

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: P438851

Luminaire Tested: **IST-SA1F-730-U-SLL**

Issue Date: 12/10/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P438851  
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-730-U-SLL  
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE  
(1) 70 CRI, 3000K, 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: 6329 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G2

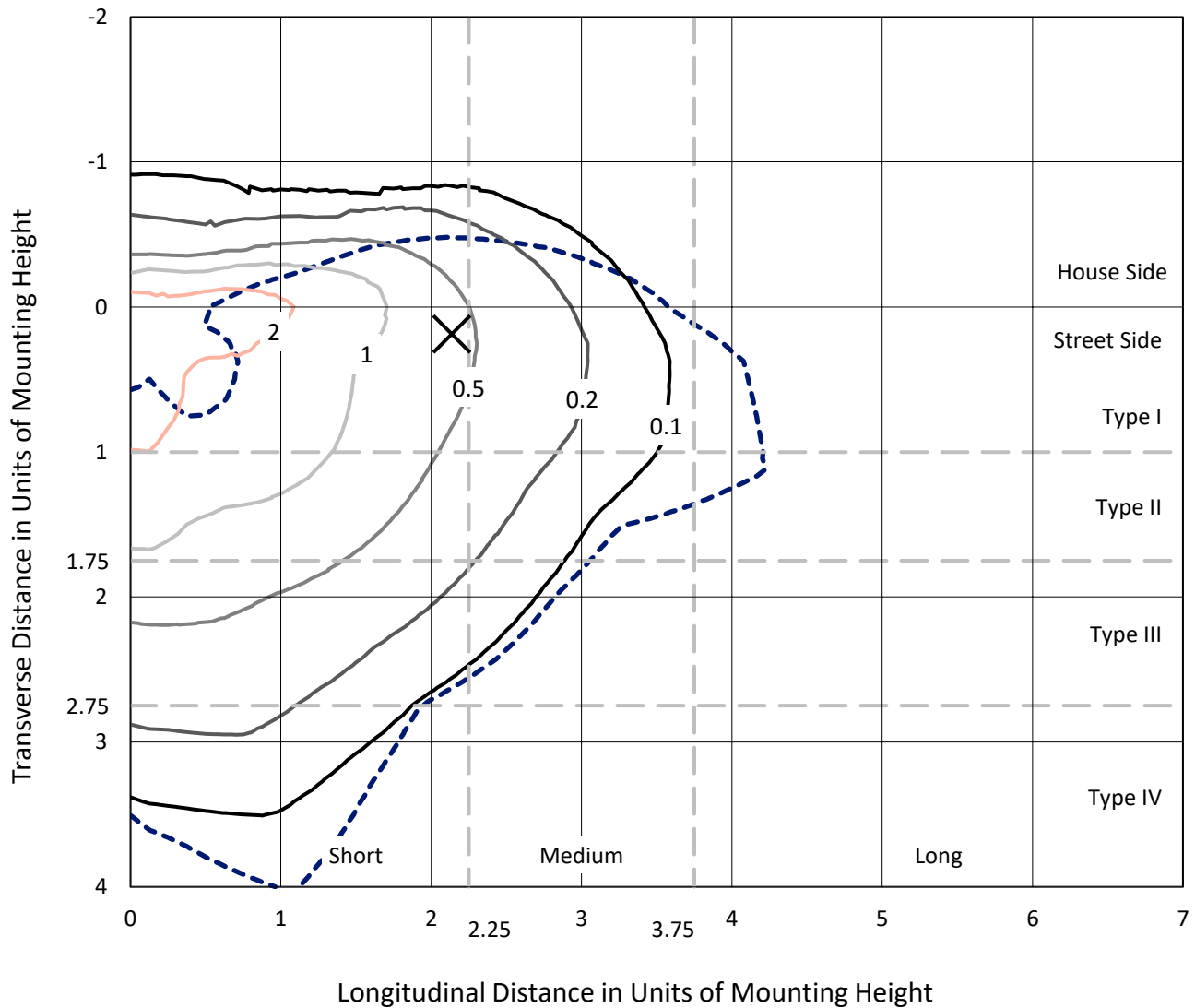
Input Watts (W): 66  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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## Iso-Footcandle Lines of Horizontal Illumination

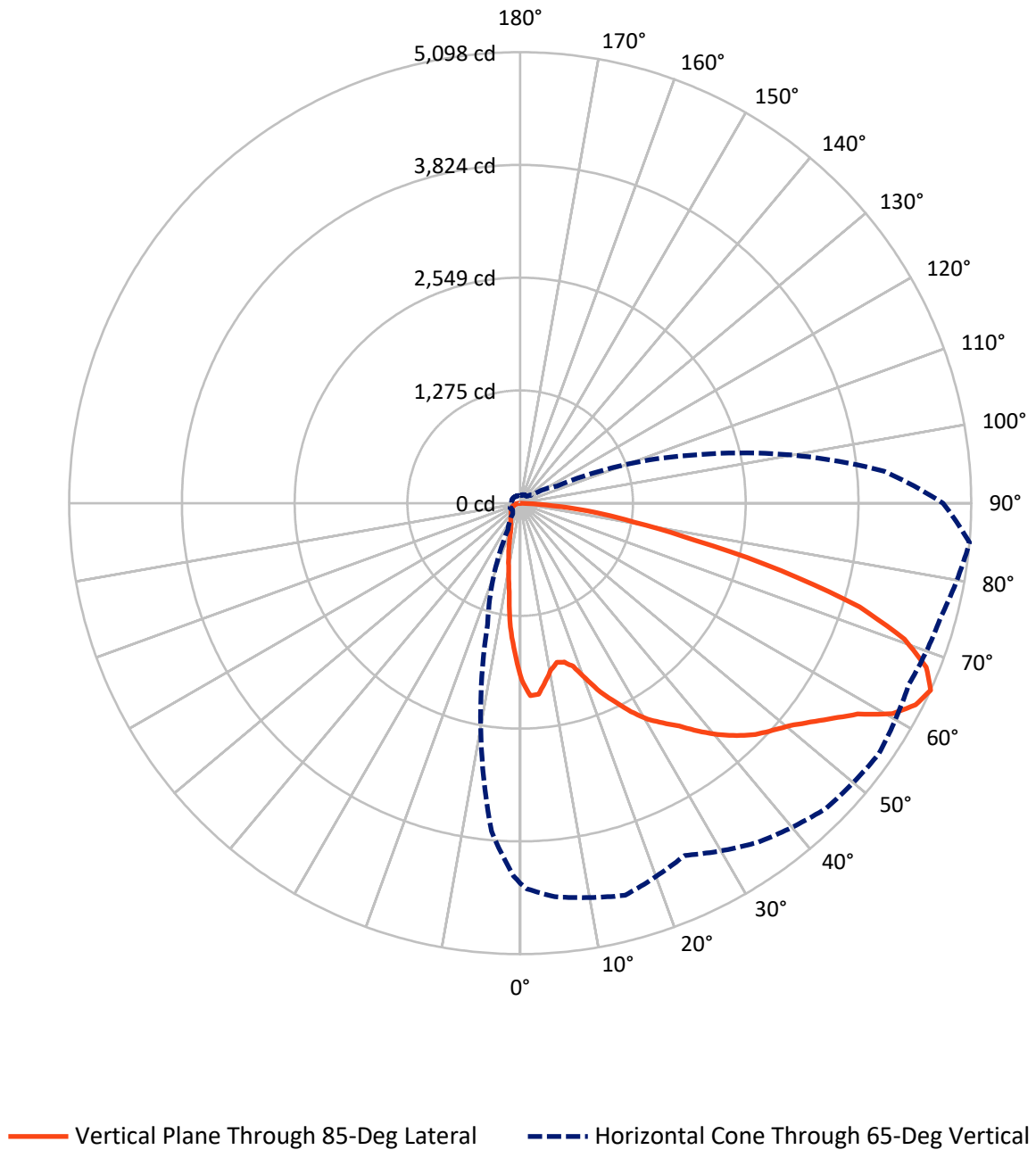
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.8 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



