

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: P386067

Luminaire Tested: **GPC-SA1C-830-U-T4FT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P386067
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GPC-SA1C-830-U-T4FT
Description: GALLEON PEDESTRIAN LUMINAIRE
(1) 80 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6038 lumens
Efficiency: N/A
Efficacy: 104.1 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

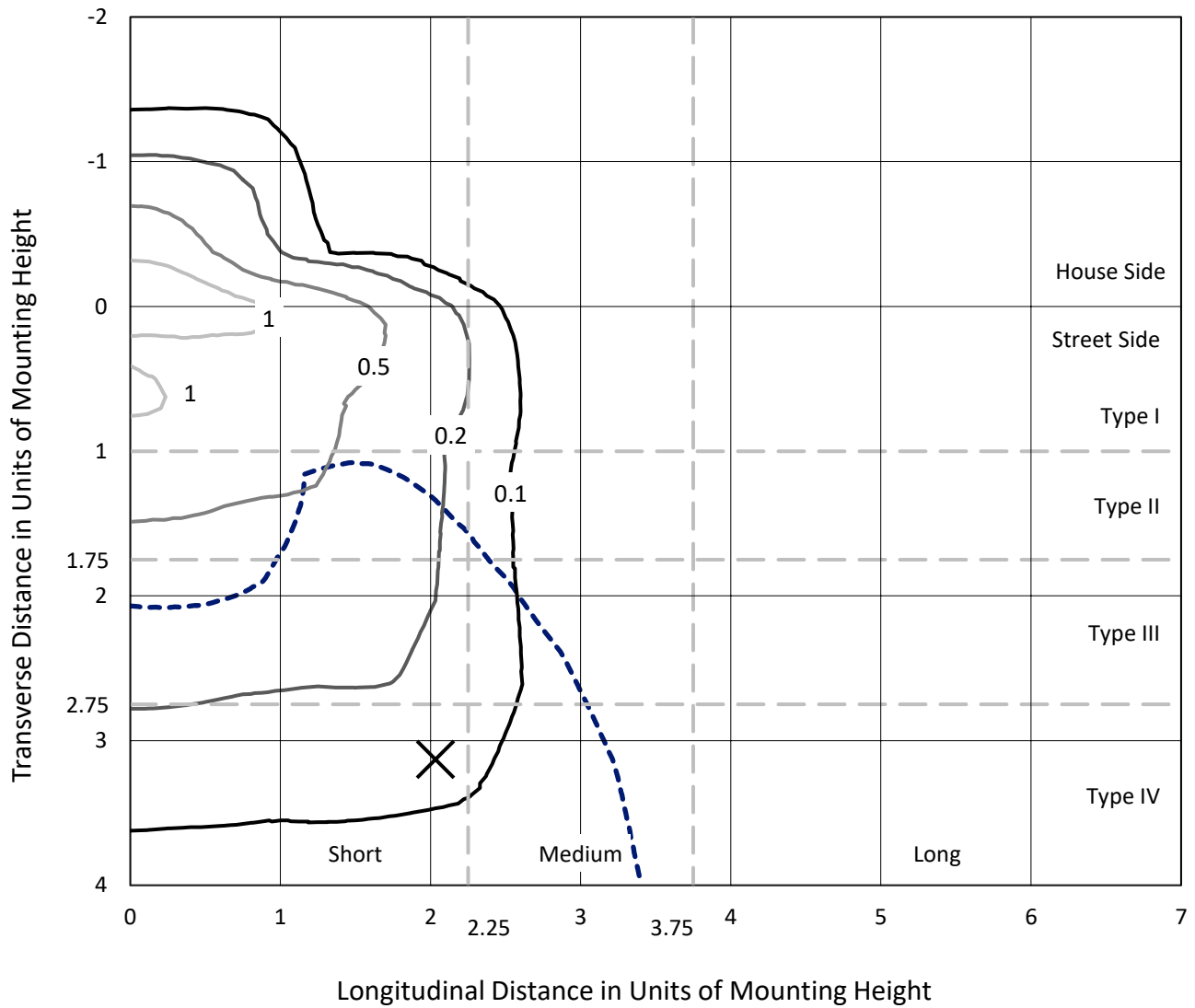
Input Watts (W): 58
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P386067
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Iso-Footcandle Lines of Horizontal Illumination

