

Signify Classified - Internal  
Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P387064

Luminaire Tested: **GWC-SA2D-740-U-SLR-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P387064  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-28)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GWC-SA2D-740-U-SLR-HSS  
Description: GALLEON WALL LUMINAIRE  
(2) 70 CRI, 4000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12004 lumens  
Efficiency: N/A  
Efficacy: 93.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')  
IES Classification: Type IV - Medium  
BUG Rating: B1 - U0 - G2

Input Watts (W): 129  
Input Voltage (V): NR  
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: 28.75 FT

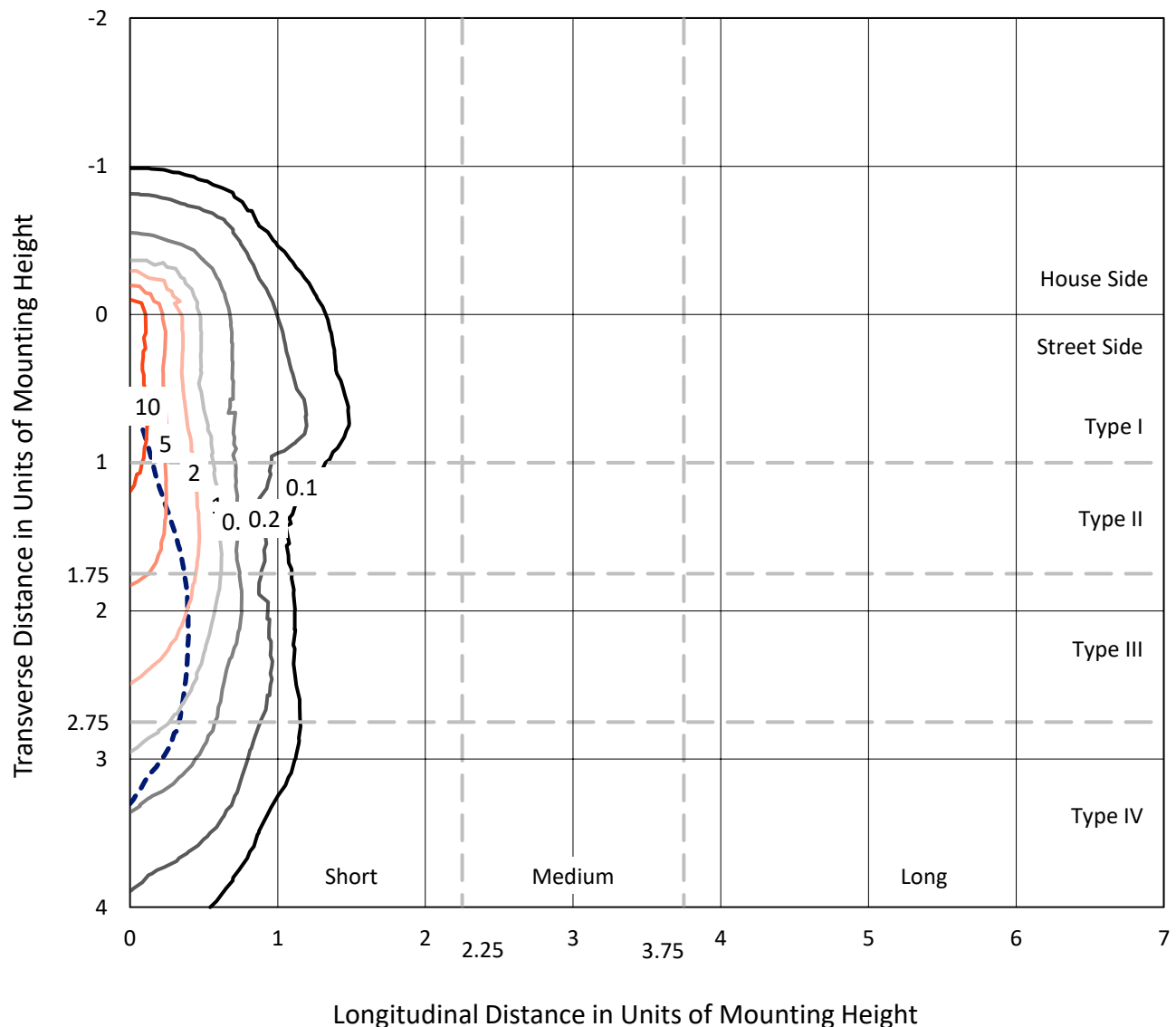


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## Iso-Footcandle Lines of Horizontal Illumination

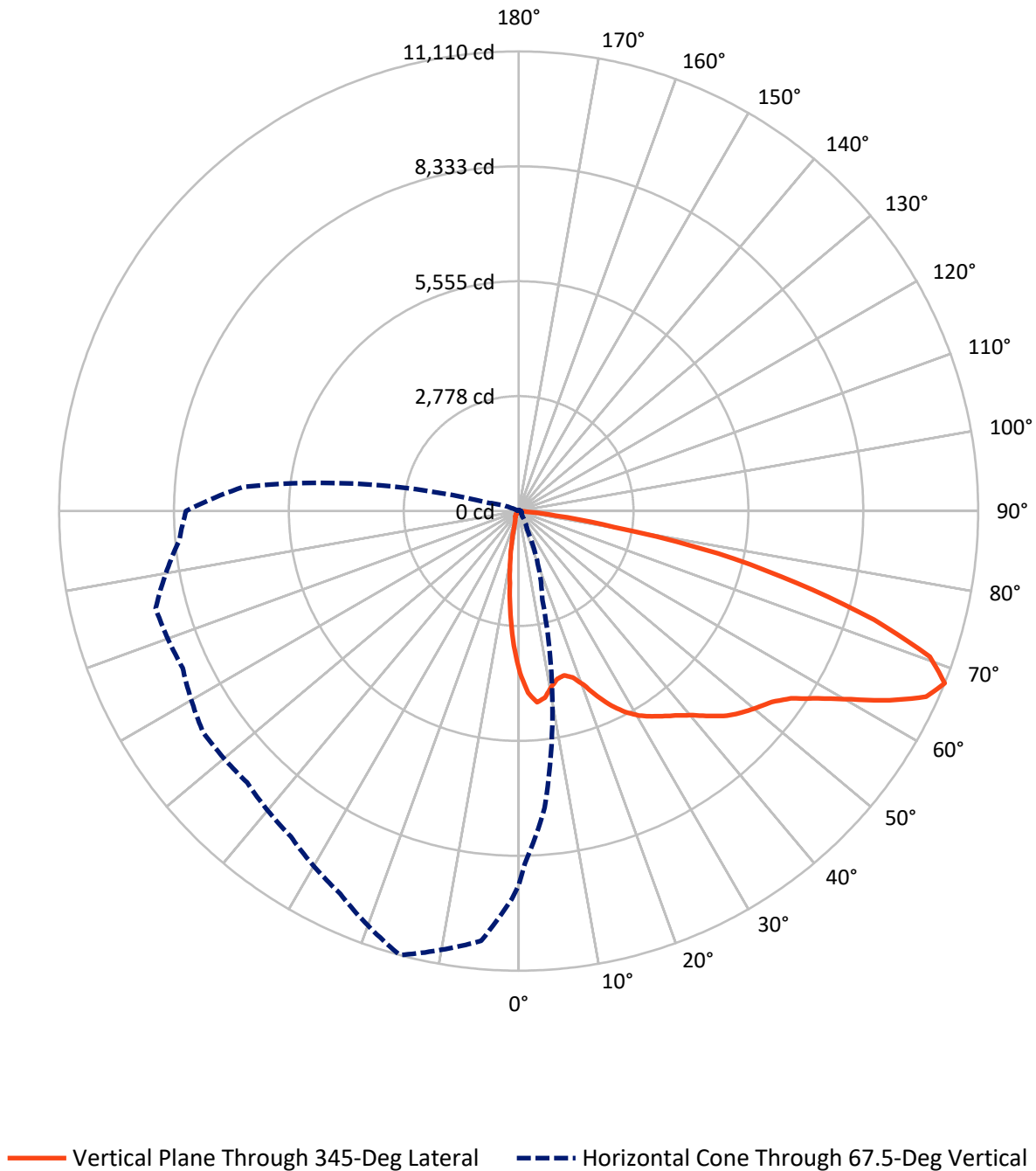
× Max cd  
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 17.4 fc  
 Type IV - Medium - N/A

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## Luminous Intensity Polar Plot



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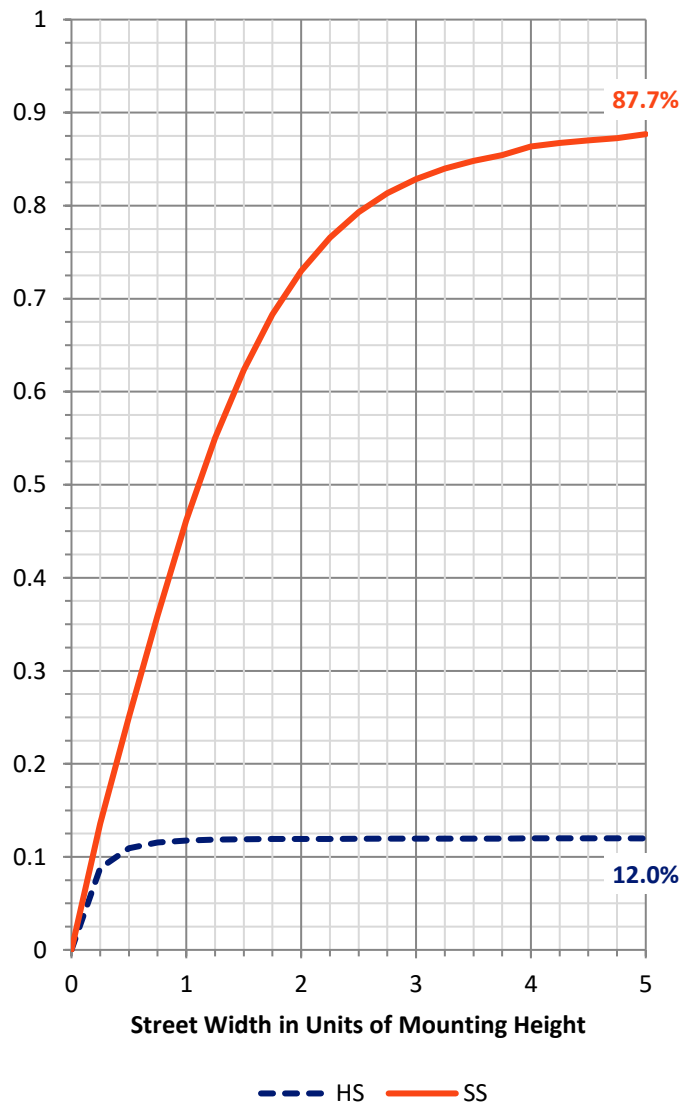
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1452.9   | 0.0    | 1452.9  |
|                    | % Fixture | 12.1     | 0.0    | 12.1    |
| <b>Street Side</b> | Lumens    | 10551.1  | 0.0    | 10551.1 |
|                    | % Fixture | 87.9     | 0.0    | 87.9    |
| <b>Total</b>       | Lumens    | 12004.0  | 0.0    | 12004.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 300.1   | 2.5       |
| 10°-20°   | 597.4   | 5.0       |
| 20°-30°   | 848.3   | 7.1       |
| 30°-40°   | 1252.9  | 10.4      |
| 40°-50°   | 1807.0  | 15.1      |
| 50°-60°   | 2536.6  | 21.1      |
| 60°-70°   | 2957.0  | 24.6      |
| 70°-80°   | 1511.7  | 12.6      |
| 80°-90°   | 193.1   | 1.6       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 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°    | 12004.0 | 100.0     |
| 0°-180°   | 12004.0 | 100.0     |

