

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: P386220

Luminaire Tested: **GPC-SA1D-760-U-SL4-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P386220
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-25)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GPC-SA1D-760-U-SL4-HSS
Description: GALLEON PEDESTRIAN LUMINAIRE
(1) 70 CRI, 5700K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6726 lumens
Efficiency: N/A
Efficacy: 100.4 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

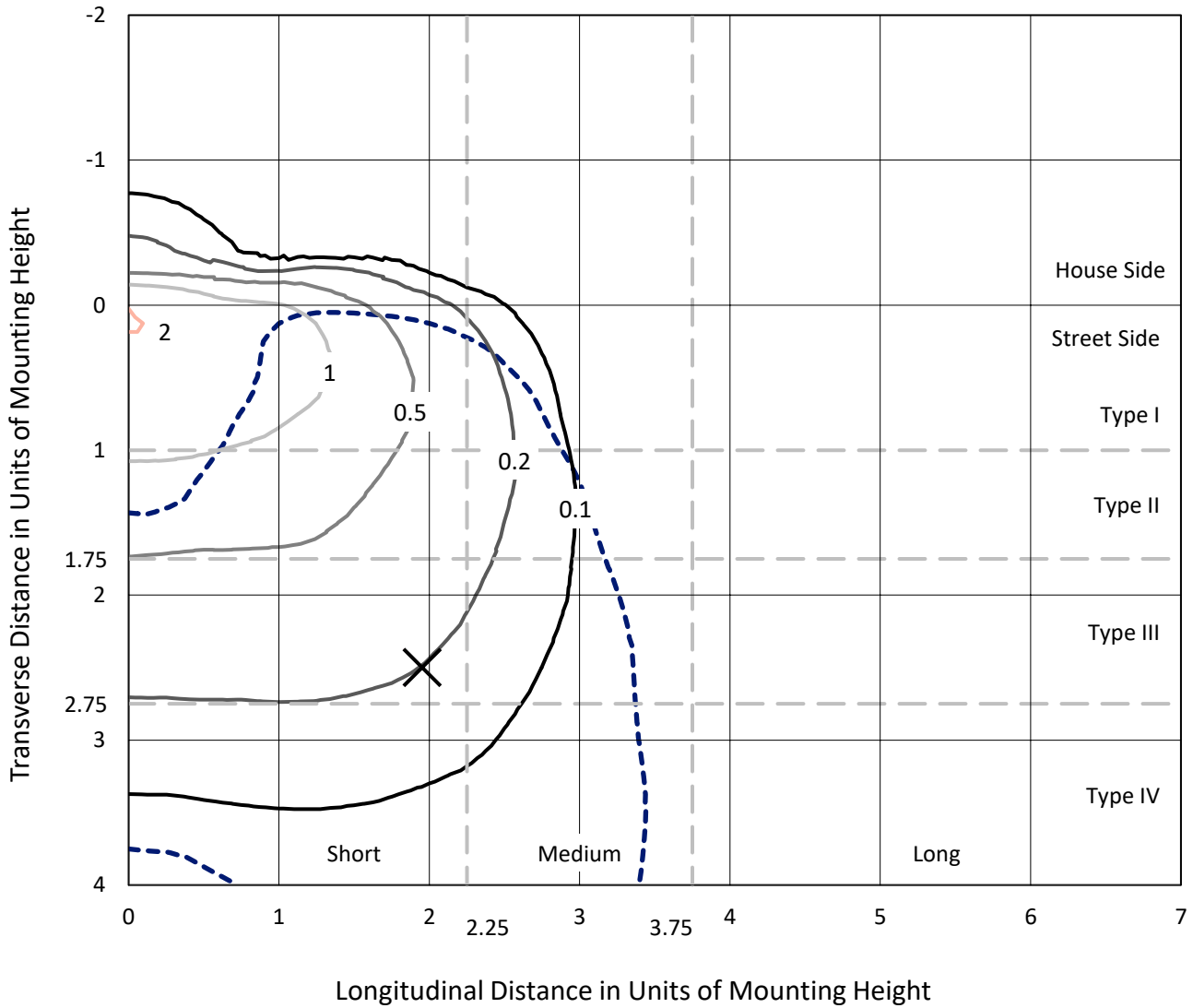
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

