

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: P579614

Luminaire Tested: **CST-CA8-480-760-U-T5N-HSS-HM-EX180**

Issue Date: 11/18/2021

**Test Information**

Test Method: LM-79-08  
Report Number: P579614  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2110-429-6)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 11/18/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: STREETWORKS  
Catalog Number: CST-CA8-480-760-U-T5N-HSS-HM-EX180  
Description: CELESTEON HIGH MAST LUMINAIRE WITH FIELD INSTALLED SHIELD  
Light Source: (8) 5700K CCT, 70 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 47981 lumens  
Efficiency: N/A  
Efficacy: 99.8 lumens/watt  
Luminous Opening: Circular (Dia: 2.08' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B5 - U2 - G4

Input Watts (W): 480.8  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT

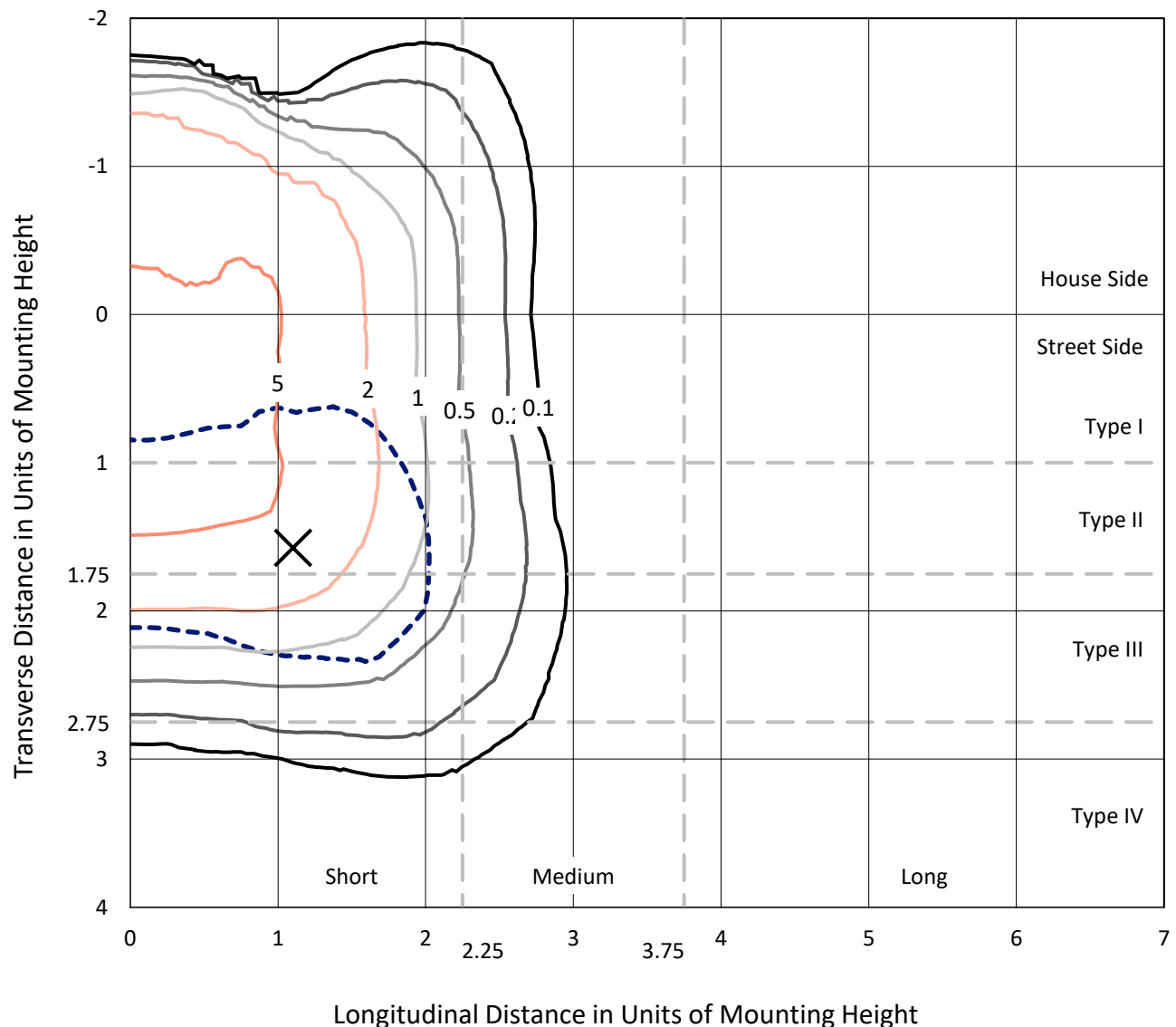


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## Iso-Footcandle Lines of Horizontal Illumination

