

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: STREETWORKS

Report Number: P579397

Luminaire Tested: **CST-CA10-760-722-U-T5N-HSS-HM-EX120**

Issue Date: 11/18/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P579397  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2110-429-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 11/18/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: CST-CA10-760-722-U-T5N-HSS-HM-EX120  
Description: CELESTEON HIGH MAST LUMINAIRE WITH FIELD INSTALLED SHIELD  
Light Source: (10) 2200K CCT, 70 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 68200 lumens  
Efficiency: N/A  
Efficacy: 89.5 lumens/watt  
Luminous Opening: Circular (Dia: 2.08' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B5 - U2 - G5

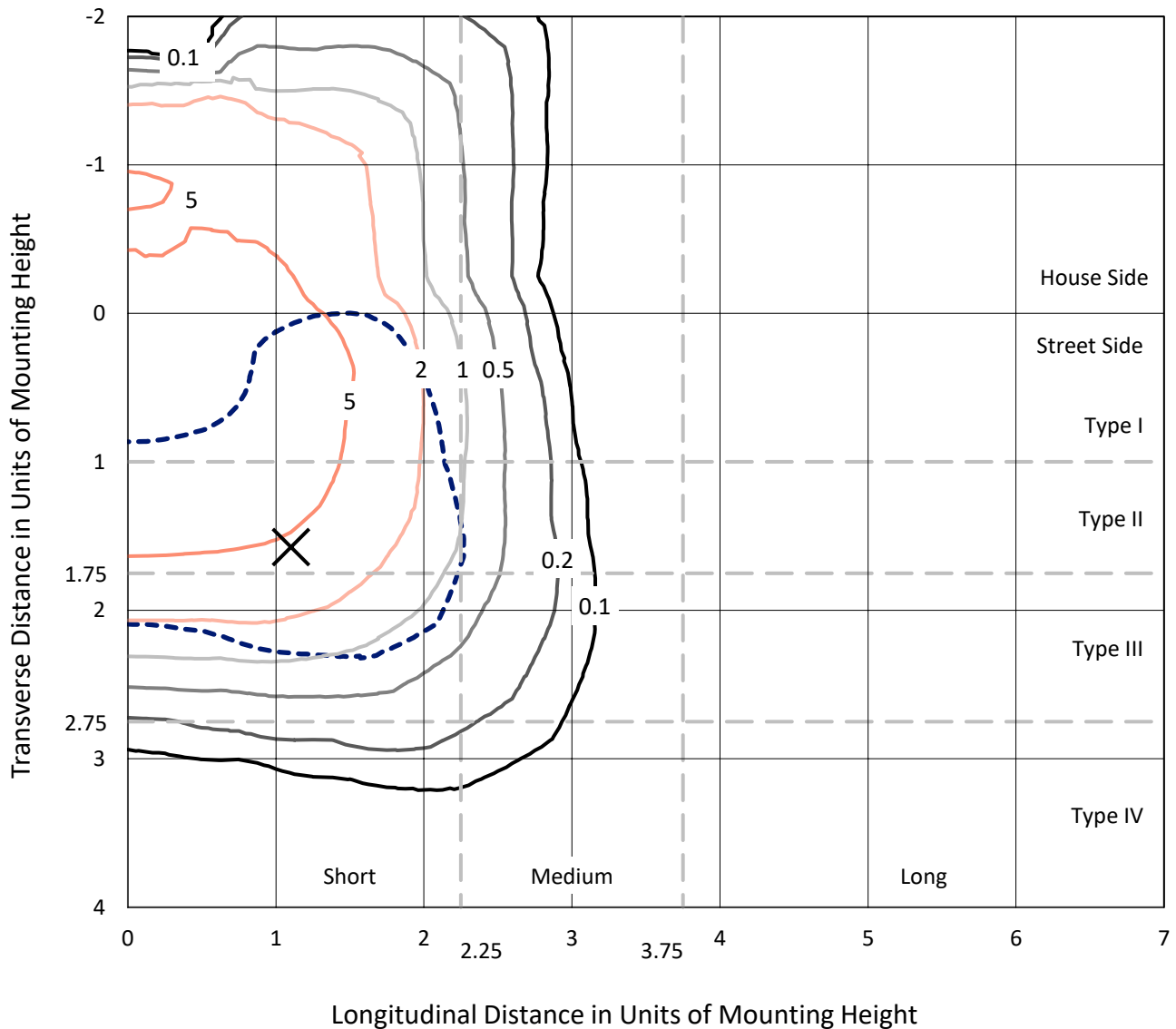
Input Watts (W): 761.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd  
 - - - 1/2 Max cd

