

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: P385690

Luminaire Tested: **GWC-SA1B-730-U-SLL-HSS**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P385690  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-27)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GWC-SA1B-730-U-SLL-HSS  
Description: GALLEON WALL LUMINAIRE  
(1) 70 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 4122 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G1

Input Watts (W): 44  
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



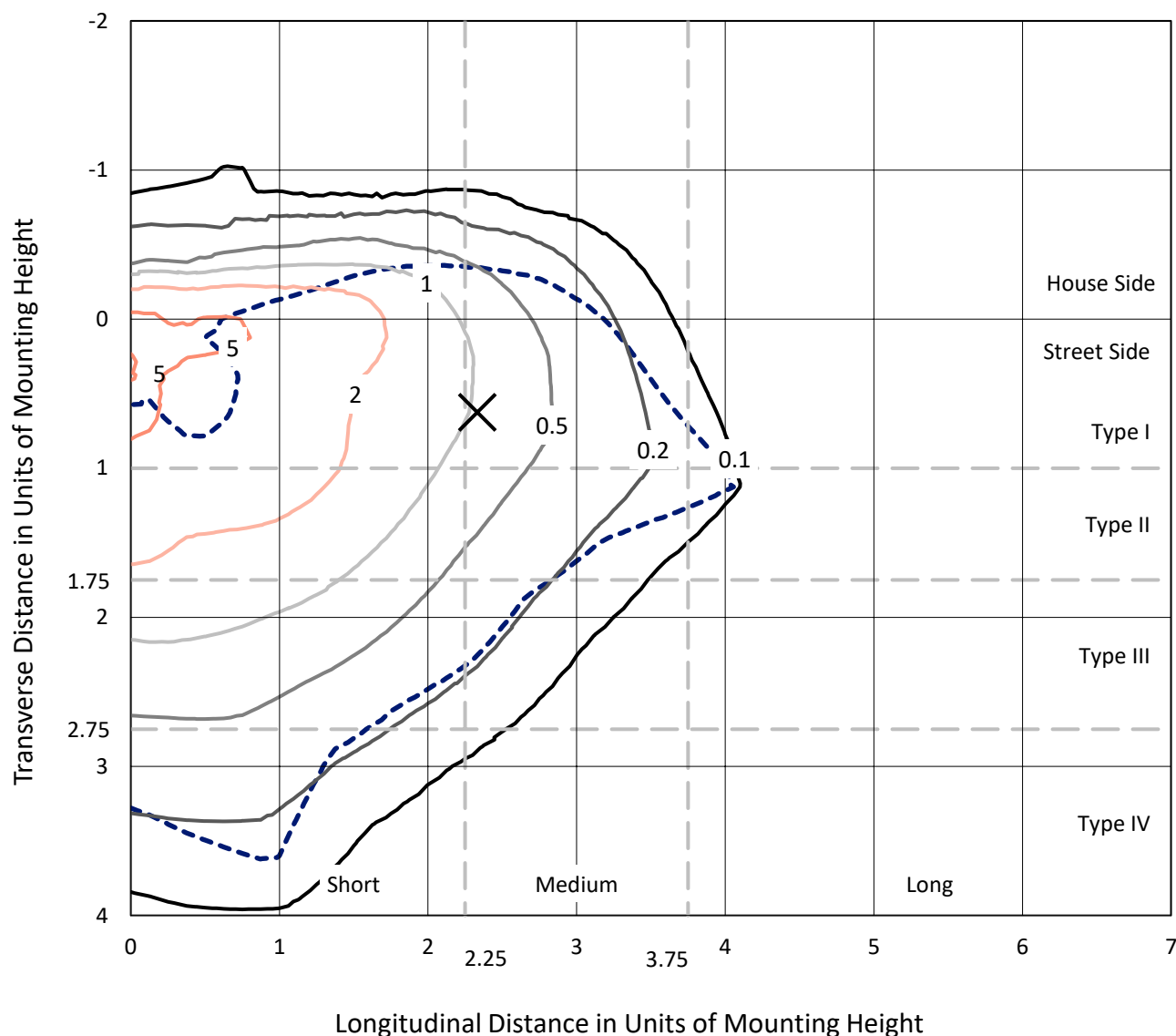
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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd

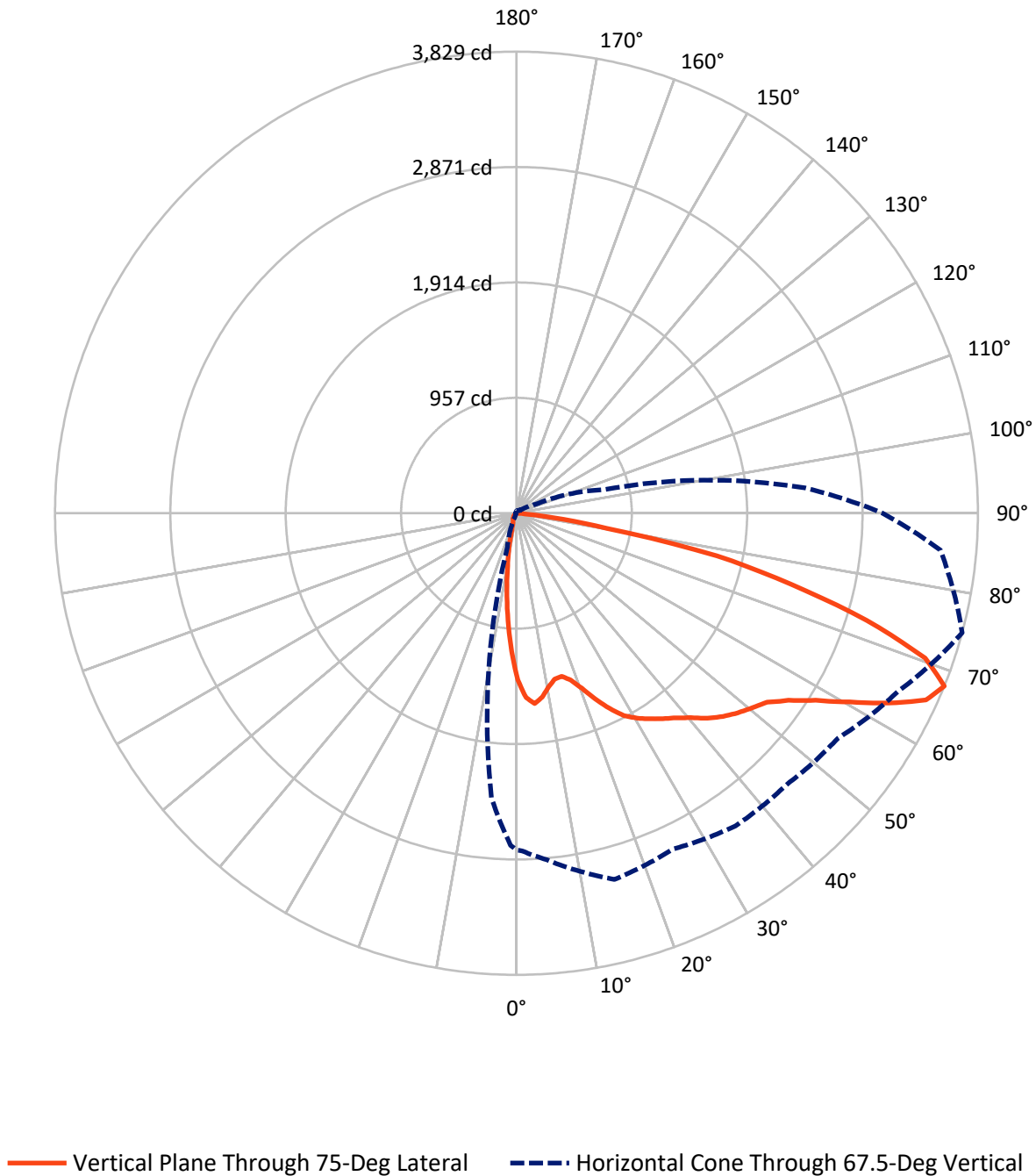
--- 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 8 fc  
 Type III - Medium - N/A

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## Luminous Intensity Polar Plot



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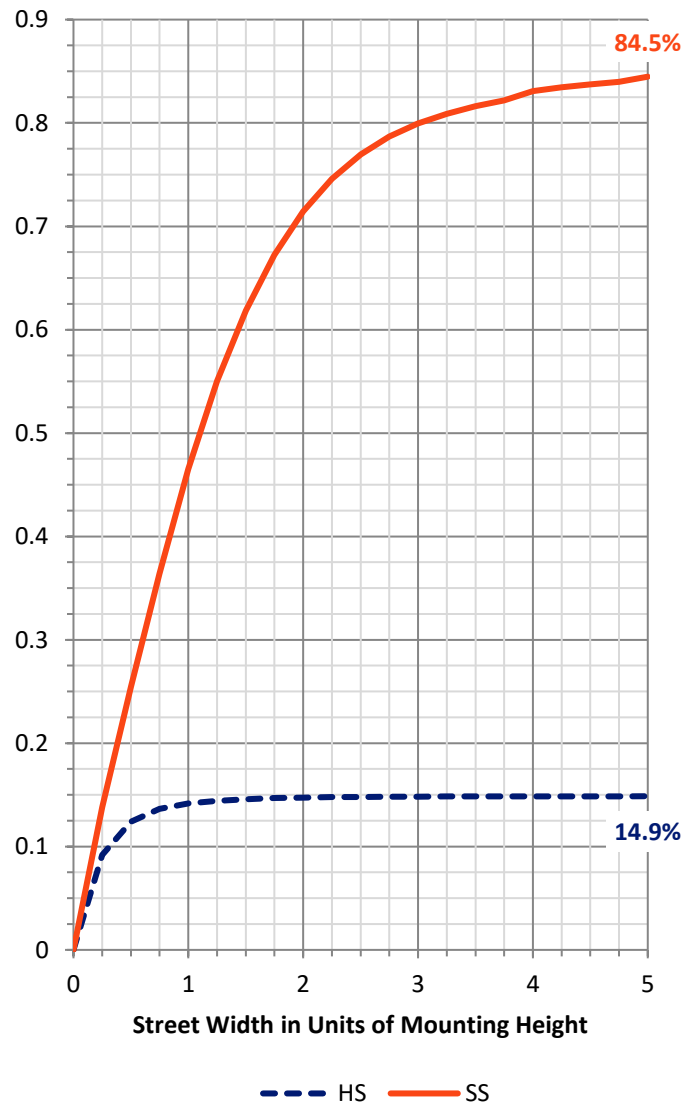
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total  |
|--------------------|-----------|----------|--------|--------|
| <b>House Side</b>  | Lumens    | 618.6    | 0.0    | 618.6  |
|                    | % Fixture | 15.0     | 0.0    | 15.0   |
| <b>Street Side</b> | Lumens    | 3503.5   | 0.0    | 3503.5 |
|                    | % Fixture | 85.0     | 0.0    | 85.0   |
| <b>Total</b>       | Lumens    | 4122.0   | 0.0    | 4122.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0  |

