

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: P579537

Luminaire Tested: **CST-CA10-630-750-U-T5N-HSS-HM-EX90**

Issue Date: 11/18/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P579537  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2110-429-4)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 11/18/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: CST-CA10-630-750-U-T5N-HSS-HM-EX90  
Description: CELESTEON HIGH MAST LUMINAIRE WITH FIELD INSTALLED SHIELD  
Light Source: (10) 5000K CCT, 70 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 77471 lumens  
Efficiency: N/A  
Efficacy: 122.7 lumens/watt  
Luminous Opening: Circular (Dia: 2.08' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B5 - U2 - G5

Input Watts (W): 631.4  
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

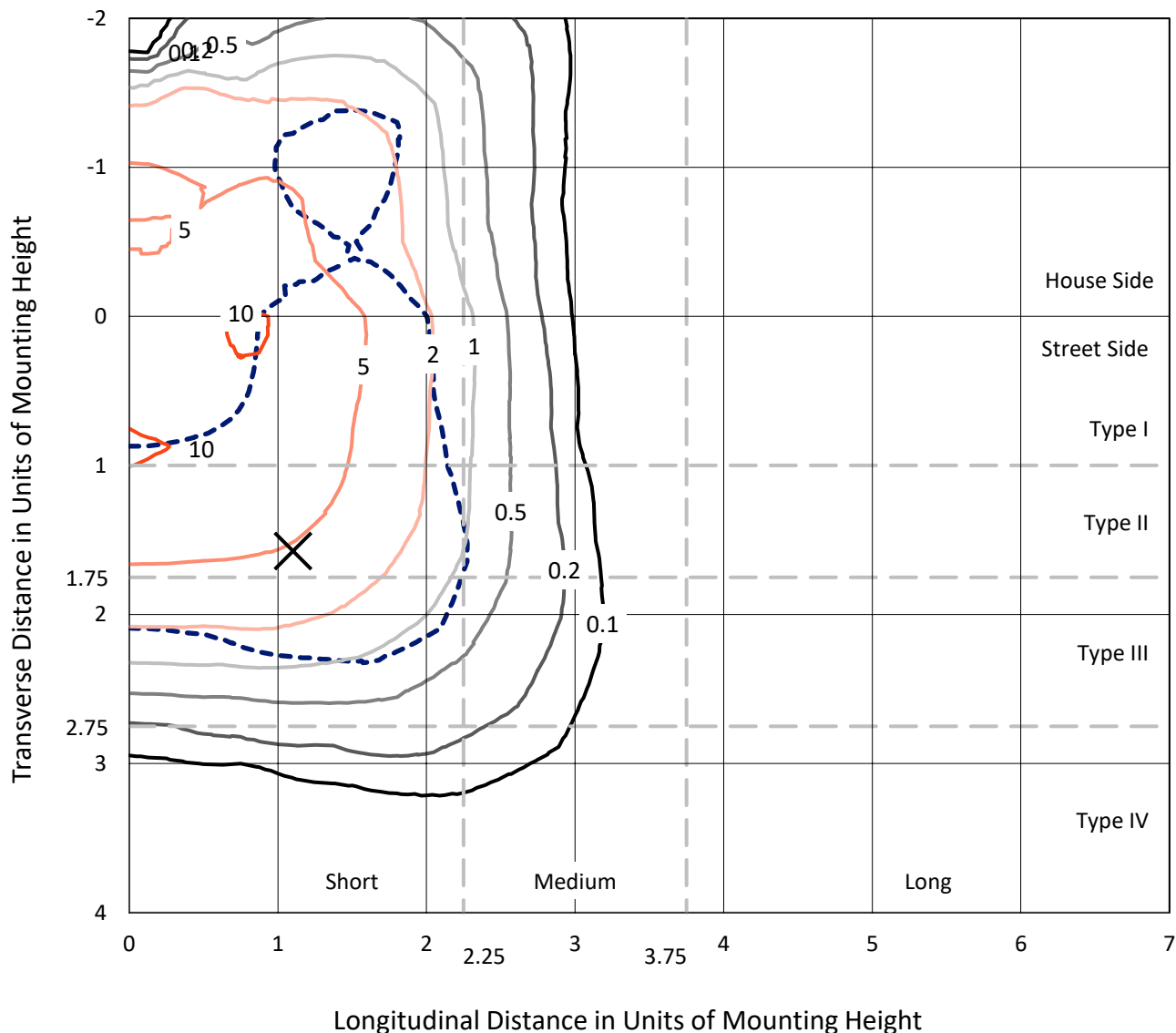


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

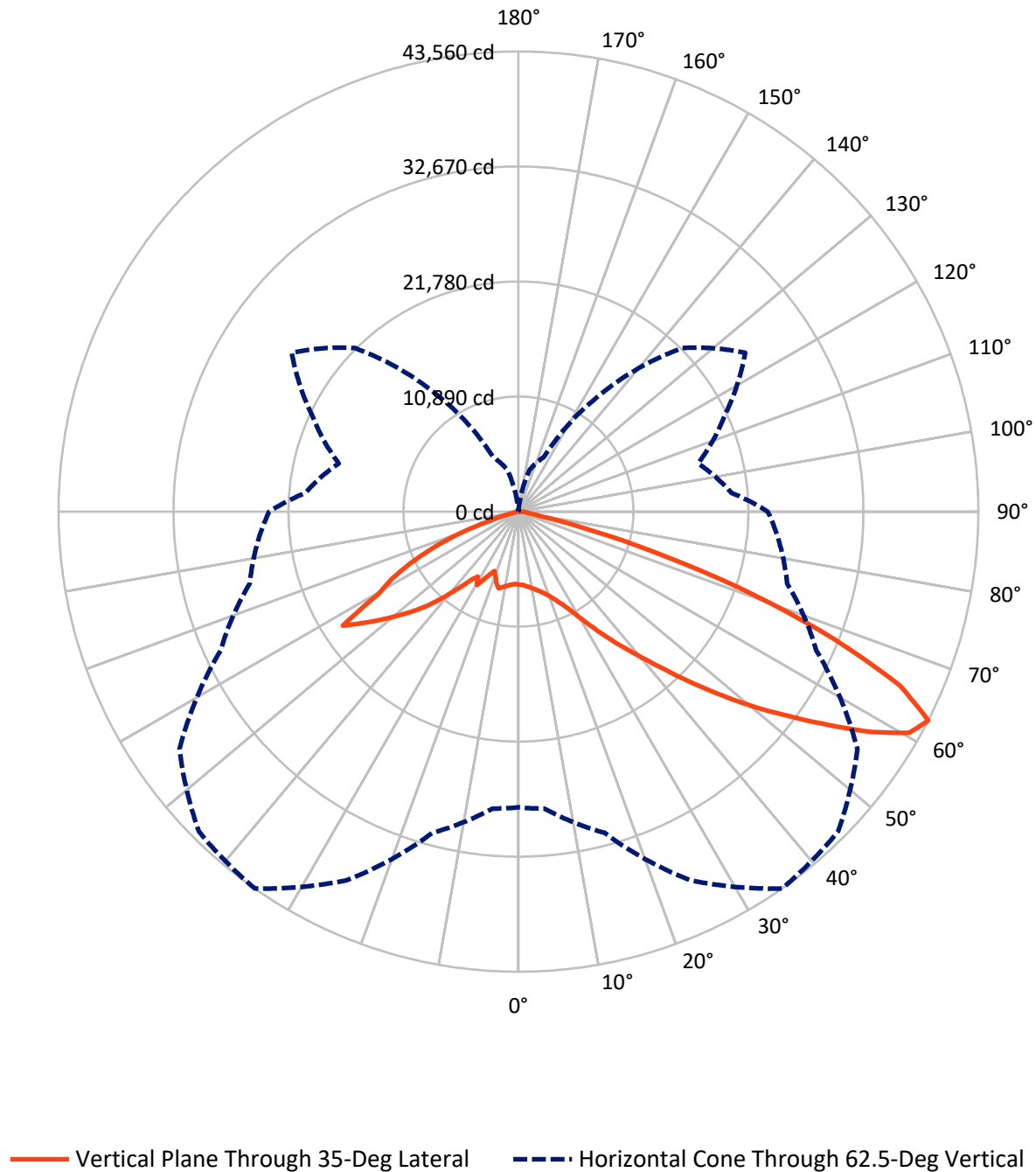


Based on 30 foot mounting height. Maximum calculated value = 10.4 fc

Type III - Short - N/A

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## Luminous Intensity Polar Plot



