

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: P643695

Luminaire Tested: GWS-SA6F-740-U-SL2-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P643695
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-29)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SAGF-740-U-SL2-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (96) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 42389.9 lumens
Efficiency: N/A
Efficacy: 113.8 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B4 - U0 - G4

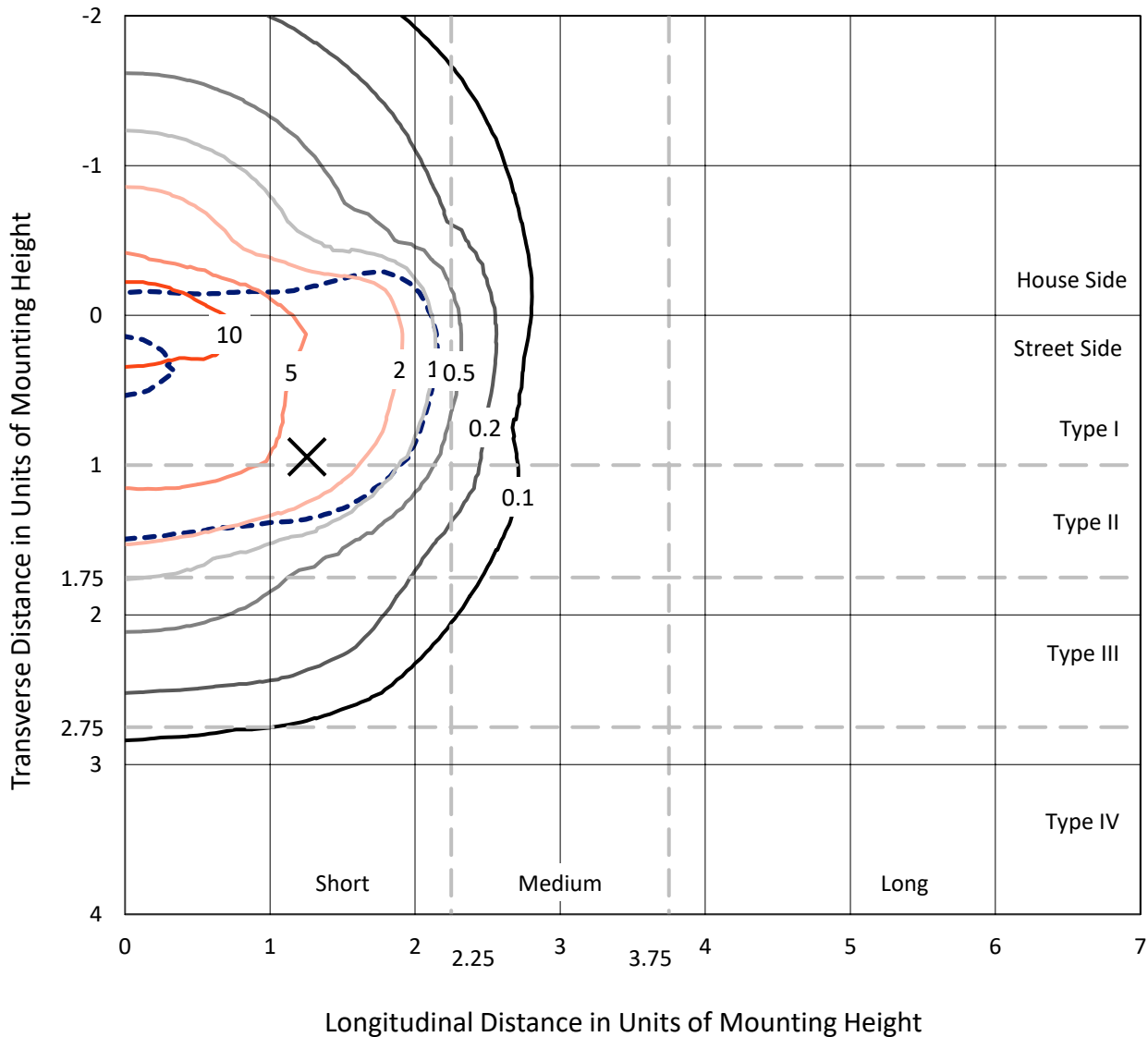
Input Watts (W): 372.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P643695
 CATALOG NUMBER: GWS-SA6F-740-U-SL2-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination