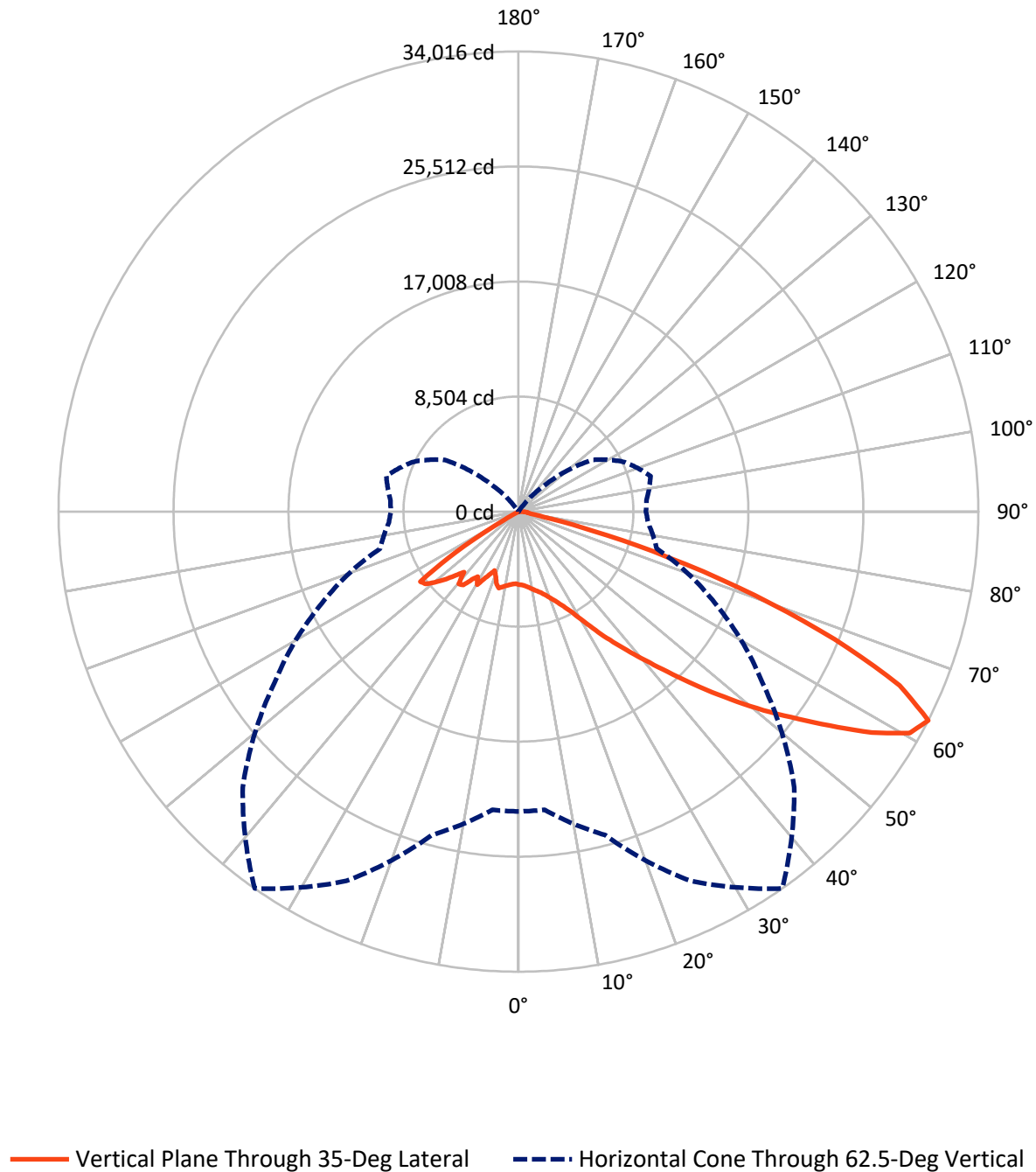
✕ Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 8.2 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 14562.4  | 0.0    | 14562.4 |
|                    | % Fixture | 30.4     | 0.0    | 30.4    |
| <b>Street Side</b> | Lumens    | 33376.9  | 41.6   | 33418.6 |
|                    | % Fixture | 69.6     | 0.1    | 69.6    |
| <b>Total</b>       | Lumens    | 47939.3  | 41.7   | 47981.0 |
|                    | % Fixture | 99.9     | 0.1    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 533.1   | 1.1       |
| 10°-20°   | 1711.0  | 3.6       |
| 20°-30°   | 3127.3  | 6.5       |
| 30°-40°   | 5959.6  | 12.4      |
| 40°-50°   | 10229.1 | 21.3      |
| 50°-60°   | 13722.6 | 28.6      |
| 60°-70°   | 10431.9 | 21.7      |
| 70°-80°   | 1975.3  | 4.1       |
| 80°-90°   | 249.4   | 0.5       |
| 90°-100°  | 36.7    | 0.1       |
| 100°-110° | 5.0     | 0.0       |
| 110°-120° | 0.1     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 47939.3 | 99.9      |
| 0°-180°   | 47981.0 | 100.0     |

