

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: P522233

Luminaire Tested: **CST-CA8-330-760-U-T5R-HSS-HM-EX90**

Issue Date: 5/10/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P522233  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1808-894-5)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 5/10/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: CST-CA8-330-760-U-T5R-HSS-HM-EX90  
Description: CELESTEON HIGH MAST LUMINAIRE  
Light Source: (8) 5700K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 41312.1 lumens  
Efficiency: N/A  
Efficacy: 124.6 lumens/watt  
Luminous Opening: Circular (Dia: 2.08' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B5 - U2 - G5

Input Watts (W): 331.5  
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

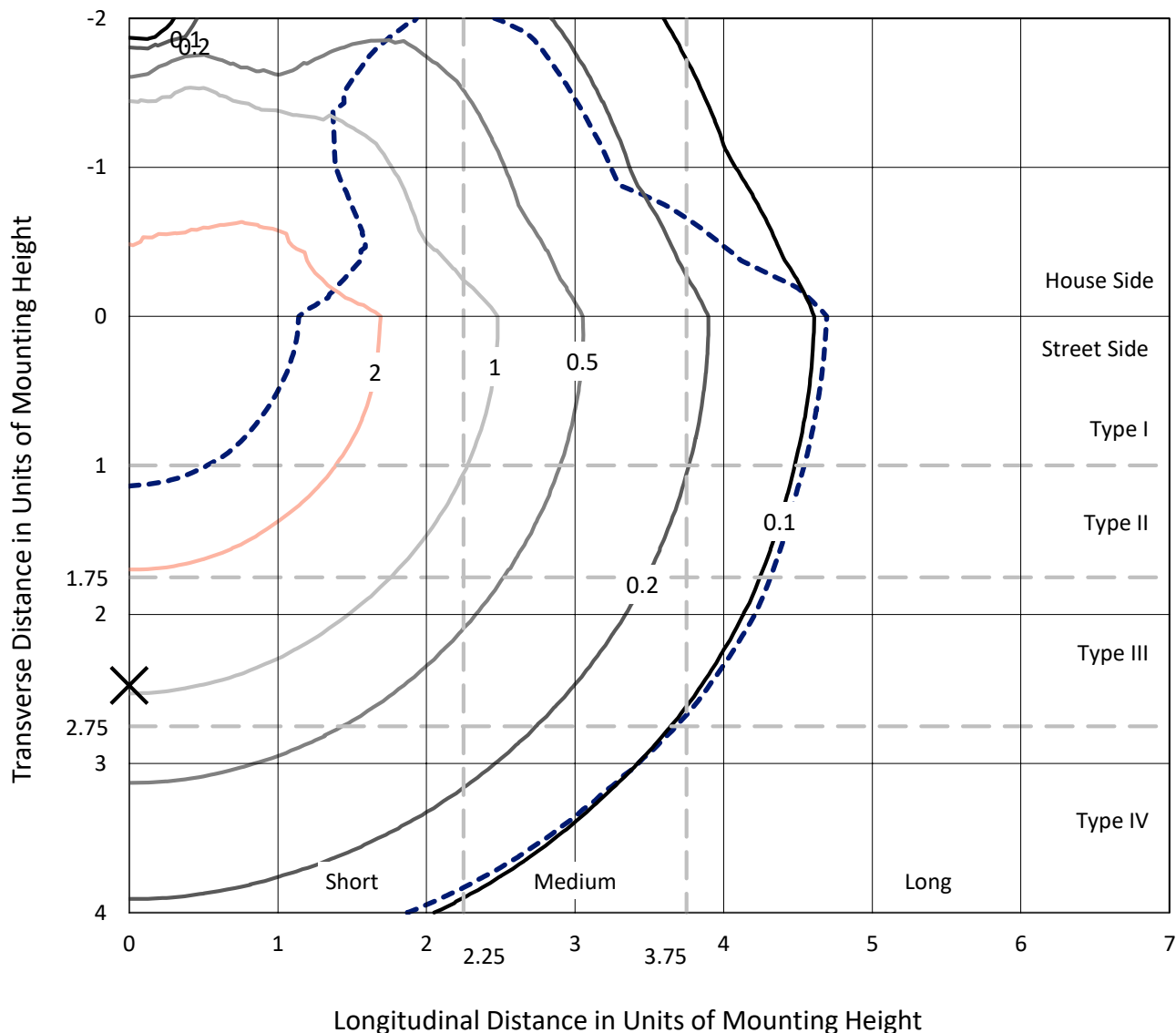


REPORT NUMBER: P522233

CATALOG NUMBER: CST-CA8-330-760-U-T5R-HSS-HM-EX90

## Iso-Footcandle Lines of Horizontal Illumination

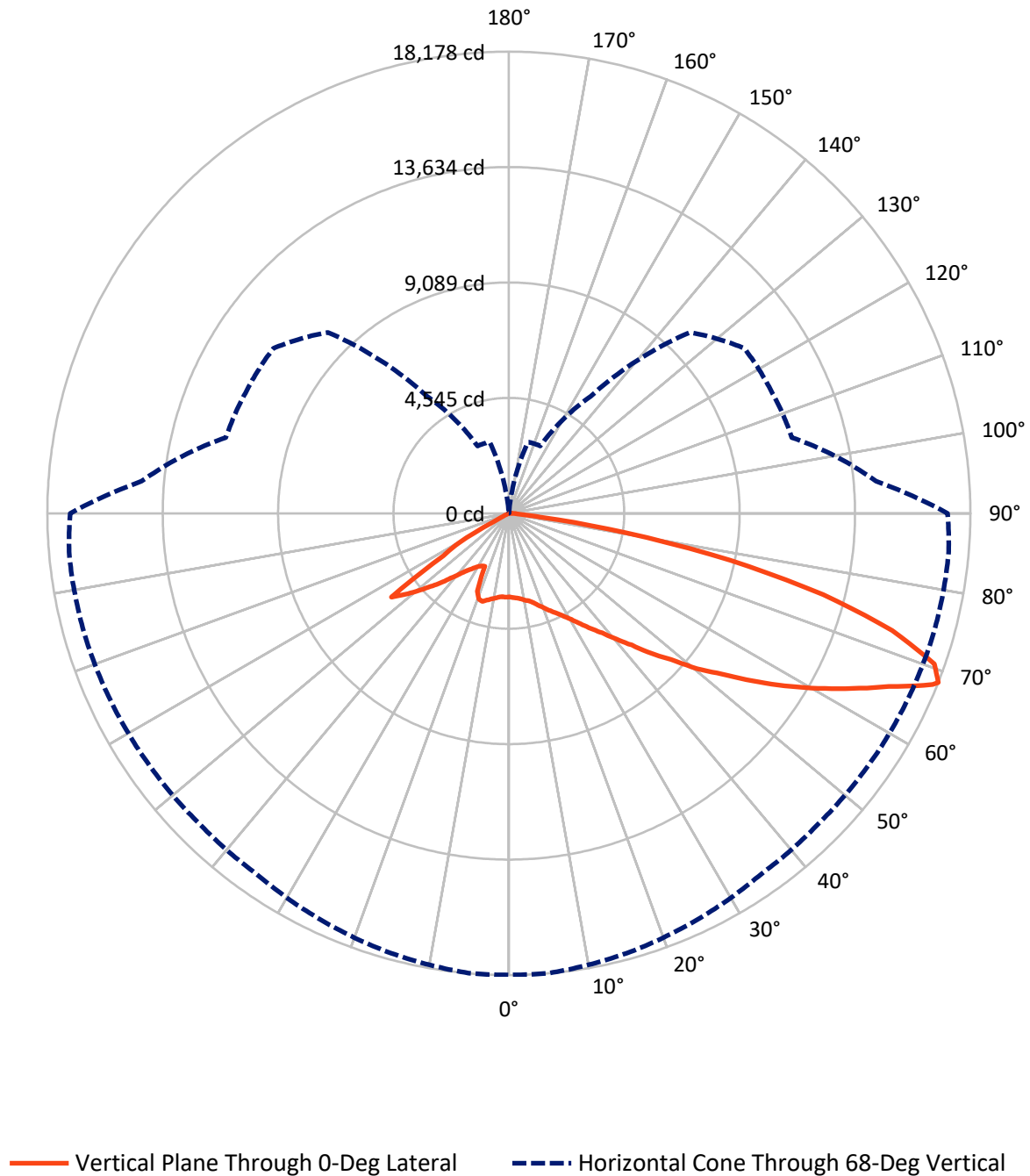
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 3.7 fc  
 Type IV - Short - N/A