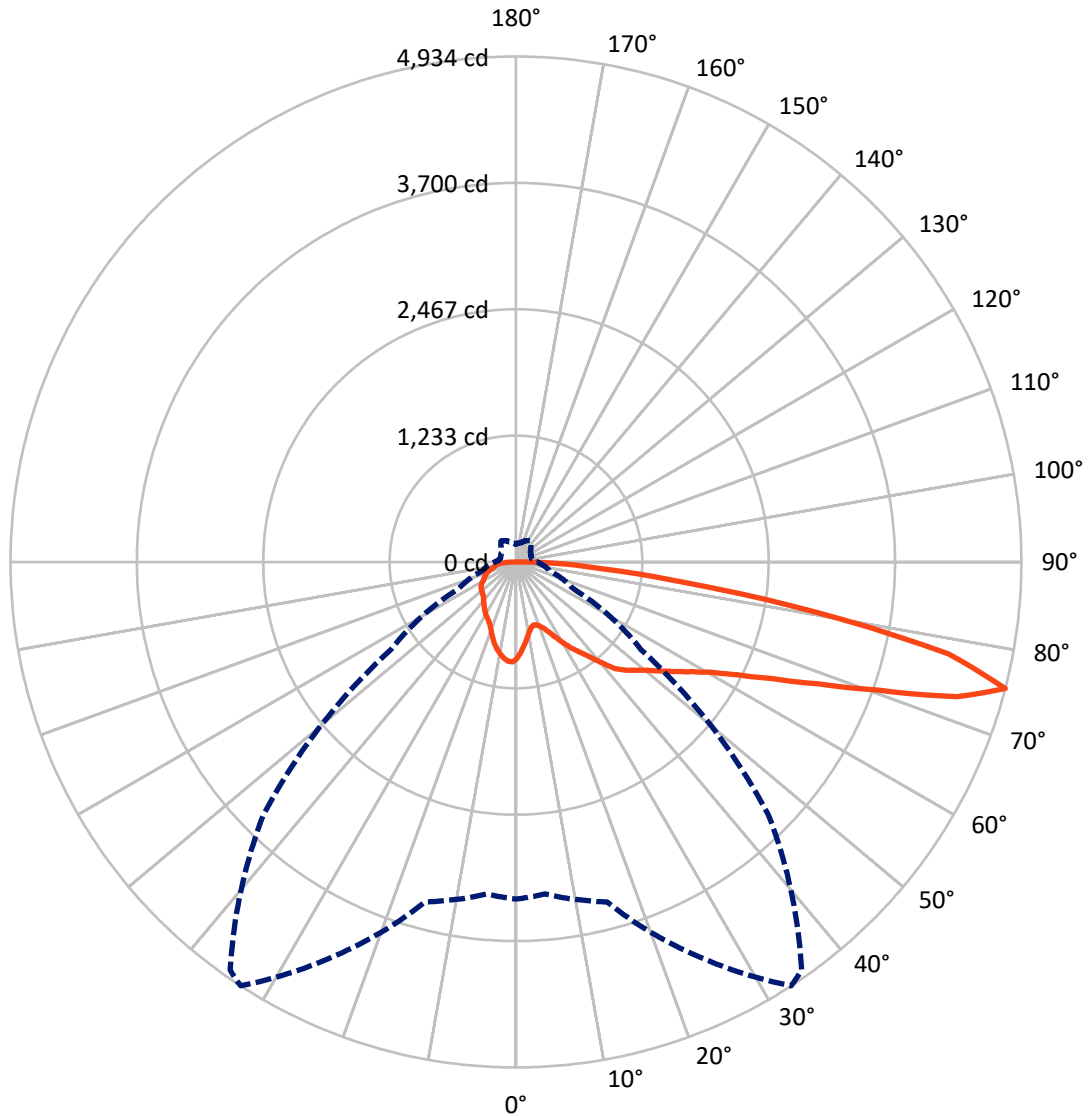
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.5 fc
 Type IV - Short - N/A

REPORT NUMBER: P386067
CATALOG NUMBER: GPC-SA1C-830-U-T4FT

Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral - - - Horizontal Cone Through 75-Deg Vertical

