

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P643940

Luminaire Tested: GWS-SA6F-830-U-T2R-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P643940
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-11)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SAGF-830-U-T2R-W
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: (96) 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 40314.8 lumens
Efficiency: N/A
Efficacy: 108.2 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G4

Input Watts (W): 372.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

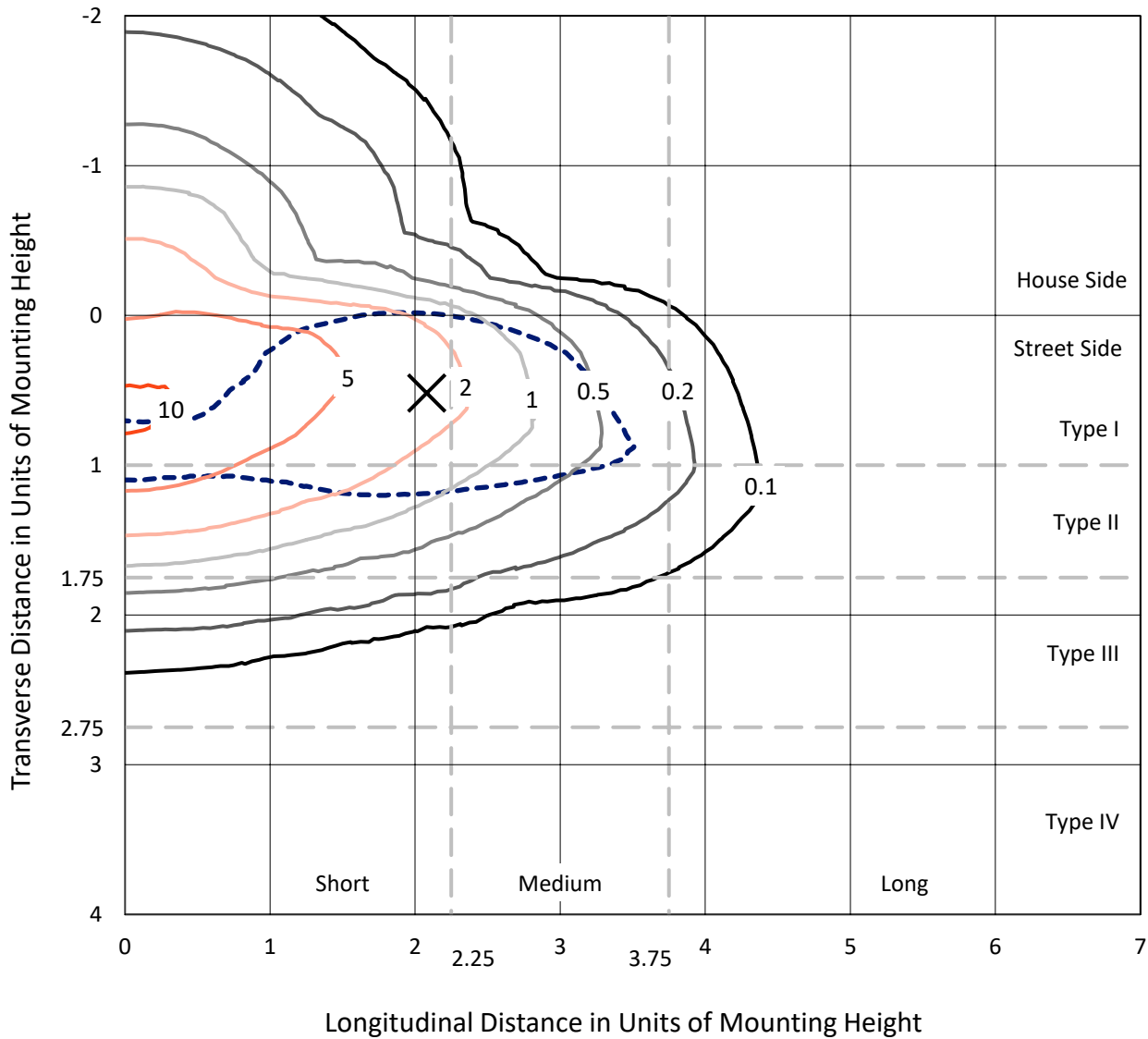


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Iso-Footcandle Lines of Horizontal Illumination

