

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: P633799

Luminaire Tested: GWS-SA2F-740-U-SL3-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P633799
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-33)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2F-740-U-SL3-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (32) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13585.6 lumens
Efficiency: N/A
Efficacy: 109.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G2

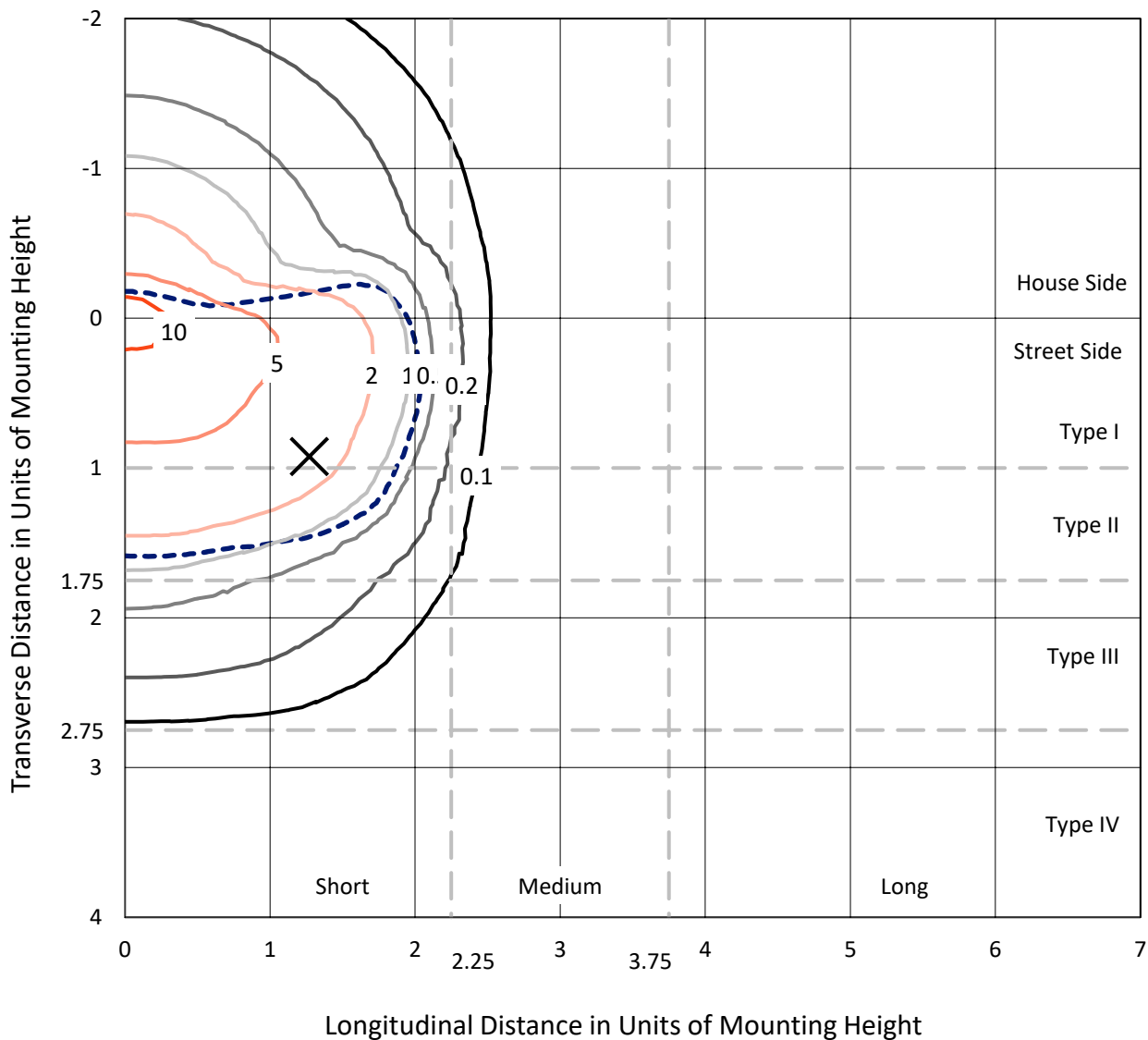
Input Watts (W): 124.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