REPORT NUMBER: P522233  
CATALOG NUMBER: CST-CA8-330-760-U-T5R-HSS-HM-EX90

## Luminous Intensity Polar Plot



REPORT NUMBER: P522233

CATALOG NUMBER: CST-CA8-330-760-U-T5R-HSS-HM-EX90

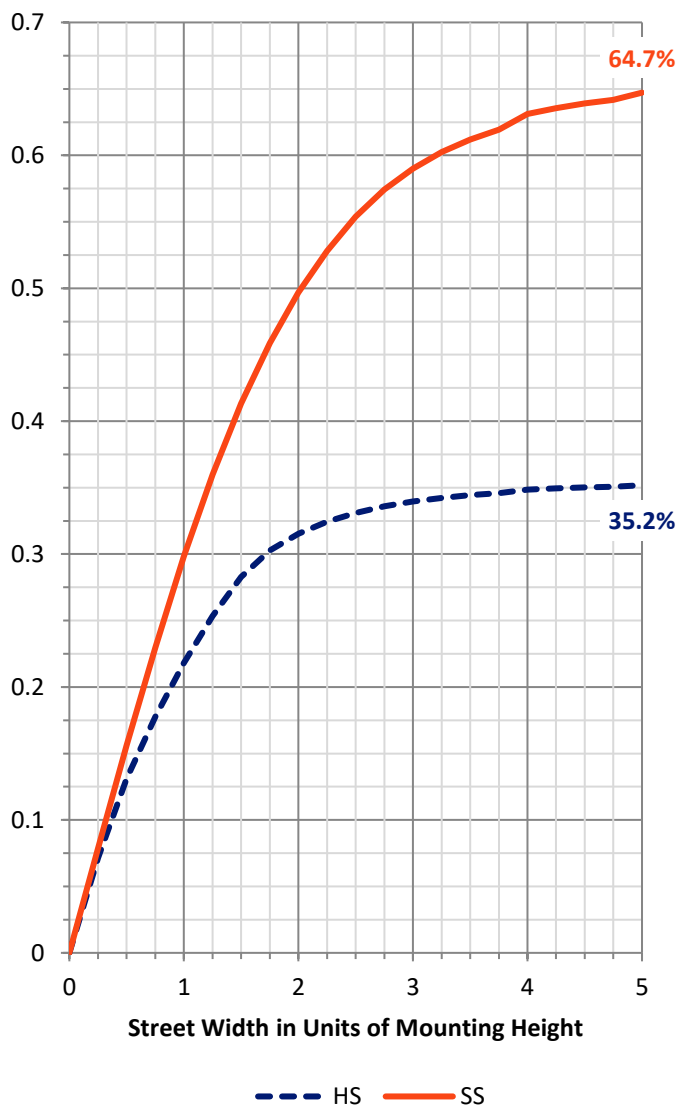
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 14539.0  | 2.5    | 14541.6 |
|                    | % Fixture | 35.2     | 0.0    | 35.2    |
| <b>Street Side</b> | Lumens    | 26759.6  | 10.9   | 26770.5 |
|                    | % Fixture | 64.8     | 0.0    | 64.8    |
| <b>Total</b>       | Lumens    | 41298.6  | 13.5   | 41312.1 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 318.1   | 0.8       |
| 10°-20°   | 1019.0  | 2.5       |
| 20°-30°   | 1819.2  | 4.4       |
| 30°-40°   | 2959.4  | 7.2       |
| 40°-50°   | 5053.8  | 12.2      |
| 50°-60°   | 8432.6  | 20.4      |
| 60°-70°   | 11731.4 | 28.4      |
| 70°-80°   | 9093.7  | 22.0      |
| 80°-90°   | 871.4   | 2.1       |
| 90°-100°  | 10.5    | 0.0       |
| 100°-110° | 0.9     | 0.0       |
| 110°-120° | 0.5     | 0.0       |
| 120°-130° | 0.3     | 0.0       |
| 130°-140° | 0.3     | 0.0       |
| 140°-150° | 0.4     | 0.0       |
| 150°-160° | 0.3     | 0.0       |
| 160°-170° | 0.2     | 0.0       |
| 170°-180° | 0.1     | 0.0       |
| 0°-90°    | 41298.6 | 100.0     |
| 0°-180°   | 41312.1 | 100.0     |

