

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: P385829

Luminaire Tested: **GPC-SA1B-830-U-SL4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P385829
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-24)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GPC-SA1B-830-U-SL4
Description: GALLEON PEDESTRIAN LUMINAIRE
(1) 80 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL LIGHT
ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4608 lumens
Efficiency: N/A
Efficacy: 104.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

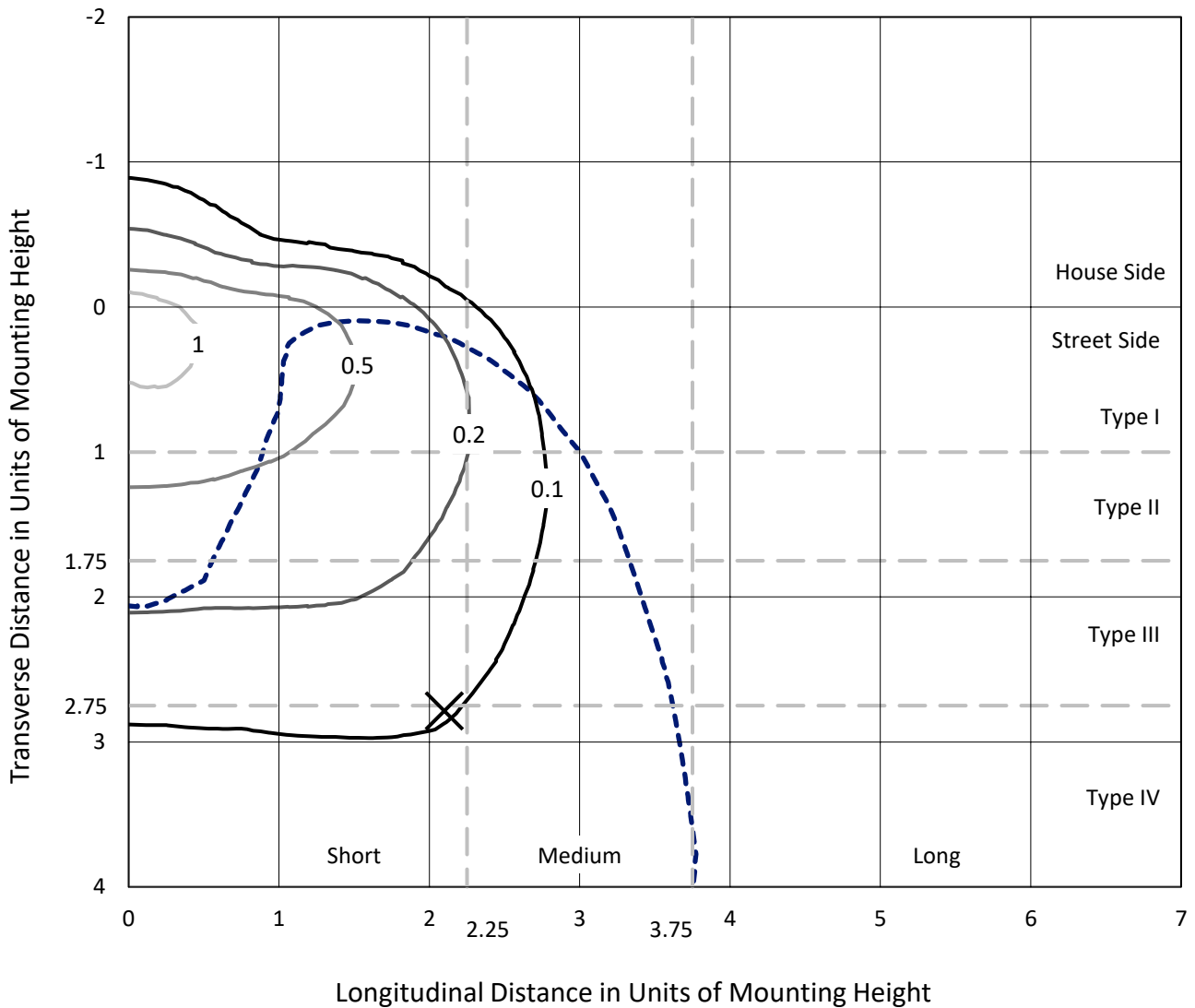
Input Watts (W): 44
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P385829
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Iso-Footcandle Lines of Horizontal Illumination