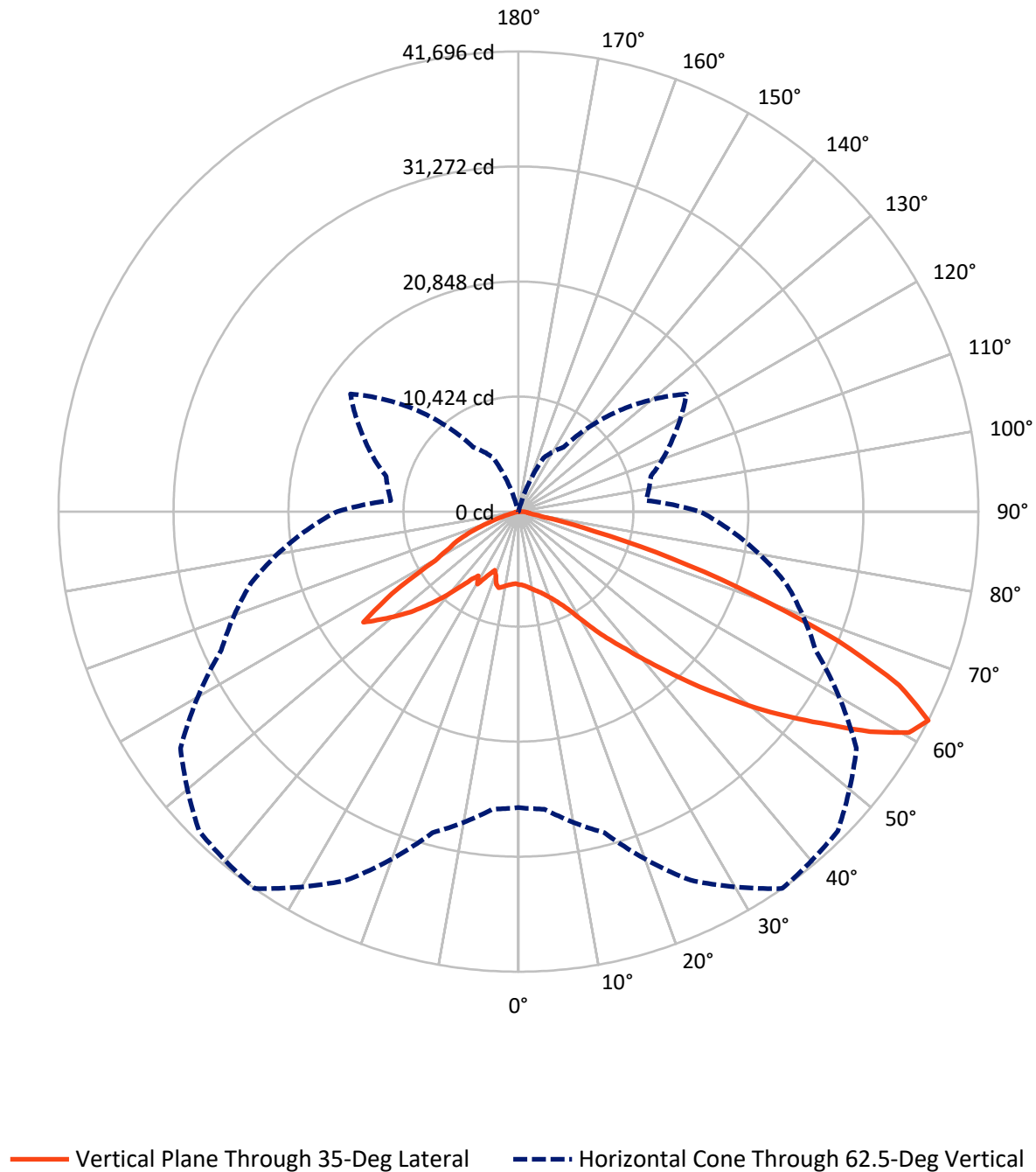


Based on 30 foot mounting height. Maximum calculated value = 10 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 21575.6  | 0.0    | 21575.6 |
|                    | % Fixture | 31.6     | 0.0    | 31.6    |
| <b>Street Side</b> | Lumens    | 46585.5  | 38.9   | 46624.4 |
|                    | % Fixture | 68.3     | 0.1    | 68.4    |
| <b>Total</b>       | Lumens    | 68161.0  | 39.0   | 68200.0 |
|                    | % Fixture | 99.9     | 0.1    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 652.8   | 1.0       |
| 10°-20°   | 2098.8  | 3.1       |
| 20°-30°   | 3897.3  | 5.7       |
| 30°-40°   | 7683.8  | 11.3      |
| 40°-50°   | 13793.3 | 20.2      |
| 50°-60°   | 20050.0 | 29.4      |
| 60°-70°   | 16477.9 | 24.2      |
| 70°-80°   | 3132.2  | 4.6       |
| 80°-90°   | 374.9   | 0.5       |
| 90°-100°  | 35.5    | 0.1       |
| 100°-110° | 3.4     | 0.0       |
| 110°-120° | 0.1     | 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°    | 68161.0 | 99.9      |
| 0°-180°   | 68200.0 | 100.0     |

**Coefficient of Utilization**



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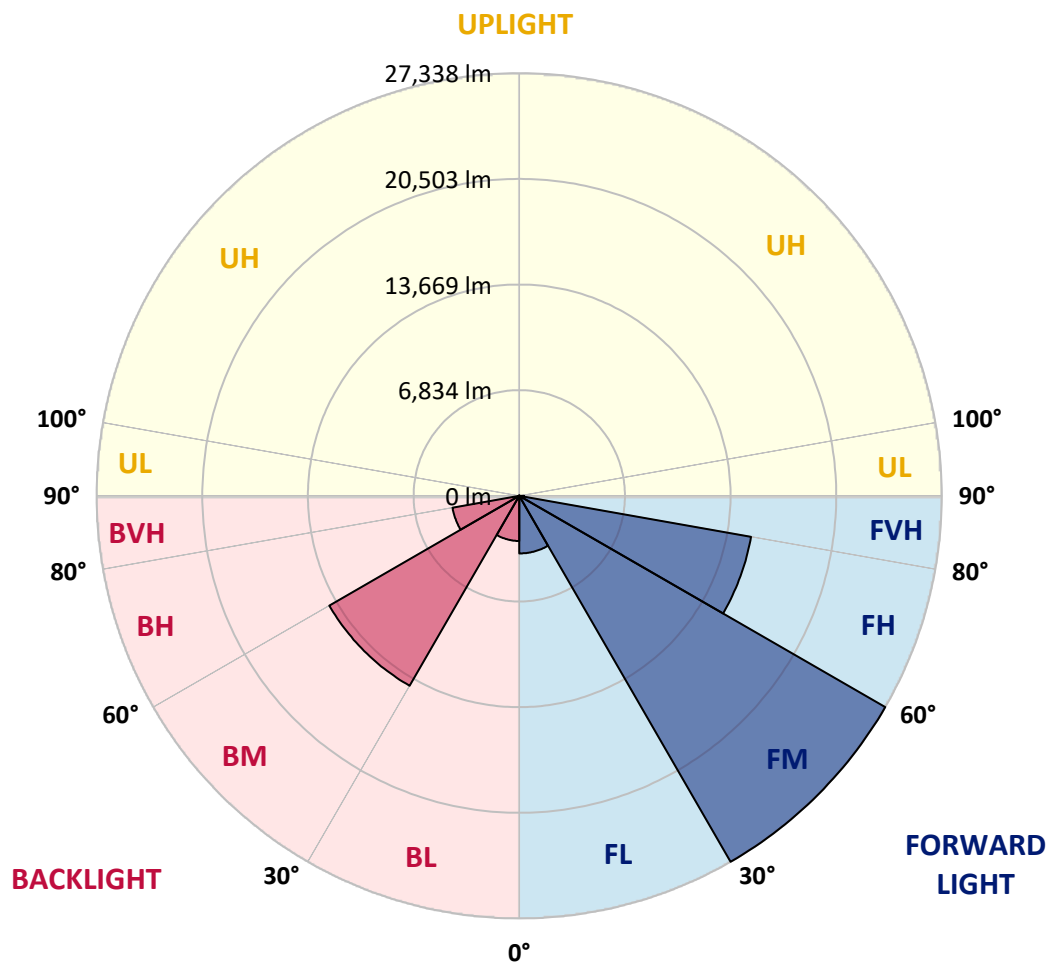
CATALOG NUMBER: CST-CA10-760-722-U-T5N-HSS-HM-EX120

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |       |         |
|------|-------------|---------|-----------|-------------------------|-------|---------|
|      |             |         |           | B                       | U     | G       |
| FL   | (0°-30°)    | 3727.5  | 5.5       |                         |       |         |
| FM   | (30°-60°)   | 27337.7 | 40.1      |                         |       |         |
| FH   | (60°-80°)   | 15223.8 | 22.3      |                         |       | G5      |
| FVH  | (80°-90°)   | 296.5   | 0.4       |                         |       | G3/500  |
| BL   | (0°-30°)    | 2921.4  | 4.3       | B4/5000                 |       |         |
| BM   | (30°-60°)   | 14189.4 | 20.8      | B5                      |       |         |
| BH   | (60°-80°)   | 4386.3  | 6.4       | B4/5000                 |       | G4/5000 |
| BVH  | (80°-90°)   | 78.5    | 0.1       |                         |       | G1/100  |
| UL   | (90°-100°)  | 35.5    | 0.1       |                         | U2/50 |         |
| UH   | (100°-180°) | 3.5     | 0.0       |                         | U1/10 |         |

**BUG Rating: B5-U2-G5**

Type III Short





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CATALOG NUMBER: CST-CA10-760-722-U-T5N-HSS-HM-EX120

