

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: P634809

Luminaire Tested: GWS-SA3C-740-U-T2R-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P634809
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA3C-740-U-T2R-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS WITH HOUSE SIDE SHIELD
Light Source: (48) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11250 lumens
Efficiency: N/A
Efficacy: 121.0 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G2

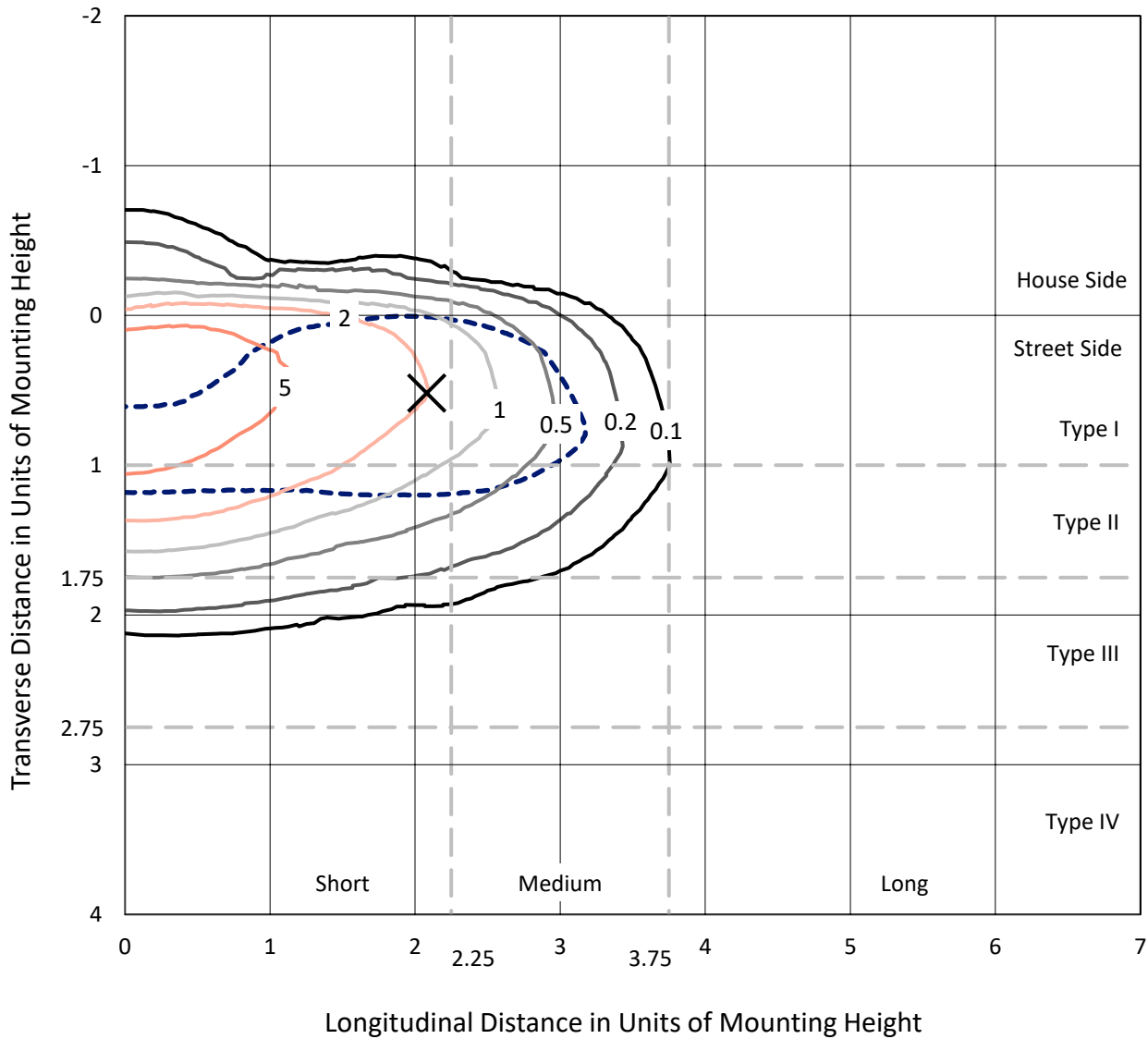
Input Watts (W): 93
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P634809
 CATALOG NUMBER: GWS-SA3C-740-U-T2R-W-HSS

