

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: P522114

Luminaire Tested: **CST-CA10-210-730-U-T5R-HSS-HM-EX120**

Issue Date: 5/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P522114  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-894-6)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: CST-CA10-210-730-U-T5R-HSS-HM-EX120  
Description: CELESTEON HIGH MAST LUMINAIRE  
Light Source: (10) 3000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 26401 lumens  
Efficiency: N/A  
Efficacy: 124.0 lumens/watt  
Luminous Opening: Circular (Dia: 2.08' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B4 - U2 - G4

Input Watts (W): 212.9  
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

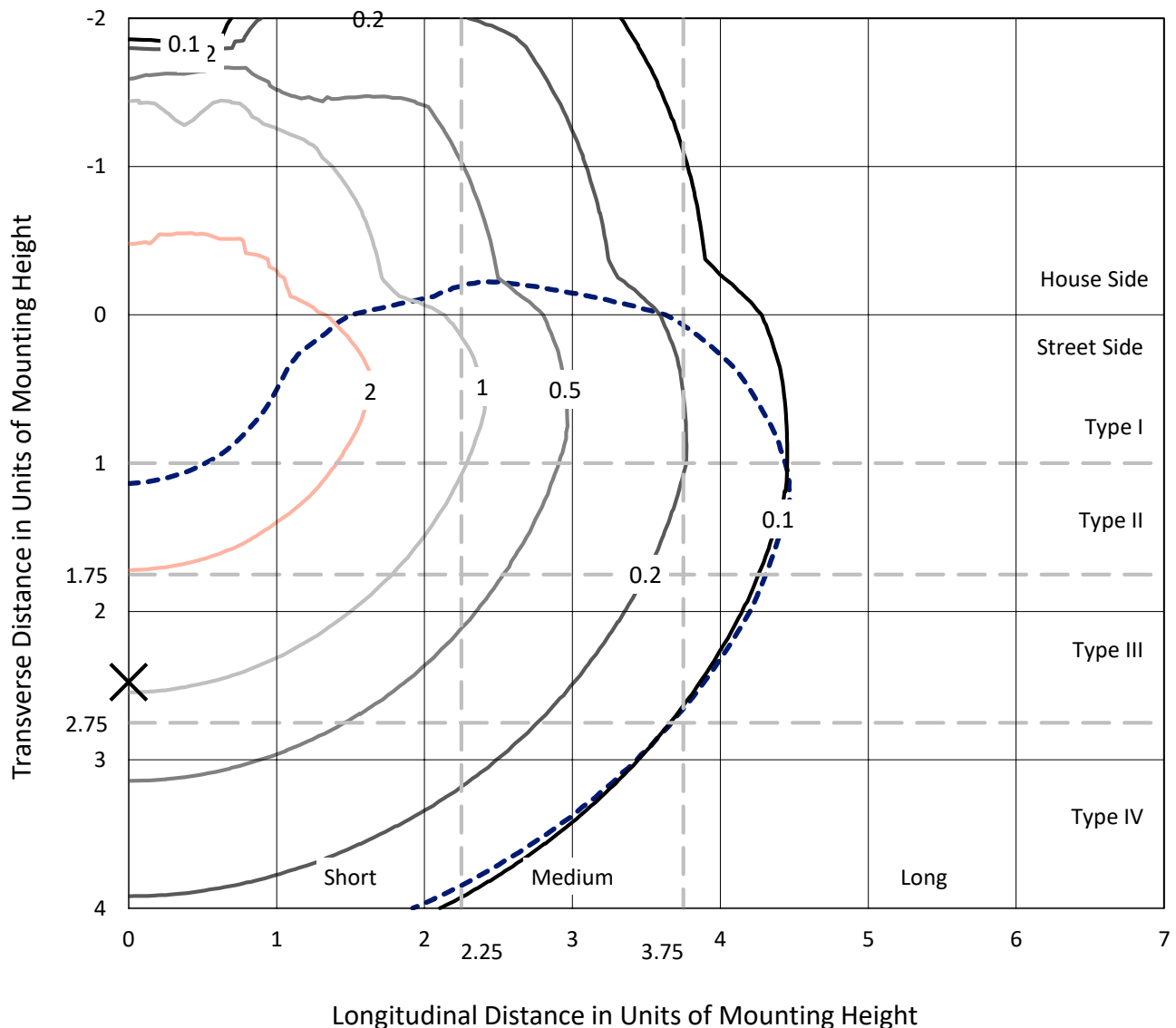


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## Iso-Footcandle Lines of Horizontal Illumination

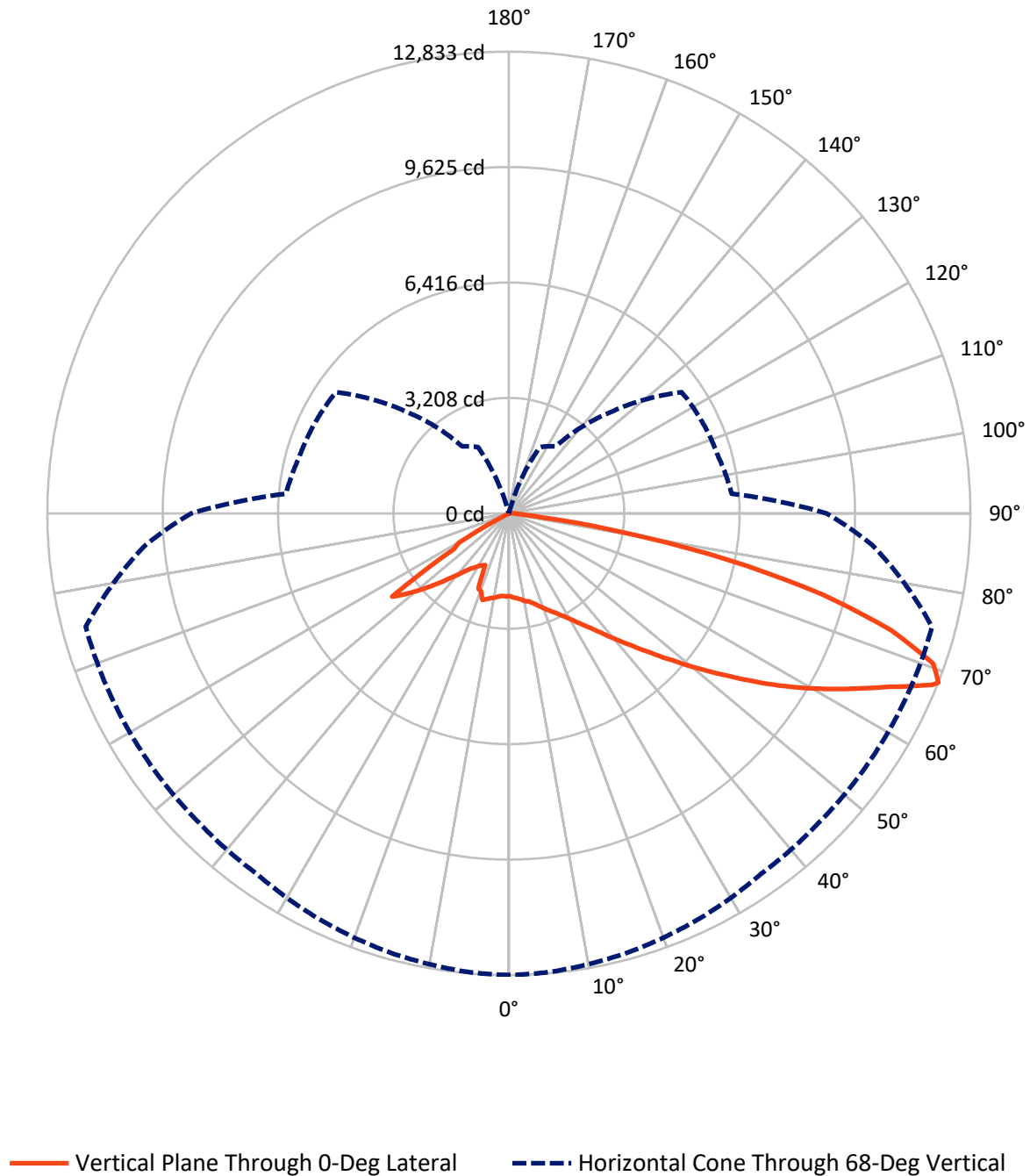
× Max cd  
 - - - 1/2 Max cd



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

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## Luminous Intensity Polar Plot



