

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: P387169

Luminaire Tested: **GPC-SA2D-830-U-SL2**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P387169
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-20)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GPC-SA2D-830-U-SL2
Description: GALLEON PEDESTRIAN LUMINAIRE
(2) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 12605 lumens
Efficiency: N/A
Efficacy: 98.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B2 - U0 - G3

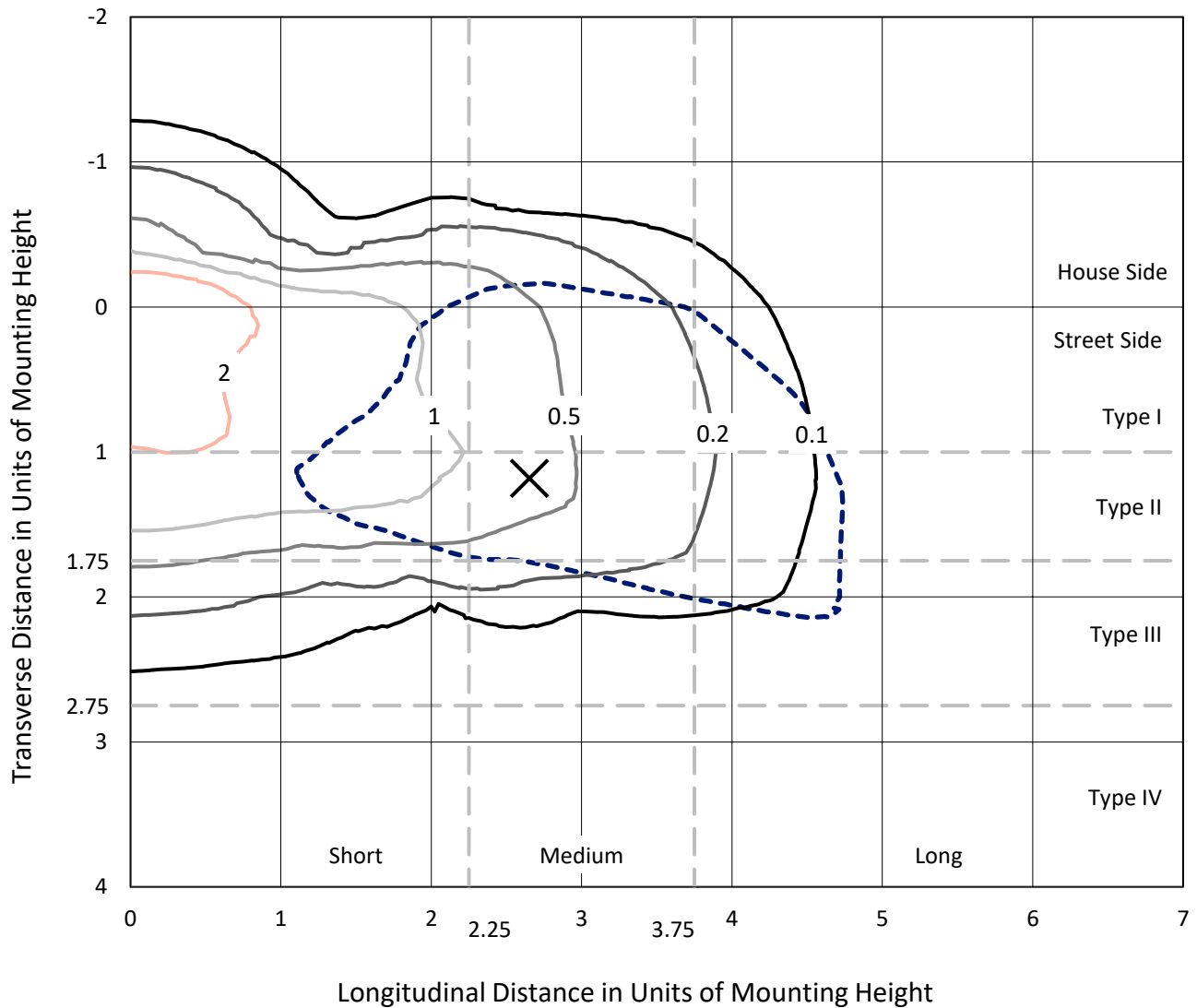
Input Watts (W): 128
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P387169
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Iso-Footcandle Lines of Horizontal Illumination