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 104.9  | 2.5       |
| 10°-20°   | 206.5  | 5.0       |
| 20°-30°   | 292.2  | 7.1       |
| 30°-40°   | 429.6  | 10.4      |
| 40°-50°   | 617.5  | 15.0      |
| 50°-60°   | 869.3  | 21.1      |
| 60°-70°   | 1015.2 | 24.6      |
| 70°-80°   | 517.9  | 12.6      |
| 80°-90°   | 68.8   | 1.7       |
| 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°    | 4122.0 | 100.0     |
| 0°-180°   | 4122.0 | 100.0     |

**Coefficient of Utilization**



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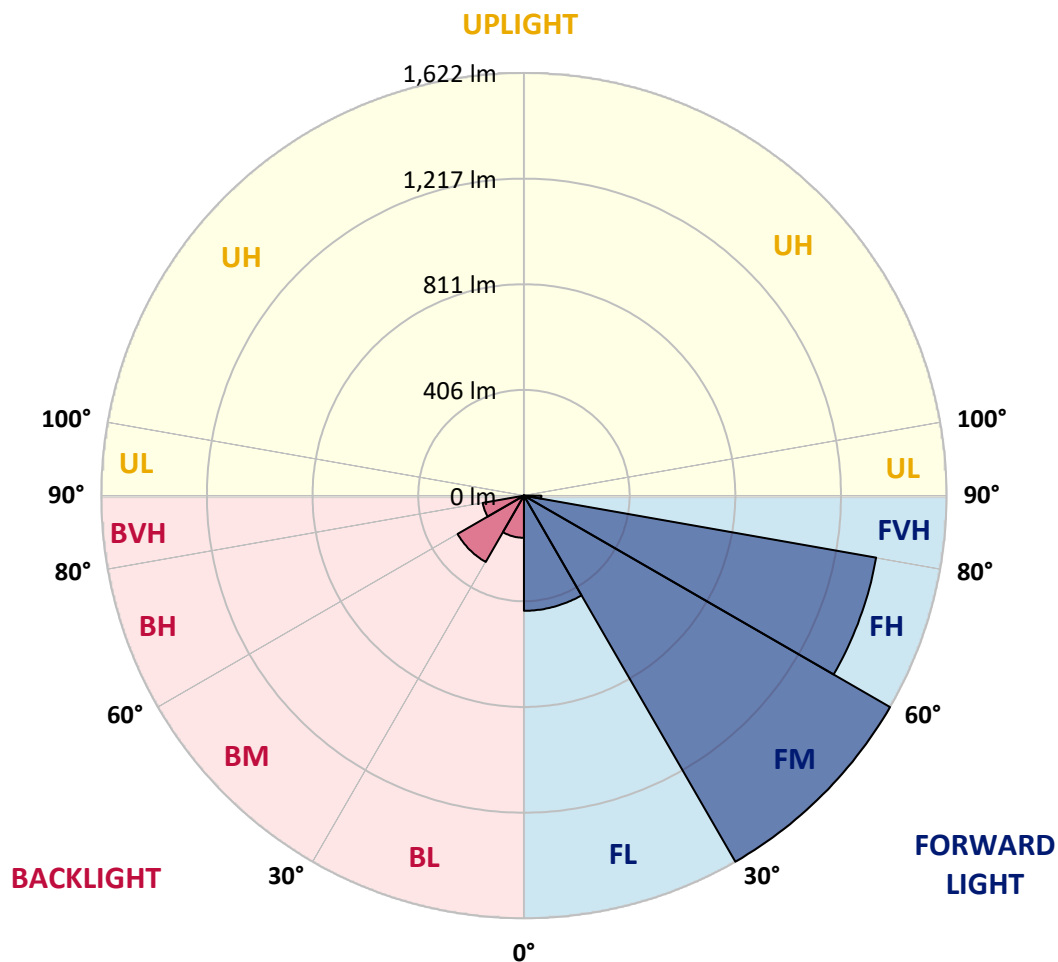
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 441.9  | 10.7      |                         |      |         |
| FM   | (30°-60°)   | 1622.3 | 39.4      |                         |      |         |
| FH   | (60°-80°)   | 1372.5 | 33.3      |                         |      | G1/1800 |
| FVH  | (80°-90°)   | 66.7   | 1.6       |                         |      | G1/100  |
| BL   | (0°-30°)    | 161.8  | 3.9       | B1/500                  |      |         |
| BM   | (30°-60°)   | 294.0  | 7.1       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 160.7  | 3.9       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 2.1    | 0.1       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G1**

