 125335           | NR               | 755       | 7696             | NR               | 885       | 2316             | NR               |
| 370       | 1594             | NR               | 500       | 10654            | NR               | 630       | 118388           | NR               | 760       | 6978             | NR               | 890       | 2539             | NR               |
| 375       | 1744             | NR               | 505       | 15189            | NR               | 635       | 111855           | NR               | 765       | 6377             | NR               | 895       | 1933             | NR               |
| 380       | 1659             | NR               | 510       | 20541            | NR               | 640       | 104062           | NR               | 770       | 5600             | NR               | 900       | 2216             | NR               |
| 385       | 1504             | NR               | 515       | 26492            | NR               | 645       | 96365            | NR               | 775       | 5000             | NR               | 905       | 2067             | NR               |
| 390       | 1541             | NR               | 520       | 32294            | NR               | 650       | 88651            | NR               | 780       | 4709             | NR               | 910       | 1959             | NR               |
| 395       | 1355             | NR               | 525       | 38123            | NR               | 655       | 81152            | NR               | 785       | 4305             | NR               | 915       | 1874             | NR               |
| 400       | 1243             | NR               | 530       | 43232            | NR               | 660       | 73523            | NR               | 790       | 4040             | NR               | 920       | 1484             | NR               |
| 405       | 1417             | NR               | 535       | 48012            | NR               | 665       | 66123            | NR               | 795       | 3642             | NR               | 925       | 1914             | NR               |
| 410       | 2147             | NR               | 540       | 52623            | NR               | 670       | 58677            | NR               | 800       | 3594             | NR               | 930       | 1948             | NR               |
| 415       | 3837             | NR               | 545       | 57516            | NR               | 675       | 52349            | NR               | 805       | 3190             | NR               | 935       | 2079             | NR               |
| 420       | 7159             | NR               | 550       | 62613            | NR               | 680       | 46159            | NR               | 810       | 3241             | NR               | 940       | 2263             | NR               |
| 425       | 12599            | NR               | 555       | 68554            | NR               | 685       | 40525            | NR               | 815       | 2732             | NR               | 945       | 1688             | NR               |
| 430       | 19019            | NR               | 560       | 75325            | NR               | 690       | 35615            | NR               | 820       | 2612             | NR               | 950       | 1560             | NR               |
| 435       | 24875            | NR               | 565       | 82533            | NR               | 695       | 31158            | NR               | 825       | 2966             | NR               | 955       | 2826             | NR               |
| 440       | 29103            | NR               | 570       | 90909            | NR               | 700       | 27409            | NR               | 830       | 2574             | NR               | 960       | 1477             | NR               |
| 445       | 29901            | NR               | 575       | 99621            | NR               | 705       | 24204            | NR               | 835       | 2633             | NR               | 965       | 1568             | NR               |
| 450       | 24862            | NR               | 580       | 108484           | NR               | 710       | 21558            | NR               | 840       | 2526             | NR               | 970       | 2030             | NR               |
| 455       | 15942            | NR               | 585       | 116679           | NR               | 715       | 19222            | NR               | 845       | 2631             | NR               | 975       | 1986             | NR               |
| 460       | 9916             | NR               | 590       | 123752           | NR               | 720       | 17310            | NR               | 850       | 2079             | NR               | 980       | 2540             | NR               |
| 465       | 7051             | NR               | 595       | 129324           | NR               | 725       | 15280            | NR               | 855       | 2309             | NR               | 985       | 1139             | NR               |
| 470       | 5227             | NR               | 600       | 134082           | NR               | 730       | 13282            | NR               | 860       | 2528             | NR               | 990       | 2018             | NR               |
| 475       | 4257             | NR               | 605       | 135698           | NR               | 735       | 11753            | NR               | 865       | 2121             | NR               | 995       | 3445             | NR               |
| 480       | 4052             | NR               | 610       | 135144           | NR               | 740       | 10654            | NR               | 870       | 2751             | NR               | 1000      | 3704             | NR               |
| 485       | 4298             | NR               | 615       | 134180           | NR               | 745       | 9451             | NR               | 875       | 2317             | NR               |           |                  |                  |