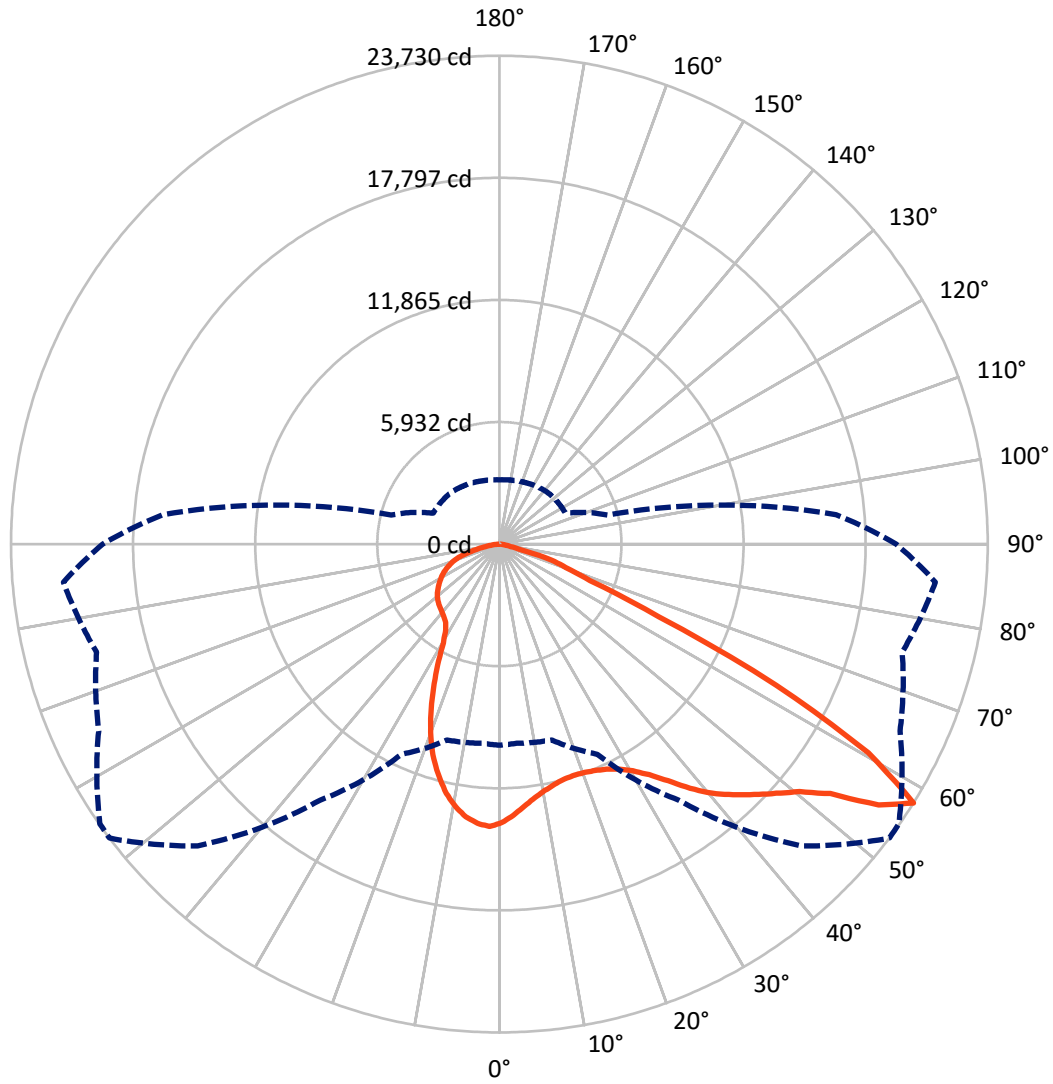
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 15 fc
 Type II - Short - N/A