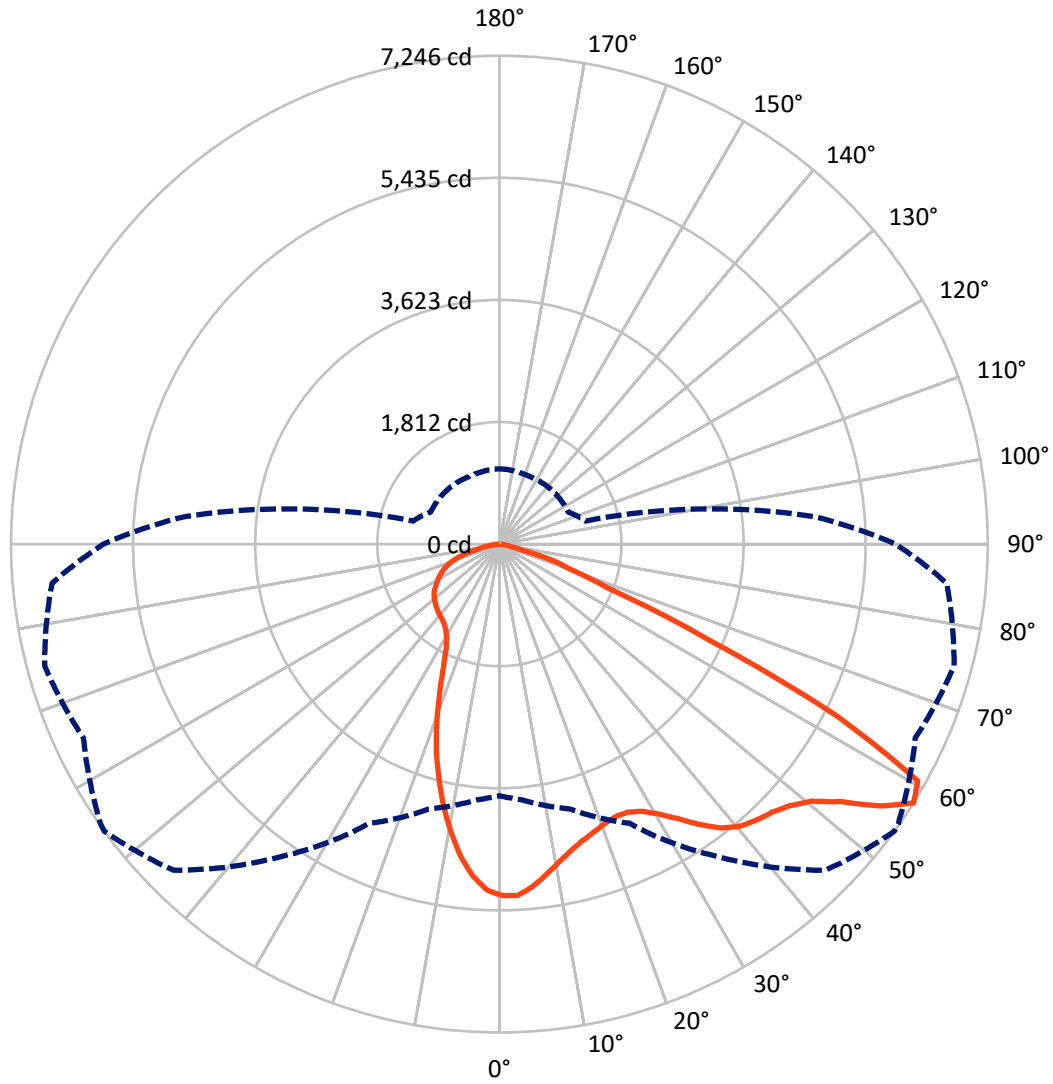
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 13 fc
 Type II - Short - N/A

REPORT NUMBER: P633799
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Luminous Intensity Polar Plot