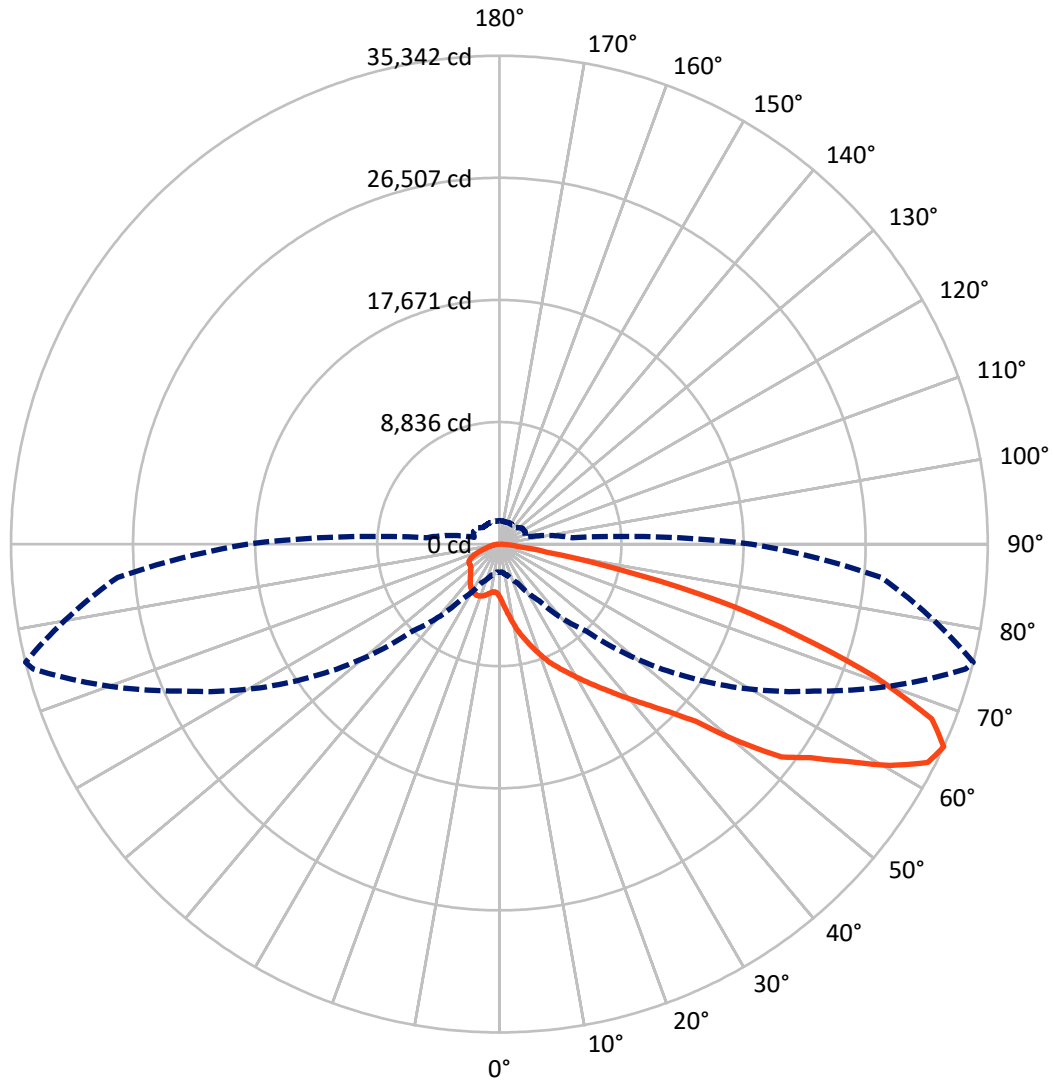
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 11 fc
 Type II - Short - N/A

REPORT NUMBER: P643940
CATALOG NUMBER: GWS-SA6F-830-U-T2R-W

Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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CATALOG NUMBER: GWS-SA6F-830-U-T2R-W

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6738.6 | 0.0 | 6738.6 |
| | % Fixture | 16.7 | 0.0 | 16.7 |
| Street Side | Lumens | 33576.1 | 0.0 | 33576.1 |
| | % Fixture | 83.3 | 0.0 | 83.3 |
| Total | Lumens | 40314.8 | 0.0 | 40314.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 453.6 | 1.1 |
| 10°-20° | 1727.6 | 4.3 |
| 20°-30° | 3366.8 | 8.4 |
| 30°-40° | 5630.7 | 14.0 |
| 40°-50° | 8062.1 | 20.0 |
| 50°-60° | 9544.4 | 23.7 |
| 60°-70° | 7936.2 | 19.7 |
| 70°-80° | 3247.7 | 8.1 |
| 80°-90° | 345.8 | 0.9 |
| 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° | 40314.8 | 100.0 |
| 0°-180° | 40314.8 | 100.0 |