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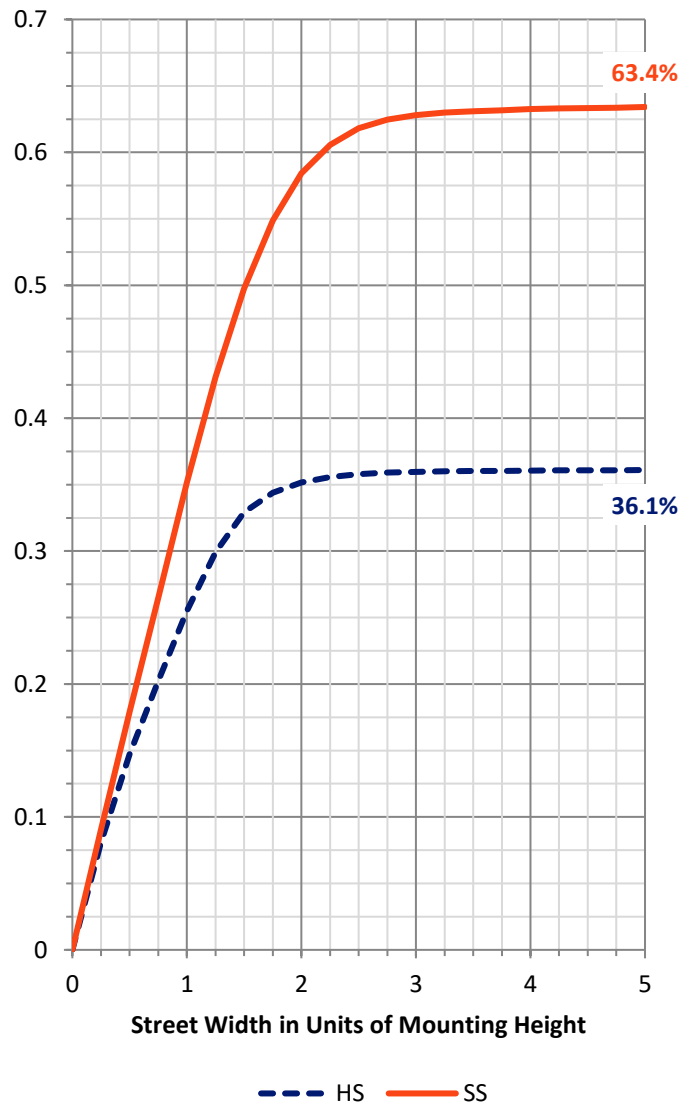
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 28120.1  | 0.1    | 28120.2 |
|                    | % Fixture | 36.3     | 0.0    | 36.3    |
| <b>Street Side</b> | Lumens    | 49314.1  | 36.7   | 49350.8 |
|                    | % Fixture | 63.7     | 0.0    | 63.7    |
| <b>Total</b>       | Lumens    | 77434.2  | 36.8   | 77471.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 681.5   | 0.9       |
| 10°-20°   | 2202.6  | 2.8       |
| 20°-30°   | 4237.4  | 5.5       |
| 30°-40°   | 8453.1  | 10.9      |
| 40°-50°   | 15434.9 | 19.9      |
| 50°-60°   | 23065.2 | 29.8      |
| 60°-70°   | 19326.5 | 24.9      |
| 70°-80°   | 3616.8  | 4.7       |
| 80°-90°   | 416.3   | 0.5       |
| 90°-100°  | 33.1    | 0.0       |
| 100°-110° | 3.6     | 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°    | 77434.2 | 100.0     |
| 0°-180°   | 77471.0 | 100.0     |

**Coefficient of Utilization**



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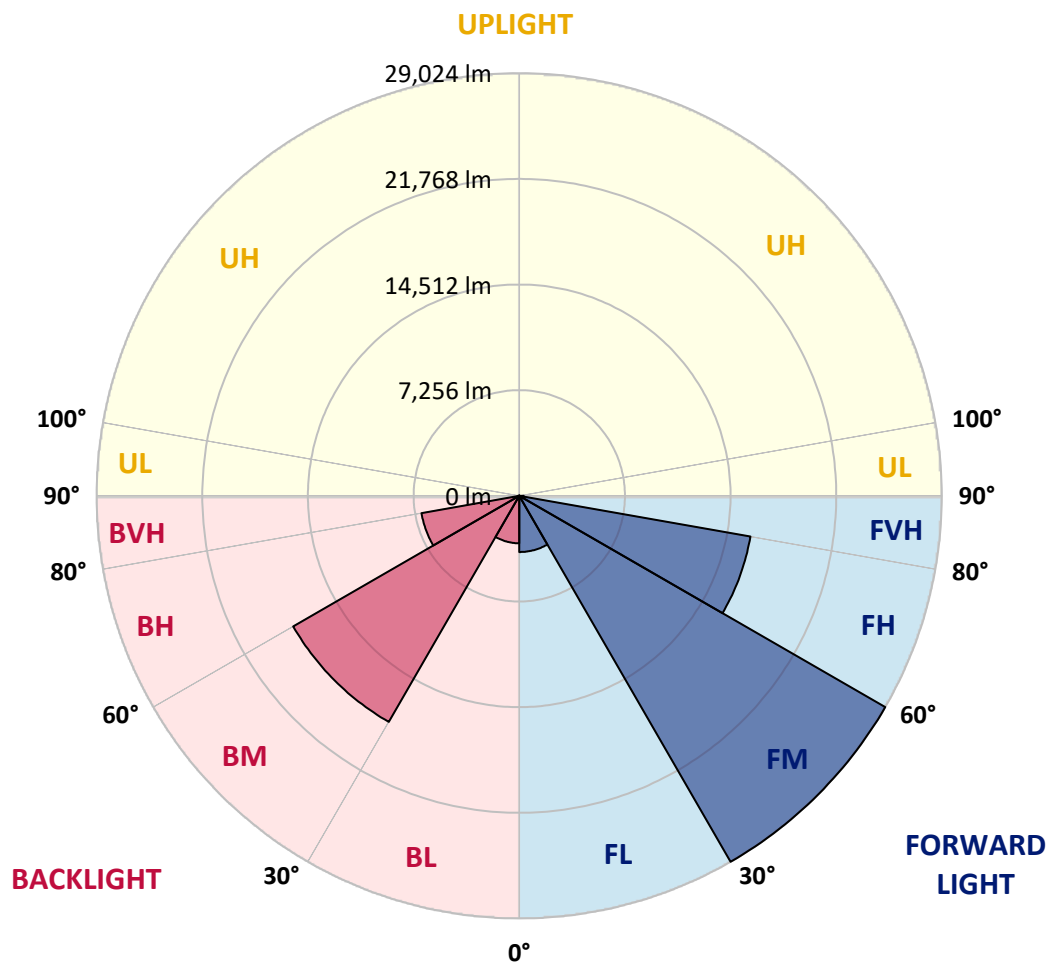
CATALOG NUMBER: CST-CA10-630-750-U-T5N-HSS-HM-EX90

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |       |        |
|------|-------------|---------|-----------|-------------------------|-------|--------|
|      |             |         |           | B                       | U     | G      |
| FL   | (0°-30°)    | 3862.8  | 5.0       |                         |       |        |
| FM   | (30°-60°)   | 29024.2 | 37.5      |                         |       |        |
| FH   | (60°-80°)   | 16123.9 | 20.8      |                         |       | G5     |
| FVH  | (80°-90°)   | 303.2   | 0.4       |                         |       | G3/500 |
| BL   | (0°-30°)    | 3258.6  | 4.2       | B4/5000                 |       |        |
| BM   | (30°-60°)   | 17929.1 | 23.1      | B5                      |       |        |
| BH   | (60°-80°)   | 6819.3  | 8.8       | B5                      |       | G5     |
| BVH  | (80°-90°)   | 113.1   | 0.1       |                         |       | G2/225 |
| UL   | (90°-100°)  | 33.1    | 0.0       |                         | U2/50 |        |
| UH   | (100°-180°) | 3.6     | 0.0       |                         | U1/10 |        |

