

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: P437635

Luminaire Tested: **ISC-SA1E-727-U-SLL**

Issue Date: 12/9/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P437635  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-20)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/9/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: ISC-SA1E-727-U-SLL  
Description: IMPACT ELITE LED CYLINDER LUMINAIRE  
(1) 70 CRI, 2700K, 1050mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5281 lumens  
Efficiency: N/A  
Efficacy: 90.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B1 - U0 - G1

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

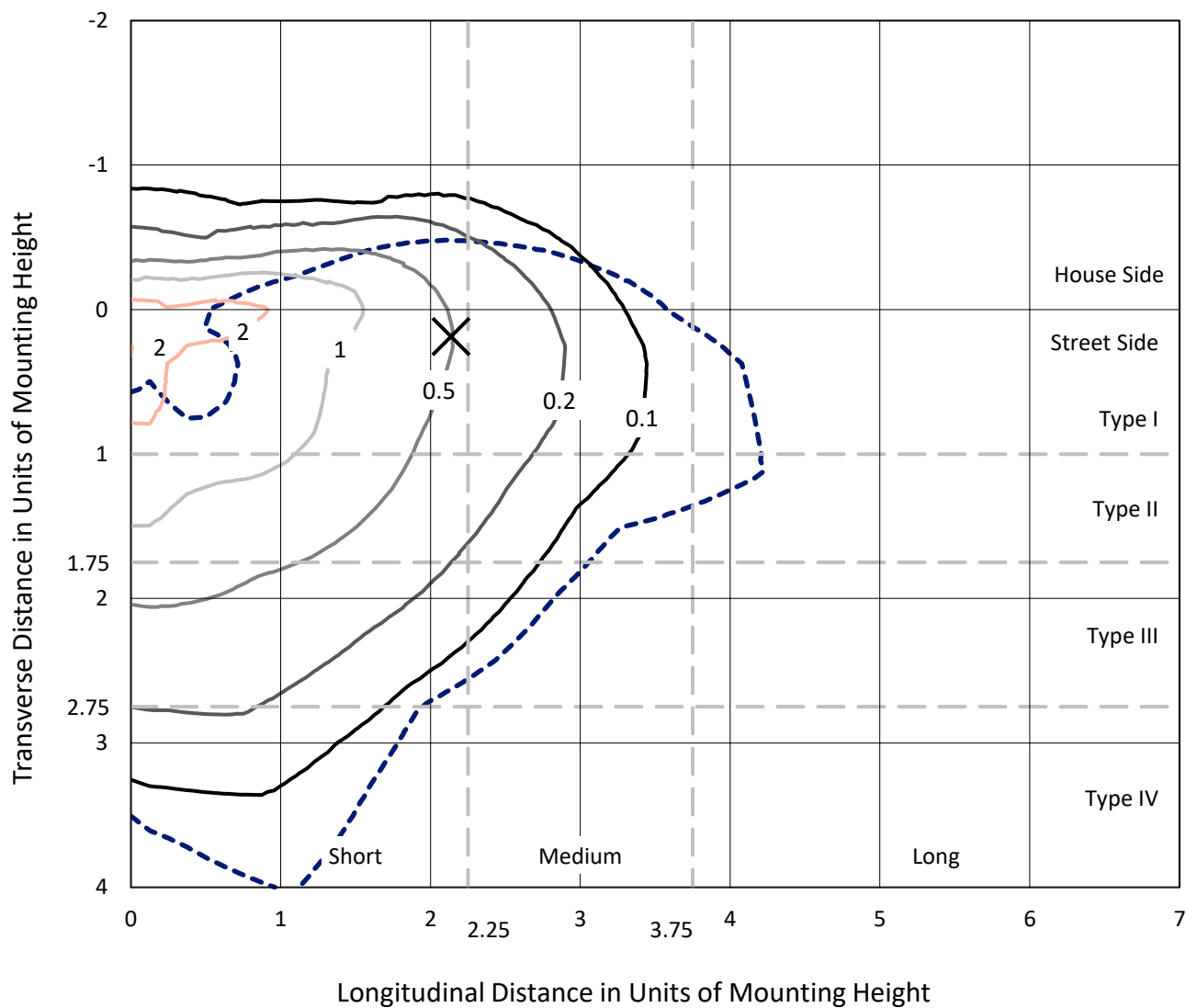


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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd

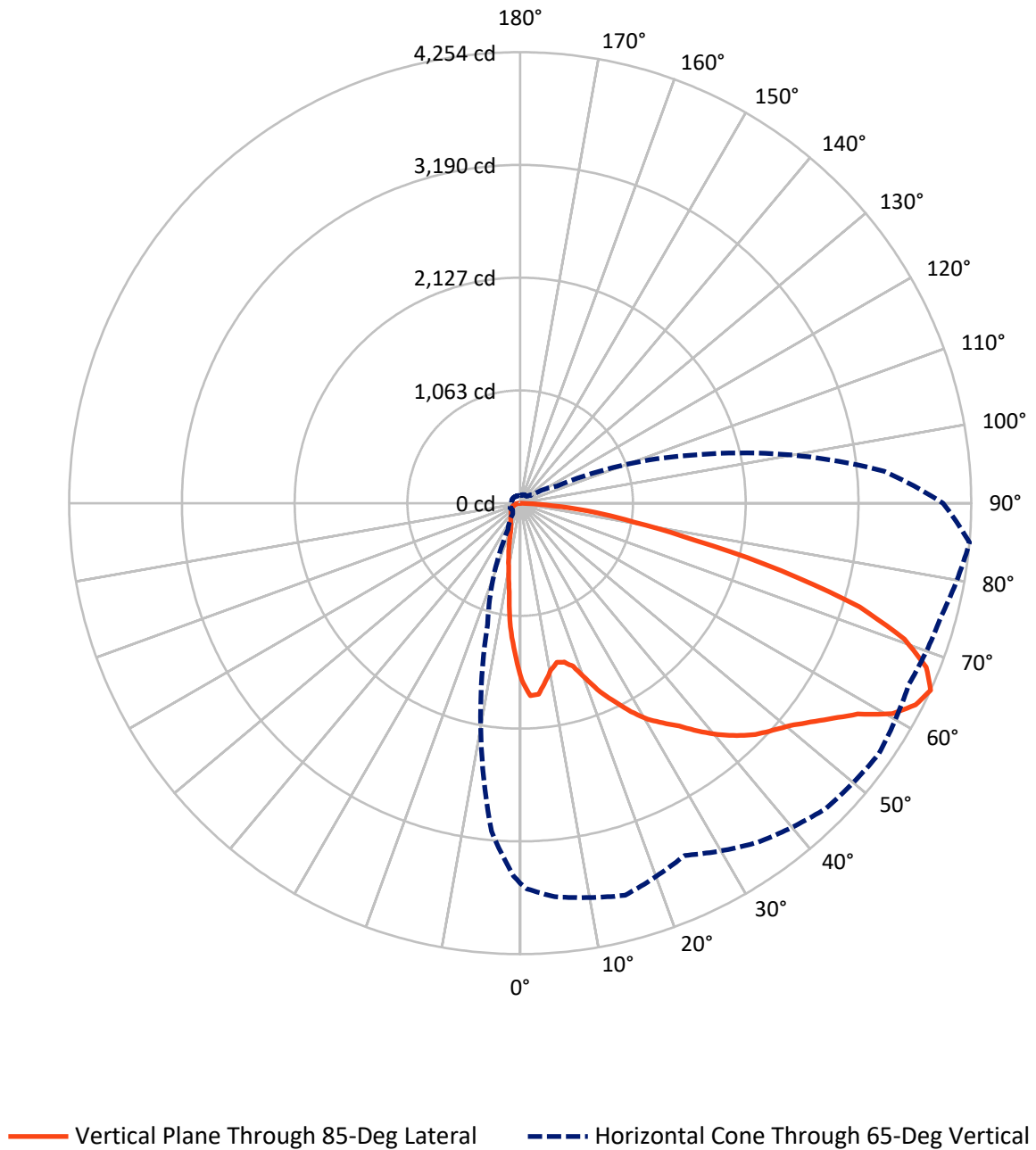
--- 1/2 Max cd



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

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## Luminous Intensity Polar Plot