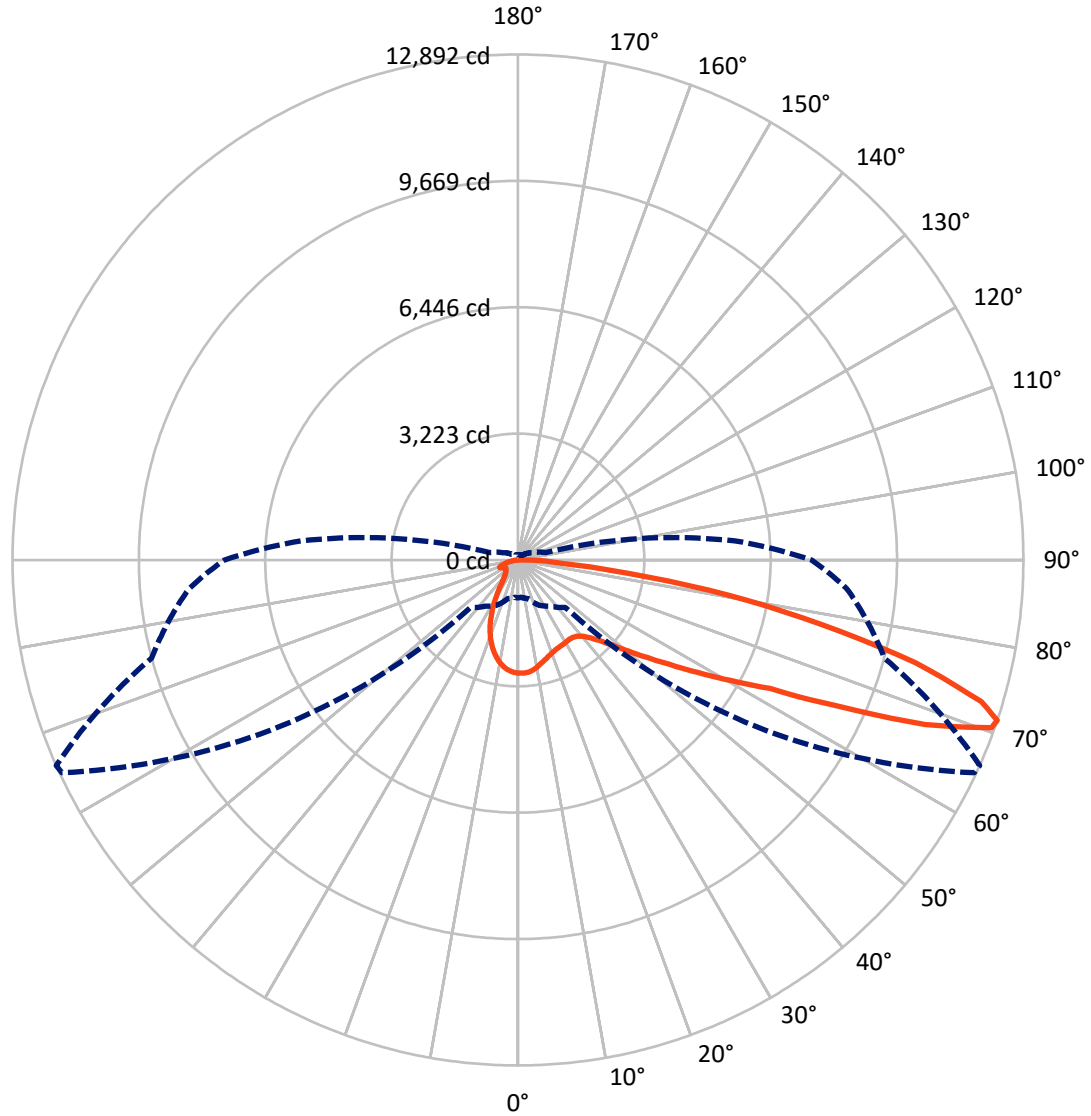
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 fc
 Type III - Medium - N/A