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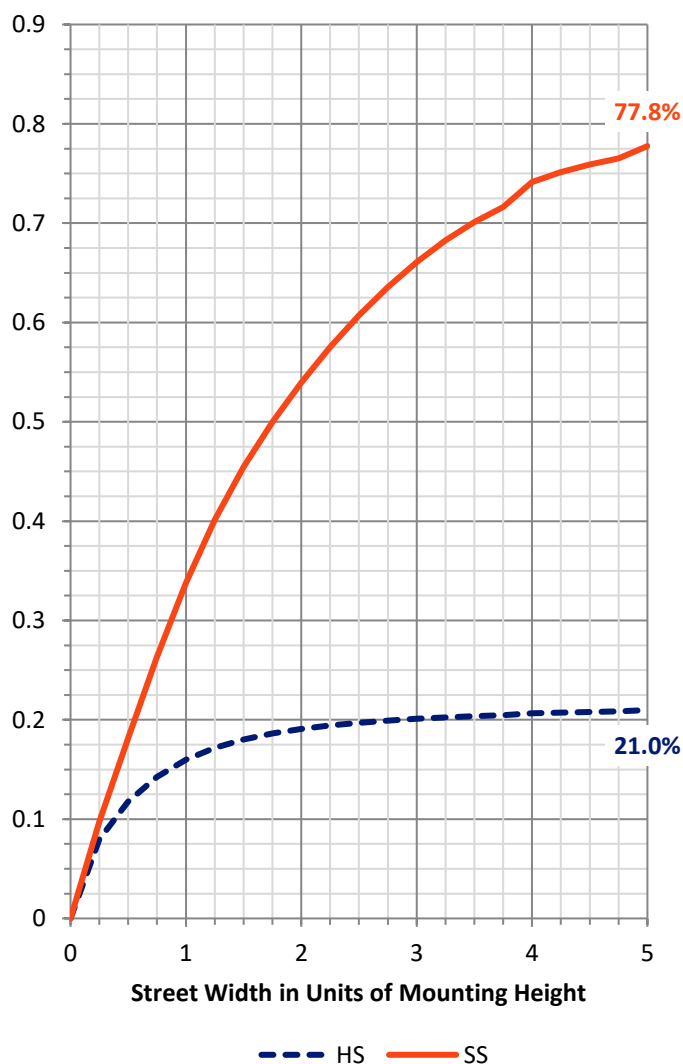
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1296.5 | 0.0 | 1296.5 |
| | % Fixture | 21.5 | 0.0 | 21.5 |
| Street Side | Lumens | 4741.5 | 0.0 | 4741.5 |
| | % Fixture | 78.5 | 0.0 | 78.5 |
| Total | Lumens | 6038.0 | 0.0 | 6038.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 85.4 | 1.4 |
| 10°-20° | 231.2 | 3.8 |
| 20°-30° | 377.5 | 6.3 |
| 30°-40° | 562.2 | 9.3 |
| 40°-50° | 806.4 | 13.4 |
| 50°-60° | 1107.1 | 18.3 |
| 60°-70° | 1386.0 | 23.0 |
| 70°-80° | 1253.8 | 20.8 |
| 80°-90° | 228.4 | 3.8 |
| 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° | 6038.0 | 100.0 |
| 0°-180° | 6038.0 | 100.0 |