**Coefficient of Utilization**



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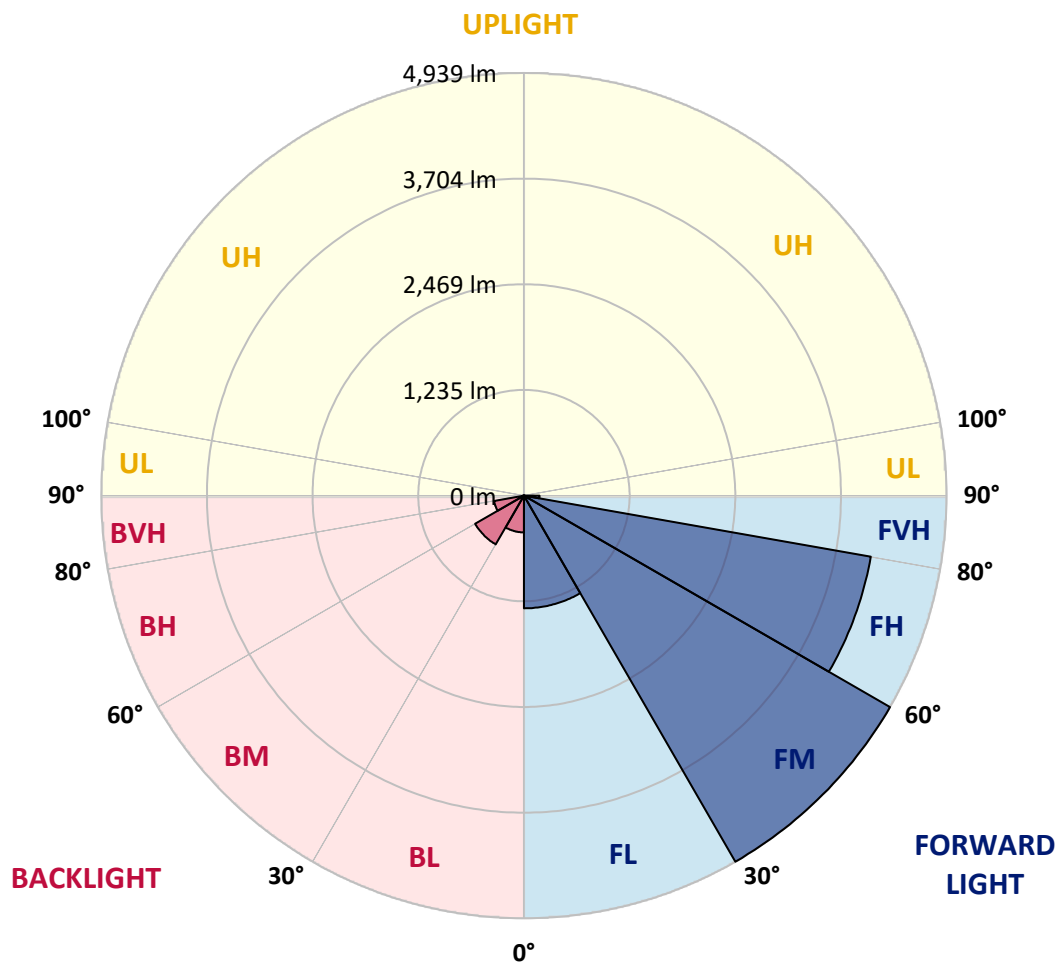
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1316.6 | 11.0      |                         |      |         |
| FM   | (30°-60°)   | 4938.6 | 41.1      |                         |      |         |
| FH   | (60°-80°)   | 4114.5 | 34.3      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 181.3  | 1.5       |                         |      | G2/225  |
| BL   | (0°-30°)    | 429.1  | 3.6       | B1/500                  |      |         |
| BM   | (30°-60°)   | 657.9  | 5.5       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 354.1  | 2.9       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 11.7   | 0.1       |                         |      | G1/100  |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type IV Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 1°      | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3910.3  | 3910.3  | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 |
| 2.5°  | 4281.6  | 4248.6  | 4212.3 | 4093.4 | 3983.1 | 3856.8 | 3753.9 | 3682.2 | 3592.4 | 3475.8 | 3446.2 |
| 5°    | 4250.9  | 4215.7  | 4101.4 | 3836.9 | 3605.5 | 3380.3 | 3163.0 | 3035.6 | 2877.5 | 2717.2 | 2677.4 |
| 7.5°  | 3942.1  | 3905.2  | 3740.2 | 3378.0 | 3066.4 | 2741.1 | 2459.0 | 2284.4 | 2105.8 | 1959.1 | 1881.2 |
| 10°   | 3620.8  | 3580.4  | 3395.1 | 2955.5 | 2571.6 | 2277.6 | 2070.6 | 1904.0 | 1735.1 | 1578.1 | 1453.0 |
| 12.5° | 3399.6  | 3346.7  | 3145.4 | 2647.2 | 2312.8 | 2113.2 | 1919.9 | 1720.3 | 1491.7 | 1323.3 | 1185.7 |
| 15°   | 3306.9  | 3246.6  | 3033.9 | 2528.4 | 2221.3 | 1987.0 | 1735.1 | 1490.0 | 1222.1 | 1029.3 | 903.1  |
| 17.5° | 3378.6  | 3300.1  | 3072.0 | 2520.4 | 2106.4 | 1787.4 | 1468.9 | 1181.2 | 890.6  | 695.5  | 605.6  |
| 20°   | 3622.0  | 3519.0  | 3229.6 | 2518.1 | 1967.1 | 1550.2 | 1146.5 | 821.2  | 586.9  | 472.0  | 424.8  |
| 22.5° | 4005.3  | 3869.3  | 3455.9 | 2536.3 | 1823.2 | 1301.2 | 828.0  | 557.9  | 440.7  | 381.0  | 353.2  |
| 25°   | 4468.2  | 4310.6  | 3781.8 | 2600.6 | 1697.0 | 1058.9 | 601.7  | 440.7  | 371.9  | 328.1  | 304.8  |
| 27.5° | 4908.3  | 4780.4  | 4193.5 | 2693.3 | 1599.1 | 863.3  | 488.5  | 373.6  | 317.9  | 288.9  | 270.1  |
| 30°   | 5347.9  | 5187.0  | 4616.0 | 2803.6 | 1481.4 | 730.8  | 429.4  | 340.6  | 284.9  | 254.2  | 242.3  |
| 32.5° | 5667.5  | 5533.9  | 4947.0 | 2883.2 | 1355.7 | 644.3  | 383.9  | 311.6  | 266.1  | 234.9  | 217.2  |
| 35°   | 6043.4  | 5892.1  | 5230.8 | 2900.9 | 1275.0 | 589.7  | 345.2  | 280.4  | 230.9  | 203.0  | 184.3  |
| 37.5° | 6449.5  | 6261.2  | 5558.3 | 2862.2 | 1211.9 | 563.0  | 316.2  | 266.1  | 215.5  | 187.1  | 167.2  |
| 40°   | 6898.7  | 6686.0  | 5872.8 | 2806.5 | 1149.9 | 553.9  | 294.0  | 255.3  | 203.6  | 174.6  | 154.1  |
| 42.5° | 7371.9  | 7121.1  | 6145.2 | 2747.9 | 1110.6 | 522.6  | 291.7  | 244.5  | 194.5  | 163.2  | 142.7  |
| 45°   | 7769.4  | 7515.2  | 6425.0 | 2728.6 | 1082.8 | 488.5  | 301.4  | 237.1  | 188.2  | 154.1  | 134.2  |
| 47.5° | 8086.1  | 7845.6  | 6711.6 | 2771.8 | 1066.9 | 457.2  | 274.7  | 246.8  | 184.8  | 146.2  | 126.8  |
| 50°   | 8464.3  | 8191.9  | 7115.4 | 2900.9 | 1043.5 | 425.9  | 248.5  | 282.6  | 184.8  | 141.0  | 120.6  |
| 52.5° | 8938.6  | 8669.0  | 7565.8 | 3101.0 | 996.9  | 382.7  | 223.5  | 283.2  | 186.5  | 134.2  | 112.6  |
| 55°   | 9535.1  | 9339.5  | 8209.0 | 3320.6 | 922.4  | 319.0  | 193.4  | 243.4  | 179.7  | 121.7  | 105.2  |
| 57.5° | 10107.2 | 9947.4  | 8795.3 | 3470.7 | 822.9  | 249.1  | 168.3  | 196.2  | 164.4  | 106.9  | 93.8   |
| 59°   | 10263.6 | 10089.0 | 9010.3 | 3477.5 | 748.4  | 217.2  | 155.8  | 162.1  | 160.9  | 100.1  | 87.0   |
| 60°   | 10263.6 | 10078.2 | 9072.2 | 3441.1 | 694.4  | 199.6  | 147.9  | 144.4  | 167.8  | 95.5   | 83.0   |
| 62.5° | 10077.7 | 9817.2  | 8870.9 | 3194.9 | 566.4  | 170.0  | 129.1  | 119.4  | 150.7  | 85.9   | 73.4   |
| 65°   | 9691.0  | 9311.7  | 8185.1 | 2749.6 | 505.0  | 155.8  | 111.5  | 97.8   | 104.6  | 75.6   | 64.3   |
| 67.5° | 9046.1  | 8532.0  | 7196.1 | 2221.3 | 480.5  | 151.8  | 96.1   | 83.0   | 79.0   | 64.8   | 56.3   |
| 70°   | 7910.4  | 7340.0  | 5995.7 | 1746.4 | 459.5  | 150.1  | 80.8   | 69.9   | 63.7   | 54.6   | 47.8   |
| 72.5° | 5757.4  | 5162.5  | 4256.6 | 1365.4 | 447.0  | 153.5  | 64.8   | 58.6   | 52.3   | 42.7   | 37.0   |
| 75°   | 3293.3  | 2903.7  | 2392.5 | 901.9  | 381.0  | 146.7  | 50.0   | 48.9   | 37.5   | 30.7   | 25.6   |
| 77.5° | 1701.5  | 1649.8  | 1433.7 | 346.3  | 182.5  | 64.3   | 33.0   | 28.4   | 22.2   | 18.8   | 15.4   |
| 80°   | 734.2   | 726.2   | 628.4  | 100.1  | 48.3   | 35.8   | 18.8   | 11.9   | 10.2   | 8.0    | 6.3    |
| 82.5° | 253.6   | 253.6   | 223.5  | 33.6   | 21.6   | 17.6   | 2.3    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 51.2    | 57.4    | 40.4   | 0.0    | 7.4    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0     | 0.0     | 0.0    | 0.0    | 0.0    | 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    | 0.0    |