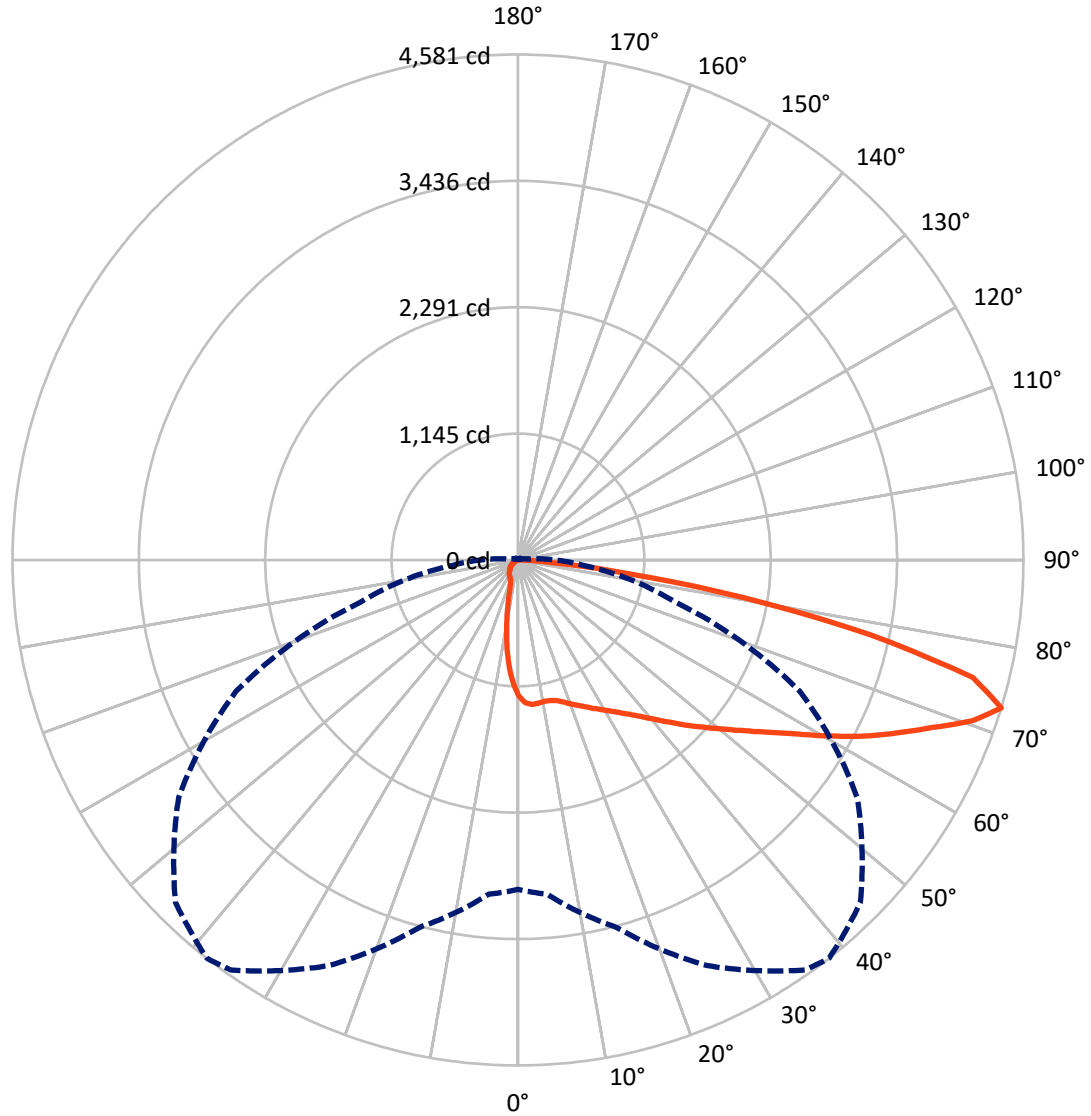
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.1 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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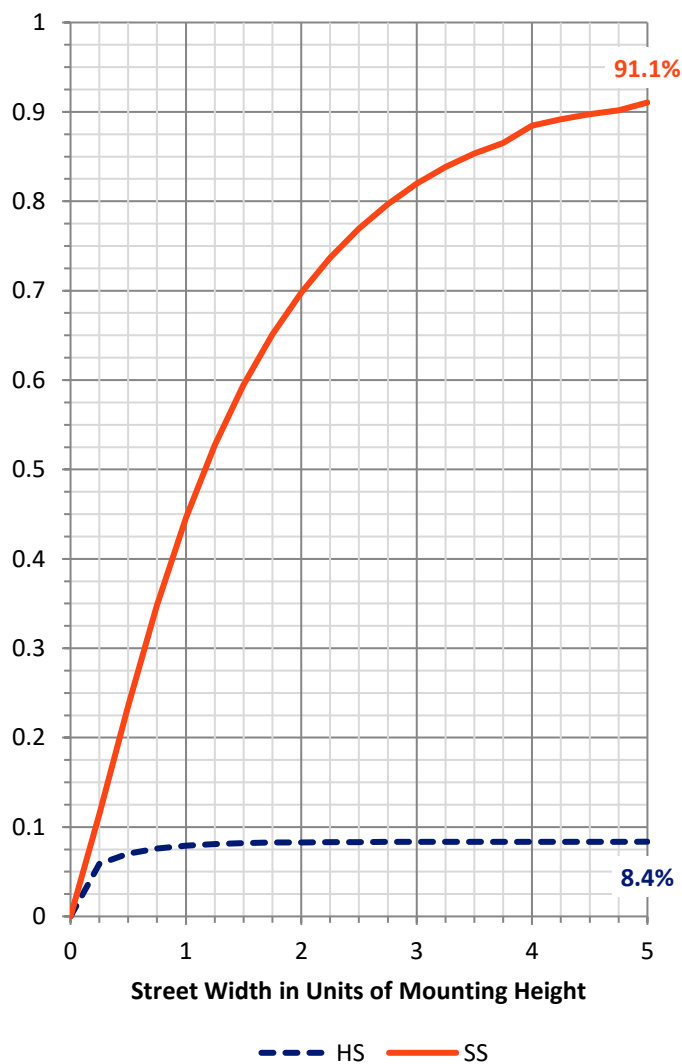
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 566.0 | 0.0 | 566.0 |
| | % Fixture | 8.4 | 0.0 | 8.4 |
| Street Side | Lumens | 6160.0 | 0.0 | 6160.0 |
| | % Fixture | 91.6 | 0.0 | 91.6 |
| Total | Lumens | 6726.0 | 0.0 | 6726.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 105.4 | 1.6 |
| 10°-20° | 257.7 | 3.8 |
| 20°-30° | 409.9 | 6.1 |
| 30°-40° | 616.3 | 9.2 |
| 40°-50° | 940.2 | 14.0 |
| 50°-60° | 1328.8 | 19.8 |
| 60°-70° | 1666.8 | 24.8 |
| 70°-80° | 1246.3 | 18.5 |
| 80°-90° | 154.5 | 2.3 |
| 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° | 6726.0 | 100.0 |
| 0°-180° | 6726.0 | 100.0 |