Coefficient of Utilization



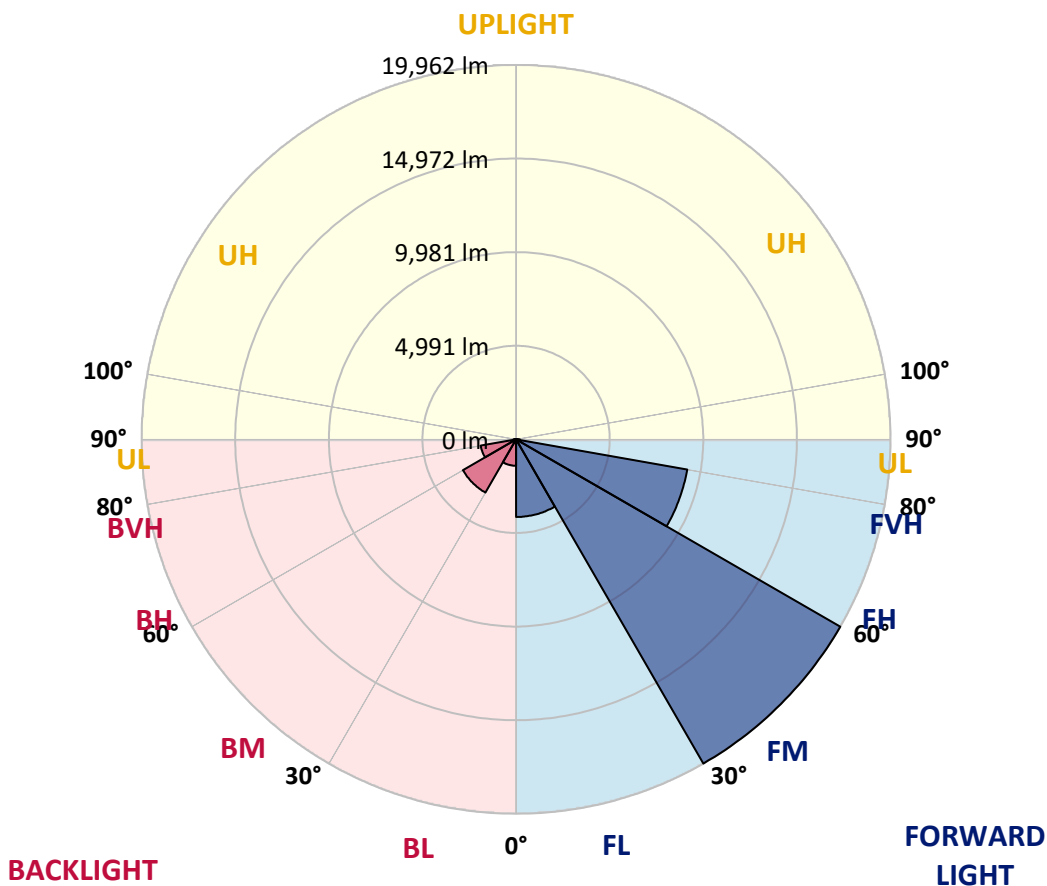
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 4138.2 | 10.3 | | | |
| FM (30°-60°) | 19962.4 | 49.5 | | | |
| FH (60°-80°) | 9269.4 | 23.0 | | | G4/12000 |
| FVH (80°-90°) | 206.2 | 0.5 | | | G2/225 |
| BL (0°-30°) | 1409.7 | 3.5 | B3/2500 | | |
| BM (30°-60°) | 3274.8 | 8.1 | B3/5000 | | |
| BH (60°-80°) | 1914.5 | 4.7 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 139.5 | 0.3 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G4
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 |
| 2.5° | 5351.0 | 5370.8 | 5305.6 | 5282.9 | 5129.9 | 4923.0 | 4750.1 | 4489.4 | 4248.5 | 4211.6 | 3996.2 |
| 5° | 6796.4 | 6711.4 | 6637.7 | 6589.5 | 6376.9 | 6141.7 | 5776.1 | 5285.8 | 4772.8 | 4710.4 | 4245.6 |
| 7.5° | 7655.2 | 7641.0 | 7550.3 | 7522.0 | 7357.6 | 7122.3 | 6745.4 | 6136.0 | 5390.6 | 5288.6 | 4582.9 |
| 10° | 8343.9 | 8335.4 | 8290.0 | 8315.5 | 8165.3 | 7935.7 | 7570.1 | 6940.9 | 6068.0 | 5966.0 | 4959.8 |
| 12.5° | 8944.7 | 8958.9 | 8950.4 | 9043.9 | 8967.4 | 8788.8 | 8409.1 | 7717.5 | 6745.4 | 6634.9 | 5419.0 |
| 15° | 9384.0 | 9395.4 | 9437.9 | 9641.9 | 9684.4 | 9647.6 | 9262.2 | 8479.9 | 7414.3 | 7255.5 | 5892.3 |
| 17.5° | 9508.7 | 9531.4 | 9633.4 | 9962.2 | 10191.8 | 10344.8 | 10058.6 | 9256.5 | 8071.8 | 7898.9 | 6374.1 |
| 20° | 9675.9 | 9701.5 | 9803.5 | 10146.4 | 10483.7 | 10832.3 | 10781.3 | 10044.4 | 8735.0 | 8593.3 | 6861.6 |
| 22.5° | 10449.7 | 10429.8 | 10384.5 | 10548.9 | 10789.8 | 11223.4 | 11351.0 | 10801.1 | 9420.9 | 9284.8 | 7400.1 |
| 25° | 11940.5 | 11903.6 | 11614.5 | 11464.3 | 11385.0 | 11648.5 | 11875.3 | 11489.8 | 10089.7 | 9885.7 | 7901.7 |
| 27.5° | 13584.3 | 13564.5 | 13196.0 | 12838.9 | 12351.4 | 12238.1 | 12371.3 | 12090.7 | 10738.8 | 10531.9 | 8338.2 |
| 30° | 15140.3 | 15080.8 | 14695.3 | 14247.5 | 13595.6 | 13108.2 | 12912.6 | 12680.2 | 11450.2 | 11234.8 | 8848.4 |
| 32.5° | 16531.9 | 16455.3 | 16001.9 | 15505.9 | 14822.8 | 14247.5 | 13663.7 | 13306.6 | 12255.1 | 12005.7 | 9369.9 |
| 35° | 17674.0 | 17597.5 | 17132.7 | 16605.6 | 15854.5 | 15429.4 | 14630.1 | 13986.8 | 13074.1 | 12821.9 | 9984.9 |