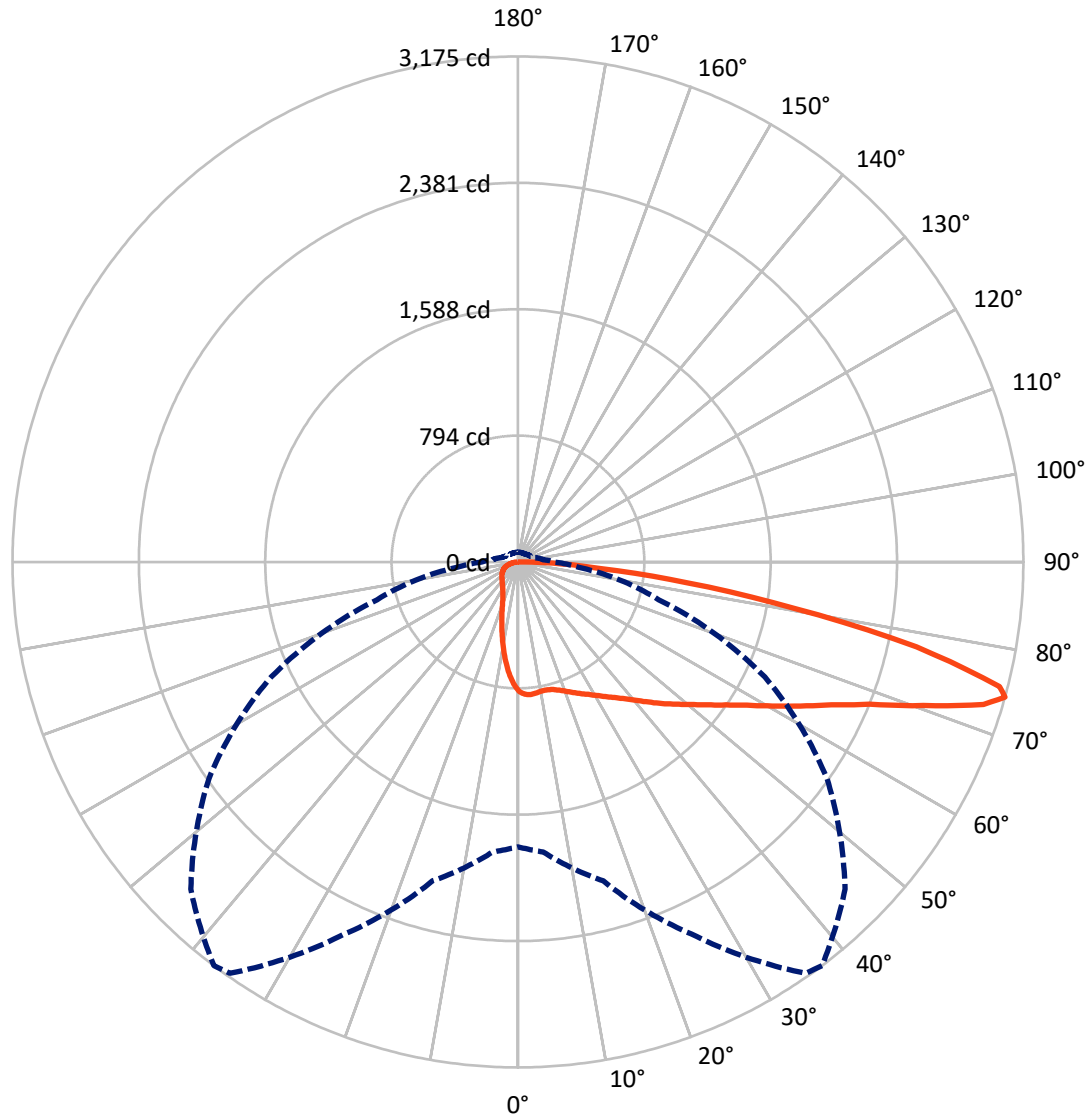
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.3 fc
 Type IV - Short - N/A

REPORT NUMBER: P385829
CATALOG NUMBER: GPC-SA1B-830-U-SL4

Luminous Intensity Polar Plot



— Vertical Plane Through 37-Deg Lateral - - - Horizontal Cone Through 74-Deg Vertical