**Coefficient of Utilization**



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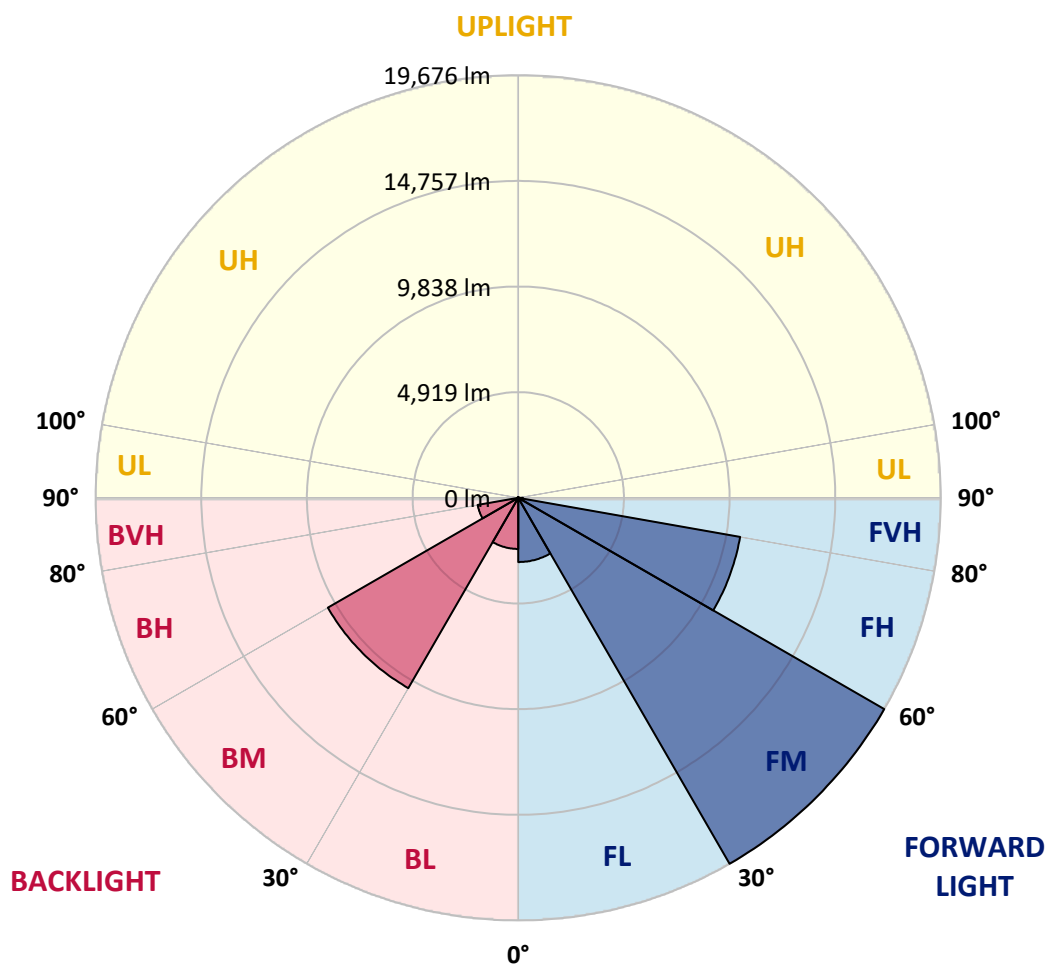
CATALOG NUMBER: CST-CA8-480-760-U-T5N-HSS-HM-EX180