REPORT NUMBER: P387169
CATALOG NUMBER: GPC-SA2D-830-U-SL2

Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 71-Deg Vertical

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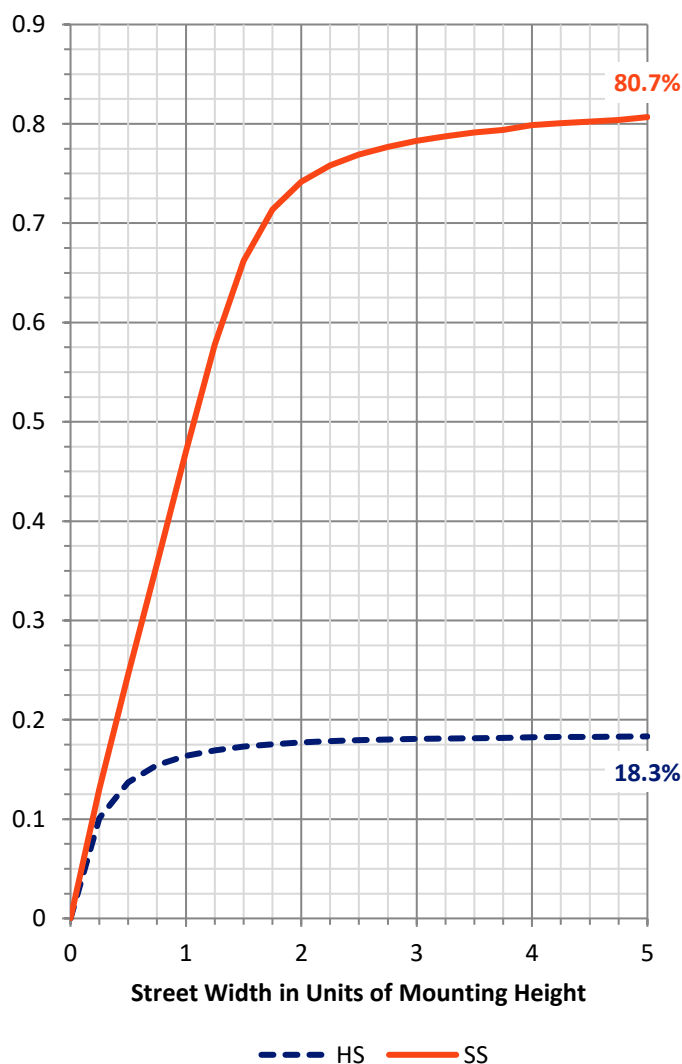
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2336.0 | 0.0 | 2336.0 |
| | % Fixture | 18.5 | 0.0 | 18.5 |
| Street Side | Lumens | 10268.9 | 0.0 | 10268.9 |
| | % Fixture | 81.5 | 0.0 | 81.5 |
| Total | Lumens | 12605.0 | 0.0 | 12605.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 254.2 | 2.0 |
| 10°-20° | 609.6 | 4.8 |
| 20°-30° | 818.9 | 6.5 |
| 30°-40° | 1077.2 | 8.5 |
| 40°-50° | 1567.1 | 12.4 |
| 50°-60° | 2447.9 | 19.4 |
| 60°-70° | 3066.4 | 24.3 |
| 70°-80° | 2339.0 | 18.6 |
| 80°-90° | 424.7 | 3.4 |
| 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° | 12605.0 | 100.0 |
| 0°-180° | 12605.0 | 100.0 |