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 1470.8 M/P: 0.27**

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 1768             | NR               | 490       | 5206             | NR               | 620       | 130919           | NR               | 750       | 8553             | NR               | 880       | 2713             | NR               |
| 365       | 1569             | NR               | 495       | 7286             | NR               | 625       | 125335           | NR               | 755       | 7696             | NR               | 885       | 2316             | NR               |
| 370       | 1594             | NR               | 500       | 10654            | NR               | 630       | 118388           | NR               | 760       | 6978             | NR               | 890       | 2539             | NR               |
| 375       | 1744             | NR               | 505       | 15189            | NR               | 635       | 111855           | NR               | 765       | 6377             | NR               | 895       | 1933             | NR               |
| 380       | 1659             | NR               | 510       | 20541            | NR               | 640       | 104062           | NR               | 770       | 5600             | NR               | 900       | 2216             | NR               |
| 385       | 1504             | NR               | 515       | 26492            | NR               | 645       | 96365            | NR               | 775       | 5000             | NR               | 905       | 2067             | NR               |
| 390       | 1541             | NR               | 520       | 32294            | NR               | 650       | 88651            | NR               | 780       | 4709             | NR               | 910       | 1959             | NR               |
| 395       | 1355             | NR               | 525       | 38123            | NR               | 655       | 81152            | NR               | 785       | 4305             | NR               | 915       | 1874             | NR               |
| 400       | 1243             | NR               | 530       | 43232            | NR               | 660       | 73523            | NR               | 790       | 4040             | NR               | 920       | 1484             | NR               |
| 405       | 1417             | NR               | 535       | 48012            | NR               | 665       | 66123            | NR               | 795       | 3642             | NR               | 925       | 1914             | NR               |
| 410       | 2147             | NR               | 540       | 52623            | NR               | 670       | 58677            | NR               | 800       | 3594             | NR               | 930       | 1948             | NR               |
| 415       | 3837             | NR               | 545       | 57516            | NR               | 675       | 52349            | NR               | 805       | 3190             | NR               | 935       | 2079             | NR               |
| 420       | 7159             | NR               | 550       | 62613            | NR               | 680       | 46159            | NR               | 810       | 3241             | NR               | 940       | 2263             | NR               |
| 425       | 12599            | NR               | 555       | 68554            | NR               | 685       | 40525            | NR               | 815       | 2732             | NR               | 945       | 1688             | NR               |
| 430       | 19019            | NR               | 560       | 75325            | NR               | 690       | 35615            | NR               | 820       | 2612             | NR               | 950       | 1560             | NR               |
| 435       | 24875            | NR               | 565       | 82533            | NR               | 695       | 31158            | NR               | 825       | 2966             | NR               | 955       | 2826             | NR               |
| 440       | 29103            | NR               | 570       | 90909            | NR               | 700       | 27409            | NR               | 830       | 2574             | NR               | 960       | 1477             | NR               |
| 445       | 29901            | NR               | 575       | 99621            | NR               | 705       | 24204            | NR               | 835       | 2633             | NR               | 965       | 1568             | NR               |
| 450       | 24862            | NR               | 580       | 108484           | NR               | 710       | 21558            | NR               | 840       | 2526             | NR               | 970       | 2030             | NR               |
| 455       | 15942            | NR               | 585       | 116679           | NR               | 715       | 19222            | NR               | 845       | 2631             | NR               | 975       | 1986             | NR               |
| 460       | 9916             | NR               | 590       | 123752           | NR               | 720       | 17310            | NR               | 850       | 2079             | NR               | 980       | 2540             | NR               |
| 465       | 7051             | NR               | 595       | 129324           | NR               | 725       | 15280            | NR               | 855       | 2309             | NR               | 985       | 1139             | NR               |
| 470       | 5227             | NR               | 600       | 134082           | NR               | 730       | 13282            | NR               | 860       | 2528             | NR               | 990       | 2018             | NR               |
| 475       | 4257             | NR               | 605       | 135698           | NR               | 735       | 11753            | NR               | 865       | 2121             | NR               | 995       | 3445             | NR               |
| 480       | 4052             | NR               | 610       | 135144           | NR               | 740       | 10654            | NR               | 870       | 2751             | NR               | 1000      | 3704             | NR               |
| 485       | 4298             | NR               | 615       | 134180           | NR               | 745       | 9451             | NR               | 875       | 2317             | NR               |           |                  |                  |