REPORT NUMBER: P643695
CATALOG NUMBER: GWS-SA6F-740-U-SL2-W-GRSWH

Luminous Intensity Polar Plot



— Vertical Plane Through 53-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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CATALOG NUMBER: GWS-SA6F-740-U-SL2-W-GRSWH

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 13253.8 | 0.0 | 13253.8 |
| | % Fixture | 31.3 | 0.0 | 31.3 |
| Street Side | Lumens | 29136.1 | 0.0 | 29136.1 |
| | % Fixture | 68.7 | 0.0 | 68.7 |
| Total | Lumens | 42389.9 | 0.0 | 42389.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 1224.1 | 2.9 |
| 10°-20° | 3211.4 | 7.6 |
| 20°-30° | 4731.6 | 11.2 |
| 30°-40° | 6622.9 | 15.6 |
| 40°-50° | 8706.4 | 20.5 |
| 50°-60° | 10208.2 | 24.1 |
| 60°-70° | 6013.8 | 14.2 |
| 70°-80° | 1496.0 | 3.5 |
| 80°-90° | 175.5 | 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° | 42389.9 | 100.0 |
| 0°-180° | 42389.9 | 100.0 |

Coefficient of Utilization



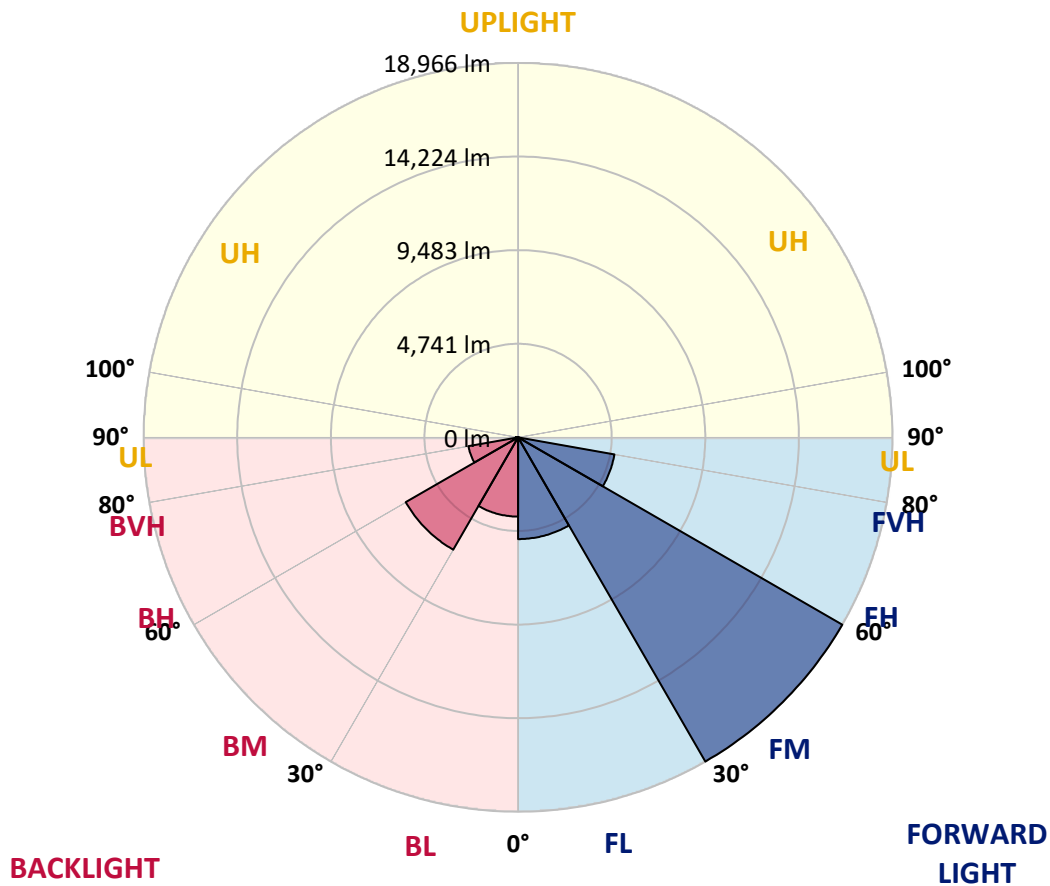
REPORT NUMBER: P643695

CATALOG NUMBER: GWS-SA6F-740-U-SL2-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 5153.8 | 12.2 | | | |
| FM (30°-60°) | 18965.6 | 44.7 | | | |
| FH (60°-80°) | 4958.0 | 11.7 | | | G2/5000 |
| FVH (80°-90°) | 58.7 | 0.1 | | | G1/100 |
| BL (0°-30°) | 4013.3 | 9.5 | B4/5000 | | |
| BM (30°-60°) | 6571.9 | 15.5 | B4/8500 | | |
| BH (60°-80°) | 2551.8 | 6.0 | B4/5000 | | G4/5000 |
| BVH (80°-90°) | 116.8 | 0.3 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G4
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 53° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 |
| 2.5° | 12758.5 | 12794.1 | 12801.3 | 12911.9 | 12919.0 | 13079.6 | 13186.6 | 13165.2 | 13275.8 | 13411.4 | 13518.4 |
| 5° | 12148.4 | 12151.9 | 12187.6 | 12319.6 | 12391.0 | 12601.5 | 12779.9 | 12779.9 | 12993.9 | 13272.2 | 13511.3 |
