

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P639265

Luminaire Tested: GWS-SA5B-740-U-T2R-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P639265
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-11)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA5B-740-U-T2R-W
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS
Light Source: (80) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18105.2 lumens
Efficiency: N/A
Efficacy: 156.5 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G2

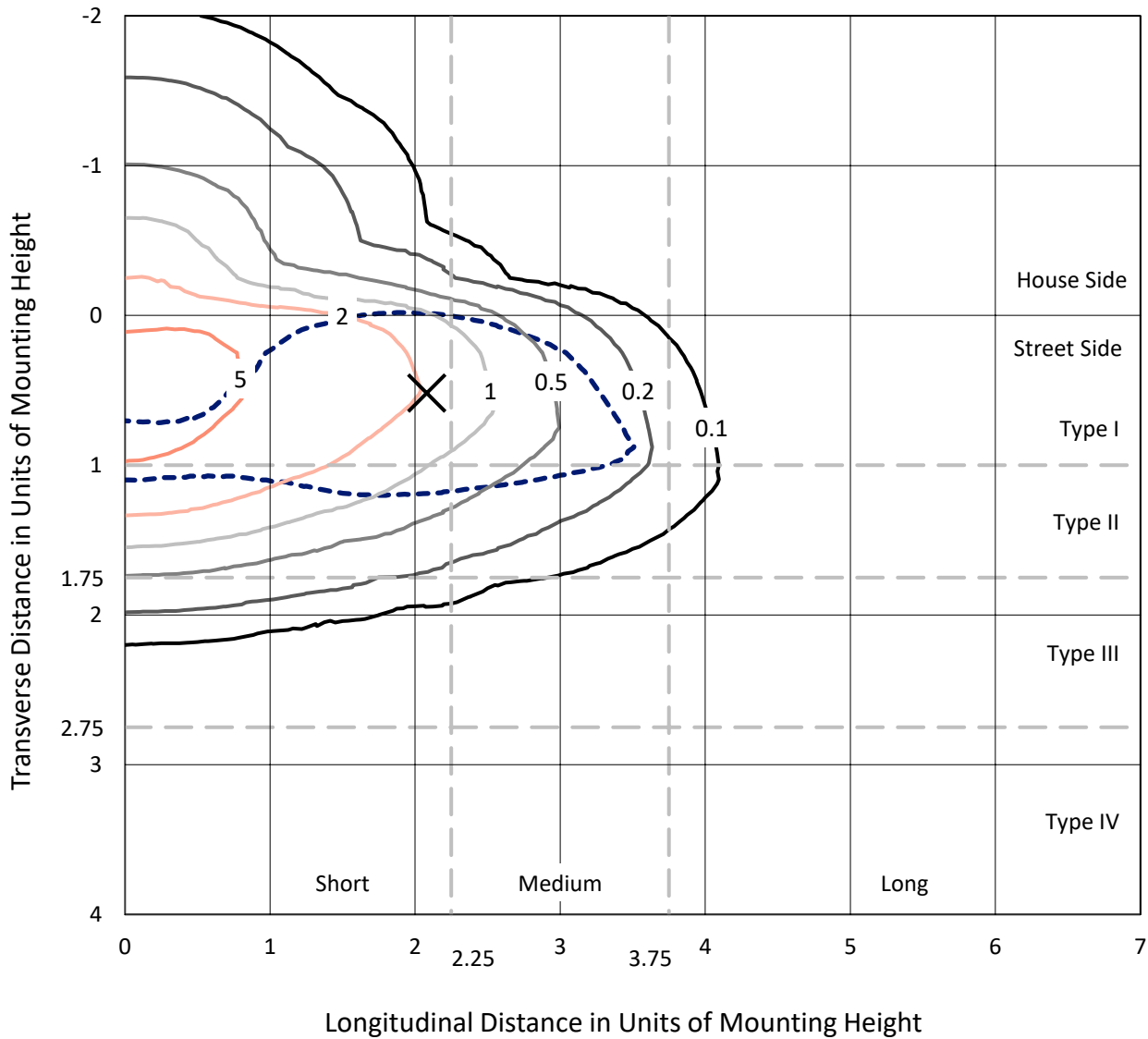
Input Watts (W): 115.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