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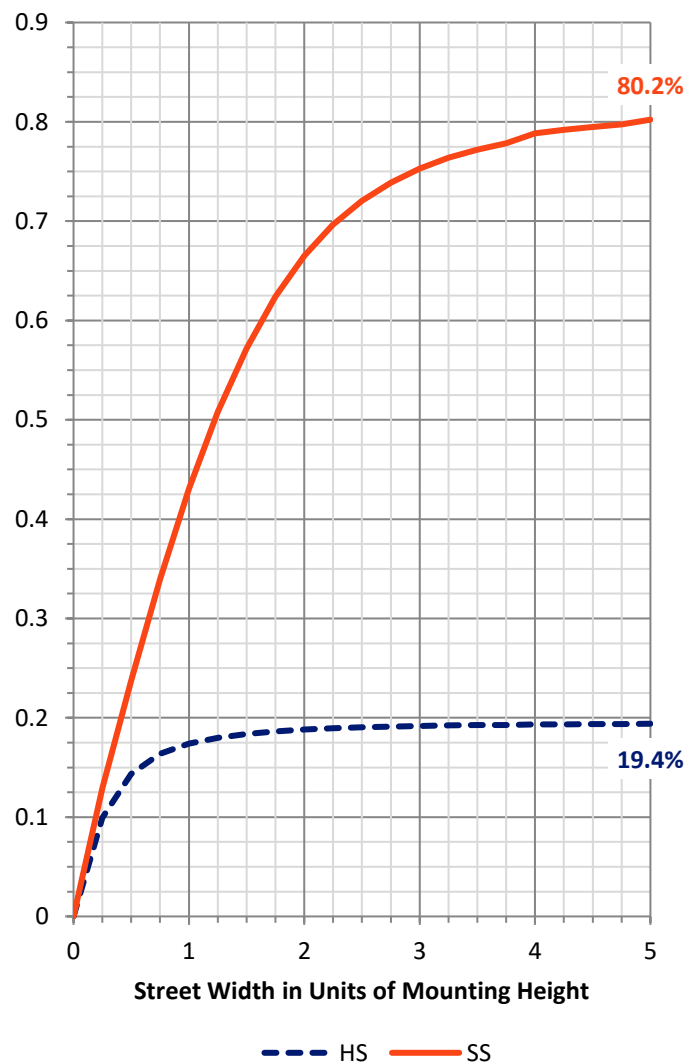
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1238.6   | 0.0    | 1238.6 |
|                    | % Fixture | 19.6     | 0.0    | 19.6   |
| <b>Street Side</b> | Lumens    | 5090.4   | 0.0    | 5090.4 |
|                    | % Fixture | 80.4     | 0.0    | 80.4   |
| <b>Total</b>       | Lumens    | 6329.0   | 0.0    | 6329.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 152.3  | 2.4       |
| 10°-20°   | 316.6  | 5.0       |
| 20°-30°   | 455.2  | 7.2       |
| 30°-40°   | 653.6  | 10.3      |
| 40°-50°   | 925.2  | 14.6      |
| 50°-60°   | 1286.4 | 20.3      |
| 60°-70°   | 1531.9 | 24.2      |
| 70°-80°   | 885.4  | 14.0      |
| 80°-90°   | 122.4  | 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°    | 6329.0 | 100.0     |
| 0°-180°   | 6329.0 | 100.0     |

**Coefficient of Utilization**



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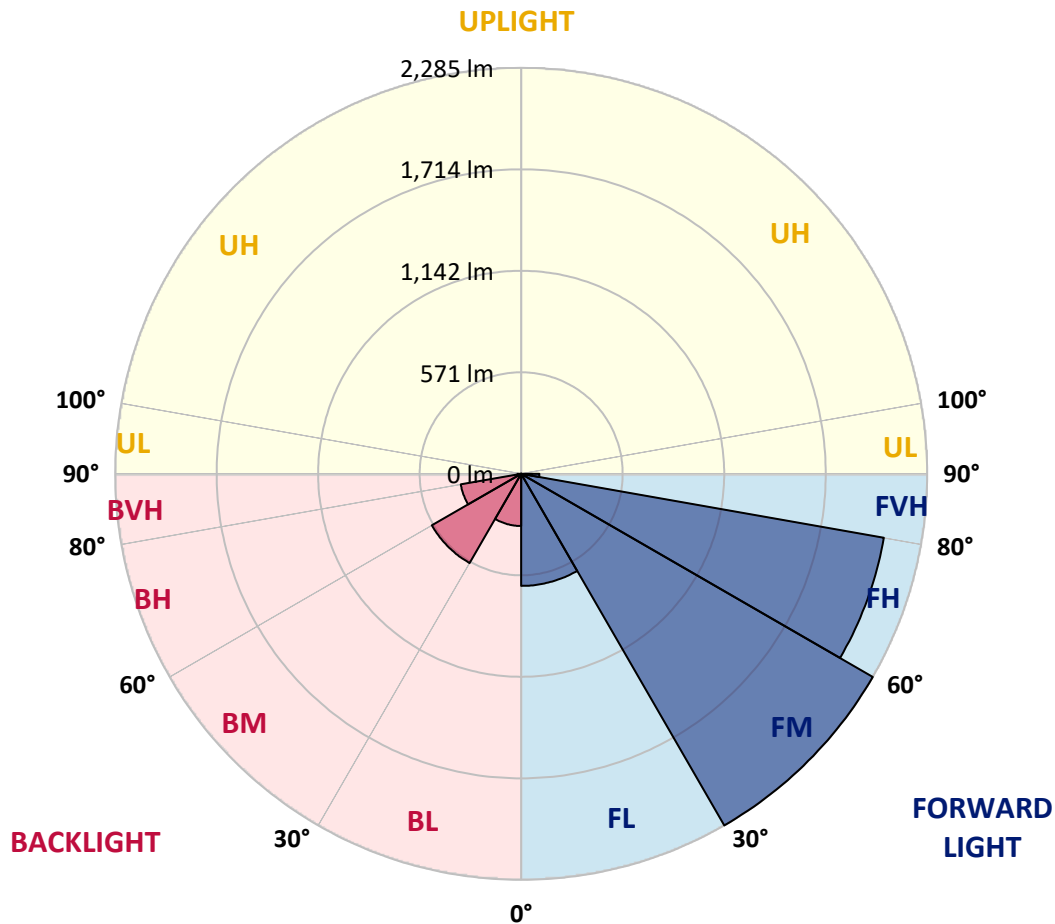
CATALOG NUMBER: IST-SA1F-730-U-SLL

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 630.7  | 10.0      |                         |      |         |
| FM   | (30°-60°)   | 2284.8 | 36.1      |                         |      |         |
| FH   | (60°-80°)   | 2072.4 | 32.7      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 102.4  | 1.6       |                         |      | G2/225  |
| BL   | (0°-30°)    | 293.4  | 4.6       | B1/500                  |      |         |
| BM   | (30°-60°)   | 580.3  | 9.2       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 344.9  | 5.4       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 20.0   | 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-G2**

Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 1°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 |
| 2.5°  | 2095.1 | 2102.9 | 2121.0 | 2183.0 | 2221.8 | 2252.9 | 2291.7 | 2252.9 | 2242.5 | 2190.8 | 2180.4 |
| 5°    | 2020.1 | 2038.2 | 2089.9 | 2206.3 | 2302.0 | 2402.9 | 2454.6 | 2410.7 | 2351.2 | 2260.6 | 2170.1 |
| 7.5°  | 1872.7 | 1895.9 | 1963.2 | 2144.2 | 2325.3 | 2462.4 | 2529.6 | 2483.1 | 2361.5 | 2201.1 | 2038.2 |
| 10°   | 1722.6 | 1758.8 | 1839.0 | 2066.6 | 2258.0 | 2410.7 | 2514.1 | 2465.0 | 2317.5 | 2108.0 | 1914.0 |
| 12.5° | 1632.1 | 1658.0 | 1748.5 | 1986.5 | 2188.2 | 2340.8 | 2418.4 | 2390.0 | 2252.9 | 2053.7 | 1846.8 |
| 15°   | 1611.4 | 1637.3 | 1727.8 | 1958.0 | 2136.5 | 2250.3 | 2268.4 | 2276.2 | 2224.4 | 2071.8 | 1864.9 |
| 17.5° | 1668.3 | 1689.0 | 1813.2 | 2004.6 | 2077.0 | 2100.3 | 2128.7 | 2162.3 | 2188.2 | 2108.0 | 1939.9 |
| 20°   | 1805.4 | 1846.8 | 1955.4 | 2100.3 | 2061.5 | 2007.2 | 2022.7 | 2064.1 | 2162.3 | 2214.1 | 2113.2 |
| 22.5° | 1989.0 | 2035.6 | 2172.7 | 2232.2 | 2071.8 | 1955.4 | 1942.5 | 1978.7 | 2159.8 | 2330.5 | 2320.1 |
| 25°   | 2193.4 | 2258.0 | 2405.5 | 2408.1 | 2115.8 | 1919.2 | 1893.3 | 1927.0 | 2154.6 | 2433.9 | 2485.7 |
| 27.5° | 2405.5 | 2465.0 | 2625.3 | 2545.2 | 2201.1 | 1921.8 | 1890.8 | 1924.4 | 2167.5 | 2545.2 | 2669.3 |
| 30°   | 2563.3 | 2640.9 | 2780.5 | 2674.5 | 2255.5 | 1955.4 | 1908.9 | 1952.8 | 2196.0 | 2602.1 | 2832.3 |
| 32.5° | 2723.6 | 2772.8 | 2920.2 | 2749.5 | 2314.9 | 2007.2 | 1947.7 | 2014.9 | 2268.4 | 2656.4 | 2961.6 |
| 35°   | 2865.9 | 2930.5 | 3080.6 | 2793.5 | 2402.9 | 2095.1 | 2017.5 | 2105.4 | 2371.9 | 2734.0 | 3093.5 |
| 37.5° | 3046.9 | 3109.0 | 3246.1 | 2855.5 | 2475.3 | 2206.3 | 2141.7 | 2255.5 | 2498.6 | 2803.8 | 3269.4 |
| 40°   | 3207.3 | 3305.6 | 3409.1 | 2933.1 | 2558.1 | 2369.3 | 2327.9 | 2483.1 | 2669.3 | 2899.5 | 3440.1 |
| 42.5° | 3365.1 | 3447.9 | 3561.7 | 3021.1 | 2664.1 | 2568.4 | 2586.5 | 2749.5 | 2876.2 | 3044.4 | 3592.7 |
| 45°   | 3478.9 | 3574.6 | 3675.5 | 3090.9 | 2801.2 | 2783.1 | 2904.7 | 3041.8 | 3088.3 | 3197.0 | 3729.8 |
| 47.5° | 3590.1 | 3665.1 | 3755.7 | 3160.7 | 2966.8 | 3023.7 | 3235.8 | 3341.8 | 3295.2 | 3334.0 | 3838.4 |
| 50°   | 3737.5 | 3817.7 | 3843.6 | 3272.0 | 3176.3 | 3328.9 | 3559.1 | 3628.9 | 3494.4 | 3442.7 | 3952.2 |
| 52.5° | 3949.6 | 3988.4 | 3975.5 | 3403.9 | 3375.4 | 3647.0 | 3835.8 | 3941.9 | 3701.3 | 3546.1 | 4110.0 |
| 55°   | 4234.2 | 4301.4 | 4218.6 | 3618.6 | 3579.8 | 3952.2 | 4172.1 | 4223.8 | 3931.5 | 3675.5 | 4291.1 |
| 57.5° | 4505.7 | 4565.2 | 4539.4 | 3879.8 | 3846.2 | 4216.1 | 4428.1 | 4477.3 | 4156.6 | 3916.0 | 4498.0 |
| 60°   | 4606.6 | 4624.7 | 4717.8 | 4156.6 | 4112.6 | 4441.1 | 4681.6 | 4689.4 | 4425.6 | 4205.7 | 4834.2 |
| 62.5° | 4498.0 | 4570.4 | 4660.9 | 4415.2 | 4273.0 | 4635.1 | 4849.8 | 4898.9 | 4681.6 | 4557.5 | 5017.9 |
| 65°   | 4296.2 | 4360.9 | 4466.9 | 4588.5 | 4394.5 | 4681.6 | 4883.4 | 4945.5 | 4847.2 | 4927.4 | 5098.1 |
| 67.5° | 4063.4 | 4143.6 | 4216.1 | 4617.0 | 4379.0 | 4415.2 | 4583.3 | 4622.1 | 4759.2 | 5090.3 | 4950.6 |
| 70°   | 3763.4 | 3853.9 | 3916.0 | 4505.7 | 4009.1 | 3649.6 | 3768.6 | 3874.6 | 4084.1 | 4800.6 | 4606.6 |
| 72.5° | 3116.8 | 3261.6 | 3416.8 | 4001.4 | 3243.5 | 2834.8 | 2928.0 | 2997.8 | 3147.8 | 4099.7 | 4011.7 |
| 75°   | 2193.4 | 2299.4 | 2490.8 | 3222.8 | 2490.8 | 2007.2 | 2152.0 | 2152.0 | 2340.8 | 3367.7 | 3046.9 |
| 77.5° | 1311.4 | 1314.0 | 1500.2 | 2121.0 | 1515.7 | 1352.8 | 1435.5 | 1474.3 | 1531.2 | 2384.8 | 2022.7 |
| 80°   | 742.3  | 752.7  | 814.8  | 1370.9 | 897.5  | 923.4  | 1021.7 | 1125.1 | 1039.8 | 1479.5 | 1301.0 |
| 82.5° | 346.6  | 305.2  | 323.3  | 646.6  | 509.5  | 602.7  | 618.2  | 664.7  | 669.9  | 946.7  | 853.6  |
| 85°   | 28.5   | 23.3   | 31.0   | 116.4  | 90.5   | 82.8   | 59.5   | 113.8  | 178.5  | 413.8  | 367.3  |
| 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°    | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 |
| 2.5°  | 2146.8 | 2121.0 | 2064.1 | 2020.1 | 1978.7 | 1901.1 | 1870.1 | 1826.1 | 1802.8 | 1761.4 | 1771.8 |
| 5°    | 2102.9 | 2043.4 | 1914.0 | 1826.1 | 1712.3 | 1619.2 | 1562.3 | 1510.5 | 1489.8 | 1445.9 | 1430.4 |
| 7.5°  | 1942.5 | 1890.8 | 1727.8 | 1583.0 | 1443.3 | 1332.1 | 1226.0 | 1148.4 | 1112.2 | 1073.4 | 1070.8 |
| 10°   | 1805.4 | 1720.0 | 1533.8 | 1363.1 | 1202.7 | 1099.3 | 1021.7 | 957.0  | 900.1  | 851.0  | 822.5  |
| 12.5° | 1727.8 | 1621.8 | 1414.8 | 1207.9 | 1096.7 | 1024.3 | 938.9  | 858.7  | 794.1  | 737.2  | 703.5  |
| 15°   | 1727.8 | 1603.7 | 1357.9 | 1156.2 | 1045.0 | 936.3  | 838.0  | 755.3  | 669.9  | 602.7  | 582.0  |
| 17.5° | 1808.0 | 1655.4 | 1370.9 | 1122.6 | 964.8  | 843.2  | 719.1  | 610.4  | 527.7  | 468.2  | 447.5  |
| 20°   | 1965.8 | 1782.1 | 1401.9 | 1083.8 | 887.2  | 719.1  | 569.0  | 452.6  | 377.6  | 349.2  | 344.0  |
| 22.5° | 2149.4 | 1934.7 | 1448.5 | 1047.5 | 807.0  | 587.1  | 426.8  | 344.0  | 310.4  | 300.0  | 300.0  |
| 25°   | 2351.2 | 2105.4 | 1508.0 | 1008.7 | 724.2  | 465.6  | 325.9  | 287.1  | 274.2  | 269.0  | 269.0  |
| 27.5° | 2540.0 | 2291.7 | 1614.0 | 993.2  | 646.6  | 377.6  | 284.5  | 256.1  | 248.3  | 243.1  | 245.7  |
| 30°   | 2723.6 | 2457.2 | 1722.6 | 962.2  | 561.3  | 328.5  | 256.1  | 235.4  | 225.0  | 222.4  | 225.0  |
| 32.5° | 2881.4 | 2599.5 | 1797.6 | 915.6  | 501.8  | 294.9  | 238.0  | 217.3  | 206.9  | 204.3  | 206.9  |
| 35°   | 3062.5 | 2739.1 | 1872.7 | 882.0  | 470.7  | 274.2  | 225.0  | 204.3  | 194.0  | 188.8  | 188.8  |
| 37.5° | 3274.6 | 2907.3 | 1929.6 | 832.9  | 450.1  | 253.5  | 214.7  | 194.0  | 181.1  | 175.9  | 175.9  |
| 40°   | 3559.1 | 3111.6 | 1976.1 | 794.1  | 426.8  | 243.1  | 201.7  | 183.6  | 170.7  | 165.5  | 163.0  |
| 42.5° | 3755.7 | 3290.1 | 2014.9 | 768.2  | 403.5  | 238.0  | 194.0  | 178.5  | 163.0  | 155.2  | 152.6  |