Coefficient of Utilization



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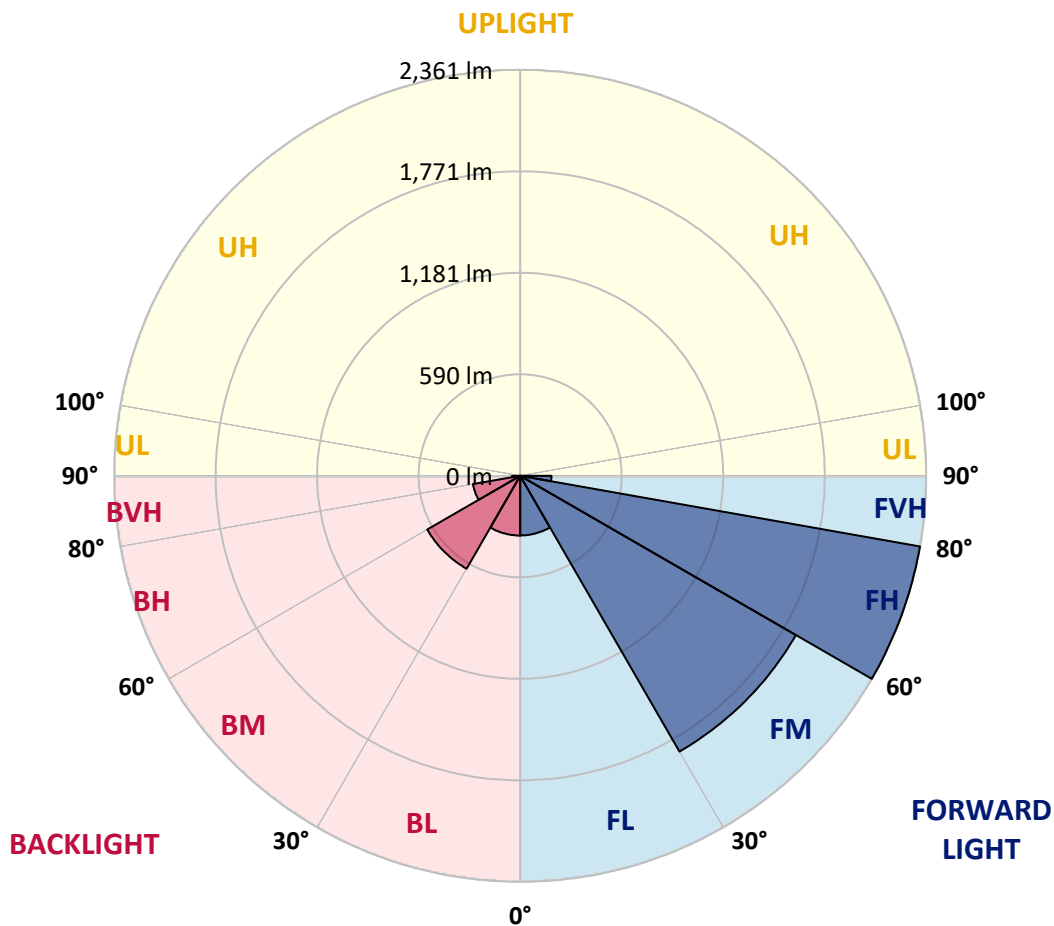
CATALOG NUMBER: GPC-SA1C-830-U-T4FT

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 346.8 | 5.7 | | | |
| FM (30°-60°) | 1851.7 | 30.7 | | | |
| FH (60°-80°) | 2361.1 | 39.1 | | | G2/5000 |
| FVH (80°-90°) | 181.9 | 3.0 | | | G2/225 |
| BL (0°-30°) | 347.3 | 5.8 | B1/500 | | |
| BM (30°-60°) | 624.0 | 10.3 | B1/1000 | | |
| BH (60°-80°) | 278.8 | 4.6 | B1/500 | | G1/500 |
| BVH (80°-90°) | 46.5 | 0.8 | | | 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: P386067

