

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: P579575

Luminaire Tested: **CST-CA10-310-760-U-T5-HSS-HM-EX180**

Issue Date: 11/18/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P579575  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2110-429-3)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 11/18/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: CST-CA10-310-760-U-T5-HSS-HM-EX180  
Description: CELESTEON HIGH MAST LUMINAIRE WITH FIELD INSTALLED SHIELD  
Light Source: (10) 5700K CCT, 70 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 29783 lumens  
Efficiency: N/A  
Efficacy: 95.3 lumens/watt  
Luminous Opening: Circular (Dia: 2.08' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U2 - G4

Input Watts (W): 312.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

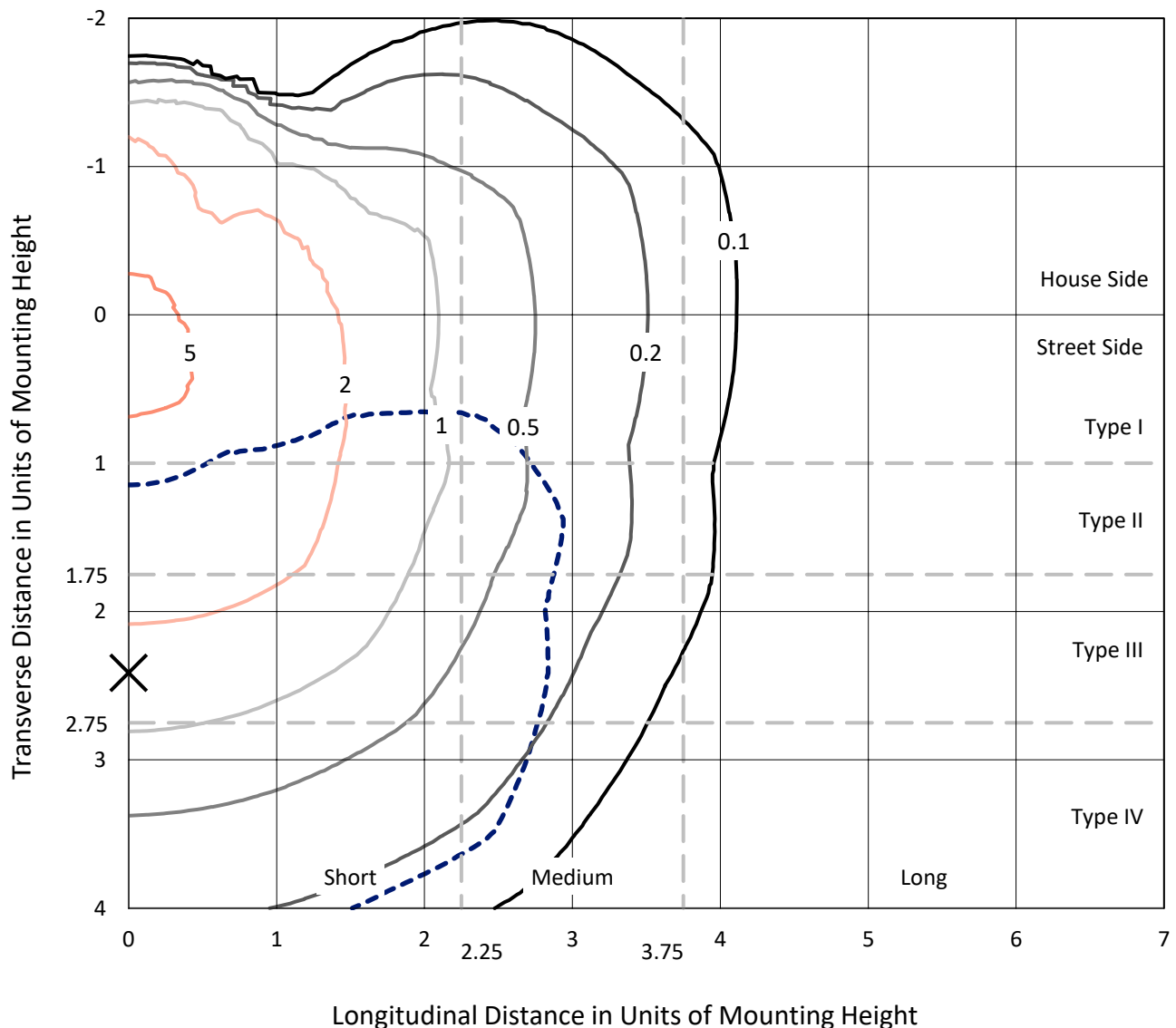


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## Iso-Footcandle Lines of Horizontal Illumination