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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 |
| 2.5°  | 3410.4 | 3341.6 | 3337.0 | 3293.8 | 3239.8 | 3215.3 | 3201.1 | 3226.2 | 3256.9 | 3260.3 | 3306.3 |
| 5°    | 2647.2 | 2575.0 | 2605.1 | 2528.4 | 2543.7 | 2528.4 | 2503.4 | 2507.9 | 2521.6 | 2478.9 | 2531.8 |
| 7.5°  | 1859.0 | 1804.4 | 1839.1 | 1818.7 | 1846.0 | 1856.8 | 1841.4 | 1818.7 | 1751.6 | 1743.6 | 1789.7 |
| 10°   | 1401.2 | 1339.3 | 1302.3 | 1263.6 | 1272.1 | 1289.8 | 1284.1 | 1267.6 | 1224.9 | 1227.2 | 1271.6 |
| 12.5° | 1126.0 | 1056.6 | 983.3  | 888.3  | 865.0  | 878.1  | 865.0  | 855.3  | 814.4  | 817.8  | 857.0  |
| 15°   | 854.2  | 797.3  | 720.5  | 644.3  | 602.8  | 606.8  | 570.4  | 544.8  | 519.2  | 488.5  | 512.4  |
| 17.5° | 576.6  | 542.0  | 519.2  | 496.5  | 447.0  | 435.6  | 389.5  | 340.1  | 320.7  | 306.5  | 316.8  |
| 20°   | 408.3  | 389.5  | 380.5  | 379.3  | 350.9  | 336.7  | 291.7  | 261.0  | 251.4  | 248.5  | 254.8  |
| 22.5° | 341.2  | 327.6  | 314.5  | 307.1  | 292.9  | 276.4  | 242.3  | 226.9  | 220.1  | 216.7  | 221.2  |
| 25°   | 296.9  | 286.6  | 273.0  | 260.5  | 254.8  | 237.1  | 212.7  | 201.3  | 196.8  | 193.4  | 195.6  |
| 27.5° | 263.9  | 254.8  | 238.8  | 230.9  | 226.3  | 211.0  | 189.9  | 180.8  | 176.9  | 175.7  | 175.2  |
| 30°   | 237.7  | 229.2  | 214.4  | 205.3  | 197.3  | 183.7  | 171.2  | 162.1  | 158.1  | 157.0  | 155.8  |
| 32.5° | 211.6  | 204.7  | 195.1  | 186.0  | 177.4  | 164.9  | 154.1  | 146.7  | 140.5  | 139.3  | 138.8  |
| 35°   | 178.6  | 171.7  | 166.6  | 166.1  | 158.1  | 146.2  | 138.2  | 128.5  | 123.4  | 121.7  | 122.3  |
| 37.5° | 158.7  | 149.6  | 138.2  | 142.2  | 139.9  | 131.4  | 120.6  | 110.9  | 105.8  | 104.6  | 104.6  |
| 40°   | 146.2  | 136.5  | 123.4  | 116.6  | 123.4  | 121.7  | 104.6  | 95.0   | 89.9   | 89.3   | 88.1   |
| 42.5° | 134.2  | 124.5  | 109.8  | 98.4   | 101.8  | 106.9  | 90.4   | 81.3   | 76.2   | 75.1   | 73.4   |
| 45°   | 125.7  | 115.4  | 99.0   | 85.9   | 79.0   | 89.9   | 77.3   | 66.0   | 63.1   | 60.8   | 59.7   |
| 47.5° | 117.7  | 108.1  | 89.3   | 74.5   | 63.1   | 64.8   | 62.0   | 54.0   | 50.6   | 48.3   | 47.8   |
| 50°   | 110.9  | 100.7  | 80.8   | 63.7   | 52.3   | 47.8   | 50.0   | 42.7   | 39.8   | 37.5   | 36.4   |
| 52.5° | 102.9  | 93.3   | 71.7   | 55.2   | 43.8   | 37.5   | 38.1   | 33.6   | 30.7   | 29.0   | 28.4   |
| 55°   | 96.7   | 87.0   | 64.3   | 48.3   | 38.7   | 30.7   | 27.3   | 26.2   | 24.5   | 23.3   | 22.7   |
| 57.5° | 88.1   | 79.0   | 56.9   | 40.9   | 33.0   | 25.0   | 21.0   | 21.0   | 20.5   | 19.3   | 18.8   |
| 59°   | 83.0   | 75.1   | 52.3   | 37.0   | 30.1   | 21.6   | 18.8   | 19.3   | 18.8   | 17.6   | 17.1   |
| 60°   | 79.0   | 71.7   | 48.9   | 34.1   | 28.4   | 19.9   | 17.1   | 18.2   | 17.6   | 16.5   | 15.9   |
| 62.5° | 69.9   | 64.8   | 42.1   | 28.4   | 25.0   | 15.9   | 14.2   | 15.4   | 15.4   | 14.8   | 14.2   |
| 65°   | 61.4   | 55.7   | 35.8   | 23.9   | 23.3   | 13.6   | 11.4   | 13.6   | 14.2   | 13.1   | 11.9   |
| 67.5° | 53.5   | 47.8   | 31.3   | 19.3   | 21.6   | 10.8   | 8.5    | 11.4   | 15.4   | 11.9   | 10.8   |
| 70°   | 45.5   | 39.8   | 24.5   | 15.4   | 22.7   | 7.4    | 6.8    | 10.2   | 18.2   | 13.1   | 10.2   |
| 72.5° | 35.3   | 30.7   | 17.1   | 11.4   | 24.5   | 5.1    | 5.1    | 8.5    | 20.5   | 14.2   | 9.7    |
| 75°   | 24.5   | 19.9   | 10.2   | 6.8    | 19.9   | 3.4    | 3.4    | 8.0    | 19.3   | 13.1   | 9.1    |
| 77.5° | 14.2   | 10.8   | 3.4    | 0.6    | 10.2   | 0.0    | 0.6    | 5.7    | 13.6   | 8.0    | 4.0    |
| 80°   | 5.1    | 2.3    | 0.0    | 0.0    | 6.3    | 0.0    | 0.0    | 0.0    | 1.1    | 0.0    | 0.0    |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 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    | 0.0    |

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**CANDELA DISTRIBUTION (continued):**

|       | 185°   | 195°   | 205°   | 215°   | 225°   | 235°   | 245°   | 255°   | 265°   | 270°   | 275°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 | 3910.3 |
| 2.5°  | 3318.3 | 3395.1 | 3463.9 | 3567.9 | 3691.3 | 3833.5 | 3955.8 | 4087.1 | 4210.5 | 4261.7 | 4297.0 |
| 5°    | 2542.6 | 2637.6 | 2748.5 | 2901.4 | 3105.0 | 3355.8 | 3590.7 | 3856.3 | 4141.7 | 4284.5 | 4418.7 |
| 7.5°  | 1797.6 | 1894.3 | 2031.9 | 2194.6 | 2440.8 | 2739.4 | 3046.4 | 3413.2 | 3800.0 | 4025.7 | 4248.1 |
| 10°   | 1292.6 | 1411.5 | 1540.0 | 1762.4 | 2012.6 | 2295.8 | 2612.0 | 3021.4 | 3452.5 | 3702.7 | 3970.6 |
| 12.5° | 879.8  | 1015.1 | 1209.6 | 1458.7 | 1752.7 | 2030.2 | 2304.9 | 2695.6 | 3196.0 | 3444.0 | 3731.1 |
| 15°   | 527.7  | 602.8  | 808.7  | 1097.0 | 1457.5 | 1803.3 | 2104.1 | 2496.0 | 3029.4 | 3333.1 | 3631.6 |
| 17.5° | 325.3  | 360.0  | 472.0  | 708.6  | 1087.3 | 1524.6 | 1936.9 | 2428.3 | 3053.3 | 3422.9 | 3742.5 |
| 20°   | 259.3  | 273.0  | 308.8  | 418.6  | 720.5  | 1217.6 | 1748.7 | 2414.6 | 3248.3 | 3703.3 | 4046.2 |
| 22.5° | 225.2  | 238.3  | 262.2  | 304.2  | 453.2  | 911.6  | 1570.1 | 2427.1 | 3528.1 | 4123.5 | 4523.9 |
| 25°   | 198.5  | 209.8  | 232.6  | 267.3  | 332.1  | 642.0  | 1379.1 | 2482.9 | 3892.7 | 4645.0 | 5070.4 |
| 27.5° | 177.4  | 187.1  | 208.1  | 240.0  | 284.9  | 448.1  | 1162.4 | 2550.6 | 4324.9 | 5178.4 | 5598.1 |
| 30°   | 158.1  | 166.6  | 185.4  | 215.0  | 247.4  | 344.6  | 924.7  | 2596.6 | 4757.6 | 5598.1 | 5975.2 |
| 32.5° | 141.6  | 147.9  | 164.9  | 189.9  | 215.0  | 274.7  | 702.9  | 2589.2 | 5078.9 | 5947.3 | 6246.4 |
| 35°   | 124.5  | 130.8  | 145.6  | 167.2  | 187.1  | 226.9  | 552.8  | 2451.0 | 5358.7 | 6309.6 | 6556.9 |
| 37.5° | 105.8  | 113.7  | 128.0  | 147.3  | 160.9  | 199.6  | 447.0  | 2284.4 | 5642.5 | 6723.6 | 6903.3 |
| 40°   | 89.9   | 97.8   | 110.3  | 131.4  | 139.9  | 189.4  | 343.5  | 2081.4 | 5961.5 | 7186.5 | 7283.2 |
| 42.5° | 74.5   | 81.9   | 95.0   | 113.2  | 131.9  | 163.2  | 254.2  | 1849.4 | 6268.1 | 7582.3 | 7629.5 |
| 45°   | 60.3   | 67.7   | 81.3   | 99.5   | 141.0  | 135.3  | 196.8  | 1600.8 | 6515.4 | 7911.6 | 7926.9 |
| 47.5° | 47.8   | 54.6   | 68.8   | 93.8   | 131.4  | 108.1  | 140.5  | 1405.8 | 6723.0 | 8168.6 | 8128.2 |
| 50°   | 37.0   | 42.7   | 57.4   | 107.5  | 114.9  | 89.3   | 106.3  | 1341.0 | 6909.0 | 8327.8 | 8223.2 |
| 52.5° | 29.0   | 34.1   | 47.2   | 100.7  | 89.3   | 73.9   | 89.3   | 1401.8 | 7163.7 | 8459.8 | 8276.6 |
| 55°   | 23.3   | 28.4   | 37.0   | 57.4   | 60.8   | 62.6   | 76.2   | 1458.7 | 7603.3 | 8769.1 | 8592.3 |
| 57.5° | 19.3   | 24.5   | 30.1   | 40.4   | 46.1   | 52.9   | 67.7   | 1464.9 | 8121.4 | 9283.2 | 9116.0 |
| 59°   | 17.6   | 22.2   | 27.3   | 35.8   | 40.4   | 48.3   | 63.7   | 1430.8 | 8303.9 | 9470.3 | 9386.7 |
| 60°   | 16.5   | 21.0   | 25.6   | 33.0   | 37.5   | 45.5   | 61.4   | 1398.4 | 8311.9 | 9463.5 | 9502.2 |
| 62.5° | 14.2   | 18.8   | 22.7   | 27.9   | 31.8   | 38.7   | 55.2   | 1278.4 | 7975.2 | 9153.6 | 9432.8 |
| 65°   | 12.5   | 16.5   | 20.5   | 23.9   | 27.3   | 34.7   | 50.0   | 1059.5 | 7400.3 | 8653.7 | 8957.9 |
| 67.5° | 11.4   | 14.2   | 18.8   | 21.0   | 24.5   | 30.7   | 44.4   | 755.2  | 6682.1 | 8042.3 | 8239.7 |
| 70°   | 10.2   | 13.6   | 17.1   | 19.3   | 22.2   | 26.7   | 38.1   | 433.9  | 5642.5 | 7147.2 | 7287.7 |
| 72.5° | 9.7    | 13.1   | 15.4   | 18.2   | 19.9   | 23.9   | 34.7   | 204.2  | 4131.5 | 5725.5 | 6092.3 |
| 75°   | 8.5    | 11.9   | 14.2   | 17.1   | 18.8   | 21.6   | 29.6   | 97.8   | 2747.9 | 4143.4 | 4560.3 |
| 77.5° | 5.1    | 9.7    | 13.1   | 15.4   | 16.5   | 18.8   | 24.5   | 56.3   | 1753.8 | 2867.9 | 3378.0 |
| 80°   | 0.0    | 3.4    | 9.7    | 13.1   | 14.2   | 15.9   | 18.8   | 44.4   | 938.3  | 1638.4 | 1966.5 |
| 82.5° | 0.0    | 0.0    | 6.8    | 10.2   | 9.7    | 10.8   | 14.2   | 27.9   | 423.1  | 1070.8 | 1206.8 |
| 85°   | 0.0    | 0.0    | 2.3    | 8.0    | 6.8    | 5.1    | 9.7    | 9.7    | 92.7   | 542.0  | 676.2  |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.6    | 3.4    | 2.3    | 4.0    | 1.1    | 0.6    | 40.4   | 163.8  |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