Type III Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 1°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 |
| 2.5°  | 1499.0 | 1501.4 | 1513.5 | 1541.6 | 1572.3 | 1574.6 | 1595.3 | 1574.0 | 1566.8 | 1532.4 | 1496.9 |
| 5°    | 1510.4 | 1519.4 | 1560.9 | 1643.5 | 1715.2 | 1738.2 | 1754.6 | 1712.9 | 1668.9 | 1585.0 | 1495.3 |
| 7.5°  | 1419.2 | 1434.2 | 1499.6 | 1654.7 | 1782.8 | 1839.4 | 1850.1 | 1784.7 | 1677.1 | 1538.9 | 1404.1 |
| 10°   | 1302.4 | 1319.6 | 1398.5 | 1589.1 | 1765.0 | 1862.0 | 1876.9 | 1791.2 | 1636.5 | 1464.3 | 1305.5 |
| 12.5° | 1207.9 | 1228.0 | 1308.7 | 1515.2 | 1703.9 | 1811.3 | 1840.6 | 1769.5 | 1601.4 | 1411.4 | 1238.2 |
| 15°   | 1164.4 | 1187.4 | 1272.1 | 1467.6 | 1636.1 | 1720.7 | 1744.9 | 1714.2 | 1581.8 | 1403.0 | 1222.5 |
| 17.5° | 1189.4 | 1214.3 | 1301.8 | 1471.7 | 1572.5 | 1608.6 | 1628.1 | 1640.6 | 1581.8 | 1453.5 | 1268.2 |
| 20°   | 1291.9 | 1318.8 | 1411.4 | 1513.3 | 1519.7 | 1506.3 | 1527.2 | 1571.1 | 1600.2 | 1549.6 | 1378.0 |
| 22.5° | 1433.6 | 1465.3 | 1569.7 | 1584.6 | 1494.0 | 1443.0 | 1445.7 | 1514.7 | 1633.6 | 1671.5 | 1530.3 |
| 25°   | 1606.4 | 1645.1 | 1751.3 | 1690.8 | 1504.7 | 1405.3 | 1404.3 | 1468.2 | 1666.2 | 1793.5 | 1700.0 |
| 27.5° | 1778.1 | 1820.6 | 1914.0 | 1820.4 | 1549.0 | 1398.5 | 1396.5 | 1454.1 | 1698.0 | 1902.1 | 1885.3 |
| 30°   | 1922.0 | 1963.4 | 2043.8 | 1914.4 | 1596.9 | 1414.5 | 1405.1 | 1469.2 | 1717.0 | 1972.6 | 2020.4 |
| 32.5° | 2039.1 | 2072.3 | 2137.4 | 1979.0 | 1648.0 | 1445.5 | 1425.2 | 1509.4 | 1749.2 | 2032.1 | 2144.6 |
| 35°   | 2168.0 | 2203.0 | 2228.9 | 2040.5 | 1705.4 | 1490.3 | 1461.2 | 1573.2 | 1798.8 | 2092.6 | 2280.7 |
| 37.5° | 2315.1 | 2349.8 | 2346.7 | 2096.7 | 1778.3 | 1564.3 | 1545.7 | 1674.4 | 1875.9 | 2152.6 | 2432.6 |
| 40°   | 2459.0 | 2494.5 | 2469.1 | 2158.3 | 1863.8 | 1686.3 | 1672.6 | 1826.3 | 1979.2 | 2229.3 | 2610.7 |
| 42.5° | 2593.7 | 2632.2 | 2577.9 | 2216.4 | 1965.7 | 1840.2 | 1863.6 | 2022.0 | 2108.5 | 2323.8 | 2764.2 |
| 45°   | 2702.3 | 2741.5 | 2669.1 | 2273.1 | 2073.1 | 2026.8 | 2097.3 | 2238.7 | 2263.9 | 2403.7 | 2867.8 |
| 47.5° | 2781.1 | 2818.2 | 2732.3 | 2329.7 | 2210.6 | 2255.1 | 2377.9 | 2466.0 | 2404.3 | 2473.0 | 2941.5 |
| 50°   | 2831.5 | 2860.4 | 2750.9 | 2400.6 | 2391.0 | 2521.4 | 2670.2 | 2713.2 | 2536.5 | 2535.5 | 3030.9 |
| 52.5° | 2863.5 | 2876.6 | 2764.5 | 2474.6 | 2579.2 | 2811.4 | 2956.5 | 2970.0 | 2672.6 | 2604.2 | 3151.4 |
| 55°   | 2973.9 | 2984.4 | 2861.4 | 2564.2 | 2734.9 | 3065.5 | 3215.4 | 3202.9 | 2826.6 | 2738.8 | 3293.5 |
| 57.5° | 3162.1 | 3173.2 | 3061.5 | 2693.1 | 2860.8 | 3222.4 | 3403.1 | 3425.5 | 3007.3 | 2927.8 | 3445.8 |
| 60°   | 3256.6 | 3277.3 | 3237.5 | 2856.3 | 2982.9 | 3322.8 | 3531.0 | 3602.6 | 3233.0 | 3176.9 | 3593.4 |
| 62.5° | 3170.9 | 3201.0 | 3258.8 | 3037.3 | 3104.1 | 3378.1 | 3570.8 | 3666.1 | 3464.2 | 3467.3 | 3684.4 |
| 65°   | 2999.8 | 3023.9 | 3121.9 | 3136.5 | 3174.4 | 3371.2 | 3472.4 | 3577.4 | 3605.7 | 3734.0 | 3679.6 |
| 67.5° | 2793.3 | 2802.2 | 2885.4 | 3144.3 | 3072.5 | 3165.8 | 3176.8 | 3254.5 | 3493.9 | 3828.5 | 3531.7 |
| 70°   | 2495.9 | 2500.7 | 2573.4 | 2882.9 | 2640.4 | 2660.9 | 2644.7 | 2660.5 | 3003.7 | 3598.3 | 3158.6 |
| 72.5° | 2008.7 | 2021.0 | 2124.3 | 2394.1 | 1923.5 | 1864.4 | 1991.7 | 1984.7 | 2313.3 | 3040.1 | 2345.9 |
| 75°   | 1478.9 | 1500.2 | 1656.2 | 1928.4 | 1350.1 | 1221.2 | 1314.1 | 1338.9 | 1644.5 | 2351.6 | 1467.0 |
| 77.5° | 1035.5 | 1051.3 | 1202.4 | 1417.6 | 977.1  | 873.2  | 839.6  | 869.1  | 1085.5 | 1701.1 | 739.1  |
| 80°   | 596.5  | 602.4  | 698.9  | 818.5  | 658.4  | 753.3  | 682.4  | 702.8  | 650.4  | 756.8  | 317.9  |
| 82.5° | 390.3  | 391.3  | 429.0  | 487.2  | 410.1  | 476.4  | 352.6  | 450.9  | 400.1  | 304.0  | 103.5  |
| 85°   | 210.9  | 212.1  | 248.8  | 345.8  | 232.2  | 131.2  | 77.1   | 158.4  | 247.4  | 69.7   | 28.3   |
| 87.5° | 23.2   | 21.3   | 75.0   | 125.8  | 64.4   | 11.9   | 4.1    | 17.8   | 39.6   | 4.5    | 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°    | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 |
| 2.5°  | 1478.7 | 1462.5 | 1422.1 | 1379.3 | 1345.0 | 1312.8 | 1280.3 | 1240.7 | 1210.1 | 1203.8 | 1193.6 |
| 5°    | 1447.1 | 1395.7 | 1311.0 | 1225.9 | 1157.3 | 1070.8 | 1016.0 | 973.2  | 931.4  | 928.9  | 920.5  |
| 7.5°  | 1336.6 | 1269.0 | 1149.7 | 1032.0 | 935.5  | 853.1  | 769.9  | 714.3  | 670.5  | 655.1  | 645.9  |
| 10°   | 1230.4 | 1154.4 | 1005.4 | 871.1  | 785.0  | 712.1  | 653.5  | 595.4  | 542.6  | 506.3  | 489.9  |
| 12.5° | 1156.2 | 1072.2 | 908.0  | 792.2  | 730.5  | 661.4  | 589.9  | 517.3  | 456.5  | 412.8  | 386.0  |
| 15°   | 1127.5 | 1037.8 | 875.4  | 760.9  | 684.8  | 597.3  | 505.9  | 422.9  | 355.6  | 315.9  | 291.9  |
| 17.5° | 1161.6 | 1057.4 | 872.8  | 722.9  | 616.4  | 507.7  | 406.7  | 308.7  | 245.3  | 215.2  | 199.8  |
| 20°   | 1248.3 | 1119.4 | 871.9  | 676.2  | 535.2  | 401.5  | 275.5  | 203.1  | 164.6  | 147.8  | 140.6  |
| 22.5° | 1370.9 | 1198.7 | 879.7  | 630.1  | 450.7  | 286.8  | 190.2  | 149.2  | 129.5  | 120.5  | 116.4  |
| 25°   | 1528.7 | 1310.0 | 901.7  | 588.3  | 371.2  | 214.0  | 148.2  | 125.0  | 111.1  | 104.1  | 101.1  |
| 27.5° | 1696.8 | 1438.1 | 936.1  | 552.0  | 306.6  | 170.7  | 126.9  | 107.0  | 97.0   | 92.2   | 89.4   |
| 30°   | 1835.5 | 1586.5 | 970.9  | 511.6  | 259.7  | 148.8  | 116.2  | 97.6   | 86.1   | 83.0   | 80.4   |
| 32.5° | 1956.7 | 1698.8 | 995.5  | 475.1  | 229.0  | 132.2  | 105.1  | 87.3   | 79.5   | 73.4   | 70.7   |
| 35°   | 2082.3 | 1792.3 | 994.7  | 449.5  | 208.0  | 119.7  | 95.7   | 78.1   | 68.7   | 61.7   | 59.6   |
| 37.5° | 2218.2 | 1898.0 | 977.7  | 427.6  | 198.8  | 109.7  | 90.4   | 73.2   | 63.9   | 56.8   | 54.1   |
| 40°   | 2377.3 | 2008.9 | 960.3  | 407.1  | 196.2  | 101.7  | 86.7   | 69.3   | 59.4   | 52.5   | 49.8   |
| 42.5° | 2532.4 | 2108.9 | 945.1  | 391.9  | 185.3  | 101.5  | 83.4   | 66.4   | 55.8   | 49.2   | 46.1   |
| 45°   | 2656.4 | 2202.0 | 942.1  | 382.7  | 173.8  | 105.1  | 81.6   | 64.4   | 53.1   | 46.5   | 43.5   |
| 47.5° | 2759.5 | 2303.1 | 960.9  | 376.3  | 162.9  | 95.9   | 85.9   | 63.1   | 50.6   | 44.1   | 40.8   |
| 50°   | 2882.1 | 2427.3 | 1005.0 | 365.7  | 151.3  | 86.3   | 98.4   | 63.5   | 48.4   | 41.8   | 38.3   |
| 52.5° | 3053.1 | 2599.2 | 1069.9 | 348.0  | 135.5  | 77.5   | 96.9   | 63.9   | 46.1   | 39.2   | 35.7   |
| 55°   | 3244.9 | 2813.8 | 1139.6 | 318.5  | 113.4  | 66.0   | 83.0   | 61.1   | 41.6   | 36.5   | 33.2   |
| 57.5° | 3446.4 | 3008.4 | 1181.0 | 283.3  | 90.2   | 57.0   | 66.4   | 55.7   | 36.7   | 32.8   | 30.7   |
| 60°   | 3478.0 | 3082.4 | 1162.0 | 240.2  | 71.7   | 49.6   | 49.2   | 56.6   | 32.8   | 28.9   | 27.3   |
| 62.5° | 3399.4 | 2989.5 | 1070.4 | 201.7  | 59.9   | 43.5   | 40.4   | 49.4   | 29.7   | 25.8   | 24.2   |
| 65°   | 3248.0 | 2738.2 | 922.0  | 181.8  | 55.7   | 37.3   | 33.6   | 34.8   | 26.0   | 22.5   | 21.1   |
| 67.5° | 3037.5 | 2402.7 | 757.0  | 170.5  | 55.1   | 32.0   | 28.7   | 26.4   | 22.5   | 19.5   | 18.4   |
| 70°   | 2607.2 | 2001.7 | 604.0  | 164.2  | 53.5   | 26.9   | 24.2   | 21.5   | 18.7   | 16.6   | 15.6   |
| 72.5° | 1918.9 | 1418.4 | 469.8  | 157.4  | 53.9   | 21.5   | 21.1   | 17.8   | 15.0   | 12.9   | 12.5   |
| 75°   | 1108.7 | 810.3  | 308.1  | 127.5  | 51.4   | 16.6   | 17.6   | 12.5   | 10.5   | 9.0    | 9.0    |
| 77.5° | 590.9  | 494.2  | 117.4  | 53.1   | 18.7   | 10.5   | 10.0   | 7.4    | 6.6    | 5.5    | 5.3    |
| 80°   | 257.6  | 217.5  | 35.3   | 14.8   | 10.3   | 5.7    | 3.7    | 3.3    | 2.9    | 2.3    | 2.1    |
| 82.5° | 91.2   | 78.7   | 11.5   | 7.2    | 4.5    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 20.7   | 14.8   | 0.0    | 1.8    | 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°    | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 |
| 2.5°  | 1173.0 | 1168.7 | 1143.3 | 1144.2 | 1148.7 | 1155.2 | 1140.0 | 1147.0 | 1165.9 | 1184.1 | 1190.9 |
| 5°    | 907.0  | 908.0  | 892.6  | 902.1  | 910.7  | 916.6  | 892.0  | 892.4  | 907.4  | 927.9  | 938.6  |
| 7.5°  | 639.1  | 637.5  | 638.3  | 661.2  | 677.4  | 665.7  | 674.8  | 643.0  | 645.0  | 659.6  | 648.7  |
| 10°   | 475.1  | 453.6  | 441.5  | 458.7  | 476.4  | 470.0  | 454.2  | 443.8  | 451.1  | 467.3  | 466.1  |
| 12.5° | 373.3  | 342.5  | 324.3  | 312.0  | 326.7  | 314.6  | 314.2  | 305.2  | 295.4  | 297.2  | 323.2  |
| 15°   | 280.8  | 258.3  | 236.9  | 217.1  | 216.7  | 212.6  | 191.7  | 168.3  | 166.4  | 167.5  | 181.0  |
| 17.5° | 193.1  | 185.5  | 176.7  | 159.7  | 155.2  | 138.1  | 117.7  | 108.4  | 103.7  | 105.8  | 110.3  |
| 20°   | 135.7  | 132.8  | 133.8  | 124.6  | 118.1  | 101.7  | 89.8   | 86.1   | 85.3   | 87.5   | 89.6   |
| 22.5° | 112.5  | 107.2  | 106.6  | 102.5  | 96.1   | 84.2   | 77.7   | 75.6   | 74.6   | 76.5   | 78.1   |
| 25°   | 98.4   | 93.1   | 91.0   | 88.5   | 81.6   | 73.4   | 69.5   | 67.6   | 66.6   | 67.8   | 68.7   |
| 27.5° | 86.7   | 81.8   | 79.9   | 78.1   | 71.5   | 65.6   | 62.5   | 60.7   | 59.9   | 60.3   | 61.3   |
| 30°   | 77.9   | 73.6   | 71.1   | 68.9   | 63.3   | 59.2   | 56.4   | 54.7   | 53.9   | 53.9   | 54.9   |
| 32.5° | 68.7   | 66.4   | 64.0   | 61.3   | 56.0   | 53.3   | 50.6   | 48.6   | 47.8   | 48.0   | 48.8   |
| 35°   | 57.2   | 56.4   | 57.0   | 54.5   | 50.0   | 47.6   | 44.9   | 42.8   | 42.2   | 42.4   | 43.2   |
| 37.5° | 50.8   | 47.3   | 49.4   | 48.0   | 45.5   | 42.4   | 38.9   | 36.9   | 35.9   | 36.5   | 36.9   |
| 40°   | 46.7   | 42.4   | 40.8   | 42.2   | 41.8   | 36.7   | 33.6   | 31.6   | 30.9   | 31.0   | 31.4   |
| 42.5° | 43.2   | 38.1   | 34.6   | 34.4   | 36.7   | 32.0   | 28.7   | 26.9   | 26.0   | 26.0   | 26.4   |
| 45°   | 39.8   | 34.4   | 30.1   | 26.8   | 30.9   | 27.1   | 24.0   | 22.5   | 21.3   | 21.3   | 21.5   |
| 47.5° | 37.3   | 31.2   | 26.2   | 21.9   | 23.2   | 22.3   | 19.7   | 18.2   | 17.0   | 17.0   | 17.2   |
| 50°   | 35.0   | 28.1   | 22.7   | 18.4   | 17.4   | 18.4   | 16.0   | 14.3   | 13.5   | 13.3   | 13.7   |
| 52.5° | 32.4   | 25.0   | 19.3   | 15.6   | 13.7   | 13.9   | 12.5   | 11.3   | 10.3   | 10.3   | 10.7   |
| 55°   | 29.9   | 22.5   | 16.8   | 13.3   | 11.3   | 10.3   | 10.0   | 9.2    | 8.4    | 8.4    | 8.8    |
| 57.5° | 27.3   | 19.7   | 14.3   | 10.9   | 9.0    | 8.2    | 8.2    | 7.6    | 7.0    | 7.0    | 7.4    |
| 60°   | 25.0   | 17.0   | 11.7   | 9.0    | 7.0    | 6.8    | 7.0    | 6.4    | 6.1    | 6.1    | 6.4    |
| 62.5° | 22.3   | 14.4   | 9.6    | 7.4    | 5.7    | 5.5    | 6.1    | 5.7    | 5.3    | 5.3    | 5.7    |
| 65°   | 18.9   | 12.3   | 7.6    | 5.7    | 4.3    | 4.3    | 5.1    | 4.7    | 4.3    | 4.3    | 4.7    |
| 67.5° | 16.0   | 10.3   | 5.9    | 4.1    | 3.1    | 3.3    | 4.3    | 3.9    | 3.7    | 3.7    | 4.1    |
| 70°   | 13.3   | 8.0    | 4.1    | 2.5    | 1.8    | 2.5    | 3.3    | 3.3    | 3.3    | 3.3    | 3.7    |
| 72.5° | 10.0   | 5.5    | 2.3    | 1.0    | 0.8    | 1.8    | 2.7    | 3.1    | 2.9    | 2.9    | 3.5    |
| 75°   | 6.4    | 3.1    | 0.8    | 0.0    | 0.0    | 1.0    | 2.1    | 2.5    | 2.5    | 2.3    | 2.9    |
| 77.5° | 3.7    | 1.0    | 0.0    | 0.0    | 0.0    | 0.0    | 1.4    | 1.2    | 1.0    | 0.8    | 1.4    |
| 80°   | 1.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 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    |