Iso-Footcandle Lines of Horizontal Illumination

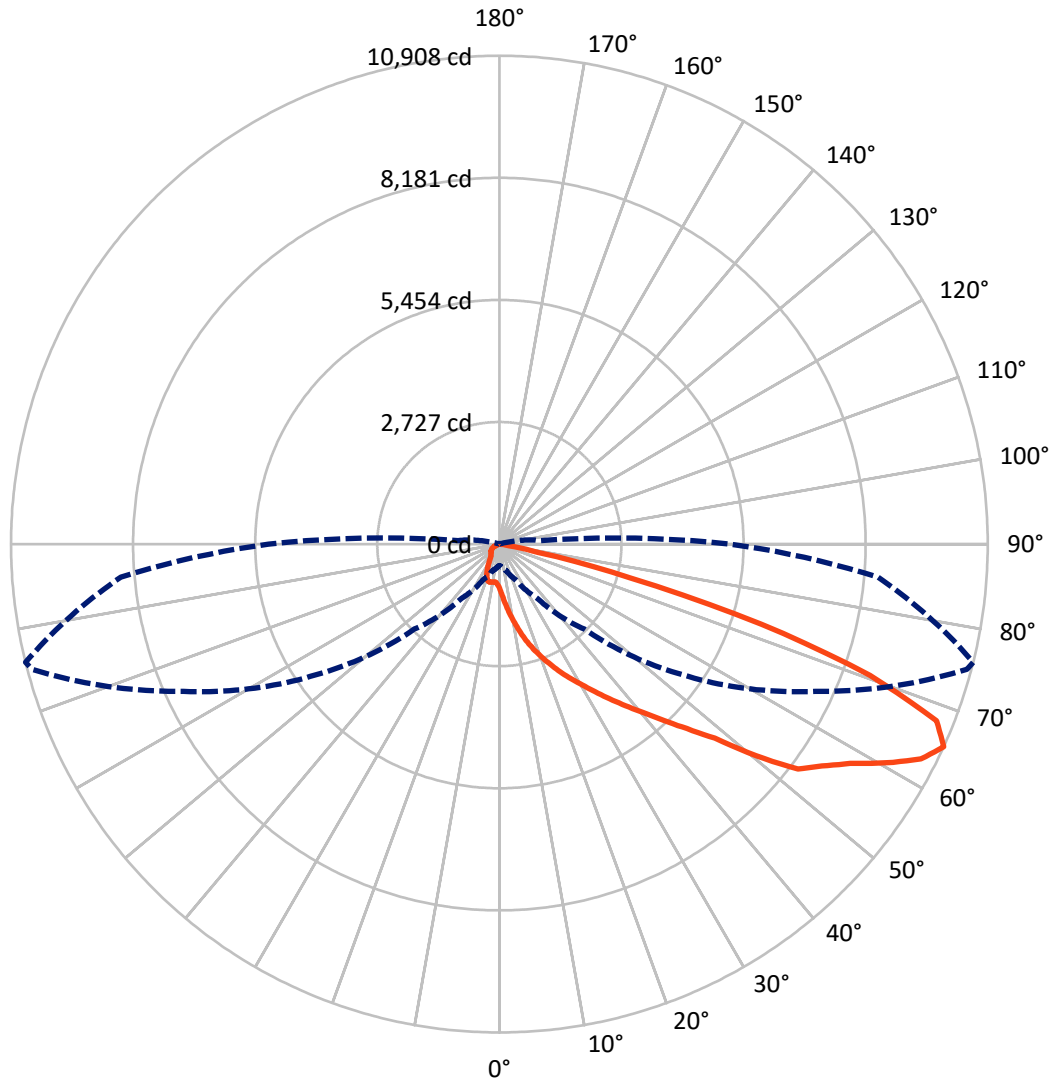
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.4 fc
 Type II - Short - N/A

REPORT NUMBER: P634809
CATALOG NUMBER: GWS-SA3C-740-U-T2R-W-HSS

Luminous Intensity Polar Plot



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

REPORT NUMBER: P634809
 CATALOG NUMBER: GWS-SA3C-740-U-T2R-W-HSS

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 622.0 | 0.0 | 622.0 |
| | % Fixture | 5.5 | 0.0 | 5.5 |
| Street Side | Lumens | 10627.9 | 0.0 | 10627.9 |
| | % Fixture | 94.5 | 0.0 | 94.5 |
| Total | Lumens | 11250.0 | 0.0 | 11250.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 121.2 | 1.1 |
| 10°-20° | 459.8 | 4.1 |
| 20°-30° | 938.0 | 8.3 |
| 30°-40° | 1668.3 | 14.8 |
| 40°-50° | 2466.2 | 21.9 |
| 50°-60° | 2823.6 | 25.1 |
| 60°-70° | 2154.3 | 19.1 |
| 70°-80° | 603.4 | 5.4 |
| 80°-90° | 15.2 | 0.1 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 11250.0 | 100.0 |
| 0°-180° | 11250.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P634809