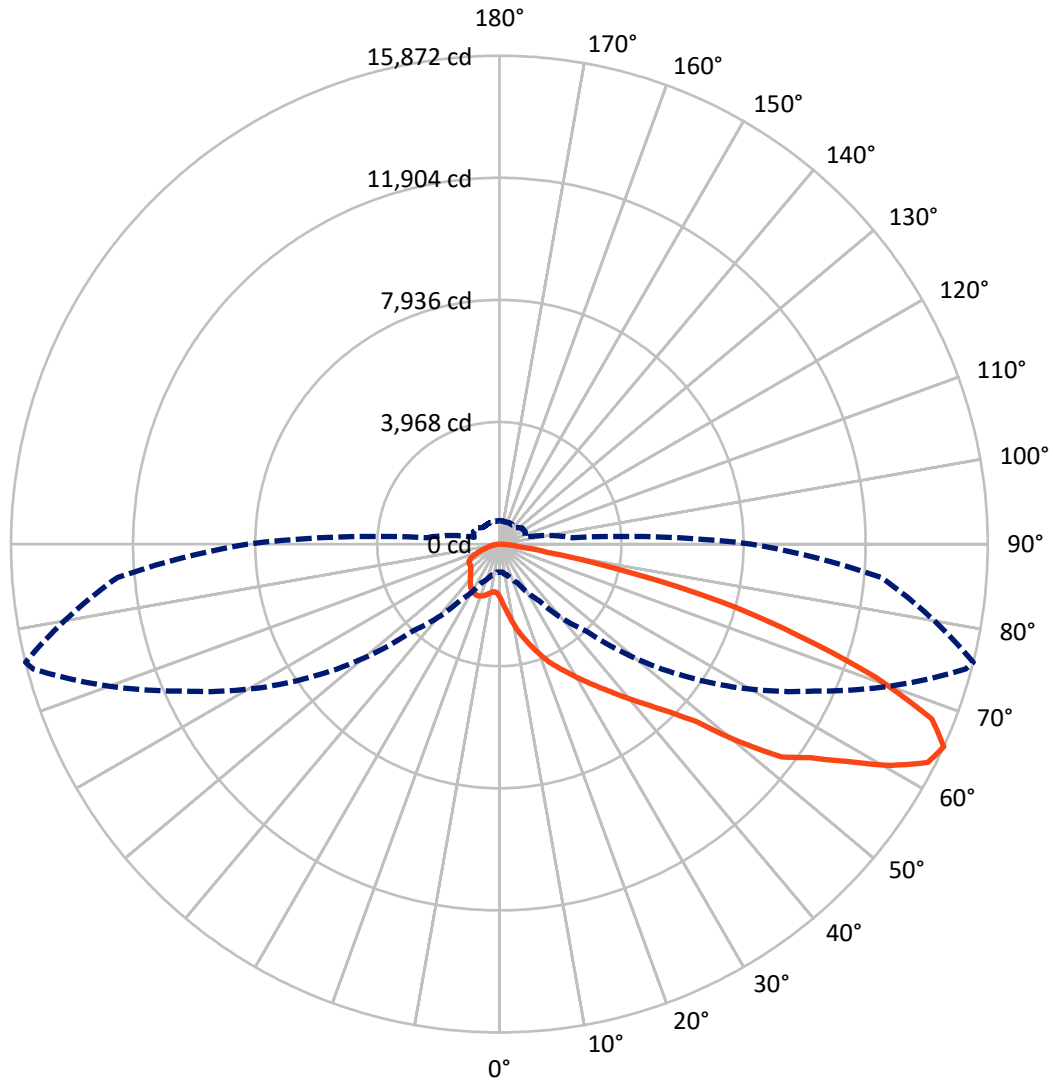
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.1 fc
 Type II - Short - N/A