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

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

|        | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     | 90°     |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°     | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  |
| 2.5°   | 7079.9  | 7021.9  | 7030.6  | 7071.2  | 6943.5  | 6995.7  | 6940.5  | 6992.8  | 6975.4  | 6998.6  | 7016.1  |
| 5°     | 7181.6  | 7109.0  | 7114.8  | 7161.3  | 7062.5  | 7106.1  | 7050.9  | 7085.7  | 7056.7  | 7088.7  | 7091.6  |
| 7.5°   | 7321.0  | 7260.0  | 7251.3  | 7297.7  | 7213.5  | 7251.3  | 7196.1  | 7213.5  | 7184.5  | 7222.2  | 7210.6  |
| 10°    | 7506.8  | 7451.7  | 7437.1  | 7469.1  | 7402.3  | 7422.6  | 7364.5  | 7387.8  | 7344.2  | 7387.8  | 7367.4  |
| 12.5°  | 7713.0  | 7640.4  | 7643.3  | 7678.2  | 7611.4  | 7625.9  | 7579.4  | 7605.6  | 7553.3  | 7599.8  | 7585.2  |
| 15°    | 7956.9  | 7852.4  | 7872.7  | 7910.5  | 7846.6  | 7890.2  | 7835.0  | 7872.7  | 7823.4  | 7872.7  | 7855.3  |
| 17.5°  | 8273.5  | 8154.4  | 8168.9  | 8229.9  | 8177.6  | 8247.3  | 8183.5  | 8229.9  | 8206.7  | 8238.6  | 8232.8  |
| 20°    | 8674.2  | 8595.8  | 8581.3  | 8656.8  | 8581.3  | 8668.4  | 8633.6  | 8714.9  | 8720.7  | 8752.6  | 8767.2  |
| 22.5°  | 9208.6  | 9156.3  | 9121.4  | 9173.7  | 9106.9  | 9167.9  | 9217.3  | 9356.7  | 9408.9  | 9493.2  | 9499.0  |
| 25°    | 9920.0  | 9917.1  | 9838.7  | 9841.6  | 9757.4  | 9838.7  | 9978.1  | 10195.9 | 10335.3 | 10442.8 | 10402.1 |
| 27.5°  | 10881.3 | 10898.7 | 10779.6 | 10733.2 | 10634.4 | 10756.4 | 11043.9 | 11314.0 | 11566.6 | 11717.6 | 11717.6 |
| 30°    | 12135.8 | 12153.2 | 11979.0 | 11886.1 | 11796.0 | 12008.0 | 12350.7 | 12702.1 | 13062.2 | 13280.0 | 13230.6 |
| 32.5°  | 13796.9 | 13741.7 | 13492.0 | 13323.5 | 13169.6 | 13413.6 | 13808.5 | 14206.3 | 14697.1 | 15010.7 | 14973.0 |
| 35°    | 15812.3 | 15611.9 | 15362.1 | 15048.5 | 14717.4 | 14909.1 | 15280.8 | 15780.3 | 16462.7 | 16933.2 | 16814.1 |
| 37.5°  | 18152.9 | 17955.4 | 17528.5 | 16988.4 | 16410.5 | 16433.7 | 16727.0 | 17592.4 | 18446.2 | 18829.5 | 18748.2 |
| 40°    | 20583.5 | 20429.6 | 20037.6 | 19343.5 | 18298.1 | 18057.0 | 18539.1 | 19581.6 | 20397.7 | 20879.7 | 20743.2 |
| 42.5°  | 23060.6 | 22903.8 | 22607.6 | 21910.6 | 20525.4 | 19944.6 | 20447.0 | 21582.5 | 22453.7 | 22927.0 | 22770.2 |
| 45°    | 25531.9 | 25351.9 | 25116.7 | 24501.0 | 23179.7 | 22328.8 | 22610.5 | 23653.0 | 24448.7 | 24986.0 | 24663.6 |
| 47.5°  | 27704.1 | 27585.0 | 27425.3 | 27175.6 | 26019.8 | 25078.9 | 25058.6 | 25746.8 | 26295.7 | 26650.0 | 26255.0 |
| 50°    | 29594.6 | 29510.4 | 29600.4 | 29548.1 | 29127.1 | 28270.4 | 27744.8 | 27698.3 | 27875.4 | 28133.9 | 27570.5 |
| 52.5°  | 31290.5 | 31142.4 | 31476.4 | 31891.7 | 32202.4 | 32028.2 | 30326.4 | 29371.0 | 29176.4 | 29263.6 | 28624.7 |
| 55°    | 32678.7 | 32609.0 | 33169.4 | 34212.0 | 35649.4 | 36032.8 | 32977.8 | 30997.2 | 30280.0 | 30233.5 | 29507.5 |
| 57.5°  | 33526.6 | 33625.4 | 34746.3 | 36732.6 | 39369.5 | 39491.4 | 36233.1 | 32736.7 | 31354.4 | 30854.9 | 30018.6 |
| 60°    | 32176.3 | 32556.7 | 34470.4 | 38568.0 | 42526.1 | 42601.6 | 38623.1 | 33056.2 | 30012.8 | 28894.7 | 27858.0 |
| 62.5°  | 28000.3 | 28226.8 | 31482.2 | 38507.0 | 43559.9 | 42822.3 | 39192.3 | 31127.9 | 26350.8 | 24567.8 | 23609.5 |
| 65°    | 19723.9 | 20147.9 | 23635.6 | 34644.7 | 39694.7 | 39787.6 | 35954.4 | 26914.2 | 21042.3 | 19070.5 | 18452.0 |
| 67.5°  | 11912.2 | 12318.7 | 16033.0 | 25009.2 | 32269.2 | 33311.7 | 29992.5 | 20377.3 | 15089.2 | 12597.5 | 11973.2 |
| 70°    | 3868.1  | 4309.5  | 7306.5  | 14740.7 | 23737.3 | 26237.6 | 22569.8 | 13262.5 | 7901.8  | 5535.0  | 4864.2  |
| 72.5°  | 1469.4  | 1603.0  | 2378.4  | 6438.2  | 14784.2 | 17516.9 | 13959.5 | 6653.1  | 2448.1  | 1457.8  | 1280.7  |
| 75°    | 955.4   | 975.7   | 1112.2  | 2256.4  | 7129.3  | 9644.2  | 6728.6  | 1948.6  | 981.6   | 871.2   | 807.3   |
| 77.5°  | 821.8   | 836.4   | 894.4   | 1123.8  | 2270.9  | 3688.1  | 1931.2  | 996.1   | 818.9   | 726.0   | 682.4   |
| 80°    | 775.4   | 781.2   | 818.9   | 952.5   | 1062.9  | 1231.3  | 929.3   | 833.4   | 714.4   | 682.4   | 650.5   |
| 82.5°  | 734.7   | 755.0   | 775.4   | 865.4   | 862.5   | 885.7   | 746.3   | 653.4   | 606.9   | 638.9   | 627.3   |
| 85°    | 685.3   | 697.0   | 711.5   | 772.5   | 702.8   | 595.3   | 575.0   | 450.1   | 438.5   | 467.5   | 438.5   |
| 87.5°  | 482.1   | 511.1   | 493.7   | 519.8   | 487.9   | 380.4   | 322.3   | 255.6   | 203.3   | 168.4   | 162.6   |
| 90°    | 197.5   | 200.4   | 188.8   | 174.2   | 153.9   | 127.8   | 101.6   | 63.9    | 29.0    | 14.5    | 5.8     |
| 92.5°  | 153.9   | 153.9   | 148.1   | 133.6   | 116.2   | 95.8    | 72.6    | 40.7    | 20.3    | 8.7     | 2.9     |
| 95°    | 95.8    | 98.7    | 92.9    | 84.2    | 72.6    | 58.1    | 43.6    | 23.2    | 14.5    | 5.8     | 2.9     |
| 97.5°  | 61.0    | 61.0    | 55.2    | 49.4    | 40.7    | 29.0    | 20.3    | 17.4    | 11.6    | 5.8     | 0.0     |
| 100°   | 34.8    | 34.8    | 31.9    | 26.1    | 20.3    | 14.5    | 14.5    | 11.6    | 8.7     | 2.9     | 0.0     |
| 102.5° | 20.3    | 20.3    | 14.5    | 11.6    | 8.7     | 8.7     | 8.7     | 8.7     | 5.8     | 2.9     | 0.0     |
| 105°   | 8.7     | 8.7     | 5.8     | 5.8     | 2.9     | 2.9     | 5.8     | 5.8     | 5.8     | 2.9     | 0.0     |
| 107.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.9     | 5.8     | 5.8     | 2.9     | 0.0     |
| 110°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.9     | 5.8     | 2.9     | 2.9     |



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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°     | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  | 6931.8  |
| 2.5°   | 7004.4  | 6952.2  | 6960.9  | 6911.5  | 6902.8  | 6853.4  | 6952.2  | 6963.8  | 6934.7  | 6960.9  |
| 5°     | 7085.7  | 7021.9  | 7042.2  | 6987.0  | 6978.3  | 6911.5  | 6998.6  | 6992.8  | 6969.6  | 6995.7  |
| 7.5°   | 7207.7  | 7140.9  | 7152.5  | 7091.6  | 7079.9  | 7007.3  | 7088.7  | 7062.5  | 7039.3  | 7071.2  |
| 10°    | 7379.1  | 7303.5  | 7309.4  | 7230.9  | 7239.7  | 7143.8  | 7242.6  | 7196.1  | 7167.1  | 7210.6  |
| 12.5°  | 7585.2  | 7501.0  | 7503.9  | 7422.6  | 7419.7  | 7326.8  | 7413.9  | 7387.8  | 7344.2  | 7411.0  |
| 15°    | 7852.4  | 7756.6  | 7747.9  | 7640.4  | 7611.4  | 7506.8  | 7588.1  | 7538.8  | 7509.7  | 7605.6  |
| 17.5°  | 8227.0  | 8119.6  | 8087.6  | 7956.9  | 7413.9  | 7100.3  | 7535.9  | 7684.0  | 7503.9  | 7474.9  |
| 20°    | 8726.5  | 8636.5  | 8563.9  | 8366.4  | 7454.6  | 6475.9  | 5752.8  | 5758.6  | 6519.5  | 6870.9  |
| 22.5°  | 9403.1  | 9295.7  | 9159.2  | 8877.5  | 6838.9  | 6066.4  | 6069.3  | 6060.6  | 5201.1  | 4838.1  |
| 25°    | 10329.5 | 10198.8 | 9920.0  | 8328.7  | 7260.0  | 6545.6  | 6528.2  | 5677.3  | 5204.0  | 5230.1  |
| 27.5°  | 11581.1 | 11314.0 | 9681.9  | 9022.7  | 8009.2  | 7167.1  | 6748.9  | 5715.1  | 5773.1  | 5813.8  |
| 30°    | 13172.5 | 12098.0 | 10463.1 | 10071.1 | 8909.5  | 7991.8  | 6240.7  | 6383.0  | 6499.1  | 6525.3  |
| 32.5°  | 14804.6 | 12132.9 | 11711.8 | 11296.5 | 10018.8 | 7271.6  | 7033.5  | 7303.5  | 7425.5  | 7440.0  |
| 35°    | 14790.0 | 13619.7 | 13076.7 | 12609.1 | 11046.8 | 7779.8  | 7930.8  | 8346.1  | 8656.8  | 8642.3  |
| 37.5°  | 15652.5 | 15260.5 | 14612.9 | 14020.5 | 9943.3  | 8764.3  | 9034.3  | 9504.8  | 9882.3  | 9870.7  |
| 40°    | 17455.9 | 17002.9 | 16317.5 | 15074.6 | 11009.0 | 9891.0  | 10268.5 | 10773.8 | 11041.0 | 11055.5 |
| 42.5°  | 19160.6 | 18785.9 | 18086.1 | 14084.4 | 12342.0 | 11247.2 | 11589.8 | 11929.6 | 12095.1 | 12147.4 |
| 45°    | 20856.5 | 20589.3 | 18260.3 | 15565.4 | 13953.7 | 12612.0 | 12838.6 | 12902.4 | 13076.7 | 13056.4 |
| 47.5°  | 22233.0 | 21936.8 | 17557.6 | 17424.0 | 15908.1 | 13907.2 | 13889.8 | 13805.6 | 13869.5 | 13884.0 |
| 50°    | 23490.4 | 19921.4 | 18968.9 | 19413.2 | 17958.3 | 15228.5 | 14897.5 | 14726.2 | 14639.0 | 14601.3 |
| 52.5°  | 24483.6 | 19927.2 | 20287.3 | 21469.2 | 20272.8 | 16663.1 | 15951.6 | 15469.6 | 13544.2 | 15051.4 |
| 55°    | 25328.6 | 20749.0 | 21536.0 | 23667.6 | 22267.8 | 18164.5 | 16904.2 | 16044.6 | 9040.1  | 7248.4  |
| 57.5°  | 25813.6 | 21373.4 | 22773.1 | 25726.5 | 24010.2 | 19834.3 | 15562.5 | 13457.1 | 5111.0  | 5105.2  |
| 60°    | 23940.5 | 20252.5 | 22738.3 | 26806.8 | 23507.8 | 15385.4 | 6336.5  | 5302.7  | 967.0   | 993.2   |
| 62.5°  | 20267.0 | 17618.5 | 21565.1 | 26214.4 | 21893.2 | 13535.5 | 5683.1  | 4083.0  | 31.9    | 26.1    |
| 65°    | 15701.9 | 14055.3 | 18158.7 | 23057.7 | 19918.5 | 11293.6 | 4236.9  | 2941.7  | 8.7     | 0.0     |
| 67.5°  | 10271.4 | 9905.5  | 13399.0 | 19119.9 | 16244.9 | 8749.7  | 2843.0  | 1408.4  | 5.8     | 0.0     |
| 70°    | 4379.2  | 5073.3  | 8488.4  | 13863.7 | 12434.9 | 6020.0  | 1370.7  | 508.2   | 2.9     | 0.0     |
| 72.5°  | 1225.5  | 1623.3  | 3778.1  | 8122.5  | 7820.5  | 3165.4  | 534.3   | 214.9   | 2.9     | 0.0     |
| 75°    | 726.0   | 624.4   | 1083.2  | 3240.9  | 3807.1  | 1112.2  | 246.8   | 165.5   | 2.9     | 0.0     |
| 77.5°  | 604.0   | 487.9   | 621.5   | 827.6   | 1152.9  | 400.8   | 209.1   | 148.1   | 0.0     | 0.0     |
| 80°    | 566.3   | 432.7   | 537.2   | 577.9   | 569.2   | 334.0   | 206.2   | 148.1   | 0.0     | 0.0     |
| 82.5°  | 537.2   | 377.5   | 444.3   | 444.3   | 476.3   | 307.8   | 194.6   | 145.2   | 0.0     | 0.0     |
| 85°    | 403.7   | 264.3   | 296.2   | 383.3   | 342.7   | 217.8   | 142.3   | 116.2   | 0.0     | 0.0     |
| 87.5°  | 153.9   | 95.8    | 116.2   | 122.0   | 98.7    | 49.4    | 11.6    | 11.6    | 0.0     | 0.0     |
| 90°    | 2.9     | 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: P579537