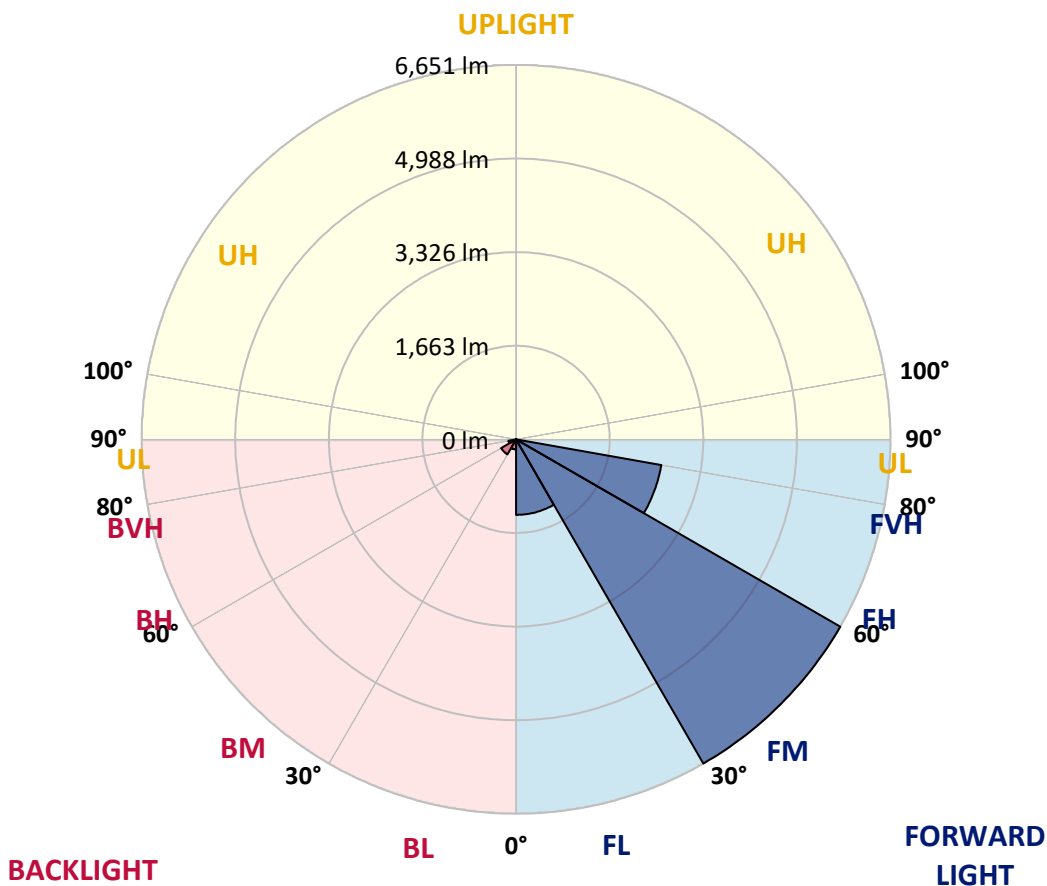
CATALOG NUMBER: GWS-SA3C-740-U-T2R-W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1341.5 | 11.9 | | | |
| FM (30°-60°) | 6651.2 | 59.1 | | | |
| FH (60°-80°) | 2621.0 | 23.3 | | | G2/5000 |
| FVH (80°-90°) | 14.3 | 0.1 | | | G1/100 |
| BL (0°-30°) | 177.5 | 1.6 | B1/500 | | |
| BM (30°-60°) | 306.9 | 2.7 | B1/1000 | | |
| BH (60°-80°) | 136.7 | 1.2 | B1/500 | | G1/500 |
| BVH (80°-90°) | 0.9 | 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 II Short