REPORT NUMBER: P639265
CATALOG NUMBER: GWS-SA5B-740-U-T2R-W

Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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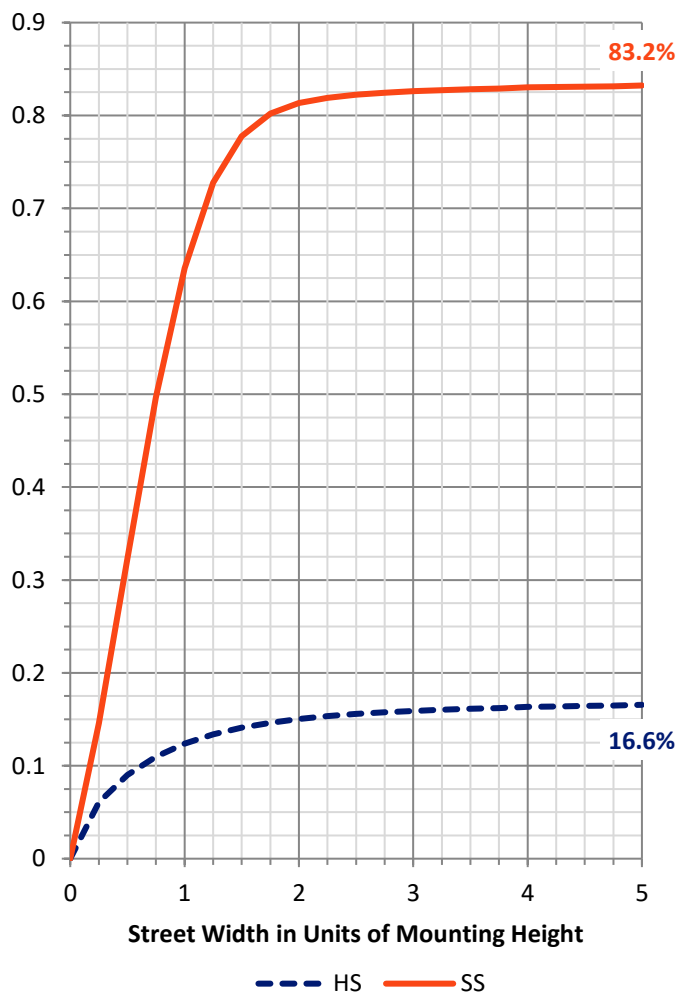
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3026.3 | 0.0 | 3026.3 |
| | % Fixture | 16.7 | 0.0 | 16.7 |
| Street Side | Lumens | 15078.9 | 0.0 | 15078.9 |
| | % Fixture | 83.3 | 0.0 | 83.3 |
| Total | Lumens | 18105.2 | 0.0 | 18105.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 203.7 | 1.1 |
| 10°-20° | 775.8 | 4.3 |
| 20°-30° | 1512.0 | 8.4 |
| 30°-40° | 2528.7 | 14.0 |
| 40°-50° | 3620.6 | 20.0 |
| 50°-60° | 4286.3 | 23.7 |
| 60°-70° | 3564.1 | 19.7 |
| 70°-80° | 1458.5 | 8.1 |
| 80°-90° | 155.3 | 0.9 |
| 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° | 18105.2 | 100.0 |
| 0°-180° | 18105.2 | 100.0 |