**Coefficient of Utilization**



REPORT NUMBER: P522233

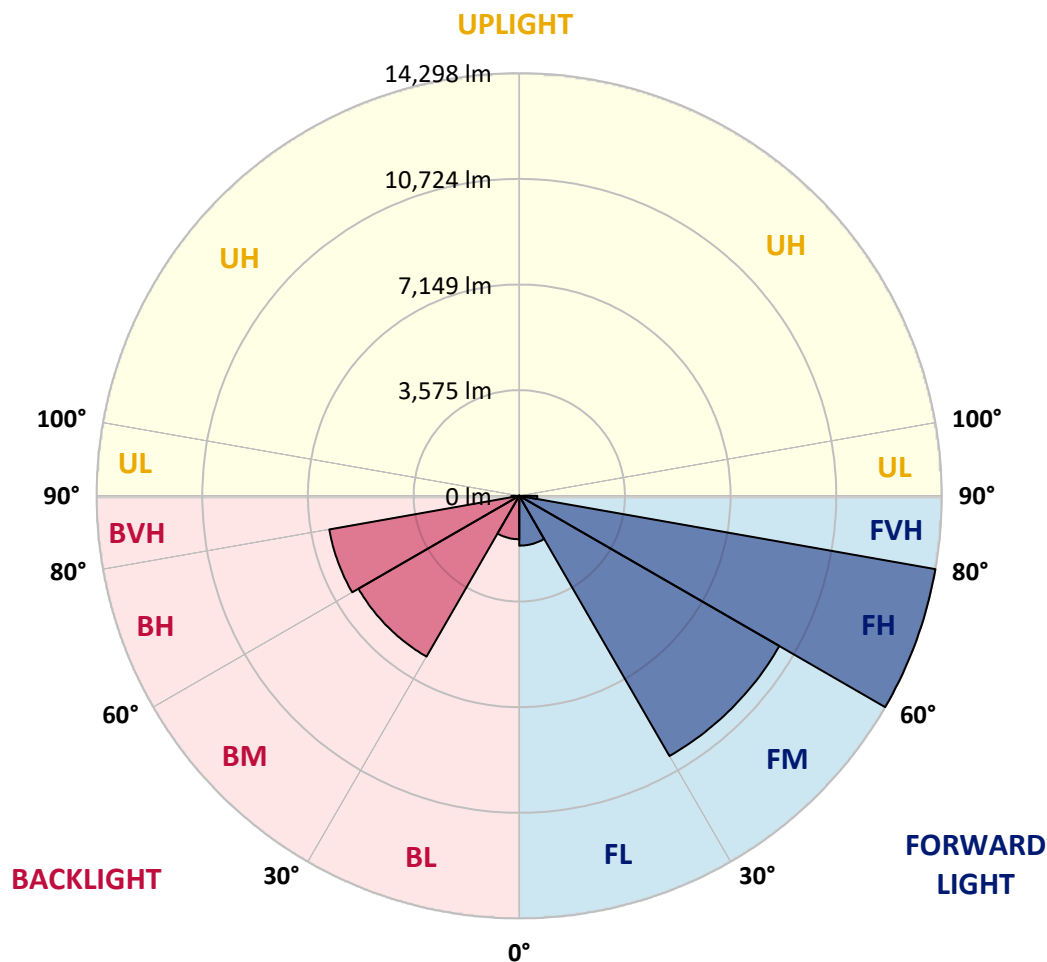
CATALOG NUMBER: CST-CA8-330-760-U-T5R-HSS-HM-EX90

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |       |        |
|------|-------------|---------|-----------|-------------------------|-------|--------|
|      |             |         |           | B                       | U     | G      |
| FL   | (0°-30°)    | 1686.1  | 4.1       |                         |       |        |
| FM   | (30°-60°)   | 10165.6 | 24.6      |                         |       |        |
| FH   | (60°-80°)   | 14298.2 | 34.6      |                         |       | G5     |
| FVH  | (80°-90°)   | 609.6   | 1.5       |                         |       | G4/750 |
| BL   | (0°-30°)    | 1470.2  | 3.6       | B3/2500                 |       |        |
| BM   | (30°-60°)   | 6280.2  | 15.2      | B4/8500                 |       |        |
| BH   | (60°-80°)   | 6526.9  | 15.8      | B5                      |       | G5     |
| BVH  | (80°-90°)   | 261.8   | 0.6       |                         |       | G3/500 |
| UL   | (90°-100°)  | 10.5    | 0.0       |                         | U2/50 |        |
| UH   | (100°-180°) | 2.9     | 0.0       |                         | U1/10 |        |