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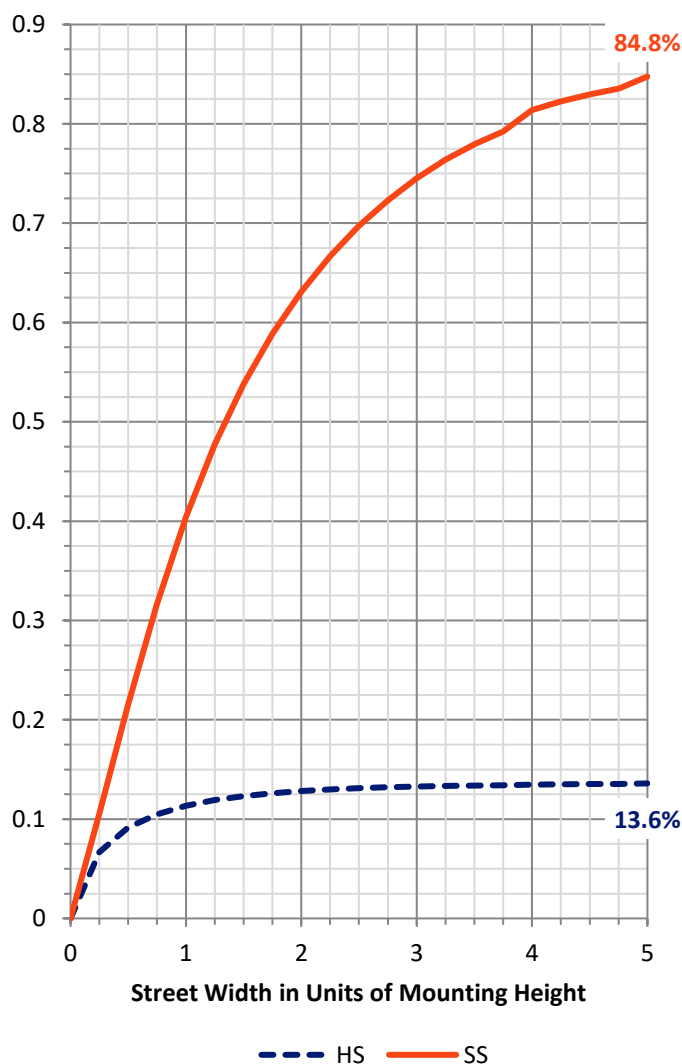
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 634.0 | 0.0 | 634.0 |
| | % Fixture | 13.8 | 0.0 | 13.8 |
| Street Side | Lumens | 3974.0 | 0.0 | 3974.0 |
| | % Fixture | 86.2 | 0.0 | 86.2 |
| Total | Lumens | 4608.0 | 0.0 | 4608.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 71.5 | 1.6 |
| 10°-20° | 183.3 | 4.0 |
| 20°-30° | 282.4 | 6.1 |
| 30°-40° | 410.6 | 8.9 |
| 40°-50° | 604.4 | 13.1 |
| 50°-60° | 848.7 | 18.4 |
| 60°-70° | 1074.2 | 23.3 |
| 70°-80° | 945.9 | 20.5 |
| 80°-90° | 187.0 | 4.1 |
| 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° | 4608.0 | 100.0 |
| 0°-180° | 4608.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P385829