CATALOG NUMBER: GPC-SA1C-830-U-T4FT

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 33° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 |
| 2.5° | 876.4 | 873.1 | 879.3 | 880.2 | 885.6 | 887.7 | 895.2 | 906.9 | 916.5 | 927.5 | 937.5 |
| 5° | 796.9 | 794.6 | 803.4 | 809.7 | 821.6 | 826.6 | 844.3 | 869.1 | 891.2 | 916.2 | 939.0 |
| 7.5° | 721.4 | 720.2 | 730.0 | 744.2 | 757.9 | 764.8 | 795.5 | 831.6 | 868.5 | 908.9 | 943.8 |
| 10° | 657.8 | 657.4 | 666.8 | 680.8 | 701.0 | 708.7 | 748.3 | 795.9 | 847.6 | 903.3 | 951.9 |
| 12.5° | 622.2 | 623.6 | 628.0 | 639.7 | 658.5 | 666.2 | 710.2 | 766.1 | 830.1 | 901.4 | 963.8 |
| 15° | 630.9 | 633.2 | 625.7 | 625.3 | 638.6 | 644.7 | 686.0 | 744.8 | 817.6 | 904.6 | 981.1 |
| 17.5° | 668.3 | 668.7 | 648.9 | 636.3 | 644.5 | 647.6 | 678.5 | 732.7 | 810.3 | 911.7 | 1002.8 |
| 20° | 720.8 | 719.8 | 684.7 | 663.9 | 668.3 | 669.1 | 689.1 | 732.9 | 809.7 | 924.0 | 1031.0 |
| 22.5° | 790.5 | 782.8 | 735.6 | 707.3 | 706.2 | 705.0 | 716.4 | 748.3 | 818.8 | 944.0 | 1064.5 |
| 25° | 881.4 | 874.1 | 809.2 | 770.5 | 762.1 | 759.0 | 760.6 | 781.3 | 837.0 | 965.5 | 1102.1 |
| 27.5° | 982.6 | 969.8 | 907.3 | 852.4 | 835.1 | 830.7 | 820.7 | 827.8 | 856.8 | 986.1 | 1146.7 |
| 30° | 1067.2 | 1060.4 | 1005.7 | 940.6 | 920.2 | 913.9 | 887.7 | 880.0 | 885.4 | 1014.3 | 1203.0 |
| 32.5° | 1114.6 | 1110.0 | 1076.8 | 1024.3 | 1005.3 | 996.5 | 959.4 | 944.0 | 931.3 | 1058.7 | 1279.4 |
| 35° | 1171.9 | 1169.0 | 1149.0 | 1110.8 | 1082.7 | 1073.5 | 1044.7 | 1028.7 | 995.9 | 1119.8 | 1378.0 |
| 37.5° | 1244.9 | 1241.8 | 1242.2 | 1211.4 | 1177.8 | 1169.2 | 1150.3 | 1133.4 | 1079.8 | 1200.1 | 1485.2 |
| 40° | 1327.5 | 1321.5 | 1319.2 | 1317.7 | 1296.5 | 1291.7 | 1281.7 | 1258.7 | 1184.9 | 1296.0 | 1591.0 |
| 42.5° | 1451.8 | 1430.4 | 1384.5 | 1401.8 | 1422.9 | 1420.4 | 1428.5 | 1395.5 | 1301.7 | 1409.5 | 1694.2 |
| 45° | 1571.8 | 1536.5 | 1457.3 | 1461.0 | 1507.1 | 1521.1 | 1582.0 | 1558.6 | 1428.3 | 1533.8 | 1801.0 |