**CANDELA DISTRIBUTION (FULL):**

|        | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     | 90°     |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°     | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  |
| 2.5°   | 6789.0  | 6733.5  | 6739.1  | 6780.6  | 6655.9  | 6697.5  | 6639.3  | 6689.2  | 6667.0  | 6689.2  | 6703.0  |
| 5°     | 6924.8  | 6855.5  | 6852.7  | 6894.3  | 6794.5  | 6819.5  | 6752.9  | 6786.2  | 6755.7  | 6783.4  | 6783.4  |
| 7.5°   | 7091.1  | 7032.9  | 7019.1  | 7052.3  | 6963.6  | 6974.7  | 6908.2  | 6922.0  | 6886.0  | 6922.0  | 6894.3  |
| 10°    | 7299.0  | 7246.4  | 7224.2  | 7240.8  | 7160.4  | 7166.0  | 7093.9  | 7099.4  | 7046.8  | 7077.3  | 7055.1  |
| 12.5°  | 7518.0  | 7446.0  | 7434.9  | 7462.6  | 7379.4  | 7368.3  | 7307.4  | 7312.9  | 7254.7  | 7282.4  | 7265.8  |
| 15°    | 7745.4  | 7670.5  | 7673.3  | 7701.0  | 7617.8  | 7623.4  | 7559.6  | 7570.7  | 7512.5  | 7540.2  | 7518.0  |
| 17.5°  | 8047.5  | 7972.7  | 7967.1  | 8017.0  | 7947.7  | 7969.9  | 7903.4  | 7917.2  | 7875.6  | 7881.2  | 7856.2  |
| 20°    | 8480.0  | 8382.9  | 8363.5  | 8435.6  | 8344.1  | 8371.9  | 8335.8  | 8382.9  | 8366.3  | 8352.4  | 8333.0  |
| 22.5°  | 8995.6  | 8920.7  | 8881.9  | 8937.4  | 8829.3  | 8881.9  | 8901.3  | 8998.4  | 9023.3  | 9006.7  | 8701.7  |
| 25°    | 9685.8  | 9647.0  | 9608.2  | 9583.3  | 9453.0  | 9536.2  | 9635.9  | 9796.7  | 9902.1  | 9943.7  | 9519.5  |
| 27.5°  | 10617.3 | 10636.7 | 10467.6 | 10439.9 | 10292.9 | 10423.2 | 10603.4 | 10864.0 | 11077.5 | 11155.1 | 10584.0 |
| 30°    | 11814.8 | 11839.8 | 11609.7 | 11543.2 | 11454.5 | 11565.4 | 11900.8 | 12186.3 | 12502.3 | 12632.6 | 11870.3 |
| 32.5°  | 13406.1 | 13383.9 | 13045.7 | 12918.2 | 12837.8 | 12882.1 | 13234.2 | 13625.1 | 13979.9 | 14273.7 | 13336.8 |
| 35°    | 15349.3 | 15280.0 | 14919.6 | 14567.6 | 14248.8 | 14384.6 | 14642.4 | 15116.5 | 15654.3 | 16086.7 | 14783.8 |
| 37.5°  | 17605.8 | 17539.3 | 16990.4 | 16416.6 | 15787.3 | 15845.5 | 16075.6 | 16849.1 | 17542.1 | 17655.7 | 14537.1 |
| 40°    | 19937.2 | 19909.5 | 19391.1 | 18662.0 | 17683.5 | 17409.0 | 17714.0 | 18656.5 | 19388.3 | 17406.2 | 15110.9 |
| 42.5°  | 22265.8 | 22132.7 | 21841.7 | 21112.6 | 19809.7 | 19205.4 | 19615.6 | 20558.2 | 21345.5 | 18249.0 | 16441.5 |
| 45°    | 24613.8 | 24478.0 | 24231.3 | 23696.2 | 22340.7 | 21461.9 | 21581.1 | 22626.2 | 23338.6 | 19829.1 | 17827.6 |
| 47.5°  | 26698.5 | 26598.7 | 26421.2 | 26121.8 | 24913.2 | 24117.6 | 23887.5 | 24619.4 | 25104.5 | 21112.6 | 18892.1 |
| 50°    | 28494.8 | 28408.9 | 28478.2 | 28378.4 | 28023.5 | 27189.1 | 26429.6 | 26382.4 | 26615.3 | 22254.7 | 19870.7 |
| 52.5°  | 30074.9 | 29958.5 | 30255.1 | 30607.2 | 30934.3 | 30748.5 | 28910.6 | 28054.0 | 27843.3 | 23111.3 | 20527.7 |
| 55°    | 31380.6 | 31339.0 | 31849.1 | 32799.9 | 34044.6 | 34532.5 | 31563.6 | 29598.1 | 28941.1 | 23837.6 | 20588.7 |
| 57.5°  | 32162.3 | 32262.1 | 33340.5 | 35181.2 | 37615.1 | 37845.2 | 34668.3 | 31239.2 | 29908.6 | 24278.4 | 20879.7 |
| 60°    | 30826.2 | 31164.4 | 33104.9 | 36966.4 | 40653.4 | 40753.2 | 36899.9 | 31566.3 | 28641.7 | 22692.7 | 19324.6 |
| 62.5°  | 26823.2 | 27067.1 | 30119.3 | 36852.8 | 41695.7 | 40936.2 | 37398.9 | 29720.1 | 25101.7 | 19249.7 | 16436.0 |
| 65°    | 18953.1 | 19235.9 | 22914.5 | 33232.4 | 37933.9 | 37961.6 | 34258.1 | 25700.5 | 20064.7 | 14903.0 | 12690.8 |
| 67.5°  | 11432.3 | 11889.7 | 15374.3 | 24125.9 | 31233.7 | 31802.0 | 28580.7 | 19457.6 | 14359.7 | 9730.2  | 8213.8  |
| 70°    | 3750.7  | 4169.3  | 7019.1  | 14279.3 | 22515.3 | 24949.2 | 21464.7 | 12643.7 | 7498.6  | 4113.9  | 3312.7  |
| 72.5°  | 1485.9  | 1677.1  | 2472.7  | 6314.9  | 14509.4 | 16657.8 | 13225.9 | 6109.8  | 2517.1  | 1092.2  | 950.8   |
| 75°    | 992.4   | 1011.8  | 1142.1  | 2151.2  | 7099.4  | 9109.2  | 6375.9  | 1776.9  | 934.2   | 681.9   | 598.8   |
| 77.5°  | 864.9   | 867.7   | 925.9   | 1133.8  | 2312.0  | 3492.9  | 1835.2  | 953.6   | 773.4   | 560.0   | 496.2   |
| 80°    | 792.8   | 803.9   | 840.0   | 967.5   | 1059.0  | 1186.5  | 906.5   | 795.6   | 670.9   | 515.6   | 468.5   |
| 82.5°  | 759.6   | 767.9   | 790.1   | 876.0   | 856.6   | 889.9   | 731.8   | 632.0   | 565.5   | 474.0   | 449.1   |
| 85°    | 693.0   | 706.9   | 720.8   | 773.4   | 704.1   | 609.9   | 565.5   | 424.1   | 404.7   | 357.6   | 329.9   |
| 87.5°  | 523.9   | 521.2   | 507.3   | 515.6   | 471.3   | 385.3   | 318.8   | 238.4   | 194.0   | 160.8   | 133.1   |
| 90°    | 219.0   | 221.8   | 213.5   | 202.4   | 177.4   | 146.9   | 110.9   | 66.5    | 33.3    | 11.1    | 5.5     |
| 92.5°  | 166.3   | 169.1   | 163.6   | 146.9   | 127.5   | 102.6   | 74.8    | 38.8    | 22.2    | 8.3     | 2.8     |
| 95°    | 102.6   | 105.3   | 99.8    | 88.7    | 77.6    | 58.2    | 38.8    | 24.9    | 13.9    | 5.5     | 0.0     |
| 97.5°  | 61.0    | 63.8    | 58.2    | 52.7    | 41.6    | 27.7    | 22.2    | 16.6    | 11.1    | 5.5     | 0.0     |
| 100°   | 36.0    | 36.0    | 33.3    | 27.7    | 19.4    | 16.6    | 13.9    | 11.1    | 8.3     | 2.8     | 0.0     |
| 102.5° | 16.6    | 16.6    | 16.6    | 11.1    | 8.3     | 8.3     | 8.3     | 8.3     | 8.3     | 2.8     | 0.0     |
| 105°   | 5.5     | 5.5     | 2.8     | 2.8     | 2.8     | 5.5     | 5.5     | 5.5     | 5.5     | 2.8     | 0.0     |
| 107.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.8     | 5.5     | 5.5     | 2.8     | 0.0     |
| 110°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.8     | 2.8     | 2.8     | 0.0     |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 5°  | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 112.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 115°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 117.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 125°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 127.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 130°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 132.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 135°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 137.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 142.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 145°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 147.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 150°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 160°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 165°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 170°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 175°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180°   | 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):**