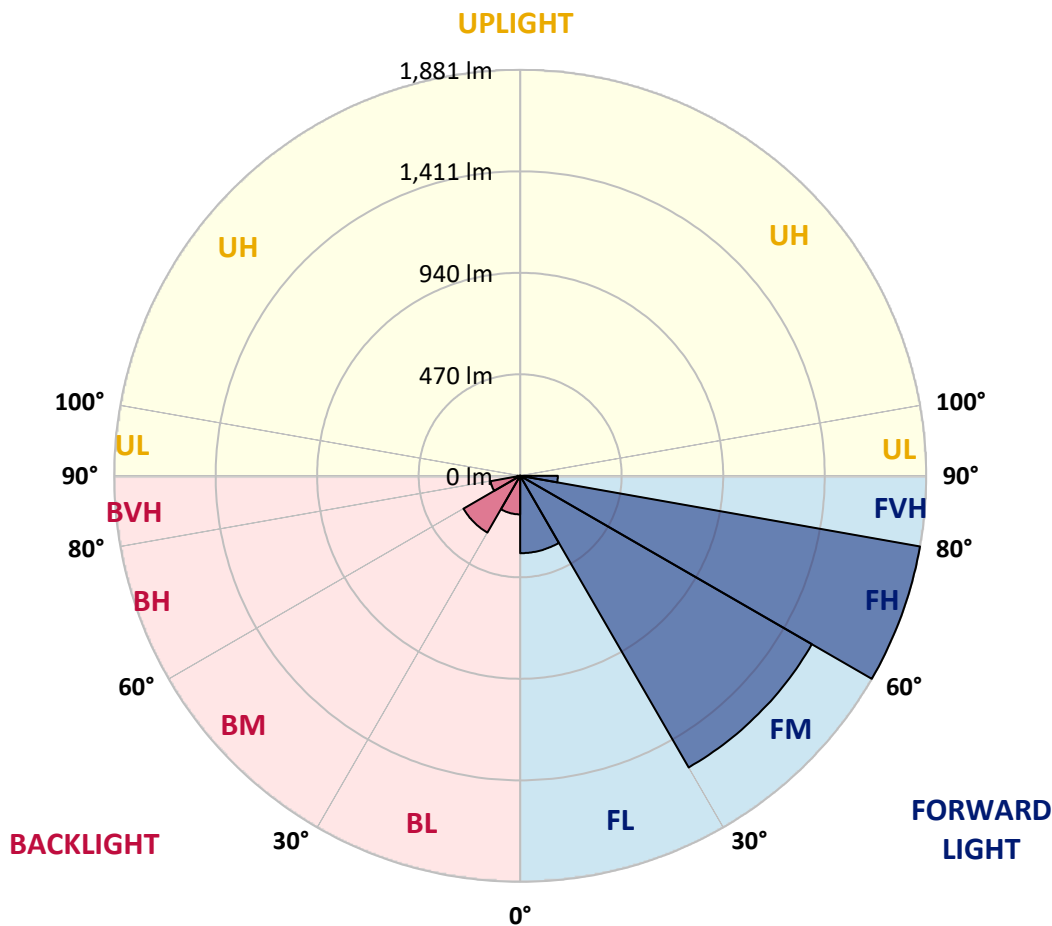
CATALOG NUMBER: GPC-SA1B-830-U-SL4

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 358.6 | 7.8 | | | |
| FM (30°-60°) | 1560.3 | 33.9 | | | |
| FH (60°-80°) | 1880.7 | 40.8 | | | G2/5000 |
| FVH (80°-90°) | 174.4 | 3.8 | | | G2/225 |
| BL (0°-30°) | 178.6 | 3.9 | B1/500 | | |
| BM (30°-60°) | 303.4 | 6.6 | B1/1000 | | |
| BH (60°-80°) | 139.4 | 3.0 | B1/500 | | G1/500 |
| BVH (80°-90°) | 12.7 | 0.3 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type IV Short