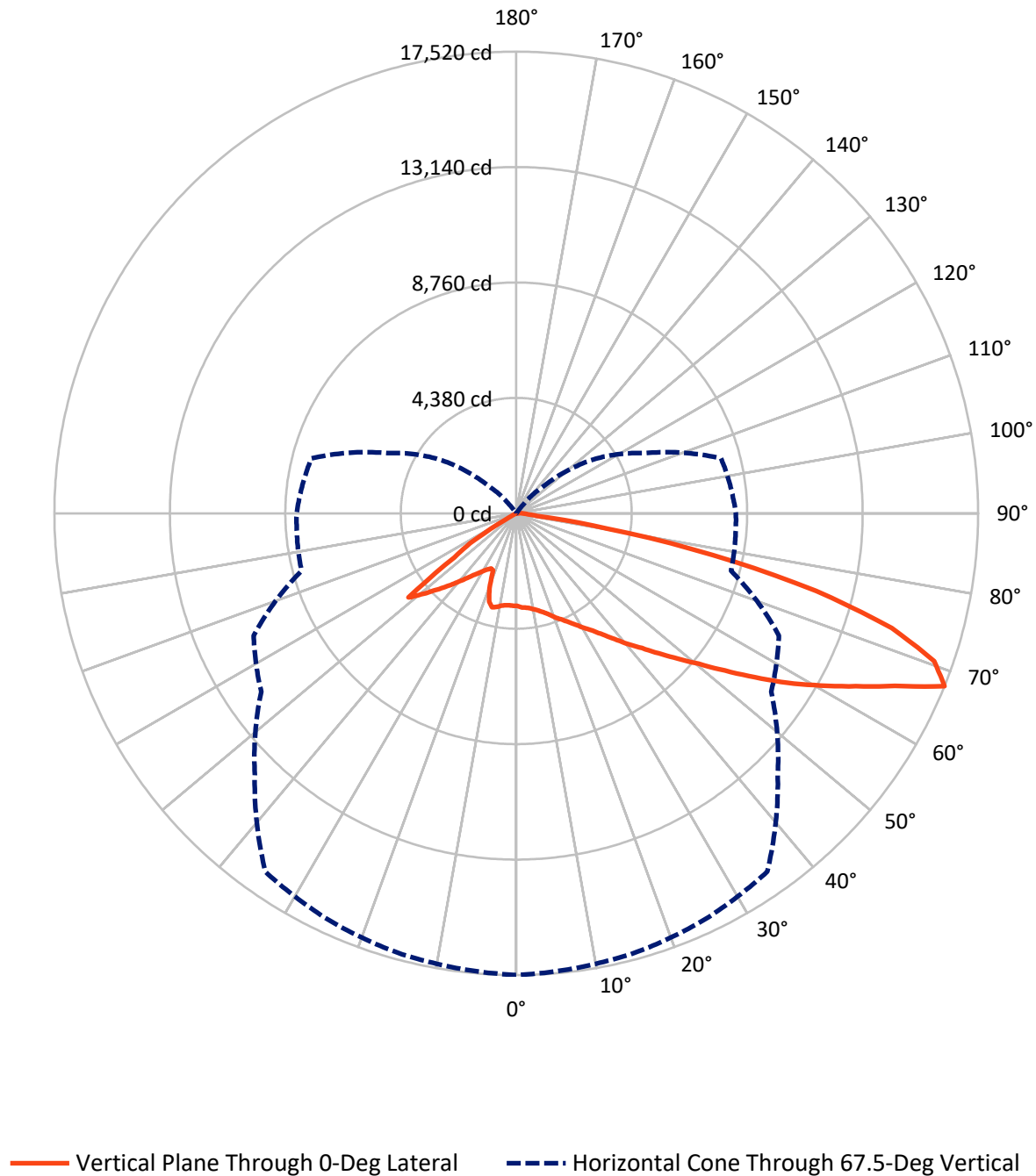
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.7 fc  
 Type IV - Short - N/A

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## Luminous Intensity Polar Plot