REPORT NUMBER: P385690

CATALOG NUMBER: GWC-SA1B-730-U-SLL-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°   | 315°   | 325°   | 335°   | 345°   | 355°   | 359°   | 360°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 | 1382.9 |
| 2.5°  | 1218.4 | 1241.5 | 1273.9 | 1308.3 | 1361.2 | 1403.2 | 1444.4 | 1479.7 | 1493.4 | 1499.0 |
| 5°    | 964.4  | 998.2  | 1045.6 | 1106.6 | 1202.0 | 1288.0 | 1375.0 | 1462.7 | 1500.8 | 1510.4 |
| 7.5°  | 692.0  | 735.2  | 795.5  | 871.9  | 983.7  | 1095.0 | 1216.7 | 1345.4 | 1404.3 | 1419.2 |
| 10°   | 512.2  | 564.9  | 634.0  | 714.5  | 821.3  | 935.7  | 1068.3 | 1215.3 | 1282.7 | 1302.4 |
| 12.5° | 363.4  | 434.7  | 527.2  | 625.0  | 717.6  | 819.7  | 953.9  | 1115.9 | 1186.6 | 1207.9 |
| 15°   | 213.4  | 282.4  | 391.9  | 522.9  | 641.4  | 744.9  | 881.2  | 1065.0 | 1142.9 | 1164.4 |
| 17.5° | 122.4  | 156.8  | 239.6  | 385.6  | 546.5  | 689.9  | 858.4  | 1077.7 | 1169.4 | 1189.4 |
| 20°   | 93.5   | 104.5  | 138.1  | 248.4  | 435.6  | 635.8  | 858.4  | 1149.5 | 1262.6 | 1291.9 |
| 22.5° | 81.8   | 89.8   | 103.5  | 148.2  | 320.6  | 577.8  | 868.3  | 1253.4 | 1401.2 | 1433.6 |
| 25°   | 72.6   | 79.9   | 91.6   | 111.5  | 218.7  | 508.9  | 892.0  | 1380.9 | 1564.5 | 1606.4 |
| 27.5° | 65.0   | 71.9   | 82.4   | 97.6   | 149.6  | 425.7  | 923.8  | 1530.5 | 1744.5 | 1778.1 |
| 30°   | 58.2   | 64.6   | 74.2   | 84.9   | 115.4  | 331.4  | 950.9  | 1671.5 | 1885.9 | 1922.0 |
| 32.5° | 51.7   | 57.6   | 66.2   | 74.2   | 94.5   | 245.1  | 953.9  | 1783.2 | 2003.2 | 2039.1 |
| 35°   | 45.7   | 51.0   | 58.8   | 65.0   | 78.3   | 193.5  | 908.4  | 1880.0 | 2120.6 | 2168.0 |
| 37.5° | 39.8   | 44.9   | 51.7   | 56.4   | 68.9   | 157.8  | 838.9  | 1988.0 | 2271.1 | 2315.1 |
| 40°   | 34.4   | 38.9   | 45.9   | 49.0   | 65.2   | 121.3  | 763.3  | 2101.2 | 2418.7 | 2459.0 |
| 42.5° | 29.3   | 33.6   | 40.4   | 46.5   | 57.2   | 90.6   | 681.7  | 2207.5 | 2551.5 | 2593.7 |
| 45°   | 24.4   | 28.9   | 35.7   | 49.2   | 47.4   | 67.8   | 594.4  | 2278.0 | 2656.4 | 2702.3 |
| 47.5° | 19.7   | 24.8   | 34.2   | 46.9   | 37.9   | 49.8   | 525.3  | 2344.7 | 2735.8 | 2781.1 |
| 50°   | 15.8   | 20.9   | 38.5   | 41.8   | 31.0   | 38.1   | 496.4  | 2404.5 | 2788.0 | 2831.5 |
| 52.5° | 12.9   | 17.6   | 36.3   | 32.0   | 26.0   | 31.4   | 512.0  | 2501.3 | 2836.2 | 2863.5 |
| 55°   | 10.7   | 13.9   | 21.9   | 22.3   | 22.1   | 26.8   | 531.3  | 2640.4 | 2961.0 | 2973.9 |
| 57.5° | 9.4    | 11.1   | 15.2   | 17.2   | 18.6   | 23.8   | 531.7  | 2839.9 | 3154.1 | 3162.1 |
| 60°   | 8.0    | 9.8    | 12.7   | 13.9   | 16.0   | 21.3   | 512.4  | 2909.6 | 3230.1 | 3256.6 |
| 62.5° | 7.0    | 8.6    | 10.5   | 11.5   | 13.5   | 19.1   | 467.1  | 2808.7 | 3125.8 | 3170.9 |
| 65°   | 6.2    | 7.8    | 8.8    | 9.8    | 11.9   | 17.2   | 392.5  | 2606.8 | 2952.8 | 2999.8 |
| 67.5° | 5.5    | 6.8    | 7.8    | 8.8    | 10.7   | 15.2   | 289.0  | 2372.3 | 2754.2 | 2793.3 |
| 70°   | 4.9    | 6.1    | 7.0    | 7.8    | 9.4    | 12.9   | 175.3  | 2013.0 | 2479.7 | 2495.9 |
| 72.5° | 4.7    | 5.5    | 6.4    | 7.0    | 8.2    | 11.3   | 88.8   | 1479.3 | 1982.3 | 2008.7 |
| 75°   | 4.1    | 4.9    | 5.9    | 6.2    | 7.2    | 9.8    | 36.1   | 971.6  | 1436.6 | 1478.9 |
| 77.5° | 3.3    | 4.5    | 5.3    | 5.7    | 6.2    | 8.0    | 18.4   | 620.9  | 1008.1 | 1035.5 |
| 80°   | 1.2    | 3.3    | 4.5    | 4.7    | 5.3    | 5.9    | 12.1   | 340.0  | 584.8  | 596.5  |
| 82.5° | 0.0    | 2.1    | 3.5    | 3.3    | 3.7    | 4.5    | 7.8    | 161.7  | 386.0  | 390.3  |
| 85°   | 0.0    | 1.0    | 2.7    | 2.1    | 1.6    | 3.1    | 2.7    | 35.3   | 202.5  | 210.9  |
| 87.5° | 0.0    | 0.0    | 0.2    | 1.0    | 0.8    | 1.2    | 0.4    | 0.2    | 18.4   | 23.2   |
| 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: SP1-2012-088-7

Luminaire Tested: WIS-SA-730-2A-U-SL3-HSS

Test Date: 01/20/2021

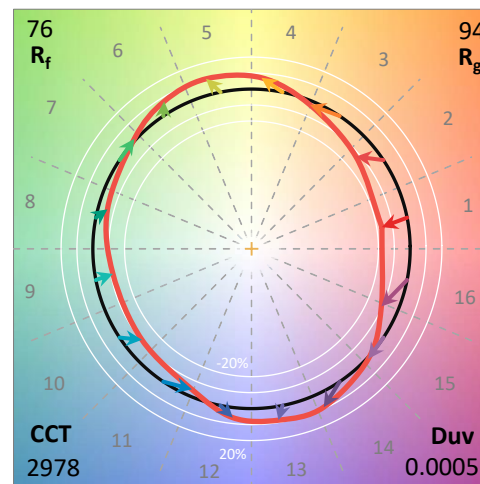
### Test Information

Test Method: LM-79-08  
 Report Number: SP1-2012-088-7  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1  
 Measurement Geometry:  $4\pi$   
 Issue Date: 01/20/2021  
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
 Product Line: INVUE  
 Catalog Number: **WIS-SA-730-2A-U-SL3-HSS**  
 Description: INVUE WALL PACK

SHIELD

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 2978   | CRI (Ra): | 72.4 |      |       |
| CIE u':                   | 0.2511 | R1:       | 68.2 | R9:  | -36.8 |
| CIE v':                   | 0.5225 | R2:       | 83.1 | R10: | 63.2  |
| Duv:                      | 0.0005 | R3:       | 94.9 | R11: | 65.5  |
| CIE x:                    | 0.4391 | R4:       | 68.7 | R12: | 58.5  |
| CIE y:                    | 0.4060 | R5:       | 68.6 | R13: | 71.0  |
| CIE z:                    | 0.1549 | R6:       | 78.2 | R14: | 97.4  |
| Peak Wavelength (nm):     | 596    | R7:       | 76.3 |      |       |
| Dominant Wavelength (nm): | 582    | R8:       | 41.2 |      |       |
| Purity:                   | 54     |           |      |      |       |
| Rf:                       | 76.2   |           |      |      |       |
| Rg:                       | 94.2   |           |      |      |       |