REPORT NUMBER: P387064

CATALOG NUMBER: GWC-SA2D-740-U-SLR-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°   | 315°    | 325°    | 335°    | 345°    | 355°    | 359°    | 360°    |
|-------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 3910.3 | 3910.3 | 3910.3 | 3910.3  | 3910.3  | 3910.3  | 3910.3  | 3910.3  | 3910.3  | 3910.3  |
| 2.5°  | 4420.4 | 4462.5 | 4533.6 | 4567.1  | 4550.6  | 4480.7  | 4397.1  | 4311.8  | 4261.7  | 4281.6  |
| 5°    | 4692.2 | 4908.9 | 5034.0 | 5075.5  | 5006.1  | 4849.2  | 4643.9  | 4373.2  | 4277.1  | 4250.9  |
| 7.5°  | 4692.2 | 5100.0 | 5358.2 | 5403.6  | 5249.0  | 4941.3  | 4556.3  | 4133.8  | 3993.3  | 3942.1  |
| 10°   | 4527.3 | 5082.3 | 5442.3 | 5514.5  | 5298.4  | 4838.4  | 4322.6  | 3840.3  | 3673.7  | 3620.8  |
| 12.5° | 4341.3 | 4939.0 | 5318.3 | 5417.9  | 5240.4  | 4736.0  | 4160.5  | 3641.9  | 3445.7  | 3399.6  |
| 15°   | 4227.0 | 4762.7 | 5076.7 | 5148.9  | 5073.8  | 4676.3  | 4121.8  | 3582.1  | 3351.3  | 3306.9  |
| 17.5° | 4268.0 | 4626.3 | 4739.4 | 4781.5  | 4832.1  | 4655.3  | 4227.0  | 3712.9  | 3420.6  | 3378.6  |
| 20°   | 4422.1 | 4482.4 | 4423.8 | 4476.7  | 4613.2  | 4675.7  | 4477.8  | 4029.1  | 3678.3  | 3622.0  |
| 22.5° | 4683.7 | 4407.9 | 4243.5 | 4264.6  | 4430.6  | 4743.4  | 4861.1  | 4480.7  | 4075.8  | 4005.3  |
| 25°   | 4988.5 | 4468.2 | 4143.4 | 4124.7  | 4295.3  | 4832.7  | 5211.4  | 4972.0  | 4546.1  | 4468.2  |
| 27.5° | 5371.8 | 4603.5 | 4123.0 | 4104.2  | 4248.1  | 4916.3  | 5502.6  | 5457.7  | 5041.4  | 4908.3  |
| 30°   | 5667.5 | 4736.6 | 4183.8 | 4140.6  | 4295.3  | 4974.3  | 5736.3  | 5870.0  | 5436.1  | 5347.9  |
| 32.5° | 5879.6 | 4893.5 | 4282.8 | 4220.2  | 4428.4  | 5074.4  | 5916.6  | 6247.6  | 5801.2  | 5667.5  |
| 35°   | 6041.1 | 5064.1 | 4442.6 | 4339.6  | 4611.5  | 5226.2  | 6085.5  | 6649.6  | 6189.6  | 6043.4  |
| 37.5° | 6192.4 | 5303.6 | 4692.2 | 4569.4  | 4898.7  | 5470.8  | 6264.1  | 7105.7  | 6624.0  | 6449.5  |
| 40°   | 6403.4 | 5574.8 | 5077.2 | 4968.0  | 5381.5  | 5804.0  | 6487.0  | 7581.1  | 7118.2  | 6898.7  |
| 42.5° | 6614.4 | 5866.0 | 5471.3 | 5500.9  | 5983.7  | 6208.9  | 6774.7  | 8083.9  | 7606.2  | 7371.9  |
| 45°   | 6807.2 | 6166.3 | 6032.6 | 6169.1  | 6542.7  | 6653.1  | 7060.8  | 8374.5  | 7995.7  | 7769.4  |
| 47.5° | 6978.9 | 6541.6 | 6590.5 | 6953.9  | 7178.5  | 7055.1  | 7274.6  | 8625.3  | 8285.7  | 8086.1  |
| 50°   | 7178.5 | 7027.2 | 7325.8 | 7839.9  | 7910.4  | 7419.1  | 7469.1  | 8922.1  | 8624.7  | 8464.3  |
| 52.5° | 7396.9 | 7539.1 | 8140.2 | 8593.4  | 8570.7  | 7814.3  | 7664.7  | 9254.8  | 9089.3  | 8938.6  |
| 55°   | 7644.8 | 7952.5 | 8857.3 | 9298.6  | 9279.2  | 8255.6  | 7988.9  | 9665.9  | 9671.6  | 9535.1  |
| 57.5° | 8012.8 | 8308.5 | 9344.1 | 9869.0  | 9901.4  | 8765.1  | 8538.2  | 10126.6 | 10198.2 | 10107.2 |
| 59°   | 8276.6 | 8539.4 | 9536.9 | 10107.2 | 10239.2 | 9159.2  | 8939.7  | 10393.9 | 10346.7 | 10263.6 |
| 60°   | 8472.3 | 8686.1 | 9632.4 | 10231.8 | 10435.4 | 9426.5  | 9236.0  | 10550.8 | 10364.3 | 10263.6 |
| 62.5° | 8956.2 | 9005.7 | 9804.7 | 10372.8 | 10661.1 | 10020.2 | 10069.7 | 10818.1 | 10242.0 | 10077.7 |
| 65°   | 9182.0 | 9207.6 | 9802.4 | 10120.3 | 10442.8 | 10482.6 | 10826.1 | 10826.1 | 9943.5  | 9691.0  |
| 67.5° | 9087.6 | 8964.2 | 9316.2 | 9283.2  | 9605.1  | 10207.9 | 11110.4 | 10429.1 | 9372.5  | 9046.1  |
| 70°   | 8319.9 | 7845.0 | 7688.6 | 7702.8  | 7949.1  | 8878.9  | 10547.4 | 9261.0  | 8292.0  | 7910.4  |
| 72.5° | 6922.6 | 5783.5 | 5397.4 | 5838.1  | 5902.4  | 6823.7  | 8988.6  | 6974.4  | 6115.1  | 5757.4  |
| 75°   | 5568.0 | 4076.9 | 3449.1 | 3914.3  | 4023.4  | 4993.6  | 6953.3  | 4343.6  | 3571.9  | 3293.3  |
| 77.5° | 4000.1 | 2926.5 | 2474.9 | 2442.5  | 2583.5  | 3167.0  | 4933.9  | 2186.0  | 1823.2  | 1701.5  |
| 80°   | 2272.5 | 1926.1 | 2074.0 | 1956.8  | 2027.9  | 1980.2  | 2344.1  | 958.8   | 785.4   | 734.2   |
| 82.5° | 1371.7 | 1138.5 | 1232.9 | 1026.5  | 1298.9  | 1131.1  | 903.1   | 307.1   | 266.7   | 253.6   |
| 85°   | 892.3  | 622.1  | 324.2  | 217.2   | 447.6   | 722.8   | 201.9   | 83.6    | 64.3    | 51.2    |
| 87.5° | 307.7  | 158.7  | 15.9   | 6.8     | 47.8    | 134.8   | 7.4     | 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     |

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

INVUE

Report Number: SP1-2104-224-3

Luminaire Tested: CCW-SA-2A-740-U-SL4

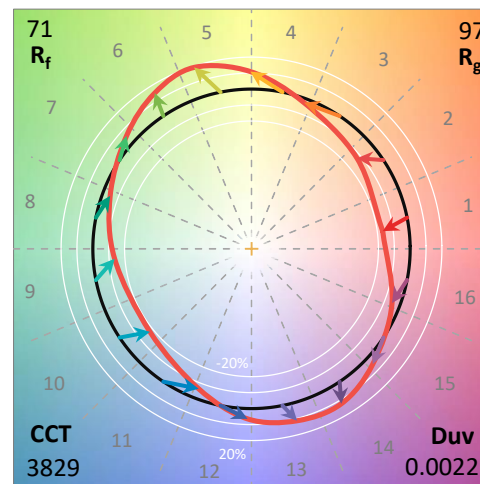
Test Date: 04/26/2021

### Test Information

Test Method: LM-79-08  
 Report Number: SP1-2104-224-3  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry:  $4\pi$   
 Issue Date: 04/26/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: INVUE  
 Catalog Number: **CCW-SA-2A-740-U-SL4**  
 Description: INVUE WALL PACK ClearCurve Light Square

