

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: P386535

Luminaire Tested: **GPC-SA2B-722-U-T2**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P386535
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-12)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GPC-SA2B-722-U-T2
Description: GALLEON PEDESTRIAN LUMINAIRE
(2) 70 CRI, 2200K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8603 lumens
Efficiency: N/A
Efficacy: 101.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G2

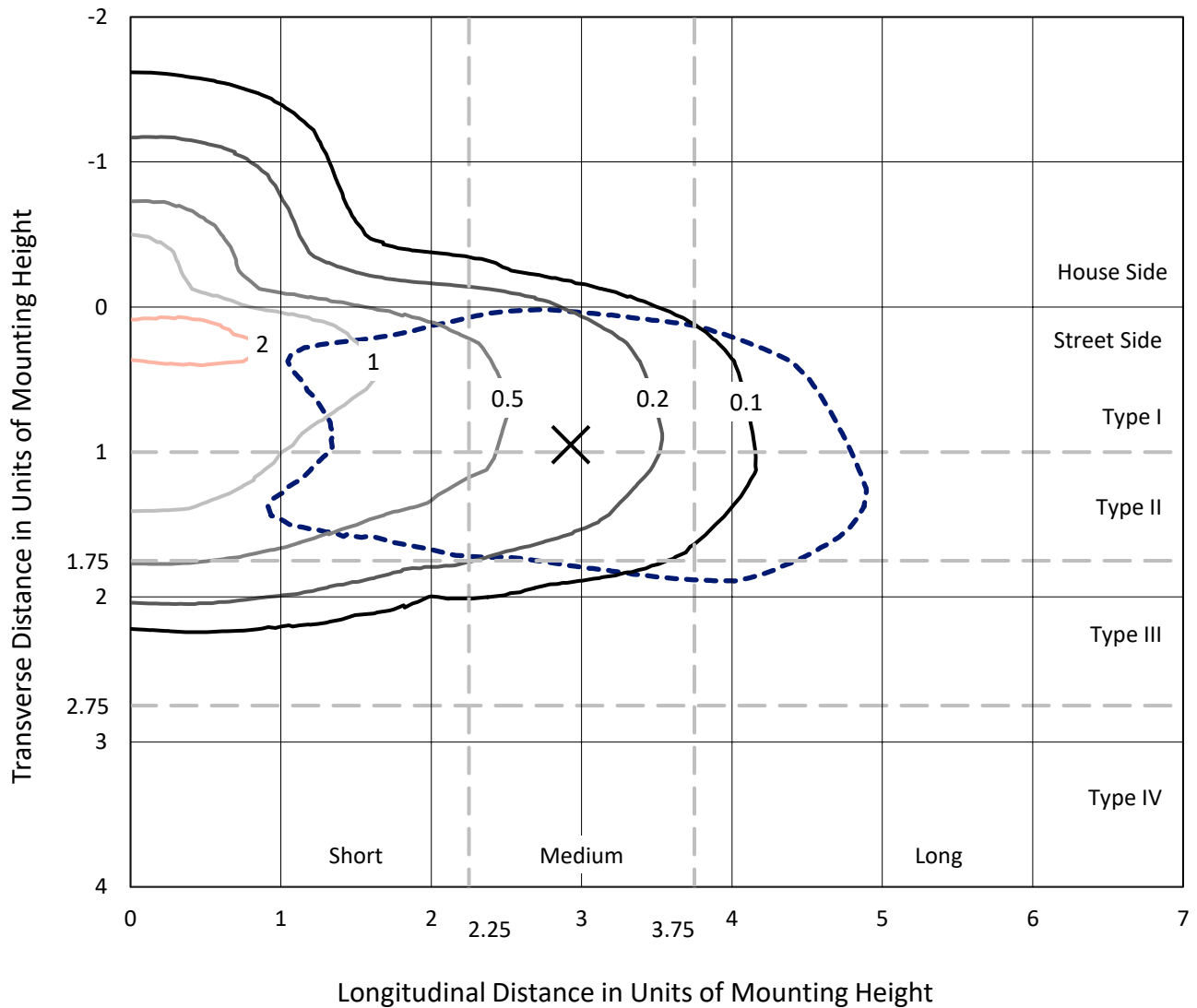
Input Watts (W): 85
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P386535
 CATALOG NUMBER: GPC-SA2B-722-U-T2