| 47.5° | 1626.4 | 1599.7 | 1532.4 | 1532.6 | 1578.2 | 1607.2 | 1740.7 | 1724.0 | 1561.3 | 1675.0 | 1931.3 |
| 50° | 1687.5 | 1660.8 | 1600.3 | 1623.1 | 1662.9 | 1693.8 | 1894.0 | 1885.5 | 1687.9 | 1829.6 | 2087.6 |
| 52.5° | 1754.3 | 1709.0 | 1670.6 | 1711.3 | 1767.2 | 1803.1 | 2047.5 | 2024.2 | 1804.1 | 1985.2 | 2267.1 |
| 55° | 1755.1 | 1742.8 | 1772.0 | 1801.8 | 1885.5 | 1929.5 | 2208.3 | 2146.6 | 1898.8 | 2138.0 | 2413.3 |
| 57.5° | 1855.0 | 1835.0 | 1896.9 | 1910.7 | 2020.0 | 2069.6 | 2368.3 | 2253.2 | 1995.2 | 2255.3 | 2492.2 |
| 60° | 1987.2 | 1970.1 | 2020.8 | 2057.1 | 2186.4 | 2252.8 | 2539.1 | 2362.7 | 2070.9 | 2343.7 | 2488.4 |
| 62.5° | 2215.6 | 2196.2 | 2195.6 | 2246.5 | 2420.6 | 2497.8 | 2730.8 | 2470.1 | 2100.9 | 2361.2 | 2382.3 |
| 65° | 2550.0 | 2519.1 | 2460.9 | 2485.1 | 2744.1 | 2821.1 | 2945.0 | 2547.9 | 2061.3 | 2267.4 | 2108.8 |
| 67.5° | 2875.3 | 2874.3 | 2802.7 | 2852.4 | 3171.3 | 3233.0 | 3189.0 | 2555.6 | 1937.6 | 1940.5 | 1623.7 |
| 70° | 3199.7 | 3203.8 | 3191.7 | 3364.4 | 3748.4 | 3812.6 | 3448.9 | 2451.9 | 1659.6 | 1401.4 | 972.8 |
| 72.5° | 3456.6 | 3455.6 | 3516.5 | 3961.8 | 4497.4 | 4483.0 | 3667.9 | 2137.8 | 1191.6 | 756.5 | 464.9 |
| 75° | 3290.2 | 3253.9 | 3435.3 | 4257.5 | 4933.9 | 4863.6 | 3481.6 | 1491.3 | 618.4 | 344.3 | 250.3 |
| 77.5° | 2146.0 | 2180.4 | 2446.7 | 3517.1 | 4315.7 | 4230.2 | 2554.3 | 695.8 | 291.4 | 225.9 | 181.5 |
| 80° | 777.1 | 813.4 | 1145.7 | 1992.2 | 2973.4 | 2959.4 | 1257.9 | 285.9 | 197.1 | 170.6 | 132.2 |
| 82.5° | 267.4 | 280.7 | 452.0 | 884.7 | 1678.8 | 1741.3 | 473.2 | 162.5 | 143.3 | 121.0 | 90.5 |
| 85° | 104.9 | 120.1 | 206.7 | 425.7 | 846.8 | 853.0 | 191.7 | 97.2 | 99.7 | 79.3 | 49.6 |
| 87.5° | 39.8 | 48.4 | 98.9 | 197.7 | 386.7 | 355.2 | 68.6 | 46.3 | 56.7 | 47.1 | 23.6 |
| 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: P386067
 CATALOG NUMBER: GPC-SA1C-830-U-T4FT