### Test Conditions

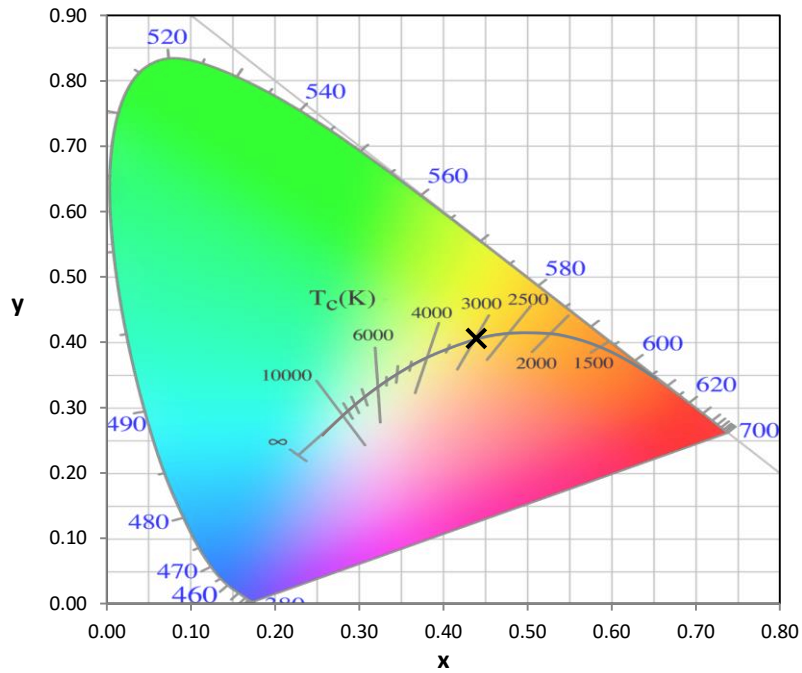
Stabilization Time: 82M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.6/28%  
 Sphere Temperature (°C): 25.5

REPORT NUMBER: SP1-2012-088-7

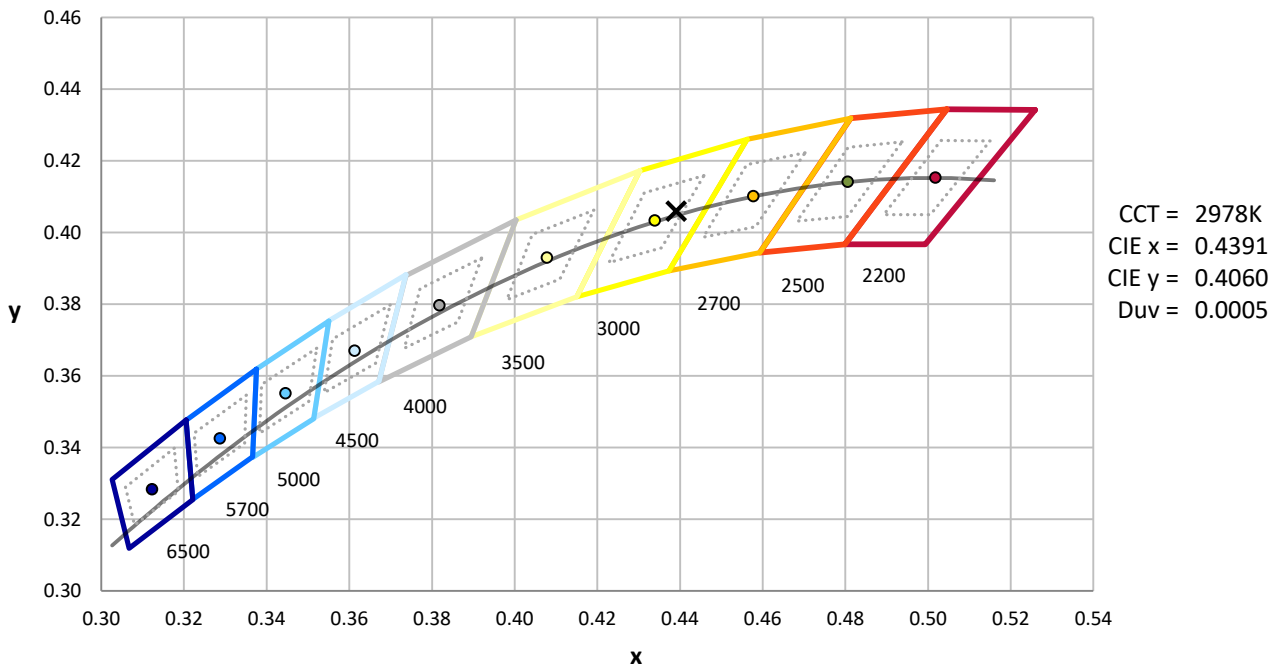
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 7/29/2020        | 1/29/2021            |
| 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: SP1-2012-088-7

**CIE 1931 Chromaticity Diagram**



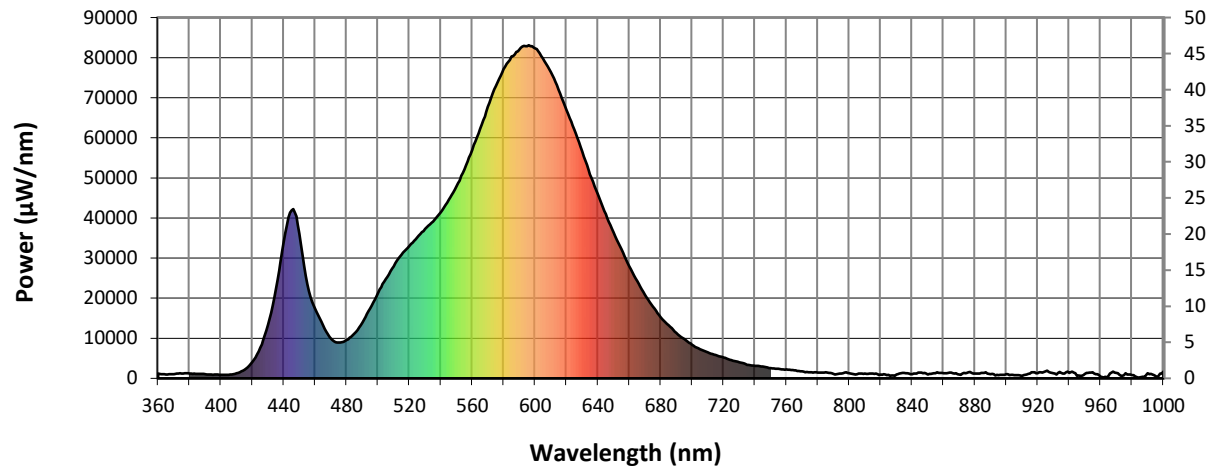
**CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles**



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2012-088-7

### Photopic Flux vs. Wavelength

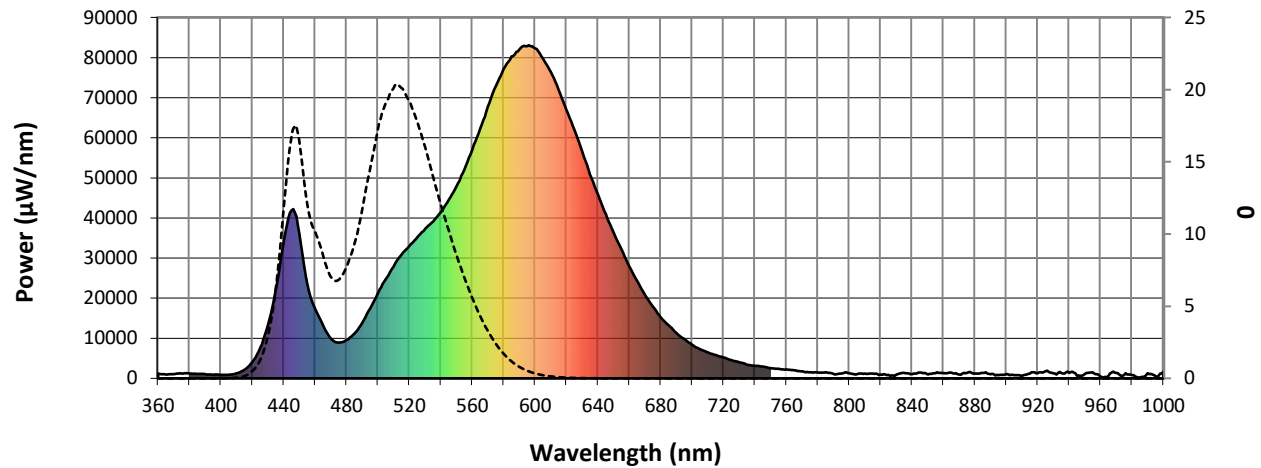


#####

| 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       | 1195             | 0.0              | 490       | 13880            | 2.0              | 620       | 66879            | 17.4             | 750       | 2571             | 0.0              | 880       | 1235             | 0.0              |
| 365       | 985              | 0.0              | 495       | 17408            | 3.2              | 625       | 62111            | 13.7             | 755       | 2394             | 0.0              | 885       | 1368             | 0.0              |
| 370       | 1066             | 0.0              | 500       | 21285            | 4.7              | 630       | 56551            | 10.2             | 760       | 2199             | 0.0              | 890       | 1027             | 0.0              |
| 375       | 1227             | 0.0              | 505       | 24779            | 6.9              | 635       | 50866            | 7.6              | 765       | 2031             | 0.0              | 895       | 822              | 0.0              |
| 380       | 1176             | 0.0              | 510       | 27951            | 9.6              | 640       | 45859            | 5.5              | 770       | 1735             | 0.0              | 900       | 1068             | 0.0              |
| 385       | 1115             | 0.0              | 515       | 30815            | 12.8             | 645       | 40924            | 3.9              | 775       | 1538             | 0.0              | 905       | 823              | 0.0              |
| 390       | 1039             | 0.0              | 520       | 33040            | 16.0             | 650       | 36434            | 2.7              | 780       | 1455             | 0.0              | 910       | 531              | 0.0              |
| 395       | 908              | 0.0              | 525       | 35159            | 18.9             | 655       | 32132            | 1.8              | 785       | 1506             | 0.0              | 915       | 1184             | 0.0              |
| 400       | 903              | 0.0              | 530       | 37292            | 22.0             | 660       | 27953            | 1.2              | 790       | 1154             | 0.0              | 920       | 1320             | 0.0              |
| 405       | 911              | 0.0              | 535       | 39123            | 24.3             | 665       | 24284            | 0.8              | 795       | 1232             | 0.0              | 925       | 1757             | 0.0              |
| 410       | 1264             | 0.0              | 540       | 41391            | 27.0             | 670       | 20822            | 0.5              | 800       | 1247             | 0.0              | 930       | 1279             | 0.0              |
| 415       | 2142             | 0.0              | 545       | 44515            | 29.6             | 675       | 17848            | 0.3              | 805       | 1043             | 0.0              | 935       | 1399             | 0.0              |
| 420       | 4052             | 0.0              | 550       | 47864            | 32.5             | 680       | 15278            | 0.2              | 810       | 1235             | 0.0              | 940       | 1325             | 0.0              |
| 425       | 7647             | 0.0              | 555       | 52101            | 35.6             | 685       | 13213            | 0.1              | 815       | 1173             | 0.0              | 945       | 612              | 0.0              |
| 430       | 13366            | 0.1              | 560       | 56892            | 38.7             | 690       | 11304            | 0.1              | 820       | 948              | 0.0              | 950       | 1094             | 0.0              |
| 435       | 22367            | 0.3              | 565       | 62242            | 41.4             | 695       | 9794             | 0.0              | 825       | 846              | 0.0              | 955       | 1493             | 0.0              |
| 440       | 34007            | 0.5              | 570       | 67731            | 44.0             | 700       | 8390             | 0.0              | 830       | 987              | 0.0              | 960       | 385              | 0.0              |
| 445       | 41889            | 0.9              | 575       | 72883            | 45.3             | 705       | 7303             | 0.0              | 835       | 1395             | 0.0              | 965       | 585              | 0.0              |
| 450       | 36090            | 0.9              | 580       | 77104            | 45.8             | 710       | 6501             | 0.0              | 840       | 1079             | 0.0              | 970       | 1360             | 0.0              |
| 455       | 23459            | 0.8              | 585       | 80305            | 44.6             | 715       | 5811             | 0.0              | 845       | 1430             | 0.0              | 975       | 805              | 0.0              |
| 460       | 17429            | 0.7              | 590       | 82039            | 42.4             | 720       | 5196             | 0.0              | 850       | 984              | 0.0              | 980       | 813              | 0.0              |
| 465       | 13265            | 0.7              | 595       | 82883            | 39.3             | 725       | 4576             | 0.0              | 855       | 1315             | 0.0              | 985       | 214              | 0.0              |
| 470       | 9887             | 0.6              | 600       | 82307            | 35.5             | 730       | 4031             | 0.0              | 860       | 1245             | 0.0              | 990       | 1247             | 0.0              |
| 475       | 8912             | 0.7              | 605       | 79818            | 30.9             | 735       | 3393             | 0.0              | 865       | 1445             | 0.0              | 995       | 597              | 0.0              |
| 480       | 9543             | 0.9              | 610       | 76405            | 26.2             | 740       | 3117             | 0.0              | 870       | 998              | 0.0              | 1000      | 1691             | 0.0              |
| 485       | 11169            | 1.3              | 615       | 71967            | 21.7             | 745       | 2946             | 0.0              | 875       | 1326             | 0.0              |           |                  |                  |