| 37.5° | 18558.3 | 18487.5 | 18002.8 | 17484.2 | 16829.5 | 16492.2 | 15797.8 | 14752.0 | 14017.9 | 13754.4 | 10636.7 |
| 40° | 19054.3 | 19003.3 | 18615.0 | 18204.0 | 17654.2 | 17362.3 | 17050.5 | 15718.5 | 15075.1 | 14811.5 | 11404.8 |
| 42.5° | 19204.5 | 19170.5 | 18898.4 | 18685.9 | 18314.6 | 18093.5 | 18272.1 | 16855.0 | 16203.1 | 15973.5 | 12269.2 |
| 45° | 18827.6 | 18827.6 | 18748.2 | 18855.9 | 18872.9 | 18870.1 | 19496.4 | 18138.9 | 17589.0 | 17336.8 | 13487.9 |
| 47.5° | 17863.9 | 17926.3 | 18042.5 | 18572.5 | 19130.8 | 19598.5 | 20927.7 | 19850.7 | 19371.7 | 19164.8 | 15214.0 |
| 50° | 16101.1 | 16271.1 | 16667.9 | 17702.4 | 18889.9 | 20080.3 | 22282.5 | 22381.6 | 22838.0 | 22472.3 | 17753.4 |
| 52.5° | 13519.1 | 13493.6 | 14505.4 | 15979.2 | 17790.3 | 20100.1 | 23027.8 | 24615.0 | 25842.2 | 25590.0 | 19641.0 |
| 55° | 10744.4 | 10701.9 | 11645.7 | 13677.8 | 16103.9 | 19340.6 | 23475.6 | 25638.1 | 27508.7 | 27282.0 | 21338.7 |
| 57.5° | 8227.7 | 8173.8 | 9012.7 | 10846.5 | 13723.2 | 17727.9 | 23390.6 | 26856.8 | 29801.6 | 29685.4 | 23645.7 |
| 60° | 5662.7 | 5597.5 | 6382.6 | 7986.8 | 10906.0 | 15262.1 | 22449.7 | 27483.2 | 32485.6 | 32525.2 | 26114.3 |
| 62.5° | 3401.0 | 3364.2 | 3933.9 | 5178.1 | 7845.1 | 12206.9 | 20247.5 | 27103.4 | 34622.5 | 34801.1 | 27701.4 |
| 65° | 2052.0 | 2026.5 | 2360.9 | 3089.3 | 4976.8 | 8907.9 | 16852.1 | 25162.0 | 34931.5 | 35342.4 | 27738.3 |
| 67.5° | 1493.6 | 1496.5 | 1592.8 | 1881.9 | 2902.2 | 5753.4 | 12646.2 | 21681.6 | 33321.6 | 33746.8 | 25989.6 |
| 70° | 1298.1 | 1303.7 | 1354.7 | 1419.9 | 1754.4 | 3293.3 | 8222.0 | 17115.7 | 28563.0 | 28891.8 | 21797.8 |
| 72.5° | 1153.5 | 1153.5 | 1187.5 | 1221.5 | 1371.8 | 2006.6 | 4404.3 | 11963.1 | 22543.2 | 22631.1 | 16636.7 |
| 75° | 1014.6 | 1006.1 | 1023.1 | 1040.2 | 1190.4 | 1402.9 | 2142.7 | 8335.4 | 16650.9 | 16446.8 | 10752.9 |
| 77.5° | 807.7 | 799.2 | 802.1 | 819.1 | 955.1 | 1003.3 | 1085.5 | 5206.4 | 9384.0 | 8856.9 | 4750.1 |
| 80° | 575.3 | 569.7 | 600.8 | 643.4 | 705.7 | 615.0 | 680.2 | 2519.6 | 3721.3 | 3463.4 | 1842.2 |
| 82.5° | 342.9 | 354.3 | 402.5 | 436.5 | 487.5 | 385.5 | 439.3 | 841.8 | 1317.9 | 1283.9 | 748.2 |