Coefficient of Utilization



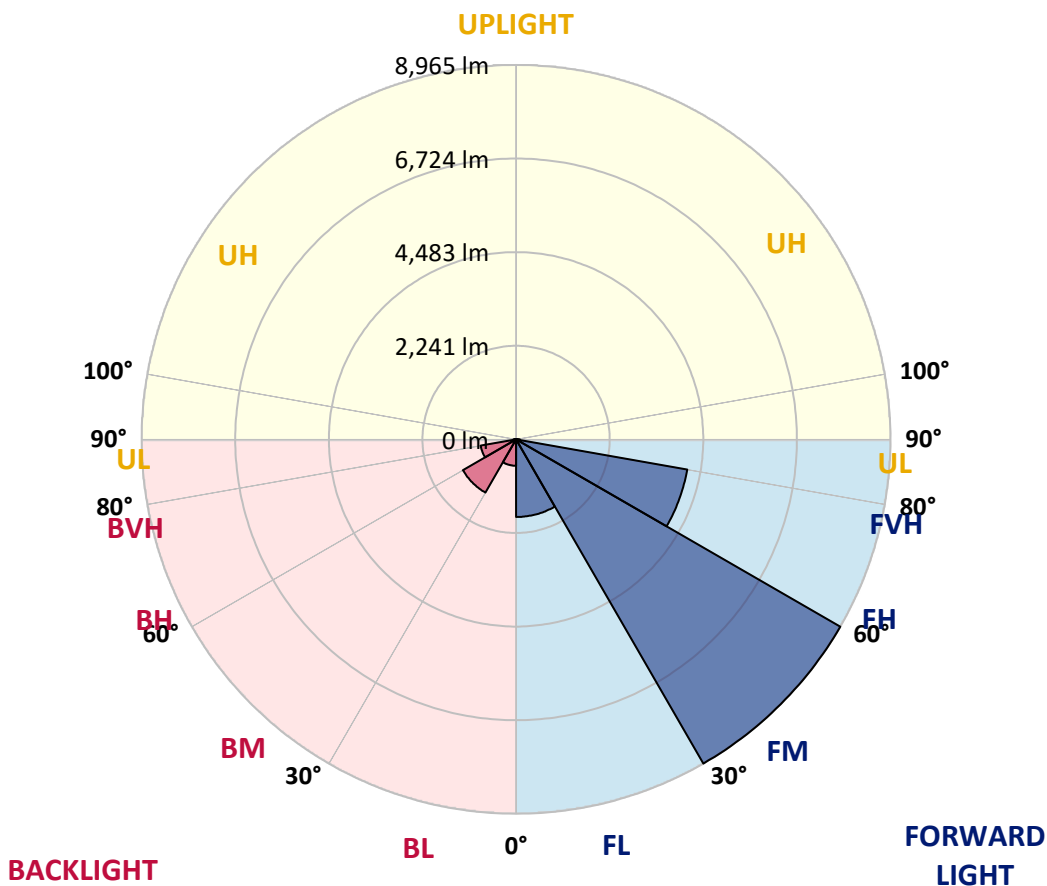
REPORT NUMBER: P639265

CATALOG NUMBER: GWS-SA5B-740-U-T2R-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1858.4 | 10.3 | | | |
| FM (30°-60°) | 8965.0 | 49.5 | | | |
| FH (60°-80°) | 4162.8 | 23.0 | | | G2/5000 |
| FVH (80°-90°) | 92.6 | 0.5 | | | G1/100 |
| BL (0°-30°) | 633.1 | 3.5 | B2/1000 | | |
| BM (30°-60°) | 1470.7 | 8.1 | B2/2500 | | |
| BH (60°-80°) | 859.8 | 4.7 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 62.7 | 0.3 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G2
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0° | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 |
| 2.5° | 2403.1 | 2412.0 | 2382.7 | 2372.5 | 2303.8 | 2210.9 | 2133.3 | 2016.2 | 1908.0 | 1891.4 | 1794.7 |
| 5° | 3052.2 | 3014.1 | 2981.0 | 2959.3 | 2863.9 | 2758.2 | 2594.0 | 2373.8 | 2143.4 | 2115.4 | 1906.7 |
| 7.5° | 3437.9 | 3431.5 | 3390.8 | 3378.1 | 3304.3 | 3198.6 | 3029.3 | 2755.7 | 2420.9 | 2375.1 | 2058.2 |
| 10° | 3747.2 | 3743.4 | 3723.0 | 3734.5 | 3667.0 | 3563.9 | 3399.7 | 3117.1 | 2725.1 | 2679.3 | 2227.4 |
| 12.5° | 4017.0 | 4023.4 | 4019.6 | 4061.6 | 4027.2 | 3947.0 | 3776.5 | 3465.9 | 3029.3 | 2979.7 | 2433.6 |
| 15° | 4214.3 | 4219.4 | 4238.5 | 4330.2 | 4349.2 | 4332.7 | 4159.6 | 3808.3 | 3329.7 | 3258.4 | 2646.2 |
| 17.5° | 4270.3 | 4280.5 | 4326.3 | 4474.0 | 4577.1 | 4645.8 | 4517.3 | 4157.0 | 3625.0 | 3547.4 | 2862.6 |
| 20° | 4345.4 | 4356.9 | 4402.7 | 4556.7 | 4708.2 | 4864.7 | 4841.8 | 4510.9 | 3922.8 | 3859.2 | 3081.5 |
| 22.5° | 4692.9 | 4684.0 | 4663.6 | 4737.5 | 4845.6 | 5040.4 | 5097.7 | 4850.7 | 4230.9 | 4169.8 | 3323.3 |
| 25° | 5362.4 | 5345.9 | 5216.0 | 5148.6 | 5112.9 | 5231.3 | 5333.1 | 5160.0 | 4531.3 | 4439.6 | 3548.6 |
| 27.5° | 6100.7 | 6091.7 | 5926.3 | 5765.9 | 5547.0 | 5496.1 | 5555.9 | 5429.9 | 4822.7 | 4729.8 | 3744.7 |
| 30° | 6799.4 | 6772.7 | 6599.6 | 6398.5 | 6105.7 | 5886.8 | 5799.0 | 5694.6 | 5142.2 | 5045.5 | 3973.8 |
| 32.5° | 7424.4 | 7390.0 | 7186.4 | 6963.6 | 6656.9 | 6398.5 | 6136.3 | 5975.9 | 5503.7 | 5391.7 | 4208.0 |
| 35° | 7937.3 | 7903.0 | 7694.2 | 7457.5 | 7120.2 | 6929.3 | 6570.3 | 6281.4 | 5871.5 | 5758.3 | 4484.2 |
| 37.5° | 8334.5 | 8302.6 | 8085.0 | 7852.1 | 7558.0 | 7406.6 | 7094.7 | 6625.1 | 6295.4 | 6177.0 | 4776.9 |
| 40° | 8557.2 | 8534.3 | 8359.9 | 8175.4 | 7928.4 | 7797.3 | 7657.3 | 7059.1 | 6770.2 | 6651.8 | 5121.8 |
| 42.5° | 8624.7 | 8609.4 | 8487.2 | 8391.7 | 8225.0 | 8125.7 | 8205.9 | 7569.5 | 7276.7 | 7173.6 | 5510.1 |
| 45° | 8455.4 | 8455.4 | 8419.7 | 8468.1 | 8475.7 | 8474.5 | 8755.8 | 8146.1 | 7899.2 | 7785.9 | 6057.4 |
| 47.5° | 8022.6 | 8050.6 | 8102.8 | 8340.8 | 8591.6 | 8801.6 | 9398.5 | 8914.9 | 8699.8 | 8606.8 | 6832.5 |