Coefficient of Utilization



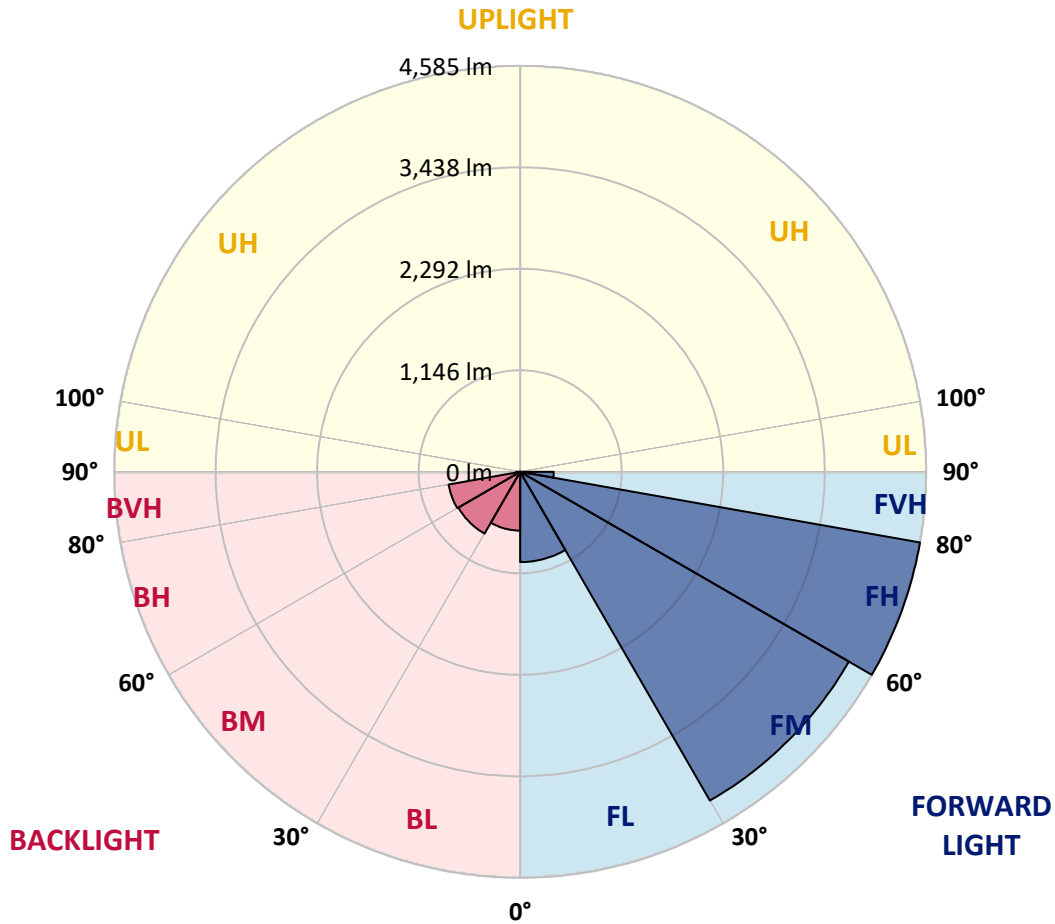
REPORT NUMBER: P387169
 CATALOG NUMBER: GPC-SA2D-830-U-SL2

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1019.3 | 8.1 | | | |
| FM (30°-60°) | 4286.3 | 34.0 | | | |
| FH (60°-80°) | 4584.6 | 36.4 | | | G2/5000 |
| FVH (80°-90°) | 378.8 | 3.0 | | | G3/500 |
| BL (0°-30°) | 663.4 | 5.3 | B2/1000 | | |
| BM (30°-60°) | 805.9 | 6.4 | B1/1000 | | |
| BH (60°-80°) | 820.8 | 6.5 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 46.0 | 0.4 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G3