Coefficient of Utilization



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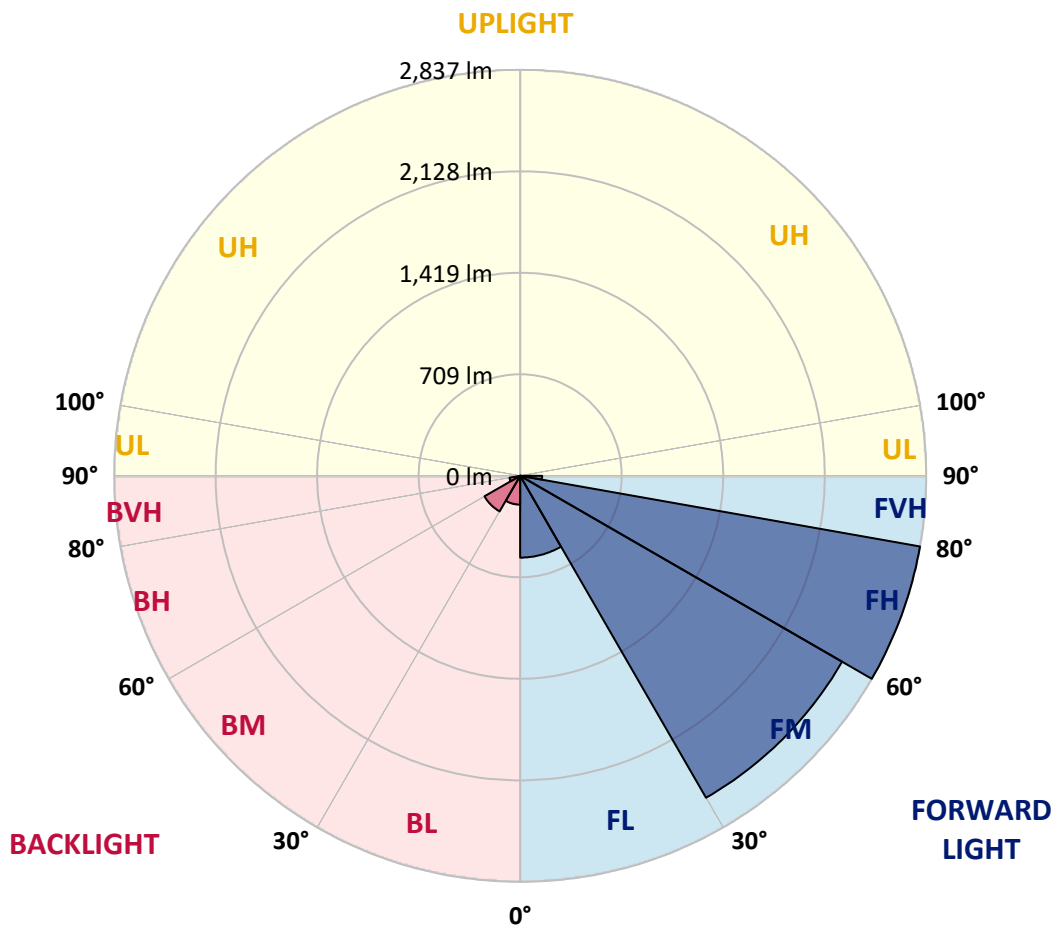
CATALOG NUMBER: GPC-SA1D-760-U-SL4-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 571.5 | 8.5 | | | |
| FM (30°-60°) | 2597.9 | 38.6 | | | |
| FH (60°-80°) | 2837.5 | 42.2 | | | G2/5000 |
| FVH (80°-90°) | 153.1 | 2.3 | | | G2/225 |
| BL (0°-30°) | 201.5 | 3.0 | B1/500 | | |
| BM (30°-60°) | 287.4 | 4.3 | B1/1000 | | |
| BH (60°-80°) | 75.6 | 1.1 | B0/110 | | G0/110 |
| BVH (80°-90°) | 1.4 | 0.0 | | | G0/10 |
| 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