|        | 95°     | 105°    | 115°    | 125°    | 135°    | 145°    | 155°    | 165°    | 175°    | 180°    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°     | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  | 6619.9  |
| 2.5°   | 6689.2  | 6636.5  | 6644.8  | 6597.7  | 6586.6  | 6536.7  | 6625.4  | 6633.7  | 6608.8  | 6633.7  |
| 5°     | 6772.3  | 6708.6  | 6725.2  | 6672.5  | 6658.7  | 6589.4  | 6661.4  | 6655.9  | 6636.5  | 6661.4  |
| 7.5°   | 6894.3  | 6822.2  | 6830.5  | 6769.6  | 6755.7  | 6678.1  | 6744.6  | 6725.2  | 6703.0  | 6733.5  |
| 10°    | 7049.5  | 6980.2  | 6983.0  | 6899.8  | 6891.5  | 6802.8  | 6888.8  | 6852.7  | 6819.5  | 6863.8  |
| 12.5°  | 7265.8  | 7168.7  | 7160.4  | 7068.9  | 7066.2  | 6974.7  | 7063.4  | 7032.9  | 6988.6  | 7057.9  |
| 15°    | 7515.3  | 7385.0  | 7351.7  | 7235.3  | 7232.5  | 7135.5  | 7224.2  | 7177.1  | 7154.9  | 7238.1  |
| 17.5°  | 7839.6  | 7676.0  | 7423.8  | 7027.4  | 6847.2  | 6877.7  | 7190.9  | 7304.6  | 7008.0  | 7052.3  |
| 20°    | 8036.4  | 7243.6  | 6874.9  | 6711.3  | 6625.4  | 6132.0  | 5463.9  | 5519.3  | 6176.3  | 6489.6  |
| 22.5°  | 7703.8  | 7468.1  | 7332.3  | 7102.2  | 5904.7  | 5735.6  | 5774.4  | 5763.3  | 4915.0  | 4662.7  |
| 25°    | 8396.8  | 8175.0  | 7928.3  | 6509.0  | 6262.3  | 6190.2  | 6209.6  | 5414.0  | 4951.0  | 4970.4  |
| 27.5°  | 9394.8  | 9109.2  | 7545.8  | 6930.3  | 6880.4  | 6775.1  | 6392.5  | 5436.2  | 5494.4  | 5533.2  |
| 30°    | 10656.1 | 9641.5  | 8036.4  | 7767.5  | 7667.7  | 7554.1  | 5932.4  | 6073.8  | 6181.9  | 6301.1  |
| 32.5°  | 11875.8 | 9378.1  | 8976.2  | 8696.2  | 8541.0  | 6858.3  | 6691.9  | 6952.5  | 7060.6  | 7163.2  |
| 35°    | 11765.0 | 10506.4 | 9985.2  | 9630.4  | 9339.3  | 7401.6  | 7548.5  | 7944.9  | 8230.5  | 8227.7  |
| 37.5°  | 12069.9 | 11734.5 | 11132.9 | 10683.8 | 8105.7  | 8291.5  | 8599.2  | 9051.0  | 9397.5  | 9394.8  |
| 40°    | 13342.3 | 12979.1 | 12413.6 | 11448.9 | 8981.7  | 9414.2  | 9835.5  | 10259.7 | 10509.2 | 10528.6 |
| 42.5°  | 14606.4 | 14326.4 | 13816.3 | 10112.8 | 10054.5 | 10653.3 | 11094.1 | 11363.0 | 11515.5 | 11568.1 |
| 45°    | 15864.9 | 15601.6 | 13575.2 | 11185.6 | 11363.0 | 11956.2 | 12225.1 | 12277.8 | 12441.4 | 12435.8 |
| 47.5°  | 16865.7 | 16641.1 | 12488.5 | 12460.8 | 12901.5 | 13311.8 | 13225.9 | 13159.3 | 13200.9 | 13223.1 |
| 50°    | 17788.8 | 14487.2 | 13464.3 | 13869.0 | 14539.9 | 14589.8 | 14232.2 | 11274.3 | 13957.7 | 13910.6 |
| 52.5°  | 16524.7 | 14137.9 | 14373.5 | 15321.6 | 16463.7 | 15884.3 | 15185.8 | 9882.7  | 13090.0 | 14334.7 |
| 55°    | 14459.5 | 14697.9 | 15230.1 | 16821.3 | 17949.6 | 17262.1 | 16095.0 | 10176.5 | 8687.9  | 7071.7  |
| 57.5°  | 14747.8 | 15124.8 | 16136.6 | 18334.9 | 19319.0 | 13672.2 | 15022.2 | 7174.3  | 4856.8  | 4854.0  |
| 60°    | 13733.2 | 14304.2 | 16117.2 | 19014.1 | 15637.6 | 8760.0  | 6018.3  | 163.6   | 942.5   | 934.2   |
| 62.5°  | 11609.7 | 12421.9 | 15377.0 | 18584.4 | 12954.2 | 7118.8  | 5361.3  | 13.9    | 5.5     | 5.5     |
| 65°    | 8979.0  | 9935.3  | 12821.1 | 16092.3 | 11476.6 | 6132.0  | 3980.8  | 0.0     | 0.0     | 0.0     |
| 67.5°  | 5888.0  | 6775.1  | 9627.6  | 13367.2 | 9527.8  | 4635.0  | 2675.1  | 0.0     | 0.0     | 0.0     |
| 70°    | 2453.3  | 3548.3  | 5982.3  | 9660.9  | 7008.0  | 3035.5  | 1269.6  | 0.0     | 0.0     | 0.0     |
| 72.5°  | 709.7   | 1081.1  | 2694.5  | 5768.8  | 4349.5  | 1588.4  | 471.3   | 0.0     | 0.0     | 0.0     |
| 75°    | 468.5   | 493.4   | 815.0   | 2320.3  | 2115.1  | 582.1   | 191.3   | 0.0     | 0.0     | 0.0     |
| 77.5°  | 393.6   | 404.7   | 518.4   | 648.7   | 679.2   | 230.1   | 155.2   | 0.0     | 0.0     | 0.0     |
| 80°    | 363.1   | 365.9   | 465.7   | 482.4   | 363.1   | 191.3   | 152.5   | 0.0     | 0.0     | 0.0     |
| 82.5°  | 338.2   | 329.9   | 396.4   | 382.6   | 302.2   | 166.3   | 141.4   | 0.0     | 0.0     | 0.0     |
| 85°    | 232.9   | 238.4   | 268.9   | 341.0   | 183.0   | 83.2    | 99.8    | 0.0     | 0.0     | 0.0     |
| 87.5°  | 72.1    | 83.2    | 105.3   | 108.1   | 33.3    | 11.1    | 0.0     | 0.0     | 0.0     | 0.0     |
| 90°    | 2.8     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 92.5°  | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 95°    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 97.5°  | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 100°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 102.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 105°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 107.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 110°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

REPORT NUMBER: P579397

CATALOG NUMBER: CST-CA10-760-722-U-T5N-HSS-HM-EX120

**CANDELA DISTRIBUTION (continued):**

|        | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|--------|-----|------|------|------|------|------|------|------|------|------|
| 112.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 115°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 117.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 120°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 122.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 125°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 127.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 130°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 132.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 135°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 137.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 140°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 142.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 145°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 147.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 150°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 152.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 155°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 157.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 160°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 162.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 165°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 167.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 170°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 172.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 175°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 177.5° | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 180°   | 0.0 | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

STREETWORKS

Report Number: SP1-2104-215-4

Luminaire Tested: CST-CA10-630-722-U-T3

Test Date: 04/20/2021

### Test Information

Test Method: LM-79-08  
 Report Number: SP1-2104-215-4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry:  $4\pi$   
 Issue Date: 04/20/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: **CST-CA10-630-722-U-T3**  
 Description: STREETWORKS HIGH MAST LUMINAIRE

### Spectral Parameters

|                           |         |           |      |      |       |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K):                  | 2174    | CRI (Ra): | 72.8 |      |       |
| CIE u':                   | 0.2919  | R1:       | 70.2 | R9:  | -23.3 |
| CIE v':                   | 0.5354  | R2:       | 86.8 | R10: | 71.8  |
| Duv:                      | -0.0007 | R3:       | 92.8 | R11: | 63.6  |
| CIE x:                    | 0.5067  | R4:       | 66.8 | R12: | 66.0  |
| CIE y:                    | 0.4131  | R5:       | 69.1 | R13: | 73.5  |
| CIE z:                    | 0.0802  | R6:       | 84.7 | R14: | 96.9  |
| Peak Wavelength (nm):     | 608     | R7:       | 73.2 |      |       |
| Dominant Wavelength (nm): | 587     | R8:       | 39.0 |      |       |
| Purity:                   | 76.7    |           |      |      |       |
| Rf:                       | 75.7    |           |      |      |       |
| Rg:                       | 96.7    |           |      |      |       |