CATALOG NUMBER: CST-CA10-630-750-U-T5N-HSS-HM-EX90

**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: SP1-2104-215-7

Luminaire Tested: CST-CA6-230-750-U-T4

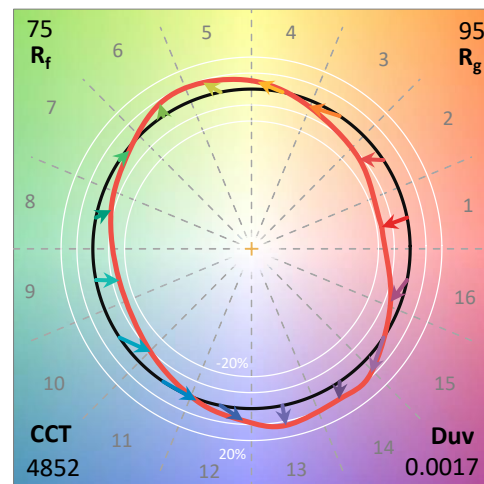
Test Date: 04/22/2021

### Test Information

Test Method: LM-79-08  
 Report Number: SP1-2104-215-7  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry:  $4\pi$   
 Issue Date: 04/22/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: **CST-CA6-230-750-U-T4**  
 Description: STREETWORKS HIGH MAST LUMINAIRE

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 4852   | CRI (Ra): | 74.1 |      |       |
| CIE u':                   | 0.2118 | R1:       | 71.0 | R9:  | -25.4 |
| CIE v':                   | 0.4888 | R2:       | 79.6 | R10: | 51.4  |
| Duv:                      | 0.0017 | R3:       | 85.8 | R11: | 70.1  |
| CIE x:                    | 0.3498 | R4:       | 73.5 | R12: | 42.9  |
| CIE y:                    | 0.3588 | R5:       | 71.4 | R13: | 72.5  |
| CIE z:                    | 0.2914 | R6:       | 71.2 | R14: | 92.1  |
| Peak Wavelength (nm):     | 449    | R7:       | 82.9 |      |       |
| Dominant Wavelength (nm): | 572    | R8:       | 57.2 |      |       |
| Purity:                   | 12.7   |           |      |      |       |
|                           |        |           |      |      |       |
| Rf:                       | 75.2   |           |      |      |       |
| Rg:                       | 94.7   |           |      |      |       |



### Test Conditions

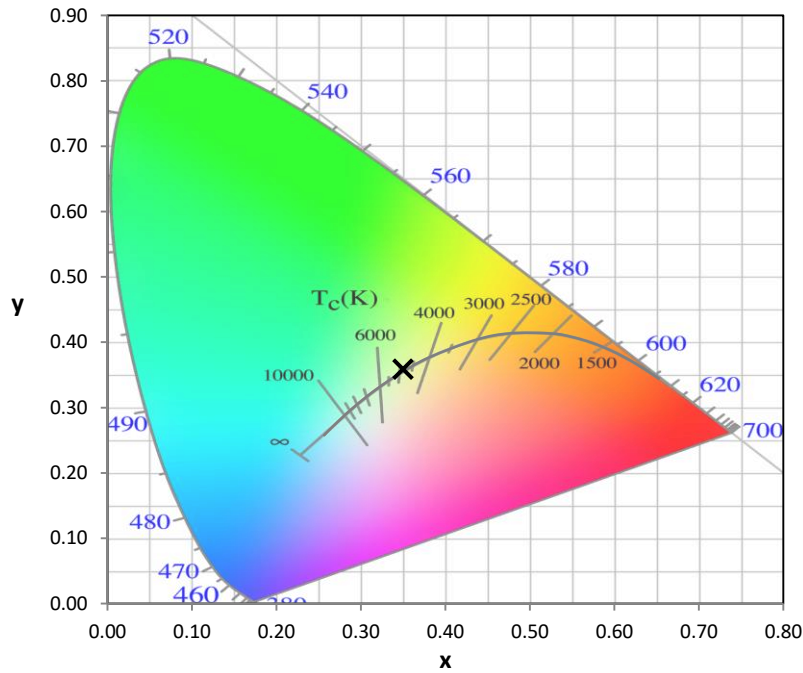
Stabilization Time: 72M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.4/13%  
 Sphere Temperature (°C): 24.0

REPORT NUMBER: SP1-2104-215-7

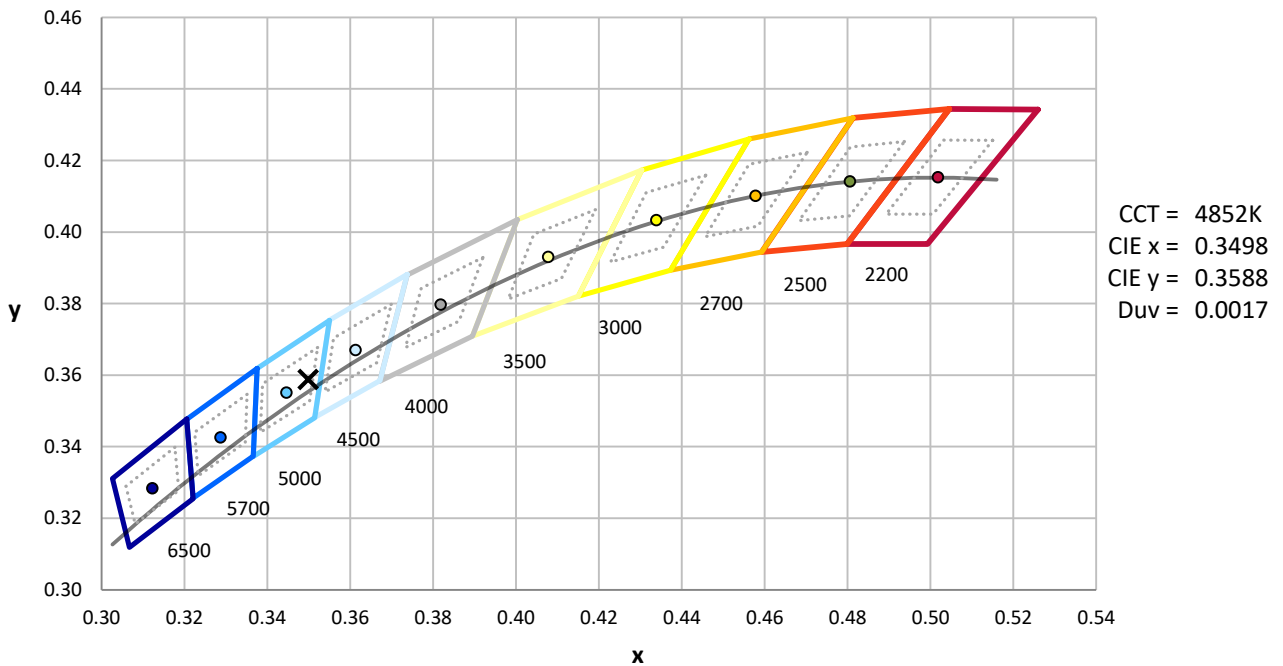
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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: SP1-2104-215-7