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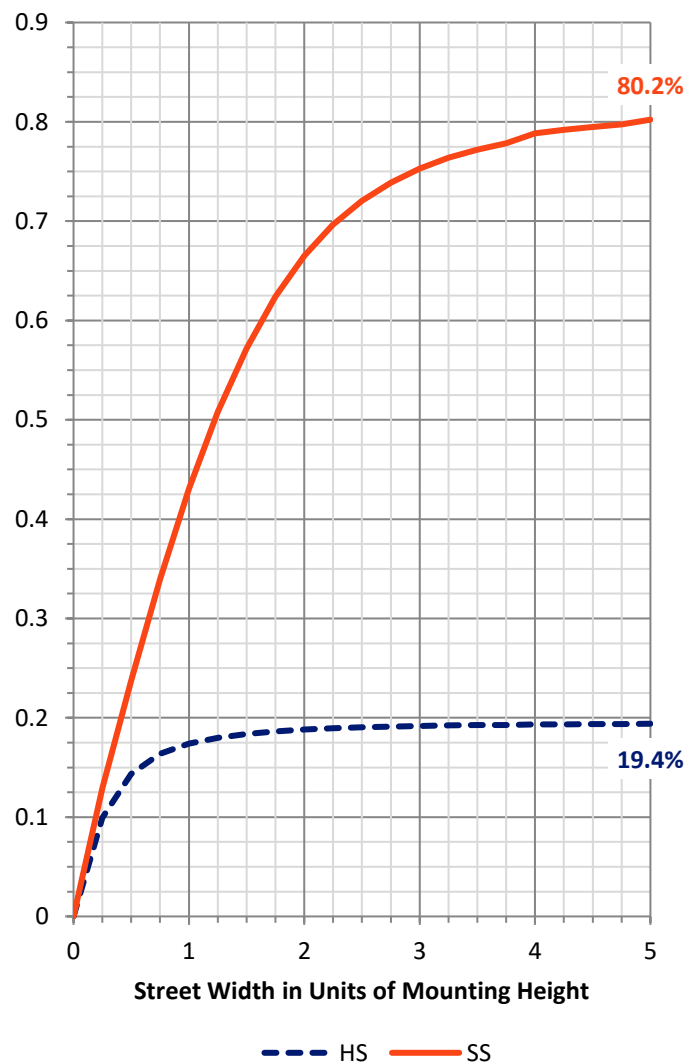
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 1033.5   | 0.0    | 1033.5 |
|                    | % Fixture | 19.6     | 0.0    | 19.6   |
| <b>Street Side</b> | Lumens    | 4247.5   | 0.0    | 4247.5 |
|                    | % Fixture | 80.4     | 0.0    | 80.4   |
| <b>Total</b>       | Lumens    | 5281.0   | 0.0    | 5281.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 127.1  | 2.4       |
| 10°-20°   | 264.2  | 5.0       |
| 20°-30°   | 379.8  | 7.2       |
| 30°-40°   | 545.4  | 10.3      |
| 40°-50°   | 772.0  | 14.6      |
| 50°-60°   | 1073.4 | 20.3      |
| 60°-70°   | 1278.2 | 24.2      |
| 70°-80°   | 738.8  | 14.0      |
| 80°-90°   | 102.2  | 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°    | 5281.0 | 100.0     |
| 0°-180°   | 5281.0 | 100.0     |