### Test Conditions

Stabilization Time: 79M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.7/32%  
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2104-215-4

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 1/31/2021        | 7/31/2021            |
| Power Meter                    | IN0071                | 12/1/2020        | 12/1/2021            |
| AC Power Source                | IN0063                | 12/1/2020        | 12/1/2021            |
| DC Power Source                | IN0208                | 12/1/2020        | 12/1/2021            |
| Sphere Thermometer             | IN0085                | 12/1/2020        | 12/1/2021            |
| Room Thermometer               | IN0046                | 12/1/2020        | 12/1/2021            |

REPORT NUMBER: SP1-2104-215-4

**CIE 1931 Chromaticity Diagram**



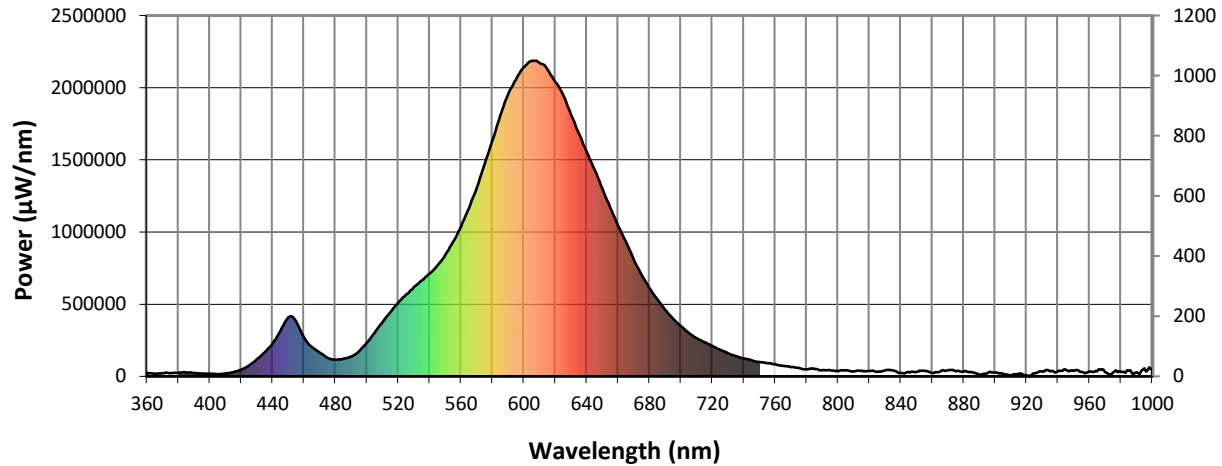
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 2200K 7-step quadrangle

REPORT NUMBER: SP1-2104-215-4

### Photopic Flux vs. Wavelength

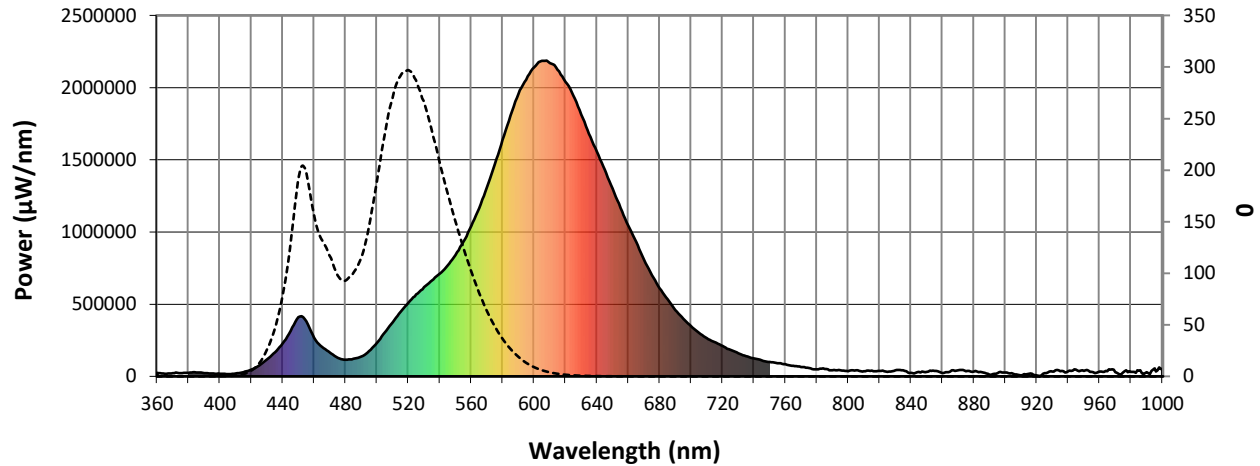


#####

| 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       | 23398            | 0.0              | 490       | 137099           | 19.5             | 620       | 2038916          | 530.6            | 750       | 99721            | 0.0              | 880       | 32326            | 0.0              |
| 365       | 18626            | 0.0              | 495       | 174286           | 31.6             | 625       | 1946743          | 429.5            | 755       | 91432            | 0.0              | 885       | 29783            | 0.0              |
| 370       | 21702            | 0.0              | 500       | 232711           | 51.3             | 630       | 1814508          | 328.4            | 760       | 83300            | 0.0              | 890       | 12135            | 0.0              |
| 375       | 22606            | 0.0              | 505       | 303528           | 84.9             | 635       | 1681061          | 252.6            | 765       | 72172            | 0.0              | 895       | 22953            | 0.0              |
| 380       | 25296            | 0.0              | 510       | 374456           | 128.6            | 640       | 1557170          | 186.1            | 770       | 65008            | 0.0              | 900       | 27214            | 0.0              |
| 385       | 27032            | 0.0              | 515       | 445274           | 184.5            | 645       | 1430182          | 137.7            | 775       | 56809            | 0.0              | 905       | 17038            | 0.0              |
| 390       | 22156            | 0.0              | 520       | 510296           | 247.5            | 650       | 1300435          | 95.0             | 780       | 49368            | 0.0              | 910       | 6896             | 0.0              |
| 395       | 20190            | 0.0              | 525       | 566771           | 304.3            | 655       | 1165554          | 66.9             | 785       | 51733            | 0.0              | 915       | 17142            | 0.0              |
| 400       | 18423            | 0.0              | 530       | 617892           | 363.8            | 660       | 1044122          | 43.5             | 790       | 41796            | 0.0              | 920       | 7675             | 0.0              |
| 405       | 16139            | 0.0              | 535       | 664903           | 412.3            | 665       | 932131           | 29.6             | 795       | 42601            | 0.0              | 925       | 21587            | 0.0              |
| 410       | 19812            | 0.0              | 540       | 711603           | 463.7            | 670       | 808971           | 17.7             | 800       | 36382            | 0.0              | 930       | 32992            | 0.0              |
| 415       | 29121            | 0.1              | 545       | 768835           | 511.7            | 675       | 701208           | 11.7             | 805       | 41419            | 0.0              | 935       | 35464            | 0.0              |
| 420       | 46007            | 0.1              | 550       | 841179           | 571.6            | 680       | 610741           | 7.1              | 810       | 35865            | 0.0              | 940       | 34460            | 0.0              |
| 425       | 76329            | 0.4              | 555       | 932641           | 637.0            | 685       | 533825           | 4.6              | 815       | 39722            | 0.0              | 945       | 46305            | 0.0              |
| 430       | 117696           | 0.9              | 560       | 1040487          | 707.1            | 690       | 459427           | 2.6              | 820       | 37236            | 0.0              | 950       | 38353            | 0.0              |
| 435       | 166890           | 2.0              | 565       | 1164360          | 774.2            | 695       | 399973           | 1.7              | 825       | 31566            | 0.0              | 955       | 30772            | 0.0              |
| 440       | 227762           | 3.6              | 570       | 1307677          | 850.3            | 700       | 347460           | 1.0              | 830       | 42647            | 0.0              | 960       | 32413            | 0.0              |
| 445       | 315427           | 6.6              | 575       | 1470810          | 915.2            | 705       | 302187           | 0.6              | 835       | 41433            | 0.0              | 965       | 35310            | 0.0              |
| 450       | 409560           | 10.6             | 580       | 1637734          | 973.2            | 710       | 262909           | 0.4              | 840       | 24213            | 0.0              | 970       | 28048            | 0.0              |
| 455       | 381103           | 12.8             | 585       | 1807622          | 1004.4           | 715       | 236689           | 0.3              | 845       | 31358            | 0.0              | 975       | 26258            | 0.0              |
| 460       | 269221           | 11.0             | 590       | 1958195          | 1012.4           | 720       | 209675           | 0.1              | 850       | 30957            | 0.0              | 980       | 31067            | 0.0              |
| 465       | 203513           | 10.5             | 595       | 2055425          | 974.3            | 725       | 184999           | 0.1              | 855       | 38865            | 0.0              | 985       | 40288            | 0.0              |
| 470       | 163989           | 10.2             | 600       | 2141598          | 923.0            | 730       | 160261           | 0.1              | 860       | 23238            | 0.0              | 990       | 29366            | 0.0              |
| 475       | 129159           | 10.1             | 605       | 2185430          | 846.3            | 735       | 140736           | 0.0              | 865       | 32686            | 0.0              | 995       | 54854            | 0.0              |
| 480       | 115440           | 11.0             | 610       | 2170089          | 745.5            | 740       | 125207           | 0.0              | 870       | 41855            | 0.0              | 1000      | 50994            | 0.0              |
| 485       | 120959           | 14.3             | 615       | 2123505          | 641.1            | 745       | 110736           | 0.0              | 875       | 35838            | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2104-215-4