Iso-Footcandle Lines of Horizontal Illumination

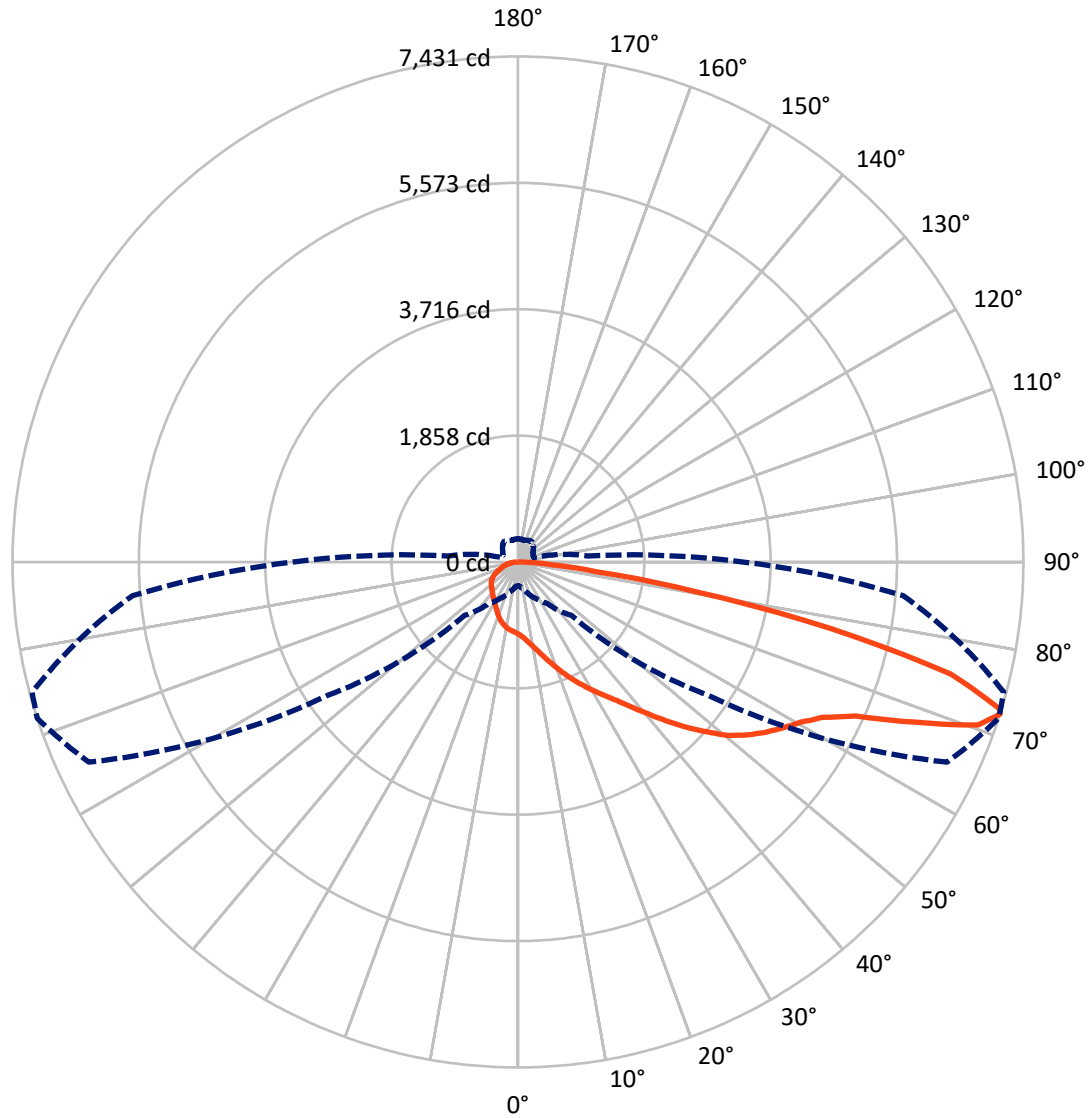
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.3 fc
 Type III - Medium - N/A

REPORT NUMBER: P386535
CATALOG NUMBER: GPC-SA2B-722-U-T2

Luminous Intensity Polar Plot



— Vertical Plane Through 72-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

REPORT NUMBER: P386535
 CATALOG NUMBER: GPC-SA2B-722-U-T2

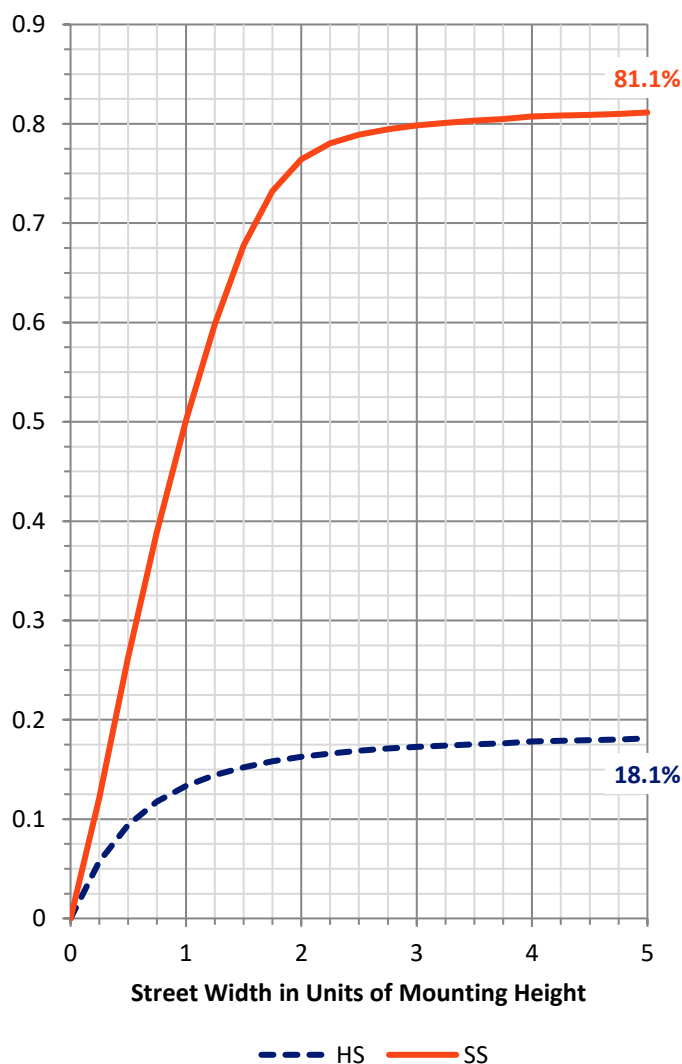
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1595.9 | 0.0 | 1595.9 |
| | % Fixture | 18.6 | 0.0 | 18.6 |
| Street Side | Lumens | 7007.1 | 0.0 | 7007.1 |
| | % Fixture | 81.4 | 0.0 | 81.4 |
| Total | Lumens | 8603.0 | 0.0 | 8603.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 106.1 | 1.2 |
| 10°-20° | 342.7 | 4.0 |
| 20°-30° | 600.5 | 7.0 |
| 30°-40° | 890.4 | 10.4 |
| 40°-50° | 1302.3 | 15.1 |
| 50°-60° | 1792.0 | 20.8 |
| 60°-70° | 1995.0 | 23.2 |
| 70°-80° | 1351.8 | 15.7 |
| 80°-90° | 222.2 | 2.6 |
| 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° | 8603.0 | 100.0 |
| 0°-180° | 8603.0 | 100.0 |