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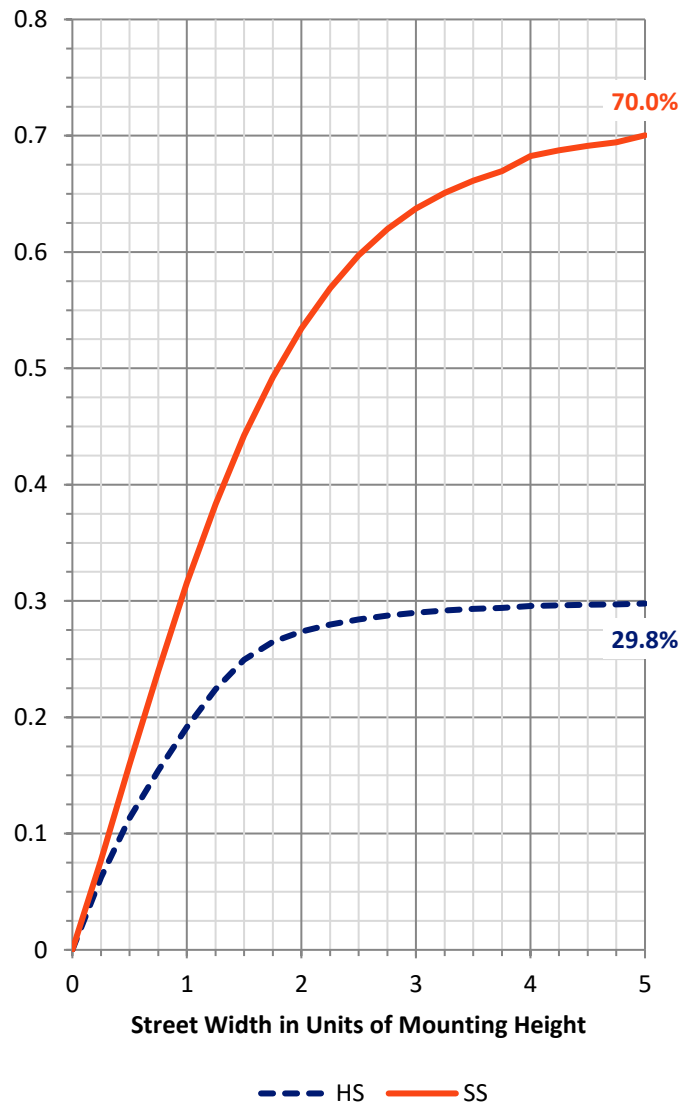
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 7869.8   | 1.2    | 7871.1  |
|                    | % Fixture | 29.8     | 0.0    | 29.8    |
| <b>Street Side</b> | Lumens    | 18519.1  | 10.8   | 18530.0 |
|                    | % Fixture | 70.1     | 0.0    | 70.2    |
| <b>Total</b>       | Lumens    | 26389.0  | 12.0   | 26401.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 223.4   | 0.8       |
| 10°-20°   | 711.0   | 2.7       |
| 20°-30°   | 1217.8  | 4.6       |
| 30°-40°   | 1975.6  | 7.5       |
| 40°-50°   | 3331.8  | 12.6      |
| 50°-60°   | 5430.9  | 20.6      |
| 60°-70°   | 7283.7  | 27.6      |
| 70°-80°   | 5657.6  | 21.4      |
| 80°-90°   | 557.2   | 2.1       |
| 90°-100°  | 10.6    | 0.0       |
| 100°-110° | 0.6     | 0.0       |
| 110°-120° | 0.2     | 0.0       |
| 120°-130° | 0.1     | 0.0       |
| 130°-140° | 0.2     | 0.0       |
| 140°-150° | 0.2     | 0.0       |
| 150°-160° | 0.1     | 0.0       |
| 160°-170° | 0.1     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 26389.0 | 100.0     |
| 0°-180°   | 26401.0 | 100.0     |

**Coefficient of Utilization**



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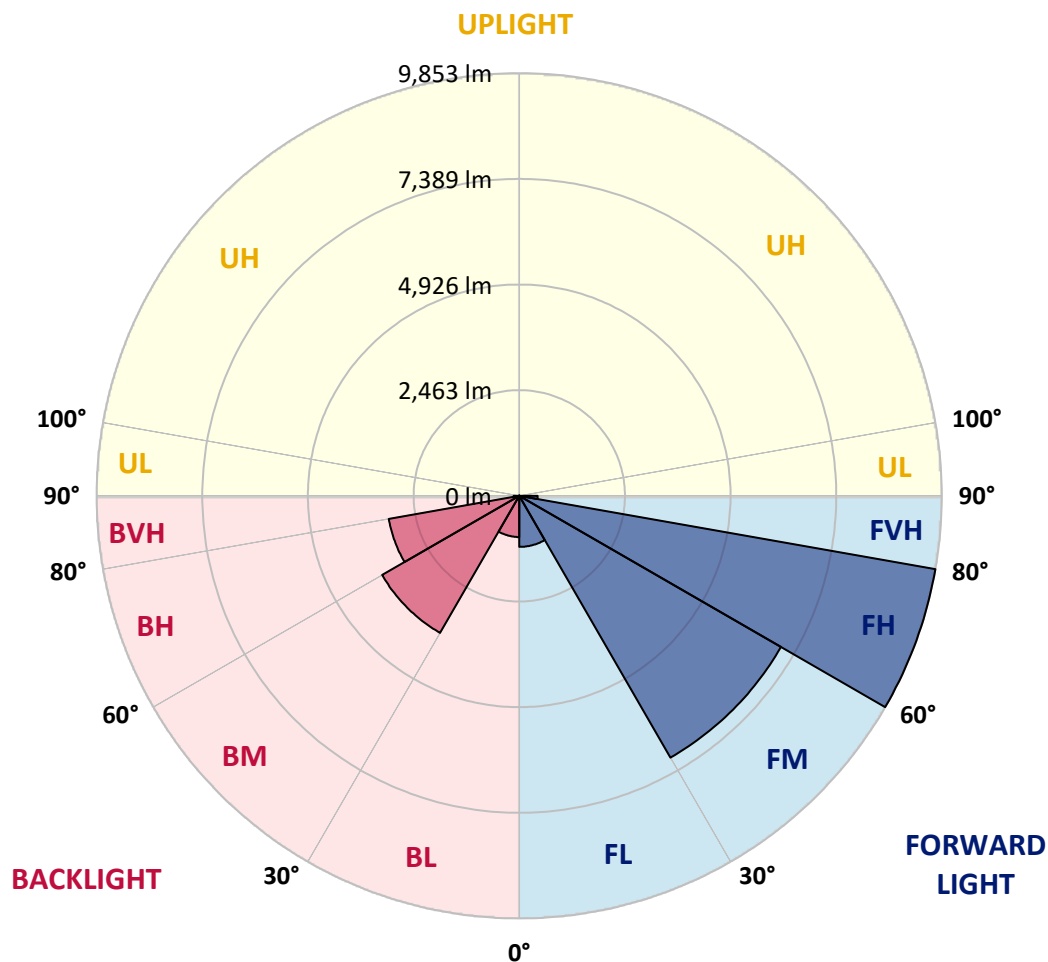
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |       |          |
|------|-------------|--------|-----------|-------------------------|-------|----------|
|      |             |        |           | B                       | U     | G        |
| FL   | (0°-30°)    | 1190.8 | 4.5       |                         |       |          |
| FM   | (30°-60°)   | 7047.4 | 26.7      |                         |       |          |
| FH   | (60°-80°)   | 9852.5 | 37.3      |                         |       | G4/12000 |
| FVH  | (80°-90°)   | 428.4  | 1.6       |                         |       | G3/500   |
| BL   | (0°-30°)    | 961.4  | 3.6       | B2/1000                 |       |          |
| BM   | (30°-60°)   | 3690.9 | 14.0      | B3/5000                 |       |          |
| BH   | (60°-80°)   | 3088.7 | 11.7      | B4/5000                 |       | G4/5000  |
| BVH  | (80°-90°)   | 128.8  | 0.5       |                         |       | G2/225   |
| UL   | (90°-100°)  | 10.6   | 0.0       |                         | U2/50 |          |
| UH   | (100°-180°) | 1.5    | 0.0       |                         | U1/10 |          |