| 45°   | 3890.2 | 3447.9 | 2040.8 | 755.3  | 382.8  | 225.0  | 188.8  | 173.3  | 155.2  | 144.8  | 144.8  |
| 47.5° | 4019.5 | 3577.2 | 2043.4 | 737.2  | 367.3  | 209.5  | 196.6  | 165.5  | 147.4  | 137.1  | 137.1  |
| 50°   | 4164.3 | 3740.1 | 2092.5 | 719.1  | 349.2  | 191.4  | 194.0  | 163.0  | 142.3  | 131.9  | 129.3  |
| 52.5° | 4309.2 | 3962.6 | 2188.2 | 693.2  | 323.3  | 175.9  | 183.6  | 165.5  | 137.1  | 126.7  | 124.2  |
| 55°   | 4567.8 | 4239.3 | 2307.2 | 654.4  | 289.7  | 160.4  | 170.7  | 163.0  | 129.3  | 119.0  | 116.4  |
| 57.5° | 4735.9 | 4498.0 | 2400.3 | 613.0  | 240.5  | 150.0  | 150.0  | 157.8  | 121.6  | 111.2  | 108.6  |
| 60°   | 4831.6 | 4547.1 | 2418.4 | 563.9  | 196.6  | 134.5  | 129.3  | 160.4  | 113.8  | 100.9  | 100.9  |
| 62.5° | 4829.1 | 4379.0 | 2327.9 | 517.3  | 170.7  | 124.2  | 116.4  | 139.7  | 106.0  | 95.7   | 93.1   |
| 65°   | 4779.9 | 4130.7 | 2123.5 | 457.8  | 160.4  | 113.8  | 103.5  | 106.0  | 98.3   | 87.9   | 85.4   |
| 67.5° | 4567.8 | 3701.3 | 1797.6 | 398.3  | 155.2  | 103.5  | 95.7   | 90.5   | 85.4   | 77.6   | 75.0   |
| 70°   | 4053.1 | 3217.7 | 1401.9 | 369.9  | 152.6  | 90.5   | 82.8   | 77.6   | 72.4   | 67.2   | 67.2   |
| 72.5° | 3295.2 | 2508.9 | 1070.8 | 354.4  | 155.2  | 82.8   | 69.8   | 67.2   | 62.1   | 59.5   | 56.9   |
| 75°   | 2281.3 | 1854.5 | 776.0  | 313.0  | 150.0  | 69.8   | 59.5   | 54.3   | 51.7   | 46.6   | 46.6   |
| 77.5° | 1466.6 | 1213.1 | 514.7  | 250.9  | 121.6  | 56.9   | 44.0   | 41.4   | 38.8   | 36.2   | 36.2   |
| 80°   | 964.8  | 825.1  | 300.0  | 178.5  | 75.0   | 38.8   | 31.0   | 31.0   | 28.5   | 23.3   | 23.3   |
| 82.5° | 613.0  | 623.4  | 155.2  | 82.8   | 44.0   | 23.3   | 18.1   | 15.5   | 15.5   | 10.3   | 10.3   |
| 85°   | 134.5  | 235.4  | 69.8   | 33.6   | 15.5   | 2.6    | 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°    | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 |
| 2.5°  | 1735.6 | 1714.9 | 1707.1 | 1707.1 | 1673.5 | 1676.1 | 1676.1 | 1696.8 | 1694.2 | 1712.3 | 1704.5 |
| 5°    | 1412.2 | 1391.6 | 1391.6 | 1396.7 | 1401.9 | 1378.6 | 1386.4 | 1365.7 | 1404.5 | 1376.0 | 1355.3 |
| 7.5°  | 1042.4 | 1039.8 | 1057.9 | 1099.3 | 1091.5 | 1083.8 | 1068.2 | 1029.4 | 1008.7 | 1029.4 | 1019.1 |
| 10°   | 799.2  | 807.0  | 801.8  | 819.9  | 822.5  | 819.9  | 794.1  | 786.3  | 776.0  | 786.3  | 799.2  |
| 12.5° | 669.9  | 638.9  | 605.2  | 602.7  | 623.4  | 623.4  | 620.8  | 623.4  | 631.1  | 631.1  | 641.5  |
| 15°   | 558.7  | 538.0  | 494.0  | 473.3  | 488.9  | 478.5  | 481.1  | 491.4  | 499.2  | 509.5  | 504.4  |
| 17.5° | 444.9  | 426.8  | 406.1  | 393.2  | 400.9  | 393.2  | 390.6  | 388.0  | 388.0  | 385.4  | 395.7  |
| 20°   | 338.8  | 336.2  | 344.0  | 338.8  | 341.4  | 336.2  | 328.5  | 318.1  | 310.4  | 315.6  | 320.7  |
| 22.5° | 294.9  | 297.5  | 302.6  | 307.8  | 307.8  | 302.6  | 289.7  | 279.3  | 276.8  | 276.8  | 279.3  |
| 25°   | 271.6  | 271.6  | 279.3  | 281.9  | 284.5  | 276.8  | 261.2  | 253.5  | 253.5  | 253.5  | 253.5  |
| 27.5° | 245.7  | 250.9  | 256.1  | 261.2  | 263.8  | 256.1  | 243.1  | 235.4  | 235.4  | 232.8  | 230.2  |
| 30°   | 227.6  | 230.2  | 235.4  | 238.0  | 240.5  | 232.8  | 225.0  | 217.3  | 217.3  | 217.3  | 214.7  |
| 32.5° | 206.9  | 214.7  | 217.3  | 219.9  | 222.4  | 217.3  | 209.5  | 204.3  | 201.7  | 199.2  | 194.0  |
| 35°   | 191.4  | 194.0  | 201.7  | 201.7  | 204.3  | 201.7  | 196.6  | 191.4  | 183.6  | 181.1  | 181.1  |
| 37.5° | 175.9  | 175.9  | 181.1  | 186.2  | 191.4  | 188.8  | 181.1  | 173.3  | 170.7  | 170.7  | 170.7  |
| 40°   | 165.5  | 163.0  | 165.5  | 173.3  | 178.5  | 178.5  | 168.1  | 163.0  | 163.0  | 160.4  | 160.4  |
| 42.5° | 152.6  | 152.6  | 152.6  | 160.4  | 170.7  | 165.5  | 155.2  | 155.2  | 155.2  | 152.6  | 152.6  |
| 45°   | 144.8  | 142.3  | 144.8  | 144.8  | 157.8  | 150.0  | 147.4  | 144.8  | 147.4  | 144.8  | 147.4  |
| 47.5° | 134.5  | 134.5  | 134.5  | 137.1  | 144.8  | 139.7  | 137.1  | 137.1  | 139.7  | 139.7  | 139.7  |
| 50°   | 126.7  | 126.7  | 126.7  | 129.3  | 131.9  | 131.9  | 131.9  | 131.9  | 131.9  | 134.5  | 134.5  |
| 52.5° | 121.6  | 119.0  | 121.6  | 121.6  | 124.2  | 126.7  | 124.2  | 126.7  | 126.7  | 126.7  | 129.3  |
| 55°   | 116.4  | 113.8  | 116.4  | 116.4  | 121.6  | 119.0  | 119.0  | 121.6  | 121.6  | 124.2  | 126.7  |
| 57.5° | 108.6  | 106.0  | 111.2  | 111.2  | 116.4  | 116.4  | 113.8  | 116.4  | 116.4  | 119.0  | 119.0  |
| 60°   | 100.9  | 100.9  | 103.5  | 103.5  | 108.6  | 111.2  | 111.2  | 111.2  | 111.2  | 111.2  | 111.2  |
| 62.5° | 93.1   | 93.1   | 95.7   | 98.3   | 103.5  | 103.5  | 106.0  | 106.0  | 106.0  | 106.0  | 103.5  |
| 65°   | 85.4   | 87.9   | 90.5   | 90.5   | 95.7   | 98.3   | 98.3   | 98.3   | 98.3   | 98.3   | 98.3   |
| 67.5° | 75.0   | 80.2   | 82.8   | 85.4   | 90.5   | 90.5   | 93.1   | 93.1   | 90.5   | 90.5   | 90.5   |
| 70°   | 67.2   | 69.8   | 72.4   | 75.0   | 82.8   | 82.8   | 85.4   | 85.4   | 82.8   | 82.8   | 85.4   |
| 72.5° | 56.9   | 59.5   | 62.1   | 67.2   | 75.0   | 75.0   | 77.6   | 77.6   | 75.0   | 75.0   | 75.0   |
| 75°   | 49.1   | 49.1   | 51.7   | 56.9   | 67.2   | 67.2   | 67.2   | 69.8   | 67.2   | 67.2   | 64.7   |
| 77.5° | 36.2   | 38.8   | 41.4   | 49.1   | 56.9   | 59.5   | 59.5   | 59.5   | 56.9   | 56.9   | 54.3   |
| 80°   | 23.3   | 25.9   | 31.0   | 36.2   | 44.0   | 46.6   | 49.1   | 49.1   | 46.6   | 46.6   | 44.0   |
| 82.5° | 10.3   | 15.5   | 18.1   | 23.3   | 28.5   | 36.2   | 36.2   | 38.8   | 36.2   | 33.6   | 33.6   |
| 85°   | 0.0    | 0.0    | 2.6    | 7.8    | 12.9   | 20.7   | 23.3   | 25.9   | 23.3   | 20.7   | 20.7   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 5.2    | 5.2    | 5.2    | 2.6    | 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: P438851