| 7.5° | 11645.3 | 11641.7 | 11673.8 | 11820.1 | 11937.9 | 12191.2 | 12433.8 | 12462.3 | 12762.0 | 13168.8 | 13557.6 |
| 10° | 11177.9 | 11202.9 | 11238.6 | 11417.0 | 11566.8 | 11880.8 | 12169.8 | 12216.2 | 12594.3 | 13097.4 | 13621.9 |
| 12.5° | 10878.2 | 10881.8 | 10935.3 | 11135.1 | 11327.8 | 11663.1 | 11966.4 | 12023.5 | 12458.8 | 13029.6 | 13668.2 |
| 15° | 10685.6 | 10689.1 | 10746.2 | 10967.4 | 11192.2 | 11531.1 | 11841.5 | 11905.8 | 12380.3 | 13018.9 | 13757.4 |
| 17.5° | 10599.9 | 10596.4 | 10649.9 | 10871.1 | 11117.3 | 11470.5 | 11802.3 | 11880.8 | 12416.0 | 13101.0 | 13914.4 |
| 20° | 10599.9 | 10603.5 | 10632.0 | 10831.8 | 11081.6 | 11456.2 | 11841.5 | 11937.9 | 12555.1 | 13286.5 | 14157.0 |
| 22.5° | 10749.8 | 10764.1 | 10778.3 | 10913.9 | 11110.1 | 11477.6 | 11945.0 | 12073.4 | 12854.8 | 13596.9 | 14474.6 |
| 25° | 11042.3 | 11045.9 | 11060.2 | 11170.8 | 11260.0 | 11538.3 | 12116.3 | 12308.9 | 13322.2 | 14050.0 | 14874.2 |
| 27.5° | 11434.8 | 11484.8 | 11499.0 | 11570.4 | 11570.4 | 11688.1 | 12383.8 | 12662.1 | 13953.7 | 14702.9 | 15384.4 |
| 30° | 11984.2 | 12002.1 | 12027.1 | 12105.6 | 12019.9 | 11970.0 | 12776.3 | 13133.1 | 14685.1 | 15491.4 | 15998.0 |
| 32.5° | 12465.9 | 12505.1 | 12640.7 | 12769.2 | 12615.7 | 12458.8 | 13354.3 | 13775.3 | 15387.9 | 16312.0 | 16650.9 |
| 35° | 12876.2 | 12972.5 | 13233.0 | 13518.4 | 13411.4 | 13254.4 | 14121.4 | 14560.2 | 15965.9 | 16900.7 | 17228.9 |
| 37.5° | 13372.1 | 13447.0 | 13803.8 | 14267.6 | 14364.0 | 14289.0 | 15056.1 | 15370.1 | 16351.2 | 17050.5 | 17542.9 |
| 40° | 13875.2 | 13989.4 | 14449.6 | 15091.8 | 15459.3 | 15512.8 | 15919.5 | 16130.0 | 16483.2 | 16758.0 | 17482.2 |
| 42.5° | 14388.9 | 14585.2 | 15216.7 | 15965.9 | 16618.8 | 16740.1 | 16647.4 | 16736.6 | 16440.4 | 16354.8 | 17200.4 |
| 45° | 15016.9 | 15248.8 | 15962.3 | 16918.5 | 17778.4 | 17967.5 | 17360.9 | 17278.9 | 16433.3 | 16201.4 | 17025.6 |