**CIE 1931 Chromaticity Diagram**



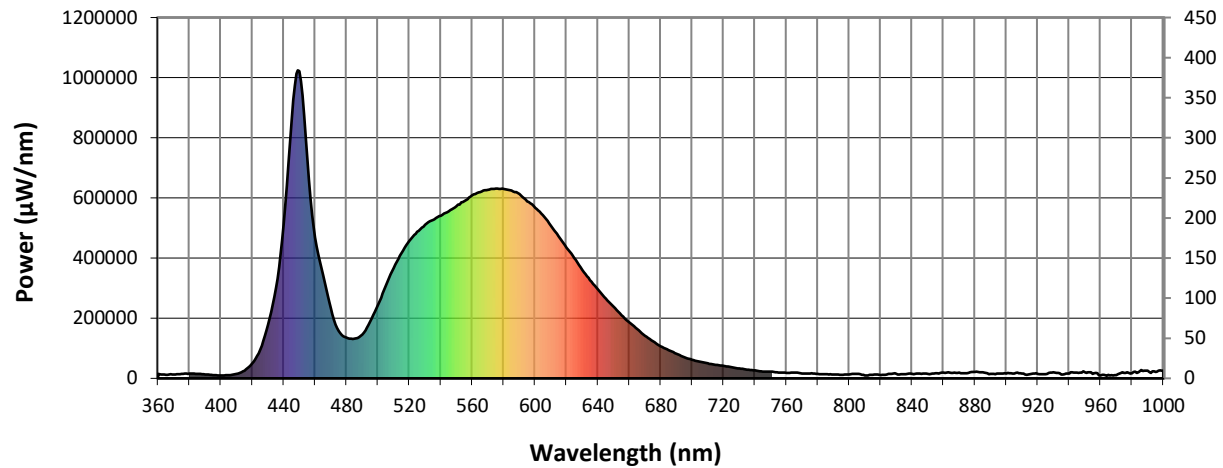
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2104-215-7

### Photopic Flux vs. Wavelength

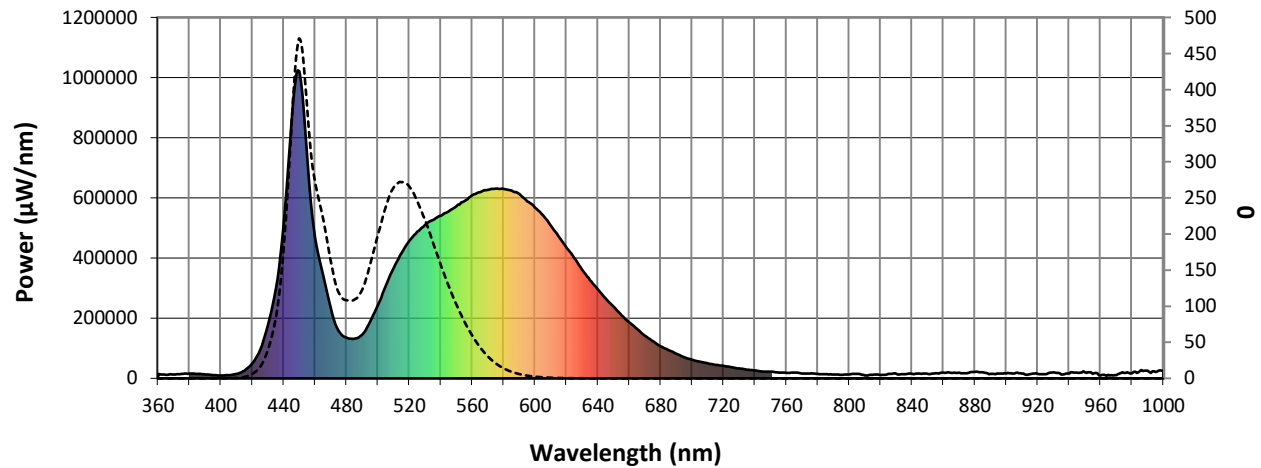


#####

| 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       | 15077            | 0.0              | 490       | 146327           | 20.8             | 620       | 434415           | 113.0            | 750       | 22886            | 0.0              | 880       | 20960            | 0.0              |
| 365       | 12138            | 0.0              | 495       | 188585           | 34.2             | 625       | 400670           | 88.4             | 755       | 19692            | 0.0              | 885       | 20315            | 0.0              |
| 370       | 12993            | 0.0              | 500       | 245069           | 54.1             | 630       | 360611           | 65.3             | 760       | 18199            | 0.0              | 890       | 15211            | 0.0              |
| 375       | 14513            | 0.0              | 505       | 307682           | 86.1             | 635       | 326986           | 49.1             | 765       | 19191            | 0.0              | 895       | 15502            | 0.0              |
| 380       | 15679            | 0.0              | 510       | 367102           | 126.1            | 640       | 295583           | 35.3             | 770       | 16229            | 0.0              | 900       | 15935            | 0.0              |
| 385       | 14569            | 0.0              | 515       | 416068           | 172.4            | 645       | 264664           | 25.5             | 775       | 16351            | 0.0              | 905       | 15965            | 0.0              |
| 390       | 13091            | 0.0              | 520       | 457470           | 221.8            | 650       | 238441           | 17.4             | 780       | 14567            | 0.0              | 910       | 16119            | 0.0              |
| 395       | 10927            | 0.0              | 525       | 486980           | 261.4            | 655       | 210047           | 12.1             | 785       | 13349            | 0.0              | 915       | 13972            | 0.0              |
| 400       | 9655             | 0.0              | 530       | 511184           | 301.0            | 660       | 186019           | 7.8              | 790       | 12552            | 0.0              | 920       | 14830            | 0.0              |
| 405       | 10895            | 0.0              | 535       | 527191           | 326.9            | 665       | 164001           | 5.2              | 795       | 11517            | 0.0              | 925       | 13744            | 0.0              |
| 410       | 14929            | 0.0              | 540       | 540658           | 352.3            | 670       | 142007           | 3.1              | 800       | 13250            | 0.0              | 930       | 20340            | 0.0              |
| 415       | 25993            | 0.0              | 545       | 555639           | 369.8            | 675       | 123441           | 2.1              | 805       | 15135            | 0.0              | 935       | 13272            | 0.0              |
| 420       | 49620            | 0.1              | 550       | 572229           | 388.9            | 680       | 106894           | 1.2              | 810       | 9873             | 0.0              | 940       | 16357            | 0.0              |
| 425       | 95836            | 0.5              | 555       | 589788           | 402.8            | 685       | 94026            | 0.8              | 815       | 11566            | 0.0              | 945       | 19257            | 0.0              |
| 430       | 178101           | 1.4              | 560       | 608278           | 413.4            | 690       | 82099            | 0.5              | 820       | 11216            | 0.0              | 950       | 19804            | 0.0              |
| 435       | 300144           | 3.5              | 565       | 619317           | 411.8            | 695       | 70275            | 0.3              | 825       | 15165            | 0.0              | 955       | 14877            | 0.0              |
| 440       | 512674           | 8.1              | 570       | 627176           | 407.8            | 700       | 61784            | 0.2              | 830       | 14983            | 0.0              | 960       | 9882             | 0.0              |
| 445       | 857336           | 17.9             | 575       | 631114           | 392.7            | 705       | 55550            | 0.1              | 835       | 13993            | 0.0              | 965       | 11741            | 0.0              |
| 450       | 1021494          | 26.5             | 580       | 630436           | 374.6            | 710       | 50234            | 0.1              | 840       | 15281            | 0.0              | 970       | 11068            | 0.0              |
| 455       | 730207           | 24.4             | 585       | 625204           | 347.4            | 715       | 44909            | 0.0              | 845       | 15737            | 0.0              | 975       | 18108            | 0.0              |
| 460       | 467897           | 19.2             | 590       | 612752           | 316.8            | 720       | 41441            | 0.0              | 850       | 15148            | 0.0              | 980       | 17506            | 0.0              |
| 465       | 344659           | 17.8             | 595       | 589048           | 279.2            | 725       | 36834            | 0.0              | 855       | 17198            | 0.0              | 985       | 23821            | 0.0              |
| 470       | 230541           | 14.3             | 600       | 567479           | 244.6            | 730       | 32988            | 0.0              | 860       | 19169            | 0.0              | 990       | 25862            | 0.0              |
| 475       | 157156           | 12.3             | 605       | 542722           | 210.2            | 735       | 28984            | 0.0              | 865       | 18632            | 0.0              | 995       | 21133            | 0.0              |
| 480       | 134805           | 12.8             | 610       | 507118           | 174.2            | 740       | 26177            | 0.0              | 870       | 18831            | 0.0              | 1000      | 25640            | 0.0              |
| 485       | 132031           | 15.6             | 615       | 472188           | 142.5            | 745       | 22680            | 0.0              | 875       | 16978            | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2104-215-7