CATALOG NUMBER: IST-SA1F-730-U-SLL

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°   | 315°   | 325°   | 335°   | 345°   | 355°   | 359°   | 360°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 | 1999.4 |
| 2.5°  | 1733.0 | 1761.4 | 1805.4 | 1831.3 | 1890.8 | 1945.1 | 2002.0 | 2077.0 | 2092.5 | 2095.1 |
| 5°    | 1376.0 | 1409.7 | 1492.4 | 1526.1 | 1634.7 | 1722.6 | 1852.0 | 1978.7 | 2012.3 | 2020.1 |
| 7.5°  | 1050.1 | 1076.0 | 1166.5 | 1231.2 | 1350.2 | 1474.3 | 1639.9 | 1789.9 | 1864.9 | 1872.7 |
| 10°   | 819.9  | 889.8  | 959.6  | 1055.3 | 1158.8 | 1280.3 | 1453.6 | 1645.0 | 1727.8 | 1722.6 |
| 12.5° | 690.6  | 763.0  | 848.4  | 944.1  | 1050.1 | 1158.8 | 1316.5 | 1528.6 | 1611.4 | 1632.1 |
| 15°   | 553.5  | 641.5  | 734.6  | 832.9  | 957.0  | 1063.1 | 1246.7 | 1482.1 | 1583.0 | 1611.4 |
| 17.5° | 429.4  | 499.2  | 589.7  | 716.5  | 838.0  | 988.1  | 1220.8 | 1526.1 | 1639.9 | 1668.3 |
| 20°   | 338.8  | 390.6  | 455.2  | 576.8  | 732.0  | 918.2  | 1207.9 | 1608.8 | 1764.0 | 1805.4 |
| 22.5° | 289.7  | 310.4  | 356.9  | 463.0  | 625.9  | 843.2  | 1200.2 | 1725.2 | 1919.2 | 1989.0 |
| 25°   | 258.7  | 271.6  | 297.5  | 364.7  | 519.9  | 778.5  | 1213.1 | 1870.1 | 2136.5 | 2193.4 |
| 27.5° | 235.4  | 245.7  | 258.7  | 307.8  | 450.1  | 721.6  | 1236.4 | 2033.0 | 2322.7 | 2405.5 |
| 30°   | 214.7  | 222.4  | 240.5  | 274.2  | 393.2  | 664.7  | 1244.1 | 2193.4 | 2488.2 | 2563.3 |
| 32.5° | 199.2  | 209.5  | 225.0  | 253.5  | 359.5  | 625.9  | 1223.4 | 2314.9 | 2640.9 | 2723.6 |
| 35°   | 183.6  | 196.6  | 212.1  | 235.4  | 331.1  | 592.3  | 1176.9 | 2415.8 | 2785.7 | 2865.9 |
| 37.5° | 175.9  | 183.6  | 199.2  | 217.3  | 310.4  | 558.7  | 1135.5 | 2516.7 | 2935.7 | 3046.9 |
| 40°   | 165.5  | 173.3  | 188.8  | 204.3  | 284.5  | 522.5  | 1107.0 | 2646.0 | 3106.4 | 3207.3 |
| 42.5° | 157.8  | 168.1  | 181.1  | 199.2  | 263.8  | 483.7  | 1078.6 | 2749.5 | 3259.0 | 3365.1 |
| 45°   | 152.6  | 163.0  | 175.9  | 199.2  | 245.7  | 452.6  | 1047.5 | 2840.0 | 3375.4 | 3478.9 |
| 47.5° | 144.8  | 157.8  | 175.9  | 191.4  | 238.0  | 432.0  | 1047.5 | 2948.7 | 3481.5 | 3590.1 |
| 50°   | 142.3  | 155.2  | 183.6  | 186.2  | 232.8  | 424.2  | 1091.5 | 3072.8 | 3634.1 | 3737.5 |
| 52.5° | 139.7  | 152.6  | 183.6  | 175.9  | 227.6  | 429.4  | 1158.8 | 3297.8 | 3830.7 | 3949.6 |
| 55°   | 131.9  | 150.0  | 175.9  | 163.0  | 214.7  | 434.5  | 1233.8 | 3592.7 | 4122.9 | 4234.2 |
| 57.5° | 126.7  | 147.4  | 165.5  | 150.0  | 196.6  | 426.8  | 1334.7 | 3856.5 | 4428.1 | 4505.7 |
| 60°   | 119.0  | 144.8  | 144.8  | 139.7  | 175.9  | 403.5  | 1448.5 | 4024.7 | 4544.5 | 4606.6 |
| 62.5° | 113.8  | 142.3  | 129.3  | 129.3  | 160.4  | 367.3  | 1487.3 | 3983.3 | 4430.7 | 4498.0 |
| 65°   | 106.0  | 124.2  | 116.4  | 119.0  | 147.4  | 325.9  | 1420.0 | 3724.6 | 4216.1 | 4296.2 |
| 67.5° | 98.3   | 106.0  | 103.5  | 108.6  | 142.3  | 284.5  | 1239.0 | 3416.8 | 3939.3 | 4063.4 |
| 70°   | 87.9   | 93.1   | 93.1   | 98.3   | 134.5  | 256.1  | 1034.6 | 3021.1 | 3579.8 | 3763.4 |
| 72.5° | 80.2   | 82.8   | 82.8   | 90.5   | 126.7  | 240.5  | 817.3  | 2563.3 | 3003.0 | 3116.8 |
| 75°   | 67.2   | 72.4   | 72.4   | 77.6   | 113.8  | 204.3  | 558.7  | 1877.8 | 2100.3 | 2193.4 |
| 77.5° | 59.5   | 59.5   | 62.1   | 64.7   | 90.5   | 137.1  | 328.5  | 1156.2 | 1262.2 | 1311.4 |
| 80°   | 46.6   | 49.1   | 46.6   | 46.6   | 56.9   | 90.5   | 178.5  | 677.7  | 768.2  | 742.3  |
| 82.5° | 33.6   | 33.6   | 28.5   | 28.5   | 33.6   | 49.1   | 77.6   | 351.8  | 359.5  | 346.6  |
| 85°   | 18.1   | 12.9   | 10.3   | 10.3   | 10.3   | 10.3   | 10.3   | 75.0   | 36.2   | 28.5   |
| 87.5° | 0.0    | 0.0    | 0.0    | 2.6    | 2.6    | 2.6    | 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: SP1-1908-441-2-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-730-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-2-R3. TO UPDATE THE CATALOG INFORMATION.\*\*\*TESTED IN SITU. (1) 70 CRI, 3000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 2993   | CRI (Ra): | 71.8 |      |       |
| CIE u':                   | 0.2508 | R1:       | 67.5 | R9:  | -38.3 |
| CIE v':                   | 0.5215 | R2:       | 82.9 | R10: | 62.5  |
| Duv:                      | 0.0000 | R3:       | 94.7 | R11: | 63.7  |
| CIE x:                    | 0.4374 | R4:       | 67.7 | R12: | 57.8  |
| CIE y:                    | 0.4043 | R5:       | 67.9 | R13: | 70.4  |
| CIE z:                    | 0.1583 | R6:       | 77.6 | R14: | 97.3  |
| Peak Wavelength (nm):     | 593    | R7:       | 76.0 |      |       |
| Dominant Wavelength (nm): | 582    | R8:       | 40.5 |      |       |
| Purity:                   | 53     |           |      |      |       |
| Rf:                       | 75.7   |           |      |      |       |
| Rg:                       | 93.9   |           |      |      |       |