| 85° | 48.2 | 51.0 | 144.5 | 167.2 | 209.7 | 150.2 | 232.4 | 379.8 | 527.2 | 564.0 | 263.6 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.8 | 68.0 | 150.2 | 153.0 | 65.2 |
| 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: P643940
 CATALOG NUMBER: GWS-SA6F-830-U-T2R-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 | 3817.7 |
| 2.5° | 3885.7 | 3752.5 | 3562.6 | 3403.9 | 3270.7 | 3163.0 | 3072.3 | 3004.2 | 2984.4 | 2956.1 | 2956.1 |
| 5° | 4027.4 | 3786.5 | 3446.4 | 3205.5 | 3066.6 | 2984.4 | 2927.7 | 2899.4 | 2885.2 | 2868.2 | 2859.7 |
| 7.5° | 4223.0 | 3885.7 | 3426.5 | 3182.8 | 3075.1 | 3024.1 | 2987.2 | 2970.2 | 2958.9 | 2941.9 | 2941.9 |
| 10° | 4492.2 | 4033.1 | 3488.9 | 3262.2 | 3177.1 | 3126.1 | 3083.6 | 3055.3 | 3029.8 | 3004.2 | 2998.6 |
| 12.5° | 4784.1 | 4225.8 | 3602.3 | 3369.9 | 3279.2 | 3216.8 | 3157.3 | 3114.8 | 3083.6 | 3052.4 | 3043.9 |
| 15° | 5107.2 | 4424.2 | 3724.1 | 3474.7 | 3361.4 | 3276.3 | 3205.5 | 3140.3 | 3097.8 | 3052.4 | 3046.8 |
| 17.5° | 5424.7 | 4625.4 | 3826.2 | 3545.6 | 3401.0 | 3296.2 | 3194.1 | 3109.1 | 3055.3 | 3004.2 | 2990.1 |
| 20° | 5804.4 | 4826.6 | 3897.0 | 3565.4 | 3392.5 | 3253.7 | 3131.8 | 3024.1 | 2964.6 | 2905.1 | 2896.5 |
| 22.5° | 6153.0 | 5013.7 | 3931.0 | 3537.1 | 3327.3 | 3163.0 | 3021.3 | 2905.1 | 2839.9 | 2780.3 | 2769.0 |
| 25° | 6490.3 | 5178.1 | 3916.9 | 3469.1 | 3228.1 | 3038.3 | 2890.9 | 2774.7 | 2712.3 | 2650.0 | 2633.0 |
| 27.5° | 6816.2 | 5288.6 | 3860.2 | 3364.2 | 3103.4 | 2899.4 | 2757.7 | 2652.8 | 2599.0 | 2545.1 | 2522.4 |
| 30° | 7136.5 | 5390.6 | 3772.3 | 3228.1 | 2944.7 | 2754.8 | 2638.6 | 2564.9 | 2511.1 | 2454.4 | 2437.4 |
| 32.5° | 7459.6 | 5464.3 | 3639.1 | 3069.4 | 2783.2 | 2627.3 | 2556.4 | 2502.6 | 2445.9 | 2389.2 | 2372.2 |
| 35° | 7785.5 | 5495.5 | 3477.6 | 2888.0 | 2647.1 | 2545.1 | 2519.6 | 2457.2 | 2380.7 | 2312.7 | 2290.0 |
| 37.5° | 8173.8 | 5523.8 | 3276.3 | 2709.5 | 2528.1 | 2505.4 | 2499.8 | 2406.2 | 2315.5 | 2222.0 | 2196.5 |
| 40° | 8641.5 | 5560.7 | 3069.4 | 2547.9 | 2431.7 | 2491.3 | 2468.6 | 2341.0 | 2159.7 | 2069.0 | 2040.6 |
| 42.5° | 9214.0 | 5628.7 | 2854.0 | 2400.6 | 2360.9 | 2437.4 | 2411.9 | 2182.3 | 2060.5 | 2009.4 | 1995.3 |