REPORT NUMBER: P634809

CATALOG NUMBER: GWS-SA3C-740-U-T2R-W-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|--------|
| 0° | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 |
| 2.5° | 1535.1 | 1558.1 | 1540.1 | 1510.1 | 1452.1 | 1396.0 | 1324.0 | 1225.0 | 1146.0 | 1136.0 | 1062.0 |
| 5° | 2073.1 | 2071.1 | 2032.1 | 1993.1 | 1932.1 | 1836.1 | 1691.1 | 1507.1 | 1330.0 | 1315.0 | 1149.0 |
| 7.5° | 2393.1 | 2396.1 | 2374.1 | 2344.1 | 2284.1 | 2185.1 | 2034.1 | 1812.1 | 1553.1 | 1523.1 | 1268.0 |
| 10° | 2662.1 | 2661.1 | 2645.1 | 2631.1 | 2577.1 | 2511.1 | 2349.1 | 2105.1 | 1793.1 | 1746.1 | 1401.0 |
| 12.5° | 2864.1 | 2871.1 | 2879.1 | 2893.1 | 2870.1 | 2805.1 | 2652.1 | 2386.1 | 2036.1 | 1984.1 | 1553.1 |
| 15° | 3024.1 | 3026.1 | 3056.1 | 3110.1 | 3129.1 | 3095.1 | 2956.1 | 2658.1 | 2276.1 | 2231.1 | 1728.1 |
| 17.5° | 3072.1 | 3076.1 | 3127.1 | 3226.1 | 3326.1 | 3345.1 | 3240.1 | 2932.1 | 2512.1 | 2464.1 | 1898.1 |
| 20° | 3173.1 | 3182.1 | 3220.1 | 3307.1 | 3433.1 | 3535.1 | 3494.1 | 3209.1 | 2748.1 | 2685.1 | 2072.1 |
| 22.5° | 3491.1 | 3496.1 | 3483.1 | 3494.1 | 3559.1 | 3677.1 | 3702.1 | 3477.1 | 2990.1 | 2923.1 | 2260.1 |
| 25° | 4038.1 | 4040.1 | 3949.1 | 3863.1 | 3814.1 | 3836.1 | 3891.1 | 3724.1 | 3230.1 | 3164.1 | 2435.1 |
| 27.5° | 4606.2 | 4613.2 | 4504.2 | 4358.2 | 4183.1 | 4083.1 | 4067.1 | 3950.1 | 3472.1 | 3399.1 | 2608.1 |
| 30° | 5141.2 | 5141.2 | 5026.2 | 4848.2 | 4614.2 | 4419.2 | 4304.2 | 4178.1 | 3731.1 | 3651.1 | 2785.1 |
| 32.5° | 5622.2 | 5618.2 | 5471.2 | 5278.2 | 5047.2 | 4833.2 | 4591.2 | 4416.2 | 4019.1 | 3930.1 | 2989.1 |
| 35° | 6019.2 | 6009.2 | 5842.2 | 5657.2 | 5410.2 | 5251.2 | 4981.2 | 4672.2 | 4331.2 | 4242.2 | 3199.1 |
| 37.5° | 6319.2 | 6308.2 | 6155.2 | 5959.2 | 5730.2 | 5627.2 | 5401.2 | 4979.2 | 4660.2 | 4579.2 | 3432.1 |
| 40° | 6482.2 | 6460.2 | 6354.2 | 6208.2 | 6016.2 | 5926.2 | 5832.2 | 5360.2 | 5047.2 | 4946.2 | 3707.1 |