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 3829   | CRI (Ra): | 69.8 |      |       |
| CIE u':                   | 0.2271 | R1:       | 67.2 | R9:  | -35.1 |
| CIE v':                   | 0.5076 | R2:       | 75.2 | R10: | 43.1  |
| Duv:                      | 0.0022 | R3:       | 83.2 | R11: | 69.0  |
| CIE x:                    | 0.3900 | R4:       | 71.0 | R12: | 44.3  |
| CIE y:                    | 0.3873 | R5:       | 67.4 | R13: | 67.6  |
| CIE z:                    | 0.2227 | R6:       | 66.8 | R14: | 90.3  |
| Peak Wavelength (nm):     | 440    | R7:       | 77.6 |      |       |
| Dominant Wavelength (nm): | 578    | R8:       | 50.3 |      |       |
| Purity:                   | 33.4   |           |      |      |       |
| Rf:                       | 70.6   |           |      |      |       |
| Rg:                       | 96.7   |           |      |      |       |



### Test Conditions

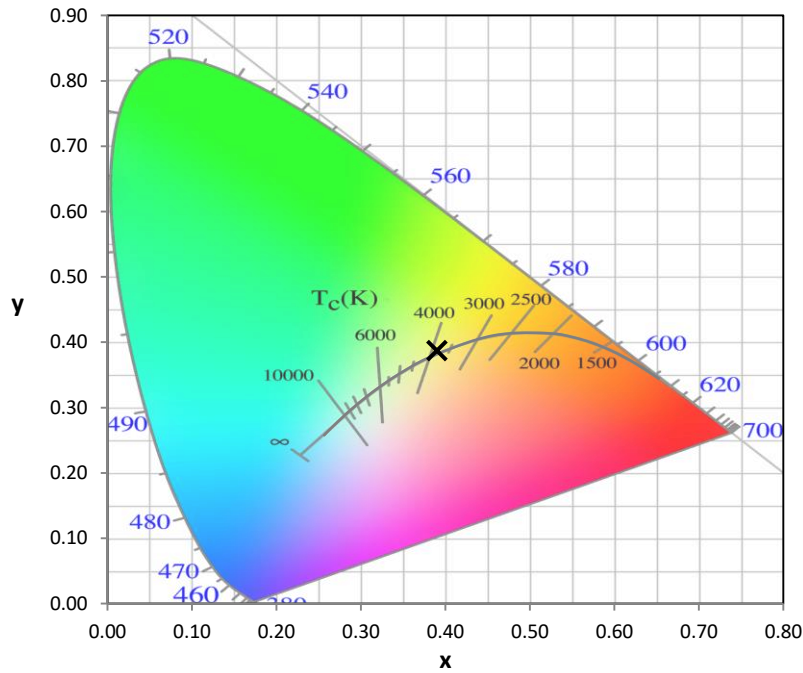
Stabilization Time: 62M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.8/39%  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2104-224-3

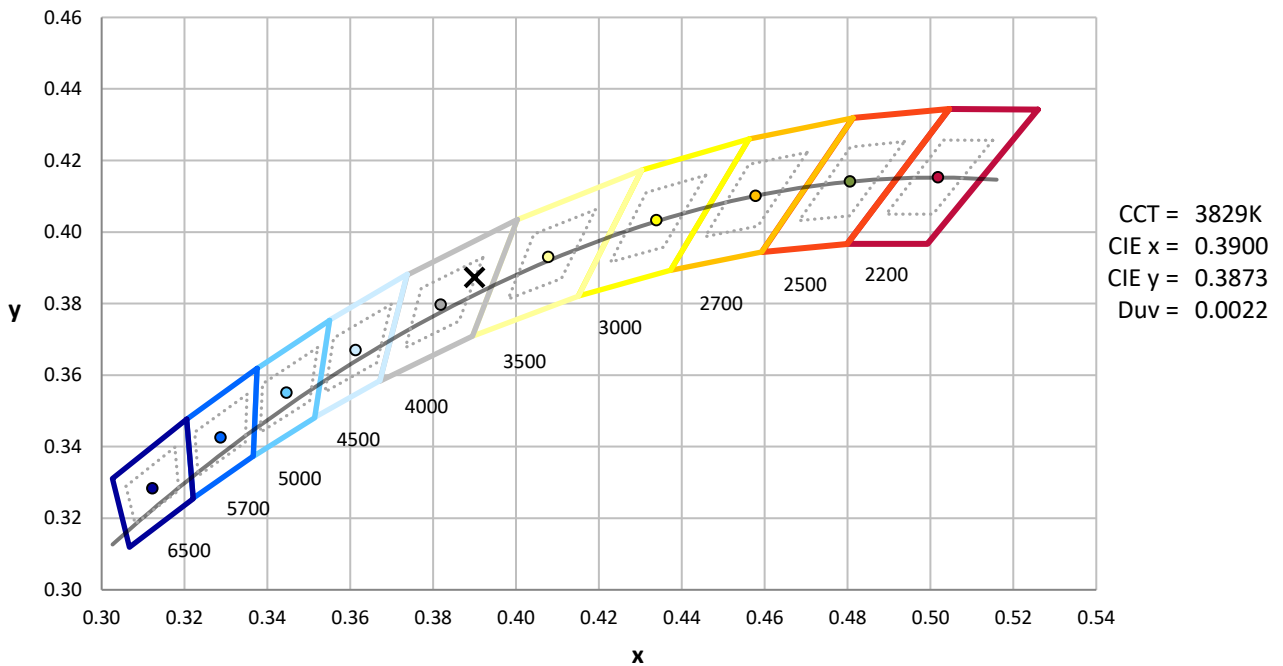
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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: SP1-2104-224-3

**CIE 1931 Chromaticity Diagram**



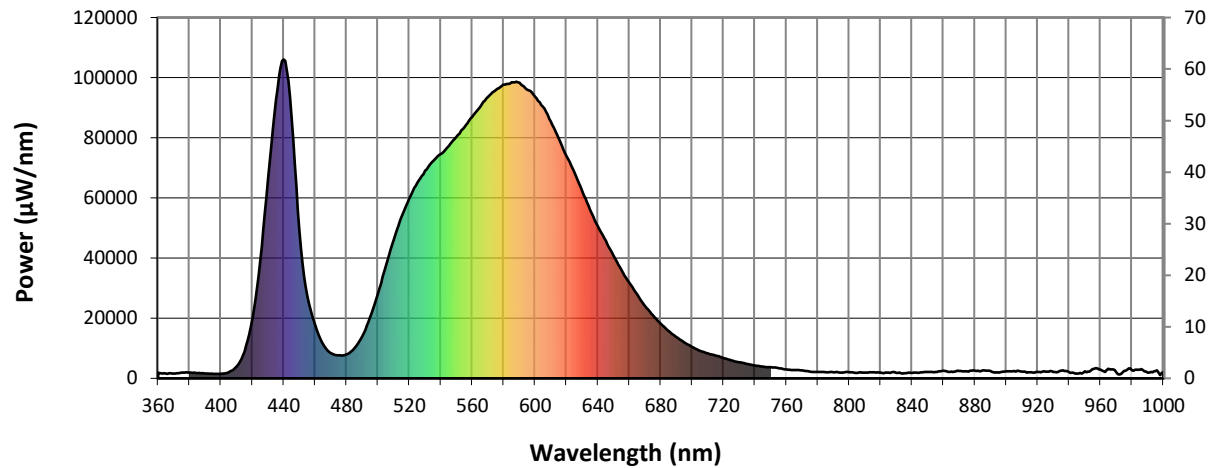
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 4000K 7-step quadrangle