Coefficient of Utilization

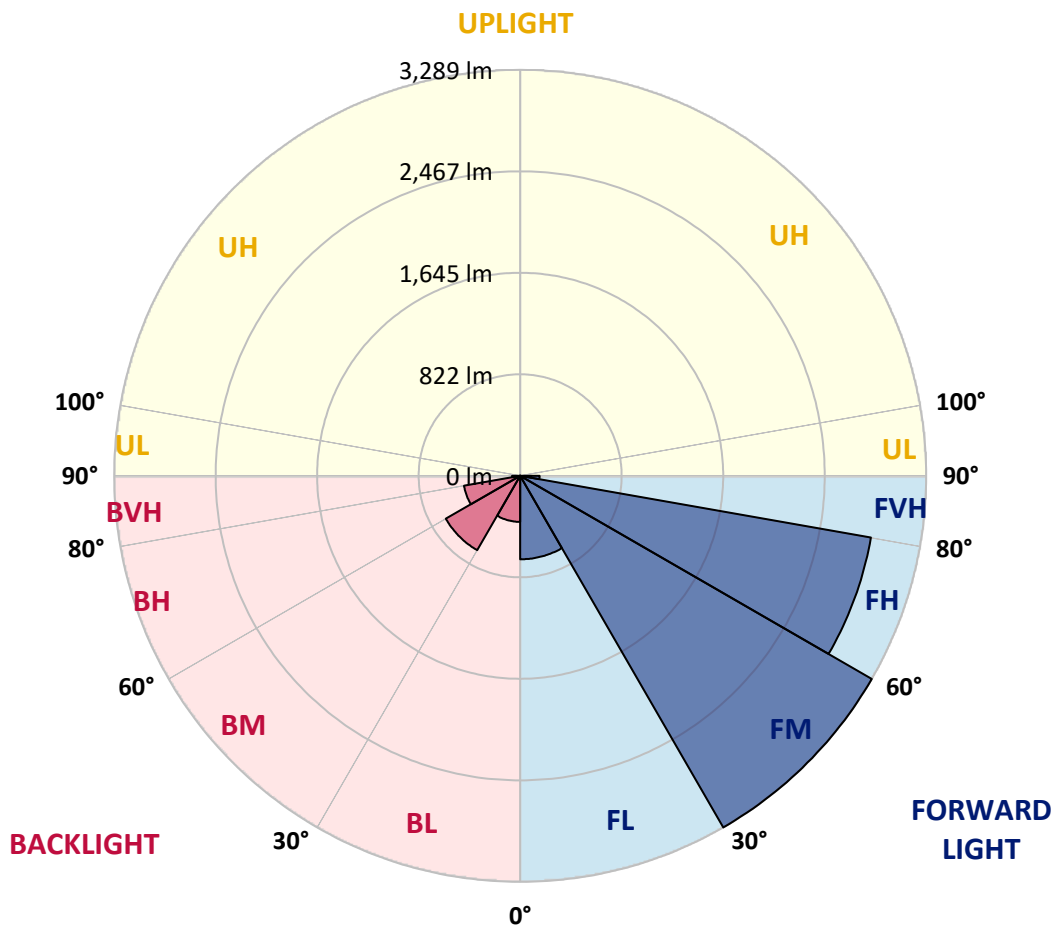


REPORT NUMBER: P386535
 CATALOG NUMBER: GPC-SA2B-722-U-T2

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 676.2 | 7.9 | | | |
| FM (30°-60°) | 3289.0 | 38.2 | | | |
| FH (60°-80°) | 2885.1 | 33.5 | | | G2/5000 |
| FVH (80°-90°) | 156.7 | 1.8 | | | G2/225 |
| BL (0°-30°) | 373.1 | 4.3 | B1/500 | | |
| BM (30°-60°) | 695.7 | 8.1 | B1/1000 | | |
| BH (60°-80°) | 461.7 | 5.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 65.5 | 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 III Medium