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 | 943.8 |
| 2.5° | 945.2 | 949.6 | 958.8 | 965.0 | 971.7 | 973.6 | 974.4 | 976.1 | 977.8 | 977.1 | 977.4 |
| 5° | 951.1 | 959.6 | 974.4 | 980.7 | 983.6 | 980.3 | 973.8 | 968.6 | 964.8 | 962.8 | 962.1 |
| 7.5° | 960.7 | 972.8 | 988.6 | 987.6 | 980.9 | 966.1 | 949.4 | 936.9 | 926.5 | 922.7 | 920.6 |
| 10° | 973.4 | 987.6 | 998.6 | 986.7 | 967.3 | 941.7 | 916.7 | 897.3 | 881.6 | 875.6 | 874.5 |
| 12.5° | 989.7 | 1004.0 | 1006.1 | 980.9 | 948.8 | 913.7 | 879.7 | 854.1 | 830.7 | 823.2 | 821.6 |
| 15° | 1010.7 | 1024.3 | 1011.3 | 970.7 | 925.8 | 878.7 | 834.7 | 799.9 | 775.2 | 766.1 | 762.7 |
| 17.5° | 1032.8 | 1045.8 | 1012.4 | 953.8 | 895.8 | 837.2 | 781.9 | 746.3 | 718.1 | 707.5 | 706.2 |
| 20° | 1059.3 | 1065.2 | 1008.0 | 929.6 | 854.5 | 783.4 | 725.2 | 691.6 | 676.6 | 669.1 | 668.3 |
| 22.5° | 1092.1 | 1085.8 | 998.0 | 896.8 | 802.2 | 721.2 | 673.9 | 658.2 | 654.5 | 652.8 | 653.4 |
| 25° | 1126.7 | 1107.5 | 983.2 | 854.1 | 736.0 | 659.1 | 636.3 | 640.7 | 645.7 | 645.1 | 645.1 |
| 27.5° | 1164.9 | 1129.6 | 960.5 | 797.4 | 662.8 | 608.2 | 610.9 | 627.0 | 634.5 | 634.3 | 634.0 |
| 30° | 1213.9 | 1154.6 | 931.5 | 729.2 | 594.4 | 572.3 | 588.8 | 608.4 | 618.6 | 618.2 | 618.4 |
| 32.5° | 1274.1 | 1182.2 | 892.0 | 653.0 | 545.0 | 545.8 | 564.8 | 584.2 | 596.1 | 595.0 | 595.3 |
| 35° | 1344.6 | 1213.0 | 838.7 | 577.9 | 512.2 | 524.8 | 539.8 | 553.3 | 564.6 | 563.1 | 561.7 |
| 37.5° | 1421.4 | 1243.3 | 767.7 | 510.8 | 485.5 | 505.2 | 517.7 | 520.0 | 525.2 | 521.4 | 518.7 |
| 40° | 1494.4 | 1266.4 | 676.4 | 455.7 | 458.6 | 488.5 | 496.6 | 487.4 | 478.0 | 476.8 | 473.0 |
| 42.5° | 1558.0 | 1274.1 | 584.0 | 411.7 | 430.3 | 470.9 | 476.0 | 456.8 | 439.9 | 431.9 | 428.6 |
| 45° | 1625.2 | 1276.9 | 497.9 | 374.8 | 403.0 | 455.3 | 460.7 | 435.1 | 411.3 | 394.2 | 388.6 |
| 47.5° | 1713.0 | 1296.5 | 430.9 | 347.5 | 382.1 | 444.9 | 452.6 | 417.8 | 386.9 | 362.5 | 357.3 |
| 50° | 1827.9 | 1335.3 | 376.5 | 326.6 | 368.5 | 438.0 | 446.8 | 400.9 | 366.9 | 337.5 | 332.2 |
| 52.5° | 1955.5 | 1370.9 | 332.5 | 309.7 | 355.4 | 425.9 | 439.2 | 388.8 | 348.1 | 314.3 | 308.7 |
| 55° | 2044.8 | 1343.6 | 297.0 | 292.2 | 338.3 | 408.6 | 428.8 | 378.6 | 321.2 | 291.8 | 286.8 |
| 57.5° | 2061.9 | 1250.2 | 270.1 | 274.1 | 317.7 | 386.9 | 412.8 | 355.8 | 306.6 | 282.0 | 276.8 |
| 60° | 2015.2 | 1120.0 | 250.1 | 257.4 | 295.5 | 359.6 | 382.7 | 339.8 | 292.6 | 271.6 | 267.2 |
| 62.5° | 1897.8 | 986.7 | 235.3 | 242.4 | 274.9 | 331.8 | 364.0 | 322.9 | 278.4 | 259.7 | 255.3 |
| 65° | 1660.6 | 828.4 | 221.1 | 229.0 | 255.7 | 307.8 | 347.1 | 307.2 | 264.5 | 250.1 | 245.9 |
| 67.5° | 1253.5 | 620.5 | 207.7 | 214.8 | 238.6 | 287.0 | 328.7 | 291.8 | 250.9 | 241.7 | 236.7 |
| 70° | 738.1 | 388.6 | 192.5 | 200.0 | 220.7 | 265.3 | 309.1 | 274.9 | 234.0 | 229.8 | 223.4 |
| 72.5° | 343.5 | 233.8 | 175.2 | 182.5 | 198.1 | 236.3 | 283.9 | 252.8 | 214.0 | 204.8 | 196.1 |
| 75° | 205.0 | 171.0 | 154.8 | 161.2 | 172.3 | 205.4 | 252.2 | 230.3 | 195.0 | 182.9 | 173.7 |
| 77.5° | 153.3 | 130.8 | 132.2 | 139.1 | 148.1 | 179.8 | 223.4 | 212.5 | 180.4 | 171.0 | 164.8 |
| 80° | 110.3 | 99.3 | 107.8 | 115.3 | 124.7 | 163.5 | 214.0 | 196.5 | 163.1 | 150.6 | 144.7 |
| 82.5° | 73.6 | 71.3 | 81.1 | 88.9 | 98.0 | 143.1 | 201.1 | 172.1 | 139.3 | 123.5 | 110.5 |
| 85° | 40.7 | 43.0 | 54.6 | 58.0 | 65.9 | 100.7 | 164.8 | 138.3 | 104.9 | 84.5 | 80.7 |
| 87.5° | 16.9 | 19.8 | 29.4 | 28.4 | 35.0 | 60.1 | 108.5 | 83.4 | 66.7 | 49.8 | 38.8 |
| 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^{\wedge}/nm | Lumens (ϕ/nm) | λ (nm) | Power W^{\wedge}/nm | Lumens (ϕ/nm) | λ (nm) | Power W^{\wedge}/nm | Lumens (ϕ/nm) | λ (nm) | Power W^{\wedge}/nm | Lumens (ϕ/nm) | λ (nm) | Power W^{\wedge}/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)