**Coefficient of Utilization**



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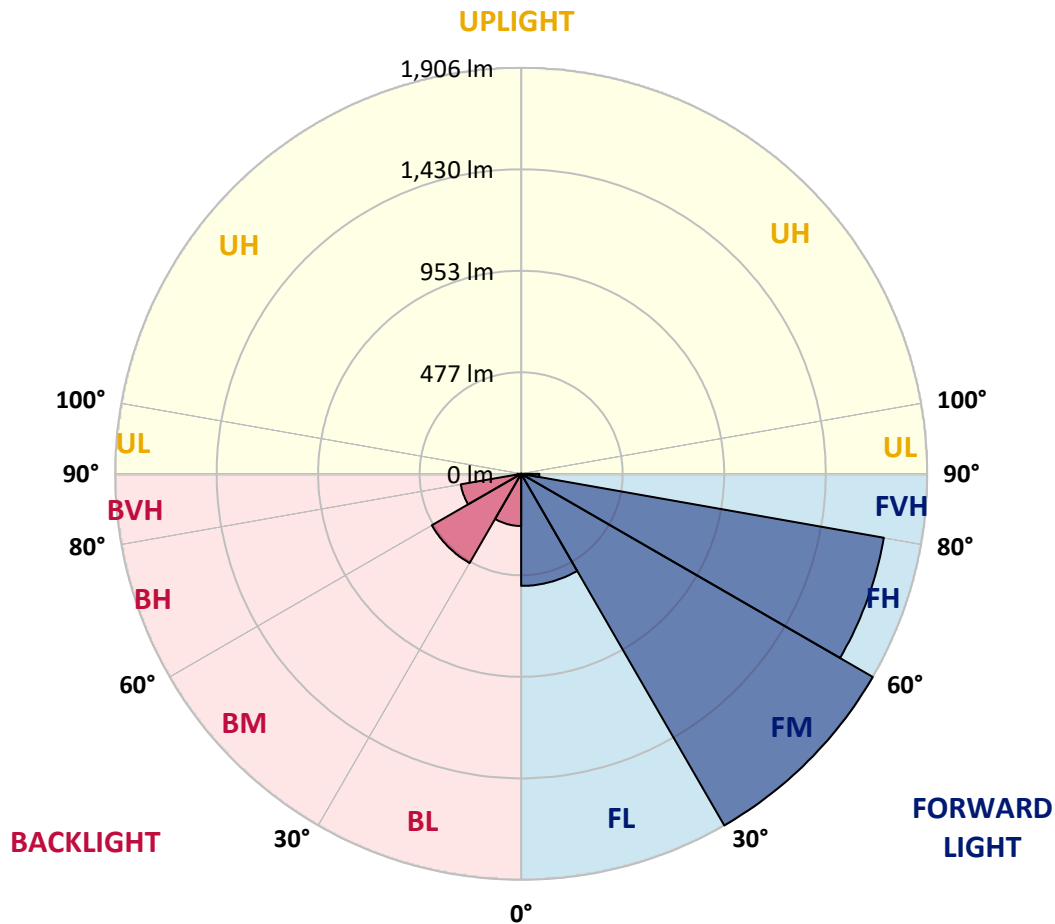
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 526.3  | 10.0      |                         |      |         |
| FM   | (30°-60°)   | 1906.5 | 36.1      |                         |      |         |
| FH   | (60°-80°)   | 1729.3 | 32.7      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 85.5   | 1.6       |                         |      | G1/100  |
| BL   | (0°-30°)    | 244.8  | 4.6       | B1/500                  |      |         |
| BM   | (30°-60°)   | 484.3  | 9.2       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 287.8  | 5.4       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 16.7   | 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°    | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 |
| 2.5°  | 1748.2 | 1754.6 | 1769.8 | 1821.6 | 1853.9 | 1879.8 | 1912.2 | 1879.8 | 1871.2 | 1828.0 | 1819.4 |
| 5°    | 1685.6 | 1700.7 | 1743.9 | 1841.0 | 1920.8 | 2005.0 | 2048.2 | 2011.5 | 1961.8 | 1886.3 | 1810.8 |
| 7.5°  | 1562.6 | 1582.0 | 1638.1 | 1789.2 | 1940.3 | 2054.6 | 2110.8 | 2071.9 | 1970.5 | 1836.7 | 1700.7 |
| 10°   | 1437.4 | 1467.6 | 1534.5 | 1724.4 | 1884.1 | 2011.5 | 2097.8 | 2056.8 | 1933.8 | 1759.0 | 1597.1 |
| 12.5° | 1361.8 | 1383.4 | 1459.0 | 1657.5 | 1825.9 | 1953.2 | 2018.0 | 1994.2 | 1879.8 | 1713.6 | 1541.0 |
| 15°   | 1344.6 | 1366.2 | 1441.7 | 1633.8 | 1782.7 | 1877.7 | 1892.8 | 1899.3 | 1856.1 | 1728.7 | 1556.1 |
| 17.5° | 1392.1 | 1409.3 | 1512.9 | 1672.6 | 1733.1 | 1752.5 | 1776.2 | 1804.3 | 1825.9 | 1759.0 | 1618.7 |
| 20°   | 1506.5 | 1541.0 | 1631.6 | 1752.5 | 1720.1 | 1674.8 | 1687.7 | 1722.3 | 1804.3 | 1847.5 | 1763.3 |
| 22.5° | 1659.7 | 1698.5 | 1812.9 | 1862.6 | 1728.7 | 1631.6 | 1620.8 | 1651.1 | 1802.1 | 1944.6 | 1935.9 |
| 25°   | 1830.2 | 1884.1 | 2007.2 | 2009.3 | 1765.4 | 1601.4 | 1579.8 | 1607.9 | 1797.8 | 2030.9 | 2074.1 |
| 27.5° | 2007.2 | 2056.8 | 2190.6 | 2123.7 | 1836.7 | 1603.6 | 1577.7 | 1605.7 | 1808.6 | 2123.7 | 2227.3 |
| 30°   | 2138.8 | 2203.6 | 2320.1 | 2231.6 | 1882.0 | 1631.6 | 1592.8 | 1629.5 | 1832.3 | 2171.2 | 2363.3 |
| 32.5° | 2272.6 | 2313.6 | 2436.7 | 2294.2 | 1931.6 | 1674.8 | 1625.2 | 1681.3 | 1892.8 | 2216.5 | 2471.2 |
| 35°   | 2391.3 | 2445.3 | 2570.5 | 2330.9 | 2005.0 | 1748.2 | 1683.4 | 1756.8 | 1979.1 | 2281.3 | 2581.3 |
| 37.5° | 2542.4 | 2594.2 | 2708.6 | 2382.7 | 2065.4 | 1841.0 | 1787.0 | 1882.0 | 2084.9 | 2339.5 | 2728.0 |
| 40°   | 2676.2 | 2758.2 | 2844.6 | 2447.4 | 2134.5 | 1976.9 | 1942.4 | 2071.9 | 2227.3 | 2419.4 | 2870.5 |
| 42.5° | 2807.9 | 2876.9 | 2971.9 | 2520.8 | 2223.0 | 2143.1 | 2158.2 | 2294.2 | 2400.0 | 2540.2 | 2997.8 |
| 45°   | 2902.8 | 2982.7 | 3066.9 | 2579.1 | 2337.4 | 2322.3 | 2423.7 | 2538.1 | 2576.9 | 2667.6 | 3112.2 |
| 47.5° | 2995.6 | 3058.2 | 3133.8 | 2637.4 | 2475.5 | 2523.0 | 2700.0 | 2788.4 | 2749.6 | 2782.0 | 3202.8 |
| 50°   | 3118.7 | 3185.6 | 3207.1 | 2730.2 | 2650.3 | 2777.7 | 2969.7 | 3028.0 | 2915.8 | 2872.6 | 3297.8 |
| 52.5° | 3295.6 | 3328.0 | 3317.2 | 2840.2 | 2816.5 | 3043.1 | 3200.7 | 3289.2 | 3088.4 | 2958.9 | 3429.4 |
| 55°   | 3533.0 | 3589.2 | 3520.1 | 3019.4 | 2987.0 | 3297.8 | 3481.2 | 3524.4 | 3280.5 | 3066.9 | 3580.5 |
| 57.5° | 3759.7 | 3809.3 | 3787.7 | 3237.4 | 3209.3 | 3517.9 | 3694.9 | 3735.9 | 3468.3 | 3267.6 | 3753.2 |
| 60°   | 3843.8 | 3858.9 | 3936.6 | 3468.3 | 3431.6 | 3705.7 | 3906.4 | 3912.9 | 3692.7 | 3509.3 | 4033.7 |
| 62.5° | 3753.2 | 3813.6 | 3889.1 | 3684.1 | 3565.4 | 3867.6 | 4046.7 | 4087.7 | 3906.4 | 3802.8 | 4187.0 |
| 65°   | 3584.8 | 3638.8 | 3727.3 | 3828.7 | 3666.8 | 3906.4 | 4074.8 | 4126.6 | 4044.5 | 4111.4 | 4253.9 |
| 67.5° | 3390.6 | 3457.5 | 3517.9 | 3852.5 | 3653.9 | 3684.1 | 3824.4 | 3856.8 | 3971.2 | 4247.4 | 4130.9 |
| 70°   | 3140.2 | 3215.8 | 3267.6 | 3759.7 | 3345.3 | 3045.3 | 3144.6 | 3233.0 | 3407.9 | 4005.7 | 3843.8 |
| 72.5° | 2600.7 | 2721.5 | 2851.0 | 3338.8 | 2706.4 | 2365.4 | 2443.1 | 2501.4 | 2626.6 | 3420.8 | 3347.4 |
| 75°   | 1830.2 | 1918.7 | 2078.4 | 2689.2 | 2078.4 | 1674.8 | 1795.7 | 1795.7 | 1953.2 | 2810.0 | 2542.4 |
| 77.5° | 1094.2 | 1096.4 | 1251.8 | 1769.8 | 1264.7 | 1128.8 | 1197.8 | 1230.2 | 1277.7 | 1989.9 | 1687.7 |
| 80°   | 619.4  | 628.0  | 679.8  | 1143.9 | 748.9  | 770.5  | 852.5  | 938.8  | 867.6  | 1234.5 | 1085.6 |
| 82.5° | 289.2  | 254.7  | 269.8  | 539.6  | 425.2  | 502.9  | 515.8  | 554.7  | 559.0  | 789.9  | 712.2  |
| 85°   | 23.7   | 19.4   | 25.9   | 97.1   | 75.5   | 69.1   | 49.6   | 95.0   | 148.9  | 345.3  | 306.5  |
| 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°    | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 |
| 2.5°  | 1791.3 | 1769.8 | 1722.3 | 1685.6 | 1651.1 | 1586.3 | 1560.4 | 1523.7 | 1504.3 | 1469.8 | 1478.4 |
| 5°    | 1754.6 | 1705.0 | 1597.1 | 1523.7 | 1428.8 | 1351.1 | 1303.6 | 1260.4 | 1243.1 | 1206.5 | 1193.5 |
| 7.5°  | 1620.8 | 1577.7 | 1441.7 | 1320.8 | 1204.3 | 1111.5 | 1023.0 | 958.3  | 928.0  | 895.7  | 893.5  |
| 10°   | 1506.5 | 1435.2 | 1279.8 | 1137.4 | 1003.6 | 917.3  | 852.5  | 798.5  | 751.1  | 710.1  | 686.3  |
| 12.5° | 1441.7 | 1353.2 | 1180.6 | 1007.9 | 915.1  | 854.7  | 783.4  | 716.5  | 662.6  | 615.1  | 587.0  |
| 15°   | 1441.7 | 1338.1 | 1133.1 | 964.7  | 871.9  | 781.3  | 699.3  | 630.2  | 559.0  | 502.9  | 485.6  |
| 17.5° | 1508.6 | 1381.3 | 1143.9 | 936.7  | 805.0  | 703.6  | 600.0  | 509.3  | 440.3  | 390.6  | 373.4  |
| 20°   | 1640.3 | 1487.0 | 1169.8 | 904.3  | 740.3  | 600.0  | 474.8  | 377.7  | 315.1  | 291.4  | 287.0  |
| 22.5° | 1793.5 | 1614.4 | 1208.6 | 874.1  | 673.4  | 489.9  | 356.1  | 287.0  | 259.0  | 250.4  | 250.4  |
| 25°   | 1961.8 | 1756.8 | 1258.3 | 841.7  | 604.3  | 388.5  | 271.9  | 239.6  | 228.8  | 224.5  | 224.5  |
| 27.5° | 2119.4 | 1912.2 | 1346.7 | 828.8  | 539.6  | 315.1  | 237.4  | 213.7  | 207.2  | 202.9  | 205.0  |
| 30°   | 2272.6 | 2050.3 | 1437.4 | 802.9  | 468.3  | 274.1  | 213.7  | 196.4  | 187.8  | 185.6  | 187.8  |
| 32.5° | 2404.3 | 2169.0 | 1500.0 | 764.0  | 418.7  | 246.0  | 198.6  | 181.3  | 172.7  | 170.5  | 172.7  |