**BUG Rating: B4-U2-G4**

Type IV Short



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     | 90°    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0°     | 2301.7  | 2301.7  | 2301.7  | 2301.7  | 2301.7  | 2301.7  | 2301.7  | 2301.7  | 2301.7  | 2301.7  | 2301.7 |
| 2.5°   | 2339.9  | 2333.3  | 2332.3  | 2345.4  | 2303.9  | 2324.6  | 2306.0  | 2321.3  | 2311.5  | 2319.1  | 2320.2 |
| 5°     | 2371.6  | 2359.5  | 2351.9  | 2367.2  | 2341.0  | 2350.8  | 2330.1  | 2336.6  | 2309.3  | 2324.6  | 2326.8 |
| 7.5°   | 2417.4  | 2397.8  | 2395.6  | 2399.9  | 2377.0  | 2384.7  | 2350.8  | 2358.5  | 2338.8  | 2330.1  | 2337.7 |
| 10°    | 2479.7  | 2461.1  | 2446.9  | 2456.7  | 2426.2  | 2430.5  | 2394.5  | 2395.6  | 2381.4  | 2365.0  | 2378.1 |
| 12.5°  | 2514.6  | 2516.8  | 2510.2  | 2517.9  | 2492.8  | 2478.6  | 2453.5  | 2444.7  | 2430.5  | 2410.9  | 2404.3 |
| 15°    | 2601.9  | 2597.6  | 2584.5  | 2596.5  | 2593.2  | 2580.1  | 2549.5  | 2529.9  | 2499.3  | 2488.4  | 2477.5 |
| 17.5°  | 2708.9  | 2694.8  | 2683.8  | 2699.1  | 2715.5  | 2688.2  | 2658.7  | 2631.4  | 2591.0  | 2569.2  | 2556.1 |
| 20°    | 2821.4  | 2811.6  | 2800.7  | 2824.7  | 2830.1  | 2809.4  | 2787.6  | 2747.2  | 2700.2  | 2671.8  | 2644.5 |
| 22.5°  | 2947.0  | 2927.3  | 2930.6  | 2962.3  | 2952.4  | 2942.6  | 2914.2  | 2881.5  | 2824.7  | 2788.7  | 2710.0 |
| 25°    | 3076.9  | 3066.0  | 3081.3  | 3095.5  | 3087.8  | 3067.1  | 3052.9  | 3028.9  | 2965.5  | 2921.9  | 2807.2 |
| 27.5°  | 3238.5  | 3221.0  | 3240.7  | 3246.2  | 3239.6  | 3234.1  | 3214.5  | 3195.9  | 3127.1  | 3078.0  | 2935.0 |
| 30°    | 3428.5  | 3407.8  | 3439.4  | 3431.8  | 3425.2  | 3429.6  | 3417.6  | 3377.2  | 3316.0  | 3249.4  | 3106.4 |
| 32.5°  | 3654.5  | 3627.2  | 3663.3  | 3646.9  | 3631.6  | 3662.2  | 3633.8  | 3595.6  | 3523.5  | 3446.0  | 3306.2 |
| 35°    | 3916.6  | 3917.7  | 3936.2  | 3908.9  | 3903.5  | 3936.2  | 3917.7  | 3870.7  | 3804.1  | 3723.3  | 3524.6 |
| 37.5°  | 4234.3  | 4225.6  | 4272.5  | 4259.4  | 4239.8  | 4283.4  | 4288.9  | 4229.9  | 4109.8  | 4030.1  | 3795.4 |
| 40°    | 4620.8  | 4618.6  | 4633.9  | 4636.1  | 4630.7  | 4651.4  | 4661.2  | 4582.6  | 4505.1  | 4385.0  | 3581.4 |
| 42.5°  | 5033.6  | 5042.3  | 5069.6  | 5049.9  | 5076.1  | 5103.4  | 5106.7  | 5041.2  | 4929.8  | 4207.0  | 3804.1 |
| 45°    | 5529.3  | 5556.6  | 5575.1  | 5570.8  | 5582.8  | 5622.1  | 5625.4  | 5590.4  | 5481.2  | 4557.5  | 4208.1 |
| 47.5°  | 6098.1  | 6124.3  | 6129.8  | 6164.7  | 6153.8  | 6209.5  | 6201.9  | 6203.0  | 6086.1  | 5045.6  | 4648.1 |
| 50°    | 6752.2  | 6764.2  | 6809.0  | 6828.6  | 6801.3  | 6876.6  | 6857.0  | 6881.0  | 6736.9  | 5604.6  | 5120.9 |
| 52.5°  | 7446.6  | 7467.4  | 7485.9  | 7560.2  | 7525.2  | 7590.7  | 7564.5  | 7620.2  | 7453.2  | 6173.5  | 5646.1 |
| 55°    | 8236.0  | 8239.3  | 8271.0  | 8346.3  | 8300.5  | 8379.1  | 8340.9  | 8361.6  | 8228.4  | 6802.4  | 6193.1 |
| 57.5°  | 9072.4  | 9061.5  | 9073.5  | 9133.6  | 9092.1  | 9151.0  | 9135.7  | 9155.4  | 9030.9  | 7464.1  | 6592.8 |
| 60°    | 9900.1  | 9883.7  | 9901.2  | 9941.6  | 9884.8  | 9986.3  | 9931.7  | 9950.3  | 9816.0  | 8140.0  | 7162.7 |
| 62.5°  | 10732.1 | 10720.1 | 10700.4 | 10740.8 | 10657.8 | 10710.2 | 10733.2 | 10702.6 | 10584.7 | 8751.4  | 7658.4 |
| 65°    | 11625.2 | 11613.2 | 11541.2 | 11566.3 | 11417.8 | 11392.7 | 11401.4 | 11411.2 | 11332.6 | 9357.4  | 8202.2 |
| 67.5°  | 12710.6 | 12693.1 | 12557.7 | 12387.4 | 12173.4 | 12126.4 | 12130.8 | 12157.0 | 12167.9 | 10137.0 | 8838.8 |
| 68°    | 12832.8 | 12801.2 | 12650.5 | 12452.9 | 12229.0 | 12174.4 | 12169.0 | 12174.4 | 12179.9 | 10143.5 | 8832.2 |
| 70°    | 12520.6 | 12508.6 | 12393.9 | 12154.8 | 11925.5 | 11794.5 | 11680.9 | 11676.5 | 11624.1 | 9624.9  | 8344.1 |
| 72.5°  | 11111.0 | 11095.7 | 10959.2 | 10789.9 | 10648.0 | 10442.7 | 10295.3 | 10304.1 | 10217.8 | 8506.8  | 7303.6 |
| 75°    | 8991.6  | 8990.5  | 8826.7  | 8684.8  | 8687.0  | 8671.7  | 8622.6  | 8708.8  | 8619.3  | 7215.1  | 6229.2 |
| 77.5°  | 6266.3  | 6288.1  | 6277.2  | 6194.2  | 6311.1  | 6472.7  | 6648.4  | 6814.4  | 6763.1  | 5699.6  | 4967.0 |
| 80°    | 3273.5  | 3334.6  | 3550.8  | 3560.6  | 3642.5  | 3799.7  | 3919.8  | 4031.2  | 4038.9  | 3234.1  | 2869.5 |
| 82.5°  | 870.2   | 888.8   | 961.9   | 941.2   | 934.6   | 966.3   | 992.5   | 995.8   | 998.0   | 842.9   | 787.2  |
| 85°    | 270.8   | 278.4   | 269.7   | 257.7   | 239.1   | 218.4   | 212.9   | 173.6   | 137.6   | 113.6   | 99.4   |
| 87.5°  | 192.2   | 205.3   | 185.6   | 174.7   | 155.0   | 147.4   | 132.1   | 103.7   | 80.8    | 56.8    | 38.2   |
| 90°    | 99.4    | 101.5   | 90.6    | 77.5    | 72.1    | 67.7    | 57.9    | 41.5    | 20.7    | 10.9    | 9.8    |
| 92.5°  | 50.2    | 51.3    | 44.8    | 38.2    | 32.8    | 28.4    | 21.8    | 12.0    | 6.6     | 3.3     | 1.1    |
| 95°    | 19.7    | 20.7    | 18.6    | 16.4    | 13.1    | 9.8     | 8.7     | 6.6     | 4.4     | 2.2     | 1.1    |
| 97.5°  | 6.6     | 6.6     | 6.6     | 5.5     | 5.5     | 5.5     | 5.5     | 4.4     | 3.3     | 2.2     | 1.1    |
| 100°   | 0.0     | 0.0     | 0.0     | 1.1     | 2.2     | 3.3     | 3.3     | 3.3     | 2.2     | 1.1     | 1.1    |
| 102.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 1.1     | 2.2     | 2.2     | 2.2     | 1.1     | 1.1    |
| 105°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 1.1     | 1.1     | 1.1     | 1.1     | 1.1     | 1.1    |
| 107.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 1.1     | 1.1     | 1.1     | 1.1     | 1.1    |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 5°  | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 110°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 |
| 112.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 |
| 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 | 1.1 |
| 130°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 |
| 132.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 |
| 135°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 |
| 137.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 |
| 140°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 |
| 142.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 |
| 145°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 |
| 147.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 |
| 150°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 |
| 152.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 |
| 155°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 |
| 160°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 |
| 165°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| 170°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| 175°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 |
| 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°     | 2301.7 | 2301.7 | 2301.7 | 2301.7 | 2301.7 | 2301.7 | 2301.7 | 2301.7 | 2301.7 | 2301.7 |
| 2.5°   | 2314.8 | 2308.2 | 2311.5 | 2284.2 | 2290.8 | 2273.3 | 2310.4 | 2300.6 | 2296.2 | 2311.5 |
| 5°     | 2320.2 | 2296.2 | 2315.9 | 2297.3 | 2300.6 | 2275.5 | 2306.0 | 2294.0 | 2292.9 | 2301.7 |
| 7.5°   | 2322.4 | 2310.4 | 2329.0 | 2298.4 | 2308.2 | 2298.4 | 2321.3 | 2309.3 | 2320.2 | 2327.9 |
| 10°    | 2353.0 | 2346.4 | 2344.3 | 2333.3 | 2341.0 | 2319.1 | 2347.5 | 2347.5 | 2353.0 | 2373.7 |
| 12.5°  | 2397.8 | 2389.0 | 2383.6 | 2363.9 | 2371.6 | 2365.0 | 2387.9 | 2392.3 | 2402.1 | 2410.9 |
| 15°    | 2458.9 | 2443.6 | 2438.2 | 2420.7 | 2426.2 | 2425.1 | 2441.4 | 2442.5 | 2464.4 | 2463.3 |
| 17.5°  | 2537.5 | 2515.7 | 2522.2 | 2509.1 | 2510.2 | 2501.5 | 2492.8 | 2492.8 | 2512.4 | 2516.8 |
| 20°    | 2631.4 | 2507.0 | 2343.2 | 2251.5 | 2235.1 | 2247.1 | 2294.0 | 2371.6 | 2274.4 | 2301.7 |
| 22.5°  | 2462.2 | 2349.7 | 2342.1 | 2321.3 | 2308.2 | 2015.6 | 1940.3 | 1916.2 | 2041.8 | 2258.0 |
| 25°    | 2484.0 | 2436.0 | 2421.8 | 2395.6 | 2009.1 | 2005.8 | 1983.9 | 1947.9 | 1592.0 | 1584.3 |
| 27.5°  | 2599.8 | 2552.8 | 2529.9 | 2098.6 | 2089.9 | 2088.8 | 2056.0 | 1694.6 | 1612.7 | 1623.6 |
| 30°    | 2735.2 | 2680.6 | 2270.0 | 2204.5 | 2196.9 | 2179.4 | 1991.6 | 1673.8 | 1672.8 | 1673.8 |
| 32.5°  | 2891.3 | 2710.0 | 2335.5 | 2332.3 | 2336.6 | 2283.1 | 1764.5 | 1757.9 | 1756.8 | 1767.8 |
| 35°    | 3105.3 | 2514.6 | 2499.3 | 2515.7 | 2492.8 | 1974.1 | 1870.4 | 1867.1 | 1868.2 | 1862.7 |
| 37.5°  | 2963.4 | 2711.1 | 2707.9 | 2707.9 | 2654.4 | 2020.0 | 1999.2 | 2014.5 | 2012.3 | 2004.7 |
| 40°    | 3023.4 | 2949.2 | 2929.5 | 2923.0 | 2243.8 | 2179.4 | 2167.4 | 2187.0 | 2190.3 | 2195.8 |
| 42.5°  | 3314.9 | 3247.2 | 3237.4 | 3159.9 | 2441.4 | 2420.7 | 2383.6 | 2404.3 | 2402.1 | 2408.7 |
| 45°    | 3673.1 | 3627.2 | 3584.6 | 2739.5 | 2707.9 | 2681.7 | 2643.4 | 2667.5 | 2674.0 | 2669.6 |
| 47.5°  | 4090.2 | 4039.9 | 3732.0 | 3012.5 | 3011.4 | 2990.7 | 2948.1 | 2967.7 | 2964.4 | 2964.4 |
| 50°    | 4509.5 | 4454.9 | 3390.3 | 3359.7 | 3348.8 | 3316.0 | 3281.1 | 3284.4 | 3285.5 | 3296.4 |
| 52.5°  | 4977.9 | 3978.8 | 3752.8 | 3691.6 | 3700.4 | 3678.5 | 3644.7 | 2759.2 | 3628.3 | 3638.1 |
| 55°    | 4652.5 | 4164.4 | 4151.3 | 4070.5 | 4091.3 | 4062.9 | 4041.0 | 2722.1 | 3608.7 | 3987.5 |
| 57.5°  | 4600.1 | 4565.1 | 4554.2 | 4471.2 | 4497.4 | 4227.8 | 4429.7 | 2978.6 | 2496.0 | 1823.4 |
| 60°    | 5000.8 | 4963.7 | 4957.1 | 4884.0 | 4881.8 | 3359.7 | 4026.8 | 2042.9 | 1596.3 | 1607.2 |
| 62.5°  | 5389.5 | 5329.5 | 5345.8 | 5259.6 | 3708.0 | 2047.3 | 1804.9 | 45.9   | 73.2   | 77.5   |
| 65°    | 5823.0 | 5722.5 | 5738.9 | 5659.2 | 3824.8 | 2158.6 | 1951.2 | 24.0   | 20.7   | 19.7   |
| 67.5°  | 6240.1 | 6064.3 | 5980.2 | 5896.1 | 3972.3 | 2273.3 | 2033.1 | 6.6    | 0.0    | 0.0    |
| 68°    | 6219.3 | 6033.7 | 5947.5 | 5867.8 | 3957.0 | 2270.0 | 2028.7 | 6.6    | 0.0    | 0.0    |
| 70°    | 5868.8 | 5701.8 | 5619.9 | 5558.8 | 3777.9 | 2192.5 | 1946.8 | 6.6    | 0.0    | 0.0    |
| 72.5°  | 5130.7 | 5037.9 | 4985.5 | 4932.0 | 3356.4 | 1961.0 | 1745.9 | 6.6    | 0.0    | 0.0    |
| 75°    | 4359.9 | 4333.7 | 4300.9 | 4183.0 | 2797.4 | 1605.1 | 1434.7 | 6.6    | 0.0    | 0.0    |
| 77.5°  | 3454.7 | 3453.6 | 3373.9 | 3235.2 | 2106.2 | 1178.1 | 1058.0 | 5.5    | 0.0    | 0.0    |
| 80°    | 1868.2 | 2036.4 | 1975.2 | 1904.2 | 1194.5 | 640.9  | 610.4  | 4.4    | 0.0    | 0.0    |
| 82.5°  | 525.2  | 496.8  | 477.2  | 446.6  | 251.1  | 139.8  | 136.5  | 4.4    | 0.0    | 0.0    |
| 85°    | 73.2   | 80.8   | 89.5   | 101.5  | 57.9   | 37.1   | 32.8   | 2.2    | 0.0    | 0.0    |
| 87.5°  | 41.5   | 47.0   | 57.9   | 60.1   | 21.8   | 17.5   | 5.5    | 0.0    | 0.0    | 0.0    |
| 90°    | 8.7    | 9.8    | 10.9   | 10.9   | 4.4    | 4.4    | 0.0    | 0.0    | 0.0    | 0.0    |
| 92.5°  | 0.0    | 1.1    | 1.1    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 95°    | 1.1    | 1.1    | 1.1    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 97.5°  | 1.1    | 1.1    | 1.1    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 100°   | 1.1    | 1.1    | 1.1    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 102.5° | 1.1    | 1.1    | 1.1    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 105°   | 1.1    | 1.1    | 1.1    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 107.5° | 1.1    | 1.1    | 1.1    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P522114