### Scotopic Flux vs. Wavelength



Scotopic Lumens: 72942.9

S/P: 0.88

| 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       | 23398            | 0.0              | 490       | 137099           | 211.1            | 620       | 2038916          | 25.5             | 750       | 99721            | 0.0              | 880       | 32326            | 0.0              |
| 365       | 18626            | 0.0              | 495       | 174286           | 281.7            | 625       | 1946743          | 16.4             | 755       | 91432            | 0.0              | 885       | 29783            | 0.0              |
| 370       | 21702            | 0.0              | 500       | 232711           | 389.3            | 630       | 1814508          | 10.3             | 760       | 83300            | 0.0              | 890       | 12135            | 0.0              |
| 375       | 22606            | 0.0              | 505       | 303528           | 516.0            | 635       | 1681061          | 6.4              | 765       | 72172            | 0.0              | 895       | 22953            | 0.0              |
| 380       | 25296            | 0.0              | 510       | 374456           | 634.7            | 640       | 1557170          | 4.0              | 770       | 65008            | 0.0              | 900       | 27214            | 0.0              |
| 385       | 27032            | 0.1              | 515       | 445274           | 738.0            | 645       | 1430182          | 2.4              | 775       | 56809            | 0.0              | 905       | 17038            | 0.0              |
| 390       | 22156            | 0.1              | 520       | 510296           | 811.1            | 650       | 1300435          | 1.5              | 780       | 49368            | 0.0              | 910       | 6896             | 0.0              |
| 395       | 20190            | 0.2              | 525       | 566771           | 847.9            | 655       | 1165554          | 0.9              | 785       | 51733            | 0.0              | 915       | 17142            | 0.0              |
| 400       | 18423            | 0.3              | 530       | 617892           | 851.9            | 660       | 1044122          | 0.6              | 790       | 41796            | 0.0              | 920       | 7675             | 0.0              |
| 405       | 16139            | 0.5              | 535       | 664903           | 828.5            | 665       | 932131           | 0.3              | 795       | 42601            | 0.0              | 925       | 21587            | 0.0              |
| 410       | 19812            | 1.2              | 540       | 711603           | 786.3            | 670       | 808971           | 0.2              | 800       | 36382            | 0.0              | 930       | 32992            | 0.0              |
| 415       | 29121            | 3.0              | 545       | 768835           | 737.2            | 675       | 701208           | 0.1              | 805       | 41419            | 0.0              | 935       | 35464            | 0.0              |
| 420       | 46007            | 7.6              | 550       | 841179           | 687.8            | 680       | 610741           | 0.1              | 810       | 35865            | 0.0              | 940       | 34460            | 0.0              |
| 425       | 76329            | 18.7             | 555       | 932641           | 637.4            | 685       | 533825           | 0.0              | 815       | 39722            | 0.0              | 945       | 46305            | 0.0              |
| 430       | 117696           | 40.1             | 560       | 1040487          | 581.6            | 690       | 459427           | 0.0              | 820       | 37236            | 0.0              | 950       | 38353            | 0.0              |
| 435       | 166890           | 74.6             | 565       | 1164360          | 522.4            | 695       | 399973           | 0.0              | 825       | 31566            | 0.0              | 955       | 30772            | 0.0              |
| 440       | 227762           | 127.3            | 570       | 1307677          | 461.5            | 700       | 347460           | 0.0              | 830       | 42647            | 0.0              | 960       | 32413            | 0.0              |
| 445       | 315427           | 211.2            | 575       | 1470810          | 400.6            | 705       | 302187           | 0.0              | 835       | 41433            | 0.0              | 965       | 35310            | 0.0              |
| 450       | 409560           | 317.4            | 580       | 1637734          | 337.4            | 710       | 262909           | 0.0              | 840       | 24213            | 0.0              | 970       | 28048            | 0.0              |
| 455       | 381103           | 333.0            | 585       | 1807622          | 276.3            | 715       | 236689           | 0.0              | 845       | 31358            | 0.0              | 975       | 26258            | 0.0              |
| 460       | 269221           | 260.0            | 590       | 1958195          | 218.0            | 720       | 209675           | 0.0              | 850       | 30957            | 0.0              | 980       | 31067            | 0.0              |
| 465       | 203513           | 214.9            | 595       | 2055425          | 163.9            | 725       | 184999           | 0.0              | 855       | 38865            | 0.0              | 985       | 40288            | 0.0              |
| 470       | 163989           | 188.8            | 600       | 2141598          | 120.7            | 730       | 160261           | 0.0              | 860       | 23238            | 0.0              | 990       | 29366            | 0.0              |
| 475       | 129159           | 161.5            | 605       | 2185430          | 85.9             | 735       | 140736           | 0.0              | 865       | 32686            | 0.0              | 995       | 54854            | 0.0              |
| 480       | 115440           | 155.9            | 610       | 2170089          | 58.8             | 740       | 125207           | 0.0              | 870       | 41855            | 0.0              | 1000      | 50994            | 0.0              |
| 485       | 120959           | 175.3            | 615       | 2123505          | 39.3             | 745       | 110736           | 0.0              | 875       | 35838            | 0.0              |           |                  |                  |

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### Melanopic Flux vs. Wavelength