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 38° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 |
| 2.5° | 1312.9 | 1313.1 | 1310.1 | 1305.0 | 1298.6 | 1295.3 | 1289.7 | 1280.7 | 1271.2 | 1254.2 | 1235.8 |
| 5° | 1339.7 | 1339.7 | 1335.8 | 1329.1 | 1318.7 | 1315.7 | 1305.0 | 1290.8 | 1271.2 | 1243.6 | 1212.6 |
| 7.5° | 1336.9 | 1337.4 | 1332.1 | 1325.2 | 1314.8 | 1312.0 | 1299.2 | 1283.3 | 1259.0 | 1225.4 | 1185.8 |
| 10° | 1322.4 | 1323.8 | 1319.6 | 1316.2 | 1306.7 | 1303.6 | 1291.6 | 1275.7 | 1251.4 | 1215.7 | 1170.1 |
| 12.5° | 1307.6 | 1309.0 | 1310.4 | 1313.4 | 1307.6 | 1306.4 | 1296.9 | 1283.5 | 1260.4 | 1223.2 | 1171.8 |
| 15° | 1298.1 | 1300.9 | 1310.9 | 1322.9 | 1324.3 | 1323.2 | 1317.1 | 1304.5 | 1281.0 | 1242.5 | 1183.8 |
| 17.5° | 1298.1 | 1302.5 | 1323.5 | 1346.4 | 1354.5 | 1355.3 | 1350.0 | 1332.4 | 1304.5 | 1263.1 | 1195.0 |
| 20° | 1309.0 | 1315.1 | 1347.8 | 1380.2 | 1393.6 | 1393.6 | 1383.3 | 1358.7 | 1326.0 | 1281.9 | 1202.5 |
| 22.5° | 1336.9 | 1345.0 | 1386.1 | 1423.5 | 1437.7 | 1434.7 | 1420.7 | 1384.9 | 1348.3 | 1303.1 | 1212.0 |
| 25° | 1391.9 | 1398.1 | 1440.8 | 1478.5 | 1487.2 | 1480.2 | 1462.6 | 1416.8 | 1376.8 | 1331.9 | 1229.3 |
| 27.5° | 1462.9 | 1463.7 | 1507.8 | 1539.7 | 1534.4 | 1529.6 | 1507.6 | 1456.7 | 1417.9 | 1372.9 | 1259.2 |
| 30° | 1540.8 | 1540.8 | 1579.6 | 1603.9 | 1587.7 | 1583.8 | 1561.8 | 1505.0 | 1470.4 | 1428.8 | 1301.7 |
| 32.5° | 1616.2 | 1619.6 | 1651.1 | 1666.5 | 1648.3 | 1644.4 | 1622.9 | 1566.2 | 1540.2 | 1514.0 | 1367.9 |
| 35° | 1689.1 | 1691.6 | 1721.5 | 1729.9 | 1712.6 | 1713.7 | 1698.3 | 1650.3 | 1640.5 | 1637.2 | 1467.6 |
| 37.5° | 1759.8 | 1760.4 | 1790.8 | 1796.1 | 1787.5 | 1797.0 | 1798.3 | 1755.9 | 1774.0 | 1801.1 | 1608.1 |
| 40° | 1824.3 | 1824.9 | 1855.1 | 1868.7 | 1883.5 | 1895.8 | 1906.7 | 1884.1 | 1944.2 | 2007.0 | 1775.4 |
| 42.5° | 1876.0 | 1881.9 | 1920.1 | 1946.1 | 1985.2 | 2008.7 | 2038.3 | 2037.2 | 2146.7 | 2241.1 | 1977.7 |
| 45° | 1921.5 | 1931.6 | 1984.9 | 2030.5 | 2097.5 | 2134.9 | 2181.3 | 2217.6 | 2374.6 | 2501.7 | 2182.4 |
| 47.5° | 1981.6 | 1991.1 | 2052.0 | 2126.6 | 2216.0 | 2265.1 | 2341.9 | 2420.4 | 2625.2 | 2757.6 | 2382.4 |
| 50° | 2066.2 | 2062.0 | 2122.1 | 2229.1 | 2343.9 | 2408.4 | 2517.9 | 2635.5 | 2873.8 | 2980.5 | 2500.0 |
| 52.5° | 2156.5 | 2154.8 | 2199.2 | 2340.5 | 2494.7 | 2570.1 | 2714.8 | 2857.9 | 3111.5 | 3134.1 | 2553.9 |
| 55° | 2268.2 | 2256.2 | 2293.6 | 2467.6 | 2673.8 | 2754.8 | 2925.2 | 3078.0 | 3300.9 | 3220.7 | 2581.0 |
| 57.5° | 2385.2 | 2365.4 | 2401.2 | 2609.3 | 2875.7 | 2971.6 | 3158.1 | 3292.5 | 3426.9 | 3279.9 | 2580.8 |
| 60° | 2506.2 | 2482.7 | 2525.2 | 2786.4 | 3126.6 | 3237.5 | 3410.7 | 3437.5 | 3544.5 | 3309.8 | 2561.8 |