— Vertical Plane Through 54-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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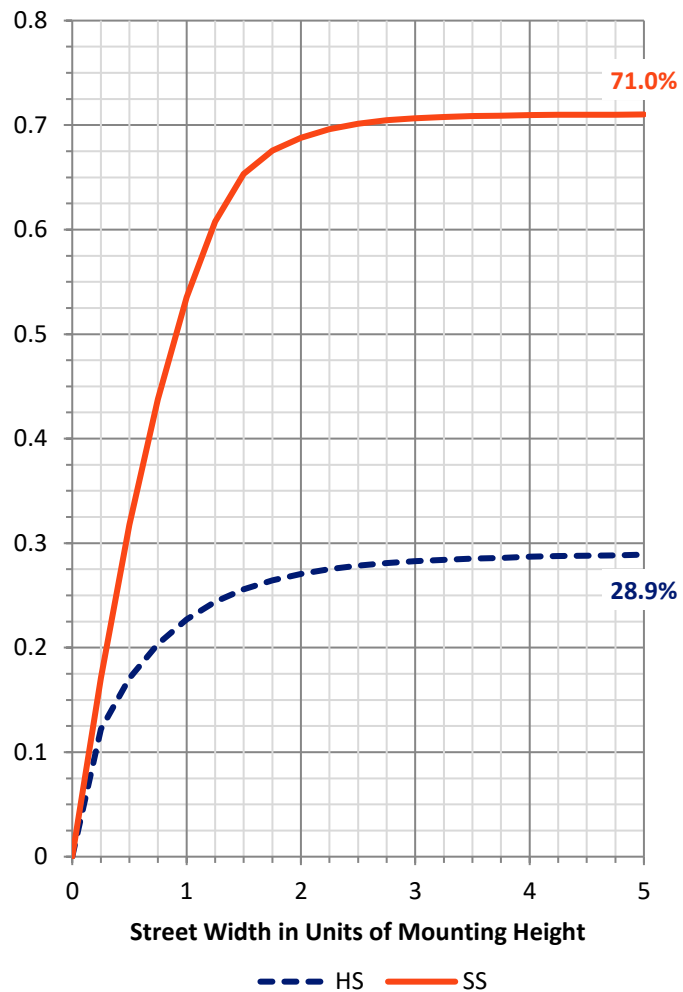
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3949.5 | 0.0 | 3949.5 |
| | % Fixture | 29.1 | 0.0 | 29.1 |
| Street Side | Lumens | 9636.1 | 0.0 | 9636.1 |
| | % Fixture | 70.9 | 0.0 | 70.9 |
| Total | Lumens | 13585.6 | 0.0 | 13585.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 458.5 | 3.4 |
| 10°-20° | 1094.0 | 8.1 |
| 20°-30° | 1513.9 | 11.1 |
| 30°-40° | 2103.5 | 15.5 |
| 40°-50° | 2778.1 | 20.4 |
| 50°-60° | 3301.4 | 24.3 |
| 60°-70° | 1829.0 | 13.5 |
| 70°-80° | 455.5 | 3.4 |
| 80°-90° | 51.8 | 0.4 |
| 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° | 13585.6 | 100.0 |
| 0°-180° | 13585.6 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P633799