| 35°   | 2555.4 | 2285.6 | 1562.6 | 736.0  | 392.8  | 228.8  | 187.8  | 170.5  | 161.9  | 157.6  | 157.6  |
| 37.5° | 2732.3 | 2425.9 | 1610.0 | 695.0  | 375.5  | 211.5  | 179.1  | 161.9  | 151.1  | 146.8  | 146.8  |
| 40°   | 2969.7 | 2596.4 | 1648.9 | 662.6  | 356.1  | 202.9  | 168.3  | 153.2  | 142.4  | 138.1  | 136.0  |
| 42.5° | 3133.8 | 2745.3 | 1681.3 | 641.0  | 336.7  | 198.6  | 161.9  | 148.9  | 136.0  | 129.5  | 127.3  |
| 45°   | 3246.0 | 2876.9 | 1702.9 | 630.2  | 319.4  | 187.8  | 157.6  | 144.6  | 129.5  | 120.9  | 120.9  |
| 47.5° | 3353.9 | 2984.8 | 1705.0 | 615.1  | 306.5  | 174.8  | 164.0  | 138.1  | 123.0  | 114.4  | 114.4  |
| 50°   | 3474.8 | 3120.8 | 1746.0 | 600.0  | 291.4  | 159.7  | 161.9  | 136.0  | 118.7  | 110.1  | 107.9  |
| 52.5° | 3595.6 | 3306.4 | 1825.9 | 578.4  | 269.8  | 146.8  | 153.2  | 138.1  | 114.4  | 105.8  | 103.6  |
| 55°   | 3811.5 | 3537.4 | 1925.1 | 546.0  | 241.7  | 133.8  | 142.4  | 136.0  | 107.9  | 99.3   | 97.1   |
| 57.5° | 3951.7 | 3753.2 | 2002.8 | 511.5  | 200.7  | 125.2  | 125.2  | 131.7  | 101.4  | 92.8   | 90.6   |
| 60°   | 4031.6 | 3794.2 | 2018.0 | 470.5  | 164.0  | 112.2  | 107.9  | 133.8  | 95.0   | 84.2   | 84.2   |
| 62.5° | 4029.4 | 3653.9 | 1942.4 | 431.6  | 142.4  | 103.6  | 97.1   | 116.5  | 88.5   | 79.9   | 77.7   |
| 65°   | 3988.4 | 3446.7 | 1771.9 | 382.0  | 133.8  | 95.0   | 86.3   | 88.5   | 82.0   | 73.4   | 71.2   |
| 67.5° | 3811.5 | 3088.4 | 1500.0 | 332.4  | 129.5  | 86.3   | 79.9   | 75.5   | 71.2   | 64.7   | 62.6   |
| 70°   | 3382.0 | 2684.8 | 1169.8 | 308.6  | 127.3  | 75.5   | 69.1   | 64.7   | 60.4   | 56.1   | 56.1   |
| 72.5° | 2749.6 | 2093.5 | 893.5  | 295.7  | 129.5  | 69.1   | 58.3   | 56.1   | 51.8   | 49.6   | 47.5   |
| 75°   | 1903.6 | 1547.5 | 647.5  | 261.1  | 125.2  | 58.3   | 49.6   | 45.3   | 43.2   | 38.8   | 38.8   |
| 77.5° | 1223.7 | 1012.2 | 429.5  | 209.3  | 101.4  | 47.5   | 36.7   | 34.5   | 32.4   | 30.2   | 30.2   |
| 80°   | 805.0  | 688.5  | 250.4  | 148.9  | 62.6   | 32.4   | 25.9   | 25.9   | 23.7   | 19.4   | 19.4   |
| 82.5° | 511.5  | 520.1  | 129.5  | 69.1   | 36.7   | 19.4   | 15.1   | 12.9   | 12.9   | 8.6    | 8.6    |
| 85°   | 112.2  | 196.4  | 58.3   | 28.1   | 12.9   | 2.2    | 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°    | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 |
| 2.5°  | 1448.2 | 1430.9 | 1424.4 | 1424.4 | 1396.4 | 1398.5 | 1398.5 | 1415.8 | 1413.6 | 1428.8 | 1422.3 |
| 5°    | 1178.4 | 1161.1 | 1161.1 | 1165.4 | 1169.8 | 1150.3 | 1156.8 | 1139.6 | 1171.9 | 1148.2 | 1130.9 |
| 7.5°  | 869.8  | 867.6  | 882.7  | 917.3  | 910.8  | 904.3  | 891.4  | 859.0  | 841.7  | 859.0  | 850.3  |
| 10°   | 666.9  | 673.4  | 669.1  | 684.2  | 686.3  | 684.2  | 662.6  | 656.1  | 647.5  | 656.1  | 666.9  |
| 12.5° | 559.0  | 533.1  | 505.0  | 502.9  | 520.1  | 520.1  | 518.0  | 520.1  | 526.6  | 526.6  | 535.2  |
| 15°   | 466.2  | 448.9  | 412.2  | 395.0  | 407.9  | 399.3  | 401.4  | 410.1  | 416.5  | 425.2  | 420.9  |
| 17.5° | 371.2  | 356.1  | 338.8  | 328.1  | 334.5  | 328.1  | 325.9  | 323.7  | 323.7  | 321.6  | 330.2  |
| 20°   | 282.7  | 280.6  | 287.0  | 282.7  | 284.9  | 280.6  | 274.1  | 265.5  | 259.0  | 263.3  | 267.6  |
| 22.5° | 246.0  | 248.2  | 252.5  | 256.8  | 256.8  | 252.5  | 241.7  | 233.1  | 230.9  | 230.9  | 233.1  |
| 25°   | 226.6  | 226.6  | 233.1  | 235.2  | 237.4  | 230.9  | 218.0  | 211.5  | 211.5  | 211.5  | 211.5  |
| 27.5° | 205.0  | 209.3  | 213.7  | 218.0  | 220.1  | 213.7  | 202.9  | 196.4  | 196.4  | 194.2  | 192.1  |
| 30°   | 189.9  | 192.1  | 196.4  | 198.6  | 200.7  | 194.2  | 187.8  | 181.3  | 181.3  | 181.3  | 179.1  |
| 32.5° | 172.7  | 179.1  | 181.3  | 183.5  | 185.6  | 181.3  | 174.8  | 170.5  | 168.3  | 166.2  | 161.9  |
| 35°   | 159.7  | 161.9  | 168.3  | 168.3  | 170.5  | 168.3  | 164.0  | 159.7  | 153.2  | 151.1  | 151.1  |
| 37.5° | 146.8  | 146.8  | 151.1  | 155.4  | 159.7  | 157.6  | 151.1  | 144.6  | 142.4  | 142.4  | 142.4  |
| 40°   | 138.1  | 136.0  | 138.1  | 144.6  | 148.9  | 148.9  | 140.3  | 136.0  | 136.0  | 133.8  | 133.8  |
| 42.5° | 127.3  | 127.3  | 127.3  | 133.8  | 142.4  | 138.1  | 129.5  | 129.5  | 129.5  | 127.3  | 127.3  |
| 45°   | 120.9  | 118.7  | 120.9  | 120.9  | 131.7  | 125.2  | 123.0  | 120.9  | 123.0  | 120.9  | 123.0  |
| 47.5° | 112.2  | 112.2  | 112.2  | 114.4  | 120.9  | 116.5  | 114.4  | 114.4  | 116.5  | 116.5  | 116.5  |
| 50°   | 105.8  | 105.8  | 105.8  | 107.9  | 110.1  | 110.1  | 110.1  | 110.1  | 110.1  | 112.2  | 112.2  |
| 52.5° | 101.4  | 99.3   | 101.4  | 101.4  | 103.6  | 105.8  | 103.6  | 105.8  | 105.8  | 105.8  | 107.9  |
| 55°   | 97.1   | 95.0   | 97.1   | 97.1   | 101.4  | 99.3   | 99.3   | 101.4  | 101.4  | 103.6  | 105.8  |
| 57.5° | 90.6   | 88.5   | 92.8   | 92.8   | 97.1   | 97.1   | 95.0   | 97.1   | 97.1   | 99.3   | 99.3   |
| 60°   | 84.2   | 84.2   | 86.3   | 86.3   | 90.6   | 92.8   | 92.8   | 92.8   | 92.8   | 92.8   | 92.8   |
| 62.5° | 77.7   | 77.7   | 79.9   | 82.0   | 86.3   | 86.3   | 88.5   | 88.5   | 88.5   | 88.5   | 86.3   |
| 65°   | 71.2   | 73.4   | 75.5   | 75.5   | 79.9   | 82.0   | 82.0   | 82.0   | 82.0   | 82.0   | 82.0   |
| 67.5° | 62.6   | 66.9   | 69.1   | 71.2   | 75.5   | 75.5   | 77.7   | 77.7   | 75.5   | 75.5   | 75.5   |
| 70°   | 56.1   | 58.3   | 60.4   | 62.6   | 69.1   | 69.1   | 71.2   | 71.2   | 69.1   | 69.1   | 71.2   |
| 72.5° | 47.5   | 49.6   | 51.8   | 56.1   | 62.6   | 62.6   | 64.7   | 64.7   | 62.6   | 62.6   | 62.6   |
| 75°   | 41.0   | 41.0   | 43.2   | 47.5   | 56.1   | 56.1   | 56.1   | 58.3   | 56.1   | 56.1   | 54.0   |
| 77.5° | 30.2   | 32.4   | 34.5   | 41.0   | 47.5   | 49.6   | 49.6   | 49.6   | 47.5   | 47.5   | 45.3   |
| 80°   | 19.4   | 21.6   | 25.9   | 30.2   | 36.7   | 38.8   | 41.0   | 41.0   | 38.8   | 38.8   | 36.7   |
| 82.5° | 8.6    | 12.9   | 15.1   | 19.4   | 23.7   | 30.2   | 30.2   | 32.4   | 30.2   | 28.1   | 28.1   |
| 85°   | 0.0    | 0.0    | 2.2    | 6.5    | 10.8   | 17.3   | 19.4   | 21.6   | 19.4   | 17.3   | 17.3   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 4.3    | 4.3    | 4.3    | 2.2    | 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: P437635