| 62.5° | 2607.3 | 2593.3 | 2656.5 | 2975.7 | 3406.8 | 3515.7 | 3601.4 | 3569.3 | 3643.6 | 3333.0 | 2517.4 |
| 65° | 2714.3 | 2715.1 | 2817.1 | 3196.7 | 3704.5 | 3778.0 | 3785.2 | 3740.3 | 3726.6 | 3328.3 | 2367.1 |
| 67.5° | 2859.0 | 2872.4 | 3042.5 | 3496.7 | 3994.2 | 4050.9 | 4050.3 | 3925.5 | 3787.2 | 3139.4 | 2033.8 |
| 70° | 3012.1 | 3043.6 | 3302.3 | 3840.0 | 4310.4 | 4367.9 | 4338.3 | 4043.4 | 3566.0 | 2538.6 | 1439.4 |
| 72.5° | 2986.4 | 3041.1 | 3446.7 | 4056.5 | 4537.5 | 4581.4 | 4388.9 | 3753.7 | 2818.5 | 1475.4 | 612.9 |
| 75° | 2303.9 | 2367.4 | 3160.4 | 3842.0 | 4299.2 | 4259.8 | 3771.0 | 2921.0 | 1540.2 | 411.7 | 138.0 |
| 77.5° | 1217.1 | 1250.9 | 2087.7 | 2926.9 | 3352.3 | 3269.9 | 2656.5 | 1620.4 | 469.6 | 102.0 | 62.0 |
| 80° | 637.4 | 645.3 | 909.8 | 1660.6 | 2069.0 | 2069.6 | 1574.3 | 711.7 | 193.6 | 52.2 | 41.6 |
| 82.5° | 341.3 | 348.0 | 480.7 | 767.3 | 1084.1 | 982.7 | 602.8 | 391.6 | 112.6 | 29.6 | 39.9 |
| 85° | 82.1 | 83.5 | 272.6 | 350.6 | 426.3 | 304.5 | 179.1 | 328.8 | 30.4 | 17.3 | 32.4 |
| 87.5° | 31.6 | 32.1 | 101.1 | 151.7 | 108.7 | 70.4 | 83.8 | 122.6 | 3.9 | 6.7 | 5.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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 CATALOG NUMBER: GPC-SA1D-760-U-SL4-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 | 1236.9 |
| 2.5° | 1224.6 | 1217.3 | 1199.5 | 1176.8 | 1156.7 | 1142.2 | 1120.4 | 1106.2 | 1096.7 | 1096.4 | 1092.8 |
| 5° | 1193.6 | 1178.8 | 1140.2 | 1094.4 | 1052.8 | 1015.4 | 971.2 | 936.3 | 910.3 | 906.2 | 897.2 |
| 7.5° | 1160.4 | 1136.0 | 1076.8 | 1005.3 | 935.5 | 864.5 | 782.1 | 731.0 | 687.2 | 666.2 | 664.0 |
| 10° | 1140.0 | 1105.9 | 1021.8 | 918.4 | 809.0 | 693.6 | 585.8 | 511.2 | 457.3 | 441.9 | 430.5 |
| 12.5° | 1135.8 | 1090.8 | 979.3 | 836.9 | 680.5 | 527.9 | 408.7 | 329.3 | 286.3 | 272.6 | 269.0 |
| 15° | 1140.0 | 1083.8 | 943.6 | 756.2 | 550.3 | 374.6 | 274.3 | 228.2 | 212.0 | 208.1 | 207.8 |
| 17.5° | 1142.5 | 1075.4 | 903.1 | 666.5 | 424.0 | 267.6 | 210.1 | 196.7 | 194.1 | 193.9 | 194.4 |
| 20° | 1142.2 | 1062.6 | 854.8 | 566.5 | 315.4 | 210.3 | 189.9 | 187.2 | 186.6 | 186.9 | 186.6 |
| 22.5° | 1140.2 | 1047.5 | 801.7 | 463.4 | 238.3 | 188.0 | 181.3 | 179.6 | 179.3 | 179.3 | 179.3 |
| 25° | 1143.9 | 1035.5 | 743.3 | 364.8 | 196.4 | 177.7 | 173.5 | 172.1 | 171.8 | 171.8 | 171.2 |
| 27.5° | 1157.0 | 1028.8 | 679.3 | 280.7 | 177.4 | 168.4 | 165.1 | 164.8 | 164.0 | 163.7 | 164.2 |
| 30° | 1178.2 | 1028.8 | 609.2 | 218.4 | 165.9 | 158.9 | 156.4 | 155.9 | 155.6 | 155.3 | 155.6 |
| 32.5° | 1215.7 | 1036.6 | 532.7 | 181.6 | 155.0 | 148.3 | 146.7 | 147.5 | 146.7 | 146.7 | 146.7 |