| 42.5° | 6530.2 | 6504.2 | 6434.2 | 6366.2 | 6250.2 | 6179.2 | 6280.2 | 5790.2 | 5472.2 | 5385.2 | 4021.1 |
| 45° | 6388.2 | 6373.2 | 6367.2 | 6416.2 | 6437.2 | 6457.2 | 6706.2 | 6266.2 | 5941.2 | 5875.2 | 4416.2 |
| 47.5° | 6046.2 | 6042.2 | 6095.2 | 6299.2 | 6521.2 | 6732.2 | 7169.3 | 6853.2 | 6549.2 | 6478.2 | 4968.2 |
| 50° | 5414.2 | 5455.2 | 5603.2 | 5961.2 | 6405.2 | 6888.2 | 7602.3 | 7667.3 | 7533.3 | 7429.3 | 5688.2 |
| 52.5° | 4426.2 | 4505.2 | 4837.2 | 5381.2 | 6019.2 | 6844.2 | 7802.3 | 8319.3 | 8456.3 | 8348.3 | 6204.2 |
| 55° | 3473.1 | 3547.1 | 3843.1 | 4533.2 | 5384.2 | 6509.2 | 7811.3 | 8544.3 | 8843.3 | 8743.3 | 6553.2 |
| 57.5° | 2587.1 | 2655.1 | 2924.1 | 3584.1 | 4520.2 | 5850.2 | 7597.3 | 8669.3 | 9302.3 | 9238.3 | 7104.3 |
| 60° | 1691.1 | 1758.1 | 2001.1 | 2578.1 | 3506.1 | 4890.2 | 7070.3 | 8643.3 | 9927.4 | 9921.4 | 7781.3 |
| 62.5° | 938.0 | 991.0 | 1167.0 | 1617.1 | 2447.1 | 3787.1 | 6242.2 | 8382.3 | 10532.4 | 10570.4 | 8339.3 |
| 65° | 480.0 | 514.0 | 621.0 | 889.0 | 1481.1 | 2685.1 | 5153.2 | 7784.3 | 10812.4 | 10908.4 | 8486.3 |
| 67.5° | 314.0 | 325.0 | 351.0 | 462.0 | 793.0 | 1689.1 | 3878.1 | 6825.2 | 10418.4 | 10530.4 | 7993.3 |
| 70° | 255.0 | 264.0 | 279.0 | 308.0 | 409.0 | 897.0 | 2547.1 | 5451.2 | 8705.3 | 8781.3 | 6365.2 |
| 72.5° | 187.0 | 199.0 | 228.0 | 247.0 | 295.0 | 492.0 | 1325.0 | 3578.1 | 5978.2 | 6112.2 | 4000.1 |
| 75° | 138.0 | 145.0 | 169.0 | 195.0 | 241.0 | 311.0 | 507.0 | 1881.1 | 3087.1 | 3009.1 | 1680.1 |
| 77.5° | 83.0 | 88.0 | 108.0 | 125.0 | 172.0 | 194.0 | 177.0 | 695.0 | 939.0 | 883.0 | 406.0 |
| 80° | 41.0 | 46.0 | 71.0 | 94.0 | 110.0 | 78.0 | 74.0 | 194.0 | 209.0 | 209.0 | 102.0 |
| 82.5° | 14.0 | 18.0 | 38.0 | 62.0 | 54.0 | 30.0 | 35.0 | 50.0 | 56.0 | 59.0 | 30.0 |
| 85° | 0.0 | 0.0 | 9.0 | 18.0 | 8.0 | 4.0 | 9.0 | 11.0 | 14.0 | 15.0 | 10.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 4.0 | 4.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P634809