### Test Conditions

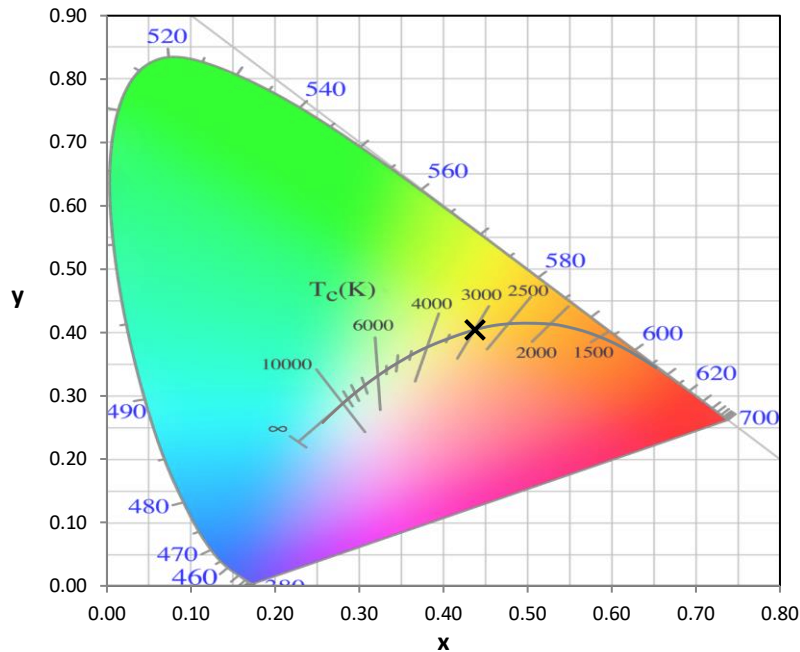
Stabilization Time: 53M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.0./44%  
 Sphere Temperature (°C): 25.7

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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 3000K 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       | 2397             | NR               | 490       | 24908            | NR               | 620       | 118784           | NR               | 750       | 5037             | NR               | 880       | 2677             | NR               |
| 365       | 2084             | NR               | 495       | 30998            | NR               | 625       | 108951           | NR               | 755       | 4413             | NR               | 885       | 2940             | NR               |
| 370       | 2143             | NR               | 500       | 37103            | NR               | 630       | 99573            | NR               | 760       | 4189             | NR               | 890       | 3116             | NR               |
| 375       | 2413             | NR               | 505       | 42987            | NR               | 635       | 90444            | NR               | 765       | 3677             | NR               | 895       | 3345             | NR               |
| 380       | 2172             | NR               | 510       | 48702            | NR               | 640       | 80749            | NR               | 770       | 3366             | NR               | 900       | 2312             | NR               |
| 385       | 1997             | NR               | 515       | 53741            | NR               | 645       | 71664            | NR               | 775       | 3211             | NR               | 905       | 2829             | NR               |
| 390       | 1830             | NR               | 520       | 57283            | NR               | 650       | 63936            | NR               | 780       | 2682             | NR               | 910       | 2783             | NR               |
| 395       | 1861             | NR               | 525       | 61876            | NR               | 655       | 56611            | NR               | 785       | 2804             | NR               | 915       | 2662             | NR               |
| 400       | 1717             | NR               | 530       | 65398            | NR               | 660       | 49763            | NR               | 790       | 2581             | NR               | 920       | 3047             | NR               |
| 405       | 1761             | NR               | 535       | 69597            | NR               | 665       | 42891            | NR               | 795       | 2711             | NR               | 925       | 2256             | NR               |
| 410       | 2680             | NR               | 540       | 74214            | NR               | 670       | 36939            | NR               | 800       | 2609             | NR               | 930       | 2976             | NR               |
| 415       | 4374             | NR               | 545       | 79911            | NR               | 675       | 31946            | NR               | 805       | 2581             | NR               | 935       | 3503             | NR               |
| 420       | 8071             | NR               | 550       | 86153            | NR               | 680       | 27385            | NR               | 810       | 2404             | NR               | 940       | 4226             | NR               |
| 425       | 15169            | NR               | 555       | 93952            | NR               | 685       | 23504            | NR               | 815       | 2556             | NR               | 945       | 2930             | NR               |
| 430       | 26038            | NR               | 560       | 102904           | NR               | 690       | 20210            | NR               | 820       | 2742             | NR               | 950       | 2115             | NR               |
| 435       | 41316            | NR               | 565       | 112009           | NR               | 695       | 17459            | NR               | 825       | 2014             | NR               | 955       | 2634             | NR               |
| 440       | 59674            | NR               | 570       | 121662           | NR               | 700       | 15207            | NR               | 830       | 2488             | NR               | 960       | 4200             | NR               |
| 445       | 72751            | NR               | 575       | 130476           | NR               | 705       | 13322            | NR               | 835       | 2625             | NR               | 965       | 1982             | NR               |
| 450       | 65091            | NR               | 580       | 137926           | NR               | 710       | 11676            | NR               | 840       | 2754             | NR               | 970       | 3613             | NR               |
| 455       | 44894            | NR               | 585       | 143406           | NR               | 715       | 10626            | NR               | 845       | 2708             | NR               | 975       | 4034             | NR               |
| 460       | 32712            | NR               | 590       | 147039           | NR               | 720       | 9416             | NR               | 850       | 2608             | NR               | 980       | 3922             | NR               |
| 465       | 25296            | NR               | 595       | 147365           | NR               | 725       | 8333             | NR               | 855       | 2605             | NR               | 985       | 1909             | NR               |
| 470       | 19318            | NR               | 600       | 145800           | NR               | 730       | 7134             | NR               | 860       | 1765             | NR               | 990       | 3617             | NR               |
| 475       | 17265            | NR               | 605       | 141363           | NR               | 735       | 6437             | NR               | 865       | 2581             | NR               | 995       | 4767             | NR               |
| 480       | 18260            | NR               | 610       | 134199           | NR               | 740       | 5834             | NR               | 870       | 3016             | NR               | 1000      | 2528             | NR               |
| 485       | 20845            | NR               | 615       | 127683           | NR               | 745       | 5500             | NR               | 875       | 3952             | NR               |           |                  |                  |