| 45° | 10055.7 | 5878.1 | 2638.6 | 2284.4 | 2307.0 | 2360.9 | 2321.2 | 2088.8 | 2040.6 | 2006.6 | 1989.6 |
| 47.5° | 11555.0 | 6260.7 | 2451.6 | 2196.5 | 2264.5 | 2292.9 | 2139.8 | 2063.3 | 2026.5 | 1981.1 | 1961.3 |
| 50° | 13113.8 | 6428.0 | 2301.4 | 2142.7 | 2216.3 | 2230.5 | 2040.6 | 2029.3 | 2003.8 | 1955.6 | 1935.8 |
| 52.5° | 14168.1 | 6405.3 | 2210.7 | 2122.8 | 2176.7 | 2122.8 | 1995.3 | 1992.4 | 1975.4 | 1918.8 | 1896.1 |
| 55° | 15358.5 | 6445.0 | 2171.0 | 2128.5 | 2159.7 | 1941.4 | 1938.6 | 1947.1 | 1938.6 | 1876.2 | 1864.9 |
| 57.5° | 16965.5 | 6566.8 | 2151.2 | 2148.3 | 2148.3 | 1853.6 | 1884.7 | 1896.1 | 1879.1 | 1850.7 | 1842.2 |
| 60° | 18510.1 | 6575.3 | 2114.3 | 2171.0 | 2139.8 | 1799.7 | 1822.4 | 1833.7 | 1813.9 | 1808.2 | 1805.4 |
| 62.5° | 19091.1 | 6167.2 | 2032.1 | 2154.0 | 2105.8 | 1740.2 | 1757.2 | 1762.9 | 1743.0 | 1757.2 | 1754.4 |
| 65° | 18226.7 | 5299.9 | 1896.1 | 2071.8 | 2000.9 | 1686.3 | 1675.0 | 1689.2 | 1655.2 | 1692.0 | 1694.8 |
| 67.5° | 16183.3 | 4211.6 | 1689.2 | 1915.9 | 1853.6 | 1626.8 | 1604.2 | 1604.2 | 1547.5 | 1604.2 | 1601.3 |
| 70° | 13048.6 | 2975.9 | 1385.9 | 1666.5 | 1692.0 | 1556.0 | 1544.6 | 1479.5 | 1388.8 | 1473.8 | 1465.3 |
| 72.5° | 9891.3 | 2137.0 | 1091.2 | 1317.9 | 1456.8 | 1456.8 | 1459.6 | 1349.1 | 1244.2 | 1283.9 | 1249.9 |
| 75° | 6266.4 | 1505.0 | 872.9 | 1009.0 | 1142.2 | 1278.2 | 1343.4 | 1139.3 | 1045.8 | 1028.8 | 1011.8 |
| 77.5° | 2822.9 | 989.1 | 680.2 | 773.7 | 810.6 | 1009.0 | 1227.2 | 980.6 | 853.1 | 816.2 | 804.9 |
| 80° | 1181.9 | 615.0 | 484.6 | 547.0 | 498.8 | 847.4 | 1082.7 | 762.4 | 626.4 | 575.3 | 538.5 |
| 82.5° | 518.7 | 365.6 | 308.9 | 294.8 | 311.8 | 629.2 | 807.7 | 507.3 | 391.1 | 530.0 | 535.7 |
| 85° | 218.2 | 192.7 | 158.7 | 144.5 | 127.5 | 240.9 | 379.8 | 198.4 | 243.7 | 138.9 | 113.4 |
| 87.5° | 51.0 | 56.7 | 42.5 | 28.3 | 17.0 | 2.8 | 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 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2408-195-9
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 08/07/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: MCGRAW EDISON
 Catalog Number: **GALN-SB1A-830-U-5WQ**
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