REPORT NUMBER: P386535
 CATALOG NUMBER: GPC-SA2B-722-U-T2

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 72° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 |
| 2.5° | 1169.2 | 1167.4 | 1161.2 | 1161.2 | 1149.3 | 1139.3 | 1120.3 | 1107.6 | 1092.5 | 1087.1 | 1069.4 |
| 5° | 1282.3 | 1282.9 | 1275.2 | 1269.9 | 1252.4 | 1231.1 | 1198.8 | 1169.5 | 1140.2 | 1128.3 | 1091.9 |
| 7.5° | 1377.4 | 1376.2 | 1374.2 | 1369.7 | 1353.4 | 1331.5 | 1288.0 | 1244.4 | 1201.2 | 1183.4 | 1120.6 |
| 10° | 1438.4 | 1441.1 | 1442.9 | 1445.0 | 1438.1 | 1422.4 | 1381.3 | 1328.2 | 1271.7 | 1247.4 | 1155.0 |
| 12.5° | 1469.3 | 1474.0 | 1482.3 | 1496.5 | 1507.8 | 1506.0 | 1476.1 | 1419.8 | 1352.5 | 1322.0 | 1197.9 |
| 15° | 1487.3 | 1493.5 | 1506.6 | 1532.0 | 1563.7 | 1581.8 | 1573.8 | 1522.9 | 1447.9 | 1410.3 | 1250.3 |
| 17.5° | 1498.6 | 1503.6 | 1523.8 | 1557.8 | 1604.9 | 1652.9 | 1673.9 | 1631.3 | 1555.7 | 1512.8 | 1310.5 |
| 20° | 1506.3 | 1510.1 | 1535.3 | 1575.3 | 1636.3 | 1712.7 | 1771.4 | 1760.7 | 1674.5 | 1618.8 | 1373.3 |
| 22.5° | 1523.5 | 1526.7 | 1550.7 | 1591.0 | 1658.5 | 1757.2 | 1865.3 | 1881.3 | 1799.8 | 1736.7 | 1440.5 |
| 25° | 1571.4 | 1571.4 | 1591.6 | 1619.7 | 1683.1 | 1795.7 | 1944.7 | 2015.5 | 1927.8 | 1854.3 | 1502.7 |
| 27.5° | 1663.0 | 1662.1 | 1669.5 | 1679.3 | 1727.3 | 1834.8 | 2015.5 | 2134.0 | 2060.5 | 1980.2 | 1563.2 |
| 30° | 1771.4 | 1777.3 | 1778.2 | 1773.5 | 1796.0 | 1883.7 | 2080.9 | 2259.0 | 2194.1 | 2107.6 | 1625.1 |
| 32.5° | 1910.9 | 1914.8 | 1910.3 | 1894.6 | 1891.4 | 1953.0 | 2145.2 | 2389.9 | 2338.7 | 2240.6 | 1681.6 |
| 35° | 2088.1 | 2080.6 | 2066.7 | 2034.7 | 2004.2 | 2045.7 | 2218.7 | 2520.8 | 2501.0 | 2401.5 | 1759.5 |
| 37.5° | 2277.9 | 2278.2 | 2261.0 | 2188.5 | 2146.4 | 2164.2 | 2320.0 | 2669.2 | 2697.4 | 2592.8 | 1859.4 |
| 40° | 2430.2 | 2438.2 | 2448.8 | 2353.5 | 2299.0 | 2323.5 | 2448.8 | 2841.3 | 2929.6 | 2819.7 | 1989.4 |
| 42.5° | 2536.5 | 2545.7 | 2575.9 | 2516.1 | 2459.5 | 2505.1 | 2600.5 | 3025.0 | 3190.3 | 3081.6 | 2141.7 |
| 45° | 2649.1 | 2654.1 | 2675.5 | 2649.7 | 2613.5 | 2716.3 | 2771.4 | 3215.2 | 3466.1 | 3360.6 | 2312.0 |
| 47.5° | 2767.6 | 2772.9 | 2794.8 | 2777.7 | 2758.7 | 2913.6 | 2949.8 | 3394.4 | 3730.3 | 3667.2 | 2493.9 |
| 50° | 2913.9 | 2917.5 | 2938.2 | 2907.1 | 2913.0 | 3062.3 | 3109.1 | 3558.8 | 4007.3 | 3942.7 | 2676.3 |
| 52.5° | 3113.6 | 3114.5 | 3143.2 | 3115.0 | 3087.2 | 3171.3 | 3246.3 | 3713.7 | 4224.4 | 4193.9 | 2858.8 |
| 55° | 3270.0 | 3279.4 | 3373.6 | 3367.7 | 3351.7 | 3270.3 | 3360.9 | 3861.2 | 4418.1 | 4432.6 | 3052.5 |
| 57.5° | 3170.1 | 3207.2 | 3397.9 | 3532.4 | 3663.4 | 3516.4 | 3515.8 | 4027.4 | 4598.2 | 4666.9 | 3265.5 |
| 60° | 2776.5 | 2826.8 | 3107.9 | 3406.2 | 3815.9 | 3944.8 | 3837.5 | 4230.3 | 4780.1 | 4899.2 | 3532.4 |
| 62.5° | 1982.9 | 2065.8 | 2446.8 | 2923.1 | 3606.8 | 4228.5 | 4492.2 | 4552.3 | 5027.4 | 5168.1 | 3879.3 |
| 65° | 1002.4 | 1065.2 | 1384.5 | 1958.3 | 2881.6 | 4043.1 | 5203.7 | 5257.3 | 5457.3 | 5582.3 | 4413.4 |
| 67.5° | 609.0 | 632.7 | 788.5 | 1089.2 | 1766.7 | 3149.4 | 5435.9 | 6432.4 | 6289.0 | 6355.4 | 5175.0 |
| 70° | 448.8 | 466.3 | 563.4 | 723.4 | 1016.0 | 1848.1 | 4723.2 | 7271.0 | 7176.8 | 7169.4 | 5737.8 |
| 72° | 349.5 | 362.3 | 448.2 | 584.4 | 742.9 | 1108.8 | 3423.4 | 6961.5 | 7431.0 | 7393.6 | 5686.2 |
| 72.5° | 331.5 | 342.7 | 420.9 | 550.1 | 702.0 | 1005.1 | 3078.0 | 6752.6 | 7412.6 | 7395.7 | 5619.6 |
| 75° | 261.0 | 269.0 | 311.6 | 425.4 | 549.5 | 570.2 | 1686.7 | 5233.0 | 6575.8 | 6849.2 | 5054.4 |
| 77.5° | 215.9 | 217.1 | 239.6 | 309.5 | 428.3 | 403.2 | 828.5 | 3630.8 | 4708.7 | 5009.4 | 3580.4 |
| 80° | 176.0 | 177.4 | 188.1 | 217.1 | 324.1 | 298.3 | 393.4 | 2087.8 | 2636.4 | 2639.6 | 1702.7 |
| 82.5° | 140.1 | 140.4 | 152.3 | 158.8 | 232.8 | 213.3 | 225.4 | 980.2 | 1152.0 | 1108.2 | 612.0 |
| 85° | 98.6 | 96.6 | 148.7 | 130.3 | 152.3 | 136.9 | 124.4 | 388.0 | 476.3 | 455.6 | 191.7 |
| 87.5° | 32.9 | 34.1 | 66.1 | 84.4 | 88.9 | 77.6 | 55.4 | 148.7 | 179.8 | 178.3 | 60.7 |
| 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: P386535