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

Type IV Short



REPORT NUMBER: P522233

CATALOG NUMBER: CST-CA8-330-760-U-T5R-HSS-HM-EX90

**CANDELA DISTRIBUTION (FULL):**

|        | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     | 90°     |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°     | 3287.7  | 3287.7  | 3287.7  | 3287.7  | 3287.7  | 3287.7  | 3287.7  | 3287.7  | 3287.7  | 3287.7  | 3287.7  |
| 2.5°   | 3325.0  | 3320.4  | 3317.3  | 3337.5  | 3280.0  | 3303.3  | 3287.7  | 3307.9  | 3303.3  | 3312.6  | 3314.2  |
| 5°     | 3348.4  | 3340.6  | 3329.7  | 3351.5  | 3317.3  | 3332.8  | 3315.7  | 3325.0  | 3295.5  | 3320.4  | 3323.5  |
| 7.5°   | 3401.2  | 3379.5  | 3377.9  | 3384.1  | 3360.8  | 3371.7  | 3342.1  | 3353.0  | 3337.5  | 3328.2  | 3337.5  |
| 10°    | 3480.5  | 3461.8  | 3441.6  | 3454.1  | 3415.2  | 3429.2  | 3398.1  | 3407.4  | 3399.7  | 3379.5  | 3398.1  |
| 12.5°  | 3534.9  | 3541.1  | 3527.1  | 3536.5  | 3502.3  | 3489.8  | 3478.9  | 3477.4  | 3472.7  | 3443.2  | 3438.5  |
| 15°    | 3656.2  | 3659.3  | 3634.4  | 3640.6  | 3632.8  | 3626.6  | 3611.1  | 3598.6  | 3573.8  | 3555.1  | 3542.7  |
| 17.5°  | 3814.7  | 3797.6  | 3774.3  | 3780.5  | 3802.3  | 3774.3  | 3765.0  | 3741.6  | 3705.9  | 3674.8  | 3668.6  |
| 20°    | 3981.0  | 3970.2  | 3948.4  | 3960.8  | 3959.3  | 3940.6  | 3945.3  | 3906.4  | 3855.1  | 3828.7  | 3808.5  |
| 22.5°  | 4166.0  | 4150.5  | 4134.9  | 4158.3  | 4139.6  | 4127.2  | 4122.5  | 4096.1  | 4032.3  | 4002.8  | 3998.1  |
| 25°    | 4351.0  | 4343.2  | 4354.1  | 4346.3  | 4319.9  | 4310.6  | 4316.8  | 4307.5  | 4232.9  | 4197.1  | 4175.4  |
| 27.5°  | 4582.6  | 4564.0  | 4581.1  | 4571.7  | 4543.8  | 4545.3  | 4546.9  | 4548.4  | 4464.5  | 4417.9  | 4386.8  |
| 30°    | 4846.9  | 4840.7  | 4862.4  | 4832.9  | 4806.5  | 4823.6  | 4837.6  | 4806.5  | 4733.4  | 4665.0  | 4654.1  |
| 32.5°  | 5190.4  | 5151.6  | 5176.4  | 5139.1  | 5098.7  | 5139.1  | 5164.0  | 5101.8  | 5042.8  | 4955.7  | 4971.2  |
| 35°    | 5571.3  | 5558.8  | 5558.8  | 5510.7  | 5488.9  | 5552.6  | 5577.5  | 5516.9  | 5425.2  | 5349.0  | 5330.3  |
| 37.5°  | 5975.4  | 5987.9  | 6026.7  | 6006.5  | 5986.3  | 6025.2  | 6081.2  | 6000.3  | 5882.2  | 5801.3  | 5779.6  |
| 40°    | 6511.7  | 6542.8  | 6569.3  | 6542.8  | 6519.5  | 6544.4  | 6608.1  | 6502.4  | 6420.0  | 6376.5  | 6329.9  |
| 42.5°  | 7088.5  | 7141.3  | 7124.2  | 7127.3  | 7147.5  | 7183.3  | 7247.0  | 7150.6  | 7055.8  | 7054.3  | 6985.9  |
| 45°    | 7868.8  | 7868.8  | 7833.1  | 7867.3  | 7864.1  | 7952.8  | 7980.7  | 7927.9  | 7848.6  | 7825.3  | 7766.2  |
| 47.5°  | 8597.9  | 8674.0  | 8660.0  | 8709.8  | 8670.9  | 8745.5  | 8840.4  | 8795.3  | 8703.6  | 8621.2  | 8608.7  |
| 50°    | 9614.5  | 9595.8  | 9577.2  | 9651.8  | 9645.6  | 9696.9  | 9783.9  | 9756.0  | 9628.5  | 9535.2  | 9518.1  |
| 52.5°  | 10508.3 | 10606.3 | 10582.9 | 10694.9 | 10632.7 | 10705.8 | 10809.9 | 10805.2 | 10649.8 | 10558.1 | 10531.6 |
| 55°    | 11636.9 | 11702.2 | 11697.5 | 11812.5 | 11727.0 | 11823.4 | 11910.5 | 11919.8 | 11750.4 | 11619.8 | 11660.2 |
| 57.5°  | 12812.1 | 12866.5 | 12835.4 | 12930.2 | 12846.3 | 12978.4 | 13031.3 | 12997.1 | 12897.6 | 12732.8 | 12793.4 |
| 60°    | 13988.8 | 14035.5 | 14071.2 | 14079.0 | 14030.8 | 14108.5 | 14158.3 | 14187.8 | 14030.8 | 13842.7 | 13915.8 |
| 62.5°  | 15184.2 | 15237.1 | 15206.0 | 15218.4 | 15084.7 | 15190.4 | 15252.6 | 15260.4 | 15080.1 | 14913.7 | 14965.0 |
| 65°    | 16443.4 | 16516.4 | 16404.5 | 16329.9 | 16165.1 | 16163.6 | 16245.9 | 16259.9 | 16132.5 | 16014.3 | 15994.1 |
| 67.5°  | 18002.5 | 18035.2 | 17795.8 | 17545.5 | 17267.2 | 17206.6 | 17264.1 | 17296.8 | 17369.8 | 17366.7 | 17275.0 |
| 68°    | 18178.2 | 18172.0 | 17929.5 | 17631.0 | 17332.5 | 17262.6 | 17290.6 | 17332.5 | 17380.7 | 17390.0 | 17279.7 |
| 70°    | 17778.7 | 17702.5 | 17564.1 | 17188.0 | 16892.6 | 16709.2 | 16611.2 | 16689.0 | 16558.4 | 16559.9 | 16353.2 |
| 72.5°  | 15792.0 | 15782.7 | 15527.8 | 15341.2 | 15078.5 | 14773.8 | 14633.9 | 14632.4 | 14644.8 | 14554.7 | 14341.7 |
| 75°    | 12791.9 | 12804.3 | 12507.4 | 12378.4 | 12297.5 | 12240.0 | 12269.6 | 12361.3 | 12370.6 | 12369.1 | 12294.4 |
| 77.5°  | 8921.2  | 8972.5  | 8893.2  | 8683.4  | 8908.8  | 9101.5  | 9473.0  | 9662.7  | 9602.1  | 9783.9  | 9899.0  |
| 80°    | 4675.9  | 4778.5  | 4781.6  | 4929.3  | 5111.2  | 5286.8  | 5607.0  | 5894.6  | 5683.2  | 5589.9  | 5493.6  |
| 82.5°  | 1229.6  | 1266.9  | 1322.9  | 1237.4  | 1263.8  | 1290.2  | 1538.9  | 1515.6  | 1399.0  | 1461.2  | 1554.5  |
| 85°    | 351.3   | 362.2   | 346.7   | 314.0   | 287.6   | 264.3   | 270.5   | 228.5   | 199.0   | 197.4   | 191.2   |
| 87.5°  | 247.2   | 265.8   | 234.7   | 202.1   | 181.9   | 169.4   | 163.2   | 138.3   | 111.9   | 97.9    | 77.7    |
| 90°    | 115.0   | 113.5   | 97.9    | 76.2    | 66.8    | 63.7    | 63.7    | 49.7    | 28.0    | 17.1    | 15.5    |
| 92.5°  | 48.2    | 49.7    | 40.4    | 32.6    | 28.0    | 21.8    | 17.1    | 10.9    | 6.2     | 3.1     | 1.6     |
| 95°    | 17.1    | 18.7    | 15.5    | 12.4    | 10.9    | 9.3     | 7.8     | 6.2     | 3.1     | 1.6     | 1.6     |
| 97.5°  | 4.7     | 4.7     | 4.7     | 4.7     | 4.7     | 4.7     | 4.7     | 3.1     | 3.1     | 1.6     | 1.6     |
| 100°   | 0.0     | 0.0     | 0.0     | 1.6     | 3.1     | 3.1     | 3.1     | 3.1     | 1.6     | 1.6     | 1.6     |
| 102.5° | 0.0     | 0.0     | 0.0     | 0.0     | 1.6     | 1.6     | 1.6     | 1.6     | 1.6     | 1.6     | 1.6     |
| 105°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 1.6     | 1.6     | 1.6     | 1.6     | 1.6     | 1.6     |
| 107.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 1.6     | 1.6     | 1.6     | 1.6     | 1.6     |



REPORT NUMBER: P522233

CATALOG NUMBER: CST-CA8-330-760-U-T5R-HSS-HM-EX90

**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 | 1.6 | 1.6 | 1.6 | 1.6 |
| 112.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 |
| 115°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 |
| 117.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 |
| 120°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 |
| 122.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 |
| 125°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 |
| 127.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 |
| 130°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 |
| 132.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 |
| 135°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 |
| 137.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 |
| 140°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 |
| 142.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 |
| 145°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 147.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 150°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 152.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 155°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 |
| 157.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 160°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 162.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 165°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 167.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 170°   | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 172.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 175°   | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 177.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 180°   | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