Spectral Parameters

CCT (K): 3050
 CIE u': 0.2476
 CIE v': 0.5251
 Duv: 0.0034
 CIE x: 0.4383
 CIE y: 0.4131
 CIE z: 0.1487
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 581
 Purity: 55.55201
 Rf: 81.5
 Rg: 99.2

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 81.0 | | |
| R1: | 79.6 | R9: | 7.1 |
| R2: | 85.6 | R10: | 67.0 |
| R3: | 92.0 | R11: | 82.7 |
| R4: | 82.6 | R12: | 63.2 |
| R5: | 78.9 | R13: | 80.3 |
| R6: | 81.7 | R14: | 95.0 |
| R7: | 85.2 | R15: | 71.7 |
| R8: | 62.0 | | |



Test Conditions

Stabilization Time: 20M
 Operation Time: 1H 20M
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

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CIE 1931 Chromaticity Diagram



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



CCT = 3050K
 CIE x = 0.4383
 CIE y = 0.4131
 Duv = 0.0034

Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-2408-195-9

Photopic Flux vs. Wavelength



Photopic Lumens: NR

| λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360 | 0 | NR | 490 | 168 | NR | 620 | 940 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 233 | NR | 625 | 897 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 300 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 372 | NR | 635 | 790 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 430 | NR | 640 | 730 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 483 | NR | 645 | 668 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 524 | NR | 650 | 605 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 555 | NR | 655 | 545 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 581 | NR | 660 | 485 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 604 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 623 | NR | 670 | 378 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 645 | NR | 675 | 331 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 68 | NR | 550 | 667 | NR | 680 | 290 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 128 | NR | 555 | 693 | NR | 685 | 251 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 214 | NR | 560 | 719 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 339 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 507 | NR | 570 | 791 | NR | 700 | 162 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 573 | NR | 575 | 830 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 356 | NR | 580 | 873 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 217 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 168 | NR | 590 | 948 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 113 | NR | 595 | 974 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 85 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 85 | NR | 605 | 998 | NR | 735 | 55 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 94 | NR | 610 | 994 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 120 | NR | 615 | 973 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2408-195-9

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.27

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 168 | NR | 620 | 940 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 233 | NR | 625 | 897 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 300 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 372 | NR | 635 | 790 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 430 | NR | 640 | 730 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 483 | NR | 645 | 668 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 524 | NR | 650 | 605 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 555 | NR | 655 | 545 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 581 | NR | 660 | 485 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 604 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 623 | NR | 670 | 378 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 645 | NR | 675 | 331 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 68 | NR | 550 | 667 | NR | 680 | 290 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 128 | NR | 555 | 693 | NR | 685 | 251 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 214 | NR | 560 | 719 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 339 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 507 | NR | 570 | 791 | NR | 700 | 162 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 573 | NR | 575 | 830 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 356 | NR | 580 | 873 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 217 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 168 | NR | 590 | 948 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 113 | NR | 595 | 974 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 85 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 85 | NR | 605 | 998 | NR | 735 | 55 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 94 | NR | 610 | 994 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 120 | NR | 615 | 973 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2408-195-9