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Scotopic Flux vs. Wavelength



Scotopic Lumens: 8494.8

S/P: 1.23

| 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       | 2397             | NR               | 490       | 24908            | NR               | 620       | 118784           | NR               | 750       | 5037             | NR               | 880       | 2677             | NR               |
| 365       | 2084             | NR               | 495       | 30998            | NR               | 625       | 108951           | NR               | 755       | 4413             | NR               | 885       | 2940             | NR               |
| 370       | 2143             | NR               | 500       | 37103            | NR               | 630       | 99573            | NR               | 760       | 4189             | NR               | 890       | 3116             | NR               |
| 375       | 2413             | NR               | 505       | 42987            | NR               | 635       | 90444            | NR               | 765       | 3677             | NR               | 895       | 3345             | NR               |
| 380       | 2172             | NR               | 510       | 48702            | NR               | 640       | 80749            | NR               | 770       | 3366             | NR               | 900       | 2312             | NR               |
| 385       | 1997             | NR               | 515       | 53741            | NR               | 645       | 71664            | NR               | 775       | 3211             | NR               | 905       | 2829             | NR               |
| 390       | 1830             | NR               | 520       | 57283            | NR               | 650       | 63936            | NR               | 780       | 2682             | NR               | 910       | 2783             | NR               |
| 395       | 1861             | NR               | 525       | 61876            | NR               | 655       | 56611            | NR               | 785       | 2804             | NR               | 915       | 2662             | NR               |
| 400       | 1717             | NR               | 530       | 65398            | NR               | 660       | 49763            | NR               | 790       | 2581             | NR               | 920       | 3047             | NR               |
| 405       | 1761             | NR               | 535       | 69597            | NR               | 665       | 42891            | NR               | 795       | 2711             | NR               | 925       | 2256             | NR               |
| 410       | 2680             | NR               | 540       | 74214            | NR               | 670       | 36939            | NR               | 800       | 2609             | NR               | 930       | 2976             | NR               |
| 415       | 4374             | NR               | 545       | 79911            | NR               | 675       | 31946            | NR               | 805       | 2581             | NR               | 935       | 3503             | NR               |
| 420       | 8071             | NR               | 550       | 86153            | NR               | 680       | 27385            | NR               | 810       | 2404             | NR               | 940       | 4226             | NR               |
| 425       | 15169            | NR               | 555       | 93952            | NR               | 685       | 23504            | NR               | 815       | 2556             | NR               | 945       | 2930             | NR               |
| 430       | 26038            | NR               | 560       | 102904           | NR               | 690       | 20210            | NR               | 820       | 2742             | NR               | 950       | 2115             | NR               |
| 435       | 41316            | NR               | 565       | 112009           | NR               | 695       | 17459            | NR               | 825       | 2014             | NR               | 955       | 2634             | NR               |
| 440       | 59674            | NR               | 570       | 121662           | NR               | 700       | 15207            | NR               | 830       | 2488             | NR               | 960       | 4200             | NR               |
| 445       | 72751            | NR               | 575       | 130476           | NR               | 705       | 13322            | NR               | 835       | 2625             | NR               | 965       | 1982             | NR               |
| 450       | 65091            | NR               | 580       | 137926           | NR               | 710       | 11676            | NR               | 840       | 2754             | NR               | 970       | 3613             | NR               |
| 455       | 44894            | NR               | 585       | 143406           | NR               | 715       | 10626            | NR               | 845       | 2708             | NR               | 975       | 4034             | NR               |
| 460       | 32712            | NR               | 590       | 147039           | NR               | 720       | 9416             | NR               | 850       | 2608             | NR               | 980       | 3922             | NR               |
| 465       | 25296            | NR               | 595       | 147365           | NR               | 725       | 8333             | NR               | 855       | 2605             | NR               | 985       | 1909             | NR               |
| 470       | 19318            | NR               | 600       | 145800           | NR               | 730       | 7134             | NR               | 860       | 1765             | NR               | 990       | 3617             | NR               |
| 475       | 17265            | NR               | 605       | 141363           | NR               | 735       | 6437             | NR               | 865       | 2581             | NR               | 995       | 4767             | NR               |
| 480       | 18260            | NR               | 610       | 134199           | NR               | 740       | 5834             | NR               | 870       | 3016             | NR               | 1000      | 2528             | NR               |
| 485       | 20845            | NR               | 615       | 127683           | NR               | 745       | 5500             | NR               | 875       | 3952             | NR               |           |                  |                  |