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

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |       |          |
|------|-------------|---------|-----------|-------------------------|-------|----------|
|      |             |         |           | B                       | U     | G        |
| FL   | (0°-30°)    | 2991.0  | 6.2       |                         |       |          |
| FM   | (30°-60°)   | 19676.2 | 41.0      |                         |       |          |
| FH   | (60°-80°)   | 10489.5 | 21.9      |                         |       | G4/12000 |
| FVH  | (80°-90°)   | 220.2   | 0.5       |                         |       | G2/225   |
| BL   | (0°-30°)    | 2380.4  | 5.0       | B3/2500                 |       |          |
| BM   | (30°-60°)   | 10235.1 | 21.3      | B5                      |       |          |
| BH   | (60°-80°)   | 1917.7  | 4.0       | B3/2500                 |       | G3/2500  |
| BVH  | (80°-90°)   | 29.2    | 0.1       |                         |       | G1/100   |
| UL   | (90°-100°)  | 36.7    | 0.1       |                         | U2/50 |          |
| UH   | (100°-180°) | 5.0     | 0.0       |                         | U1/10 |          |

**BUG Rating: B5-U2-G4**

Type III Short



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CATALOG NUMBER: CST-CA8-480-760-U-T5N-HSS-HM-EX180

**CANDELA DISTRIBUTION (FULL):**

|        | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     | 90°     |
|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°     | 5403.2  | 5403.2  | 5403.2  | 5403.2  | 5403.2  | 5403.2  | 5403.2  | 5403.2  | 5403.2  | 5403.2  | 5403.2  |
| 2.5°   | 5536.7  | 5496.0  | 5498.2  | 5534.4  | 5430.4  | 5468.8  | 5423.6  | 5468.8  | 5444.0  | 5462.1  | 5471.1  |
| 5°     | 5633.9  | 5593.2  | 5588.7  | 5627.2  | 5539.0  | 5566.1  | 5520.9  | 5552.5  | 5518.6  | 5541.2  | 5541.2  |
| 7.5°   | 5781.0  | 5740.2  | 5726.7  | 5756.1  | 5674.7  | 5695.0  | 5647.5  | 5665.6  | 5627.2  | 5656.6  | 5640.7  |
| 10°    | 5955.1  | 5909.9  | 5894.0  | 5909.9  | 5839.8  | 5851.1  | 5794.5  | 5814.9  | 5758.3  | 5792.3  | 5769.6  |
| 12.5°  | 6140.6  | 6081.8  | 6081.8  | 6095.3  | 6020.7  | 6023.0  | 5970.9  | 5982.2  | 5925.7  | 5961.9  | 5934.8  |
| 15°    | 6341.9  | 6276.3  | 6285.3  | 6298.9  | 6219.7  | 6233.3  | 6179.0  | 6197.1  | 6138.3  | 6174.5  | 6147.4  |
| 17.5°  | 6608.7  | 6538.6  | 6529.6  | 6570.3  | 6495.7  | 6520.5  | 6459.5  | 6482.1  | 6430.1  | 6441.4  | 6427.8  |
| 20°    | 6977.4  | 6889.2  | 6868.8  | 6923.1  | 6839.4  | 6857.5  | 6812.3  | 6857.5  | 6803.3  | 6721.8  | 6493.4  |
| 22.5°  | 7418.4  | 7341.5  | 7307.6  | 7343.8  | 7244.3  | 7276.0  | 7273.7  | 7346.1  | 7196.8  | 6683.4  | 6454.9  |
| 25°    | 7999.7  | 7947.7  | 7882.1  | 7886.6  | 7766.7  | 7814.2  | 7900.2  | 7956.7  | 7321.2  | 6871.1  | 6875.6  |
| 27.5°  | 8775.5  | 8723.5  | 8633.0  | 8599.1  | 8424.9  | 8540.3  | 8673.7  | 8121.8  | 7622.0  | 7737.3  | 7674.0  |
| 30°    | 9766.1  | 9757.1  | 9573.9  | 9515.1  | 9325.1  | 9469.8  | 9354.5  | 8409.1  | 8581.0  | 8741.5  | 8644.3  |
| 32.5°  | 11084.7 | 11021.4 | 10756.7 | 10650.4 | 10451.4 | 10535.1 | 9517.3  | 9381.6  | 9637.2  | 9854.3  | 9752.5  |
| 35°    | 12679.2 | 12487.0 | 12217.8 | 12007.5 | 11661.4 | 11195.5 | 10137.0 | 10401.7 | 10783.9 | 11082.4 | 10589.4 |
| 37.5°  | 14531.6 | 14323.5 | 13902.8 | 13525.1 | 12980.0 | 11528.0 | 11071.1 | 11600.4 | 12079.8 | 11756.4 | 10618.8 |
| 40°    | 16438.2 | 16252.7 | 15856.9 | 15370.6 | 14450.1 | 12559.3 | 12204.2 | 12837.5 | 13382.6 | 11530.2 | 10964.8 |
| 42.5°  | 18331.2 | 18172.9 | 17854.0 | 17374.5 | 16189.4 | 13787.4 | 13445.9 | 14126.7 | 13613.3 | 11971.3 | 11953.2 |
| 45°    | 20240.1 | 20161.0 | 19799.1 | 19389.7 | 18249.8 | 15359.3 | 14836.9 | 15368.4 | 13099.9 | 13027.5 | 12984.5 |