CATALOG NUMBER: ISC-SA1E-727-U-SLL

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°   | 315°   | 325°   | 335°   | 345°   | 355°   | 359°   | 360°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 | 1668.3 |
| 2.5°  | 1446.0 | 1469.8 | 1506.5 | 1528.0 | 1577.7 | 1623.0 | 1670.5 | 1733.1 | 1746.0 | 1748.2 |
| 5°    | 1148.2 | 1176.2 | 1245.3 | 1273.4 | 1364.0 | 1437.4 | 1545.3 | 1651.1 | 1679.1 | 1685.6 |
| 7.5°  | 876.2  | 897.8  | 973.4  | 1027.3 | 1126.6 | 1230.2 | 1368.3 | 1493.5 | 1556.1 | 1562.6 |
| 10°   | 684.2  | 742.4  | 800.7  | 880.6  | 966.9  | 1068.3 | 1212.9 | 1372.6 | 1441.7 | 1437.4 |
| 12.5° | 576.2  | 636.7  | 707.9  | 787.8  | 876.2  | 966.9  | 1098.5 | 1275.5 | 1344.6 | 1361.8 |
| 15°   | 461.9  | 535.2  | 612.9  | 695.0  | 798.5  | 887.0  | 1040.3 | 1236.7 | 1320.8 | 1344.6 |
| 17.5° | 358.3  | 416.5  | 492.1  | 597.8  | 699.3  | 824.4  | 1018.7 | 1273.4 | 1368.3 | 1392.1 |
| 20°   | 282.7  | 325.9  | 379.9  | 481.3  | 610.8  | 766.2  | 1007.9 | 1342.4 | 1471.9 | 1506.5 |
| 22.5° | 241.7  | 259.0  | 297.8  | 386.3  | 522.3  | 703.6  | 1001.4 | 1439.5 | 1601.4 | 1659.7 |
| 25°   | 215.8  | 226.6  | 248.2  | 304.3  | 433.8  | 649.6  | 1012.2 | 1560.4 | 1782.7 | 1830.2 |
| 27.5° | 196.4  | 205.0  | 215.8  | 256.8  | 375.5  | 602.1  | 1031.6 | 1696.4 | 1938.1 | 2007.2 |
| 30°   | 179.1  | 185.6  | 200.7  | 228.8  | 328.1  | 554.7  | 1038.1 | 1830.2 | 2076.2 | 2138.8 |
| 32.5° | 166.2  | 174.8  | 187.8  | 211.5  | 300.0  | 522.3  | 1020.8 | 1931.6 | 2203.6 | 2272.6 |
| 35°   | 153.2  | 164.0  | 177.0  | 196.4  | 276.3  | 494.2  | 982.0  | 2015.8 | 2324.4 | 2391.3 |
| 37.5° | 146.8  | 153.2  | 166.2  | 181.3  | 259.0  | 466.2  | 947.5  | 2100.0 | 2449.6 | 2542.4 |
| 40°   | 138.1  | 144.6  | 157.6  | 170.5  | 237.4  | 436.0  | 923.7  | 2207.9 | 2592.0 | 2676.2 |
| 42.5° | 131.7  | 140.3  | 151.1  | 166.2  | 220.1  | 403.6  | 900.0  | 2294.2 | 2719.4 | 2807.9 |
| 45°   | 127.3  | 136.0  | 146.8  | 166.2  | 205.0  | 377.7  | 874.1  | 2369.7 | 2816.5 | 2902.8 |
| 47.5° | 120.9  | 131.7  | 146.8  | 159.7  | 198.6  | 360.4  | 874.1  | 2460.4 | 2905.0 | 2995.6 |
| 50°   | 118.7  | 129.5  | 153.2  | 155.4  | 194.2  | 354.0  | 910.8  | 2564.0 | 3032.3 | 3118.7 |
| 52.5° | 116.5  | 127.3  | 153.2  | 146.8  | 189.9  | 358.3  | 966.9  | 2751.8 | 3196.4 | 3295.6 |
| 55°   | 110.1  | 125.2  | 146.8  | 136.0  | 179.1  | 362.6  | 1029.5 | 2997.8 | 3440.2 | 3533.0 |
| 57.5° | 105.8  | 123.0  | 138.1  | 125.2  | 164.0  | 356.1  | 1113.7 | 3217.9 | 3694.9 | 3759.7 |
| 60°   | 99.3   | 120.9  | 120.9  | 116.5  | 146.8  | 336.7  | 1208.6 | 3358.2 | 3792.0 | 3843.8 |
| 62.5° | 95.0   | 118.7  | 107.9  | 107.9  | 133.8  | 306.5  | 1241.0 | 3323.7 | 3697.1 | 3753.2 |
| 65°   | 88.5   | 103.6  | 97.1   | 99.3   | 123.0  | 271.9  | 1184.9 | 3107.9 | 3517.9 | 3584.8 |
| 67.5° | 82.0   | 88.5   | 86.3   | 90.6   | 118.7  | 237.4  | 1033.8 | 2851.0 | 3287.0 | 3390.6 |
| 70°   | 73.4   | 77.7   | 77.7   | 82.0   | 112.2  | 213.7  | 863.3  | 2520.8 | 2987.0 | 3140.2 |
| 72.5° | 66.9   | 69.1   | 69.1   | 75.5   | 105.8  | 200.7  | 682.0  | 2138.8 | 2505.7 | 2600.7 |
| 75°   | 56.1   | 60.4   | 60.4   | 64.7   | 95.0   | 170.5  | 466.2  | 1566.9 | 1752.5 | 1830.2 |
| 77.5° | 49.6   | 49.6   | 51.8   | 54.0   | 75.5   | 114.4  | 274.1  | 964.7  | 1053.2 | 1094.2 |
| 80°   | 38.8   | 41.0   | 38.8   | 38.8   | 47.5   | 75.5   | 148.9  | 565.5  | 641.0  | 619.4  |
| 82.5° | 28.1   | 28.1   | 23.7   | 23.7   | 28.1   | 41.0   | 64.7   | 293.5  | 300.0  | 289.2  |
| 85°   | 15.1   | 10.8   | 8.6    | 8.6    | 8.6    | 8.6    | 8.6    | 62.6   | 30.2   | 23.7   |
| 87.5° | 0.0    | 0.0    | 0.0    | 2.2    | 2.2    | 2.2    | 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    |

LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-1-R4

Test Date: 08/20/2019

Luminaire Tested: SA1C-727-U-5WQ

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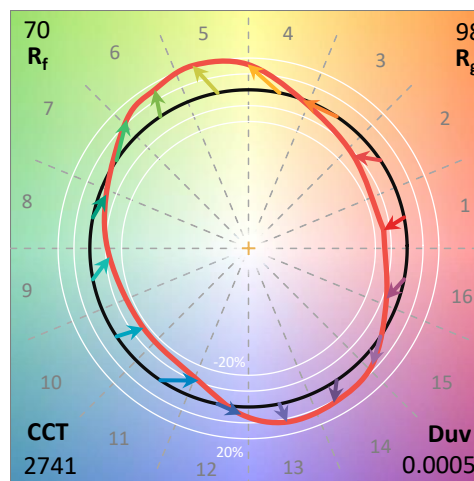
### Test Information

Test Method: LM-79-2008  
 Report Number: SP1-1908-441-1-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-727-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-1-R3. TO UPDATE THE CATALOG NUMBER.\*\*\*TESTED IN SITU. (1) 70 CRI, 2700K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 2741   | CRI (Ra): | 71.5 |      |       |
| CIE u':                   | 0.2605 | R1:       | 69.2 | R9:  | -16.1 |
| CIE v':                   | 0.5272 | R2:       | 79.4 | R10: | 51.4  |
| Duv:                      | 0.0005 | R3:       | 87.8 | R11: | 63.1  |
| CIE x:                    | 0.4573 | R4:       | 69.4 | R12: | 42.0  |
| CIE y:                    | 0.4113 | R5:       | 66.4 | R13: | 70.2  |
| CIE z:                    | 0.1313 | R6:       | 69.8 | R14: | 92.4  |
| Peak Wavelength (nm):     | 602    | R7:       | 79.8 |      |       |
| Dominant Wavelength (nm): | 583    | R8:       | 50.1 |      |       |
| Purity:                   | 61.2   |           |      |      |       |
| Rf:                       | 69.9   |           |      |      |       |
| Rg:                       | 98.3   |           |      |      |       |



### Test Conditions

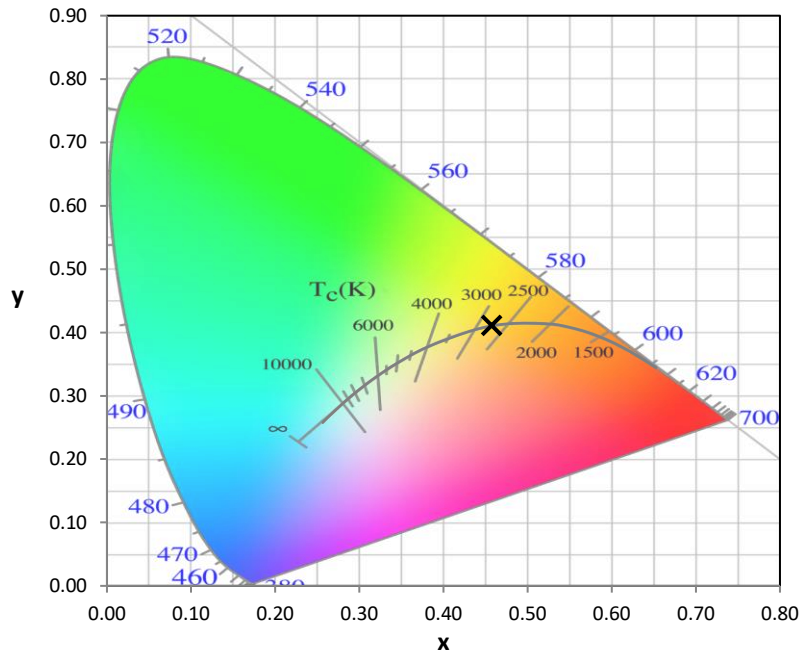
Stabilization Time: 56M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.3./42%  
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-1-R4