REPORT NUMBER: P522233

CATALOG NUMBER: CST-CA8-330-760-U-T5R-HSS-HM-EX90

**CANDELA DISTRIBUTION (continued):**

|        | 95°     | 105°    | 115°    | 125°    | 135°    | 145°   | 155°   | 165°   | 175°   | 180°   |
|--------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| 0°     | 3287.7  | 3287.7  | 3287.7  | 3287.7  | 3287.7  | 3287.7 | 3287.7 | 3287.7 | 3287.7 | 3287.7 |
| 2.5°   | 3311.1  | 3303.3  | 3300.2  | 3261.3  | 3272.2  | 3248.9 | 3303.3 | 3287.7 | 3284.6 | 3306.4 |
| 5°     | 3318.8  | 3283.1  | 3304.8  | 3280.0  | 3286.2  | 3252.0 | 3295.5 | 3276.9 | 3278.4 | 3289.3 |
| 7.5°   | 3323.5  | 3303.3  | 3325.0  | 3281.5  | 3298.6  | 3286.2 | 3317.3 | 3298.6 | 3317.3 | 3326.6 |
| 10°    | 3370.1  | 3360.8  | 3345.3  | 3332.8  | 3345.3  | 3315.7 | 3354.6 | 3351.5 | 3362.4 | 3390.3 |
| 12.5°  | 3433.9  | 3423.0  | 3407.4  | 3385.7  | 3395.0  | 3384.1 | 3413.7 | 3416.8 | 3437.0 | 3451.0 |
| 15°    | 3528.7  | 3514.7  | 3506.9  | 3485.2  | 3488.3  | 3480.5 | 3497.6 | 3500.7 | 3541.1 | 3536.5 |
| 17.5°  | 3662.4  | 3646.8  | 3653.0  | 3632.8  | 3625.1  | 3606.4 | 3575.3 | 3564.4 | 3612.6 | 3626.6 |
| 20°    | 3808.5  | 3791.4  | 3799.2  | 3782.1  | 3637.5  | 3343.7 | 3541.1 | 3676.4 | 3573.8 | 3566.0 |
| 22.5°  | 3974.8  | 3956.2  | 3962.4  | 3936.0  | 3757.2  | 3206.9 | 2790.3 | 2756.1 | 3147.8 | 3306.4 |
| 25°    | 4158.3  | 4133.4  | 4130.3  | 4096.1  | 3508.5  | 2903.8 | 2857.1 | 2796.5 | 2510.5 | 2283.5 |
| 27.5°  | 4385.2  | 4347.9  | 4329.2  | 3813.2  | 3483.6  | 3017.3 | 2947.3 | 2731.2 | 2316.2 | 2330.2 |
| 30°    | 4630.8  | 4576.4  | 4226.6  | 3886.2  | 3665.5  | 3150.9 | 3057.7 | 2393.9 | 2397.0 | 2390.8 |
| 32.5°  | 4910.6  | 4789.4  | 4141.2  | 4110.1  | 3883.1  | 3294.0 | 2538.5 | 2510.5 | 2513.6 | 2522.9 |
| 35°    | 5277.5  | 4445.8  | 4428.7  | 4430.3  | 4148.9  | 3186.7 | 2689.3 | 2662.8 | 2665.9 | 2672.2 |
| 37.5°  | 5355.2  | 4792.5  | 4795.6  | 4759.8  | 4431.8  | 2911.6 | 2872.7 | 2871.1 | 2864.9 | 2858.7 |
| 40°    | 5417.4  | 5229.3  | 5184.2  | 5126.7  | 4108.5  | 3135.4 | 3123.0 | 3113.6 | 3118.3 | 3130.7 |
| 42.5°  | 5903.9  | 5762.5  | 5719.0  | 5650.6  | 4214.2  | 3474.3 | 3433.9 | 3423.0 | 3435.4 | 3429.2 |
| 45°    | 6550.6  | 6432.5  | 6347.0  | 5224.6  | 4655.7  | 3842.7 | 3810.0 | 3796.1 | 3800.7 | 3839.6 |
| 47.5°  | 7234.6  | 7164.6  | 6903.5  | 5644.3  | 5170.2  | 4277.9 | 4245.3 | 4223.5 | 4231.3 | 4222.0 |
| 50°    | 7979.2  | 7915.4  | 6390.5  | 6277.0  | 5739.2  | 4747.4 | 4699.2 | 4691.4 | 4694.5 | 4693.0 |
| 52.5°  | 8787.5  | 7455.3  | 7082.2  | 6964.1  | 6339.2  | 5238.6 | 5221.5 | 5179.5 | 5188.9 | 5179.5 |
| 55°    | 9735.8  | 7853.3  | 7843.9  | 7705.6  | 7013.8  | 5809.1 | 5788.9 | 5729.8 | 5358.3 | 5683.2 |
| 57.5°  | 10635.8 | 8613.4  | 8613.4  | 8479.7  | 7704.0  | 6376.5 | 6343.9 | 6300.3 | 3808.5 | 3071.7 |
| 60°    | 11621.3 | 9375.1  | 9353.3  | 9243.0  | 8369.4  | 6917.5 | 5622.6 | 5610.1 | 2300.6 | 2308.4 |
| 62.5°  | 12473.2 | 10054.4 | 10093.3 | 9990.7  | 9009.8  | 5179.5 | 2605.3 | 2552.5 | 227.0  | 349.8  |
| 65°    | 13427.7 | 10805.2 | 10851.9 | 10746.2 | 9703.1  | 5493.6 | 2827.6 | 2801.2 | 51.3   | 46.6   |
| 67.5°  | 14509.6 | 11554.5 | 11448.8 | 11332.2 | 10108.8 | 5656.8 | 2938.0 | 2914.7 | 14.0   | 9.3    |
| 68°    | 14518.9 | 11539.0 | 11402.2 | 11322.9 | 10070.0 | 5625.7 | 2928.7 | 2906.9 | 14.0   | 9.3    |
| 70°    | 13772.8 | 10957.6 | 10820.8 | 10841.0 | 9588.1  | 5380.1 | 2807.4 | 2767.0 | 14.0   | 9.3    |
| 72.5°  | 12083.0 | 9751.3  | 9597.4  | 9488.6  | 8503.0  | 4783.2 | 2516.7 | 2440.5 | 14.0   | 9.3    |
| 75°    | 10338.9 | 8263.7  | 8008.7  | 7769.3  | 6841.3  | 3914.2 | 2064.4 | 1978.9 | 14.0   | 9.3    |
| 77.5°  | 8148.6  | 6298.8  | 5936.6  | 5779.6  | 5140.7  | 2891.3 | 1534.3 | 1441.0 | 14.0   | 7.8    |
| 80°    | 4503.3  | 3614.2  | 3306.4  | 3210.0  | 2939.5  | 1699.1 | 879.8  | 823.9  | 12.4   | 7.8    |
| 82.5°  | 1164.3  | 873.6   | 761.7   | 735.3   | 690.2   | 402.6  | 214.5  | 203.6  | 10.9   | 6.2    |
| 85°    | 166.3   | 122.8   | 135.2   | 160.1   | 153.9   | 104.2  | 74.6   | 63.7   | 9.3    | 4.7    |
| 87.5°  | 87.1    | 73.1    | 85.5    | 96.4    | 97.9    | 60.6   | 31.1   | 17.1   | 4.7    | 0.0    |
| 90°    | 14.0    | 14.0    | 15.5    | 17.1    | 17.1    | 7.8    | 6.2    | 0.0    | 0.0    | 0.0    |
| 92.5°  | 1.6     | 1.6     | 1.6     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 95°    | 1.6     | 1.6     | 1.6     | 1.6     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 97.5°  | 1.6     | 1.6     | 1.6     | 1.6     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 100°   | 1.6     | 1.6     | 1.6     | 1.6     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 102.5° | 1.6     | 1.6     | 1.6     | 1.6     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 105°   | 1.6     | 1.6     | 1.6     | 1.6     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 107.5° | 1.6     | 3.1     | 1.6     | 1.6     | 0.0     | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P522233