| 47.5° | 15759.0 | 15990.9 | 16672.3 | 17785.5 | 18884.4 | 19023.5 | 18092.3 | 17942.5 | 16683.0 | 16436.9 | 17261.0 |
| 50° | 16415.5 | 16576.0 | 17186.1 | 18431.3 | 19915.5 | 19997.5 | 18898.6 | 18716.7 | 17303.8 | 17089.8 | 17996.0 |
| 52.5° | 15748.3 | 15730.4 | 16372.6 | 17906.8 | 20450.6 | 21438.9 | 20140.2 | 19965.4 | 18502.6 | 18174.4 | 19134.1 |
| 55° | 13361.4 | 13158.1 | 13732.5 | 15241.6 | 18955.7 | 22719.8 | 22366.5 | 22016.9 | 20101.0 | 19266.1 | 20200.9 |
| 57.5° | 9768.6 | 9711.6 | 9850.7 | 11267.1 | 15184.6 | 20736.1 | 23729.5 | 23697.3 | 21481.7 | 20265.1 | 21264.1 |
| 60° | 7638.7 | 7553.0 | 7182.0 | 7221.2 | 10350.2 | 16197.8 | 20593.4 | 21538.8 | 22338.0 | 20864.5 | 22006.2 |
| 62.5° | 6782.4 | 6718.2 | 6525.5 | 5993.9 | 6165.2 | 10860.4 | 15095.4 | 15962.3 | 19519.4 | 18427.7 | 18902.2 |
| 65° | 5615.7 | 5597.9 | 5758.4 | 5737.0 | 5166.2 | 5997.5 | 8519.9 | 9394.0 | 12273.2 | 12426.7 | 12273.2 |
| 67.5° | 4081.6 | 4049.5 | 4456.2 | 5258.9 | 4973.5 | 4527.5 | 4748.7 | 5052.0 | 6293.6 | 5651.4 | 5087.7 |
| 70° | 2654.4 | 2608.1 | 2843.5 | 3799.7 | 4452.6 | 3946.0 | 3421.5 | 3371.6 | 3460.8 | 2151.4 | 2326.2 |
| 72.5° | 1780.3 | 1726.8 | 1723.2 | 2090.7 | 2690.1 | 2658.0 | 2650.9 | 2625.9 | 2344.0 | 1698.3 | 1883.8 |
| 75° | 991.8 | 949.0 | 938.3 | 902.7 | 963.3 | 981.1 | 1045.4 | 1081.0 | 1170.2 | 1288.0 | 1427.1 |
| 77.5° | 167.7 | 164.1 | 206.9 | 264.0 | 363.9 | 467.4 | 578.0 | 610.1 | 752.8 | 892.0 | 981.1 |
| 80° | 92.8 | 96.3 | 124.9 | 153.4 | 203.4 | 278.3 | 356.8 | 378.2 | 463.8 | 538.7 | 610.1 |
| 82.5° | 49.9 | 49.9 | 64.2 | 82.1 | 110.6 | 146.3 | 192.7 | 210.5 | 267.6 | 314.0 | 363.9 |
| 85° | 17.8 | 17.8 | 25.0 | 32.1 | 46.4 | 60.7 | 74.9 | 85.6 | 117.7 | 160.6 | 182.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 3.6 | 7.1 | 14.3 | 14.3 | 17.8 | 32.1 | 46.4 |
| 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: P643695