| 35° | 1283.3 | 1060.1 | 452.5 | 158.4 | 143.6 | 138.0 | 136.3 | 137.4 | 136.9 | 136.9 | 136.6 |
| 37.5° | 1381.9 | 1103.6 | 371.8 | 144.4 | 133.5 | 127.7 | 125.4 | 127.1 | 126.5 | 126.5 | 126.3 |
| 40° | 1502.0 | 1167.1 | 295.0 | 133.8 | 123.7 | 117.6 | 115.6 | 116.5 | 115.1 | 115.1 | 115.6 |
| 42.5° | 1650.3 | 1247.5 | 227.9 | 123.5 | 114.0 | 108.1 | 107.0 | 106.1 | 103.6 | 102.2 | 102.5 |
| 45° | 1815.1 | 1331.3 | 177.7 | 113.4 | 104.8 | 100.0 | 98.3 | 96.1 | 91.9 | 89.1 | 89.4 |
| 47.5° | 1962.3 | 1395.8 | 144.4 | 103.6 | 96.4 | 92.7 | 90.2 | 86.0 | 79.9 | 76.5 | 76.8 |
| 50° | 2039.7 | 1405.6 | 122.9 | 93.9 | 88.5 | 84.9 | 81.3 | 74.9 | 67.6 | 64.0 | 63.7 |
| 52.5° | 2059.5 | 1359.8 | 107.0 | 84.9 | 80.7 | 76.5 | 71.8 | 63.1 | 55.0 | 51.1 | 50.6 |
| 55° | 2066.8 | 1290.0 | 92.7 | 76.5 | 72.3 | 67.6 | 61.5 | 51.7 | 44.1 | 40.2 | 39.9 |
| 57.5° | 2042.8 | 1185.8 | 81.6 | 69.0 | 64.0 | 58.1 | 50.6 | 41.3 | 34.1 | 31.0 | 31.0 |
| 60° | 1989.4 | 1044.7 | 72.9 | 60.9 | 55.3 | 48.6 | 40.8 | 32.1 | 25.4 | 22.9 | 22.9 |
| 62.5° | 1883.0 | 862.0 | 64.8 | 52.5 | 47.2 | 40.2 | 33.0 | 24.3 | 17.9 | 16.5 | 16.8 |
| 65° | 1682.1 | 653.9 | 56.7 | 45.0 | 40.2 | 33.2 | 25.7 | 17.3 | 12.0 | 12.0 | 12.6 |
| 67.5° | 1371.8 | 454.2 | 48.3 | 38.3 | 34.6 | 27.1 | 19.6 | 12.0 | 8.4 | 9.5 | 10.6 |
| 70° | 908.1 | 254.8 | 41.3 | 31.6 | 29.6 | 21.5 | 14.5 | 8.1 | 6.7 | 8.9 | 10.9 |
| 72.5° | 342.7 | 99.2 | 34.6 | 25.4 | 25.7 | 16.5 | 10.3 | 6.1 | 6.1 | 9.8 | 12.8 |
| 75° | 95.5 | 48.6 | 24.9 | 18.7 | 20.1 | 12.0 | 7.5 | 5.3 | 5.9 | 11.2 | 15.1 |
| 77.5° | 56.1 | 35.8 | 16.2 | 10.9 | 13.7 | 8.4 | 5.0 | 4.2 | 5.0 | 9.5 | 14.5 |
| 80° | 45.3 | 19.0 | 9.5 | 5.6 | 7.5 | 4.7 | 3.4 | 2.5 | 1.4 | 3.6 | 7.5 |
| 82.5° | 45.3 | 11.5 | 4.5 | 3.9 | 3.9 | 2.5 | 1.7 | 1.1 | 0.3 | 0.0 | 2.0 |
| 85° | 30.4 | 4.7 | 2.8 | 2.5 | 2.0 | 0.8 | 0.6 | 0.3 | 0.0 | 0.0 | 0.0 |
| 87.5° | 5.0 | 2.0 | 1.1 | 0.6 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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: SP1-1908-441-9-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-760-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): | 5474 | CRI (Ra): | 71.7 | R9: | -27.1 |
| CIE u': | 0.2052 | R1: | 70.6 | R10: | 40.8 |
| CIE v': | 0.4804 | R2: | 74.6 | R11: | 74.6 |
| Duv: | 0.0025 | R3: | 78.3 | R12: | 50.4 |
| CIE x: | 0.3330 | R4: | 73.8 | R13: | 70.0 |
| CIE y: | 0.3466 | R5: | 72.4 | R14: | 87.8 |
| CIE z: | 0.3204 | R6: | 67.5 | | |
| Peak Wavelength (nm): | 442 | R7: | 77.5 | | |
| Dominant Wavelength (nm): | 554 | R8: | 58.9 | | |
| Purity: | 4.1 | | | | |
| Rf: | 72.1 | | | | |
| Rg: | 97.2 | | | | |