CATALOG NUMBER: CST-CA8-330-760-U-T5R-HSS-HM-EX90

**CANDELA DISTRIBUTION (continued):**

|        | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|--------|-----|------|------|------|------|------|------|------|------|------|
| 110°   | 1.6 | 1.6  | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 112.5° | 1.6 | 1.6  | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 115°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 117.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 120°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 122.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 125°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 127.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 130°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 132.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 135°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 137.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 140°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 142.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 145°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 147.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 150°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 152.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 155°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 157.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 160°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 162.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 165°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 167.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 170°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 172.5° | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 175°   | 1.6 | 1.6  | 1.6  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| 177.5° | 1.6 | 1.6  | 1.6  | 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  |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

STREETWORKS

Report Number: SP1-2104-215-3

Luminaire Tested: CST-CA6-230-757-U-T4

Test Date: 04/21/2021

### Test Information

Test Method: LM-79-08  
 Report Number: SP1-2104-215-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry:  $4\pi$   
 Issue Date: 04/21/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: STREETWORKS  
 Catalog Number: **CST-CA6-230-757-U-T4**  
 Description: STREETWORKS HIGH MAST LUMINAIRE

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 5385   | CRI (Ra): | 74.4 |      |       |
| CIE u':                   | 0.2065 | R1:       | 71.8 | R9:  | -25.2 |
| CIE v':                   | 0.4808 | R2:       | 79.4 | R10: | 50.6  |
| Duv:                      | 0.0018 | R3:       | 84.2 | R11: | 72.0  |
| CIE x:                    | 0.3351 | R4:       | 74.7 | R12: | 46.0  |
| CIE y:                    | 0.3467 | R5:       | 72.8 | R13: | 73.1  |
| CIE z:                    | 0.3182 | R6:       | 71.2 | R14: | 91.2  |
| Peak Wavelength (nm):     | 450    | R7:       | 82.2 |      |       |
| Dominant Wavelength (nm): | 560    | R8:       | 58.6 |      |       |
| Purity:                   | 4.7    |           |      |      |       |
| Rf:                       | 75.3   |           |      |      |       |
| Rg:                       | 94.2   |           |      |      |       |



### Test Conditions

Stabilization Time: 66M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.7/32%  
 Sphere Temperature (°C): 24.8

REPORT NUMBER: SP1-2104-215-3

| 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: SP1-2104-215-3

**CIE 1931 Chromaticity Diagram**



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



Point lies inside the ANSI 5700K 7-step quadrangle

REPORT NUMBER: SP1-2104-215-3

### 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       | 16696            | 0.0              | 490       | 164243           | 23.3             | 620       | 415797           | 108.2            | 750       | 22190            | 0.0              | 880       | 22866            | 0.0              |
| 365       | 13447            | 0.0              | 495       | 207773           | 37.7             | 625       | 382869           | 84.5             | 755       | 18942            | 0.0              | 885       | 21901            | 0.0              |
| 370       | 14521            | 0.0              | 500       | 267487           | 59.0             | 630       | 344785           | 62.4             | 760       | 18760            | 0.0              | 890       | 20912            | 0.0              |
| 375       | 15598            | 0.0              | 505       | 333279           | 93.2             | 635       | 309549           | 46.5             | 765       | 19375            | 0.0              | 895       | 19858            | 0.0              |
| 380       | 16553            | 0.0              | 510       | 393084           | 135.0            | 640       | 280226           | 33.5             | 770       | 16788            | 0.0              | 900       | 21828            | 0.0              |
| 385       | 15196            | 0.0              | 515       | 446481           | 185.0            | 645       | 249624           | 24.0             | 775       | 17302            | 0.0              | 905       | 17086            | 0.0              |
| 390       | 13481            | 0.0              | 520       | 488198           | 236.7            | 650       | 224464           | 16.4             | 780       | 15672            | 0.0              | 910       | 17542            | 0.0              |
| 395       | 11977            | 0.0              | 525       | 518433           | 278.3            | 655       | 199646           | 11.5             | 785       | 14771            | 0.0              | 915       | 16185            | 0.0              |
| 400       | 11331            | 0.0              | 530       | 543281           | 319.9            | 660       | 175926           | 7.3              | 790       | 13984            | 0.0              | 920       | 17995            | 0.0              |
| 405       | 11814            | 0.0              | 535       | 561190           | 348.0            | 665       | 155139           | 4.9              | 795       | 14040            | 0.0              | 925       | 15557            | 0.0              |
| 410       | 16208            | 0.0              | 540       | 572451           | 373.0            | 670       | 134630           | 2.9              | 800       | 13342            | 0.0              | 930       | 26095            | 0.0              |
| 415       | 26808            | 0.0              | 545       | 585457           | 389.7            | 675       | 117218           | 2.0              | 805       | 14668            | 0.0              | 935       | 19199            | 0.0              |
| 420       | 50871            | 0.1              | 550       | 599090           | 407.1            | 680       | 102027           | 1.2              | 810       | 14789            | 0.0              | 940       | 23080            | 0.0              |
| 425       | 101020           | 0.5              | 555       | 616995           | 421.4            | 685       | 89213            | 0.8              | 815       | 17650            | 0.0              | 945       | 26343            | 0.0              |
| 430       | 192411           | 1.5              | 560       | 629425           | 427.7            | 690       | 78917            | 0.4              | 820       | 14937            | 0.0              | 950       | 29934            | 0.0              |
| 435       | 336902           | 4.0              | 565       | 636833           | 423.4            | 695       | 68780            | 0.3              | 825       | 16011            | 0.0              | 955       | 22346            | 0.0              |
| 440       | 581105           | 9.1              | 570       | 639836           | 416.0            | 700       | 60229            | 0.2              | 830       | 16981            | 0.0              | 960       | 16017            | 0.0              |
| 445       | 974221           | 20.3             | 575       | 636704           | 396.2            | 705       | 53321            | 0.1              | 835       | 15554            | 0.0              | 965       | 18299            | 0.0              |
| 450       | 1195987          | 31.0             | 580       | 633339           | 376.3            | 710       | 47871            | 0.1              | 840       | 16030            | 0.0              | 970       | 16401            | 0.0              |
| 455       | 889289           | 29.8             | 585       | 623206           | 346.3            | 715       | 44671            | 0.0              | 845       | 19004            | 0.0              | 975       | 23481            | 0.0              |
| 460       | 566512           | 23.2             | 590       | 607134           | 313.9            | 720       | 40236            | 0.0              | 850       | 18632            | 0.0              | 980       | 26457            | 0.0              |
| 465       | 410582           | 21.2             | 595       | 578226           | 274.1            | 725       | 35616            | 0.0              | 855       | 21549            | 0.0              | 985       | 32065            | 0.0              |
| 470       | 276356           | 17.2             | 600       | 554348           | 238.9            | 730       | 31102            | 0.0              | 860       | 21257            | 0.0              | 990       | 31414            | 0.0              |
| 475       | 187504           | 14.7             | 605       | 526616           | 203.9            | 735       | 28341            | 0.0              | 865       | 20272            | 0.0              | 995       | 30650            | 0.0              |
| 480       | 156769           | 14.9             | 610       | 490933           | 168.7            | 740       | 25553            | 0.0              | 870       | 20808            | 0.0              | 1000      | 26490            | 0.0              |
| 485       | 151040           | 17.9             | 615       | 453646           | 136.9            | 745       | 23976            | 0.0              | 875       | 22729            | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2104-215-3