| 47.5°  | 21787.1 | 21800.7 | 21674.1 | 21461.5 | 20448.2 | 17085.0 | 16404.3 | 14827.8 | 13724.1 | 13803.3 | 13823.6 |
| 50°    | 23381.7 | 23279.9 | 23273.1 | 23286.7 | 22863.7 | 19308.3 | 17471.8 | 14583.6 | 14540.6 | 14533.8 | 14515.7 |
| 52.5°  | 24659.5 | 24530.6 | 24797.5 | 25010.1 | 25261.2 | 21789.4 | 17311.2 | 15411.4 | 15164.8 | 15078.9 | 14551.9 |
| 55°    | 25699.9 | 25650.2 | 26084.4 | 26803.6 | 27920.9 | 24417.5 | 18731.6 | 16218.8 | 15725.7 | 13717.3 | 12373.9 |
| 57.5°  | 26330.9 | 26403.3 | 27299.0 | 28712.5 | 30804.6 | 26595.6 | 20384.9 | 17037.5 | 13464.0 | 12082.1 | 11996.2 |
| 60°    | 25123.2 | 25505.4 | 27029.8 | 30132.9 | 33242.8 | 28644.7 | 21615.3 | 17202.6 | 12116.0 | 11376.5 | 11204.6 |
| 62.5°  | 22167.1 | 22130.9 | 24750.0 | 30132.9 | 34016.3 | 28848.2 | 22004.3 | 16033.3 | 10584.8 | 9621.4  | 9429.1  |
| 65°    | 15689.6 | 15784.5 | 18582.3 | 27154.2 | 30987.8 | 26833.0 | 20296.7 | 13631.4 | 8443.0  | 7558.7  | 7298.6  |
| 67.5°  | 9709.6  | 9702.8  | 12441.7 | 19998.1 | 25225.0 | 22465.7 | 17087.3 | 10449.1 | 5860.1  | 5025.5  | 4742.8  |
| 70°    | 3354.1  | 3449.1  | 5595.5  | 11702.1 | 18568.7 | 17600.7 | 12787.8 | 6597.4  | 3089.5  | 2202.9  | 1859.1  |
| 72.5°  | 1334.4  | 1366.1  | 2008.4  | 5217.8  | 11600.4 | 11758.7 | 7771.3  | 3204.9  | 925.0   | 588.0   | 551.9   |
| 75°    | 873.0   | 877.5   | 963.5   | 1884.0  | 5629.4  | 6326.0  | 3609.7  | 920.5   | 429.7   | 393.5   | 384.5   |
| 77.5°  | 753.2   | 755.4   | 800.6   | 954.4   | 1834.3  | 2460.8  | 1026.8  | 545.1   | 359.6   | 323.4   | 314.4   |
| 80°    | 698.9   | 701.1   | 723.8   | 821.0   | 884.3   | 839.1   | 547.3   | 438.8   | 303.1   | 287.2   | 285.0   |
| 82.5°  | 660.4   | 669.5   | 680.8   | 739.6   | 714.7   | 631.0   | 454.6   | 355.1   | 233.0   | 248.8   | 255.6   |
| 85°    | 608.4   | 617.4   | 624.2   | 658.2   | 597.1   | 461.4   | 352.8   | 266.9   | 149.3   | 162.8   | 160.6   |
| 87.5°  | 456.9   | 461.4   | 452.3   | 447.8   | 416.2   | 323.4   | 233.0   | 169.6   | 58.8    | 54.3    | 49.8    |
| 90°    | 219.4   | 217.1   | 208.1   | 192.2   | 167.4   | 131.2   | 97.3    | 54.3    | 24.9    | 11.3    | 4.5     |
| 92.5°  | 174.2   | 171.9   | 167.4   | 151.5   | 131.2   | 97.3    | 70.1    | 38.4    | 22.6    | 9.0     | 2.3     |
| 95°    | 117.6   | 113.1   | 108.6   | 97.3    | 81.4    | 58.8    | 40.7    | 27.1    | 18.1    | 6.8     | 2.3     |
| 97.5°  | 76.9    | 74.6    | 67.9    | 58.8    | 45.2    | 31.7    | 24.9    | 20.4    | 15.8    | 6.8     | 2.3     |
| 100°   | 47.5    | 47.5    | 43.0    | 33.9    | 22.6    | 18.1    | 15.8    | 15.8    | 11.3    | 4.5     | 0.0     |
| 102.5° | 29.4    | 27.1    | 24.9    | 15.8    | 11.3    | 11.3    | 11.3    | 11.3    | 9.0     | 4.5     | 0.0     |
| 105°   | 15.8    | 15.8    | 11.3    | 9.0     | 6.8     | 4.5     | 6.8     | 9.0     | 6.8     | 2.3     | 0.0     |
| 107.5° | 4.5     | 4.5     | 4.5     | 2.3     | 2.3     | 0.0     | 2.3     | 4.5     | 4.5     | 2.3     | 0.0     |
| 110°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 2.3     | 4.5     | 2.3     | 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°     | 5403.2  | 5403.2  | 5403.2  | 5403.2  | 5403.2  | 5403.2 | 5403.2 | 5403.2  | 5403.2  | 5403.2  |
| 2.5°   | 5459.8  | 5416.8  | 5428.1  | 5385.2  | 5378.4  | 5333.1 | 5410.0 | 5414.6  | 5394.2  | 5416.8  |
| 5°     | 5529.9  | 5477.9  | 5498.2  | 5446.2  | 5437.2  | 5378.4 | 5439.4 | 5432.7  | 5416.8  | 5434.9  |
| 7.5°   | 5629.4  | 5577.4  | 5588.7  | 5527.6  | 5516.3  | 5450.7 | 5509.5 | 5486.9  | 5466.6  | 5491.5  |
| 10°    | 5767.4  | 5708.6  | 5717.6  | 5645.3  | 5636.2  | 5559.3 | 5627.2 | 5593.2  | 5563.8  | 5597.8  |
| 12.5°  | 5937.0  | 5860.1  | 5851.1  | 5774.2  | 5767.4  | 5695.0 | 5765.1 | 5731.2  | 5701.8  | 5756.1  |