| 50° | 7230.9 | 7307.3 | 7485.5 | 7950.1 | 8483.4 | 9018.0 | 10007.0 | 10051.5 | 10256.4 | 10092.2 | 7973.0 |
| 52.5° | 6071.4 | 6059.9 | 6514.3 | 7176.2 | 7989.5 | 9026.9 | 10341.7 | 11054.5 | 11605.6 | 11492.3 | 8820.7 |
| 55° | 4825.3 | 4806.2 | 5230.0 | 6142.7 | 7232.2 | 8685.8 | 10542.8 | 11514.0 | 12354.0 | 12252.2 | 9583.1 |
| 57.5° | 3695.0 | 3670.8 | 4047.6 | 4871.1 | 6163.0 | 7961.5 | 10504.6 | 12061.3 | 13383.8 | 13331.6 | 10619.2 |
| 60° | 2543.1 | 2513.8 | 2866.4 | 3586.8 | 4897.8 | 6854.2 | 10082.0 | 12342.6 | 14589.1 | 14606.9 | 11727.8 |
| 62.5° | 1527.4 | 1510.8 | 1766.7 | 2325.5 | 3523.2 | 5482.1 | 9093.1 | 12172.0 | 15548.8 | 15629.0 | 12440.6 |
| 65° | 921.5 | 910.1 | 1060.3 | 1387.4 | 2235.1 | 4000.5 | 7568.2 | 11300.1 | 15687.6 | 15872.1 | 12457.1 |
| 67.5° | 670.8 | 672.1 | 715.3 | 845.2 | 1303.4 | 2583.8 | 5679.3 | 9737.1 | 14964.6 | 15155.5 | 11671.8 |
| 70° | 583.0 | 585.5 | 608.4 | 637.7 | 787.9 | 1479.0 | 3692.5 | 7686.6 | 12827.5 | 12975.2 | 9789.3 |
| 72.5° | 518.0 | 518.0 | 533.3 | 548.6 | 616.0 | 901.2 | 1978.0 | 5372.6 | 10124.1 | 10163.5 | 7471.5 |
| 75° | 455.7 | 451.9 | 459.5 | 467.1 | 534.6 | 630.0 | 962.3 | 3743.4 | 7477.8 | 7386.2 | 4829.1 |
| 77.5° | 362.8 | 358.9 | 360.2 | 367.8 | 428.9 | 450.6 | 487.5 | 2338.2 | 4214.3 | 3977.6 | 2133.3 |
| 80° | 258.4 | 255.8 | 269.8 | 288.9 | 316.9 | 276.2 | 305.5 | 1131.5 | 1671.2 | 1555.4 | 827.3 |
| 82.5° | 154.0 | 159.1 | 180.7 | 196.0 | 218.9 | 173.1 | 197.3 | 378.0 | 591.9 | 576.6 | 336.0 |
| 85° | 21.6 | 22.9 | 64.9 | 75.1 | 94.2 | 67.5 | 104.4 | 170.6 | 236.7 | 253.3 | 118.4 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 8.9 | 30.5 | 67.5 | 68.7 | 29.3 |
| 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: P639265
 CATALOG NUMBER: GWS-SA5B-740-U-T2R-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 | 1714.5 |
| 2.5° | 1745.0 | 1685.2 | 1599.9 | 1528.7 | 1468.8 | 1420.5 | 1379.7 | 1349.2 | 1340.3 | 1327.6 | 1327.6 |
| 5° | 1808.7 | 1700.5 | 1547.8 | 1439.6 | 1377.2 | 1340.3 | 1314.8 | 1302.1 | 1295.7 | 1288.1 | 1284.3 |
| 7.5° | 1896.5 | 1745.0 | 1538.8 | 1429.4 | 1381.0 | 1358.1 | 1341.6 | 1333.9 | 1328.8 | 1321.2 | 1321.2 |
| 10° | 2017.4 | 1811.2 | 1566.8 | 1465.0 | 1426.8 | 1403.9 | 1384.8 | 1372.1 | 1360.7 | 1349.2 | 1346.6 |
| 12.5° | 2148.5 | 1897.8 | 1617.8 | 1513.4 | 1472.7 | 1444.7 | 1417.9 | 1398.8 | 1384.8 | 1370.8 | 1367.0 |
| 15° | 2293.6 | 1986.9 | 1672.5 | 1560.5 | 1509.6 | 1471.4 | 1439.6 | 1410.3 | 1391.2 | 1370.8 | 1368.3 |
| 17.5° | 2436.2 | 2077.3 | 1718.3 | 1592.3 | 1527.4 | 1480.3 | 1434.5 | 1396.3 | 1372.1 | 1349.2 | 1342.8 |
| 20° | 2606.7 | 2167.6 | 1750.1 | 1601.2 | 1523.6 | 1461.2 | 1406.5 | 1358.1 | 1331.4 | 1304.6 | 1300.8 |
| 22.5° | 2763.3 | 2251.6 | 1765.4 | 1588.5 | 1494.3 | 1420.5 | 1356.8 | 1304.6 | 1275.4 | 1248.6 | 1243.6 |