REPORT NUMBER: P579575

CATALOG NUMBER: CST-CA10-310-760-U-T5-HSS-HM-EX180

**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 8441.1   | 0.1    | 8441.2  |
|                    | % Fixture | 28.3     | 0.0    | 28.3    |
| <b>Street Side</b> | Lumens    | 21303.9  | 37.9   | 21341.8 |
|                    | % Fixture | 71.5     | 0.1    | 71.7    |
| <b>Total</b>       | Lumens    | 29744.9  | 38.1   | 29783.0 |
|                    | % Fixture | 99.9     | 0.1    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 338.3   | 1.1       |
| 10°-20°   | 1041.4  | 3.5       |
| 20°-30°   | 1724.3  | 5.8       |
| 30°-40°   | 2714.4  | 9.1       |
| 40°-50°   | 4248.0  | 14.3      |
| 50°-60°   | 6133.4  | 20.6      |
| 60°-70°   | 7598.2  | 25.5      |
| 70°-80°   | 5533.6  | 18.6      |
| 80°-90°   | 413.4   | 1.4       |
| 90°-100°  | 32.5    | 0.1       |
| 100°-110° | 5.4     | 0.0       |
| 110°-120° | 0.2     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 29744.9 | 99.9      |
| 0°-180°   | 29783.0 | 100.0     |

**Coefficient of Utilization**



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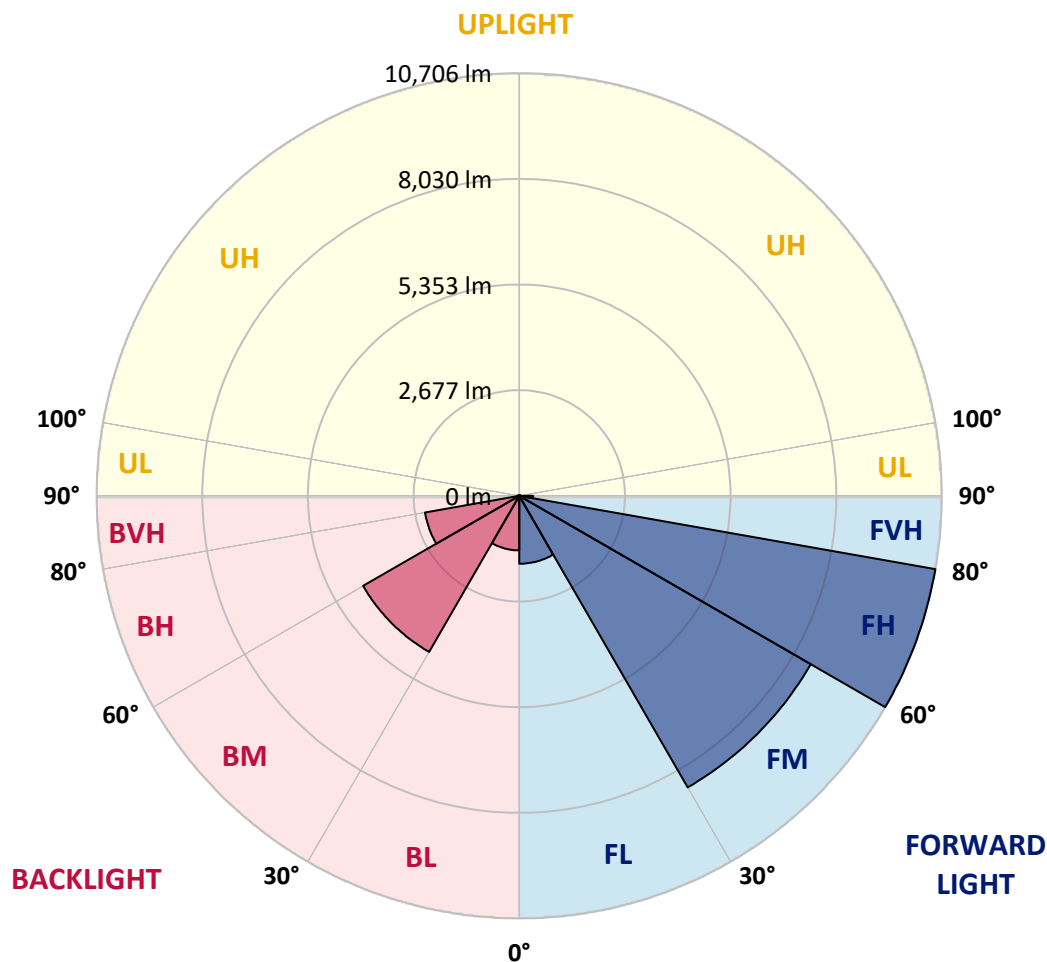
CATALOG NUMBER: CST-CA10-310-760-U-T5-HSS-HM-EX180