CATALOG NUMBER: GPC-SA2B-722-U-T2

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 | 1058.4 |
| 2.5° | 1063.7 | 1054.2 | 1040.3 | 1024.9 | 1012.8 | 1000.3 | 991.2 | 986.4 | 981.1 | 976.6 | 982.0 |
| 5° | 1075.0 | 1057.2 | 1027.6 | 998.6 | 977.2 | 958.3 | 944.6 | 937.5 | 931.0 | 926.6 | 927.2 |
| 7.5° | 1093.3 | 1064.6 | 1014.8 | 972.5 | 942.9 | 922.4 | 908.5 | 903.8 | 899.6 | 898.4 | 899.9 |
| 10° | 1112.9 | 1070.5 | 998.0 | 941.7 | 907.9 | 891.0 | 884.8 | 888.1 | 891.0 | 893.7 | 896.7 |
| 12.5° | 1135.1 | 1075.9 | 973.4 | 905.5 | 876.8 | 870.3 | 876.5 | 890.7 | 901.1 | 907.3 | 911.2 |
| 15° | 1164.1 | 1080.6 | 944.9 | 869.4 | 850.2 | 857.6 | 878.6 | 903.2 | 921.2 | 932.8 | 934.6 |
| 17.5° | 1190.8 | 1080.3 | 908.5 | 833.0 | 828.5 | 850.2 | 881.8 | 916.5 | 940.8 | 957.1 | 960.3 |
| 20° | 1218.4 | 1072.3 | 866.1 | 797.4 | 806.6 | 842.2 | 883.3 | 925.1 | 954.4 | 973.4 | 977.8 |
| 22.5° | 1244.1 | 1058.4 | 819.6 | 765.1 | 788.2 | 831.5 | 877.7 | 920.1 | 949.4 | 964.8 | 969.5 |
| 25° | 1261.6 | 1034.1 | 772.5 | 737.9 | 771.9 | 818.5 | 859.3 | 893.4 | 915.3 | 923.0 | 924.2 |
| 27.5° | 1270.5 | 1002.4 | 728.1 | 714.2 | 755.1 | 797.1 | 825.3 | 842.2 | 848.4 | 847.8 | 846.6 |
| 30° | 1271.7 | 960.6 | 689.9 | 694.9 | 735.5 | 765.7 | 779.1 | 775.8 | 767.8 | 754.2 | 755.4 |
| 32.5° | 1267.8 | 913.5 | 657.9 | 676.6 | 710.6 | 727.5 | 728.1 | 712.4 | 691.1 | 669.5 | 663.5 |
| 35° | 1269.0 | 867.3 | 629.8 | 655.8 | 680.4 | 687.8 | 681.0 | 657.9 | 628.9 | 601.0 | 595.1 |
| 37.5° | 1282.0 | 827.0 | 605.5 | 631.8 | 646.9 | 648.7 | 638.9 | 614.7 | 593.3 | 566.1 | 563.7 |
| 40° | 1313.1 | 798.3 | 582.4 | 604.9 | 613.5 | 614.4 | 600.4 | 583.3 | 585.0 | 570.5 | 570.2 |
| 42.5° | 1369.1 | 785.9 | 561.9 | 576.7 | 582.1 | 583.8 | 573.2 | 562.2 | 577.6 | 568.1 | 564.9 |
| 45° | 1441.4 | 788.8 | 544.7 | 549.2 | 559.0 | 567.3 | 560.7 | 547.4 | 553.3 | 512.2 | 498.5 |
| 47.5° | 1524.9 | 807.8 | 531.1 | 525.5 | 542.4 | 558.1 | 548.0 | 527.9 | 506.8 | 466.0 | 458.3 |
| 50° | 1622.7 | 837.1 | 518.7 | 502.1 | 524.3 | 545.6 | 535.6 | 506.8 | 475.1 | 455.3 | 452.6 |
| 52.5° | 1724.6 | 873.0 | 506.2 | 476.3 | 501.5 | 536.2 | 531.1 | 502.1 | 463.0 | 443.4 | 439.9 |
| 55° | 1840.1 | 909.1 | 490.5 | 446.4 | 476.9 | 531.7 | 529.0 | 484.9 | 453.8 | 442.8 | 440.2 |
| 57.5° | 1983.8 | 950.3 | 469.8 | 415.3 | 453.8 | 515.7 | 507.4 | 474.5 | 444.3 | 436.0 | 435.1 |
| 60° | 2171.0 | 1011.0 | 439.9 | 382.1 | 425.7 | 491.1 | 489.4 | 459.4 | 429.2 | 423.3 | 422.1 |
| 62.5° | 2451.8 | 1111.4 | 398.7 | 348.9 | 394.3 | 449.4 | 465.7 | 439.0 | 413.2 | 412.9 | 413.5 |
| 65° | 2887.3 | 1262.5 | 354.0 | 319.9 | 362.6 | 414.1 | 438.1 | 418.0 | 396.9 | 402.9 | 403.7 |
| 67.5° | 3392.0 | 1387.8 | 310.1 | 291.5 | 330.3 | 380.6 | 413.2 | 396.9 | 375.3 | 390.7 | 391.0 |
| 70° | 3560.0 | 1275.8 | 271.6 | 263.3 | 296.8 | 348.4 | 386.3 | 373.8 | 351.9 | 367.3 | 365.8 |
| 72° | 3312.9 | 1030.0 | 246.8 | 242.0 | 271.6 | 321.7 | 362.3 | 352.2 | 330.6 | 340.9 | 337.1 |
| 72.5° | 3235.0 | 982.0 | 240.5 | 236.7 | 264.8 | 314.9 | 356.1 | 346.9 | 325.2 | 334.1 | 330.6 |
| 75° | 2885.8 | 852.8 | 206.8 | 207.7 | 231.1 | 281.7 | 321.1 | 318.1 | 295.9 | 296.8 | 295.6 |
| 77.5° | 2093.1 | 625.3 | 174.2 | 180.1 | 196.7 | 247.6 | 285.9 | 284.1 | 259.8 | 255.3 | 254.5 |
| 80° | 971.3 | 319.0 | 141.9 | 144.6 | 161.7 | 207.1 | 243.8 | 241.4 | 221.9 | 216.2 | 213.0 |
| 82.5° | 332.7 | 151.7 | 106.6 | 108.4 | 125.3 | 166.8 | 211.5 | 210.0 | 193.7 | 182.8 | 176.0 |
| 85° | 118.8 | 75.5 | 74.6 | 72.9 | 89.5 | 131.2 | 184.2 | 176.3 | 152.3 | 129.7 | 129.2 |
| 87.5° | 38.5 | 32.3 | 38.5 | 38.2 | 52.1 | 88.9 | 133.9 | 114.0 | 110.5 | 91.8 | 90.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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