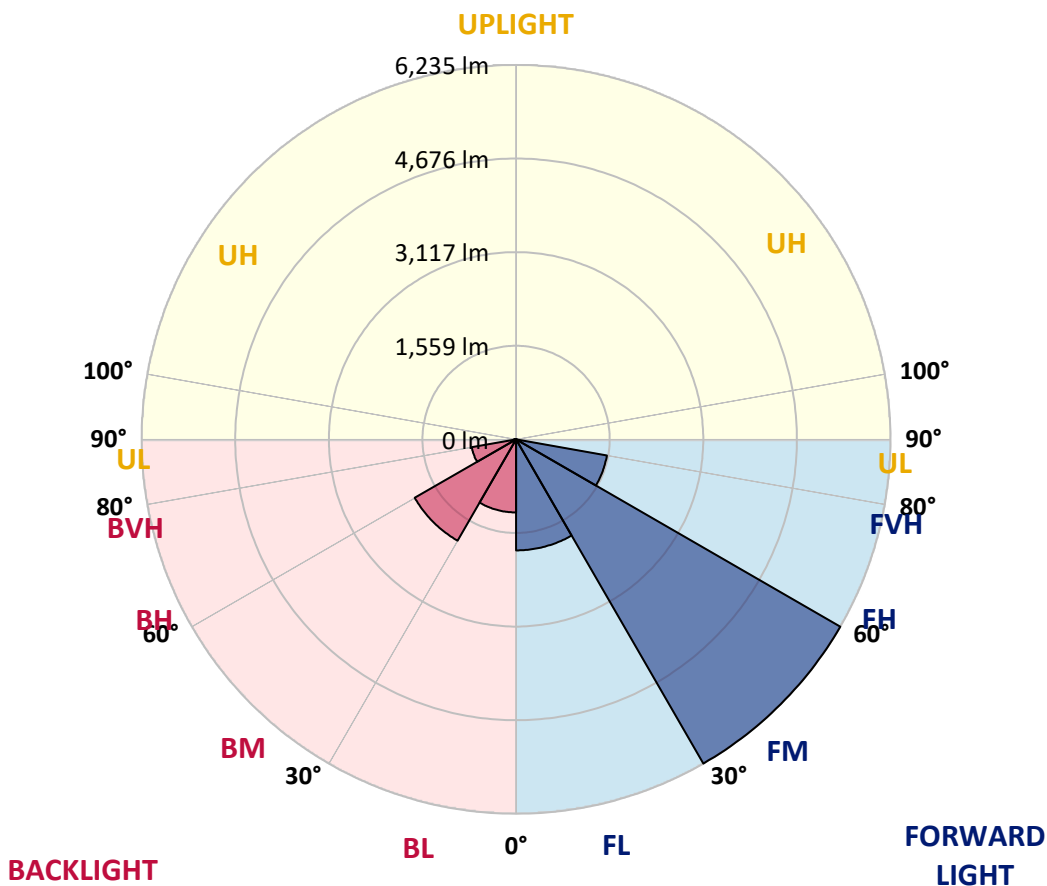
CATALOG NUMBER: GWS-SA2F-740-U-SL3-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1849.2 | 13.6 | | | |
| FM (30°-60°) | 6234.6 | 45.9 | | | |
| FH (60°-80°) | 1536.0 | 11.3 | | | G1/1800 |
| FVH (80°-90°) | 16.2 | 0.1 | | | G1/100 |
| BL (0°-30°) | 1217.1 | 9.0 | B3/2500 | | |
| BM (30°-60°) | 1948.4 | 14.3 | B2/2500 | | |
| BH (60°-80°) | 748.5 | 5.5 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 35.6 | 0.3 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G2

Type II Short





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CATALOG NUMBER: GWS-SA2F-740-U-SL3-W-GRSWH