REPORT NUMBER: SP1-2104-224-3

### Photopic Flux vs. Wavelength

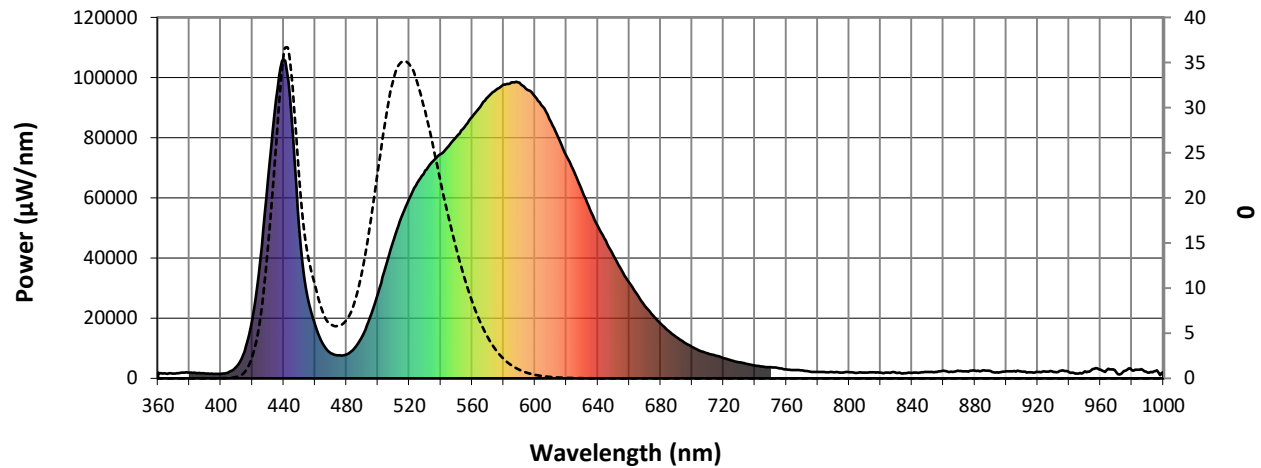


#####

| 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       | 1901             | 0.0              | 490       | 14057            | 2.0              | 620       | 73853            | 19.2             | 750       | 3678             | 0.0              | 880       | 2528             | 0.0              |
| 365       | 1585             | 0.0              | 495       | 20304            | 3.7              | 625       | 68653            | 15.1             | 755       | 3385             | 0.0              | 885       | 2638             | 0.0              |
| 370       | 1604             | 0.0              | 500       | 28346            | 6.3              | 630       | 62254            | 11.3             | 760       | 2963             | 0.0              | 890       | 2417             | 0.0              |
| 375       | 1905             | 0.0              | 505       | 37228            | 10.4             | 635       | 56177            | 8.4              | 765       | 2782             | 0.0              | 895       | 1902             | 0.0              |
| 380       | 1882             | 0.0              | 510       | 46037            | 15.8             | 640       | 50521            | 6.0              | 770       | 2657             | 0.0              | 900       | 2330             | 0.0              |
| 385       | 1693             | 0.0              | 515       | 53619            | 22.2             | 645       | 45727            | 4.4              | 775       | 2259             | 0.0              | 905       | 2456             | 0.0              |
| 390       | 1640             | 0.0              | 520       | 59890            | 29.0             | 650       | 40814            | 3.0              | 780       | 2169             | 0.0              | 910       | 2205             | 0.0              |
| 395       | 1513             | 0.0              | 525       | 64946            | 34.9             | 655       | 35925            | 2.1              | 785       | 2065             | 0.0              | 915       | 2002             | 0.0              |
| 400       | 1481             | 0.0              | 530       | 69048            | 40.7             | 660       | 31824            | 1.3              | 790       | 2054             | 0.0              | 920       | 2125             | 0.0              |
| 405       | 2044             | 0.0              | 535       | 72246            | 44.8             | 665       | 27860            | 0.9              | 795       | 1908             | 0.0              | 925       | 2266             | 0.0              |
| 410       | 3966             | 0.0              | 540       | 74621            | 48.6             | 670       | 24069            | 0.5              | 800       | 2026             | 0.0              | 930       | 2159             | 0.0              |
| 415       | 8943             | 0.0              | 545       | 77288            | 51.4             | 675       | 20926            | 0.4              | 805       | 1766             | 0.0              | 935       | 2581             | 0.0              |
| 420       | 19566            | 0.1              | 550       | 80334            | 54.6             | 680       | 18170            | 0.2              | 810       | 1913             | 0.0              | 940       | 2052             | 0.0              |
| 425       | 39243            | 0.2              | 555       | 83561            | 57.1             | 685       | 15785            | 0.1              | 815       | 2019             | 0.0              | 945       | 1631             | 0.0              |
| 430       | 66113            | 0.5              | 560       | 86964            | 59.1             | 690       | 13770            | 0.1              | 820       | 1876             | 0.0              | 950       | 2301             | 0.0              |
| 435       | 92550            | 1.1              | 565       | 90264            | 60.0             | 695       | 11953            | 0.1              | 825       | 1869             | 0.0              | 955       | 3077             | 0.0              |
| 440       | 106034           | 1.7              | 570       | 93519            | 60.8             | 700       | 10452            | 0.0              | 830       | 1862             | 0.0              | 960       | 2911             | 0.0              |
| 445       | 86383            | 1.8              | 575       | 95920            | 59.7             | 705       | 9162             | 0.0              | 835       | 1663             | 0.0              | 965       | 3163             | 0.0              |
| 450       | 49216            | 1.3              | 580       | 97650            | 58.0             | 710       | 8266             | 0.0              | 840       | 1843             | 0.0              | 970       | 1995             | 0.0              |
| 455       | 27376            | 0.9              | 585       | 98486            | 54.7             | 715       | 7583             | 0.0              | 845       | 1921             | 0.0              | 975       | 2418             | 0.0              |
| 460       | 17830            | 0.7              | 590       | 98332            | 50.8             | 720       | 6750             | 0.0              | 850       | 2105             | 0.0              | 980       | 2674             | 0.0              |
| 465       | 11374            | 0.6              | 595       | 96023            | 45.5             | 725       | 5965             | 0.0              | 855       | 2096             | 0.0              | 985       | 2850             | 0.0              |
| 470       | 8344             | 0.5              | 600       | 93650            | 40.4             | 730       | 5310             | 0.0              | 860       | 2601             | 0.0              | 990       | 1972             | 0.0              |
| 475       | 7639             | 0.6              | 605       | 90313            | 35.0             | 735       | 4838             | 0.0              | 865       | 2199             | 0.0              | 995       | 2443             | 0.0              |
| 480       | 7991             | 0.8              | 610       | 85305            | 29.3             | 740       | 4280             | 0.0              | 870       | 2491             | 0.0              | 1000      | 1979             | 0.0              |
| 485       | 9994             | 1.2              | 615       | 79870            | 24.1             | 745       | 3928             | 0.0              | 875       | 2370             | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2104-224-3

### Scotopic Flux vs. Wavelength



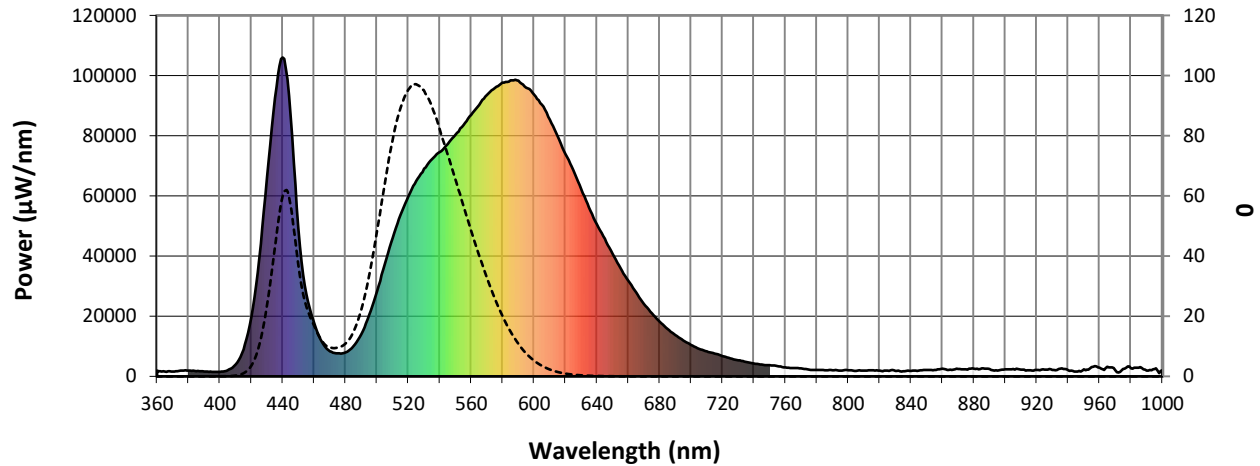
Scotopic Lumens: 7682.8

S/P: 1.42

| 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       | 1901             | 0.0              | 490       | 14057            | 21.6             | 620       | 73853            | 0.9              | 750       | 3678             | 0.0              | 880       | 2528             | 0.0              |
| 365       | 1585             | 0.0              | 495       | 20304            | 32.8             | 625       | 68653            | 0.6              | 755       | 3385             | 0.0              | 885       | 2638             | 0.0              |
| 370       | 1604             | 0.0              | 500       | 28346            | 47.4             | 630       | 62254            | 0.4              | 760       | 2963             | 0.0              | 890       | 2417             | 0.0              |
| 375       | 1905             | 0.0              | 505       | 37228            | 63.3             | 635       | 56177            | 0.2              | 765       | 2782             | 0.0              | 895       | 1902             | 0.0              |
| 380       | 1882             | 0.0              | 510       | 46037            | 78.0             | 640       | 50521            | 0.1              | 770       | 2657             | 0.0              | 900       | 2330             | 0.0              |
| 385       | 1693             | 0.0              | 515       | 53619            | 88.9             | 645       | 45727            | 0.1              | 775       | 2259             | 0.0              | 905       | 2456             | 0.0              |
| 390       | 1640             | 0.0              | 520       | 59890            | 95.2             | 650       | 40814            | 0.0              | 780       | 2169             | 0.0              | 910       | 2205             | 0.0              |
| 395       | 1513             | 0.0              | 525       | 64946            | 97.2             | 655       | 35925            | 0.0              | 785       | 2065             | 0.0              | 915       | 2002             | 0.0              |
| 400       | 1481             | 0.0              | 530       | 69048            | 95.2             | 660       | 31824            | 0.0              | 790       | 2054             | 0.0              | 920       | 2125             | 0.0              |
| 405       | 2044             | 0.1              | 535       | 72246            | 90.0             | 665       | 27860            | 0.0              | 795       | 1908             | 0.0              | 925       | 2266             | 0.0              |
| 410       | 3966             | 0.2              | 540       | 74621            | 82.5             | 670       | 24069            | 0.0              | 800       | 2026             | 0.0              | 930       | 2159             | 0.0              |
| 415       | 8943             | 0.9              | 545       | 77288            | 74.1             | 675       | 20926            | 0.0              | 805       | 1766             | 0.0              | 935       | 2581             | 0.0              |
| 420       | 19566            | 3.2              | 550       | 80334            | 65.7             | 680       | 18170            | 0.0              | 810       | 1913             | 0.0              | 940       | 2052             | 0.0              |
| 425       | 39243            | 9.6              | 555       | 83561            | 57.1             | 685       | 15785            | 0.0              | 815       | 2019             | 0.0              | 945       | 1631             | 0.0              |
| 430       | 66113            | 22.5             | 560       | 86964            | 48.6             | 690       | 13770            | 0.0              | 820       | 1876             | 0.0              | 950       | 2301             | 0.0              |
| 435       | 92550            | 41.4             | 565       | 90264            | 40.5             | 695       | 11953            | 0.0              | 825       | 1869             | 0.0              | 955       | 3077             | 0.0              |
| 440       | 106034           | 59.3             | 570       | 93519            | 33.0             | 700       | 10452            | 0.0              | 830       | 1862             | 0.0              | 960       | 2911             | 0.0              |
| 445       | 86383            | 57.8             | 575       | 95920            | 26.1             | 705       | 9162             | 0.0              | 835       | 1663             | 0.0              | 965       | 3163             | 0.0              |
| 450       | 49216            | 38.1             | 580       | 97650            | 20.1             | 710       | 8266             | 0.0              | 840       | 1843             | 0.0              | 970       | 1995             | 0.0              |
| 455       | 27376            | 23.9             | 585       | 98486            | 15.1             | 715       | 7583             | 0.0              | 845       | 1921             | 0.0              | 975       | 2418             | 0.0              |
| 460       | 17830            | 17.2             | 590       | 98332            | 10.9             | 720       | 6750             | 0.0              | 850       | 2105             | 0.0              | 980       | 2674             | 0.0              |
| 465       | 11374            | 12.0             | 595       | 96023            | 7.7              | 725       | 5965             | 0.0              | 855       | 2096             | 0.0              | 985       | 2850             | 0.0              |
| 470       | 8344             | 9.6              | 600       | 93650            | 5.3              | 730       | 5310             | 0.0              | 860       | 2601             | 0.0              | 990       | 1972             | 0.0              |
| 475       | 7639             | 9.6              | 605       | 90313            | 3.5              | 735       | 4838             | 0.0              | 865       | 2199             | 0.0              | 995       | 2443             | 0.0              |
| 480       | 7991             | 10.8             | 610       | 85305            | 2.3              | 740       | 4280             | 0.0              | 870       | 2491             | 0.0              | 1000      | 1979             | 0.0              |
| 485       | 9994             | 14.5             | 615       | 79870            | 1.5              | 745       | 3928             | 0.0              | 875       | 2370             | 0.0              |           |                  |                  |

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### Melanopic Flux vs. Wavelength