| 25° | 2914.8 | 2325.5 | 1759.0 | 1557.9 | 1449.7 | 1364.5 | 1298.3 | 1246.1 | 1218.1 | 1190.1 | 1182.5 |
| 27.5° | 3061.1 | 2375.1 | 1733.6 | 1510.8 | 1393.7 | 1302.1 | 1238.5 | 1191.4 | 1167.2 | 1143.0 | 1132.8 |
| 30° | 3205.0 | 2420.9 | 1694.1 | 1449.7 | 1322.5 | 1237.2 | 1185.0 | 1151.9 | 1127.7 | 1102.3 | 1094.6 |
| 32.5° | 3350.1 | 2454.0 | 1634.3 | 1378.5 | 1249.9 | 1179.9 | 1148.1 | 1123.9 | 1098.4 | 1073.0 | 1065.4 |
| 35° | 3496.5 | 2468.0 | 1561.8 | 1297.0 | 1188.8 | 1143.0 | 1131.5 | 1103.5 | 1069.2 | 1038.6 | 1028.4 |
| 37.5° | 3670.8 | 2480.7 | 1471.4 | 1216.8 | 1135.4 | 1125.2 | 1122.6 | 1080.6 | 1039.9 | 997.9 | 986.4 |
| 40° | 3880.8 | 2497.3 | 1378.5 | 1144.3 | 1092.1 | 1118.8 | 1108.6 | 1051.4 | 969.9 | 929.2 | 916.4 |
| 42.5° | 4138.0 | 2527.8 | 1281.7 | 1078.1 | 1060.3 | 1094.6 | 1083.2 | 980.1 | 925.3 | 902.4 | 896.1 |
| 45° | 4516.0 | 2639.8 | 1185.0 | 1025.9 | 1036.1 | 1060.3 | 1042.4 | 938.1 | 916.4 | 901.2 | 893.5 |
| 47.5° | 5189.3 | 2811.7 | 1101.0 | 986.4 | 1017.0 | 1029.7 | 961.0 | 926.6 | 910.1 | 889.7 | 880.8 |
| 50° | 5889.4 | 2886.8 | 1033.5 | 962.3 | 995.3 | 1001.7 | 916.4 | 911.3 | 899.9 | 878.2 | 869.3 |
| 52.5° | 6362.9 | 2876.6 | 992.8 | 953.3 | 977.5 | 953.3 | 896.1 | 894.8 | 887.2 | 861.7 | 851.5 |
| 55° | 6897.4 | 2894.4 | 975.0 | 955.9 | 969.9 | 871.9 | 870.6 | 874.4 | 870.6 | 842.6 | 837.5 |
| 57.5° | 7619.1 | 2949.1 | 966.1 | 964.8 | 964.8 | 832.4 | 846.4 | 851.5 | 843.9 | 831.2 | 827.3 |
| 60° | 8312.8 | 2953.0 | 949.5 | 975.0 | 961.0 | 808.2 | 818.4 | 823.5 | 814.6 | 812.1 | 810.8 |
| 62.5° | 8573.8 | 2769.7 | 912.6 | 967.3 | 945.7 | 781.5 | 789.2 | 791.7 | 782.8 | 789.2 | 787.9 |
| 65° | 8185.5 | 2380.2 | 851.5 | 930.4 | 898.6 | 757.3 | 752.2 | 758.6 | 743.3 | 759.9 | 761.1 |
| 67.5° | 7267.8 | 1891.4 | 758.6 | 860.4 | 832.4 | 730.6 | 720.4 | 720.4 | 695.0 | 720.4 | 719.1 |
| 70° | 5860.1 | 1336.5 | 622.4 | 748.4 | 759.9 | 698.8 | 693.7 | 664.4 | 623.7 | 661.9 | 658.1 |
| 72.5° | 4442.2 | 959.7 | 490.0 | 591.9 | 654.2 | 654.2 | 655.5 | 605.9 | 558.8 | 576.6 | 561.3 |
| 75° | 2814.2 | 675.9 | 392.0 | 453.1 | 512.9 | 574.0 | 603.3 | 511.7 | 469.7 | 462.0 | 454.4 |
| 77.5° | 1267.7 | 444.2 | 305.5 | 347.5 | 364.0 | 453.1 | 551.1 | 440.4 | 383.1 | 366.6 | 361.5 |
| 80° | 530.8 | 276.2 | 217.7 | 245.7 | 224.0 | 380.6 | 486.2 | 342.4 | 281.3 | 258.4 | 241.8 |
| 82.5° | 232.9 | 164.2 | 138.7 | 132.4 | 140.0 | 282.6 | 362.8 | 227.8 | 175.6 | 238.0 | 240.6 |
| 85° | 98.0 | 86.6 | 71.3 | 64.9 | 57.3 | 108.2 | 170.6 | 89.1 | 109.5 | 62.4 | 50.9 |
| 87.5° | 22.9 | 25.5 | 19.1 | 12.7 | 7.6 | 1.3 | 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 |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW, INVUE, LUMARK AND STREETWORKS