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 54° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 |
| 2.5° | 5118.1 | 5128.6 | 5135.6 | 5160.0 | 5180.9 | 5199.5 | 5219.3 | 5219.3 | 5218.1 | 5214.7 | 5207.7 |
| 5° | 4915.8 | 4927.4 | 4943.7 | 4977.4 | 5022.8 | 5055.3 | 5108.8 | 5113.5 | 5136.7 | 5146.0 | 5141.4 |
| 7.5° | 4680.9 | 4684.4 | 4705.3 | 4749.5 | 4821.6 | 4879.7 | 4956.5 | 4965.8 | 5021.6 | 5054.2 | 5048.4 |
| 10° | 4423.9 | 4412.2 | 4449.4 | 4514.6 | 4608.8 | 4706.4 | 4805.3 | 4813.4 | 4903.0 | 4964.6 | 4960.0 |
| 12.5° | 4188.9 | 4190.1 | 4227.3 | 4306.4 | 4423.9 | 4544.8 | 4677.4 | 4696.0 | 4806.5 | 4885.5 | 4877.4 |
| 15° | 3992.4 | 3997.1 | 4042.4 | 4132.0 | 4265.7 | 4409.9 | 4575.0 | 4592.5 | 4732.0 | 4836.7 | 4813.4 |
| 17.5° | 3835.4 | 3840.1 | 3879.6 | 3981.9 | 4125.0 | 4299.4 | 4500.6 | 4518.1 | 4691.3 | 4815.8 | 4768.1 |
| 20° | 3727.2 | 3724.9 | 3763.3 | 3861.0 | 4008.7 | 4198.2 | 4435.5 | 4461.1 | 4678.5 | 4823.9 | 4737.8 |
| 22.5° | 3683.1 | 3681.9 | 3709.8 | 3790.0 | 3928.4 | 4120.3 | 4395.9 | 4430.8 | 4692.5 | 4860.0 | 4719.2 |
| 25° | 3705.2 | 3700.5 | 3724.9 | 3784.2 | 3894.7 | 4090.1 | 4407.6 | 4444.8 | 4751.8 | 4934.4 | 4722.7 |
| 27.5° | 3773.8 | 3768.0 | 3788.9 | 3842.4 | 3926.1 | 4121.5 | 4489.0 | 4532.0 | 4877.4 | 5070.5 | 4769.2 |
| 30° | 3878.4 | 3874.9 | 3895.9 | 3947.0 | 4020.3 | 4226.2 | 4644.8 | 4693.7 | 5071.6 | 5282.1 | 4870.4 |
| 32.5° | 4000.5 | 3994.7 | 4031.9 | 4091.2 | 4176.1 | 4416.9 | 4854.1 | 4918.1 | 5301.9 | 5554.2 | 5040.2 |
| 35° | 4137.8 | 4133.1 | 4184.3 | 4270.3 | 4392.5 | 4682.0 | 5107.7 | 5177.4 | 5536.8 | 5862.4 | 5265.8 |
| 37.5° | 4271.5 | 4271.5 | 4370.4 | 4498.3 | 4651.8 | 4970.4 | 5346.1 | 5390.3 | 5699.6 | 6135.7 | 5507.7 |
| 40° | 4390.1 | 4397.1 | 4546.0 | 4737.8 | 4933.2 | 5230.9 | 5503.1 | 5540.3 | 5771.7 | 6324.1 | 5718.2 |
| 42.5° | 4521.5 | 4527.4 | 4700.6 | 4951.8 | 5184.4 | 5441.4 | 5598.4 | 5617.0 | 5785.7 | 6418.3 | 5867.1 |
| 45° | 4626.2 | 4634.3 | 4849.5 | 5118.1 | 5403.1 | 5599.6 | 5674.0 | 5690.3 | 5805.4 | 6469.5 | 5975.2 |
| 47.5° | 4680.9 | 4692.5 | 4939.0 | 5251.9 | 5550.7 | 5741.5 | 5798.5 | 5805.4 | 5886.8 | 6559.0 | 6105.5 |
| 50° | 4671.6 | 4694.8 | 4972.8 | 5318.2 | 5660.1 | 5884.5 | 5998.5 | 6010.1 | 6053.1 | 6690.4 | 6257.8 |
| 52.5° | 4754.1 | 4764.6 | 5044.9 | 5397.2 | 5815.9 | 6148.5 | 6346.2 | 6362.5 | 6342.7 | 6789.3 | 6348.5 |
| 55° | 4616.9 | 4666.9 | 4955.3 | 5385.6 | 6053.1 | 6556.7 | 6861.4 | 6853.3 | 6605.5 | 6899.8 | 6499.7 |
| 57.5° | 3734.2 | 3807.5 | 4071.5 | 4571.5 | 5662.4 | 6842.8 | 7246.3 | 7226.6 | 6809.1 | 6984.7 | 6663.7 |
| 60° | 2585.2 | 2596.9 | 2835.3 | 3190.0 | 4370.4 | 6045.0 | 7133.5 | 7176.6 | 6846.3 | 6877.7 | 6360.2 |
| 62.5° | 2067.7 | 2064.2 | 2086.3 | 2095.6 | 2779.4 | 4249.4 | 5631.0 | 5788.0 | 5688.0 | 5358.9 | 4507.6 |
| 65° | 1765.4 | 1778.1 | 1843.3 | 1809.5 | 1814.2 | 2393.3 | 3364.4 | 3386.5 | 3316.7 | 3198.1 | 2384.0 |
| 67.5° | 1381.6 | 1403.7 | 1518.8 | 1650.2 | 1608.4 | 1540.9 | 1745.6 | 1735.1 | 1367.6 | 1058.3 | 874.5 |
| 70° | 865.2 | 879.2 | 1002.5 | 1295.5 | 1400.2 | 1265.3 | 1122.2 | 1117.6 | 732.7 | 602.4 | 660.6 |
| 72.5° | 504.7 | 507.0 | 541.9 | 722.2 | 929.2 | 865.2 | 825.7 | 795.5 | 471.0 | 480.3 | 526.8 |
| 75° | 277.9 | 277.9 | 276.8 | 311.7 | 366.3 | 324.5 | 314.0 | 305.9 | 315.2 | 357.0 | 391.9 |
| 77.5° | 58.1 | 59.3 | 62.8 | 82.6 | 107.0 | 130.3 | 164.0 | 165.1 | 205.8 | 238.4 | 266.3 |
| 80° | 26.7 | 27.9 | 34.9 | 44.2 | 57.0 | 75.6 | 100.0 | 101.2 | 124.4 | 150.0 | 168.6 |
| 82.5° | 14.0 | 15.1 | 18.6 | 23.3 | 30.2 | 39.5 | 55.8 | 55.8 | 74.4 | 88.4 | 100.0 |
| 85° | 4.7 | 4.7 | 7.0 | 9.3 | 12.8 | 16.3 | 22.1 | 22.1 | 32.6 | 43.0 | 50.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.2 | 2.3 | 4.7 | 4.7 | 5.8 | 7.0 | 11.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P633799