| 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            |

REPORT NUMBER: SP1-1908-441-1-R4

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-1-R4

**Photopic Flux vs. Wavelength**



**Photopic Lumens: 6211.7**

| 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       | 2044             | 0.0              | 490       | 7179             | 1.0              | 620       | 118034           | 30.7             | 750       | 8362             | 0.0              | 880       | 3128             | 0.0              |
| 365       | 2016             | 0.0              | 495       | 10476            | 1.9              | 625       | 111884           | 24.7             | 755       | 7635             | 0.0              | 885       | 3110             | 0.0              |
| 370       | 2020             | 0.0              | 500       | 15549            | 3.4              | 630       | 106119           | 19.2             | 760       | 6582             | 0.0              | 890       | 2632             | 0.0              |
| 375       | 2137             | 0.0              | 505       | 22477            | 6.3              | 635       | 99706            | 15.0             | 765       | 5777             | 0.0              | 895       | 2709             | 0.0              |
| 380       | 2046             | 0.0              | 510       | 30417            | 10.4             | 640       | 92142            | 11.0             | 770       | 5474             | 0.0              | 900       | 2016             | 0.0              |
| 385       | 1925             | 0.0              | 515       | 39274            | 16.3             | 645       | 84987            | 8.2              | 775       | 4977             | 0.0              | 905       | 1748             | 0.0              |
| 390       | 1893             | 0.0              | 520       | 47282            | 22.9             | 650       | 78016            | 5.7              | 780       | 4723             | 0.0              | 910       | 2046             | 0.0              |
| 395       | 1695             | 0.0              | 525       | 55413            | 29.7             | 655       | 71541            | 4.1              | 785       | 4219             | 0.0              | 915       | 1844             | 0.0              |
| 400       | 1633             | 0.0              | 530       | 62377            | 36.7             | 660       | 64863            | 2.7              | 790       | 3969             | 0.0              | 920       | 2734             | 0.0              |
| 405       | 2065             | 0.0              | 535       | 68520            | 42.5             | 665       | 58485            | 1.9              | 795       | 4122             | 0.0              | 925       | 2307             | 0.0              |
| 410       | 3449             | 0.0              | 540       | 73435            | 47.8             | 670       | 51641            | 1.1              | 800       | 2864             | 0.0              | 930       | 2039             | 0.0              |
| 415       | 7117             | 0.0              | 545       | 78677            | 52.4             | 675       | 46030            | 0.8              | 805       | 3151             | 0.0              | 935       | 1784             | 0.0              |
| 420       | 13992            | 0.0              | 550       | 83331            | 56.6             | 680       | 40590            | 0.5              | 810       | 3022             | 0.0              | 940       | 2464             | 0.0              |
| 425       | 25176            | 0.1              | 555       | 89120            | 60.9             | 685       | 35691            | 0.3              | 815       | 3471             | 0.0              | 945       | 2794             | 0.0              |
| 430       | 38151            | 0.3              | 560       | 94613            | 64.3             | 690       | 31631            | 0.2              | 820       | 2749             | 0.0              | 950       | 3090             | 0.0              |
| 435       | 49673            | 0.6              | 565       | 99818            | 66.4             | 695       | 27437            | 0.1              | 825       | 2729             | 0.0              | 955       | 1866             | 0.0              |
| 440       | 57273            | 0.9              | 570       | 106526           | 69.3             | 700       | 24589            | 0.1              | 830       | 2282             | 0.0              | 960       | 3110             | 0.0              |
| 445       | 54802            | 1.1              | 575       | 111610           | 69.4             | 705       | 21832            | 0.0              | 835       | 3140             | 0.0              | 965       | 3880             | 0.0              |
| 450       | 39184            | 1.0              | 580       | 117163           | 69.6             | 710       | 19500            | 0.0              | 840       | 2365             | 0.0              | 970       | 3243             | 0.0              |
| 455       | 22506            | 0.8              | 585       | 122201           | 67.9             | 715       | 17870            | 0.0              | 845       | 3024             | 0.0              | 975       | 2014             | 0.0              |
| 460       | 13692            | 0.6              | 590       | 125662           | 65.0             | 720       | 15924            | 0.0              | 850       | 2510             | 0.0              | 980       | 1688             | 0.0              |
| 465       | 9446             | 0.5              | 595       | 127415           | 60.4             | 725       | 14268            | 0.0              | 855       | 2739             | 0.0              | 985       | 2827             | 0.0              |
| 470       | 6698             | 0.4              | 600       | 129155           | 55.7             | 730       | 12438            | 0.0              | 860       | 3515             | 0.0              | 990       | 4172             | 0.0              |
| 475       | 5328             | 0.4              | 605       | 128057           | 49.6             | 735       | 11255            | 0.0              | 865       | 3600             | 0.0              | 995       | 3177             | 0.0              |
| 480       | 5081             | 0.5              | 610       | 126031           | 43.3             | 740       | 9951             | 0.0              | 870       | 3609             | 0.0              | 1000      | 3241             | 0.0              |
| 485       | 5579             | 0.7              | 615       | 123059           | 37.1             | 745       | 8870             | 0.0              | 875       | 3208             | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-1908-441-1-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 6474.3

S/P: 1.04

| 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       | 2044             | 0.0              | 490       | 7179             | 6.0              | 620       | 118034           | 0.1              | 750       | 8362             | 0.0              | 880       | 3128             | 0.0              |
| 365       | 2016             | 0.0              | 495       | 10476            | 8.6              | 625       | 111884           | 0.1              | 755       | 7635             | 0.0              | 885       | 3110             | 0.0              |
| 370       | 2020             | 0.0              | 500       | 15549            | 12.5             | 630       | 106119           | 0.0              | 760       | 6582             | 0.0              | 890       | 2632             | 0.0              |
| 375       | 2137             | 0.0              | 505       | 22477            | 17.3             | 635       | 99706            | 0.0              | 765       | 5777             | 0.0              | 895       | 2709             | 0.0              |
| 380       | 2046             | 0.0              | 510       | 30417            | 21.8             | 640       | 92142            | 0.0              | 770       | 5474             | 0.0              | 900       | 2016             | 0.0              |
| 385       | 1925             | 0.0              | 515       | 39274            | 25.7             | 645       | 84987            | 0.0              | 775       | 4977             | 0.0              | 905       | 1748             | 0.0              |
| 390       | 1893             | 0.0              | 520       | 47282            | 27.5             | 650       | 78016            | 0.0              | 780       | 4723             | 0.0              | 910       | 2046             | 0.0              |
| 395       | 1695             | 0.0              | 525       | 55413            | 28.1             | 655       | 71541            | 0.0              | 785       | 4219             | 0.0              | 915       | 1844             | 0.0              |
| 400       | 1633             | 0.0              | 530       | 62377            | 27.0             | 660       | 64863            | 0.0              | 790       | 3969             | 0.0              | 920       | 2734             | 0.0              |
| 405       | 2065             | 0.0              | 535       | 68520            | 24.7             | 665       | 58485            | 0.0              | 795       | 4122             | 0.0              | 925       | 2307             | 0.0              |
| 410       | 3449             | 0.1              | 540       | 73435            | 21.5             | 670       | 51641            | 0.0              | 800       | 2864             | 0.0              | 930       | 2039             | 0.0              |
| 415       | 7117             | 0.5              | 545       | 78677            | 18.3             | 675       | 46030            | 0.0              | 805       | 3151             | 0.0              | 935       | 1784             | 0.0              |
| 420       | 13992            | 1.6              | 550       | 83331            | 15.0             | 680       | 40590            | 0.0              | 810       | 3022             | 0.0              | 940       | 2464             | 0.0              |
| 425       | 25176            | 3.9              | 555       | 89120            | 12.0             | 685       | 35691            | 0.0              | 815       | 3471             | 0.0              | 945       | 2794             | 0.0              |
| 430       | 38151            | 8.1              | 560       | 94613            | 9.3              | 690       | 31631            | 0.0              | 820       | 2749             | 0.0              | 950       | 3090             | 0.0              |
| 435       | 49673            | 13.3             | 565       | 99818            | 7.0              | 695       | 27437            | 0.0              | 825       | 2729             | 0.0              | 955       | 1866             | 0.0              |
| 440       | 57273            | 19.1             | 570       | 106526           | 5.2              | 700       | 24589            | 0.0              | 830       | 2282             | 0.0              | 960       | 3110             | 0.0              |
| 445       | 54802            | 21.6             | 575       | 111610           | 3.7              | 705       | 21832            | 0.0              | 835       | 3140             | 0.0              | 965       | 3880             | 0.0              |
| 450       | 39184            | 18.1             | 580       | 117163           | 2.6              | 710       | 19500            | 0.0              | 840       | 2365             | 0.0              | 970       | 3243             | 0.0              |
| 455       | 22506            | 11.8             | 585       | 122201           | 1.8              | 715       | 17870            | 0.0              | 845       | 3024             | 0.0              | 975       | 2014             | 0.0              |
| 460       | 13692            | 8.1              | 590       | 125662           | 1.2              | 720       | 15924            | 0.0              | 850       | 2510             | 0.0              | 980       | 1688             | 0.0              |
| 465       | 9446             | 6.2              | 595       | 127415           | 0.8              | 725       | 14268            | 0.0              | 855       | 2739             | 0.0              | 985       | 2827             | 0.0              |
| 470       | 6698             | 4.8              | 600       | 129155           | 0.5              | 730       | 12438            | 0.0              | 860       | 3515             | 0.0              | 990       | 4172             | 0.0              |
| 475       | 5328             | 4.1              | 605       | 128057           | 0.4              | 735       | 11255            | 0.0              | 865       | 3600             | 0.0              | 995       | 3177             | 0.0              |
| 480       | 5081             | 4.1              | 610       | 126031           | 0.2              | 740       | 9951             | 0.0              | 870       | 3609             | 0.0              | 1000      | 3241             | 0.0              |
| 485       | 5579             | 4.6              | 615       | 123059           | 0.1              | 745       | 8870             | 0.0              | 875       | 3208             | 0.0              |           |                  |                  |