| 15°    | 6131.5  | 6029.7  | 6016.2  | 5918.9  | 5907.6  | 5833.0 | 5900.8 | 5851.1  | 5828.5  | 5898.6  |
| 17.5°  | 6391.6  | 6032.0  | 5830.7  | 5688.2  | 5606.8  | 5566.1 | 5688.2 | 5853.3  | 5803.6  | 5805.8  |
| 20°    | 6285.3  | 5898.6  | 5629.4  | 5507.3  | 5419.1  | 5025.5 | 4482.7 | 4638.8  | 4955.4  | 5111.5  |
| 22.5°  | 6253.7  | 6118.0  | 6007.1  | 5801.3  | 4926.0  | 4704.4 | 4736.0 | 4699.9  | 4102.8  | 3874.3  |
| 25°    | 6859.8  | 6703.7  | 6464.0  | 5385.2  | 5131.8  | 5082.1 | 5100.2 | 4475.9  | 4025.9  | 4091.5  |
| 27.5°  | 7635.6  | 7475.0  | 6292.1  | 5688.2  | 5638.5  | 5572.9 | 5215.5 | 4435.2  | 4496.3  | 4559.6  |
| 30°    | 8612.6  | 7769.0  | 6561.2  | 6375.8  | 6283.1  | 6215.2 | 4889.8 | 4953.2  | 5054.9  | 5134.1  |
| 32.5°  | 9564.8  | 7744.1  | 7332.5  | 7101.8  | 6986.5  | 5670.1 | 5525.4 | 5672.4  | 5776.4  | 5837.5  |
| 35°    | 9576.1  | 8630.7  | 8196.5  | 7900.2  | 7167.4  | 6095.3 | 6228.8 | 6475.3  | 6730.9  | 6778.4  |
| 37.5°  | 9836.2  | 9634.9  | 9137.3  | 8764.2  | 5330.9  | 6803.3 | 7097.3 | 7380.0  | 7635.6  | 7651.4  |
| 40°    | 10872.1 | 10655.0 | 10189.0 | 9368.0  | 5887.3  | 6939.0 | 8054.0 | 8372.9  | 8587.8  | 8576.4  |
| 42.5°  | 11905.7 | 11756.4 | 11272.4 | 8325.4  | 6633.6  | 6011.7 | 9058.2 | 9268.5  | 9404.2  | 9499.2  |
| 45°    | 12946.1 | 12796.8 | 11161.6 | 9141.9  | 7522.5  | 6583.9 | 8813.9 | 10005.8 | 10155.1 | 10202.6 |
| 47.5°  | 13758.0 | 13389.4 | 10227.5 | 10225.2 | 8633.0  | 7316.7 | 7278.2 | 10670.8 | 10802.0 | 10768.0 |
| 50°    | 14508.9 | 11953.2 | 11055.3 | 10580.3 | 9781.9  | 8006.5 | 7739.6 | 8979.0  | 11387.8 | 11338.0 |
| 52.5°  | 13201.7 | 11600.4 | 11765.5 | 9623.6  | 10704.7 | 8691.8 | 8259.8 | 8051.7  | 10347.4 | 11679.5 |
| 55°    | 11806.2 | 12032.4 | 12491.5 | 10573.5 | 7766.7  | 8913.4 | 8700.8 | 8286.9  | 6981.9  | 5875.9  |
| 57.5°  | 12048.2 | 12385.2 | 12407.8 | 11453.4 | 8038.2  | 5568.4 | 7131.2 | 6242.3  | 3944.4  | 3953.5  |
| 60°    | 11240.7 | 11679.5 | 9069.5  | 7635.6  | 4322.1  | 1160.3 | 113.1  | 99.5    | 687.6   | 836.8   |
| 62.5°  | 9503.7  | 10114.4 | 8657.9  | 6651.7  | 2772.9  | 43.0   | 11.3   | 2.3     | 0.0     | 0.0     |
| 65°    | 7359.6  | 8094.7  | 7316.7  | 5740.2  | 2460.8  | 13.6   | 0.0    | 0.0     | 0.0     | 0.0     |
| 67.5°  | 4853.7  | 5516.3  | 5559.3  | 4801.6  | 2051.4  | 6.8    | 0.0    | 0.0     | 0.0     | 0.0     |
| 70°    | 2033.3  | 2863.3  | 3460.4  | 3569.0  | 1612.6  | 2.3    | 0.0    | 0.0     | 0.0     | 0.0     |
| 72.5°  | 588.0   | 909.2   | 1664.6  | 2144.1  | 1024.6  | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 75°    | 391.3   | 418.4   | 481.7   | 965.8   | 511.1   | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 77.5°  | 323.4   | 330.2   | 275.9   | 264.6   | 147.0   | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 80°    | 294.0   | 289.5   | 221.6   | 156.1   | 54.3    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 82.5°  | 271.4   | 257.8   | 160.6   | 81.4    | 36.2    | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 85°    | 183.2   | 180.9   | 72.4    | 49.8    | 6.8     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 87.5°  | 49.8    | 63.3    | 15.8    | 6.8     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 90°    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 92.5°  | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 95°    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 97.5°  | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 100°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 102.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 105°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 107.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |
| 110°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0    | 0.0    | 0.0     | 0.0     | 0.0     |