REPORT NUMBER: P385829

CATALOG NUMBER: GPC-SA1B-830-U-SL4

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 37° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 |
| 2.5° | 839.7 | 839.8 | 839.7 | 838.4 | 835.3 | 832.7 | 830.6 | 827.5 | 820.7 | 815.5 | 807.7 |
| 5° | 847.6 | 846.6 | 846.0 | 843.6 | 838.7 | 835.8 | 831.7 | 825.9 | 814.7 | 804.3 | 791.6 |
| 7.5° | 843.9 | 842.8 | 841.3 | 838.4 | 832.9 | 830.4 | 824.7 | 817.1 | 803.6 | 790.0 | 771.8 |
| 10° | 832.4 | 832.0 | 831.4 | 830.7 | 826.0 | 824.1 | 818.9 | 810.8 | 797.5 | 780.9 | 759.6 |
| 12.5° | 819.5 | 820.4 | 822.9 | 826.4 | 824.2 | 823.3 | 820.0 | 814.5 | 800.9 | 783.0 | 757.4 |
| 15° | 811.4 | 813.7 | 820.7 | 829.6 | 831.4 | 831.1 | 830.3 | 826.7 | 812.2 | 792.4 | 762.6 |
| 17.5° | 808.7 | 812.4 | 825.7 | 840.5 | 845.7 | 846.8 | 847.1 | 841.0 | 824.9 | 804.0 | 767.9 |
| 20° | 813.7 | 818.4 | 837.9 | 858.2 | 866.5 | 867.1 | 865.6 | 854.9 | 836.9 | 813.9 | 770.8 |
| 22.5° | 829.0 | 833.2 | 857.5 | 880.4 | 889.8 | 890.8 | 886.4 | 870.2 | 849.6 | 825.5 | 774.9 |
| 25° | 858.3 | 863.5 | 887.9 | 910.8 | 915.6 | 915.8 | 909.5 | 889.3 | 866.1 | 841.9 | 783.7 |
| 27.5° | 896.6 | 901.8 | 923.7 | 946.1 | 943.6 | 942.1 | 933.5 | 913.4 | 887.7 | 864.5 | 799.3 |
| 30° | 939.3 | 945.0 | 965.8 | 981.7 | 975.5 | 972.6 | 965.6 | 939.7 | 917.7 | 895.3 | 823.1 |
| 32.5° | 983.5 | 988.7 | 1006.9 | 1017.7 | 1009.9 | 1008.6 | 998.1 | 974.4 | 956.9 | 942.4 | 861.7 |
| 35° | 1028.8 | 1032.5 | 1050.4 | 1056.5 | 1046.1 | 1045.8 | 1042.9 | 1021.1 | 1010.1 | 1016.9 | 917.9 |
| 37.5° | 1075.0 | 1076.0 | 1091.3 | 1091.6 | 1088.5 | 1089.8 | 1092.9 | 1079.2 | 1082.3 | 1103.6 | 990.9 |
| 40° | 1116.3 | 1118.9 | 1129.9 | 1133.3 | 1138.7 | 1143.2 | 1158.6 | 1149.7 | 1173.6 | 1211.2 | 1081.8 |
| 42.5° | 1146.8 | 1151.8 | 1169.5 | 1178.3 | 1195.6 | 1202.8 | 1224.5 | 1232.8 | 1280.8 | 1337.3 | 1189.9 |
| 45° | 1172.6 | 1180.4 | 1208.8 | 1226.8 | 1256.2 | 1268.7 | 1299.8 | 1327.6 | 1402.1 | 1474.2 | 1303.7 |