CATALOG NUMBER: GWS-SA2F-740-U-SL3-W-GRSWH

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 | 5215.8 |
| 2.5° | 5192.6 | 5156.5 | 5157.7 | 5164.7 | 5142.6 | 5108.8 | 5086.7 | 5058.8 | 5041.4 | 5037.9 | 5050.7 |
| 5° | 5118.1 | 5076.3 | 5047.2 | 5017.0 | 4954.2 | 4879.7 | 4821.6 | 4773.9 | 4742.5 | 4730.9 | 4716.9 |
| 7.5° | 5015.8 | 4961.1 | 4887.9 | 4803.0 | 4689.0 | 4556.4 | 4463.4 | 4376.2 | 4315.7 | 4298.3 | 4290.1 |
| 10° | 4913.5 | 4834.4 | 4704.1 | 4546.0 | 4356.4 | 4177.3 | 4008.7 | 3879.6 | 3777.3 | 3719.1 | 3737.7 |
| 12.5° | 4807.6 | 4709.9 | 4506.4 | 4263.4 | 3999.4 | 3729.6 | 3508.6 | 3294.6 | 3129.5 | 3046.9 | 3022.5 |
| 15° | 4714.6 | 4582.0 | 4298.3 | 3969.1 | 3617.9 | 3278.3 | 2958.5 | 2637.6 | 2428.2 | 2314.3 | 2282.9 |
| 17.5° | 4635.5 | 4463.4 | 4078.5 | 3669.1 | 3249.3 | 2765.5 | 2372.4 | 2074.7 | 1931.7 | 1868.9 | 1864.2 |
| 20° | 4557.6 | 4347.1 | 3861.0 | 3345.8 | 2823.6 | 2281.7 | 1930.5 | 1790.9 | 1739.8 | 1717.7 | 1716.5 |
| 22.5° | 4487.8 | 4225.0 | 3631.9 | 3022.5 | 2400.3 | 1917.7 | 1724.7 | 1664.2 | 1650.2 | 1650.2 | 1647.9 |
| 25° | 4428.5 | 4102.9 | 3397.0 | 2679.4 | 2017.7 | 1707.2 | 1617.7 | 1592.1 | 1597.9 | 1608.4 | 1609.5 |
| 27.5° | 4404.1 | 4007.5 | 3170.2 | 2327.1 | 1753.7 | 1585.1 | 1544.4 | 1540.9 | 1557.2 | 1573.5 | 1575.8 |
| 30° | 4429.7 | 3942.4 | 2937.6 | 1989.8 | 1595.6 | 1510.7 | 1492.1 | 1499.0 | 1518.8 | 1535.1 | 1535.1 |
| 32.5° | 4508.7 | 3909.8 | 2700.4 | 1743.3 | 1503.7 | 1458.3 | 1452.5 | 1459.5 | 1474.6 | 1483.9 | 1485.1 |
| 35° | 4642.5 | 3922.6 | 2455.0 | 1577.0 | 1444.4 | 1420.0 | 1418.8 | 1423.4 | 1429.3 | 1435.1 | 1436.2 |
| 37.5° | 4811.1 | 3979.6 | 2192.2 | 1480.4 | 1406.0 | 1392.0 | 1389.7 | 1388.6 | 1389.7 | 1389.7 | 1390.9 |
| 40° | 4976.3 | 4065.7 | 1957.2 | 1423.4 | 1379.3 | 1367.6 | 1361.8 | 1353.7 | 1352.5 | 1350.2 | 1349.0 |
| 42.5° | 5098.4 | 4132.0 | 1770.0 | 1382.7 | 1354.8 | 1340.9 | 1333.9 | 1321.1 | 1319.9 | 1318.8 | 1317.6 |