CATALOG NUMBER: GWS-SA3C-740-U-T2R-W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 | 996.0 |
| 2.5° | 1022.0 | 975.0 | 904.0 | 840.0 | 791.0 | 745.0 | 710.0 | 682.0 | 677.0 | 661.0 | 663.0 |
| 5° | 1068.0 | 983.0 | 852.0 | 751.0 | 680.0 | 632.0 | 592.0 | 562.0 | 549.0 | 536.0 | 526.0 |
| 7.5° | 1139.0 | 1016.0 | 832.0 | 709.0 | 626.0 | 552.0 | 490.0 | 440.0 | 416.0 | 401.0 | 391.0 |
| 10° | 1226.0 | 1062.0 | 833.0 | 684.0 | 561.0 | 448.0 | 363.0 | 308.0 | 282.0 | 274.0 | 273.0 |
| 12.5° | 1330.0 | 1120.0 | 841.0 | 643.0 | 467.0 | 333.0 | 269.0 | 244.0 | 236.0 | 229.0 | 229.0 |
| 15° | 1440.1 | 1185.0 | 841.0 | 568.0 | 356.0 | 260.0 | 233.0 | 217.0 | 207.0 | 203.0 | 201.0 |
| 17.5° | 1556.1 | 1246.0 | 821.0 | 465.0 | 273.0 | 229.0 | 207.0 | 192.0 | 184.0 | 178.0 | 176.0 |
| 20° | 1680.1 | 1304.0 | 771.0 | 356.0 | 234.0 | 205.0 | 184.0 | 169.0 | 161.0 | 155.0 | 155.0 |
| 22.5° | 1806.1 | 1358.0 | 690.0 | 274.0 | 207.0 | 182.0 | 162.0 | 148.0 | 140.0 | 134.0 | 134.0 |
| 25° | 1923.1 | 1394.0 | 586.0 | 226.0 | 187.0 | 162.0 | 144.0 | 130.0 | 121.0 | 117.0 | 115.0 |
| 27.5° | 2032.1 | 1417.1 | 471.0 | 199.0 | 168.0 | 145.0 | 126.0 | 113.0 | 106.0 | 103.0 | 101.0 |
| 30° | 2145.1 | 1423.1 | 360.0 | 181.0 | 152.0 | 128.0 | 110.0 | 100.0 | 94.0 | 90.0 | 90.0 |
| 32.5° | 2255.1 | 1416.1 | 275.0 | 166.0 | 138.0 | 113.0 | 98.0 | 89.0 | 84.0 | 81.0 | 80.0 |
| 35° | 2367.1 | 1384.0 | 223.0 | 153.0 | 124.0 | 99.0 | 87.0 | 80.0 | 77.0 | 73.0 | 73.0 |
| 37.5° | 2489.1 | 1341.0 | 194.0 | 140.0 | 110.0 | 89.0 | 78.0 | 73.0 | 69.0 | 66.0 | 65.0 |
| 40° | 2641.1 | 1291.0 | 178.0 | 129.0 | 97.0 | 80.0 | 70.0 | 65.0 | 62.0 | 59.0 | 58.0 |
| 42.5° | 2821.1 | 1242.0 | 170.0 | 117.0 | 87.0 | 71.0 | 63.0 | 57.0 | 54.0 | 50.0 | 49.0 |
| 45° | 3076.1 | 1231.0 | 161.0 | 104.0 | 78.0 | 64.0 | 55.0 | 49.0 | 45.0 | 42.0 | 41.0 |
| 47.5° | 3486.1 | 1262.0 | 146.0 | 90.0 | 69.0 | 56.0 | 47.0 | 42.0 | 37.0 | 34.0 | 32.0 |
| 50° | 3893.1 | 1254.0 | 131.0 | 78.0 | 61.0 | 48.0 | 40.0 | 35.0 | 30.0 | 27.0 | 26.0 |
| 52.5° | 4115.1 | 1216.0 | 117.0 | 69.0 | 53.0 | 41.0 | 34.0 | 28.0 | 25.0 | 22.0 | 21.0 |
| 55° | 4316.2 | 1201.0 | 103.0 | 60.0 | 45.0 | 36.0 | 28.0 | 23.0 | 21.0 | 18.0 | 17.0 |
| 57.5° | 4710.2 | 1236.0 | 91.0 | 52.0 | 39.0 | 31.0 | 24.0 | 19.0 | 17.0 | 14.0 | 13.0 |
| 60° | 5122.2 | 1240.0 | 78.0 | 45.0 | 34.0 | 26.0 | 19.0 | 15.0 | 13.0 | 10.0 | 9.0 |
| 62.5° | 5337.2 | 1139.0 | 64.0 | 38.0 | 28.0 | 22.0 | 16.0 | 12.0 | 10.0 | 6.0 | 6.0 |
| 65° | 5157.2 | 921.0 | 54.0 | 31.0 | 22.0 | 17.0 | 12.0 | 9.0 | 6.0 | 3.0 | 1.0 |
| 67.5° | 4564.2 | 655.0 | 45.0 | 25.0 | 16.0 | 12.0 | 9.0 | 6.0 | 1.0 | 0.0 | 0.0 |
| 70° | 3342.1 | 374.0 | 35.0 | 18.0 | 12.0 | 8.0 | 6.0 | 3.0 | 0.0 | 0.0 | 0.0 |
| 72.5° | 2054.1 | 200.0 | 26.0 | 12.0 | 9.0 | 6.0 | 5.0 | 2.0 | 0.0 | 0.0 | 0.0 |
| 75° | 779.0 | 96.0 | 16.0 | 8.0 | 7.0 | 5.0 | 3.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 77.5° | 211.0 | 47.0 | 9.0 | 6.0 | 5.0 | 3.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 55.0 | 22.0 | 6.0 | 4.0 | 3.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 19.0 | 10.0 | 3.0 | 3.0 | 2.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 8.0 | 4.0 | 2.0 | 2.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 3.0 | 1.0 | 1.0 | 1.0 | 1.0 | 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 |

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 LUMINIAIRES 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



CCT = 3905K
 CIE x = 0.3841
 CIE y = 0.3774
 Duv = -0.0008

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 ($\mu\text{W}/\text{nm}$) | 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 | 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 (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 | 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)