### Scotopic Flux vs. Wavelength



Scotopic Lumens: 66024.8

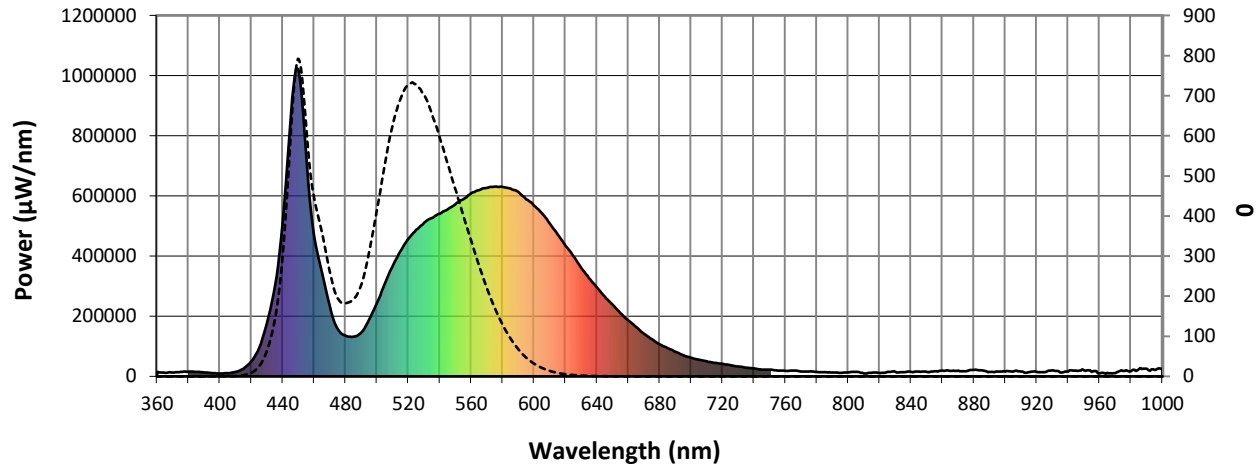
S/P: 1.78

| 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       | 15077            | 0.0              | 490       | 146327           | 225.3            | 620       | 434415           | 5.4              | 750       | 22886            | 0.0              | 880       | 20960            | 0.0              |
| 365       | 12138            | 0.0              | 495       | 188585           | 304.9            | 625       | 400670           | 3.4              | 755       | 19692            | 0.0              | 885       | 20315            | 0.0              |
| 370       | 12993            | 0.0              | 500       | 245069           | 409.9            | 630       | 360611           | 2.0              | 760       | 18199            | 0.0              | 890       | 15211            | 0.0              |
| 375       | 14513            | 0.0              | 505       | 307682           | 523.1            | 635       | 326986           | 1.2              | 765       | 19191            | 0.0              | 895       | 15502            | 0.0              |
| 380       | 15679            | 0.0              | 510       | 367102           | 622.2            | 640       | 295583           | 0.8              | 770       | 16229            | 0.0              | 900       | 15935            | 0.0              |
| 385       | 14569            | 0.0              | 515       | 416068           | 689.6            | 645       | 264664           | 0.5              | 775       | 16351            | 0.0              | 905       | 15965            | 0.0              |
| 390       | 13091            | 0.0              | 520       | 457470           | 727.1            | 650       | 238441           | 0.3              | 780       | 14567            | 0.0              | 910       | 16119            | 0.0              |
| 395       | 10927            | 0.1              | 525       | 486980           | 728.5            | 655       | 210047           | 0.2              | 785       | 13349            | 0.0              | 915       | 13972            | 0.0              |
| 400       | 9655             | 0.2              | 530       | 511184           | 704.8            | 660       | 186019           | 0.1              | 790       | 12552            | 0.0              | 920       | 14830            | 0.0              |
| 405       | 10895            | 0.3              | 535       | 527191           | 656.9            | 665       | 164001           | 0.1              | 795       | 11517            | 0.0              | 925       | 13744            | 0.0              |
| 410       | 14929            | 0.9              | 540       | 540658           | 597.4            | 670       | 142007           | 0.0              | 800       | 13250            | 0.0              | 930       | 20340            | 0.0              |
| 415       | 25993            | 2.7              | 545       | 555639           | 532.7            | 675       | 123441           | 0.0              | 805       | 15135            | 0.0              | 935       | 13272            | 0.0              |
| 420       | 49620            | 8.2              | 550       | 572229           | 467.9            | 680       | 106894           | 0.0              | 810       | 9873             | 0.0              | 940       | 16357            | 0.0              |
| 425       | 95836            | 23.4             | 555       | 589788           | 403.1            | 685       | 94026            | 0.0              | 815       | 11566            | 0.0              | 945       | 19257            | 0.0              |
| 430       | 178101           | 60.6             | 560       | 608278           | 340.0            | 690       | 82099            | 0.0              | 820       | 11216            | 0.0              | 950       | 19804            | 0.0              |
| 435       | 300144           | 134.2            | 565       | 619317           | 277.8            | 695       | 70275            | 0.0              | 825       | 15165            | 0.0              | 955       | 14877            | 0.0              |
| 440       | 512674           | 286.5            | 570       | 627176           | 221.3            | 700       | 61784            | 0.0              | 830       | 14983            | 0.0              | 960       | 9882             | 0.0              |
| 445       | 857336           | 574.1            | 575       | 631114           | 171.9            | 705       | 55550            | 0.0              | 835       | 13993            | 0.0              | 965       | 11741            | 0.0              |
| 450       | 1021494          | 791.7            | 580       | 630436           | 129.9            | 710       | 50234            | 0.0              | 840       | 15281            | 0.0              | 970       | 11068            | 0.0              |
| 455       | 730207           | 638.1            | 585       | 625204           | 95.5             | 715       | 44909            | 0.0              | 845       | 15737            | 0.0              | 975       | 18108            | 0.0              |
| 460       | 467897           | 451.9            | 590       | 612752           | 68.2             | 720       | 41441            | 0.0              | 850       | 15148            | 0.0              | 980       | 17506            | 0.0              |
| 465       | 344659           | 364.0            | 595       | 589048           | 47.0             | 725       | 36834            | 0.0              | 855       | 17198            | 0.0              | 985       | 23821            | 0.0              |
| 470       | 230541           | 265.5            | 600       | 567479           | 32.0             | 730       | 32988            | 0.0              | 860       | 19169            | 0.0              | 990       | 25862            | 0.0              |
| 475       | 157156           | 196.5            | 605       | 542722           | 21.3             | 735       | 28984            | 0.0              | 865       | 18632            | 0.0              | 995       | 21133            | 0.0              |
| 480       | 134805           | 182.1            | 610       | 507118           | 13.7             | 740       | 26177            | 0.0              | 870       | 18831            | 0.0              | 1000      | 25640            | 0.0              |
| 485       | 132031           | 191.4            | 615       | 472188           | 8.7              | 745       | 22680            | 0.0              | 875       | 16978            | 0.0              |           |                  |                  |