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |       |          |
|------|-------------|---------|-----------|-------------------------|-------|----------|
|      |             |         |           | B                       | U     | G        |
| FL   | (0°-30°)    | 1720.2  | 5.8       |                         |       |          |
| FM   | (30°-60°)   | 8529.0  | 28.6      |                         |       |          |
| FH   | (60°-80°)   | 10706.0 | 35.9      |                         |       | G4/12000 |
| FVH  | (80°-90°)   | 348.7   | 1.2       |                         |       | G3/500   |
| BL   | (0°-30°)    | 1383.7  | 4.6       | B3/2500                 |       |          |
| BM   | (30°-60°)   | 4566.8  | 15.3      | B3/5000                 |       |          |
| BH   | (60°-80°)   | 2425.8  | 8.1       | B3/2500                 |       | G3/2500  |
| BVH  | (80°-90°)   | 64.7    | 0.2       |                         |       | G1/100   |
| UL   | (90°-100°)  | 32.5    | 0.1       |                         | U2/50 |          |
| UH   | (100°-180°) | 5.6     | 0.0       |                         | U1/10 |          |

**BUG Rating: B3-U2-G4**

Type IV Short



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CATALOG NUMBER: CST-CA10-310-760-U-T5-HSS-HM-EX180

**CANDELA DISTRIBUTION (FULL):**

|        | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°    | 85°    | 90°    |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|
| 0°     | 3507.7  | 3507.7  | 3507.7  | 3507.7  | 3507.7  | 3507.7  | 3507.7  | 3507.7  | 3507.7 | 3507.7 | 3507.7 |
| 2.5°   | 3571.9  | 3552.4  | 3552.4  | 3573.3  | 3515.1  | 3533.0  | 3509.2  | 3530.1  | 3518.1 | 3524.1 | 3531.6 |
| 5°     | 3592.8  | 3570.4  | 3571.9  | 3597.2  | 3545.0  | 3559.9  | 3531.6  | 3542.0  | 3531.6 | 3536.0 | 3536.0 |
| 7.5°   | 3631.6  | 3612.2  | 3612.2  | 3627.1  | 3574.8  | 3579.3  | 3553.9  | 3553.9  | 3540.5 | 3551.0 | 3542.0 |
| 10°    | 3704.7  | 3683.8  | 3673.4  | 3680.8  | 3634.5  | 3628.6  | 3594.2  | 3594.2  | 3573.3 | 3589.8 | 3576.3 |
| 12.5°  | 3792.8  | 3762.9  | 3759.9  | 3761.4  | 3709.2  | 3698.7  | 3659.9  | 3661.4  | 3622.6 | 3645.0 | 3628.6 |
| 15°    | 3898.7  | 3861.4  | 3858.4  | 3864.4  | 3809.2  | 3789.8  | 3746.5  | 3746.5  | 3703.2 | 3715.1 | 3692.8 |
| 17.5°  | 4034.6  | 3991.3  | 3983.8  | 3994.3  | 3939.0  | 3921.1  | 3870.4  | 3861.4  | 3813.7 | 3804.7 | 3785.3 |
| 20°    | 4213.7  | 4164.4  | 4149.5  | 4171.9  | 4101.7  | 4085.3  | 4024.1  | 4004.7  | 3940.5 | 3834.6 | 3695.7 |
| 22.5°  | 4374.9  | 4336.1  | 4327.1  | 4342.0  | 4277.9  | 4261.4  | 4201.7  | 4161.4  | 4006.2 | 3792.8 | 3664.4 |
| 25°    | 4558.5  | 4543.6  | 4539.1  | 4530.1  | 4471.9  | 4443.5  | 4386.8  | 4330.1  | 3977.8 | 3685.3 | 3682.3 |
| 27.5°  | 4785.4  | 4777.9  | 4757.0  | 4749.5  | 4685.4  | 4667.4  | 4592.8  | 4227.1  | 3876.3 | 3855.5 | 3843.5 |
| 30°    | 5033.1  | 5018.2  | 4997.3  | 4998.8  | 4955.5  | 4922.7  | 4745.1  | 4136.1  | 4071.9 | 4071.9 | 4040.5 |
| 32.5°  | 5307.8  | 5291.4  | 5270.5  | 5274.9  | 5257.0  | 5228.7  | 4694.3  | 4376.4  | 4327.1 | 4340.6 | 4301.7 |
| 35°    | 5648.1  | 5621.2  | 5613.8  | 5631.7  | 5633.2  | 5449.6  | 4783.9  | 4703.3  | 4664.5 | 4655.5 | 4509.2 |
| 37.5°  | 6045.1  | 6022.7  | 6049.6  | 6091.4  | 6043.6  | 5506.3  | 5140.6  | 5115.2  | 5076.4 | 4860.0 | 4513.7 |