CATALOG NUMBER: CST-CA10-210-730-U-T5R-HSS-HM-EX120

**CANDELA DISTRIBUTION (continued):**

|        | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|--------|-----|------|------|------|------|------|------|------|------|------|
| 110°   | 1.1 | 1.1  | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 112.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 115°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 117.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 120°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 122.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 125°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 127.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 130°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 132.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 135°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 137.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 140°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 142.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 145°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 147.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 150°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 152.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 155°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 157.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 160°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 162.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 165°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 167.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 170°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 172.5° | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 175°   | 1.1 | 1.1  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 177.5° | 1.1 | 1.1  | 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: SP1-2104-215-6

Luminaire Tested: CST-CA6-230-730-U-T4

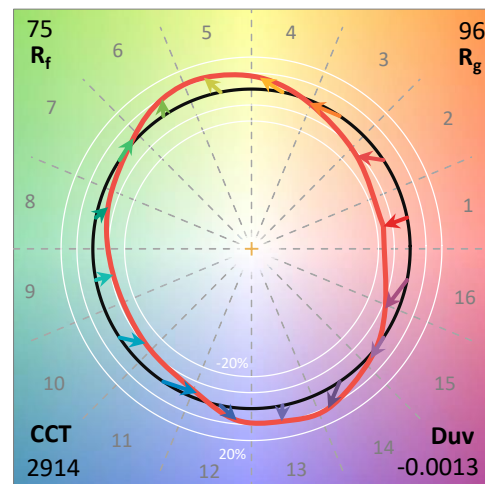
Test Date: 04/22/2021

### Test Information

Test Method: LM-79-08  
 Report Number: SP1-2104-215-6  
 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-CA6-230-730-U-T4**  
 Description: STREETWORKS HIGH MAST LUMINAIRE

### Spectral Parameters

|                           |         |           |      |      |       |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K):                  | 2914    | CRI (Ra): | 73.2 |      |       |
| CIE u':                   | 0.2541  | R1:       | 70.1 | R9:  | -27.2 |
| CIE v':                   | 0.5212  | R2:       | 83.3 | R10: | 61.9  |
| Duv:                      | -0.0013 | R3:       | 94.2 | R11: | 65.4  |
| CIE x:                    | 0.4410  | R4:       | 69.4 | R12: | 53.3  |
| CIE y:                    | 0.4020  | R5:       | 69.3 | R13: | 72.6  |
| CIE z:                    | 0.1571  | R6:       | 77.3 | R14: | 96.9  |
| Peak Wavelength (nm):     | 599     | R7:       | 77.5 |      |       |
| Dominant Wavelength (nm): | 583     | R8:       | 44.9 |      |       |
| Purity:                   | 53.4    |           |      |      |       |
| Rf:                       | 75.3    |           |      |      |       |
| Rg:                       | 95.7    |           |      |      |       |



### Test Conditions

Stabilization Time: 72M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.6/15%  
 Sphere Temperature (°C): 24.0