**Melanopic Lumens: 2823**

**M/P: 0.52**

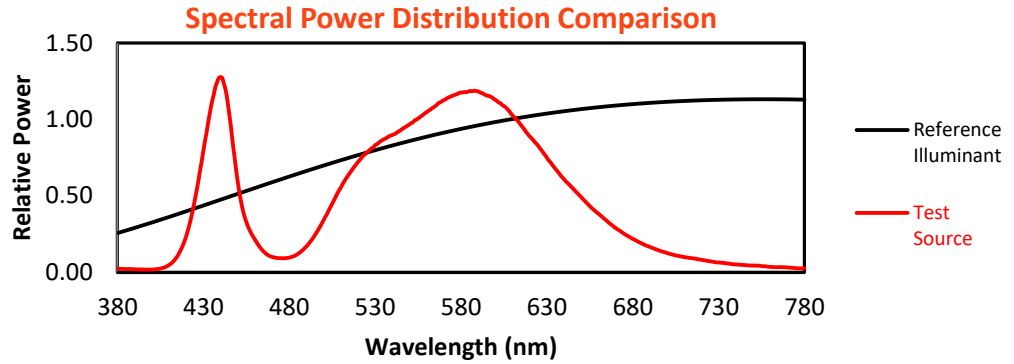
| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 1901             | 0.0              | 490       | 14057            | 11.7             | 620       | 73853            | 0.1              | 750       | 3678             | 0.0              | 880       | 2528             | 0.0              |
| 365       | 1585             | 0.0              | 495       | 20304            | 16.8             | 625       | 68653            | 0.0              | 755       | 3385             | 0.0              | 885       | 2638             | 0.0              |
| 370       | 1604             | 0.0              | 500       | 28346            | 22.8             | 630       | 62254            | 0.0              | 760       | 2963             | 0.0              | 890       | 2417             | 0.0              |
| 375       | 1905             | 0.0              | 505       | 37228            | 28.6             | 635       | 56177            | 0.0              | 765       | 2782             | 0.0              | 895       | 1902             | 0.0              |
| 380       | 1882             | 0.0              | 510       | 46037            | 33.1             | 640       | 50521            | 0.0              | 770       | 2657             | 0.0              | 900       | 2330             | 0.0              |
| 385       | 1693             | 0.0              | 515       | 53619            | 35.0             | 645       | 45727            | 0.0              | 775       | 2259             | 0.0              | 905       | 2456             | 0.0              |
| 390       | 1640             | 0.0              | 520       | 59890            | 34.9             | 650       | 40814            | 0.0              | 780       | 2169             | 0.0              | 910       | 2205             | 0.0              |
| 395       | 1513             | 0.0              | 525       | 64946            | 32.9             | 655       | 35925            | 0.0              | 785       | 2065             | 0.0              | 915       | 2002             | 0.0              |
| 400       | 1481             | 0.0              | 530       | 69048            | 29.8             | 660       | 31824            | 0.0              | 790       | 2054             | 0.0              | 920       | 2125             | 0.0              |
| 405       | 2044             | 0.0              | 535       | 72246            | 26.0             | 665       | 27860            | 0.0              | 795       | 1908             | 0.0              | 925       | 2266             | 0.0              |
| 410       | 3966             | 0.2              | 540       | 74621            | 21.8             | 670       | 24069            | 0.0              | 800       | 2026             | 0.0              | 930       | 2159             | 0.0              |
| 415       | 8943             | 0.6              | 545       | 77288            | 18.0             | 675       | 20926            | 0.0              | 805       | 1766             | 0.0              | 935       | 2581             | 0.0              |
| 420       | 19566            | 2.2              | 550       | 80334            | 14.4             | 680       | 18170            | 0.0              | 810       | 1913             | 0.0              | 940       | 2052             | 0.0              |
| 425       | 39243            | 6.1              | 555       | 83561            | 11.3             | 685       | 15785            | 0.0              | 815       | 2019             | 0.0              | 945       | 1631             | 0.0              |
| 430       | 66113            | 14.0             | 560       | 86964            | 8.6              | 690       | 13770            | 0.0              | 820       | 1876             | 0.0              | 950       | 2301             | 0.0              |
| 435       | 92550            | 24.7             | 565       | 90264            | 6.3              | 695       | 11953            | 0.0              | 825       | 1869             | 0.0              | 955       | 3077             | 0.0              |
| 440       | 106034           | 35.4             | 570       | 93519            | 4.6              | 700       | 10452            | 0.0              | 830       | 1862             | 0.0              | 960       | 2911             | 0.0              |
| 445       | 86383            | 34.1             | 575       | 95920            | 3.2              | 705       | 9162             | 0.0              | 835       | 1663             | 0.0              | 965       | 3163             | 0.0              |
| 450       | 49216            | 22.7             | 580       | 97650            | 2.2              | 710       | 8266             | 0.0              | 840       | 1843             | 0.0              | 970       | 1995             | 0.0              |
| 455       | 27376            | 14.3             | 585       | 98486            | 1.5              | 715       | 7583             | 0.0              | 845       | 1921             | 0.0              | 975       | 2418             | 0.0              |
| 460       | 17830            | 10.5             | 590       | 98332            | 1.0              | 720       | 6750             | 0.0              | 850       | 2105             | 0.0              | 980       | 2674             | 0.0              |
| 465       | 11374            | 7.4              | 595       | 96023            | 0.6              | 725       | 5965             | 0.0              | 855       | 2096             | 0.0              | 985       | 2850             | 0.0              |
| 470       | 8344             | 6.0              | 600       | 93650            | 0.4              | 730       | 5310             | 0.0              | 860       | 2601             | 0.0              | 990       | 1972             | 0.0              |
| 475       | 7639             | 5.8              | 605       | 90313            | 0.2              | 735       | 4838             | 0.0              | 865       | 2199             | 0.0              | 995       | 2443             | 0.0              |
| 480       | 7991             | 6.4              | 610       | 85305            | 0.2              | 740       | 4280             | 0.0              | 870       | 2491             | 0.0              | 1000      | 1979             | 0.0              |
| 485       | 9994             | 8.2              | 615       | 79870            | 0.1              | 745       | 3928             | 0.0              | 875       | 2370             | 0.0              |           |                  |                  |

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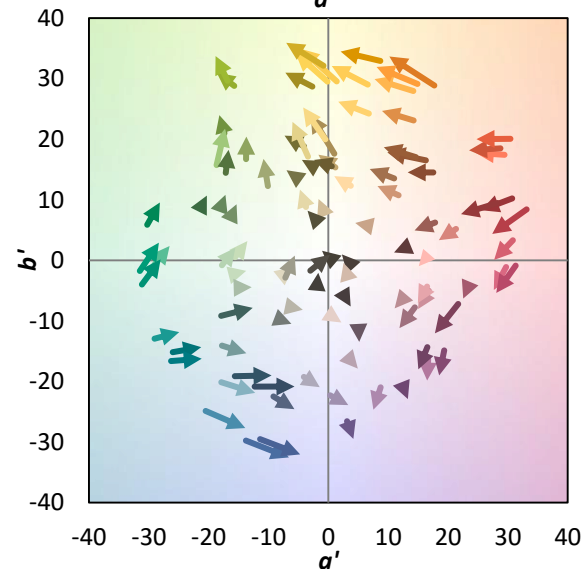
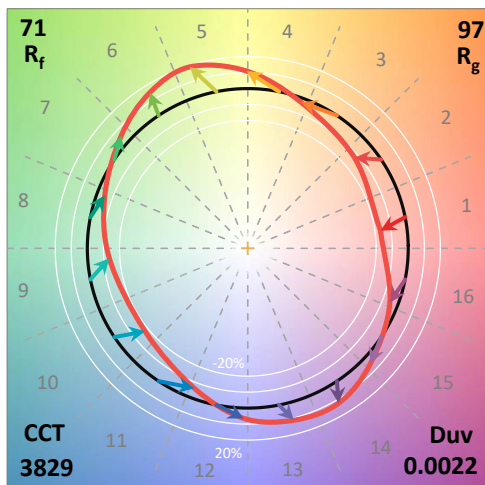
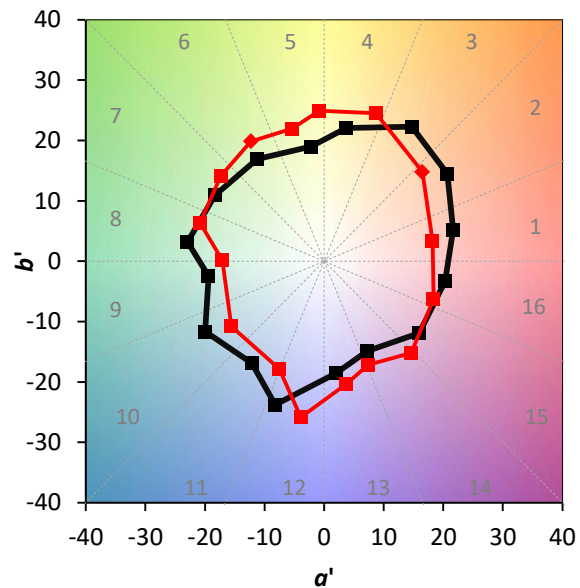
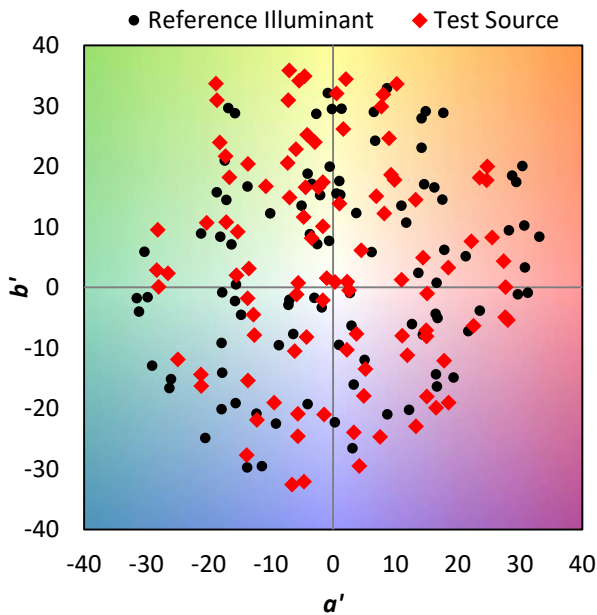
TM-30-18