REPORT NUMBER: P579614

CATALOG NUMBER: CST-CA8-480-760-U-T5N-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              |           |                  |                  |

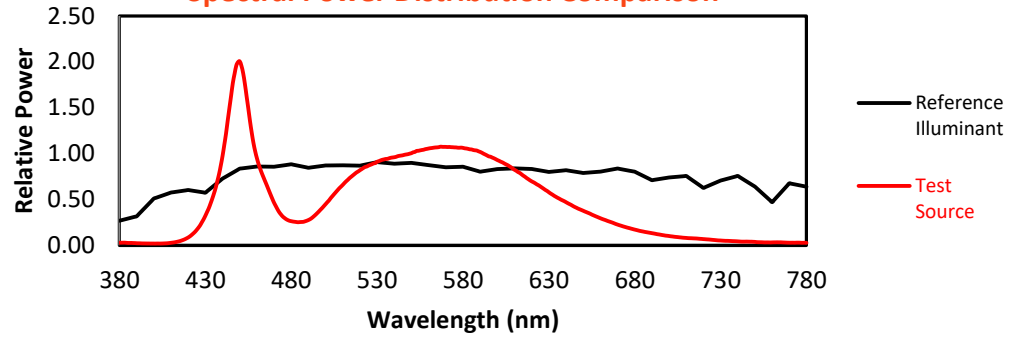
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TM-30-18