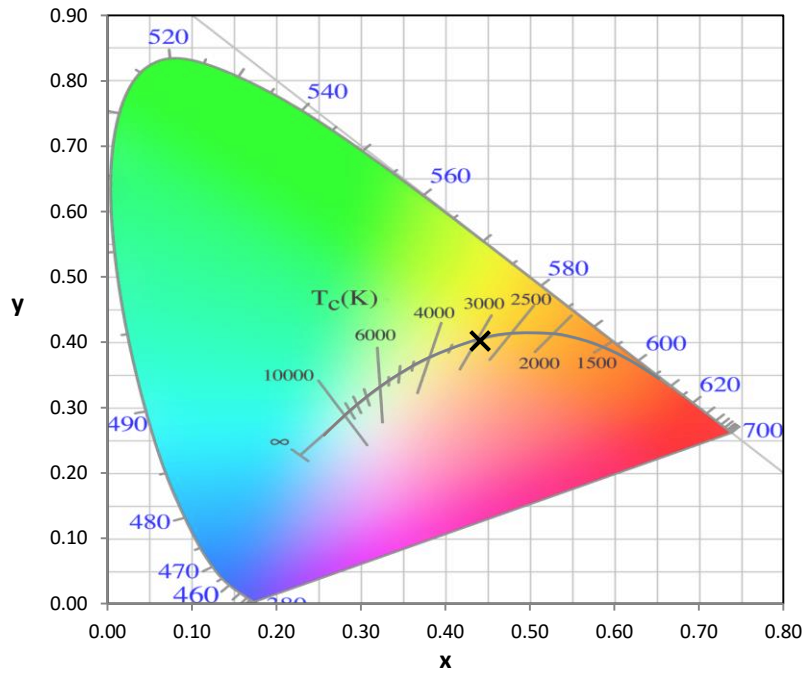
REPORT NUMBER: SP1-2104-215-6

| 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            |

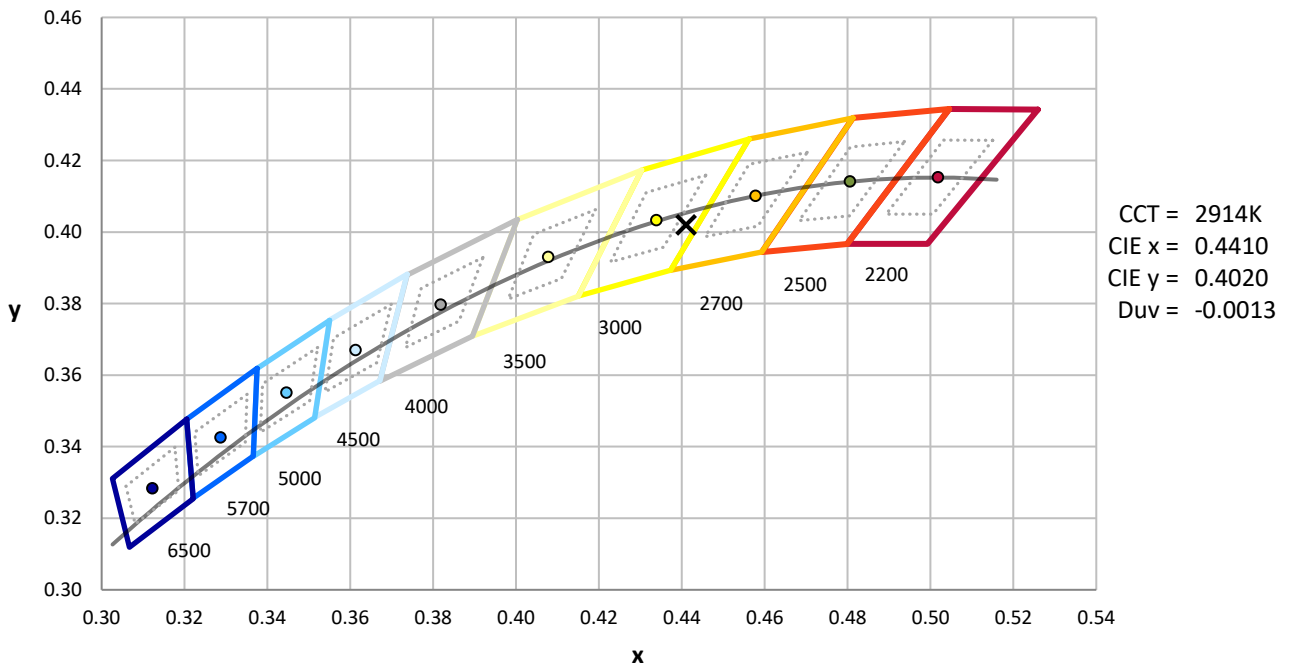


REPORT NUMBER: SP1-2104-215-6

**CIE 1931 Chromaticity Diagram**



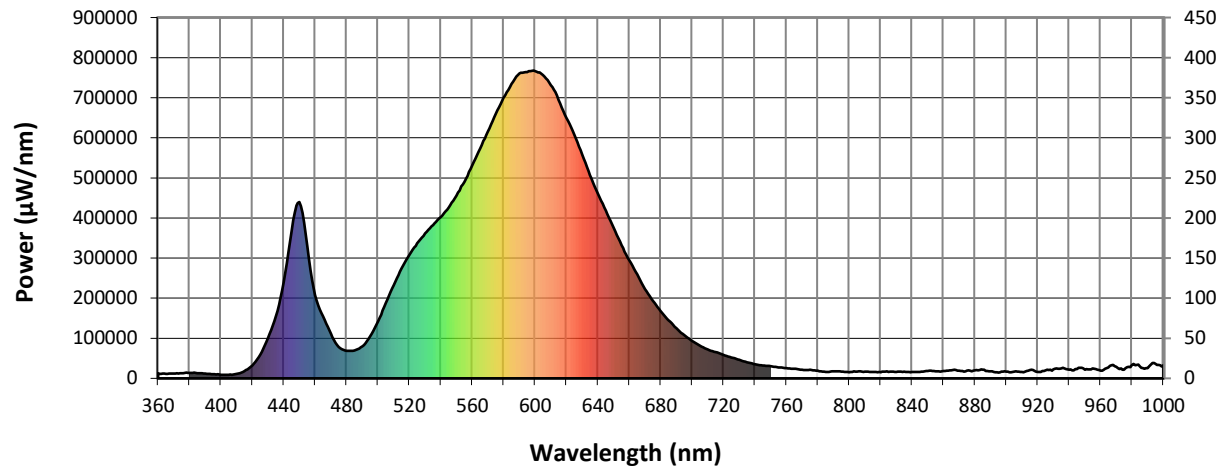
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 3000K 7-step quadrangle

REPORT NUMBER: SP1-2104-215-6

### Photopic Flux vs. Wavelength

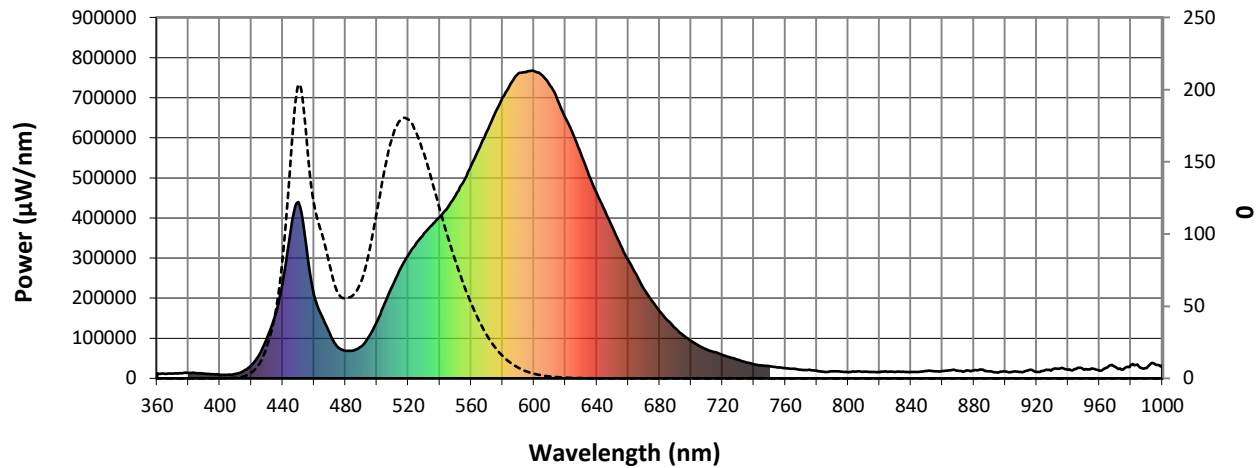


#####

| 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       | 12827            | 0.0              | 490       | 80096            | 11.4             | 620       | 649050           | 168.9            | 750       | 30187            | 0.0              | 880       | 19756            | 0.0              |
| 365       | 11336            | 0.0              | 495       | 104447           | 18.9             | 625       | 608162           | 134.2            | 755       | 27442            | 0.0              | 885       | 21245            | 0.0              |
| 370       | 11776            | 0.0              | 500       | 142477           | 31.4             | 630       | 557990           | 101.0            | 760       | 25382            | 0.0              | 890       | 17771            | 0.0              |
| 375       | 13009            | 0.0              | 505       | 187724           | 52.5             | 635       | 506861           | 76.2             | 765       | 23778            | 0.0              | 895       | 14356            | 0.0              |
| 380       | 13906            | 0.0              | 510       | 232209           | 79.8             | 640       | 460827           | 55.1             | 770       | 21474            | 0.0              | 900       | 16683            | 0.0              |
| 385       | 12960            | 0.0              | 515       | 273388           | 113.2            | 645       | 418064           | 40.3             | 775       | 21394            | 0.0              | 905       | 16548            | 0.0              |
| 390       | 11750            | 0.0              | 520       | 308378           | 149.5            | 650       | 376246           | 27.5             | 780       | 18945            | 0.0              | 910       | 15630            | 0.0              |
| 395       | 10399            | 0.0              | 525       | 336804           | 180.8            | 655       | 332016           | 19.0             | 785       | 16318            | 0.0              | 915       | 20907            | 0.0              |
| 400       | 9192             | 0.0              | 530       | 361609           | 212.9            | 660       | 294638           | 12.3             | 790       | 17841            | 0.0              | 920       | 16083            | 0.0              |
| 405       | 8943             | 0.0              | 535       | 382440           | 237.2            | 665       | 259105           | 8.2              | 795       | 16506            | 0.0              | 925       | 20203            | 0.0              |
| 410       | 11120            | 0.0              | 540       | 401976           | 261.9            | 670       | 223041           | 4.9              | 800       | 15058            | 0.0              | 930       | 22625            | 0.0              |
| 415       | 18193            | 0.0              | 545       | 426232           | 283.7            | 675       | 193569           | 3.2              | 805       | 16851            | 0.0              | 935       | 24828            | 0.0              |
| 420       | 32317            | 0.1              | 550       | 455969           | 309.9            | 680       | 167520           | 1.9              | 810       | 16679            | 0.0              | 940       | 21275            | 0.0              |
| 425       | 59220            | 0.3              | 555       | 490448           | 335.0            | 685       | 144697           | 1.2              | 815       | 15851            | 0.0              | 945       | 23270            | 0.0              |
| 430       | 100522           | 0.8              | 560       | 530799           | 360.7            | 690       | 125032           | 0.7              | 820       | 15536            | 0.0              | 950       | 21756            | 0.0              |
| 435       | 155311           | 1.8              | 565       | 572799           | 380.9            | 695       | 107458           | 0.5              | 825       | 16381            | 0.0              | 955       | 24823            | 0.0              |
| 440       | 239817           | 3.8              | 570       | 615361           | 400.1            | 700       | 93549            | 0.3              | 830       | 16149            | 0.0              | 960       | 19499            | 0.0              |
| 445       | 368265           | 7.7              | 575       | 659689           | 410.5            | 705       | 81608            | 0.2              | 835       | 16687            | 0.0              | 965       | 27077            | 0.0              |
| 450       | 439895           | 11.4             | 580       | 700037           | 416.0            | 710       | 71559            | 0.1              | 840       | 16206            | 0.0              | 970       | 28727            | 0.0              |
| 455       | 329010           | 11.0             | 585       | 734518           | 408.1            | 715       | 65193            | 0.1              | 845       | 16062            | 0.0              | 975       | 21725            | 0.0              |
| 460       | 207545           | 8.5              | 590       | 760906           | 393.4            | 720       | 58466            | 0.0              | 850       | 18530            | 0.0              | 980       | 33536            | 0.0              |
| 465       | 154577           | 8.0              | 595       | 763605           | 362.0            | 725       | 52265            | 0.0              | 855       | 17709            | 0.0              | 985       | 30537            | 0.0              |
| 470       | 110708           | 6.9              | 600       | 766048           | 330.1            | 730       | 46287            | 0.0              | 860       | 18086            | 0.0              | 990       | 25187            | 0.0              |
| 475       | 78445            | 6.2              | 605       | 756483           | 293.0            | 735       | 40164            | 0.0              | 865       | 19763            | 0.0              | 995       | 35676            | 0.0              |
| 480       | 68887            | 6.5              | 610       | 730981           | 251.1            | 740       | 35097            | 0.0              | 870       | 19416            | 0.0              | 1000      | 32909            | 0.0              |
| 485       | 69832            | 8.3              | 615       | 694682           | 209.7            | 745       | 32334            | 0.0              | 875       | 19352            | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2104-215-6