**Melanopic Lumens: 23955.7**    **M/P: 0.29**

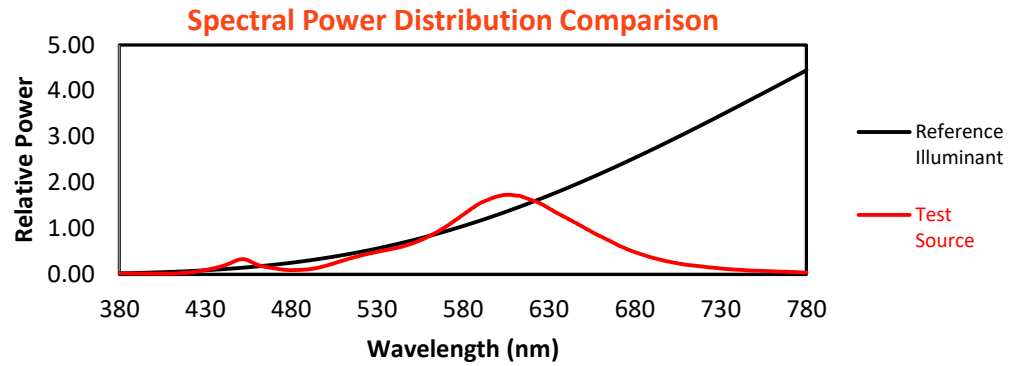
| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 23398            | 0.0              | 490       | 137099           | 114.1            | 620       | 2038916          | 1.6              | 750       | 99721            | 0.0              | 880       | 32326            | 0.0              |
| 365       | 18626            | 0.0              | 495       | 174286           | 143.9            | 625       | 1946743          | 1.0              | 755       | 91432            | 0.0              | 885       | 29783            | 0.0              |
| 370       | 21702            | 0.0              | 500       | 232711           | 187.1            | 630       | 1814508          | 0.6              | 760       | 83300            | 0.0              | 890       | 12135            | 0.0              |
| 375       | 22606            | 0.0              | 505       | 303528           | 232.9            | 635       | 1681061          | 0.4              | 765       | 72172            | 0.0              | 895       | 22953            | 0.0              |
| 380       | 25296            | 0.0              | 510       | 374456           | 268.9            | 640       | 1557170          | 0.2              | 770       | 65008            | 0.0              | 900       | 27214            | 0.0              |
| 385       | 27032            | 0.0              | 515       | 445274           | 290.9            | 645       | 1430182          | 0.2              | 775       | 56809            | 0.0              | 905       | 17038            | 0.0              |
| 390       | 22156            | 0.1              | 520       | 510296           | 297.1            | 650       | 1300435          | 0.1              | 780       | 49368            | 0.0              | 910       | 6896             | 0.0              |
| 395       | 20190            | 0.1              | 525       | 566771           | 287.4            | 655       | 1165554          | 0.1              | 785       | 51733            | 0.0              | 915       | 17142            | 0.0              |
| 400       | 18423            | 0.2              | 530       | 617892           | 267.0            | 660       | 1044122          | 0.0              | 790       | 41796            | 0.0              | 920       | 7675             | 0.0              |
| 405       | 16139            | 0.3              | 535       | 664903           | 239.3            | 665       | 932131           | 0.0              | 795       | 42601            | 0.0              | 925       | 21587            | 0.0              |
| 410       | 19812            | 0.8              | 540       | 711603           | 208.3            | 670       | 808971           | 0.0              | 800       | 36382            | 0.0              | 930       | 32992            | 0.0              |
| 415       | 29121            | 1.9              | 545       | 768835           | 178.6            | 675       | 701208           | 0.0              | 805       | 41419            | 0.0              | 935       | 35464            | 0.0              |
| 420       | 46007            | 5.3              | 550       | 841179           | 151.0            | 680       | 610741           | 0.0              | 810       | 35865            | 0.0              | 940       | 34460            | 0.0              |
| 425       | 76329            | 11.9             | 555       | 932641           | 125.8            | 685       | 533825           | 0.0              | 815       | 39722            | 0.0              | 945       | 46305            | 0.0              |
| 430       | 117696           | 24.9             | 560       | 1040487          | 102.6            | 690       | 459427           | 0.0              | 820       | 37236            | 0.0              | 950       | 38353            | 0.0              |
| 435       | 166890           | 44.5             | 565       | 1164360          | 81.7             | 695       | 399973           | 0.0              | 825       | 31566            | 0.0              | 955       | 30772            | 0.0              |
| 440       | 227762           | 76.1             | 570       | 1307677          | 63.9             | 700       | 347460           | 0.0              | 830       | 42647            | 0.0              | 960       | 32413            | 0.0              |
| 445       | 315427           | 124.4            | 575       | 1470810          | 49.0             | 705       | 302187           | 0.0              | 835       | 41433            | 0.0              | 965       | 35310            | 0.0              |
| 450       | 409560           | 188.7            | 580       | 1637734          | 36.6             | 710       | 262909           | 0.0              | 840       | 24213            | 0.0              | 970       | 28048            | 0.0              |
| 455       | 381103           | 199.7            | 585       | 1807622          | 26.9             | 715       | 236689           | 0.0              | 845       | 31358            | 0.0              | 975       | 26258            | 0.0              |
| 460       | 269221           | 158.6            | 590       | 1958195          | 19.2             | 720       | 209675           | 0.0              | 850       | 30957            | 0.0              | 980       | 31067            | 0.0              |
| 465       | 203513           | 133.0            | 595       | 2055425          | 13.2             | 725       | 184999           | 0.0              | 855       | 38865            | 0.0              | 985       | 40288            | 0.0              |
| 470       | 163989           | 117.4            | 600       | 2141598          | 9.0              | 730       | 160261           | 0.0              | 860       | 23238            | 0.0              | 990       | 29366            | 0.0              |
| 475       | 129159           | 98.6             | 605       | 2185430          | 6.0              | 735       | 140736           | 0.0              | 865       | 32686            | 0.0              | 995       | 54854            | 0.0              |
| 480       | 115440           | 92.8             | 610       | 2170089          | 3.9              | 740       | 125207           | 0.0              | 870       | 41855            | 0.0              | 1000      | 50994            | 0.0              |
| 485       | 120959           | 99.7             | 615       | 2123505          | 2.5              | 745       | 110736           | 0.0              | 875       | 35838            | 0.0              |           |                  |                  |

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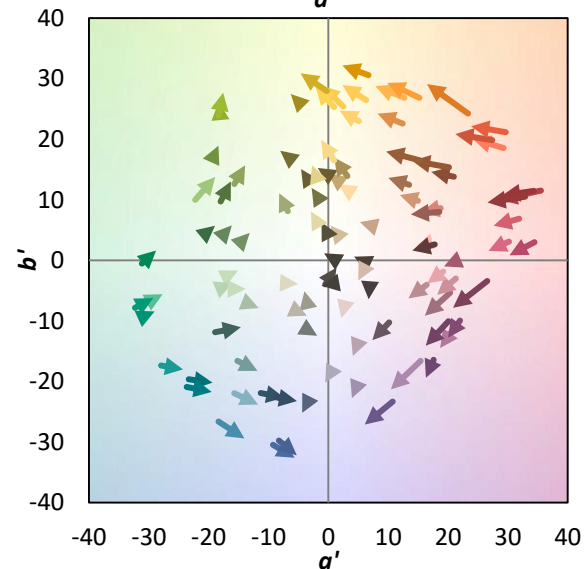
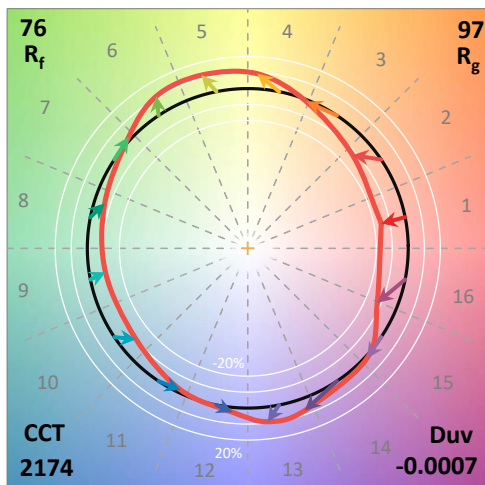
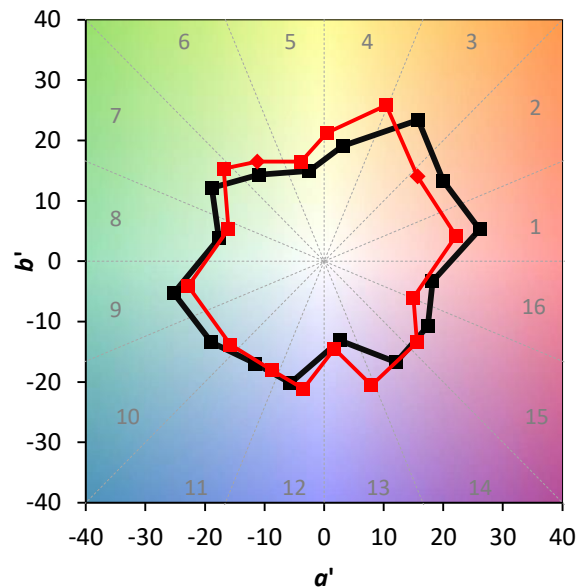
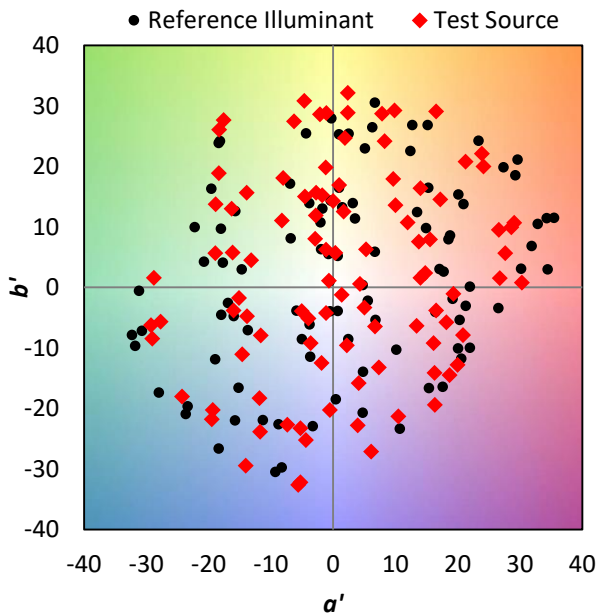
TM-30-18