Type III Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|--------|
| 0° | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 |
| 2.5° | 2834.0 | 2829.7 | 2842.7 | 2856.2 | 2861.4 | 2870.2 | 2883.2 | 2890.6 | 2890.2 | 2891.5 | 2887.1 |
| 5° | 2646.0 | 2640.4 | 2666.5 | 2687.8 | 2728.7 | 2774.8 | 2831.0 | 2871.0 | 2871.9 | 2894.5 | 2900.6 |
| 7.5° | 2468.0 | 2464.1 | 2494.1 | 2528.5 | 2576.0 | 2646.5 | 2737.4 | 2823.6 | 2828.8 | 2890.2 | 2911.5 |
| 10° | 2325.3 | 2324.4 | 2353.6 | 2391.0 | 2446.3 | 2525.0 | 2629.5 | 2755.7 | 2763.5 | 2869.3 | 2913.2 |
| 12.5° | 2213.9 | 2215.6 | 2240.9 | 2283.5 | 2341.8 | 2424.1 | 2537.2 | 2679.5 | 2692.2 | 2836.2 | 2903.2 |
| 15° | 2131.6 | 2138.6 | 2159.0 | 2202.1 | 2259.6 | 2343.1 | 2459.3 | 2609.0 | 2628.2 | 2799.2 | 2897.6 |
| 17.5° | 2084.6 | 2092.4 | 2106.8 | 2142.5 | 2196.5 | 2277.0 | 2387.1 | 2551.2 | 2568.6 | 2770.9 | 2898.0 |
| 20° | 2070.7 | 2077.2 | 2085.5 | 2107.2 | 2152.9 | 2226.1 | 2330.1 | 2498.9 | 2517.6 | 2748.3 | 2902.4 |
| 22.5° | 2098.1 | 2102.9 | 2103.8 | 2102.0 | 2129.9 | 2189.5 | 2288.7 | 2460.6 | 2480.6 | 2733.5 | 2905.4 |
| 25° | 2156.9 | 2163.4 | 2158.6 | 2142.5 | 2133.4 | 2169.9 | 2267.4 | 2435.4 | 2455.4 | 2722.6 | 2899.3 |
| 27.5° | 2245.2 | 2246.1 | 2242.2 | 2221.3 | 2178.2 | 2172.1 | 2260.9 | 2420.6 | 2439.7 | 2710.0 | 2886.7 |
| 30° | 2365.3 | 2371.0 | 2364.0 | 2335.7 | 2265.2 | 2206.9 | 2268.7 | 2406.2 | 2423.6 | 2693.9 | 2866.2 |
| 32.5° | 2505.9 | 2519.8 | 2519.4 | 2489.8 | 2388.8 | 2284.8 | 2300.9 | 2397.5 | 2411.0 | 2676.9 | 2841.4 |
| 35° | 2651.7 | 2670.8 | 2706.5 | 2693.9 | 2569.0 | 2408.0 | 2362.7 | 2411.5 | 2420.6 | 2674.7 | 2824.0 |
| 37.5° | 2803.1 | 2822.3 | 2895.8 | 2929.8 | 2783.5 | 2584.2 | 2460.2 | 2460.6 | 2465.0 | 2701.3 | 2822.7 |
| 40° | 2961.5 | 2982.0 | 3092.5 | 3180.9 | 3061.6 | 2807.5 | 2617.3 | 2563.3 | 2558.5 | 2766.6 | 2848.4 |
| 42.5° | 3183.5 | 3201.8 | 3334.5 | 3447.2 | 3370.2 | 3093.4 | 2834.5 | 2721.7 | 2711.7 | 2894.5 | 2930.6 |
| 45° | 3464.2 | 3479.9 | 3620.9 | 3741.4 | 3701.8 | 3419.8 | 3107.3 | 2939.8 | 2938.0 | 3107.8 | 3097.3 |