| 47.5° | 1200.5 | 1210.4 | 1245.9 | 1280.4 | 1320.3 | 1334.4 | 1391.1 | 1432.6 | 1531.5 | 1611.8 | 1411.0 |
| 50° | 1241.6 | 1249.2 | 1283.9 | 1338.0 | 1387.8 | 1406.0 | 1484.4 | 1544.0 | 1662.9 | 1743.0 | 1504.0 |
| 52.5° | 1298.9 | 1295.9 | 1325.3 | 1401.1 | 1468.0 | 1490.4 | 1584.1 | 1662.5 | 1796.2 | 1861.6 | 1582.6 |
| 55° | 1356.5 | 1351.6 | 1372.2 | 1467.2 | 1561.5 | 1585.0 | 1693.8 | 1781.4 | 1923.0 | 1968.4 | 1642.8 |
| 57.5° | 1420.6 | 1411.3 | 1428.7 | 1541.7 | 1668.0 | 1696.1 | 1816.7 | 1907.9 | 2047.6 | 2054.8 | 1681.1 |
| 60° | 1486.7 | 1474.2 | 1493.6 | 1634.0 | 1803.2 | 1836.3 | 1960.5 | 2031.2 | 2165.2 | 2123.9 | 1693.5 |
| 62.5° | 1544.5 | 1535.7 | 1565.7 | 1737.1 | 1955.6 | 1992.0 | 2101.7 | 2162.4 | 2281.0 | 2152.7 | 1649.0 |
| 65° | 1594.9 | 1596.4 | 1648.3 | 1853.0 | 2125.5 | 2164.3 | 2263.7 | 2324.1 | 2372.3 | 2135.6 | 1544.9 |
| 67.5° | 1655.2 | 1663.4 | 1752.1 | 2005.6 | 2339.5 | 2382.0 | 2499.4 | 2500.3 | 2423.2 | 2035.6 | 1340.1 |
| 70° | 1743.0 | 1760.0 | 1894.7 | 2217.3 | 2643.7 | 2702.1 | 2792.7 | 2603.9 | 2351.7 | 1764.6 | 1054.4 |
| 72.5° | 1820.9 | 1852.7 | 2046.5 | 2459.4 | 3014.4 | 3058.7 | 2964.2 | 2544.2 | 2052.5 | 1322.4 | 656.9 |
| 74° | 1789.2 | 1828.7 | 2074.1 | 2578.7 | 3154.0 | 3175.3 | 2906.3 | 2369.8 | 1711.3 | 915.8 | 381.8 |
| 75° | 1721.1 | 1763.9 | 2033.8 | 2577.6 | 3136.3 | 3124.4 | 2766.4 | 2170.7 | 1409.4 | 624.6 | 254.0 |
| 77.5° | 1389.0 | 1434.2 | 1713.7 | 2209.1 | 2571.6 | 2560.4 | 2125.1 | 1456.1 | 617.3 | 204.8 | 129.0 |
| 80° | 807.5 | 842.1 | 1063.8 | 1402.9 | 1734.0 | 1754.3 | 1397.6 | 720.5 | 242.8 | 115.1 | 87.5 |
| 82.5° | 358.7 | 382.6 | 513.9 | 716.1 | 1046.5 | 1072.6 | 731.9 | 377.6 | 150.0 | 70.0 | 52.6 |
| 85° | 235.4 | 253.1 | 312.0 | 341.0 | 498.3 | 516.2 | 358.2 | 294.0 | 99.0 | 38.5 | 38.6 |
| 87.5° | 169.3 | 186.3 | 231.8 | 202.4 | 228.7 | 216.5 | 194.9 | 272.0 | 39.8 | 21.9 | 13.0 |
| 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: P385829
 CATALOG NUMBER: GPC-SA1B-830-U-SL4