### Summary

$R_f = 70.6$   
 $R_g = 96.7$   
 CIE  $R_a = 69.8$   
 $R_g = -35.1$

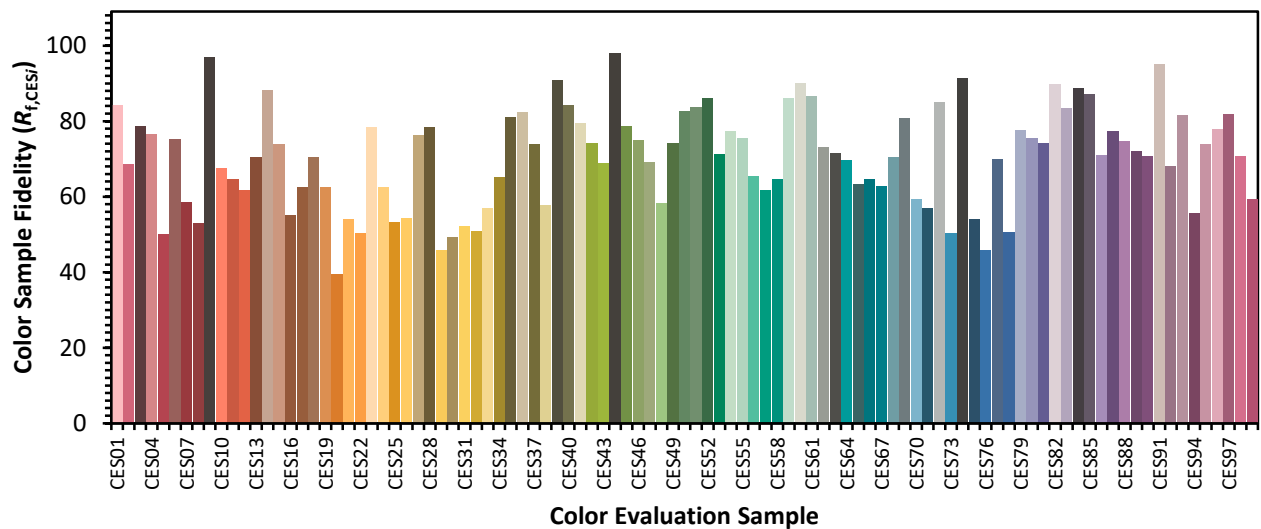


### Color Vector Graphics

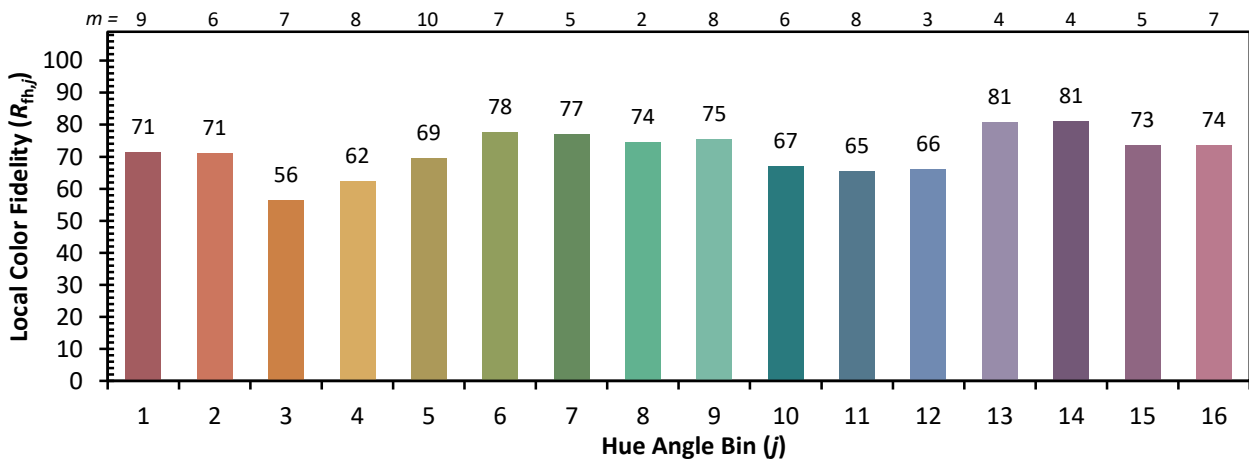
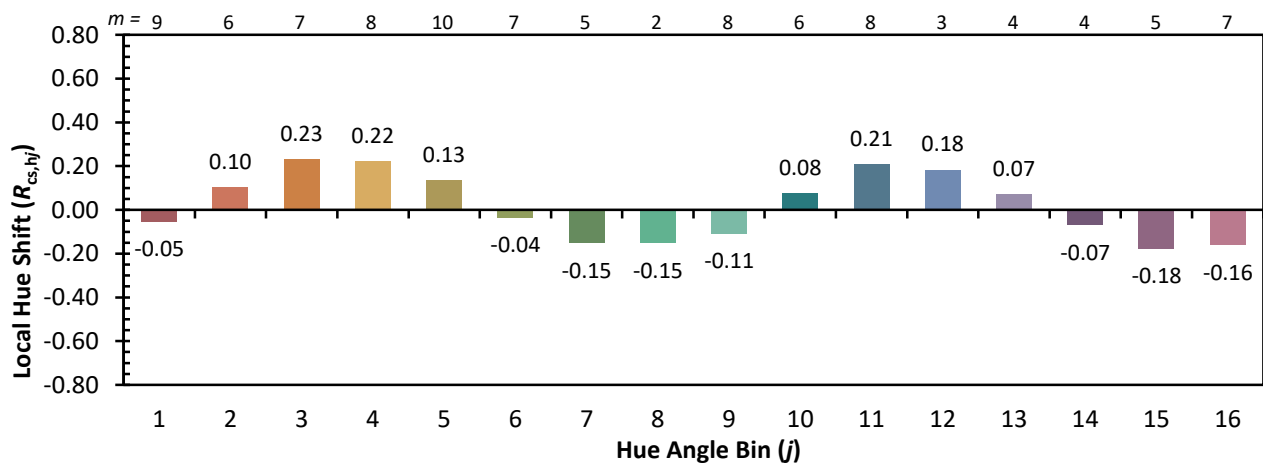
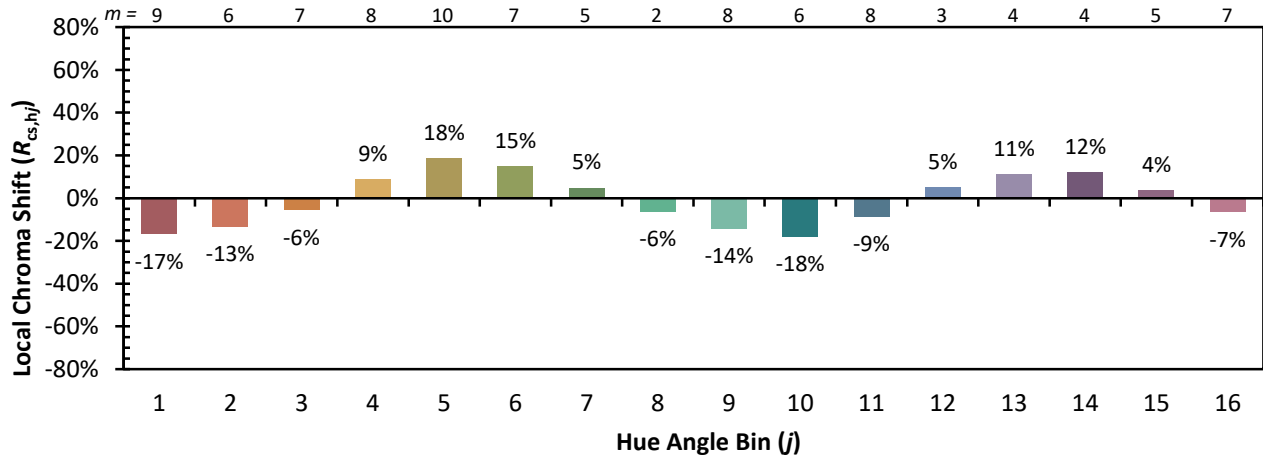


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

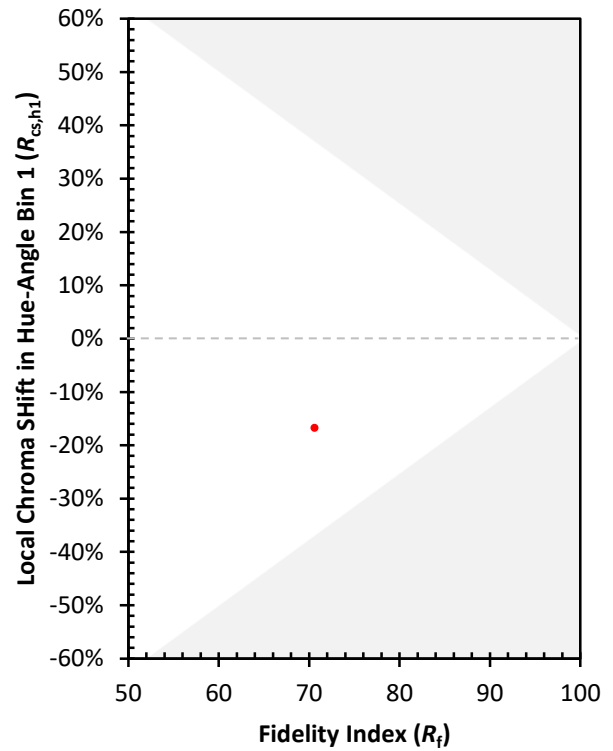
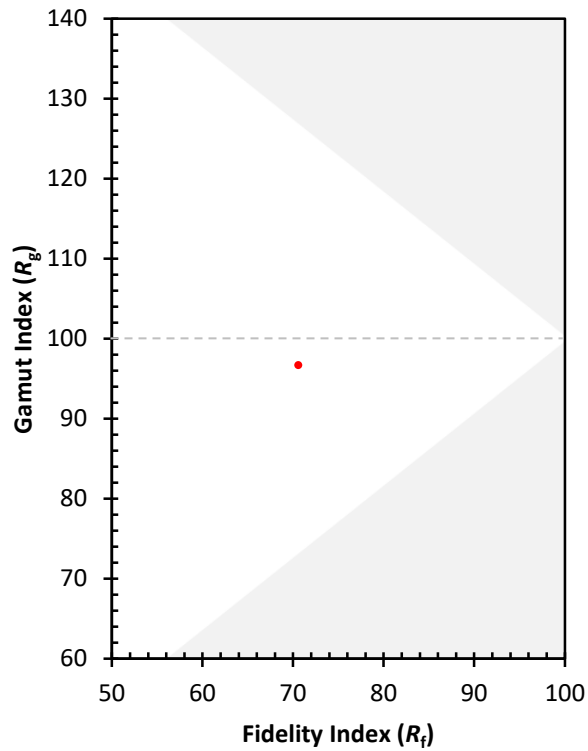
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 54 | CES51 = 84 | CES76 = 46 |
| CES02 = 61 | CES27 = 76 | CES52 = 86 | CES77 = 70 |
| CES03 = 30 | CES28 = 78 | CES53 = 71 | CES78 = 50 |
| CES04 = 70 | CES29 = 46 | CES54 = 77 | CES79 = 77 |
| CES05 = 47 | CES30 = 49 | CES55 = 76 | CES80 = 75 |
| CES06 = 50 | CES31 = 52 | CES56 = 65 | CES81 = 74 |
| CES07 = 40 | CES32 = 51 | CES57 = 62 | CES82 = 90 |
| CES08 = 39 | CES33 = 57 | CES58 = 65 | CES83 = 84 |
| CES09 = 29 | CES34 = 65 | CES59 = 86 | CES84 = 89 |
| CES10 = 74 | CES35 = 81 | CES60 = 90 | CES85 = 87 |
| CES11 = 57 | CES36 = 82 | CES61 = 87 | CES86 = 71 |
| CES12 = 63 | CES37 = 74 | CES62 = 73 | CES87 = 77 |
| CES13 = 42 | CES38 = 58 | CES63 = 72 | CES88 = 75 |
| CES14 = 74 | CES39 = 91 | CES64 = 70 | CES89 = 72 |
| CES15 = 71 | CES40 = 84 | CES65 = 63 | CES90 = 71 |
| CES16 = 46 | CES41 = 79 | CES66 = 65 | CES91 = 95 |
| CES17 = 49 | CES42 = 74 | CES67 = 63 | CES92 = 68 |
| CES18 = 56 | CES43 = 69 | CES68 = 70 | CES93 = 82 |
| CES19 = 72 | CES44 = 98 | CES69 = 81 | CES94 = 56 |
| CES20 = 65 | CES45 = 79 | CES70 = 59 | CES95 = 74 |
| CES21 = 86 | CES46 = 75 | CES71 = 57 | CES96 = 78 |
| CES22 = 78 | CES47 = 69 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 58 | CES73 = 50 | CES98 = 71 |
| CES24 = 91 | CES49 = 74 | CES74 = 91 | CES99 = 59 |
| CES25 = 72 | CES50 = 83 | CES75 = 54 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)