| 47.5° | 3798.0 | 3810.2 | 3936.8 | 4053.5 | 4067.8 | 3795.4 | 3450.3 | 3276.2 | 3247.9 | 3400.2 | 3355.4 |
| 50° | 4145.7 | 4159.2 | 4245.4 | 4370.7 | 4477.4 | 4298.0 | 3891.6 | 3688.3 | 3650.5 | 3786.3 | 3721.0 |
| 52.5° | 4376.0 | 4393.8 | 4468.6 | 4627.5 | 4937.8 | 4849.0 | 4413.4 | 4187.9 | 4130.5 | 4254.1 | 4204.0 |
| 55° | 4273.2 | 4313.3 | 4427.7 | 4682.3 | 5306.0 | 5690.7 | 5057.0 | 4770.7 | 4705.8 | 4808.5 | 4778.9 |
| 57.5° | 3806.3 | 3861.1 | 4017.3 | 4410.3 | 5357.8 | 6432.3 | 6030.2 | 5457.0 | 5411.3 | 5381.7 | 5395.2 |
| 60° | 2952.8 | 3005.5 | 3199.2 | 3711.4 | 4997.0 | 6973.7 | 7494.6 | 6303.0 | 6236.9 | 5957.0 | 5969.2 |
| 62.5° | 2089.8 | 2063.3 | 2196.0 | 2570.7 | 4060.4 | 7037.2 | 9161.0 | 7434.5 | 7216.9 | 6564.6 | 6511.0 |
| 65° | 1593.7 | 1587.6 | 1647.2 | 1766.5 | 2459.3 | 6276.9 | 10153.7 | 9336.4 | 8996.5 | 7279.2 | 7153.0 |
| 67.5° | 1309.5 | 1298.6 | 1357.4 | 1531.0 | 1583.7 | 4049.5 | 10175.4 | 11542.8 | 11209.0 | 8168.7 | 7895.4 |
| 70° | 1076.7 | 1064.5 | 1119.3 | 1343.5 | 1463.6 | 2053.7 | 8563.9 | 12835.0 | 12817.1 | 9295.0 | 8456.0 |
| 71° | 965.3 | 956.6 | 1022.3 | 1271.2 | 1437.9 | 1711.6 | 7394.1 | 12838.4 | 12892.0 | 9676.3 | 8422.9 |
| 72.5° | 786.0 | 789.0 | 858.7 | 1131.5 | 1418.8 | 1511.5 | 5434.4 | 12240.0 | 12353.2 | 10039.7 | 8122.2 |
| 75° | 522.2 | 524.9 | 616.2 | 870.4 | 1375.7 | 1478.8 | 2986.8 | 10270.8 | 10478.8 | 9822.1 | 7411.5 |
| 77.5° | 350.8 | 349.9 | 412.1 | 597.1 | 1198.5 | 1478.8 | 1751.3 | 7681.7 | 7910.2 | 7815.3 | 5713.8 |
| 80° | 241.5 | 239.8 | 283.8 | 412.1 | 907.4 | 1496.7 | 1353.9 | 5383.4 | 5452.6 | 4220.6 | 2322.2 |
| 82.5° | 148.0 | 149.3 | 185.4 | 291.1 | 617.6 | 1346.9 | 1278.2 | 2935.4 | 2860.1 | 1183.7 | 580.1 |
| 85° | 84.9 | 84.4 | 118.4 | 197.1 | 396.5 | 1136.7 | 1246.4 | 1263.4 | 1158.9 | 356.4 | 209.8 |
| 87.5° | 30.5 | 32.6 | 63.5 | 109.2 | 227.2 | 791.6 | 1057.5 | 657.2 | 592.3 | 161.0 | 94.9 |
| 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: P387169