### Scotopic Flux vs. Wavelength



Scotopic Lumens: 72376.6

S/P: 1.89

| 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       | 16696            | 0.0              | 490       | 164243           | 252.9            | 620       | 415797           | 5.2              | 750       | 22190            | 0.0              | 880       | 22866            | 0.0              |
| 365       | 13447            | 0.0              | 495       | 207773           | 335.9            | 625       | 382869           | 3.2              | 755       | 18942            | 0.0              | 885       | 21901            | 0.0              |
| 370       | 14521            | 0.0              | 500       | 267487           | 447.4            | 630       | 344785           | 2.0              | 760       | 18760            | 0.0              | 890       | 20912            | 0.0              |
| 375       | 15598            | 0.0              | 505       | 333279           | 566.6            | 635       | 309549           | 1.2              | 765       | 19375            | 0.0              | 895       | 19858            | 0.0              |
| 380       | 16553            | 0.0              | 510       | 393084           | 666.2            | 640       | 280226           | 0.7              | 770       | 16788            | 0.0              | 900       | 21828            | 0.0              |
| 385       | 15196            | 0.0              | 515       | 446481           | 740.0            | 645       | 249624           | 0.4              | 775       | 17302            | 0.0              | 905       | 17086            | 0.0              |
| 390       | 13481            | 0.1              | 520       | 488198           | 776.0            | 650       | 224464           | 0.3              | 780       | 15672            | 0.0              | 910       | 17542            | 0.0              |
| 395       | 11977            | 0.1              | 525       | 518433           | 775.6            | 655       | 199646           | 0.2              | 785       | 14771            | 0.0              | 915       | 16185            | 0.0              |
| 400       | 11331            | 0.2              | 530       | 543281           | 749.0            | 660       | 175926           | 0.1              | 790       | 13984            | 0.0              | 920       | 17995            | 0.0              |
| 405       | 11814            | 0.4              | 535       | 561190           | 699.3            | 665       | 155139           | 0.1              | 795       | 14040            | 0.0              | 925       | 15557            | 0.0              |
| 410       | 16208            | 1.0              | 540       | 572451           | 632.6            | 670       | 134630           | 0.0              | 800       | 13342            | 0.0              | 930       | 26095            | 0.0              |
| 415       | 26808            | 2.8              | 545       | 585457           | 561.3            | 675       | 117218           | 0.0              | 805       | 14668            | 0.0              | 935       | 19199            | 0.0              |
| 420       | 50871            | 8.4              | 550       | 599090           | 489.9            | 680       | 102027           | 0.0              | 810       | 14789            | 0.0              | 940       | 23080            | 0.0              |
| 425       | 101020           | 24.7             | 555       | 616995           | 421.7            | 685       | 89213            | 0.0              | 815       | 17650            | 0.0              | 945       | 26343            | 0.0              |
| 430       | 192411           | 65.5             | 560       | 629425           | 351.8            | 690       | 78917            | 0.0              | 820       | 14937            | 0.0              | 950       | 29934            | 0.0              |
| 435       | 336902           | 150.6            | 565       | 636833           | 285.7            | 695       | 68780            | 0.0              | 825       | 16011            | 0.0              | 955       | 22346            | 0.0              |
| 440       | 581105           | 324.8            | 570       | 639836           | 225.8            | 700       | 60229            | 0.0              | 830       | 16981            | 0.0              | 960       | 16017            | 0.0              |
| 445       | 974221           | 652.3            | 575       | 636704           | 173.4            | 705       | 53321            | 0.0              | 835       | 15554            | 0.0              | 965       | 18299            | 0.0              |
| 450       | 1195987          | 927.0            | 580       | 633339           | 130.5            | 710       | 47871            | 0.0              | 840       | 16030            | 0.0              | 970       | 16401            | 0.0              |
| 455       | 889289           | 777.1            | 585       | 623206           | 95.2             | 715       | 44671            | 0.0              | 845       | 19004            | 0.0              | 975       | 23481            | 0.0              |
| 460       | 566512           | 547.2            | 590       | 607134           | 67.6             | 720       | 40236            | 0.0              | 850       | 18632            | 0.0              | 980       | 26457            | 0.0              |
| 465       | 410582           | 433.6            | 595       | 578226           | 46.1             | 725       | 35616            | 0.0              | 855       | 21549            | 0.0              | 985       | 32065            | 0.0              |
| 470       | 276356           | 318.2            | 600       | 554348           | 31.2             | 730       | 31102            | 0.0              | 860       | 21257            | 0.0              | 990       | 31414            | 0.0              |
| 475       | 187504           | 234.4            | 605       | 526616           | 20.7             | 735       | 28341            | 0.0              | 865       | 20272            | 0.0              | 995       | 30650            | 0.0              |
| 480       | 156769           | 211.8            | 610       | 490933           | 13.3             | 740       | 25553            | 0.0              | 870       | 20808            | 0.0              | 1000      | 26490            | 0.0              |
| 485       | 151040           | 218.9            | 615       | 453646           | 8.4              | 745       | 23976            | 0.0              | 875       | 22729            | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2104-215-3