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 | 811.9 |
| 2.5° | 804.3 | 801.7 | 795.8 | 784.8 | 778.6 | 773.4 | 764.8 | 759.8 | 757.5 | 757.4 | 758.3 |
| 5° | 784.3 | 778.3 | 763.2 | 744.7 | 729.9 | 716.5 | 699.8 | 689.7 | 682.5 | 678.3 | 679.5 |
| 7.5° | 761.1 | 751.7 | 728.0 | 698.5 | 674.8 | 648.6 | 622.8 | 607.4 | 595.4 | 586.5 | 588.1 |
| 10° | 745.2 | 732.2 | 697.6 | 655.1 | 615.7 | 577.7 | 542.1 | 520.9 | 504.0 | 491.0 | 492.0 |
| 12.5° | 739.8 | 722.3 | 674.4 | 617.6 | 562.3 | 510.3 | 463.9 | 431.3 | 413.9 | 399.1 | 400.3 |
| 15° | 740.7 | 717.1 | 655.0 | 583.9 | 514.2 | 448.8 | 392.5 | 354.3 | 330.8 | 320.6 | 320.7 |
| 17.5° | 741.3 | 711.1 | 634.5 | 547.7 | 466.7 | 391.3 | 330.2 | 291.5 | 269.3 | 259.9 | 260.0 |
| 20° | 739.2 | 701.4 | 609.2 | 506.1 | 417.0 | 338.6 | 279.3 | 246.6 | 229.7 | 222.4 | 222.4 |
| 22.5° | 736.4 | 689.8 | 580.6 | 464.4 | 368.0 | 292.8 | 243.0 | 218.0 | 208.3 | 203.4 | 203.2 |
| 25° | 737.7 | 681.2 | 551.4 | 421.5 | 322.8 | 256.3 | 218.8 | 202.2 | 195.8 | 192.7 | 192.5 |
| 27.5° | 744.7 | 677.2 | 524.4 | 378.8 | 283.4 | 228.9 | 202.6 | 190.9 | 186.7 | 184.7 | 184.7 |
| 30° | 757.4 | 677.2 | 496.4 | 342.5 | 250.6 | 208.6 | 190.1 | 182.1 | 179.2 | 177.9 | 177.9 |
| 32.5° | 779.4 | 680.9 | 469.3 | 306.5 | 224.5 | 192.7 | 179.7 | 174.3 | 172.1 | 171.4 | 171.4 |
| 35° | 817.4 | 693.6 | 442.8 | 272.4 | 203.4 | 179.7 | 169.8 | 166.7 | 165.1 | 164.9 | 165.4 |
| 37.5° | 870.8 | 719.4 | 418.0 | 247.2 | 188.5 | 169.1 | 161.5 | 159.1 | 158.1 | 158.9 | 159.6 |
| 40° | 938.0 | 754.5 | 395.4 | 224.5 | 177.1 | 160.7 | 153.9 | 152.3 | 151.8 | 152.9 | 153.9 |
| 42.5° | 1019.2 | 801.8 | 376.9 | 208.1 | 168.3 | 153.6 | 147.4 | 145.4 | 144.9 | 146.2 | 147.5 |
| 45° | 1107.0 | 852.8 | 363.9 | 195.9 | 161.5 | 148.2 | 141.7 | 139.6 | 138.6 | 139.3 | 140.7 |
| 47.5° | 1186.9 | 901.0 | 358.7 | 187.3 | 155.0 | 143.7 | 136.7 | 134.1 | 132.5 | 132.1 | 133.3 |
| 50° | 1254.2 | 936.9 | 361.2 | 182.1 | 149.8 | 138.6 | 131.8 | 128.9 | 126.4 | 125.0 | 125.8 |
| 52.5° | 1303.2 | 959.5 | 363.4 | 179.8 | 145.8 | 133.1 | 126.4 | 123.7 | 120.4 | 118.0 | 118.0 |
| 55° | 1338.8 | 964.7 | 358.4 | 178.1 | 142.7 | 127.1 | 120.4 | 117.8 | 114.6 | 111.8 | 111.5 |
| 57.5° | 1352.8 | 950.0 | 339.7 | 175.5 | 140.6 | 121.4 | 114.1 | 112.2 | 109.4 | 106.2 | 106.0 |
| 60° | 1333.9 | 904.9 | 303.7 | 169.9 | 137.8 | 116.7 | 107.8 | 106.5 | 105.2 | 102.1 | 101.9 |
| 62.5° | 1258.3 | 805.9 | 257.1 | 158.7 | 132.3 | 111.7 | 101.9 | 102.6 | 102.7 | 100.6 | 100.3 |
| 65° | 1121.1 | 669.9 | 211.7 | 144.1 | 124.0 | 105.7 | 95.9 | 99.0 | 100.8 | 100.5 | 100.0 |
| 67.5° | 921.8 | 521.4 | 179.4 | 128.7 | 113.1 | 97.4 | 89.4 | 93.0 | 94.5 | 95.6 | 95.3 |
| 70° | 684.2 | 367.6 | 148.4 | 112.5 | 100.0 | 87.7 | 81.0 | 82.8 | 81.8 | 83.1 | 83.6 |
| 72.5° | 381.4 | 220.6 | 120.9 | 96.3 | 86.4 | 76.3 | 71.6 | 71.3 | 69.1 | 69.1 | 69.1 |
| 74° | 228.9 | 161.8 | 106.3 | 86.2 | 78.1 | 68.8 | 64.8 | 63.3 | 61.4 | 61.5 | 61.4 |
| 75° | 184.1 | 139.1 | 97.6 | 79.5 | 72.2 | 64.4 | 60.4 | 58.4 | 57.0 | 57.0 | 56.8 |
| 77.5° | 116.2 | 105.7 | 78.6 | 63.3 | 57.8 | 53.1 | 50.3 | 47.7 | 47.7 | 47.6 | 47.4 |
| 80° | 87.8 | 84.1 | 61.2 | 47.9 | 44.3 | 40.7 | 39.0 | 37.8 | 37.8 | 38.3 | 38.1 |
| 82.5° | 60.2 | 63.3 | 43.0 | 33.4 | 31.7 | 29.1 | 28.7 | 28.9 | 28.4 | 27.8 | 27.6 |
| 85° | 44.0 | 47.6 | 29.1 | 21.1 | 19.3 | 17.7 | 19.0 | 19.6 | 18.8 | 17.4 | 16.7 |
| 87.5° | 16.9 | 31.2 | 15.6 | 8.8 | 8.1 | 7.0 | 8.1 | 8.4 | 9.1 | 7.1 | 7.3 |
| 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

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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)