Test Information

Test Method: LM-79-2008 Report
 Number: SP1-1908-441-10-R4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/28/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: McGRAW-EDISON
 Catalog Number: **SA1C-722-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

CCT (K): 2237
 CIE u': 0.2876
 CIE v': 0.5346
 Duv: -0.0006
 CIE x: 0.5005
 CIE y: 0.4134
 CIE z: 0.0860
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 587
 Purity: 74.5
 Rf: 69.8
 Rg: 99.2

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 72.0 | | |
| R1: | 68.9 | R9: | -17.4 |
| R2: | 83.0 | R10: | 61.3 |
| R3: | 95.2 | R11: | 59.8 |
| R4: | 66.2 | R12: | 50.5 |
| R5: | 65.9 | R13: | 71.1 |
| R6: | 76.3 | R14: | 96.9 |
| R7: | 76.7 | | |
| R8: | 43.8 | | |



Test Conditions

Stabilization Time: 71M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.7/41%
 Sphere Temperature (°C): 25.6

REPORT NUMBER: SP1-1908-441-10-R4

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

REPORT NUMBER: SP1-1908-441-10-R4

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 2200K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-10-R4

Photopic Flux vs. Wavelength



#####

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 1768 | NR | 490 | 5206 | NR | 620 | 130919 | NR | 750 | 8553 | NR | 880 | 2713 | NR |
| 365 | 1569 | NR | 495 | 7286 | NR | 625 | 125335 | NR | 755 | 7696 | NR | 885 | 2316 | NR |
| 370 | 1594 | NR | 500 | 10654 | NR | 630 | 118388 | NR | 760 | 6978 | NR | 890 | 2539 | NR |
| 375 | 1744 | NR | 505 | 15189 | NR | 635 | 111855 | NR | 765 | 6377 | NR | 895 | 1933 | NR |
| 380 | 1659 | NR | 510 | 20541 | NR | 640 | 104062 | NR | 770 | 5600 | NR | 900 | 2216 | NR |
| 385 | 1504 | NR | 515 | 26492 | NR | 645 | 96365 | NR | 775 | 5000 | NR | 905 | 2067 | NR |
| 390 | 1541 | NR | 520 | 32294 | NR | 650 | 88651 | NR | 780 | 4709 | NR | 910 | 1959 | NR |
| 395 | 1355 | NR | 525 | 38123 | NR | 655 | 81152 | NR | 785 | 4305 | NR | 915 | 1874 | NR |
| 400 | 1243 | NR | 530 | 43232 | NR | 660 | 73523 | NR | 790 | 4040 | NR | 920 | 1484 | NR |
| 405 | 1417 | NR | 535 | 48012 | NR | 665 | 66123 | NR | 795 | 3642 | NR | 925 | 1914 | NR |
| 410 | 2147 | NR | 540 | 52623 | NR | 670 | 58677 | NR | 800 | 3594 | NR | 930 | 1948 | NR |
| 415 | 3837 | NR | 545 | 57516 | NR | 675 | 52349 | NR | 805 | 3190 | NR | 935 | 2079 | NR |
| 420 | 7159 | NR | 550 | 62613 | NR | 680 | 46159 | NR | 810 | 3241 | NR | 940 | 2263 | NR |
| 425 | 12599 | NR | 555 | 68554 | NR | 685 | 40525 | NR | 815 | 2732 | NR | 945 | 1688 | NR |
| 430 | 19019 | NR | 560 | 75325 | NR | 690 | 35615 | NR | 820 | 2612 | NR | 950 | 1560 | NR |
| 435 | 24875 | NR | 565 | 82533 | NR | 695 | 31158 | NR | 825 | 2966 | NR | 955 | 2826 | NR |
| 440 | 29103 | NR | 570 | 90909 | NR | 700 | 27409 | NR | 830 | 2574 | NR | 960 | 1477 | NR |
| 445 | 29901 | NR | 575 | 99621 | NR | 705 | 24204 | NR | 835 | 2633 | NR | 965 | 1568 | NR |
| 450 | 24862 | NR | 580 | 108484 | NR | 710 | 21558 | NR | 840 | 2526 | NR | 970 | 2030 | NR |
| 455 | 15942 | NR | 585 | 116679 | NR | 715 | 19222 | NR | 845 | 2631 | NR | 975 | 1986 | NR |
| 460 | 9916 | NR | 590 | 123752 | NR | 720 | 17310 | NR | 850 | 2079 | NR | 980 | 2540 | NR |
| 465 | 7051 | NR | 595 | 129324 | NR | 725 | 15280 | NR | 855 | 2309 | NR | 985 | 1139 | NR |
| 470 | 5227 | NR | 600 | 134082 | NR | 730 | 13282 | NR | 860 | 2528 | NR | 990 | 2018 | NR |
| 475 | 4257 | NR | 605 | 135698 | NR | 735 | 11753 | NR | 865 | 2121 | NR | 995 | 3445 | NR |
| 480 | 4052 | NR | 610 | 135144 | NR | 740 | 10654 | NR | 870 | 2751 | NR | 1000 | 3704 | NR |
| 485 | 4298 | NR | 615 | 134180 | NR | 745 | 9451 | NR | 875 | 2317 | NR | | | |