| 40°    | 6521.3  | 6481.0  | 6513.8  | 6540.7  | 6509.3  | 5843.6  | 5515.3  | 5524.2  | 5489.9 | 4848.0 | 4464.4 |
| 42.5°  | 6993.0  | 6954.1  | 6982.5  | 7049.7  | 7037.7  | 6261.6  | 5972.0  | 5991.4  | 5645.1 | 4876.4 | 4846.6 |
| 45°    | 7576.6  | 7563.1  | 7554.2  | 7609.4  | 7655.7  | 6761.6  | 6513.8  | 6512.3  | 5534.7 | 5327.2 | 5300.3 |
| 47.5°  | 8237.8  | 8219.9  | 8224.4  | 8294.5  | 8364.7  | 7358.6  | 7154.2  | 6554.1  | 5819.7 | 5840.6 | 5816.8 |
| 50°    | 8975.2  | 8955.8  | 9014.0  | 9115.5  | 9151.3  | 8028.8  | 7778.1  | 6440.7  | 6413.8 | 6436.2 | 6395.9 |
| 52.5°  | 9911.0  | 9867.7  | 9957.3  | 10066.3 | 10112.5 | 8821.4  | 7812.4  | 7110.9  | 7066.1 | 7070.6 | 6942.2 |
| 55°    | 10975.3 | 10940.9 | 11021.5 | 11143.9 | 11212.6 | 9706.5  | 8525.9  | 7763.1  | 7736.3 | 6975.0 | 6281.0 |
| 57.5°  | 12132.1 | 12093.3 | 12200.7 | 12236.5 | 12254.5 | 10621.5 | 9243.8  | 8470.7  | 7227.3 | 6369.0 | 6330.2 |
| 60°    | 13266.5 | 13224.7 | 13360.5 | 13366.5 | 13418.7 | 11535.0 | 9926.0  | 9152.8  | 6963.1 | 6849.7 | 6816.8 |
| 62.5°  | 14457.6 | 14405.3 | 14524.7 | 14520.3 | 14417.3 | 12370.9 | 10602.1 | 9808.0  | 7434.8 | 7345.2 | 7294.5 |
| 65°    | 15780.0 | 15741.2 | 15824.8 | 15690.5 | 15486.0 | 13235.1 | 11303.7 | 10521.5 | 7984.1 | 7967.6 | 7955.7 |
| 67.5°  | 17520.4 | 17444.3 | 17275.7 | 16989.1 | 16598.0 | 14027.7 | 11805.2 | 10991.7 | 8430.4 | 8354.2 | 8330.3 |
| 70°    | 16820.4 | 16730.8 | 16602.5 | 16287.5 | 15889.0 | 13282.9 | 10999.2 | 10281.2 | 7882.6 | 7885.5 | 7828.8 |
| 72.5°  | 14893.4 | 14738.2 | 14617.3 | 14175.5 | 13956.1 | 11600.7 | 9584.2  | 8922.9  | 6818.3 | 6945.2 | 6918.3 |
| 75°    | 11748.5 | 11590.2 | 11391.7 | 11218.6 | 11194.7 | 9409.5  | 7727.3  | 7251.2  | 5436.1 | 5528.7 | 5595.9 |
| 77.5°  | 7615.4  | 7557.2  | 7807.9  | 7643.7  | 7791.5  | 6479.5  | 5519.7  | 5110.8  | 3746.5 | 3980.8 | 3949.5 |
| 80°    | 3485.3  | 3418.1  | 3821.1  | 3707.7  | 3762.9  | 3182.3  | 2697.2  | 2591.2  | 1695.6 | 1707.6 | 1743.4 |
| 82.5°  | 788.1   | 761.2   | 789.6   | 725.4   | 707.5   | 598.5   | 526.9   | 477.6   | 300.0  | 317.9  | 334.3  |
| 85°    | 431.4   | 431.4   | 425.4   | 395.5   | 338.8   | 279.1   | 220.9   | 170.2   | 92.5   | 101.5  | 100.0  |
| 87.5°  | 303.0   | 295.5   | 294.0   | 262.7   | 225.4   | 191.1   | 152.2   | 109.0   | 52.2   | 35.8   | 32.8   |
| 90°    | 207.5   | 204.5   | 194.0   | 174.6   | 150.8   | 123.9   | 92.5    | 53.7    | 22.4   | 10.4   | 7.5    |
| 92.5°  | 150.8   | 147.8   | 140.3   | 123.9   | 103.0   | 83.6    | 61.2    | 35.8    | 17.9   | 7.5    | 1.5    |
| 95°    | 100.0   | 98.5    | 94.0    | 80.6    | 67.2    | 53.7    | 38.8    | 22.4    | 14.9   | 6.0    | 1.5    |
| 97.5°  | 68.7    | 67.2    | 62.7    | 53.7    | 43.3    | 34.3    | 23.9    | 16.4    | 11.9   | 4.5    | 1.5    |
| 100°   | 46.3    | 44.8    | 41.8    | 34.3    | 26.9    | 20.9    | 14.9    | 11.9    | 9.0    | 4.5    | 1.5    |
| 102.5° | 29.9    | 28.4    | 25.4    | 20.9    | 14.9    | 11.9    | 10.4    | 9.0     | 6.0    | 3.0    | 1.5    |
| 105°   | 17.9    | 16.4    | 13.4    | 10.4    | 9.0     | 7.5     | 7.5     | 6.0     | 4.5    | 1.5    | 1.5    |
| 107.5° | 9.0     | 7.5     | 6.0     | 6.0     | 6.0     | 4.5     | 4.5     | 4.5     | 3.0    | 1.5    | 0.0    |
| 110°   | 1.5     | 1.5     | 3.0     | 3.0     | 3.0     | 3.0     | 3.0     | 3.0     | 3.0    | 1.5    | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