REPORT NUMBER: SP1-2104-215-7

### Melanopic Flux vs. Wavelength

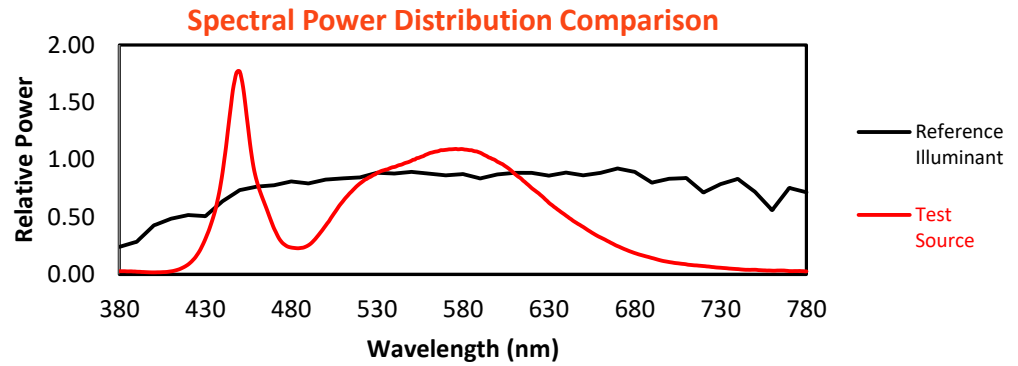


**Melanopic Lumens: 26696.3**      **M/P: 0.72**

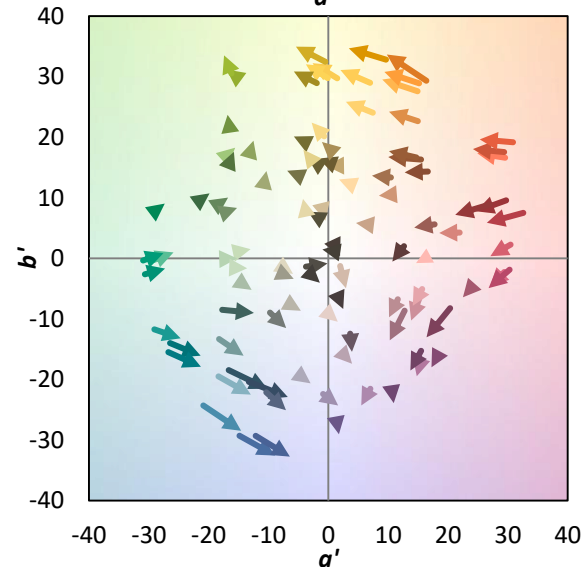
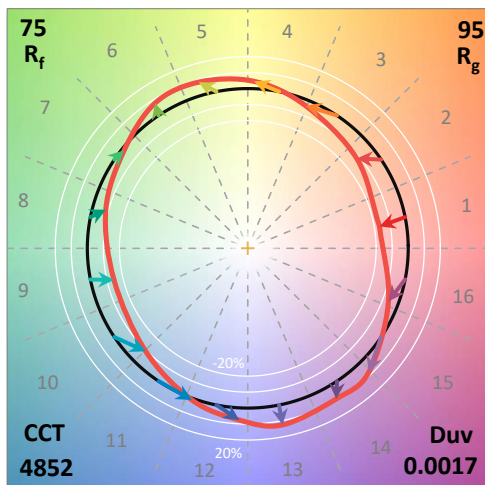
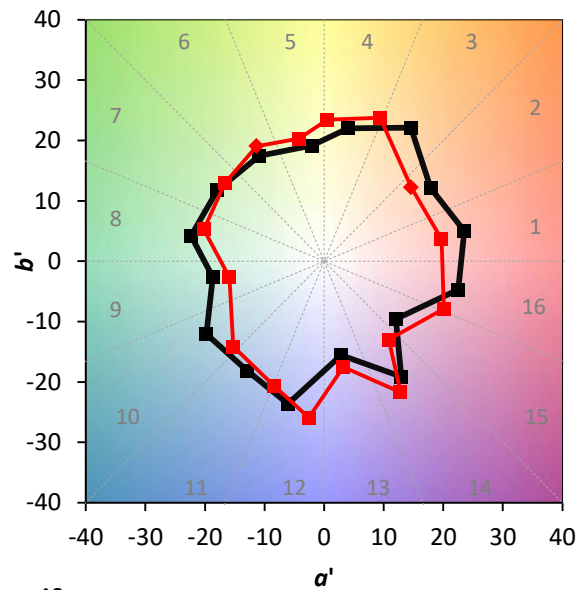
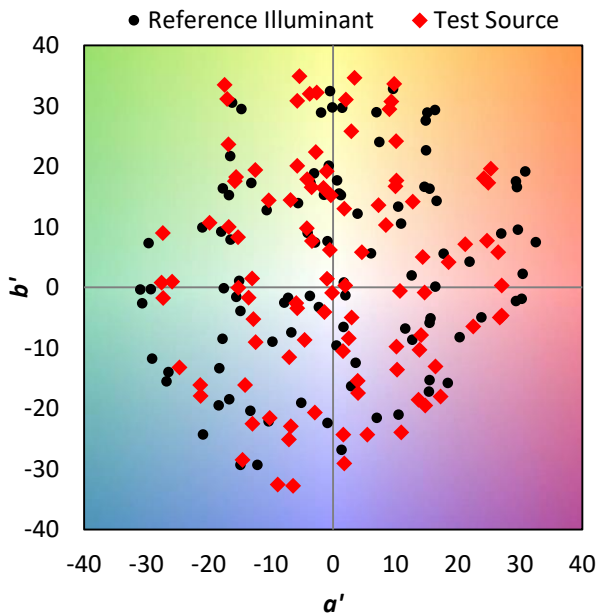
| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 15077            | 0.0              | 490       | 146327           | 121.8            | 620       | 434415           | 0.3              | 750       | 22886            | 0.0              | 880       | 20960            | 0.0              |
| 365       | 12138            | 0.0              | 495       | 188585           | 155.7            | 625       | 400670           | 0.2              | 755       | 19692            | 0.0              | 885       | 20315            | 0.0              |
| 370       | 12993            | 0.0              | 500       | 245069           | 197.0            | 630       | 360611           | 0.1              | 760       | 18199            | 0.0              | 890       | 15211            | 0.0              |
| 375       | 14513            | 0.0              | 505       | 307682           | 236.1            | 635       | 326986           | 0.1              | 765       | 19191            | 0.0              | 895       | 15502            | 0.0              |
| 380       | 15679            | 0.0              | 510       | 367102           | 263.6            | 640       | 295583           | 0.0              | 770       | 16229            | 0.0              | 900       | 15935            | 0.0              |
| 385       | 14569            | 0.0              | 515       | 416068           | 271.9            | 645       | 264664           | 0.0              | 775       | 16351            | 0.0              | 905       | 15965            | 0.0              |
| 390       | 13091            | 0.0              | 520       | 457470           | 266.3            | 650       | 238441           | 0.0              | 780       | 14567            | 0.0              | 910       | 16119            | 0.0              |
| 395       | 10927            | 0.1              | 525       | 486980           | 247.0            | 655       | 210047           | 0.0              | 785       | 13349            | 0.0              | 915       | 13972            | 0.0              |
| 400       | 9655             | 0.1              | 530       | 511184           | 220.9            | 660       | 186019           | 0.0              | 790       | 12552            | 0.0              | 920       | 14830            | 0.0              |
| 405       | 10895            | 0.2              | 535       | 527191           | 189.7            | 665       | 164001           | 0.0              | 795       | 11517            | 0.0              | 925       | 13744            | 0.0              |
| 410       | 14929            | 0.6              | 540       | 540658           | 158.2            | 670       | 142007           | 0.0              | 800       | 13250            | 0.0              | 930       | 20340            | 0.0              |
| 415       | 25993            | 1.7              | 545       | 555639           | 129.1            | 675       | 123441           | 0.0              | 805       | 15135            | 0.0              | 935       | 13272            | 0.0              |
| 420       | 49620            | 5.7              | 550       | 572229           | 102.7            | 680       | 106894           | 0.0              | 810       | 9873             | 0.0              | 940       | 16357            | 0.0              |
| 425       | 95836            | 14.9             | 555       | 589788           | 79.5             | 685       | 94026            | 0.0              | 815       | 11566            | 0.0              | 945       | 19257            | 0.0              |
| 430       | 178101           | 37.6             | 560       | 608278           | 60.0             | 690       | 82099            | 0.0              | 820       | 11216            | 0.0              | 950       | 19804            | 0.0              |
| 435       | 300144           | 80.1             | 565       | 619317           | 43.5             | 695       | 70275            | 0.0              | 825       | 15165            | 0.0              | 955       | 14877            | 0.0              |
| 440       | 512674           | 171.3            | 570       | 627176           | 30.6             | 700       | 61784            | 0.0              | 830       | 14983            | 0.0              | 960       | 9882             | 0.0              |
| 445       | 857336           | 338.2            | 575       | 631114           | 21.0             | 705       | 55550            | 0.0              | 835       | 13993            | 0.0              | 965       | 11741            | 0.0              |
| 450       | 1021494          | 470.7            | 580       | 630436           | 14.1             | 710       | 50234            | 0.0              | 840       | 15281            | 0.0              | 970       | 11068            | 0.0              |
| 455       | 730207           | 382.6            | 585       | 625204           | 9.3              | 715       | 44909            | 0.0              | 845       | 15737            | 0.0              | 975       | 18108            | 0.0              |
| 460       | 467897           | 275.7            | 590       | 612752           | 6.0              | 720       | 41441            | 0.0              | 850       | 15148            | 0.0              | 980       | 17506            | 0.0              |
| 465       | 344659           | 225.2            | 595       | 589048           | 3.8              | 725       | 36834            | 0.0              | 855       | 17198            | 0.0              | 985       | 23821            | 0.0              |
| 470       | 230541           | 165.0            | 600       | 567479           | 2.4              | 730       | 32988            | 0.0              | 860       | 19169            | 0.0              | 990       | 25862            | 0.0              |
| 475       | 157156           | 120.0            | 605       | 542722           | 1.5              | 735       | 28984            | 0.0              | 865       | 18632            | 0.0              | 995       | 21133            | 0.0              |
| 480       | 134805           | 108.3            | 610       | 507118           | 0.9              | 740       | 26177            | 0.0              | 870       | 18831            | 0.0              | 1000      | 25640            | 0.0              |
| 485       | 132031           | 108.8            | 615       | 472188           | 0.6              | 745       | 22680            | 0.0              | 875       | 16978            | 0.0              |           |                  |                  |