REPORT NUMBER: SP1-1908-441-10-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 4696.9

S/P: 0.85

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 1768 | NR | 490 | 5206 | NR | 620 | 130919 | NR | 750 | 8553 | NR | 880 | 2713 | NR |
| 365 | 1569 | NR | 495 | 7286 | NR | 625 | 125335 | NR | 755 | 7696 | NR | 885 | 2316 | NR |
| 370 | 1594 | NR | 500 | 10654 | NR | 630 | 118388 | NR | 760 | 6978 | NR | 890 | 2539 | NR |
| 375 | 1744 | NR | 505 | 15189 | NR | 635 | 111855 | NR | 765 | 6377 | NR | 895 | 1933 | NR |
| 380 | 1659 | NR | 510 | 20541 | NR | 640 | 104062 | NR | 770 | 5600 | NR | 900 | 2216 | NR |
| 385 | 1504 | NR | 515 | 26492 | NR | 645 | 96365 | NR | 775 | 5000 | NR | 905 | 2067 | NR |
| 390 | 1541 | NR | 520 | 32294 | NR | 650 | 88651 | NR | 780 | 4709 | NR | 910 | 1959 | NR |
| 395 | 1355 | NR | 525 | 38123 | NR | 655 | 81152 | NR | 785 | 4305 | NR | 915 | 1874 | NR |
| 400 | 1243 | NR | 530 | 43232 | NR | 660 | 73523 | NR | 790 | 4040 | NR | 920 | 1484 | NR |
| 405 | 1417 | NR | 535 | 48012 | NR | 665 | 66123 | NR | 795 | 3642 | NR | 925 | 1914 | NR |
| 410 | 2147 | NR | 540 | 52623 | NR | 670 | 58677 | NR | 800 | 3594 | NR | 930 | 1948 | NR |
| 415 | 3837 | NR | 545 | 57516 | NR | 675 | 52349 | NR | 805 | 3190 | NR | 935 | 2079 | NR |
| 420 | 7159 | NR | 550 | 62613 | NR | 680 | 46159 | NR | 810 | 3241 | NR | 940 | 2263 | NR |
| 425 | 12599 | NR | 555 | 68554 | NR | 685 | 40525 | NR | 815 | 2732 | NR | 945 | 1688 | NR |
| 430 | 19019 | NR | 560 | 75325 | NR | 690 | 35615 | NR | 820 | 2612 | NR | 950 | 1560 | NR |
| 435 | 24875 | NR | 565 | 82533 | NR | 695 | 31158 | NR | 825 | 2966 | NR | 955 | 2826 | NR |
| 440 | 29103 | NR | 570 | 90909 | NR | 700 | 27409 | NR | 830 | 2574 | NR | 960 | 1477 | NR |
| 445 | 29901 | NR | 575 | 99621 | NR | 705 | 24204 | NR | 835 | 2633 | NR | 965 | 1568 | NR |
| 450 | 24862 | NR | 580 | 108484 | NR | 710 | 21558 | NR | 840 | 2526 | NR | 970 | 2030 | NR |
| 455 | 15942 | NR | 585 | 116679 | NR | 715 | 19222 | NR | 845 | 2631 | NR | 975 | 1986 | NR |
| 460 | 9916 | NR | 590 | 123752 | NR | 720 | 17310 | NR | 850 | 2079 | NR | 980 | 2540 | NR |
| 465 | 7051 | NR | 595 | 129324 | NR | 725 | 15280 | NR | 855 | 2309 | NR | 985 | 1139 | NR |
| 470 | 5227 | NR | 600 | 134082 | NR | 730 | 13282 | NR | 860 | 2528 | NR | 990 | 2018 | NR |
| 475 | 4257 | NR | 605 | 135698 | NR | 735 | 11753 | NR | 865 | 2121 | NR | 995 | 3445 | NR |
| 480 | 4052 | NR | 610 | 135144 | NR | 740 | 10654 | NR | 870 | 2751 | NR | 1000 | 3704 | NR |
| 485 | 4298 | NR | 615 | 134180 | NR | 745 | 9451 | NR | 875 | 2317 | NR | | | |

REPORT NUMBER: SP1-1908-441-10-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 1470.8 M/P: 0.27