REPORT NUMBER: SP1-2012-088-7

### Scotopic Flux vs. Wavelength

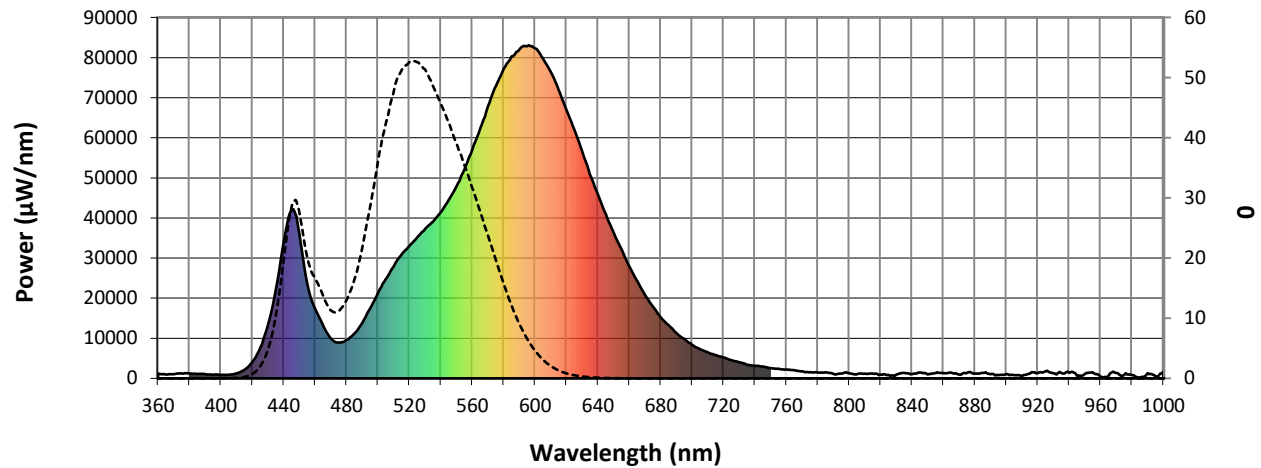

**Scotopic Lumens: 1728.4**
**S/P: 0.45**

| 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       | 1195             | 0.0              | 490       | 13880            | 21.4             | 620       | 66879            | 0.8              | 750       | 2571             | 0.0              | 880       | 1235             | 0.0              |
| 365       | 985              | 0.0              | 495       | 17408            | 28.1             | 625       | 62111            | 0.5              | 755       | 2394             | 0.0              | 885       | 1368             | 0.0              |
| 370       | 1066             | 0.0              | 500       | 21285            | 35.6             | 630       | 56551            | 0.3              | 760       | 2199             | 0.0              | 890       | 1027             | 0.0              |
| 375       | 1227             | 0.0              | 505       | 24779            | 42.1             | 635       | 50866            | 0.2              | 765       | 2031             | 0.0              | 895       | 822              | 0.0              |
| 380       | 1176             | 0.0              | 510       | 27951            | 47.4             | 640       | 45859            | 0.1              | 770       | 1735             | 0.0              | 900       | 1068             | 0.0              |
| 385       | 1115             | 0.0              | 515       | 30815            | 51.1             | 645       | 40924            | 0.1              | 775       | 1538             | 0.0              | 905       | 823              | 0.0              |
| 390       | 1039             | 0.0              | 520       | 33040            | 52.5             | 650       | 36434            | 0.0              | 780       | 1455             | 0.0              | 910       | 531              | 0.0              |
| 395       | 908              | 0.0              | 525       | 35159            | 52.6             | 655       | 32132            | 0.0              | 785       | 1506             | 0.0              | 915       | 1184             | 0.0              |
| 400       | 903              | 0.0              | 530       | 37292            | 51.4             | 660       | 27953            | 0.0              | 790       | 1154             | 0.0              | 920       | 1320             | 0.0              |
| 405       | 911              | 0.0              | 535       | 39123            | 48.8             | 665       | 24284            | 0.0              | 795       | 1232             | 0.0              | 925       | 1757             | 0.0              |
| 410       | 1264             | 0.1              | 540       | 41391            | 45.7             | 670       | 20822            | 0.0              | 800       | 1247             | 0.0              | 930       | 1279             | 0.0              |
| 415       | 2142             | 0.2              | 545       | 44515            | 42.7             | 675       | 17848            | 0.0              | 805       | 1043             | 0.0              | 935       | 1399             | 0.0              |
| 420       | 4052             | 0.7              | 550       | 47864            | 39.1             | 680       | 15278            | 0.0              | 810       | 1235             | 0.0              | 940       | 1325             | 0.0              |
| 425       | 7647             | 1.9              | 555       | 52101            | 35.6             | 685       | 13213            | 0.0              | 815       | 1173             | 0.0              | 945       | 612              | 0.0              |
| 430       | 13366            | 4.5              | 560       | 56892            | 31.8             | 690       | 11304            | 0.0              | 820       | 948              | 0.0              | 950       | 1094             | 0.0              |
| 435       | 22367            | 10.0             | 565       | 62242            | 27.9             | 695       | 9794             | 0.0              | 825       | 846              | 0.0              | 955       | 1493             | 0.0              |
| 440       | 34007            | 19.0             | 570       | 67731            | 23.9             | 700       | 8390             | 0.0              | 830       | 987              | 0.0              | 960       | 385              | 0.0              |
| 445       | 41889            | 28.0             | 575       | 72883            | 19.8             | 705       | 7303             | 0.0              | 835       | 1395             | 0.0              | 965       | 585              | 0.0              |
| 450       | 36090            | 28.0             | 580       | 77104            | 15.9             | 710       | 6501             | 0.0              | 840       | 1079             | 0.0              | 970       | 1360             | 0.0              |
| 455       | 23459            | 20.5             | 585       | 80305            | 12.3             | 715       | 5811             | 0.0              | 845       | 1430             | 0.0              | 975       | 805              | 0.0              |
| 460       | 17429            | 16.8             | 590       | 82039            | 9.1              | 720       | 5196             | 0.0              | 850       | 984              | 0.0              | 980       | 813              | 0.0              |
| 465       | 13265            | 14.0             | 595       | 82883            | 6.6              | 725       | 4576             | 0.0              | 855       | 1315             | 0.0              | 985       | 214              | 0.0              |
| 470       | 9887             | 11.4             | 600       | 82307            | 4.6              | 730       | 4031             | 0.0              | 860       | 1245             | 0.0              | 990       | 1247             | 0.0              |
| 475       | 8912             | 11.1             | 605       | 79818            | 3.1              | 735       | 3393             | 0.0              | 865       | 1445             | 0.0              | 995       | 597              | 0.0              |
| 480       | 9543             | 12.9             | 610       | 76405            | 2.1              | 740       | 3117             | 0.0              | 870       | 998              | 0.0              | 1000      | 1691             | 0.0              |
| 485       | 11169            | 16.2             | 615       | 71967            | 1.3              | 745       | 2946             | 0.0              | 875       | 1326             | 0.0              |           |                  |                  |



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### Melanopic Flux vs. Wavelength