### Scotopic Flux vs. Wavelength



Scotopic Lumens: 43125.2

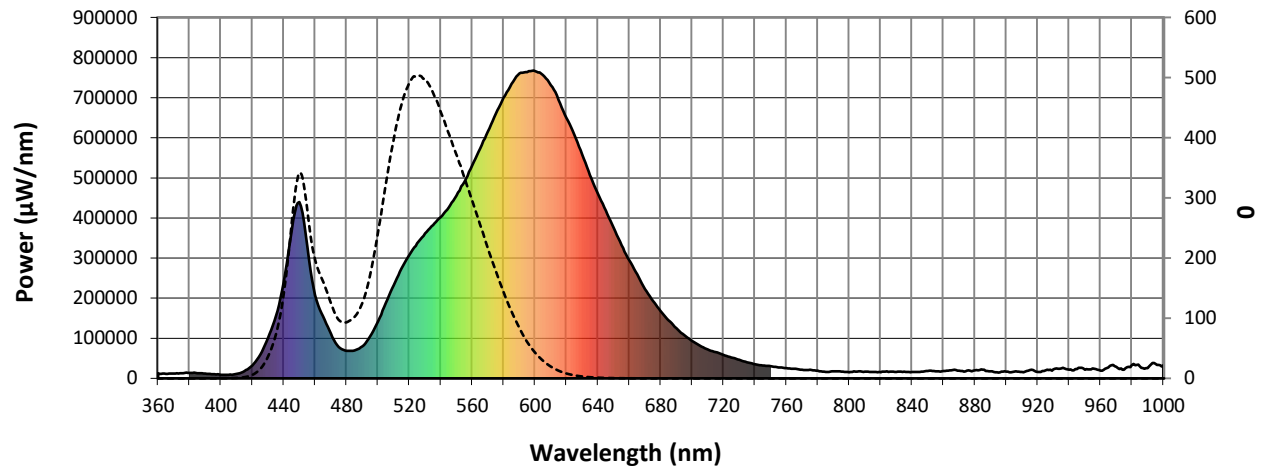
S/P: 1.19

| 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       | 12827            | 0.0              | 490       | 80096            | 123.3            | 620       | 649050           | 8.1              | 750       | 30187            | 0.0              | 880       | 19756            | 0.0              |
| 365       | 11336            | 0.0              | 495       | 104447           | 168.8            | 625       | 608162           | 5.1              | 755       | 27442            | 0.0              | 885       | 21245            | 0.0              |
| 370       | 11776            | 0.0              | 500       | 142477           | 238.3            | 630       | 557990           | 3.2              | 760       | 25382            | 0.0              | 890       | 17771            | 0.0              |
| 375       | 13009            | 0.0              | 505       | 187724           | 319.1            | 635       | 506861           | 1.9              | 765       | 23778            | 0.0              | 895       | 14356            | 0.0              |
| 380       | 13906            | 0.0              | 510       | 232209           | 393.6            | 640       | 460827           | 1.2              | 770       | 21474            | 0.0              | 900       | 16683            | 0.0              |
| 385       | 12960            | 0.0              | 515       | 273388           | 453.1            | 645       | 418064           | 0.7              | 775       | 21394            | 0.0              | 905       | 16548            | 0.0              |
| 390       | 11750            | 0.0              | 520       | 308378           | 490.2            | 650       | 376246           | 0.4              | 780       | 18945            | 0.0              | 910       | 15630            | 0.0              |
| 395       | 10399            | 0.1              | 525       | 336804           | 503.9            | 655       | 332016           | 0.3              | 785       | 16318            | 0.0              | 915       | 20907            | 0.0              |
| 400       | 9192             | 0.1              | 530       | 361609           | 498.6            | 660       | 294638           | 0.2              | 790       | 17841            | 0.0              | 920       | 16083            | 0.0              |
| 405       | 8943             | 0.3              | 535       | 382440           | 476.6            | 665       | 259105           | 0.1              | 795       | 16506            | 0.0              | 925       | 20203            | 0.0              |
| 410       | 11120            | 0.7              | 540       | 401976           | 444.2            | 670       | 223041           | 0.1              | 800       | 15058            | 0.0              | 930       | 22625            | 0.0              |
| 415       | 18193            | 1.9              | 545       | 426232           | 408.7            | 675       | 193569           | 0.0              | 805       | 16851            | 0.0              | 935       | 24828            | 0.0              |
| 420       | 32317            | 5.3              | 550       | 455969           | 372.8            | 680       | 167520           | 0.0              | 810       | 16679            | 0.0              | 940       | 21275            | 0.0              |
| 425       | 59220            | 14.5             | 555       | 490448           | 335.2            | 685       | 144697           | 0.0              | 815       | 15851            | 0.0              | 945       | 23270            | 0.0              |
| 430       | 100522           | 34.2             | 560       | 530799           | 296.7            | 690       | 125032           | 0.0              | 820       | 15536            | 0.0              | 950       | 21756            | 0.0              |
| 435       | 155311           | 69.4             | 565       | 572799           | 257.0            | 695       | 107458           | 0.0              | 825       | 16381            | 0.0              | 955       | 24823            | 0.0              |
| 440       | 239817           | 134.0            | 570       | 615361           | 217.2            | 700       | 93549            | 0.0              | 830       | 16149            | 0.0              | 960       | 19499            | 0.0              |
| 445       | 368265           | 246.6            | 575       | 659689           | 179.7            | 705       | 81608            | 0.0              | 835       | 16687            | 0.0              | 965       | 27077            | 0.0              |
| 450       | 439895           | 340.9            | 580       | 700037           | 144.2            | 710       | 71559            | 0.0              | 840       | 16206            | 0.0              | 970       | 28727            | 0.0              |
| 455       | 329010           | 287.5            | 585       | 734518           | 112.3            | 715       | 65193            | 0.0              | 845       | 16062            | 0.0              | 975       | 21725            | 0.0              |
| 460       | 207545           | 200.5            | 590       | 760906           | 84.7             | 720       | 58466            | 0.0              | 850       | 18530            | 0.0              | 980       | 33536            | 0.0              |
| 465       | 154577           | 163.3            | 595       | 763605           | 60.9             | 725       | 52265            | 0.0              | 855       | 17709            | 0.0              | 985       | 30537            | 0.0              |
| 470       | 110708           | 127.5            | 600       | 766048           | 43.2             | 730       | 46287            | 0.0              | 860       | 18086            | 0.0              | 990       | 25187            | 0.0              |
| 475       | 78445            | 98.1             | 605       | 756483           | 29.7             | 735       | 40164            | 0.0              | 865       | 19763            | 0.0              | 995       | 35676            | 0.0              |
| 480       | 68887            | 93.1             | 610       | 730981           | 19.8             | 740       | 35097            | 0.0              | 870       | 19416            | 0.0              | 1000      | 32909            | 0.0              |
| 485       | 69832            | 101.2            | 615       | 694682           | 12.8             | 745       | 32334            | 0.0              | 875       | 19352            | 0.0              |           |                  |                  |



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### Melanopic Flux vs. Wavelength