### Summary

$R_f = 75.7$   
 $R_g = 96.7$   
 CIE  $R_a = 72.8$   
 $R_g = -23.3$

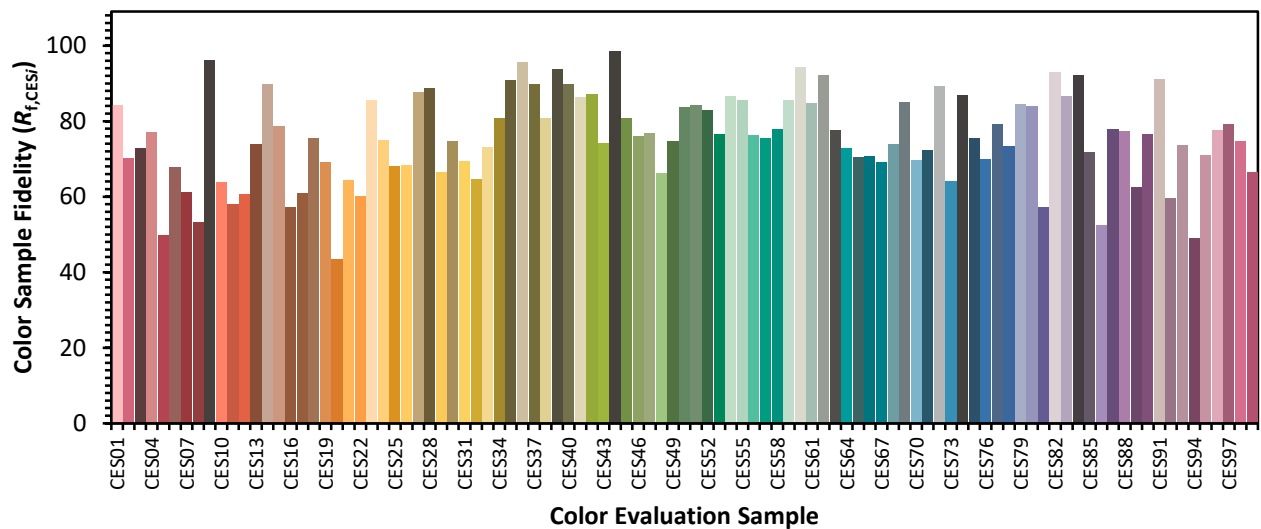


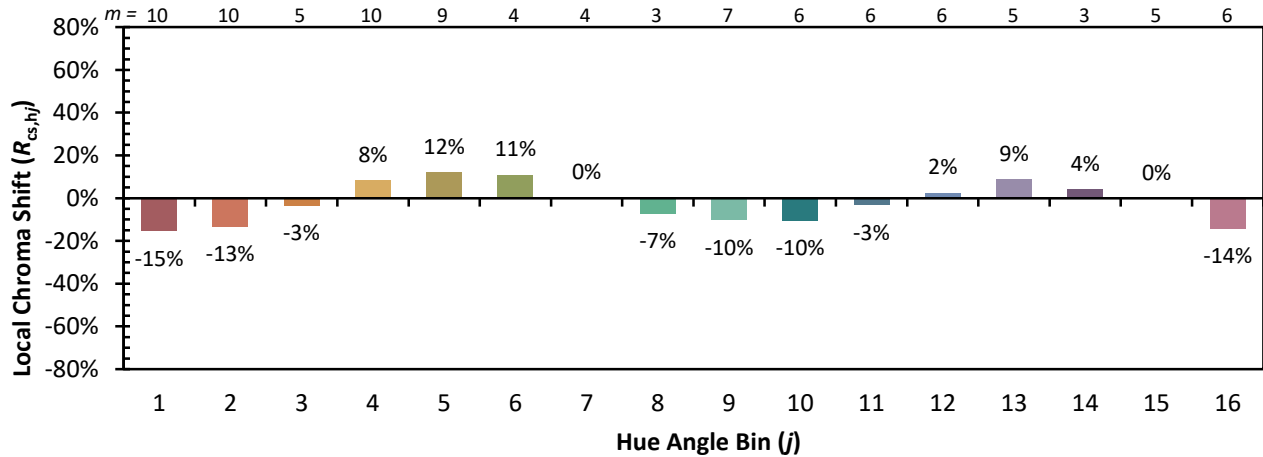
### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 68 | CES51 = 84 | CES76 = 70 |
| CES02 = 65 | CES27 = 88 | CES52 = 83 | CES77 = 79 |
| CES03 = 32 | CES28 = 89 | CES53 = 77 | CES78 = 73 |
| CES04 = 72 | CES29 = 66 | CES54 = 87 | CES79 = 85 |
| CES05 = 52 | CES30 = 75 | CES55 = 85 | CES80 = 84 |
| CES06 = 53 | CES31 = 69 | CES56 = 76 | CES81 = 57 |
| CES07 = 44 | CES32 = 65 | CES57 = 75 | CES82 = 93 |
| CES08 = 43 | CES33 = 73 | CES58 = 78 | CES83 = 87 |
| CES09 = 29 | CES34 = 81 | CES59 = 86 | CES84 = 92 |
| CES10 = 79 | CES35 = 91 | CES60 = 94 | CES85 = 72 |
| CES11 = 62 | CES36 = 96 | CES61 = 85 | CES86 = 52 |
| CES12 = 68 | CES37 = 90 | CES62 = 92 | CES87 = 78 |
| CES13 = 45 | CES38 = 81 | CES63 = 78 | CES88 = 77 |
| CES14 = 75 | CES39 = 94 | CES64 = 73 | CES89 = 62 |
| CES15 = 72 | CES40 = 90 | CES65 = 71 | CES90 = 77 |
| CES16 = 49 | CES41 = 86 | CES66 = 71 | CES91 = 91 |
| CES17 = 51 | CES42 = 87 | CES67 = 69 | CES92 = 60 |
| CES18 = 57 | CES43 = 74 | CES68 = 74 | CES93 = 74 |
| CES19 = 74 | CES44 = 99 | CES69 = 85 | CES94 = 49 |
| CES20 = 69 | CES45 = 81 | CES70 = 70 | CES95 = 71 |
| CES21 = 89 | CES46 = 76 | CES71 = 72 | CES96 = 77 |
| CES22 = 81 | CES47 = 77 | CES72 = 89 | CES97 = 79 |
| CES23 = 92 | CES48 = 66 | CES73 = 64 | CES98 = 75 |
| CES24 = 92 | CES49 = 75 | CES74 = 87 | CES99 = 67 |
| CES25 = 74 | CES50 = 84 | CES75 = 75 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)