**Melanopic Lumens: 4752**
**S/P: 1.23**

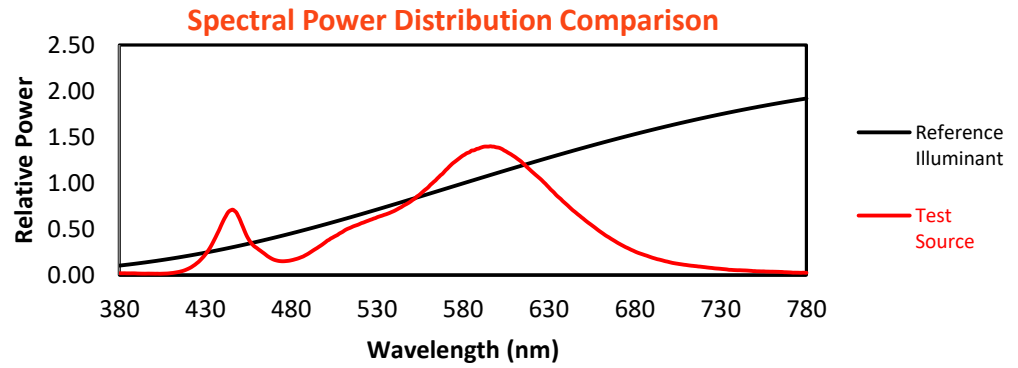
| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 1195             | 0.0              | 490       | 13880            | 11.5             | 620       | 66879            | 0.1              | 750       | 2571             | 0.0              | 880       | 1235             | 0.0              |
| 365       | 985              | 0.0              | 495       | 17408            | 14.4             | 625       | 62111            | 0.0              | 755       | 2394             | 0.0              | 885       | 1368             | 0.0              |
| 370       | 1066             | 0.0              | 500       | 21285            | 17.1             | 630       | 56551            | 0.0              | 760       | 2199             | 0.0              | 890       | 1027             | 0.0              |
| 375       | 1227             | 0.0              | 505       | 24779            | 19.0             | 635       | 50866            | 0.0              | 765       | 2031             | 0.0              | 895       | 822              | 0.0              |
| 380       | 1176             | 0.0              | 510       | 27951            | 20.1             | 640       | 45859            | 0.0              | 770       | 1735             | 0.0              | 900       | 1068             | 0.0              |
| 385       | 1115             | 0.0              | 515       | 30815            | 20.1             | 645       | 40924            | 0.0              | 775       | 1538             | 0.0              | 905       | 823              | 0.0              |
| 390       | 1039             | 0.0              | 520       | 33040            | 19.2             | 650       | 36434            | 0.0              | 780       | 1455             | 0.0              | 910       | 531              | 0.0              |
| 395       | 908              | 0.0              | 525       | 35159            | 17.8             | 655       | 32132            | 0.0              | 785       | 1506             | 0.0              | 915       | 1184             | 0.0              |
| 400       | 903              | 0.0              | 530       | 37292            | 16.1             | 660       | 27953            | 0.0              | 790       | 1154             | 0.0              | 920       | 1320             | 0.0              |
| 405       | 911              | 0.0              | 535       | 39123            | 14.1             | 665       | 24284            | 0.0              | 795       | 1232             | 0.0              | 925       | 1757             | 0.0              |
| 410       | 1264             | 0.0              | 540       | 41391            | 12.1             | 670       | 20822            | 0.0              | 800       | 1247             | 0.0              | 930       | 1279             | 0.0              |
| 415       | 2142             | 0.1              | 545       | 44515            | 10.3             | 675       | 17848            | 0.0              | 805       | 1043             | 0.0              | 935       | 1399             | 0.0              |
| 420       | 4052             | 0.5              | 550       | 47864            | 8.6              | 680       | 15278            | 0.0              | 810       | 1235             | 0.0              | 940       | 1325             | 0.0              |
| 425       | 7647             | 1.2              | 555       | 52101            | 7.0              | 685       | 13213            | 0.0              | 815       | 1173             | 0.0              | 945       | 612              | 0.0              |
| 430       | 13366            | 2.8              | 560       | 56892            | 5.6              | 690       | 11304            | 0.0              | 820       | 948              | 0.0              | 950       | 1094             | 0.0              |
| 435       | 22367            | 6.0              | 565       | 62242            | 4.4              | 695       | 9794             | 0.0              | 825       | 846              | 0.0              | 955       | 1493             | 0.0              |
| 440       | 34007            | 11.4             | 570       | 67731            | 3.3              | 700       | 8390             | 0.0              | 830       | 987              | 0.0              | 960       | 385              | 0.0              |
| 445       | 41889            | 16.5             | 575       | 72883            | 2.4              | 705       | 7303             | 0.0              | 835       | 1395             | 0.0              | 965       | 585              | 0.0              |
| 450       | 36090            | 16.6             | 580       | 77104            | 1.7              | 710       | 6501             | 0.0              | 840       | 1079             | 0.0              | 970       | 1360             | 0.0              |
| 455       | 23459            | 12.3             | 585       | 80305            | 1.2              | 715       | 5811             | 0.0              | 845       | 1430             | 0.0              | 975       | 805              | 0.0              |
| 460       | 17429            | 10.3             | 590       | 82039            | 0.8              | 720       | 5196             | 0.0              | 850       | 984              | 0.0              | 980       | 813              | 0.0              |
| 465       | 13265            | 8.7              | 595       | 82883            | 0.5              | 725       | 4576             | 0.0              | 855       | 1315             | 0.0              | 985       | 214              | 0.0              |
| 470       | 9887             | 7.1              | 600       | 82307            | 0.3              | 730       | 4031             | 0.0              | 860       | 1245             | 0.0              | 990       | 1247             | 0.0              |
| 475       | 8912             | 6.8              | 605       | 79818            | 0.2              | 735       | 3393             | 0.0              | 865       | 1445             | 0.0              | 995       | 597              | 0.0              |
| 480       | 9543             | 7.7              | 610       | 76405            | 0.1              | 740       | 3117             | 0.0              | 870       | 998              | 0.0              | 1000      | 1691             | 0.0              |
| 485       | 11169            | 9.2              | 615       | 71967            | 0.1              | 745       | 2946             | 0.0              | 875       | 1326             | 0.0              |           |                  |                  |

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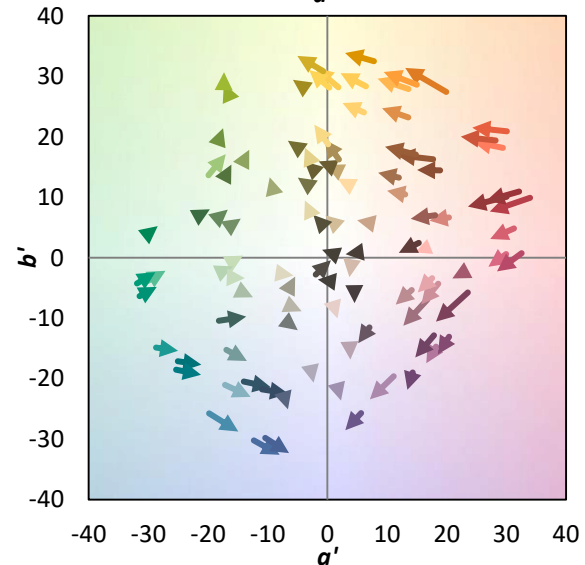
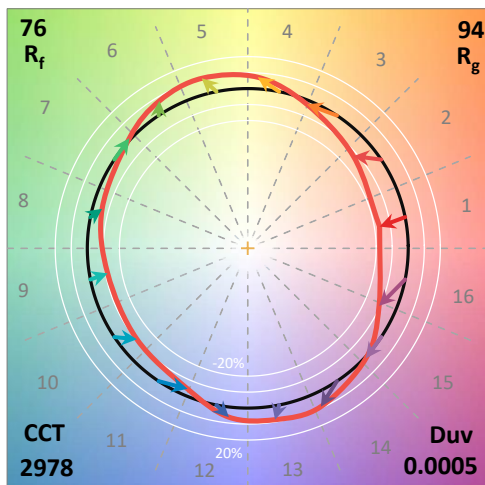
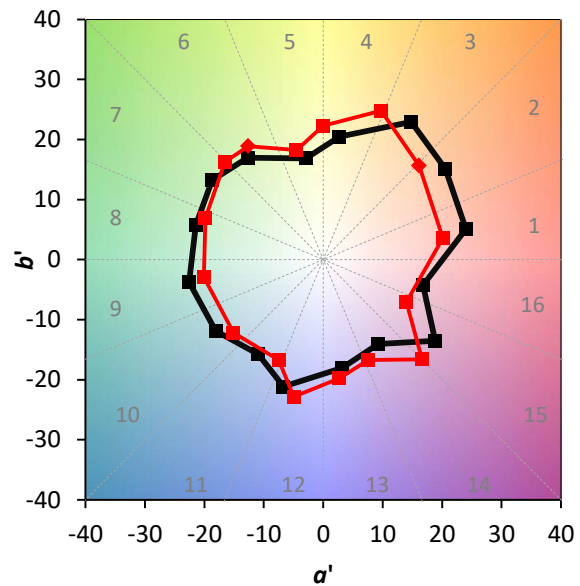
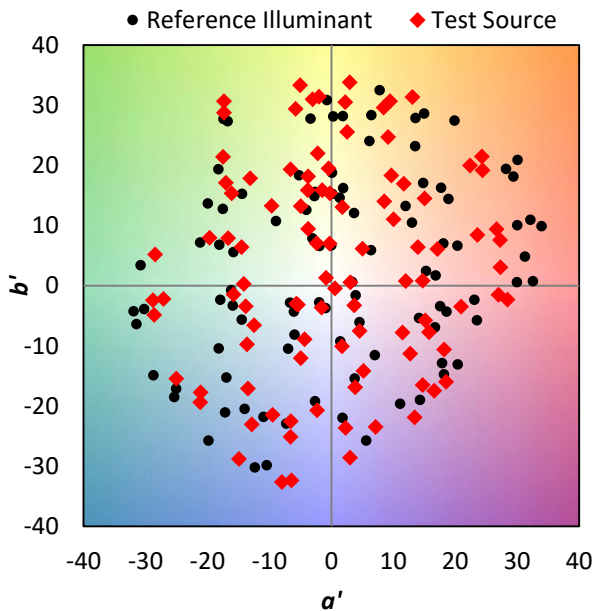
TM-30-18