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.32

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 168 | NR | 620 | 940 | NR | 750 | 35 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 233 | NR | 625 | 897 | NR | 755 | 30 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 300 | NR | 630 | 847 | NR | 760 | 26 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 372 | NR | 635 | 790 | NR | 765 | 22 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 430 | NR | 640 | 730 | NR | 770 | 19 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 483 | NR | 645 | 668 | NR | 775 | 16 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 524 | NR | 650 | 605 | NR | 780 | 14 | NR | 910 | 0 | NR |
| 395 | 2 | NR | 525 | 555 | NR | 655 | 545 | NR | 785 | 12 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 581 | NR | 660 | 485 | NR | 790 | 10 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 604 | NR | 665 | 430 | NR | 795 | 9 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 623 | NR | 670 | 378 | NR | 800 | 8 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 645 | NR | 675 | 331 | NR | 805 | 7 | NR | 935 | 0 | NR |
| 420 | 68 | NR | 550 | 667 | NR | 680 | 290 | NR | 810 | 6 | NR | 940 | 0 | NR |
| 425 | 128 | NR | 555 | 693 | NR | 685 | 251 | NR | 815 | 5 | NR | 945 | 0 | NR |
| 430 | 214 | NR | 560 | 719 | NR | 690 | 218 | NR | 820 | 4 | NR | 950 | 0 | NR |
| 435 | 339 | NR | 565 | 754 | NR | 695 | 188 | NR | 825 | 4 | NR | 955 | 0 | NR |
| 440 | 507 | NR | 570 | 791 | NR | 700 | 162 | NR | 830 | 3 | NR | 960 | 0 | NR |
| 445 | 573 | NR | 575 | 830 | NR | 705 | 139 | NR | 835 | 3 | NR | 965 | 0 | NR |
| 450 | 356 | NR | 580 | 873 | NR | 710 | 119 | NR | 840 | 3 | NR | 970 | 0 | NR |
| 455 | 217 | NR | 585 | 913 | NR | 715 | 102 | NR | 845 | 2 | NR | 975 | 0 | NR |
| 460 | 168 | NR | 590 | 948 | NR | 720 | 88 | NR | 850 | 2 | NR | 980 | 0 | NR |
| 465 | 113 | NR | 595 | 974 | NR | 725 | 76 | NR | 855 | 2 | NR | 985 | 0 | NR |
| 470 | 85 | NR | 600 | 994 | NR | 730 | 65 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 85 | NR | 605 | 998 | NR | 735 | 55 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 94 | NR | 610 | 994 | NR | 740 | 47 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 120 | NR | 615 | 973 | NR | 745 | 41 | NR | 875 | 1 | NR | | | |

Summary

$R_f = 81.5$
 $R_g = 99.2$
 $CIE R_a = 81.0$
 $R_9 = 7.1$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 92 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 51 | CES31 = 71 | CES56 = 78 | CES81 = 78 |
| CES07 = 42 | CES32 = 70 | CES57 = 76 | CES82 = 95 |
| CES08 = 41 | CES33 = 71 | CES58 = 78 | CES83 = 90 |
| CES09 = 29 | CES34 = 82 | CES59 = 92 | CES84 = 94 |
| CES10 = 76 | CES35 = 90 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 93 | CES61 = 93 | CES86 = 72 |
| CES12 = 65 | CES37 = 87 | CES62 = 83 | CES87 = 85 |
| CES13 = 43 | CES38 = 75 | CES63 = 77 | CES88 = 83 |
| CES14 = 74 | CES39 = 94 | CES64 = 83 | CES89 = 75 |
| CES15 = 71 | CES40 = 89 | CES65 = 77 | CES90 = 81 |
| CES16 = 47 | CES41 = 85 | CES66 = 80 | CES91 = 96 |
| CES17 = 50 | CES42 = 86 | CES67 = 79 | CES92 = 73 |
| CES18 = 56 | CES43 = 81 | CES68 = 84 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 91 | CES94 = 64 |
| CES20 = 66 | CES45 = 87 | CES70 = 78 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 76 | CES96 = 84 |
| CES22 = 79 | CES47 = 77 | CES72 = 92 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 71 | CES98 = 81 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 74 |
| CES25 = 72 | CES50 = 89 | CES75 = 74 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)