CATALOG NUMBER: GWS-SA6F-740-U-SL2-W-GRSWH

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 | 13536.2 |
| 2.5° | 13607.6 | 13511.3 | 13643.3 | 13703.9 | 13725.3 | 13739.6 | 13646.8 | 13582.6 | 13561.2 | 13493.4 | 13454.2 |
| 5° | 13657.5 | 13593.3 | 13718.2 | 13718.2 | 13629.0 | 13536.2 | 13347.1 | 13215.1 | 13122.4 | 13011.8 | 12993.9 |
| 7.5° | 13743.2 | 13696.8 | 13764.6 | 13625.4 | 13400.7 | 13150.9 | 12822.7 | 12565.8 | 12358.9 | 12223.3 | 12226.9 |
| 10° | 13857.3 | 13800.3 | 13746.7 | 13436.3 | 13026.0 | 12565.8 | 12062.7 | 11688.1 | 11345.6 | 11188.6 | 11103.0 |
| 12.5° | 13932.3 | 13850.2 | 13625.4 | 13111.7 | 12508.7 | 11891.5 | 11181.5 | 10624.9 | 10129.0 | 9904.2 | 9886.4 |
| 15° | 14025.0 | 13875.2 | 13425.6 | 12690.7 | 11852.2 | 11010.2 | 10096.9 | 9322.7 | 8651.9 | 8302.3 | 8284.4 |
| 17.5° | 14146.3 | 13900.2 | 13186.6 | 12209.0 | 11160.1 | 9918.5 | 8769.7 | 7795.6 | 7082.1 | 6810.9 | 6857.3 |
| 20° | 14317.6 | 13928.7 | 12915.4 | 11673.8 | 10300.2 | 8676.9 | 7246.2 | 6350.7 | 6076.0 | 6058.1 | 6022.4 |
| 22.5° | 14510.3 | 13946.5 | 12615.7 | 11074.5 | 9258.4 | 7353.2 | 5986.8 | 5605.0 | 5601.4 | 5690.6 | 5712.1 |
| 25° | 14727.9 | 13960.8 | 12276.8 | 10375.2 | 8131.0 | 6033.2 | 5294.6 | 5180.4 | 5269.6 | 5437.3 | 5458.7 |
| 27.5° | 15006.2 | 13989.4 | 11866.5 | 9608.1 | 6932.2 | 5212.6 | 4912.9 | 4884.3 | 4991.4 | 5148.3 | 5141.2 |
| 30° | 15416.5 | 14092.8 | 11431.2 | 8726.8 | 5701.3 | 4823.7 | 4681.0 | 4684.5 | 4727.3 | 4802.3 | 4813.0 |
| 32.5° | 15833.9 | 14253.4 | 11006.7 | 7735.0 | 4994.9 | 4602.5 | 4538.2 | 4531.1 | 4531.1 | 4563.2 | 4570.4 |
| 35° | 16229.9 | 14435.3 | 10546.4 | 6700.3 | 4652.4 | 4474.0 | 4431.2 | 4409.8 | 4399.1 | 4392.0 | 4381.3 |
| 37.5° | 16451.1 | 14524.5 | 10096.9 | 5679.9 | 4470.5 | 4388.4 | 4345.6 | 4317.0 | 4277.8 | 4249.3 | 4242.1 |
| 40° | 16354.8 | 14421.1 | 9576.0 | 4916.4 | 4359.9 | 4306.3 | 4256.4 | 4217.1 | 4163.6 | 4138.7 | 4124.4 |
| 42.5° | 16033.7 | 14100.0 | 9008.7 | 4556.1 | 4270.7 | 4217.1 | 4156.5 | 4092.3 | 4056.6 | 4035.2 | 4031.6 |