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

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**CANDELA DISTRIBUTION (continued):**

|        | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°     | 3507.7 | 3507.7 | 3507.7 | 3507.7 | 3507.7 | 3507.7 | 3507.7 | 3507.7 | 3507.7 | 3507.7 |
| 2.5°   | 3524.1 | 3500.2 | 3513.6 | 3492.7 | 3488.3 | 3465.9 | 3501.7 | 3506.2 | 3503.2 | 3509.2 |
| 5°     | 3528.6 | 3503.2 | 3518.1 | 3492.7 | 3492.7 | 3468.9 | 3503.2 | 3503.2 | 3494.2 | 3497.2 |
| 7.5°   | 3540.5 | 3515.1 | 3525.6 | 3497.2 | 3498.7 | 3470.4 | 3512.1 | 3507.7 | 3500.2 | 3510.7 |
| 10°    | 3574.8 | 3546.5 | 3545.0 | 3518.1 | 3524.1 | 3494.2 | 3546.5 | 3546.5 | 3539.0 | 3558.4 |
| 12.5°  | 3630.1 | 3588.3 | 3580.8 | 3548.0 | 3559.9 | 3534.5 | 3598.7 | 3601.7 | 3603.2 | 3634.5 |
| 15°    | 3688.3 | 3637.5 | 3645.0 | 3606.2 | 3601.7 | 3588.3 | 3646.5 | 3643.5 | 3642.0 | 3685.3 |
| 17.5°  | 3770.4 | 3531.6 | 3492.7 | 3465.9 | 3459.9 | 3427.1 | 3480.8 | 3583.8 | 3530.1 | 3500.2 |
| 20°    | 3640.5 | 3515.1 | 3361.4 | 3309.2 | 3298.7 | 3013.6 | 2788.2 | 2889.7 | 3027.0 | 3039.0 |
| 22.5°  | 3522.6 | 3477.8 | 3465.9 | 3383.8 | 2928.5 | 2833.0 | 2842.0 | 2804.6 | 2479.3 | 2337.5 |
| 25°    | 3668.9 | 3630.1 | 3579.3 | 3077.8 | 2970.3 | 2936.0 | 2925.5 | 2543.4 | 2286.7 | 2303.1 |
| 27.5°  | 3831.6 | 3788.3 | 3346.5 | 3085.3 | 3109.1 | 3061.4 | 2825.5 | 2373.3 | 2358.3 | 2386.7 |
| 30°    | 4034.6 | 3688.3 | 3265.9 | 3250.9 | 3273.3 | 3212.1 | 2510.6 | 2477.8 | 2473.3 | 2503.1 |
| 32.5°  | 4265.9 | 3556.9 | 3480.8 | 3480.8 | 3470.4 | 2809.1 | 2644.9 | 2622.5 | 2634.5 | 2665.8 |
| 35°    | 4179.4 | 3762.9 | 3754.0 | 3791.3 | 3540.5 | 2882.3 | 2859.9 | 2821.1 | 2830.0 | 2840.5 |
| 37.5°  | 4083.8 | 4101.7 | 4106.2 | 4086.8 | 2582.2 | 3091.2 | 3073.3 | 3065.9 | 3056.9 | 3059.9 |
| 40°    | 4439.1 | 4451.0 | 4446.5 | 4268.9 | 2786.7 | 3131.5 | 3315.1 | 3301.7 | 3300.2 | 3318.1 |
| 42.5°  | 4854.0 | 4886.9 | 4861.5 | 3765.9 | 3059.9 | 2633.0 | 3594.2 | 3586.8 | 3583.8 | 3621.1 |
| 45°    | 5321.2 | 5352.6 | 4819.7 | 4033.1 | 3350.9 | 2725.5 | 3613.6 | 3891.3 | 3913.7 | 3946.5 |
| 47.5°  | 5827.2 | 5821.2 | 4448.0 | 4443.5 | 3692.8 | 2982.3 | 3004.7 | 4255.5 | 4292.8 | 4304.7 |