CATALOG NUMBER: GPC-SA2D-830-U-SL2

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 | 2887.6 |
| 2.5° | 2884.1 | 2886.7 | 2883.6 | 2866.2 | 2851.4 | 2827.5 | 2814.0 | 2795.3 | 2789.6 | 2787.0 | 2794.0 |
| 5° | 2895.0 | 2895.8 | 2870.2 | 2824.5 | 2773.1 | 2712.6 | 2669.1 | 2615.6 | 2590.3 | 2579.4 | 2586.4 |
| 7.5° | 2905.0 | 2901.1 | 2844.9 | 2757.4 | 2662.6 | 2557.2 | 2463.7 | 2377.9 | 2327.9 | 2307.4 | 2309.2 |
| 10° | 2906.3 | 2889.7 | 2799.7 | 2664.3 | 2517.2 | 2362.7 | 2219.1 | 2086.8 | 2003.2 | 1948.8 | 1965.4 |
| 12.5° | 2892.8 | 2864.9 | 2733.1 | 2543.8 | 2339.6 | 2129.0 | 1934.9 | 1736.5 | 1617.2 | 1561.9 | 1563.7 |
| 15° | 2882.3 | 2831.9 | 2651.2 | 2401.9 | 2127.7 | 1848.7 | 1583.7 | 1350.4 | 1223.4 | 1166.8 | 1140.2 |
| 17.5° | 2873.6 | 2796.2 | 2556.4 | 2242.2 | 1877.5 | 1523.6 | 1205.1 | 997.0 | 927.4 | 910.9 | 903.9 |
| 20° | 2861.4 | 2758.3 | 2450.6 | 2057.2 | 1592.4 | 1159.8 | 880.0 | 777.3 | 777.7 | 796.9 | 799.5 |
| 22.5° | 2844.5 | 2715.2 | 2337.9 | 1849.6 | 1286.5 | 844.7 | 689.8 | 660.2 | 690.2 | 726.8 | 733.3 |
| 25° | 2819.2 | 2664.3 | 2212.6 | 1620.3 | 980.9 | 649.3 | 589.3 | 588.0 | 624.5 | 662.8 | 668.5 |
| 27.5° | 2783.5 | 2597.7 | 2073.3 | 1373.9 | 722.9 | 551.8 | 527.9 | 537.0 | 564.0 | 591.9 | 594.0 |
| 30° | 2735.7 | 2520.3 | 1919.7 | 1114.1 | 566.6 | 491.3 | 488.7 | 497.0 | 513.5 | 533.1 | 534.9 |
| 32.5° | 2683.0 | 2441.5 | 1755.6 | 862.6 | 485.2 | 458.7 | 461.3 | 465.2 | 473.1 | 480.9 | 482.6 |
| 35° | 2635.1 | 2361.0 | 1587.6 | 655.4 | 446.5 | 437.4 | 435.6 | 434.8 | 435.6 | 433.0 | 433.5 |
| 37.5° | 2604.2 | 2294.4 | 1412.7 | 521.8 | 424.3 | 418.7 | 413.4 | 406.9 | 399.5 | 395.2 | 396.0 |
| 40° | 2592.9 | 2244.8 | 1235.5 | 450.9 | 406.0 | 402.1 | 392.1 | 378.2 | 369.5 | 366.9 | 366.9 |
| 42.5° | 2623.4 | 2219.1 | 1064.5 | 415.2 | 390.8 | 384.3 | 367.7 | 351.6 | 345.1 | 344.7 | 344.2 |
| 45° | 2716.5 | 2229.5 | 901.7 | 395.6 | 376.9 | 364.3 | 342.5 | 329.0 | 324.7 | 325.5 | 325.1 |
| 47.5° | 2883.6 | 2295.3 | 762.5 | 382.5 | 363.0 | 346.4 | 322.0 | 311.2 | 305.9 | 305.9 | 306.4 |
| 50° | 3167.8 | 2448.9 | 651.5 | 371.7 | 351.2 | 329.9 | 307.3 | 293.8 | 286.8 | 286.4 | 286.4 |
| 52.5° | 3581.7 | 2723.9 | 582.3 | 362.5 | 338.2 | 315.1 | 292.5 | 275.5 | 267.2 | 265.5 | 264.6 |
| 55° | 4100.5 | 3118.2 | 563.2 | 356.4 | 320.7 | 299.0 | 274.6 | 257.6 | 248.5 | 244.6 | 244.1 |
| 57.5° | 4680.6 | 3597.8 | 601.0 | 349.0 | 302.9 | 279.8 | 255.0 | 238.9 | 229.4 | 224.6 | 224.1 |
| 60° | 5267.7 | 4121.4 | 755.5 | 338.6 | 288.1 | 258.9 | 235.0 | 220.2 | 210.6 | 205.4 | 204.5 |
| 62.5° | 5855.6 | 4673.2 | 1071.0 | 337.7 | 277.7 | 238.9 | 214.6 | 201.9 | 192.8 | 187.1 | 185.8 |
| 65° | 6518.9 | 5277.3 | 1429.6 | 360.8 | 274.2 | 220.6 | 193.7 | 183.7 | 175.8 | 170.6 | 170.2 |
| 67.5° | 7280.5 | 5959.2 | 1395.3 | 408.2 | 285.9 | 204.1 | 174.1 | 166.2 | 160.6 | 156.2 | 155.8 |
| 70° | 7637.8 | 5852.6 | 867.4 | 441.7 | 302.5 | 188.0 | 155.4 | 149.7 | 145.4 | 142.3 | 141.0 |
| 71° | 7488.1 | 5557.1 | 727.2 | 437.8 | 300.7 | 181.0 | 148.0 | 143.6 | 139.3 | 136.7 | 135.3 |
| 72.5° | 7079.9 | 5067.9 | 606.7 | 407.3 | 281.1 | 168.4 | 138.4 | 134.0 | 130.1 | 127.1 | 126.2 |
| 75° | 6353.1 | 4526.1 | 485.7 | 325.5 | 224.1 | 142.3 | 121.4 | 116.6 | 113.6 | 111.8 | 110.1 |
| 77.5° | 4670.1 | 3230.1 | 375.6 | 257.2 | 164.9 | 116.2 | 103.6 | 100.1 | 97.0 | 94.4 | 93.1 |
| 80° | 1789.1 | 1251.2 | 252.9 | 191.9 | 121.0 | 91.8 | 83.6 | 81.8 | 78.8 | 77.0 | 77.0 |
| 82.5° | 481.8 | 373.8 | 134.9 | 116.2 | 80.9 | 67.0 | 64.0 | 63.1 | 60.5 | 57.0 | 57.4 |
| 85° | 195.0 | 164.9 | 75.7 | 64.0 | 49.6 | 39.6 | 43.1 | 43.5 | 40.5 | 36.1 | 36.6 |
| 87.5° | 85.7 | 70.1 | 42.2 | 28.3 | 21.8 | 15.2 | 19.6 | 19.6 | 17.8 | 14.8 | 13.5 |
| 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