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 2145.7 M/P: 0.35**

| 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       | 2044             | 0.0              | 490       | 7179             | 11.1             | 620       | 118034           | 1.5              | 750       | 8362             | 0.0              | 880       | 3128             | 0.0              |
| 365       | 2016             | 0.0              | 495       | 10476            | 16.9             | 625       | 111884           | 0.9              | 755       | 7635             | 0.0              | 885       | 3110             | 0.0              |
| 370       | 2020             | 0.0              | 500       | 15549            | 26.0             | 630       | 106119           | 0.6              | 760       | 6582             | 0.0              | 890       | 2632             | 0.0              |
| 375       | 2137             | 0.0              | 505       | 22477            | 38.2             | 635       | 99706            | 0.4              | 765       | 5777             | 0.0              | 895       | 2709             | 0.0              |
| 380       | 2046             | 0.0              | 510       | 30417            | 51.6             | 640       | 92142            | 0.2              | 770       | 5474             | 0.0              | 900       | 2016             | 0.0              |
| 385       | 1925             | 0.0              | 515       | 39274            | 65.1             | 645       | 84987            | 0.1              | 775       | 4977             | 0.0              | 905       | 1748             | 0.0              |
| 390       | 1893             | 0.0              | 520       | 47282            | 75.2             | 650       | 78016            | 0.1              | 780       | 4723             | 0.0              | 910       | 2046             | 0.0              |
| 395       | 1695             | 0.0              | 525       | 55413            | 82.9             | 655       | 71541            | 0.1              | 785       | 4219             | 0.0              | 915       | 1844             | 0.0              |
| 400       | 1633             | 0.0              | 530       | 62377            | 86.0             | 660       | 64863            | 0.0              | 790       | 3969             | 0.0              | 920       | 2734             | 0.0              |
| 405       | 2065             | 0.1              | 535       | 68520            | 85.4             | 665       | 58485            | 0.0              | 795       | 4122             | 0.0              | 925       | 2307             | 0.0              |
| 410       | 3449             | 0.2              | 540       | 73435            | 81.1             | 670       | 51641            | 0.0              | 800       | 2864             | 0.0              | 930       | 2039             | 0.0              |
| 415       | 7117             | 0.7              | 545       | 78677            | 75.4             | 675       | 46030            | 0.0              | 805       | 3151             | 0.0              | 935       | 1784             | 0.0              |
| 420       | 13992            | 2.3              | 550       | 83331            | 68.1             | 680       | 40590            | 0.0              | 810       | 3022             | 0.0              | 940       | 2464             | 0.0              |
| 425       | 25176            | 6.2              | 555       | 89120            | 60.9             | 685       | 35691            | 0.0              | 815       | 3471             | 0.0              | 945       | 2794             | 0.0              |
| 430       | 38151            | 13.0             | 560       | 94613            | 52.9             | 690       | 31631            | 0.0              | 820       | 2749             | 0.0              | 950       | 3090             | 0.0              |
| 435       | 49673            | 22.2             | 565       | 99818            | 44.8             | 695       | 27437            | 0.0              | 825       | 2729             | 0.0              | 955       | 1866             | 0.0              |
| 440       | 57273            | 32.0             | 570       | 106526           | 37.6             | 700       | 24589            | 0.0              | 830       | 2282             | 0.0              | 960       | 3110             | 0.0              |
| 445       | 54802            | 36.7             | 575       | 111610           | 30.4             | 705       | 21832            | 0.0              | 835       | 3140             | 0.0              | 965       | 3880             | 0.0              |
| 450       | 39184            | 30.4             | 580       | 117163           | 24.1             | 710       | 19500            | 0.0              | 840       | 2365             | 0.0              | 970       | 3243             | 0.0              |
| 455       | 22506            | 19.7             | 585       | 122201           | 18.7             | 715       | 17870            | 0.0              | 845       | 3024             | 0.0              | 975       | 2014             | 0.0              |
| 460       | 13692            | 13.2             | 590       | 125662           | 14.0             | 720       | 15924            | 0.0              | 850       | 2510             | 0.0              | 980       | 1688             | 0.0              |
| 465       | 9446             | 10.0             | 595       | 127415           | 10.2             | 725       | 14268            | 0.0              | 855       | 2739             | 0.0              | 985       | 2827             | 0.0              |
| 470       | 6698             | 7.7              | 600       | 129155           | 7.3              | 730       | 12438            | 0.0              | 860       | 3515             | 0.0              | 990       | 4172             | 0.0              |
| 475       | 5328             | 6.7              | 605       | 128057           | 5.0              | 735       | 11255            | 0.0              | 865       | 3600             | 0.0              | 995       | 3177             | 0.0              |
| 480       | 5081             | 6.9              | 610       | 126031           | 3.4              | 740       | 9951             | 0.0              | 870       | 3609             | 0.0              | 1000      | 3241             | 0.0              |
| 485       | 5579             | 8.1              | 615       | 123059           | 2.3              | 745       | 8870             | 0.0              | 875       | 3208             | 0.0              |           |                  |                  |

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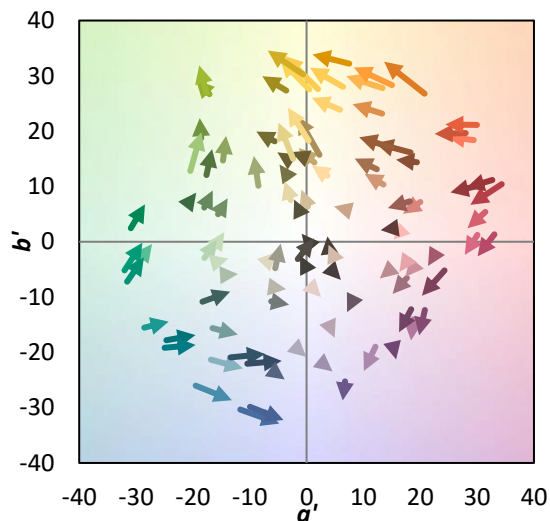
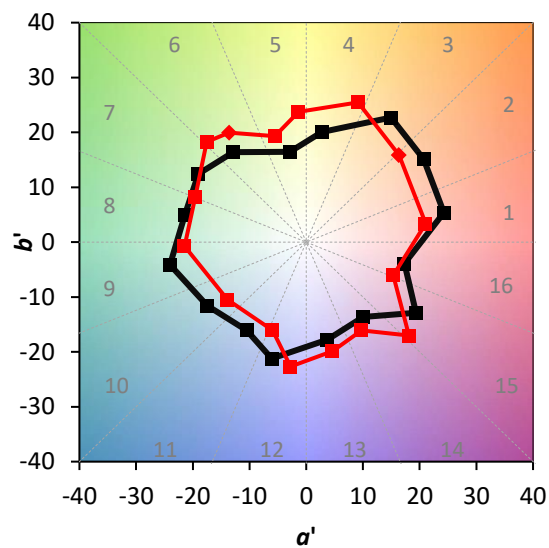
**TM-30-18**