| 50°    | 6409.3 | 5452.6 | 4870.4 | 4706.2 | 4079.3 | 3270.3 | 3185.3 | 3904.7 | 4728.6 | 4740.6 |
| 52.5°  | 6285.4 | 5394.3 | 5355.5 | 4128.6 | 4425.6 | 3588.3 | 3504.7 | 3482.3 | 4901.8 | 5189.9 |
| 55°    | 5858.6 | 5903.3 | 5848.1 | 4530.1 | 3245.0 | 3871.9 | 3819.6 | 3797.2 | 3646.5 | 2886.7 |
| 57.5°  | 6333.2 | 6346.6 | 6298.9 | 4898.8 | 3300.2 | 2413.6 | 3759.9 | 3225.6 | 2095.6 | 2085.2 |
| 60°    | 6825.8 | 6848.2 | 4691.3 | 3598.7 | 2115.1 | 807.5  | 192.5  | 203.0  | 579.1  | 509.0  |
| 62.5°  | 7296.0 | 7318.3 | 4966.0 | 3288.3 | 1335.9 | 59.7   | 38.8   | 26.9   | 29.9   | 29.9   |
| 65°    | 7909.4 | 7918.4 | 5315.2 | 3480.8 | 1388.1 | 14.9   | 4.5    | 0.0    | 0.0    | 0.0    |
| 67.5°  | 8227.4 | 8043.8 | 5403.3 | 3568.9 | 1425.5 | 9.0    | 3.0    | 0.0    | 0.0    | 0.0    |
| 70°    | 7746.7 | 7549.7 | 5030.1 | 3345.0 | 1328.4 | 7.5    | 1.5    | 0.0    | 0.0    | 0.0    |
| 72.5°  | 6825.8 | 6730.2 | 4515.2 | 2965.8 | 1176.2 | 4.5    | 1.5    | 0.0    | 0.0    | 0.0    |
| 75°    | 5657.1 | 5530.2 | 3743.5 | 2471.8 | 973.2  | 3.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 77.5°  | 4024.1 | 4039.0 | 2609.1 | 1801.6 | 662.7  | 3.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 80°    | 1761.3 | 1801.6 | 1143.4 | 826.9  | 234.3  | 1.5    | 0.0    | 0.0    | 0.0    | 0.0    |
| 82.5°  | 335.8  | 309.0  | 149.3  | 117.9  | 29.9   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°    | 110.5  | 120.9  | 55.2   | 44.8   | 13.4   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5°  | 38.8   | 49.3   | 16.4   | 13.4   | 3.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°    | 6.0    | 6.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 92.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 95°    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 97.5°  | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 100°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 102.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 105°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 107.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 110°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P579575