DATA VALID FOR LUMINAIRES UTILIZING SA LIGHT ENGINES

Report Number: SP1-2101-121-2

Luminaire Tested: IFLD-S-SA2A-740-U-T3R-HSS

Test Date: 03/05/2021

Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/05/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

Spectral Parameters

| | | | | | |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K): | 3905 | CRI (Ra): | 71.2 | R9: | -29.7 |
| CIE u': | 0.2273 | R1: | 68.9 | R10: | 46.2 |
| CIE v': | 0.5024 | R2: | 77.0 | R11: | 68.8 |
| Duv: | -0.0008 | R3: | 84.0 | R12: | 45.6 |
| CIE x: | 0.3841 | R4: | 71.6 | R13: | 69.5 |
| CIE y: | 0.3774 | R5: | 68.9 | R14: | 90.7 |
| CIE z: | 0.2385 | R6: | 68.3 | | |
| Peak Wavelength (nm): | 443 | R7: | 78.7 | | |
| Dominant Wavelength (nm): | 579 | R8: | 52.2 | | |
| Purity: | 28.7 | | | | |
| Rf: | 71.7 | | | | |
| Rg: | 96.9 | | | | |



Test Conditions

Stabilization Time: 211M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.8/312%
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2101-121-2

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | IN0046 | 12/1/2020 | 12/1/2021 |

REPORT NUMBER: SP1-2101-121-2

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2101-121-2

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 | 2304 | 0.0 | 490 | 19043 | 2.7 | 620 | 97577 | 25.4 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 4.8 | 625 | 90158 | 19.9 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 8.0 | 630 | 82240 | 14.9 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 13.3 | 635 | 74361 | 11.2 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 20.2 | 640 | 66994 | 8.0 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 28.5 | 645 | 60405 | 5.8 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 37.4 | 650 | 53806 | 3.9 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 44.9 | 655 | 47610 | 2.7 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 52.6 | 660 | 42018 | 1.8 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.0 | 535 | 94097 | 58.4 | 665 | 36742 | 1.2 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.0 | 540 | 96845 | 63.1 | 670 | 32105 | 0.7 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.0 | 545 | 100829 | 67.1 | 675 | 27946 | 0.5 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 0.1 | 550 | 105648 | 71.8 | 680 | 24146 | 0.3 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 0.2 | 555 | 110017 | 75.1 | 685 | 21191 | 0.2 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 0.5 | 560 | 114586 | 77.9 | 690 | 18544 | 0.1 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 1.2 | 565 | 118987 | 79.1 | 695 | 16058 | 0.1 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 2.1 | 570 | 122326 | 79.5 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 2.9 | 575 | 125968 | 78.4 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 2.7 | 580 | 127613 | 75.8 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 2.0 | 585 | 129466 | 71.9 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 1.5 | 590 | 128813 | 66.6 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 1.3 | 595 | 126387 | 59.9 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 1.0 | 600 | 123477 | 53.2 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 1.1 | 605 | 118718 | 46.0 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 1.2 | 610 | 112091 | 38.5 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 1.7 | 615 | 105039 | 31.7 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-2

Scotopic Flux vs. Wavelength



Scotopic Lumens: 10425.8 S/P: 1.47

| 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 | 2304 | 0.0 | 490 | 19043 | 29.3 | 620 | 97577 | 1.2 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 43.0 | 625 | 90158 | 0.8 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 60.8 | 630 | 82240 | 0.5 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 81.1 | 635 | 74361 | 0.3 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 99.6 | 640 | 66994 | 0.2 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 113.9 | 645 | 60405 | 0.1 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 122.6 | 650 | 53806 | 0.1 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 125.0 | 655 | 47610 | 0.0 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 123.1 | 660 | 42018 | 0.0 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.1 | 535 | 94097 | 117.3 | 665 | 36742 | 0.0 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.2 | 540 | 96845 | 107.0 | 670 | 32105 | 0.0 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.9 | 545 | 100829 | 96.7 | 675 | 27946 | 0.0 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 3.0 | 550 | 105648 | 86.4 | 680 | 24146 | 0.0 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 9.3 | 555 | 110017 | 75.2 | 685 | 21191 | 0.0 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 23.0 | 560 | 114586 | 64.0 | 690 | 18544 | 0.0 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 45.7 | 565 | 118987 | 53.4 | 695 | 16058 | 0.0 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 75.5 | 570 | 122326 | 43.2 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 93.8 | 575 | 125968 | 34.3 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 79.3 | 580 | 127613 | 26.3 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 51.3 | 585 | 129466 | 19.8 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 35.6 | 590 | 128813 | 14.3 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 26.0 | 595 | 126387 | 10.1 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 19.3 | 600 | 123477 | 7.0 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 16.8 | 605 | 118718 | 4.7 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 17.7 | 610 | 112091 | 3.0 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 21.4 | 615 | 105039 | 1.9 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3927.2 M/P: 0.55

| λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360 | 2304 | 0.0 | 490 | 19043 | 15.8 | 620 | 97577 | 0.1 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 22.0 | 625 | 90158 | 0.0 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 29.2 | 630 | 82240 | 0.0 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 36.6 | 635 | 74361 | 0.0 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 42.2 | 640 | 66994 | 0.0 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 44.9 | 645 | 60405 | 0.0 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 44.9 | 650 | 53806 | 0.0 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 42.4 | 655 | 47610 | 0.0 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 38.6 | 660 | 42018 | 0.0 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.0 | 535 | 94097 | 33.9 | 665 | 36742 | 0.0 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.2 | 540 | 96845 | 28.3 | 670 | 32105 | 0.0 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.6 | 545 | 100829 | 23.4 | 675 | 27946 | 0.0 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 2.1 | 550 | 105648 | 19.0 | 680 | 24146 | 0.0 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 5.9 | 555 | 110017 | 14.8 | 685 | 21191 | 0.0 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 14.3 | 560 | 114586 | 11.3 | 690 | 18544 | 0.0 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 27.3 | 565 | 118987 | 8.4 | 695 | 16058 | 0.0 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 45.1 | 570 | 122326 | 6.0 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 55.3 | 575 | 125968 | 4.2 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 47.2 | 580 | 127613 | 2.9 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 30.8 | 585 | 129466 | 1.9 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 21.7 | 590 | 128813 | 1.3 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 16.1 | 595 | 126387 | 0.8 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 12.0 | 600 | 123477 | 0.5 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 10.3 | 605 | 118718 | 0.3 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 10.5 | 610 | 112091 | 0.2 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 12.1 | 615 | 105039 | 0.1 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

Summary

$R_f = 71.7$
 $R_g = 96.9$
 CIE $R_a = 71.2$
 $R_g = -29.7$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 55 | CES51 = 86 | CES76 = 45 |
| CES02 = 61 | CES27 = 80 | CES52 = 87 | CES77 = 68 |
| CES03 = 30 | CES28 = 79 | CES53 = 74 | CES78 = 49 |
| CES04 = 70 | CES29 = 51 | CES54 = 81 | CES79 = 77 |
| CES05 = 47 | CES30 = 60 | CES55 = 80 | CES80 = 75 |
| CES06 = 50 | CES31 = 56 | CES56 = 69 | CES81 = 75 |
| CES07 = 40 | CES32 = 52 | CES57 = 67 | CES82 = 90 |
| CES08 = 39 | CES33 = 62 | CES58 = 69 | CES83 = 85 |
| CES09 = 29 | CES34 = 65 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 81 | CES60 = 91 | CES85 = 83 |
| CES11 = 57 | CES36 = 92 | CES61 = 85 | CES86 = 72 |
| CES12 = 63 | CES37 = 74 | CES62 = 81 | CES87 = 77 |
| CES13 = 42 | CES38 = 69 | CES63 = 72 | CES88 = 77 |
| CES14 = 74 | CES39 = 92 | CES64 = 69 | CES89 = 72 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 75 |
| CES16 = 46 | CES41 = 84 | CES66 = 63 | CES91 = 91 |
| CES17 = 49 | CES42 = 75 | CES67 = 60 | CES92 = 66 |
| CES18 = 56 | CES43 = 70 | CES68 = 67 | CES93 = 80 |
| CES19 = 72 | CES44 = 98 | CES69 = 77 | CES94 = 56 |
| CES20 = 65 | CES45 = 80 | CES70 = 57 | CES95 = 72 |
| CES21 = 86 | CES46 = 77 | CES71 = 53 | CES96 = 78 |
| CES22 = 78 | CES47 = 74 | CES72 = 84 | CES97 = 83 |
| CES23 = 92 | CES48 = 66 | CES73 = 47 | CES98 = 73 |
| CES24 = 91 | CES49 = 76 | CES74 = 96 | CES99 = 63 |
| CES25 = 72 | CES50 = 85 | CES75 = 52 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)