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### Summary

$R_f = 69.8$   
 $R_g = 99.2$   
 CIE  $R_a = 72.0$   
 $R_g = -17.4$



### Color Vector Graphics



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

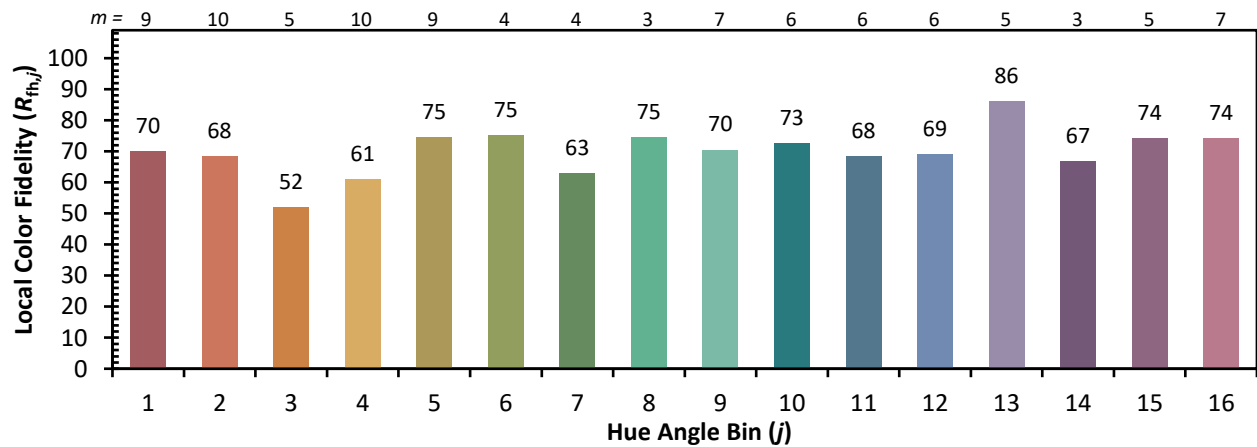
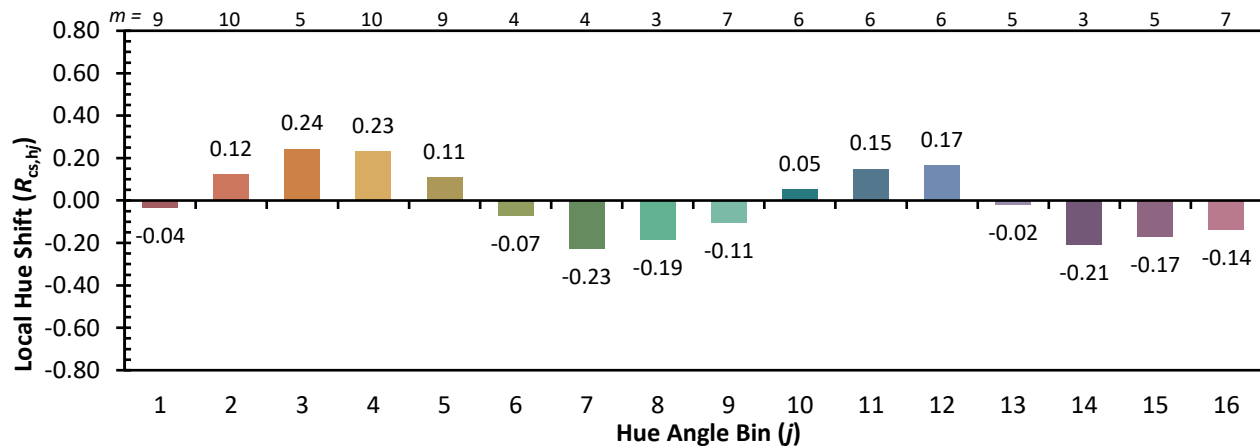
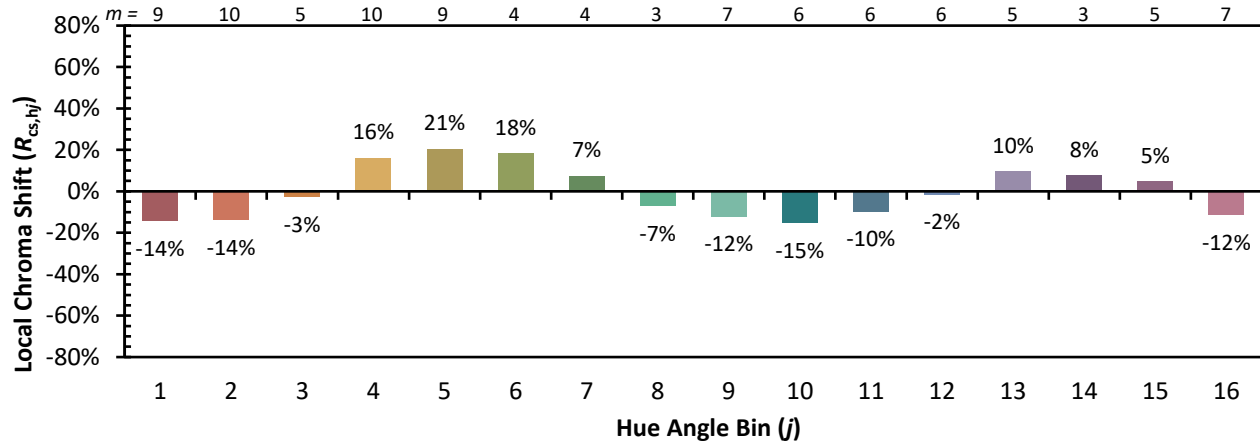
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 56 | CES51 = 74 | CES76 = 56 |
| CES02 = 65 | CES27 = 76 | CES52 = 76 | CES77 = 81 |
| CES03 = 32 | CES28 = 83 | CES53 = 65 | CES78 = 63 |
| CES04 = 72 | CES29 = 46 | CES54 = 78 | CES79 = 84 |
| CES05 = 52 | CES30 = 48 | CES55 = 75 | CES80 = 84 |
| CES06 = 52 | CES31 = 51 | CES56 = 65 | CES81 = 63 |
| CES07 = 44 | CES32 = 51 | CES57 = 62 | CES82 = 92 |
| CES08 = 42 | CES33 = 53 | CES58 = 66 | CES83 = 83 |
| CES09 = 29 | CES34 = 70 | CES59 = 84 | CES84 = 92 |
| CES10 = 78 | CES35 = 85 | CES60 = 90 | CES85 = 81 |
| CES11 = 61 | CES36 = 78 | CES61 = 84 | CES86 = 56 |
| CES12 = 68 | CES37 = 80 | CES62 = 70 | CES87 = 78 |
| CES13 = 45 | CES38 = 53 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 84 | CES65 = 67 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 90 |
| CES17 = 51 | CES42 = 79 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 64 | CES68 = 69 | CES93 = 79 |
| CES19 = 74 | CES44 = 98 | CES69 = 80 | CES94 = 52 |
| CES20 = 68 | CES45 = 73 | CES70 = 63 | CES95 = 76 |
| CES21 = 89 | CES46 = 67 | CES71 = 63 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 87 | CES97 = 77 |
| CES23 = 92 | CES48 = 48 | CES73 = 56 | CES98 = 71 |
| CES24 = 92 | CES49 = 64 | CES74 = 87 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 |            |



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Color Rendition by Hue-Angle Bin



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**Measure Comparisons**



(END OF REPORT)