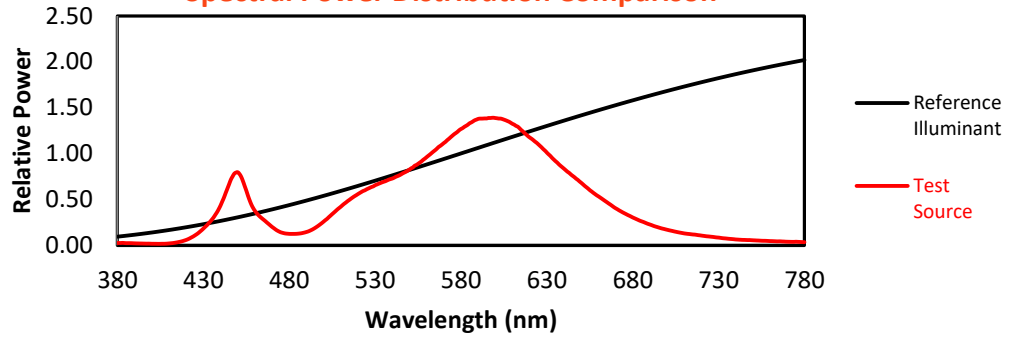

**Melanopic Lumens: 15555.2    M/P: 0.43**

| 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       | 12827            | 0.0              | 490       | 80096            | 66.7             | 620       | 649050           | 0.5              | 750       | 30187            | 0.0              | 880       | 19756            | 0.0              |
| 365       | 11336            | 0.0              | 495       | 104447           | 86.2             | 625       | 608162           | 0.3              | 755       | 27442            | 0.0              | 885       | 21245            | 0.0              |
| 370       | 11776            | 0.0              | 500       | 142477           | 114.5            | 630       | 557990           | 0.2              | 760       | 25382            | 0.0              | 890       | 17771            | 0.0              |
| 375       | 13009            | 0.0              | 505       | 187724           | 144.1            | 635       | 506861           | 0.1              | 765       | 23778            | 0.0              | 895       | 14356            | 0.0              |
| 380       | 13906            | 0.0              | 510       | 232209           | 166.7            | 640       | 460827           | 0.1              | 770       | 21474            | 0.0              | 900       | 16683            | 0.0              |
| 385       | 12960            | 0.0              | 515       | 273388           | 178.6            | 645       | 418064           | 0.0              | 775       | 21394            | 0.0              | 905       | 16548            | 0.0              |
| 390       | 11750            | 0.0              | 520       | 308378           | 179.5            | 650       | 376246           | 0.0              | 780       | 18945            | 0.0              | 910       | 15630            | 0.0              |
| 395       | 10399            | 0.1              | 525       | 336804           | 170.8            | 655       | 332016           | 0.0              | 785       | 16318            | 0.0              | 915       | 20907            | 0.0              |
| 400       | 9192             | 0.1              | 530       | 361609           | 156.3            | 660       | 294638           | 0.0              | 790       | 17841            | 0.0              | 920       | 16083            | 0.0              |
| 405       | 8943             | 0.2              | 535       | 382440           | 137.6            | 665       | 259105           | 0.0              | 795       | 16506            | 0.0              | 925       | 20203            | 0.0              |
| 410       | 11120            | 0.4              | 540       | 401976           | 117.6            | 670       | 223041           | 0.0              | 800       | 15058            | 0.0              | 930       | 22625            | 0.0              |
| 415       | 18193            | 1.2              | 545       | 426232           | 99.0             | 675       | 193569           | 0.0              | 805       | 16851            | 0.0              | 935       | 24828            | 0.0              |
| 420       | 32317            | 3.7              | 550       | 455969           | 81.9             | 680       | 167520           | 0.0              | 810       | 16679            | 0.0              | 940       | 21275            | 0.0              |
| 425       | 59220            | 9.2              | 555       | 490448           | 66.1             | 685       | 144697           | 0.0              | 815       | 15851            | 0.0              | 945       | 23270            | 0.0              |
| 430       | 100522           | 21.2             | 560       | 530799           | 52.4             | 690       | 125032           | 0.0              | 820       | 15536            | 0.0              | 950       | 21756            | 0.0              |
| 435       | 155311           | 41.4             | 565       | 572799           | 40.2             | 695       | 107458           | 0.0              | 825       | 16381            | 0.0              | 955       | 24823            | 0.0              |
| 440       | 239817           | 80.1             | 570       | 615361           | 30.1             | 700       | 93549            | 0.0              | 830       | 16149            | 0.0              | 960       | 19499            | 0.0              |
| 445       | 368265           | 145.3            | 575       | 659689           | 22.0             | 705       | 81608            | 0.0              | 835       | 16687            | 0.0              | 965       | 27077            | 0.0              |
| 450       | 439895           | 202.7            | 580       | 700037           | 15.7             | 710       | 71559            | 0.0              | 840       | 16206            | 0.0              | 970       | 28727            | 0.0              |
| 455       | 329010           | 172.4            | 585       | 734518           | 10.9             | 715       | 65193            | 0.0              | 845       | 16062            | 0.0              | 975       | 21725            | 0.0              |
| 460       | 207545           | 122.3            | 590       | 760906           | 7.5              | 720       | 58466            | 0.0              | 850       | 18530            | 0.0              | 980       | 33536            | 0.0              |
| 465       | 154577           | 101.0            | 595       | 763605           | 4.9              | 725       | 52265            | 0.0              | 855       | 17709            | 0.0              | 985       | 30537            | 0.0              |
| 470       | 110708           | 79.3             | 600       | 766048           | 3.2              | 730       | 46287            | 0.0              | 860       | 18086            | 0.0              | 990       | 25187            | 0.0              |
| 475       | 78445            | 59.9             | 605       | 756483           | 2.1              | 735       | 40164            | 0.0              | 865       | 19763            | 0.0              | 995       | 35676            | 0.0              |
| 480       | 68887            | 55.4             | 610       | 730981           | 1.3              | 740       | 35097            | 0.0              | 870       | 19416            | 0.0              | 1000      | 32909            | 0.0              |
| 485       | 69832            | 57.6             | 615       | 694682           | 0.8              | 745       | 32334            | 0.0              | 875       | 19352            | 0.0              |           |                  |                  |

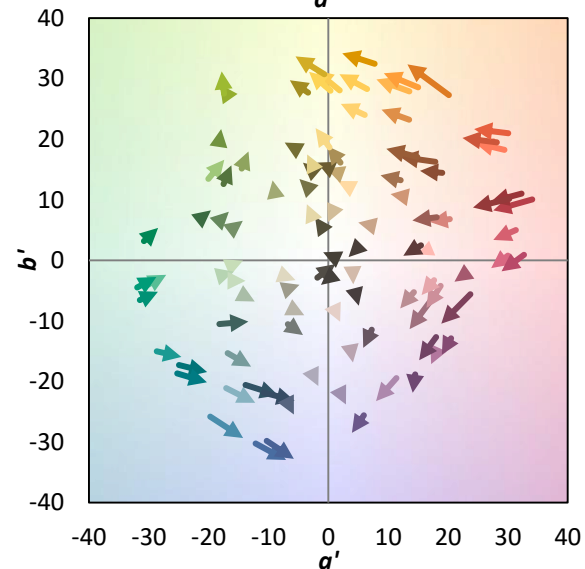
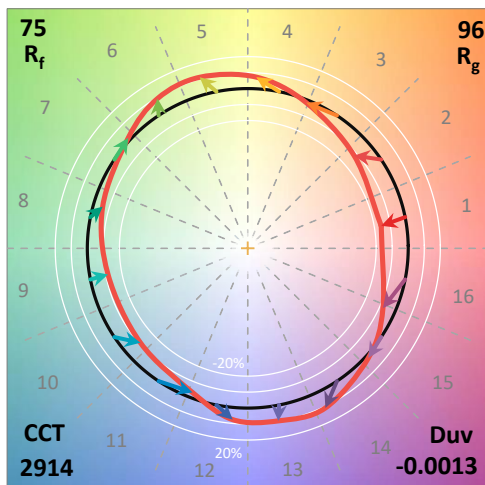
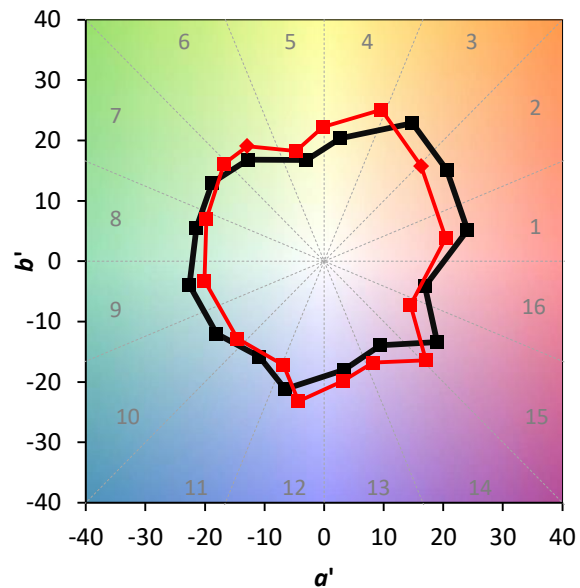
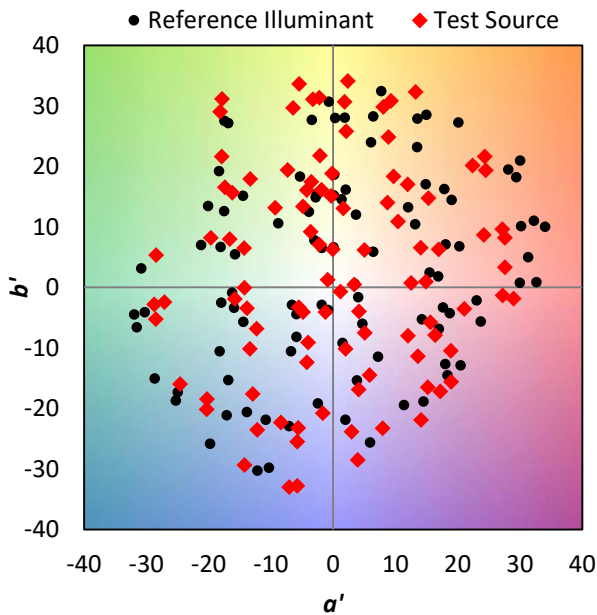
### Summary