| 45° | 5190.2 | 4187.8 | 1614.2 | 1343.2 | 1329.2 | 1316.5 | 1301.3 | 1289.7 | 1292.0 | 1294.4 | 1294.4 |
| 47.5° | 5293.7 | 4236.6 | 1500.2 | 1306.0 | 1297.8 | 1285.1 | 1266.5 | 1258.3 | 1266.5 | 1274.6 | 1274.6 |
| 50° | 5419.3 | 4305.2 | 1407.2 | 1268.8 | 1265.3 | 1250.2 | 1233.9 | 1230.4 | 1239.7 | 1251.3 | 1251.3 |
| 52.5° | 5511.2 | 4364.5 | 1340.9 | 1231.6 | 1231.6 | 1211.8 | 1197.8 | 1196.7 | 1207.1 | 1218.8 | 1219.9 |
| 55° | 5683.3 | 4502.9 | 1317.6 | 1188.5 | 1183.9 | 1168.8 | 1158.3 | 1150.2 | 1162.9 | 1173.4 | 1173.4 |
| 57.5° | 5877.5 | 4686.7 | 1323.4 | 1126.9 | 1121.1 | 1116.4 | 1108.3 | 1099.0 | 1102.5 | 1114.1 | 1115.3 |
| 60° | 5465.9 | 4330.8 | 1259.5 | 1065.3 | 1061.8 | 1059.4 | 1049.0 | 1032.7 | 1037.3 | 1046.7 | 1047.8 |
| 62.5° | 3818.0 | 2878.3 | 1018.7 | 988.5 | 1000.1 | 999.0 | 985.0 | 966.4 | 967.6 | 980.4 | 980.4 |
| 65° | 1981.7 | 1557.2 | 894.3 | 918.7 | 936.2 | 929.2 | 905.9 | 889.7 | 887.3 | 903.6 | 900.1 |
| 67.5° | 854.8 | 850.1 | 814.1 | 845.5 | 864.1 | 849.0 | 824.5 | 797.8 | 800.1 | 805.9 | 801.3 |
| 70° | 688.5 | 709.4 | 724.5 | 758.2 | 773.4 | 745.4 | 718.7 | 703.6 | 690.8 | 689.6 | 681.5 |
| 72.5° | 550.1 | 579.1 | 612.9 | 647.8 | 652.4 | 624.5 | 590.8 | 576.8 | 557.1 | 555.9 | 547.7 |
| 75° | 414.0 | 438.4 | 465.2 | 493.1 | 493.1 | 466.3 | 444.2 | 437.3 | 414.0 | 407.0 | 400.1 |
| 77.5° | 282.6 | 297.7 | 318.6 | 325.6 | 332.6 | 322.1 | 300.0 | 288.4 | 261.7 | 254.7 | 245.4 |
| 80° | 177.9 | 188.4 | 201.2 | 205.8 | 212.8 | 200.0 | 182.6 | 169.8 | 151.2 | 145.4 | 140.7 |
| 82.5° | 107.0 | 114.0 | 122.1 | 124.4 | 130.3 | 120.9 | 104.7 | 95.4 | 84.9 | 80.2 | 76.8 |
| 85° | 54.7 | 58.1 | 62.8 | 64.0 | 62.8 | 53.5 | 47.7 | 43.0 | 36.1 | 34.9 | 32.6 |
| 87.5° | 14.0 | 16.3 | 17.4 | 16.3 | 15.1 | 11.6 | 8.1 | 5.8 | 2.3 | 2.3 | 1.2 |
| 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

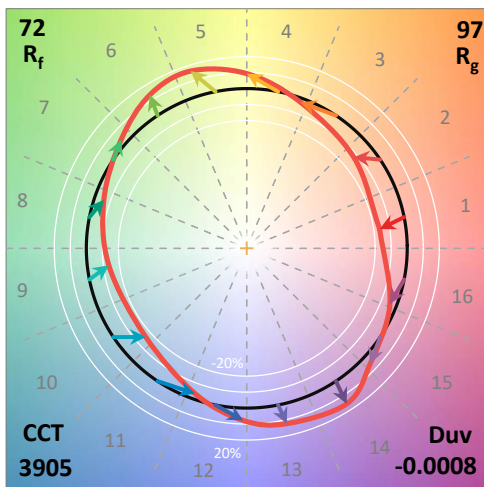
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 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)