Point lies inside the ANSI 3000K 4-step quadrangle

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Photopic Flux vs. Wavelength

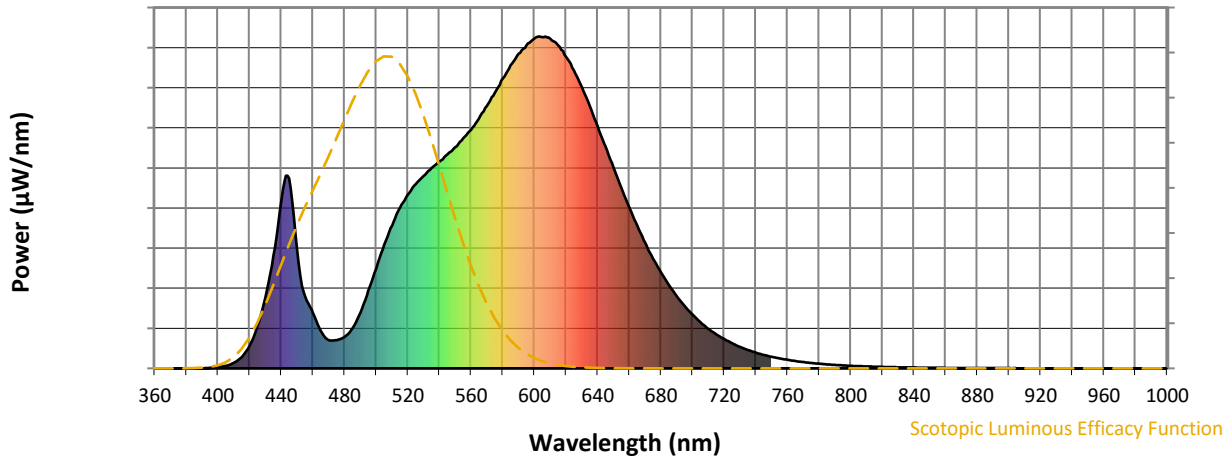


Photopic Lumens: NR

| 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)