### Melanopic Flux vs. Wavelength



**Melanopic Lumens: 29860.2**      **M/P: 0.78**

| 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       | 16696            | 0.0              | 490       | 164243           | 136.7            | 620       | 415797           | 0.3              | 750       | 22190            | 0.0              | 880       | 22866            | 0.0              |
| 365       | 13447            | 0.0              | 495       | 207773           | 171.5            | 625       | 382869           | 0.2              | 755       | 18942            | 0.0              | 885       | 21901            | 0.0              |
| 370       | 14521            | 0.0              | 500       | 267487           | 215.0            | 630       | 344785           | 0.1              | 760       | 18760            | 0.0              | 890       | 20912            | 0.0              |
| 375       | 15598            | 0.0              | 505       | 333279           | 255.8            | 635       | 309549           | 0.1              | 765       | 19375            | 0.0              | 895       | 19858            | 0.0              |
| 380       | 16553            | 0.0              | 510       | 393084           | 282.2            | 640       | 280226           | 0.0              | 770       | 16788            | 0.0              | 900       | 21828            | 0.0              |
| 385       | 15196            | 0.0              | 515       | 446481           | 291.7            | 645       | 249624           | 0.0              | 775       | 17302            | 0.0              | 905       | 17086            | 0.0              |
| 390       | 13481            | 0.0              | 520       | 488198           | 284.2            | 650       | 224464           | 0.0              | 780       | 15672            | 0.0              | 910       | 17542            | 0.0              |
| 395       | 11977            | 0.1              | 525       | 518433           | 262.9            | 655       | 199646           | 0.0              | 785       | 14771            | 0.0              | 915       | 16185            | 0.0              |
| 400       | 11331            | 0.1              | 530       | 543281           | 234.8            | 660       | 175926           | 0.0              | 790       | 13984            | 0.0              | 920       | 17995            | 0.0              |
| 405       | 11814            | 0.2              | 535       | 561190           | 202.0            | 665       | 155139           | 0.0              | 795       | 14040            | 0.0              | 925       | 15557            | 0.0              |
| 410       | 16208            | 0.6              | 540       | 572451           | 167.5            | 670       | 134630           | 0.0              | 800       | 13342            | 0.0              | 930       | 26095            | 0.0              |
| 415       | 26808            | 1.8              | 545       | 585457           | 136.0            | 675       | 117218           | 0.0              | 805       | 14668            | 0.0              | 935       | 19199            | 0.0              |
| 420       | 50871            | 5.8              | 550       | 599090           | 107.5            | 680       | 102027           | 0.0              | 810       | 14789            | 0.0              | 940       | 23080            | 0.0              |
| 425       | 101020           | 15.7             | 555       | 616995           | 83.2             | 685       | 89213            | 0.0              | 815       | 17650            | 0.0              | 945       | 26343            | 0.0              |
| 430       | 192411           | 40.6             | 560       | 629425           | 62.1             | 690       | 78917            | 0.0              | 820       | 14937            | 0.0              | 950       | 29934            | 0.0              |
| 435       | 336902           | 89.9             | 565       | 636833           | 44.7             | 695       | 68780            | 0.0              | 825       | 16011            | 0.0              | 955       | 22346            | 0.0              |
| 440       | 581105           | 194.2            | 570       | 639836           | 31.3             | 700       | 60229            | 0.0              | 830       | 16981            | 0.0              | 960       | 16017            | 0.0              |
| 445       | 974221           | 384.3            | 575       | 636704           | 21.2             | 705       | 53321            | 0.0              | 835       | 15554            | 0.0              | 965       | 18299            | 0.0              |
| 450       | 1195987          | 551.1            | 580       | 633339           | 14.2             | 710       | 47871            | 0.0              | 840       | 16030            | 0.0              | 970       | 16401            | 0.0              |
| 455       | 889289           | 465.9            | 585       | 623206           | 9.3              | 715       | 44671            | 0.0              | 845       | 19004            | 0.0              | 975       | 23481            | 0.0              |
| 460       | 566512           | 333.8            | 590       | 607134           | 6.0              | 720       | 40236            | 0.0              | 850       | 18632            | 0.0              | 980       | 26457            | 0.0              |
| 465       | 410582           | 268.3            | 595       | 578226           | 3.7              | 725       | 35616            | 0.0              | 855       | 21549            | 0.0              | 985       | 32065            | 0.0              |
| 470       | 276356           | 197.8            | 600       | 554348           | 2.3              | 730       | 31102            | 0.0              | 860       | 21257            | 0.0              | 990       | 31414            | 0.0              |
| 475       | 187504           | 143.2            | 605       | 526616           | 1.5              | 735       | 28341            | 0.0              | 865       | 20272            | 0.0              | 995       | 30650            | 0.0              |
| 480       | 156769           | 126.0            | 610       | 490933           | 0.9              | 740       | 25553            | 0.0              | 870       | 20808            | 0.0              | 1000      | 26490            | 0.0              |
| 485       | 151040           | 124.5            | 615       | 453646           | 0.5              | 745       | 23976            | 0.0              | 875       | 22729            | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2104-215-3

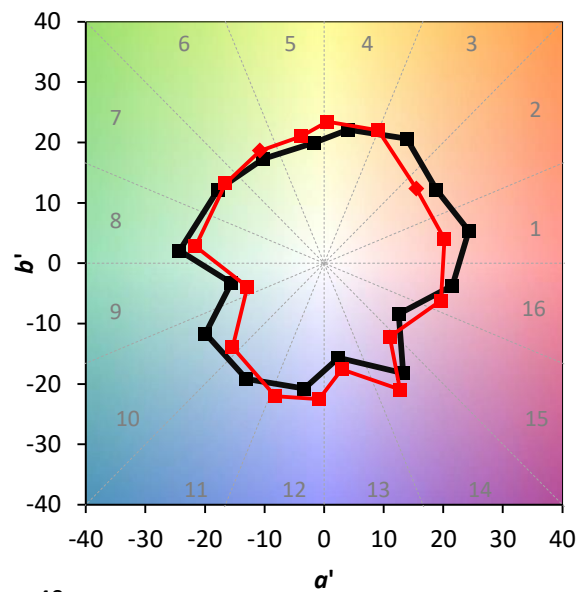
TM-30-18

### Summary

$R_f = 75.3$   
 $R_g = 94.2$   
 CIE  $R_a = 74.4$   
 $R_g = -25.2$



### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 64 | CES51 = 91 | CES76 = 51 |
| CES02 = 59 | CES27 = 89 | CES52 = 91 | CES77 = 67 |
| CES03 = 30 | CES28 = 81 | CES53 = 81 | CES78 = 53 |
| CES04 = 69 | CES29 = 69 | CES54 = 86 | CES79 = 80 |
| CES05 = 46 | CES30 = 87 | CES55 = 84 | CES80 = 76 |
| CES06 = 50 | CES31 = 72 | CES56 = 76 | CES81 = 79 |
| CES07 = 38 | CES32 = 63 | CES57 = 76 | CES82 = 90 |
| CES08 = 38 | CES33 = 81 | CES58 = 76 | CES83 = 89 |
| CES09 = 29 | CES34 = 70 | CES59 = 87 | CES84 = 85 |
| CES10 = 72 | CES35 = 83 | CES60 = 89 | CES85 = 78 |
| CES11 = 55 | CES36 = 88 | CES61 = 83 | CES86 = 78 |
| CES12 = 61 | CES37 = 78 | CES62 = 83 | CES87 = 77 |
| CES13 = 41 | CES38 = 97 | CES63 = 76 | CES88 = 82 |
| CES14 = 74 | CES39 = 96 | CES64 = 67 | CES89 = 75 |
| CES15 = 70 | CES40 = 91 | CES65 = 64 | CES90 = 82 |
| CES16 = 46 | CES41 = 96 | CES66 = 60 | CES91 = 72 |
| CES17 = 48 | CES42 = 79 | CES67 = 57 | CES92 = 62 |
| CES18 = 55 | CES43 = 78 | CES68 = 65 | CES93 = 77 |
| CES19 = 71 | CES44 = 99 | CES69 = 73 | CES94 = 57 |
| CES20 = 64 | CES45 = 87 | CES70 = 57 | CES95 = 66 |
| CES21 = 85 | CES46 = 86 | CES71 = 49 | CES96 = 78 |
| CES22 = 77 | CES47 = 89 | CES72 = 83 | CES97 = 87 |
| CES23 = 91 | CES48 = 82 | CES73 = 47 | CES98 = 78 |
| CES24 = 90 | CES49 = 84 | CES74 = 90 | CES99 = 65 |
| CES25 = 71 | CES50 = 91 | CES75 = 51 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)