Test Conditions

Stabilization Time: 240M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.6/31%
 Sphere Temperature (°C): 25.9

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| 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 |

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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 5700K 4-step quadrangle

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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 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

REPORT NUMBER: SP1-1908-441-9-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 13759.3 S/P: 1.85

| 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 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

REPORT NUMBER: SP1-1908-441-9-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 5527.6 M/P: 0.74

| 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 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

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Summary

$R_f = 72.1$
 $R_g = 97.2$
 CIE $R_a = 71.7$
 $R_g = -27.1$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 54 | CES51 = 88 | CES76 = 43 |
| CES02 = 59 | CES27 = 79 | CES52 = 90 | CES77 = 64 |
| CES03 = 30 | CES28 = 77 | CES53 = 77 | CES78 = 46 |
| CES04 = 69 | CES29 = 50 | CES54 = 81 | CES79 = 74 |
| CES05 = 46 | CES30 = 59 | CES55 = 80 | CES80 = 70 |
| CES06 = 50 | CES31 = 55 | CES56 = 70 | CES81 = 71 |
| CES07 = 38 | CES32 = 52 | CES57 = 68 | CES82 = 88 |
| CES08 = 38 | CES33 = 63 | CES58 = 70 | CES83 = 82 |
| CES09 = 29 | CES34 = 63 | CES59 = 88 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 92 | CES85 = 84 |
| CES11 = 55 | CES36 = 90 | CES61 = 88 | CES86 = 76 |
| CES12 = 61 | CES37 = 72 | CES62 = 81 | CES87 = 75 |
| CES13 = 41 | CES38 = 68 | CES63 = 75 | CES88 = 77 |
| CES14 = 74 | CES39 = 91 | CES64 = 72 | CES89 = 76 |
| CES15 = 70 | CES40 = 83 | CES65 = 65 | CES90 = 76 |
| CES16 = 46 | CES41 = 84 | CES66 = 66 | CES91 = 92 |
| CES17 = 48 | CES42 = 70 | CES67 = 64 | CES92 = 70 |
| CES18 = 55 | CES43 = 69 | CES68 = 71 | CES93 = 83 |
| CES19 = 70 | CES44 = 98 | CES69 = 80 | CES94 = 60 |
| CES20 = 64 | CES45 = 79 | CES70 = 58 | CES95 = 73 |
| CES21 = 85 | CES46 = 78 | CES71 = 55 | CES96 = 79 |
| CES22 = 77 | CES47 = 76 | CES72 = 84 | CES97 = 84 |
| CES23 = 91 | CES48 = 68 | CES73 = 47 | CES98 = 73 |
| CES24 = 90 | CES49 = 78 | CES74 = 94 | CES99 = 62 |
| CES25 = 71 | CES50 = 87 | CES75 = 51 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)