**Summary**

$R_f = 69.9$   
 $R_g = 98.3$   
 $CIE R_a = 71.5$   
 $R_g = -16.1$



**Color Vector Graphics**



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

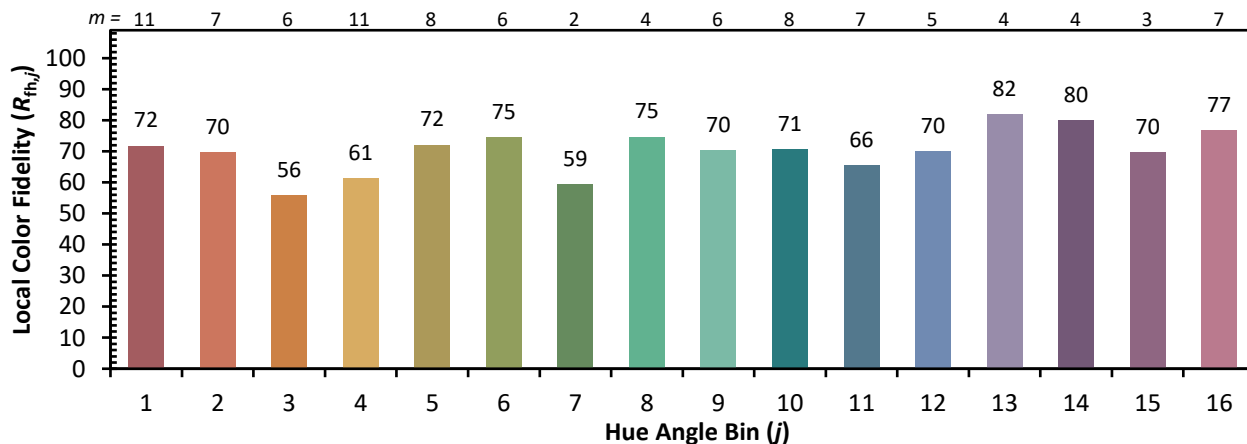
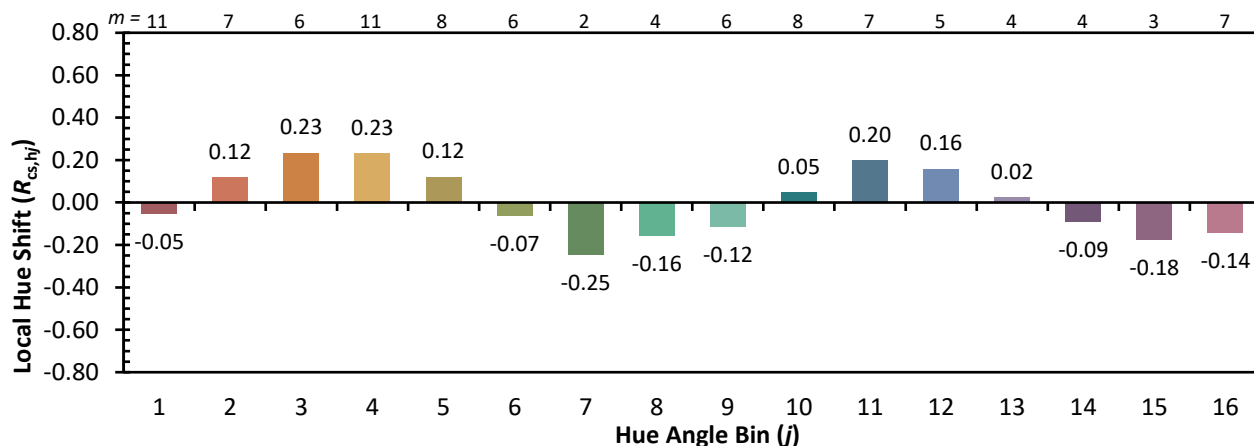
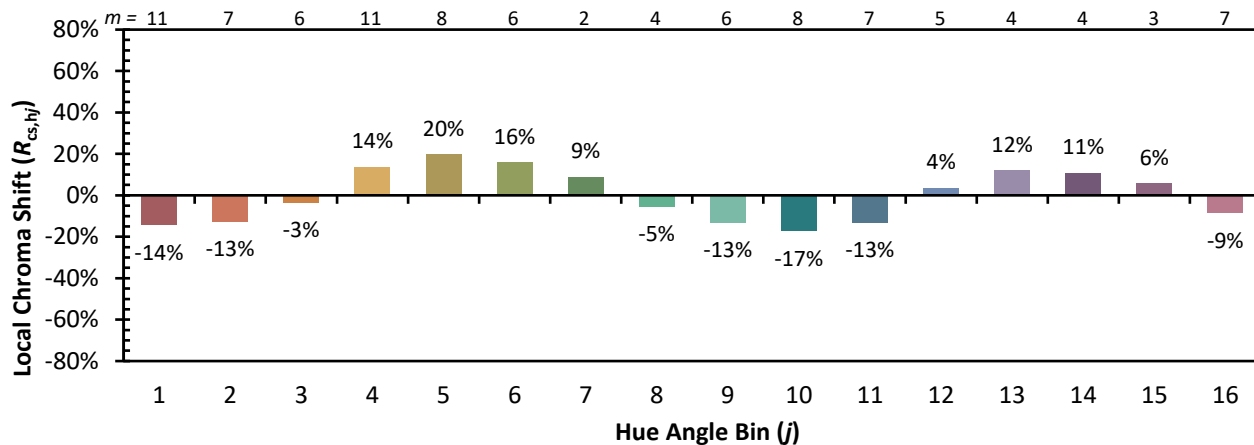
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| CES02 = 63 | CES27 = 74 | CES52 = 80 | CES77 = 75 |
| CES03 = 31 | CES28 = 80 | CES53 = 66 | CES78 = 56 |
| CES04 = 71 | CES29 = 44 | CES54 = 77 | CES79 = 81 |
| CES05 = 50 | CES30 = 46 | CES55 = 74 | CES80 = 80 |
| CES06 = 52 | CES31 = 50 | CES56 = 63 | CES81 = 73 |
| CES07 = 42 | CES32 = 49 | CES57 = 60 | CES82 = 91 |
| CES08 = 41 | CES33 = 53 | CES58 = 63 | CES83 = 84 |
| CES09 = 29 | CES34 = 66 | CES59 = 85 | CES84 = 90 |
| CES10 = 77 | CES35 = 82 | CES60 = 89 | CES85 = 87 |
| CES11 = 60 | CES36 = 78 | CES61 = 85 | CES86 = 65 |
| CES12 = 66 | CES37 = 75 | CES62 = 69 | CES87 = 78 |
| CES13 = 43 | CES38 = 53 | CES63 = 68 | CES88 = 73 |
| CES14 = 74 | CES39 = 91 | CES64 = 68 | CES89 = 68 |
| CES15 = 71 | CES40 = 85 | CES65 = 65 | CES90 = 68 |
| CES16 = 48 | CES41 = 76 | CES66 = 62 | CES91 = 91 |
| CES17 = 50 | CES42 = 76 | CES67 = 60 | CES92 = 71 |
| CES18 = 57 | CES43 = 65 | CES68 = 68 | CES93 = 82 |
| CES19 = 73 | CES44 = 98 | CES69 = 77 | CES94 = 57 |
| CES20 = 67 | CES45 = 75 | CES70 = 60 | CES95 = 78 |
| CES21 = 88 | CES46 = 70 | CES71 = 57 | CES96 = 80 |
| CES22 = 80 | CES47 = 63 | CES72 = 86 | CES97 = 79 |
| CES23 = 92 | CES48 = 51 | CES73 = 52 | CES98 = 71 |
| CES24 = 91 | CES49 = 68 | CES74 = 90 | CES99 = 64 |
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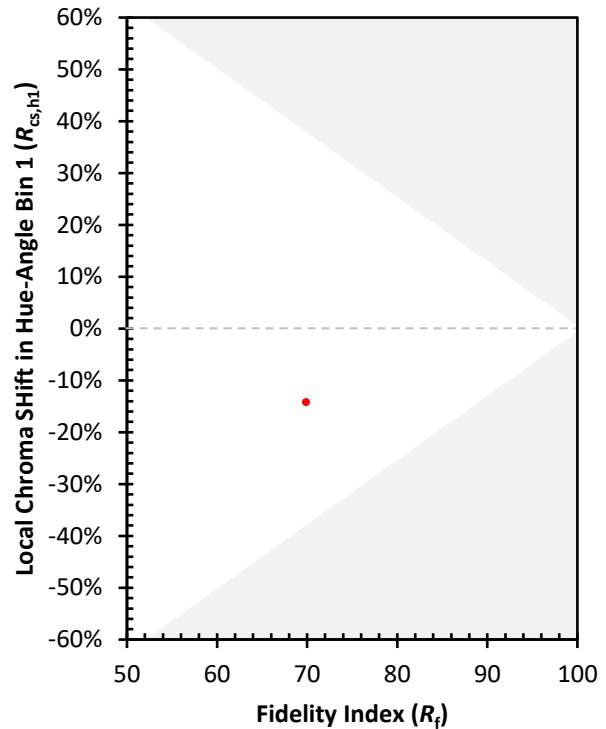
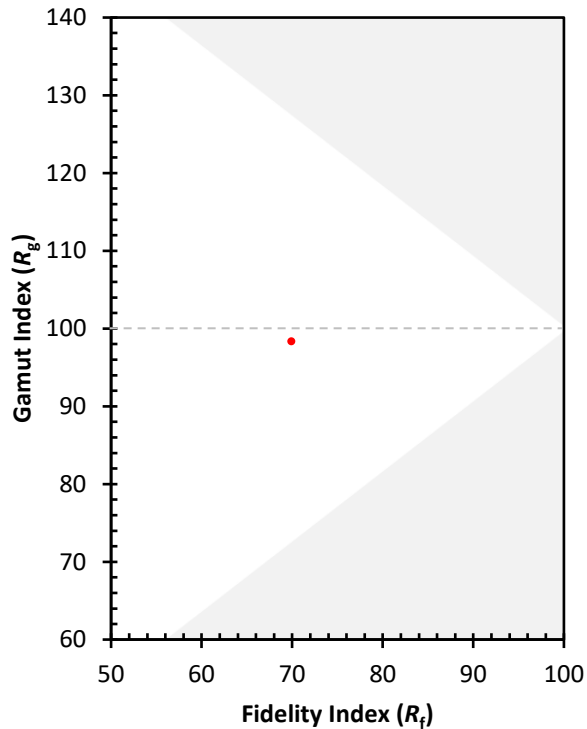
Color Rendition by Hue-Angle Bin



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**Measure Comparisons**



(END OF REPORT)