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 3101.5**

**M/P: 0.45**

| 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       | 2397             | NR               | 490       | 24908            | NR               | 620       | 118784           | NR               | 750       | 5037             | NR               | 880       | 2677             | NR               |
| 365       | 2084             | NR               | 495       | 30998            | NR               | 625       | 108951           | NR               | 755       | 4413             | NR               | 885       | 2940             | NR               |
| 370       | 2143             | NR               | 500       | 37103            | NR               | 630       | 99573            | NR               | 760       | 4189             | NR               | 890       | 3116             | NR               |
| 375       | 2413             | NR               | 505       | 42987            | NR               | 635       | 90444            | NR               | 765       | 3677             | NR               | 895       | 3345             | NR               |
| 380       | 2172             | NR               | 510       | 48702            | NR               | 640       | 80749            | NR               | 770       | 3366             | NR               | 900       | 2312             | NR               |
| 385       | 1997             | NR               | 515       | 53741            | NR               | 645       | 71664            | NR               | 775       | 3211             | NR               | 905       | 2829             | NR               |
| 390       | 1830             | NR               | 520       | 57283            | NR               | 650       | 63936            | NR               | 780       | 2682             | NR               | 910       | 2783             | NR               |
| 395       | 1861             | NR               | 525       | 61876            | NR               | 655       | 56611            | NR               | 785       | 2804             | NR               | 915       | 2662             | NR               |
| 400       | 1717             | NR               | 530       | 65398            | NR               | 660       | 49763            | NR               | 790       | 2581             | NR               | 920       | 3047             | NR               |
| 405       | 1761             | NR               | 535       | 69597            | NR               | 665       | 42891            | NR               | 795       | 2711             | NR               | 925       | 2256             | NR               |
| 410       | 2680             | NR               | 540       | 74214            | NR               | 670       | 36939            | NR               | 800       | 2609             | NR               | 930       | 2976             | NR               |
| 415       | 4374             | NR               | 545       | 79911            | NR               | 675       | 31946            | NR               | 805       | 2581             | NR               | 935       | 3503             | NR               |
| 420       | 8071             | NR               | 550       | 86153            | NR               | 680       | 27385            | NR               | 810       | 2404             | NR               | 940       | 4226             | NR               |
| 425       | 15169            | NR               | 555       | 93952            | NR               | 685       | 23504            | NR               | 815       | 2556             | NR               | 945       | 2930             | NR               |
| 430       | 26038            | NR               | 560       | 102904           | NR               | 690       | 20210            | NR               | 820       | 2742             | NR               | 950       | 2115             | NR               |
| 435       | 41316            | NR               | 565       | 112009           | NR               | 695       | 17459            | NR               | 825       | 2014             | NR               | 955       | 2634             | NR               |
| 440       | 59674            | NR               | 570       | 121662           | NR               | 700       | 15207            | NR               | 830       | 2488             | NR               | 960       | 4200             | NR               |
| 445       | 72751            | NR               | 575       | 130476           | NR               | 705       | 13322            | NR               | 835       | 2625             | NR               | 965       | 1982             | NR               |
| 450       | 65091            | NR               | 580       | 137926           | NR               | 710       | 11676            | NR               | 840       | 2754             | NR               | 970       | 3613             | NR               |
| 455       | 44894            | NR               | 585       | 143406           | NR               | 715       | 10626            | NR               | 845       | 2708             | NR               | 975       | 4034             | NR               |
| 460       | 32712            | NR               | 590       | 147039           | NR               | 720       | 9416             | NR               | 850       | 2608             | NR               | 980       | 3922             | NR               |
| 465       | 25296            | NR               | 595       | 147365           | NR               | 725       | 8333             | NR               | 855       | 2605             | NR               | 985       | 1909             | NR               |
| 470       | 19318            | NR               | 600       | 145800           | NR               | 730       | 7134             | NR               | 860       | 1765             | NR               | 990       | 3617             | NR               |
| 475       | 17265            | NR               | 605       | 141363           | NR               | 735       | 6437             | NR               | 865       | 2581             | NR               | 995       | 4767             | NR               |
| 480       | 18260            | NR               | 610       | 134199           | NR               | 740       | 5834             | NR               | 870       | 3016             | NR               | 1000      | 2528             | NR               |
| 485       | 20845            | NR               | 615       | 127683           | NR               | 745       | 5500             | NR               | 875       | 3952             | NR               |           |                  |                  |

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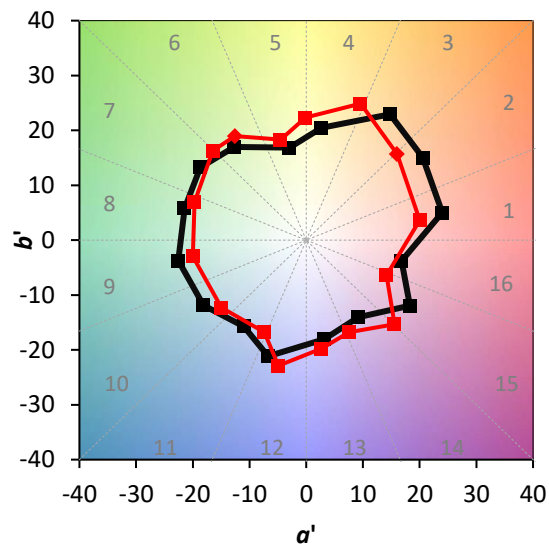
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**Summary**

$R_f = 75.7$   
 $R_g = 93.9$   
 CIE  $R_a = 71.8$   
 $R_g = -38.3$



**Color Vector Graphics**

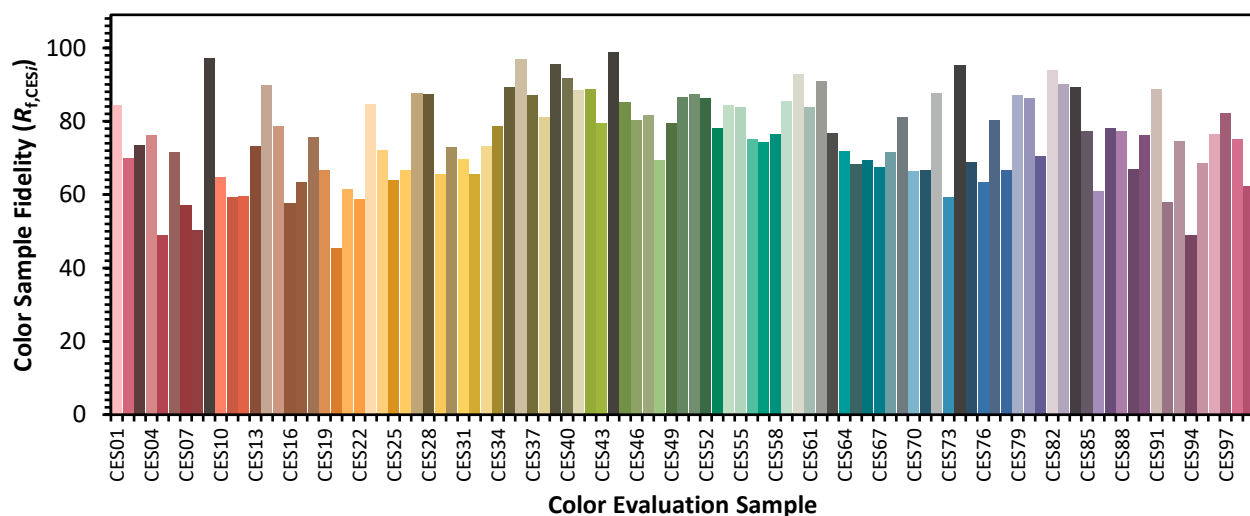


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**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 67 | CES51 = 87 | CES76 = 63 |
| CES02 = 63 | CES27 = 88 | CES52 = 86 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 67 |
| CES04 = 71 | CES29 = 66 | CES54 = 84 | CES79 = 87 |
| CES05 = 49 | CES30 = 73 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 70 | CES56 = 75 | CES81 = 71 |
| CES07 = 41 | CES32 = 65 | CES57 = 74 | CES82 = 94 |
| CES08 = 40 | CES33 = 73 | CES58 = 76 | CES83 = 90 |
| CES09 = 29 | CES34 = 79 | CES59 = 85 | CES84 = 89 |
| CES10 = 76 | CES35 = 89 | CES60 = 93 | CES85 = 77 |
| CES11 = 59 | CES36 = 97 | CES61 = 84 | CES86 = 61 |
| CES12 = 65 | CES37 = 87 | CES62 = 91 | CES87 = 78 |
| CES13 = 43 | CES38 = 81 | CES63 = 77 | CES88 = 77 |
| CES14 = 74 | CES39 = 95 | CES64 = 72 | CES89 = 67 |
| CES15 = 71 | CES40 = 92 | CES65 = 68 | CES90 = 76 |
| CES16 = 47 | CES41 = 88 | CES66 = 69 | CES91 = 89 |
| CES17 = 50 | CES42 = 89 | CES67 = 67 | CES92 = 58 |
| CES18 = 56 | CES43 = 79 | CES68 = 72 | CES93 = 74 |
| CES19 = 73 | CES44 = 99 | CES69 = 81 | CES94 = 49 |
| CES20 = 66 | CES45 = 85 | CES70 = 66 | CES95 = 68 |
| CES21 = 87 | CES46 = 80 | CES71 = 67 | CES96 = 76 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 69 | CES73 = 59 | CES98 = 75 |
| CES24 = 91 | CES49 = 80 | CES74 = 95 | CES99 = 62 |
| CES25 = 73 | CES50 = 87 | CES75 = 69 |            |



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**Color Rendition by Hue-Angle Bin**



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**Measure Comparisons**



(END OF REPORT)