$R_f = 75.3$   
 $R_g = 95.7$   
 CIE  $R_a = 73.2$   
 $R_g = -27.2$

### Spectral Power Distribution Comparison

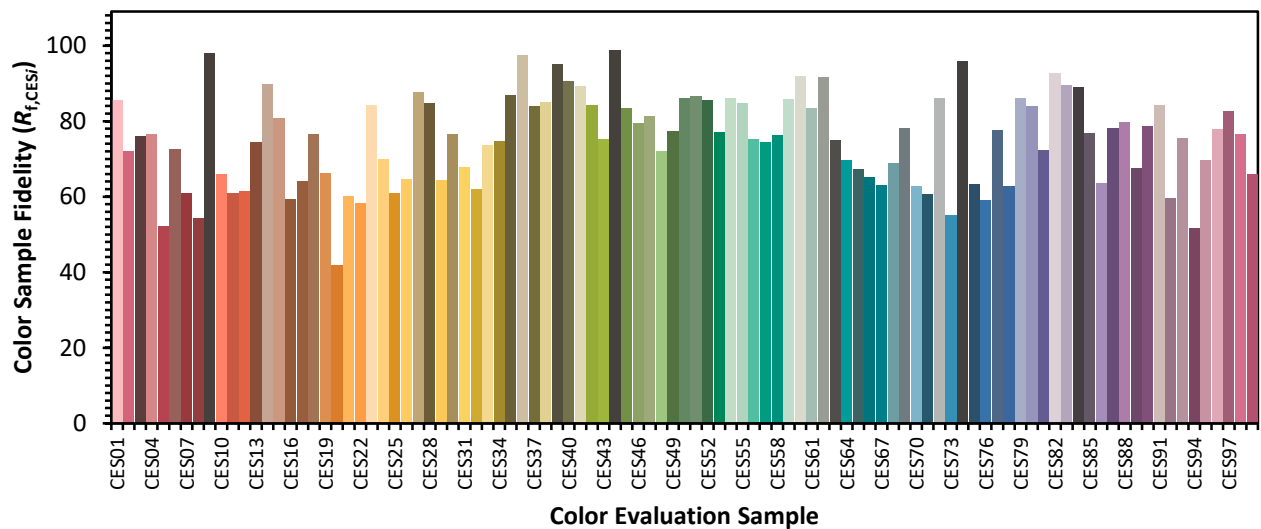


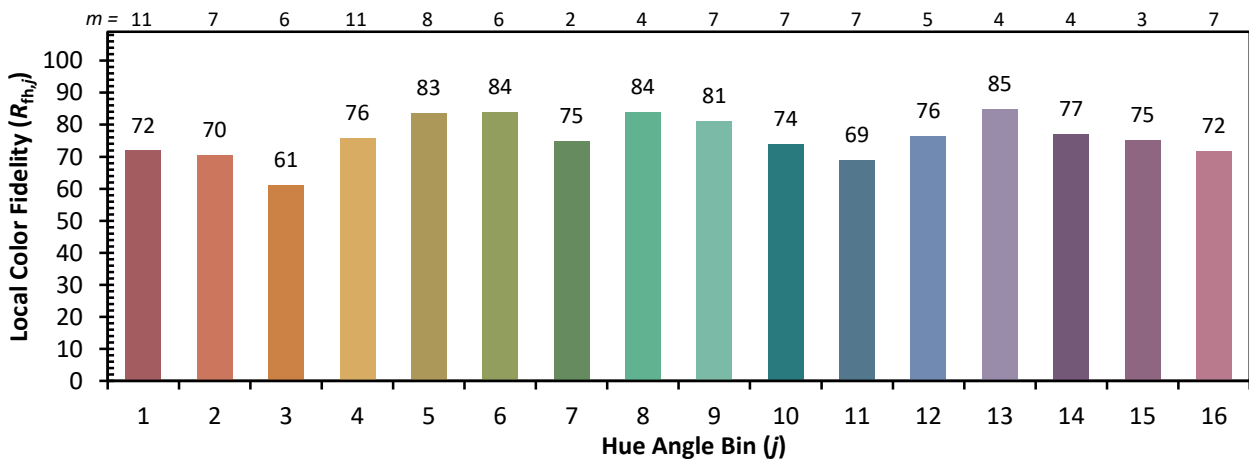
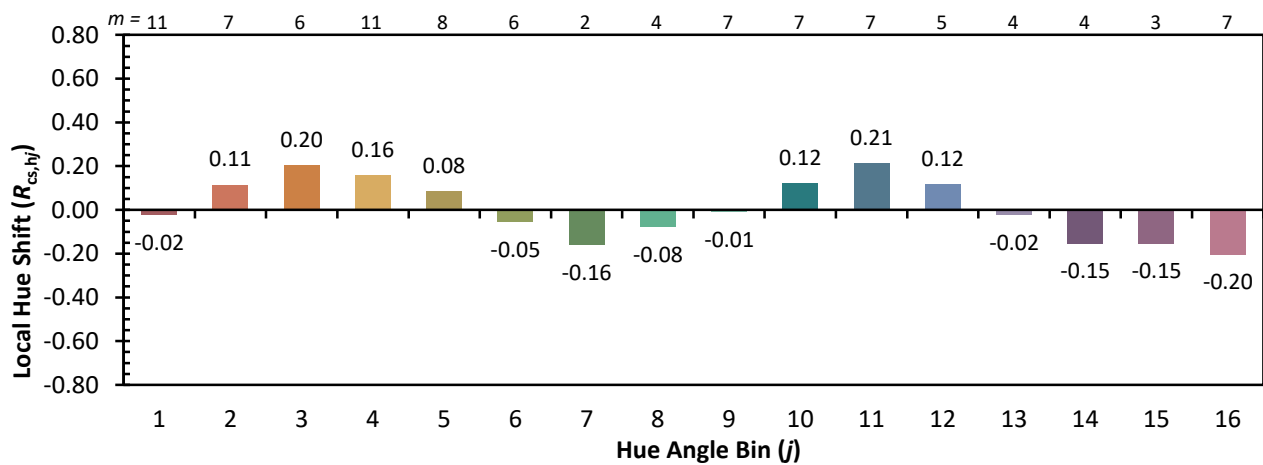
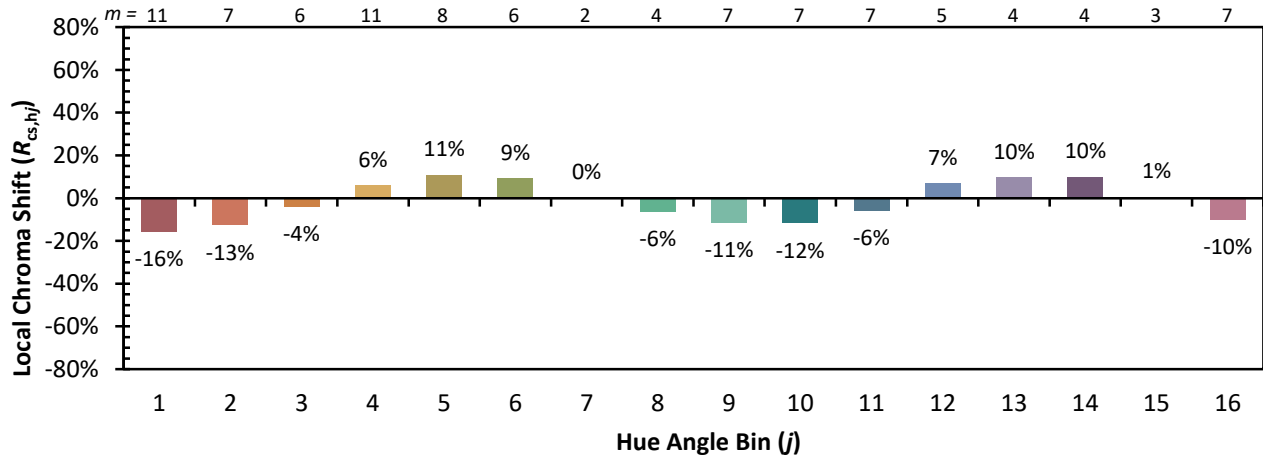
### Color Vector Graphics



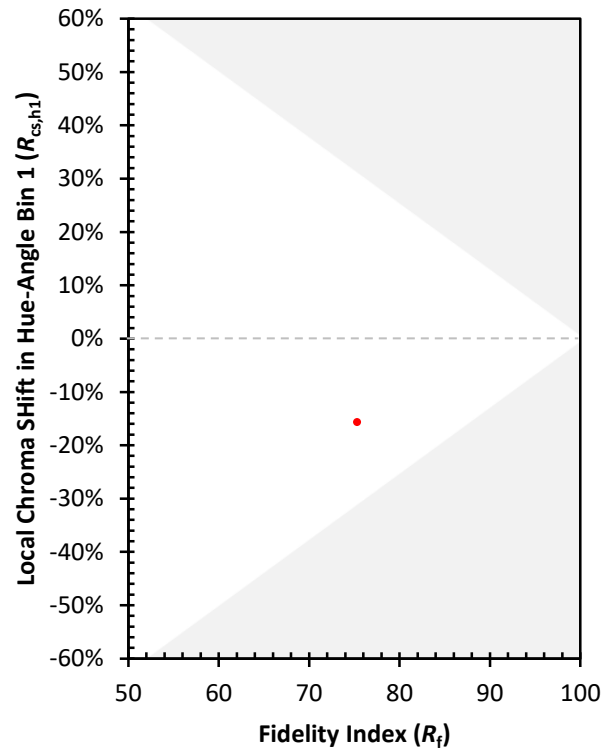
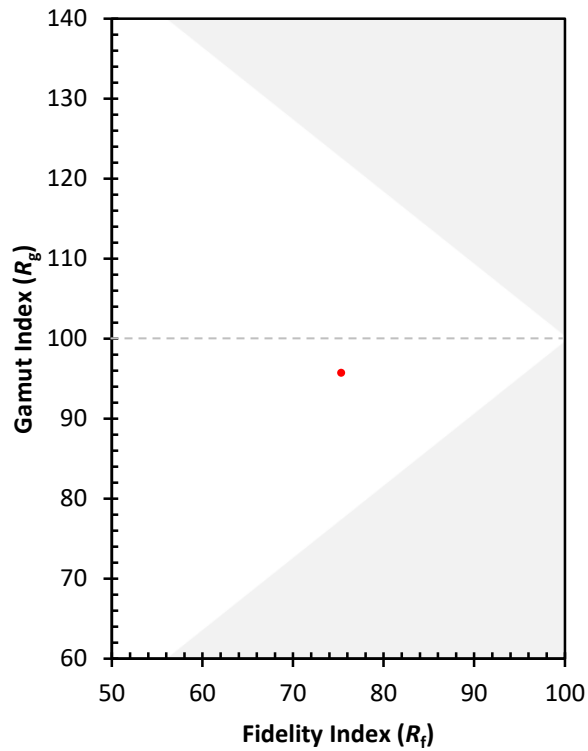
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 65 | CES51 = 87 | CES76 = 59 |
| CES02 = 63 | CES27 = 88 | CES52 = 86 | CES77 = 78 |
| CES03 = 31 | CES28 = 85 | CES53 = 77 | CES78 = 63 |
| CES04 = 71 | CES29 = 64 | CES54 = 86 | CES79 = 86 |
| CES05 = 49 | CES30 = 77 | CES55 = 85 | CES80 = 84 |
| CES06 = 51 | CES31 = 68 | CES56 = 75 | CES81 = 72 |
| CES07 = 42 | CES32 = 62 | CES57 = 75 | CES82 = 93 |
| CES08 = 40 | CES33 = 74 | CES58 = 76 | CES83 = 89 |
| CES09 = 29 | CES34 = 75 | CES59 = 86 | CES84 = 89 |
| CES10 = 76 | CES35 = 87 | CES60 = 92 | CES85 = 77 |
| CES11 = 59 | CES36 = 98 | CES61 = 84 | CES86 = 64 |
| CES12 = 65 | CES37 = 84 | CES62 = 92 | CES87 = 78 |
| CES13 = 43 | CES38 = 85 | CES63 = 75 | CES88 = 80 |
| CES14 = 74 | CES39 = 95 | CES64 = 70 | CES89 = 67 |
| CES15 = 71 | CES40 = 90 | CES65 = 67 | CES90 = 79 |
| CES16 = 47 | CES41 = 89 | CES66 = 65 | CES91 = 84 |
| CES17 = 50 | CES42 = 84 | CES67 = 63 | CES92 = 60 |
| CES18 = 56 | CES43 = 75 | CES68 = 69 | CES93 = 75 |
| CES19 = 73 | CES44 = 99 | CES69 = 78 | CES94 = 52 |
| CES20 = 66 | CES45 = 83 | CES70 = 63 | CES95 = 70 |
| CES21 = 87 | CES46 = 80 | CES71 = 61 | CES96 = 78 |
| CES22 = 79 | CES47 = 81 | CES72 = 86 | CES97 = 83 |
| CES23 = 92 | CES48 = 72 | CES73 = 55 | CES98 = 77 |
| CES24 = 91 | CES49 = 77 | CES74 = 96 | CES99 = 66 |
| CES25 = 73 | CES50 = 86 | CES75 = 63 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)