### Summary

$R_f = 75.2$   
 $R_g = 94.7$   
 CIE  $R_a = 74.1$   
 $R_g = -25.4$

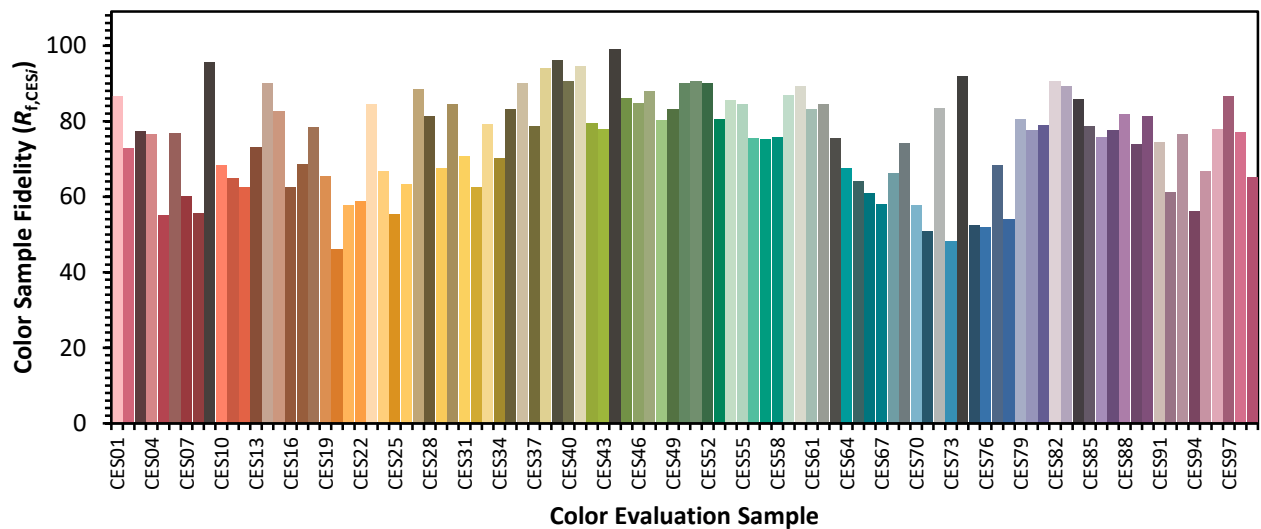


### Color Vector Graphics

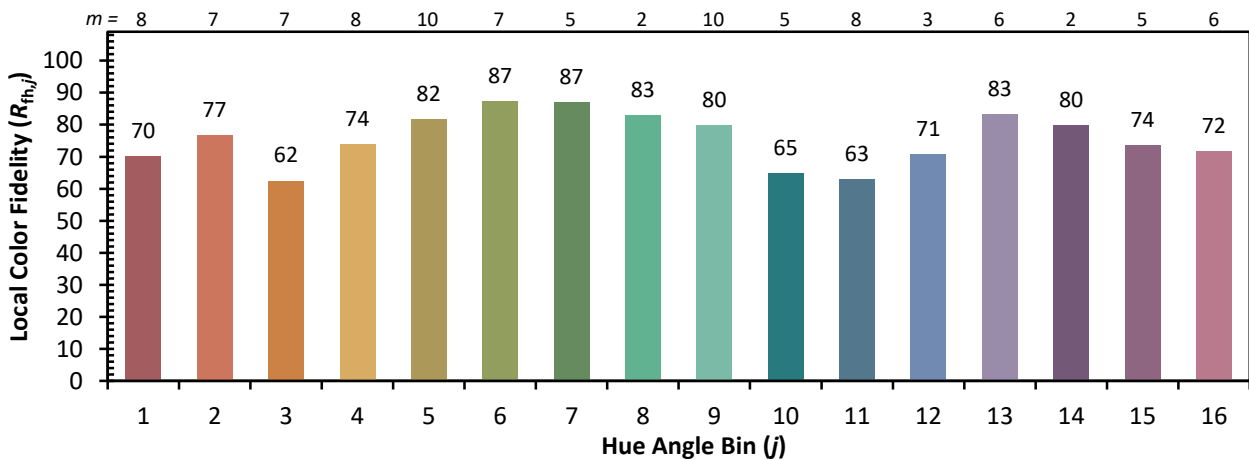
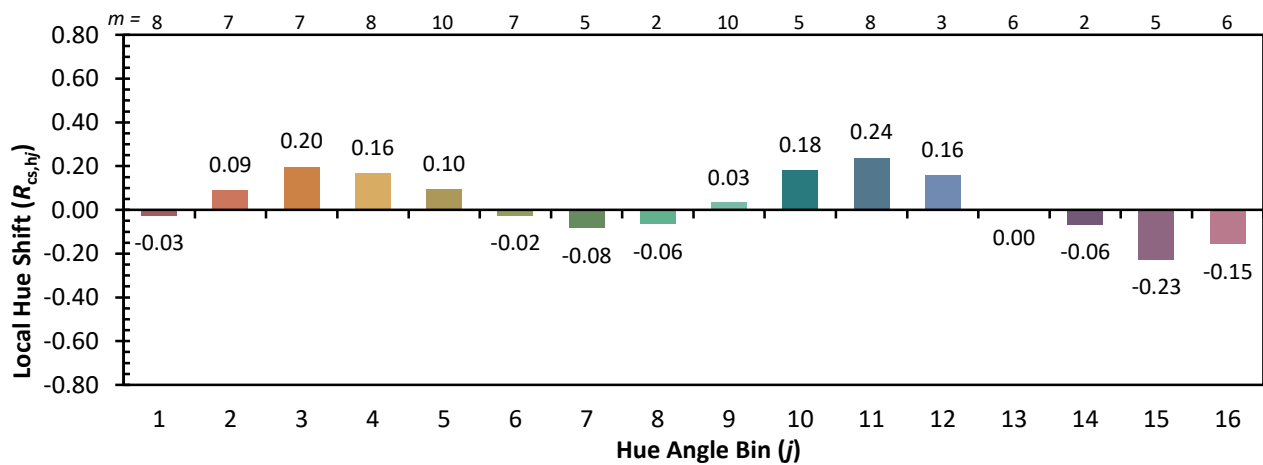
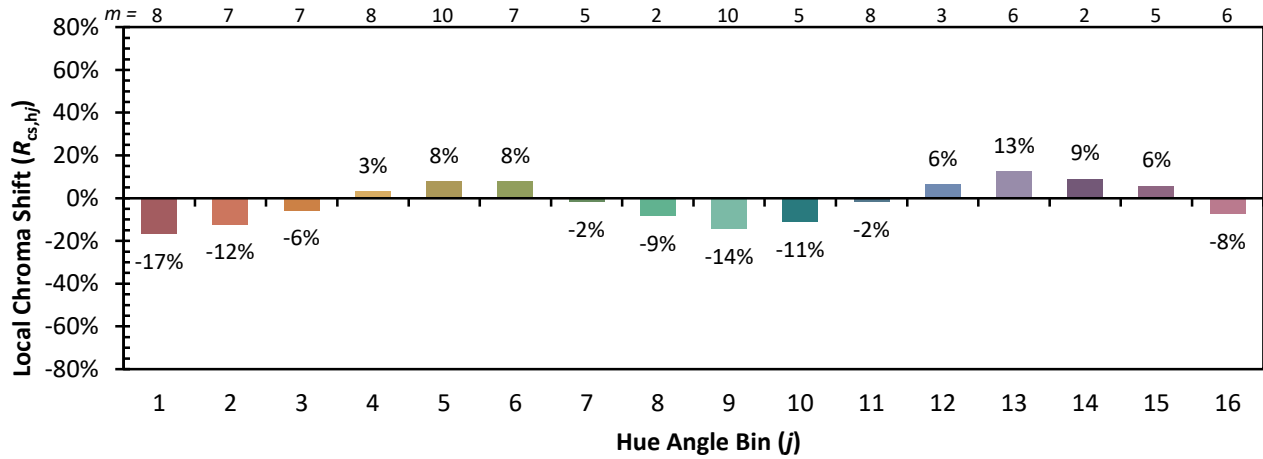


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

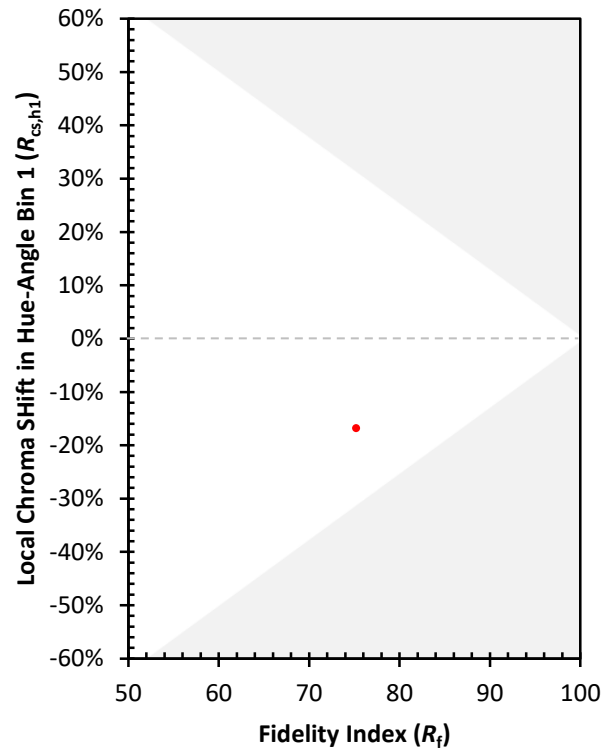
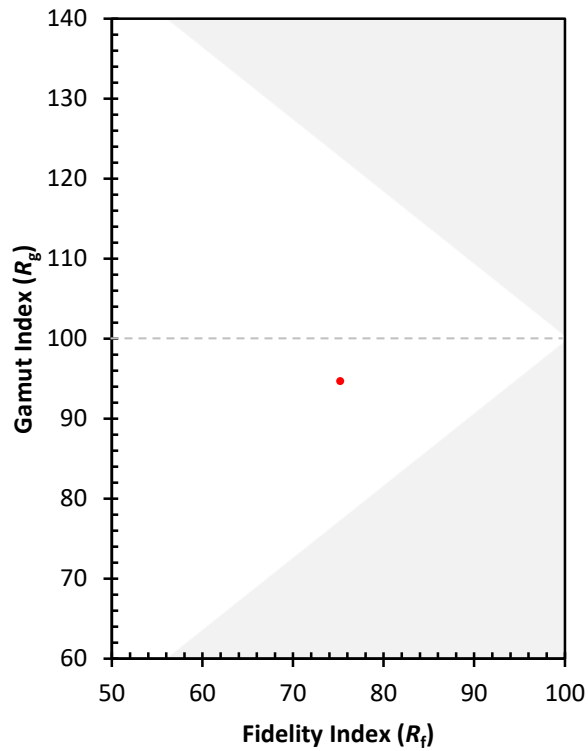
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 63 | CES51 = 90 | CES76 = 52 |
| CES02 = 60 | CES27 = 88 | CES52 = 90 | CES77 = 68 |
| CES03 = 30 | CES28 = 81 | CES53 = 81 | CES78 = 54 |
| CES04 = 69 | CES29 = 67 | CES54 = 86 | CES79 = 81 |
| CES05 = 46 | CES30 = 85 | CES55 = 84 | CES80 = 77 |
| CES06 = 50 | CES31 = 71 | CES56 = 76 | CES81 = 79 |
| CES07 = 39 | CES32 = 63 | CES57 = 75 | CES82 = 91 |
| CES08 = 38 | CES33 = 79 | CES58 = 76 | CES83 = 89 |
| CES09 = 29 | CES34 = 70 | CES59 = 87 | CES84 = 86 |
| CES10 = 73 | CES35 = 83 | CES60 = 89 | CES85 = 79 |
| CES11 = 56 | CES36 = 90 | CES61 = 83 | CES86 = 76 |
| CES12 = 62 | CES37 = 79 | CES62 = 85 | CES87 = 78 |
| CES13 = 42 | CES38 = 94 | CES63 = 76 | CES88 = 82 |
| CES14 = 74 | CES39 = 96 | CES64 = 67 | CES89 = 74 |
| CES15 = 70 | CES40 = 91 | CES65 = 64 | CES90 = 81 |
| CES16 = 46 | CES41 = 95 | CES66 = 61 | CES91 = 74 |
| CES17 = 49 | CES42 = 80 | CES67 = 58 | CES92 = 61 |
| CES18 = 55 | CES43 = 78 | CES68 = 66 | CES93 = 77 |
| CES19 = 71 | CES44 = 99 | CES69 = 74 | CES94 = 56 |
| CES20 = 64 | CES45 = 86 | CES70 = 58 | CES95 = 67 |
| CES21 = 85 | CES46 = 85 | CES71 = 51 | CES96 = 78 |
| CES22 = 77 | CES47 = 88 | CES72 = 83 | CES97 = 86 |
| CES23 = 91 | CES48 = 80 | CES73 = 48 | CES98 = 77 |
| CES24 = 90 | CES49 = 83 | CES74 = 92 | CES99 = 65 |
| CES25 = 71 | CES50 = 90 | CES75 = 52 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)