### Summary

$R_f = 76.2$   
 $R_g = 94.2$   
 CIE  $R_a = 72.4$   
 $R_g = -36.8$

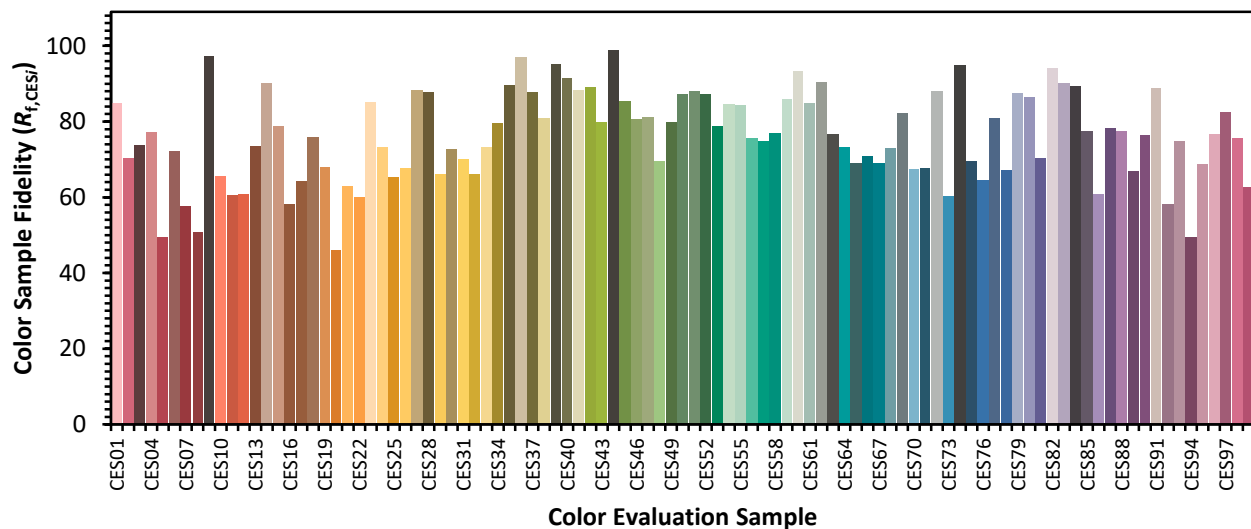


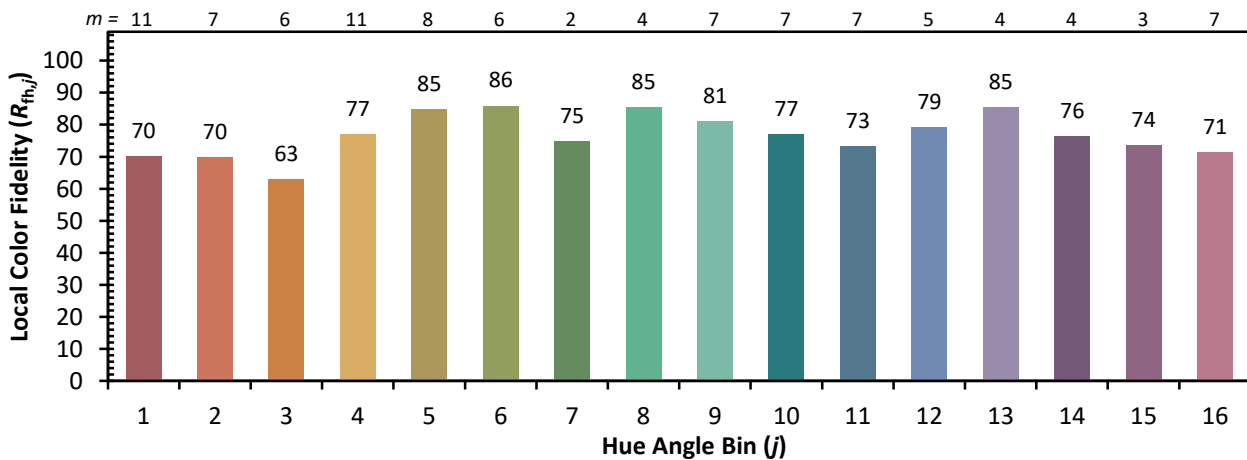
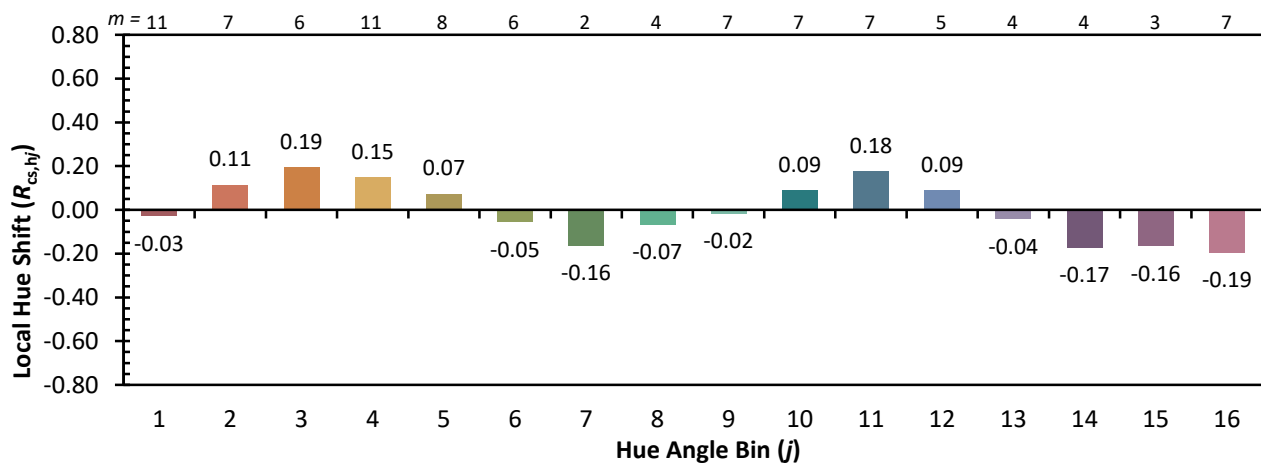
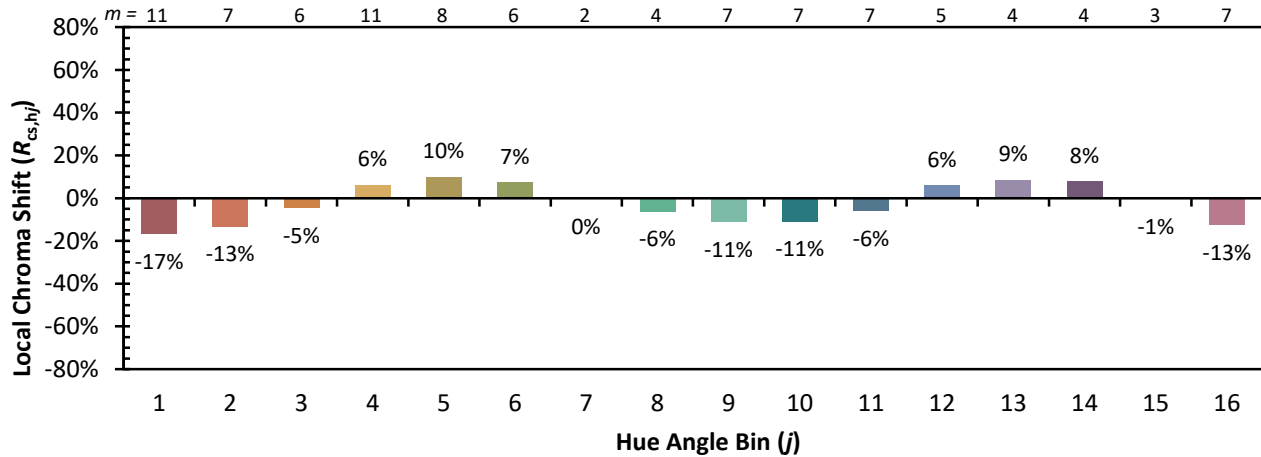
### Color Vector Graphics



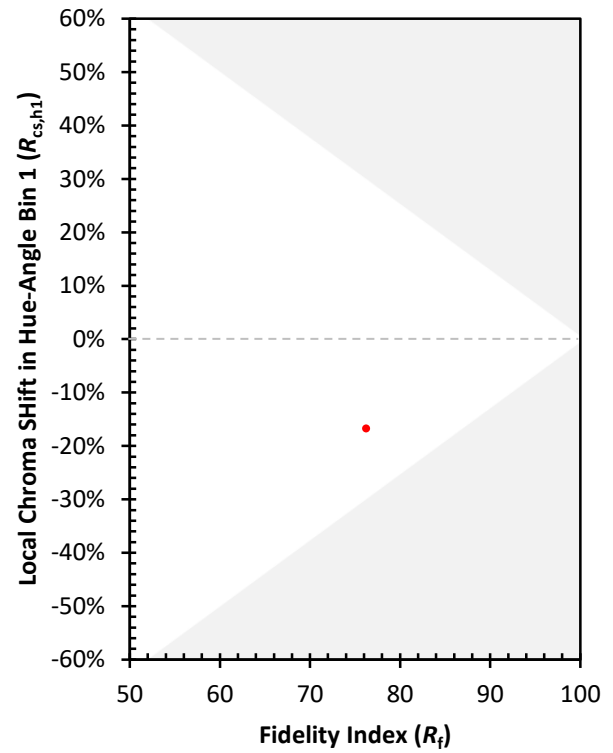
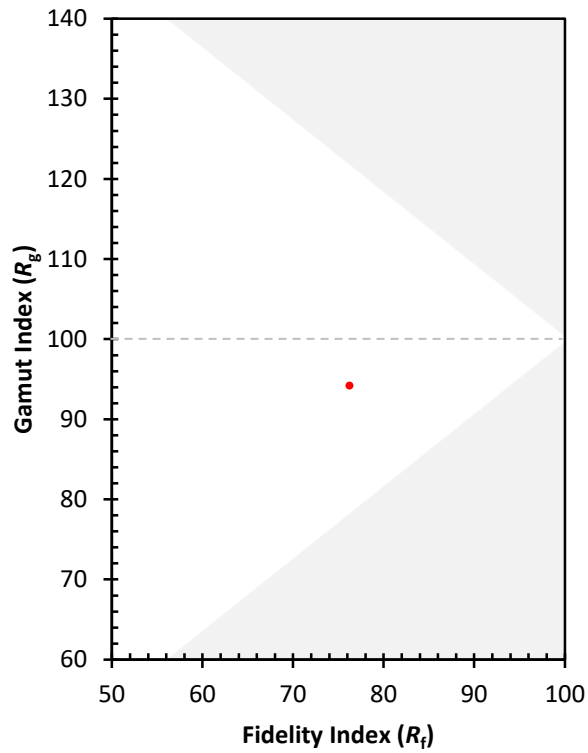
**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 88 | CES76 = 65 |
| CES02 = 63 | CES27 = 88 | CES52 = 87 | CES77 = 81 |
| CES03 = 31 | CES28 = 88 | CES53 = 79 | CES78 = 67 |
| CES04 = 71 | CES29 = 66 | CES54 = 85 | CES79 = 87 |
| CES05 = 49 | CES30 = 73 | CES55 = 84 | CES80 = 87 |
| CES06 = 51 | CES31 = 70 | CES56 = 76 | CES81 = 70 |
| CES07 = 41 | CES32 = 66 | CES57 = 75 | CES82 = 94 |
| CES08 = 40 | CES33 = 73 | CES58 = 77 | CES83 = 90 |
| CES09 = 29 | CES34 = 80 | CES59 = 86 | CES84 = 89 |
| CES10 = 76 | CES35 = 90 | CES60 = 93 | CES85 = 77 |
| CES11 = 59 | CES36 = 97 | CES61 = 85 | CES86 = 61 |
| CES12 = 65 | CES37 = 88 | CES62 = 90 | CES87 = 78 |
| CES13 = 43 | CES38 = 81 | CES63 = 77 | CES88 = 78 |
| CES14 = 74 | CES39 = 95 | CES64 = 73 | CES89 = 67 |
| CES15 = 71 | CES40 = 91 | CES65 = 69 | CES90 = 76 |
| CES16 = 47 | CES41 = 88 | CES66 = 71 | CES91 = 89 |
| CES17 = 50 | CES42 = 89 | CES67 = 69 | CES92 = 58 |
| CES18 = 56 | CES43 = 80 | CES68 = 73 | CES93 = 75 |
| CES19 = 73 | CES44 = 99 | CES69 = 82 | CES94 = 49 |
| CES20 = 66 | CES45 = 85 | CES70 = 67 | CES95 = 69 |
| CES21 = 87 | CES46 = 81 | CES71 = 68 | CES96 = 77 |
| CES22 = 79 | CES47 = 81 | CES72 = 88 | CES97 = 83 |
| CES23 = 92 | CES48 = 69 | CES73 = 60 | CES98 = 75 |
| CES24 = 91 | CES49 = 80 | CES74 = 95 | CES99 = 63 |
| CES25 = 73 | CES50 = 87 | CES75 = 69 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)