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 1768 | NR | 490 | 5206 | NR | 620 | 130919 | NR | 750 | 8553 | NR | 880 | 2713 | NR |
| 365 | 1569 | NR | 495 | 7286 | NR | 625 | 125335 | NR | 755 | 7696 | NR | 885 | 2316 | NR |
| 370 | 1594 | NR | 500 | 10654 | NR | 630 | 118388 | NR | 760 | 6978 | NR | 890 | 2539 | NR |
| 375 | 1744 | NR | 505 | 15189 | NR | 635 | 111855 | NR | 765 | 6377 | NR | 895 | 1933 | NR |
| 380 | 1659 | NR | 510 | 20541 | NR | 640 | 104062 | NR | 770 | 5600 | NR | 900 | 2216 | NR |
| 385 | 1504 | NR | 515 | 26492 | NR | 645 | 96365 | NR | 775 | 5000 | NR | 905 | 2067 | NR |
| 390 | 1541 | NR | 520 | 32294 | NR | 650 | 88651 | NR | 780 | 4709 | NR | 910 | 1959 | NR |
| 395 | 1355 | NR | 525 | 38123 | NR | 655 | 81152 | NR | 785 | 4305 | NR | 915 | 1874 | NR |
| 400 | 1243 | NR | 530 | 43232 | NR | 660 | 73523 | NR | 790 | 4040 | NR | 920 | 1484 | NR |
| 405 | 1417 | NR | 535 | 48012 | NR | 665 | 66123 | NR | 795 | 3642 | NR | 925 | 1914 | NR |
| 410 | 2147 | NR | 540 | 52623 | NR | 670 | 58677 | NR | 800 | 3594 | NR | 930 | 1948 | NR |
| 415 | 3837 | NR | 545 | 57516 | NR | 675 | 52349 | NR | 805 | 3190 | NR | 935 | 2079 | NR |
| 420 | 7159 | NR | 550 | 62613 | NR | 680 | 46159 | NR | 810 | 3241 | NR | 940 | 2263 | NR |
| 425 | 12599 | NR | 555 | 68554 | NR | 685 | 40525 | NR | 815 | 2732 | NR | 945 | 1688 | NR |
| 430 | 19019 | NR | 560 | 75325 | NR | 690 | 35615 | NR | 820 | 2612 | NR | 950 | 1560 | NR |
| 435 | 24875 | NR | 565 | 82533 | NR | 695 | 31158 | NR | 825 | 2966 | NR | 955 | 2826 | NR |
| 440 | 29103 | NR | 570 | 90909 | NR | 700 | 27409 | NR | 830 | 2574 | NR | 960 | 1477 | NR |
| 445 | 29901 | NR | 575 | 99621 | NR | 705 | 24204 | NR | 835 | 2633 | NR | 965 | 1568 | NR |
| 450 | 24862 | NR | 580 | 108484 | NR | 710 | 21558 | NR | 840 | 2526 | NR | 970 | 2030 | NR |
| 455 | 15942 | NR | 585 | 116679 | NR | 715 | 19222 | NR | 845 | 2631 | NR | 975 | 1986 | NR |
| 460 | 9916 | NR | 590 | 123752 | NR | 720 | 17310 | NR | 850 | 2079 | NR | 980 | 2540 | NR |
| 465 | 7051 | NR | 595 | 129324 | NR | 725 | 15280 | NR | 855 | 2309 | NR | 985 | 1139 | NR |
| 470 | 5227 | NR | 600 | 134082 | NR | 730 | 13282 | NR | 860 | 2528 | NR | 990 | 2018 | NR |
| 475 | 4257 | NR | 605 | 135698 | NR | 735 | 11753 | NR | 865 | 2121 | NR | 995 | 3445 | NR |
| 480 | 4052 | NR | 610 | 135144 | NR | 740 | 10654 | NR | 870 | 2751 | NR | 1000 | 3704 | NR |
| 485 | 4298 | NR | 615 | 134180 | NR | 745 | 9451 | NR | 875 | 2317 | NR | | | |

REPORT NUMBER: SP1-1908-441-10-R4

TM-30-18

Summary

$R_f = 69.8$
 $R_g = 99.2$
 $CIE R_a = 72.0$
 $R_9 = -17.4$



Color Vector Graphics



REPORT NUMBER: SP1-1908-441-10-R4

TM-30-18

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

| | | | |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 56 | CES51 = 74 | CES76 = 56 |
| CES02 = 65 | CES27 = 76 | CES52 = 76 | CES77 = 81 |
| CES03 = 32 | CES28 = 83 | CES53 = 65 | CES78 = 63 |
| CES04 = 72 | CES29 = 46 | CES54 = 78 | CES79 = 84 |
| CES05 = 52 | CES30 = 48 | CES55 = 75 | CES80 = 84 |
| CES06 = 52 | CES31 = 51 | CES56 = 65 | CES81 = 63 |
| CES07 = 44 | CES32 = 51 | CES57 = 62 | CES82 = 92 |
| CES08 = 42 | CES33 = 53 | CES58 = 66 | CES83 = 83 |
| CES09 = 29 | CES34 = 70 | CES59 = 84 | CES84 = 92 |
| CES10 = 78 | CES35 = 85 | CES60 = 90 | CES85 = 81 |
| CES11 = 61 | CES36 = 78 | CES61 = 84 | CES86 = 56 |
| CES12 = 68 | CES37 = 80 | CES62 = 70 | CES87 = 78 |
| CES13 = 45 | CES38 = 53 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 84 | CES65 = 67 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 90 |
| CES17 = 51 | CES42 = 79 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 64 | CES68 = 69 | CES93 = 79 |
| CES19 = 74 | CES44 = 98 | CES69 = 80 | CES94 = 52 |
| CES20 = 68 | CES45 = 73 | CES70 = 63 | CES95 = 76 |
| CES21 = 89 | CES46 = 67 | CES71 = 63 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 87 | CES97 = 77 |
| CES23 = 92 | CES48 = 48 | CES73 = 56 | CES98 = 71 |
| CES24 = 92 | CES49 = 64 | CES74 = 87 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 | |



REPORT NUMBER: SP1-1908-441-10-R4

TM-30-18

Color Rendition by Hue-Angle Bin



REPORT NUMBER: SP1-1908-441-10-R4

TM-30-18

Measure Comparisons



(END OF REPORT)