| 45° | 15694.8 | 13711.1 | 8323.7 | 4345.6 | 4185.0 | 4120.8 | 4049.5 | 3978.1 | 3938.9 | 3928.1 | 3924.6 |
| 47.5° | 15684.1 | 13518.4 | 7595.9 | 4177.9 | 4081.6 | 4017.3 | 3928.1 | 3856.8 | 3814.0 | 3799.7 | 3785.4 |
| 50° | 16155.0 | 13714.6 | 6775.3 | 4031.6 | 3974.5 | 3906.7 | 3806.8 | 3728.4 | 3674.8 | 3657.0 | 3653.4 |
| 52.5° | 17132.6 | 14453.2 | 6040.3 | 3885.3 | 3831.8 | 3753.3 | 3671.3 | 3592.8 | 3528.6 | 3496.4 | 3492.9 |
| 55° | 18188.7 | 15391.5 | 5583.6 | 3735.5 | 3664.1 | 3596.3 | 3521.4 | 3435.8 | 3364.4 | 3314.5 | 3307.4 |
| 57.5° | 19280.4 | 16415.5 | 5444.5 | 3546.4 | 3492.9 | 3446.5 | 3357.3 | 3264.5 | 3182.5 | 3136.1 | 3125.4 |
| 60° | 20179.5 | 17296.7 | 5704.9 | 3346.6 | 3318.1 | 3257.4 | 3175.3 | 3086.1 | 3029.1 | 2993.4 | 2986.3 |
| 62.5° | 16893.5 | 14082.1 | 4606.0 | 3129.0 | 3129.0 | 3064.7 | 2972.0 | 2907.8 | 2868.5 | 2843.5 | 2836.4 |
| 65° | 10721.2 | 8719.7 | 3143.2 | 2911.3 | 2907.8 | 2822.1 | 2743.6 | 2700.8 | 2683.0 | 2643.7 | 2636.6 |
| 67.5° | 4670.3 | 3985.2 | 2686.6 | 2690.1 | 2675.9 | 2583.1 | 2504.6 | 2472.5 | 2436.8 | 2394.0 | 2390.4 |
| 70° | 2422.5 | 2468.9 | 2404.7 | 2443.9 | 2419.0 | 2308.4 | 2233.4 | 2183.5 | 2108.6 | 2065.8 | 2069.3 |
| 72.5° | 1955.2 | 2005.1 | 2076.5 | 2137.1 | 2083.6 | 1994.4 | 1876.7 | 1816.0 | 1719.7 | 1673.3 | 1676.9 |
| 75° | 1491.3 | 1544.9 | 1612.6 | 1676.9 | 1634.1 | 1523.5 | 1448.5 | 1387.9 | 1277.3 | 1223.8 | 1234.5 |
| 77.5° | 1027.5 | 1056.1 | 1138.1 | 1134.6 | 1120.3 | 1088.2 | 977.6 | 906.2 | 792.1 | 727.8 | 735.0 |
| 80° | 638.6 | 656.5 | 695.7 | 713.6 | 706.4 | 663.6 | 574.4 | 520.9 | 453.1 | 413.9 | 417.4 |
| 82.5° | 385.3 | 396.0 | 431.7 | 435.3 | 431.7 | 399.6 | 331.8 | 292.6 | 249.7 | 228.3 | 228.3 |
| 85° | 196.2 | 203.4 | 224.8 | 224.8 | 203.4 | 171.3 | 153.4 | 135.6 | 110.6 | 99.9 | 99.9 |
| 87.5° | 53.5 | 53.5 | 67.8 | 57.1 | 46.4 | 42.8 | 21.4 | 17.8 | 7.1 | 3.6 | 3.6 |
| 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



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 $R_a = 71.2$
 $R_9 = -29.7$



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)