CATALOG NUMBER: CST-CA10-310-760-U-T5-HSS-HM-EX180

**CANDELA DISTRIBUTION (continued):**

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

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

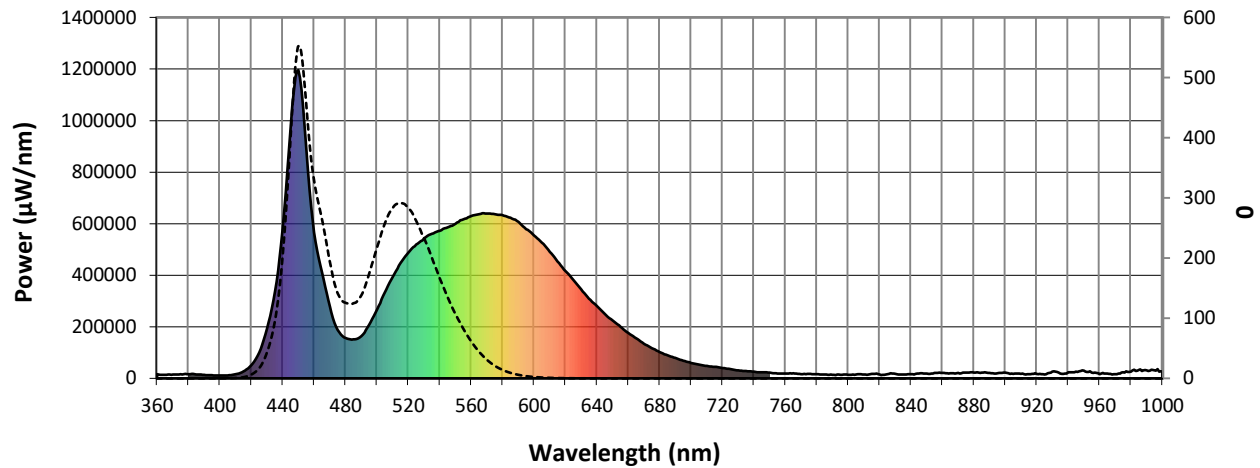


#####

| 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              |           |                  |                  |

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### 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              |           |                  |                  |

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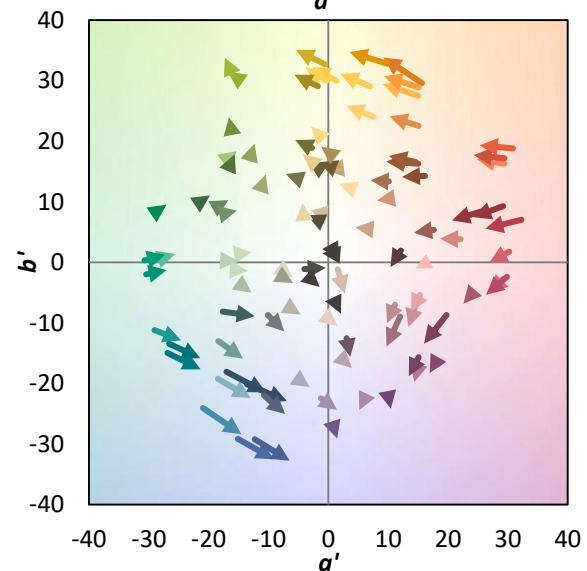
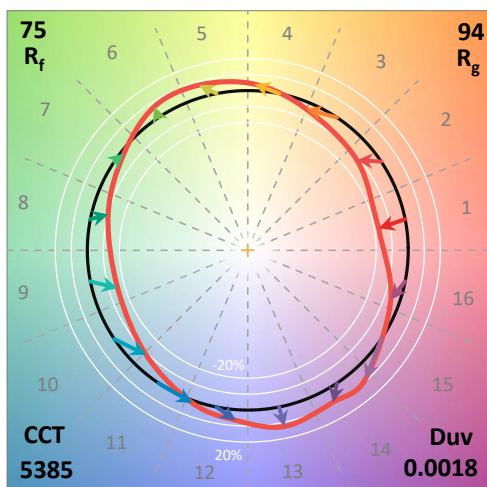
TM-30-18

### 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)