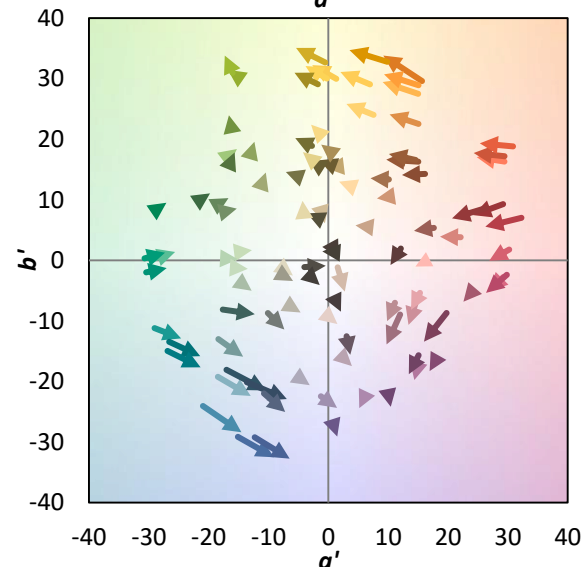
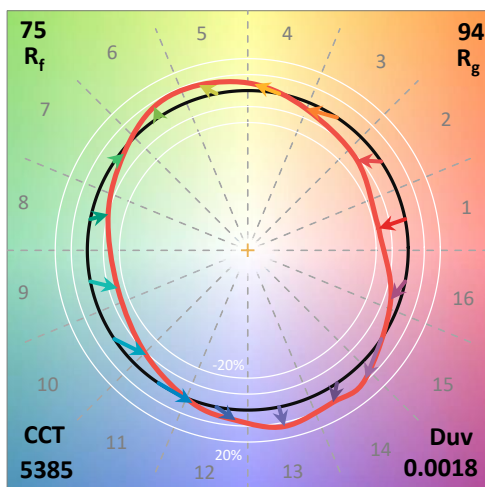
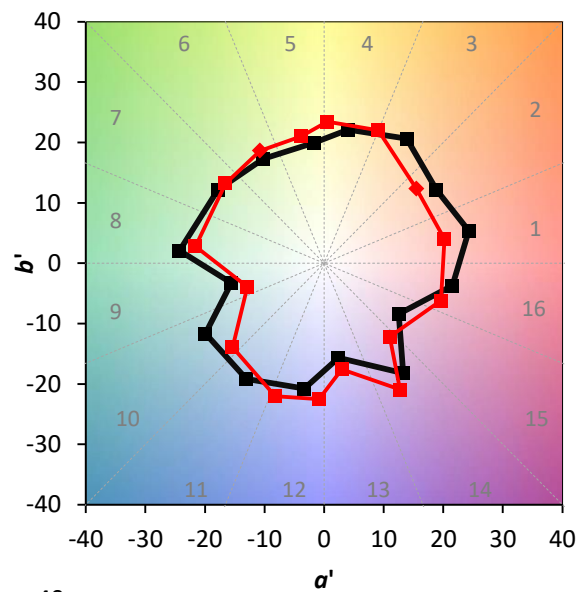
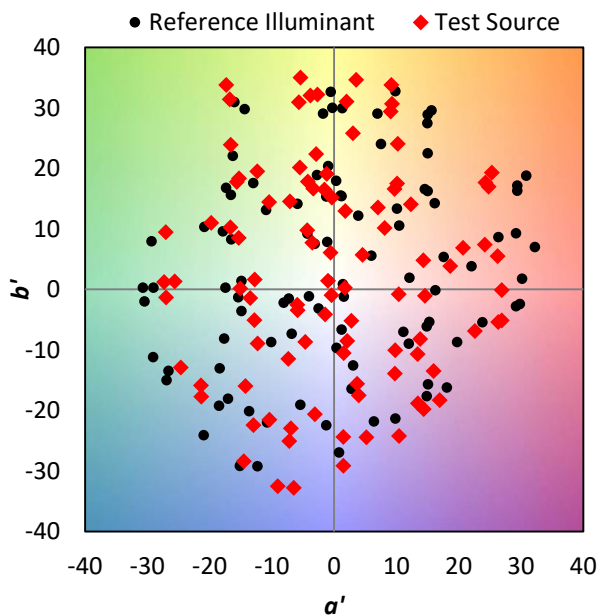
### Summary

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

### Spectral Power Distribution Comparison



### 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)