

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: P643712

Luminaire Tested: GWS-SA6F-740-U-T1-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P643712
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-10)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SAGF-740-U-T1-W
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS
Light Source: (96) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 49679.1 lumens
Efficiency: N/A
Efficacy: 133.3 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type I - Medium
BUG Rating: B5 - U0 - G5

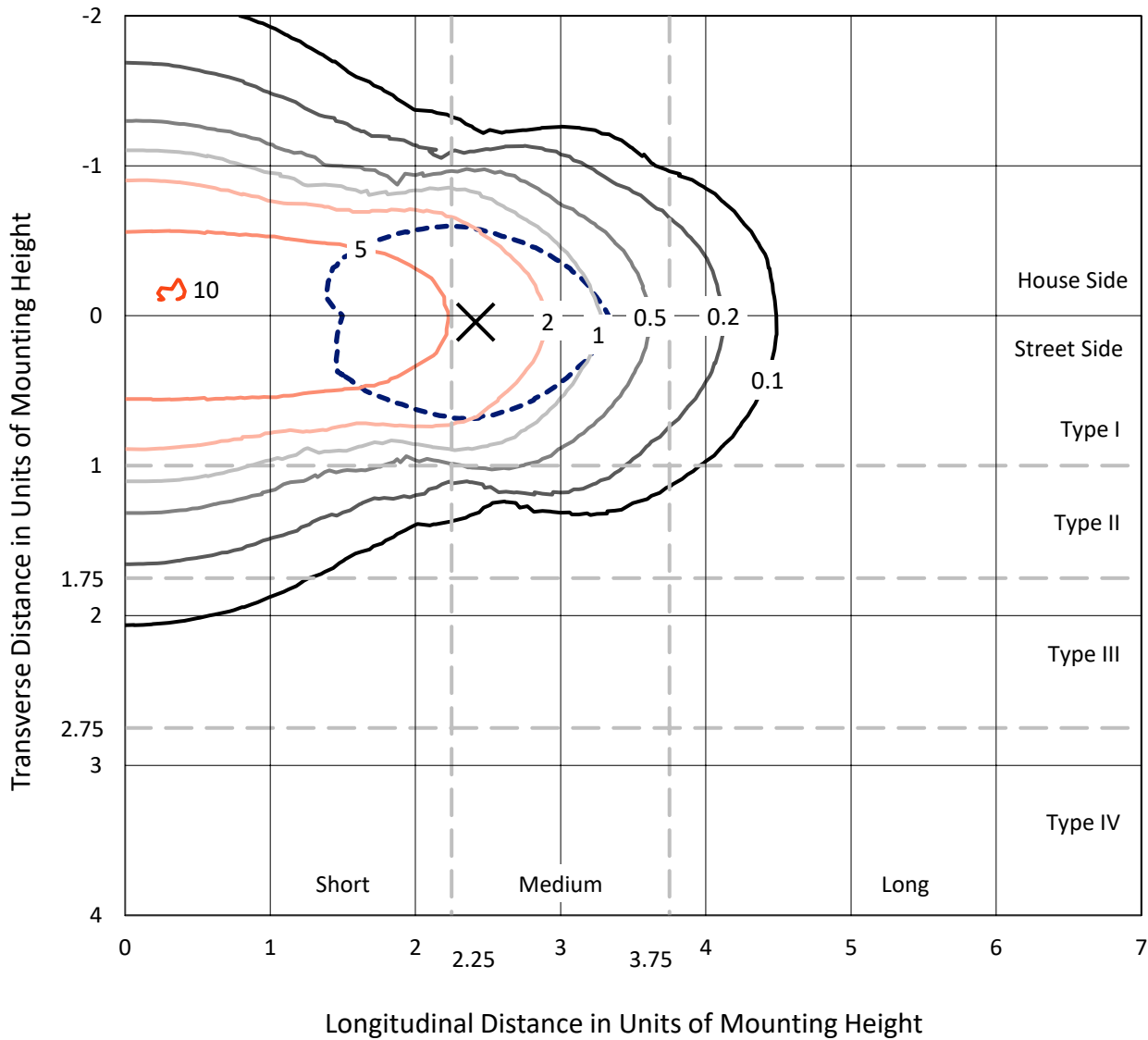
Input Watts (W): 372.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P643712
 CATALOG NUMBER: GWS-SA6F-740-U-T1-W

Iso-Footcandle Lines of Horizontal Illumination

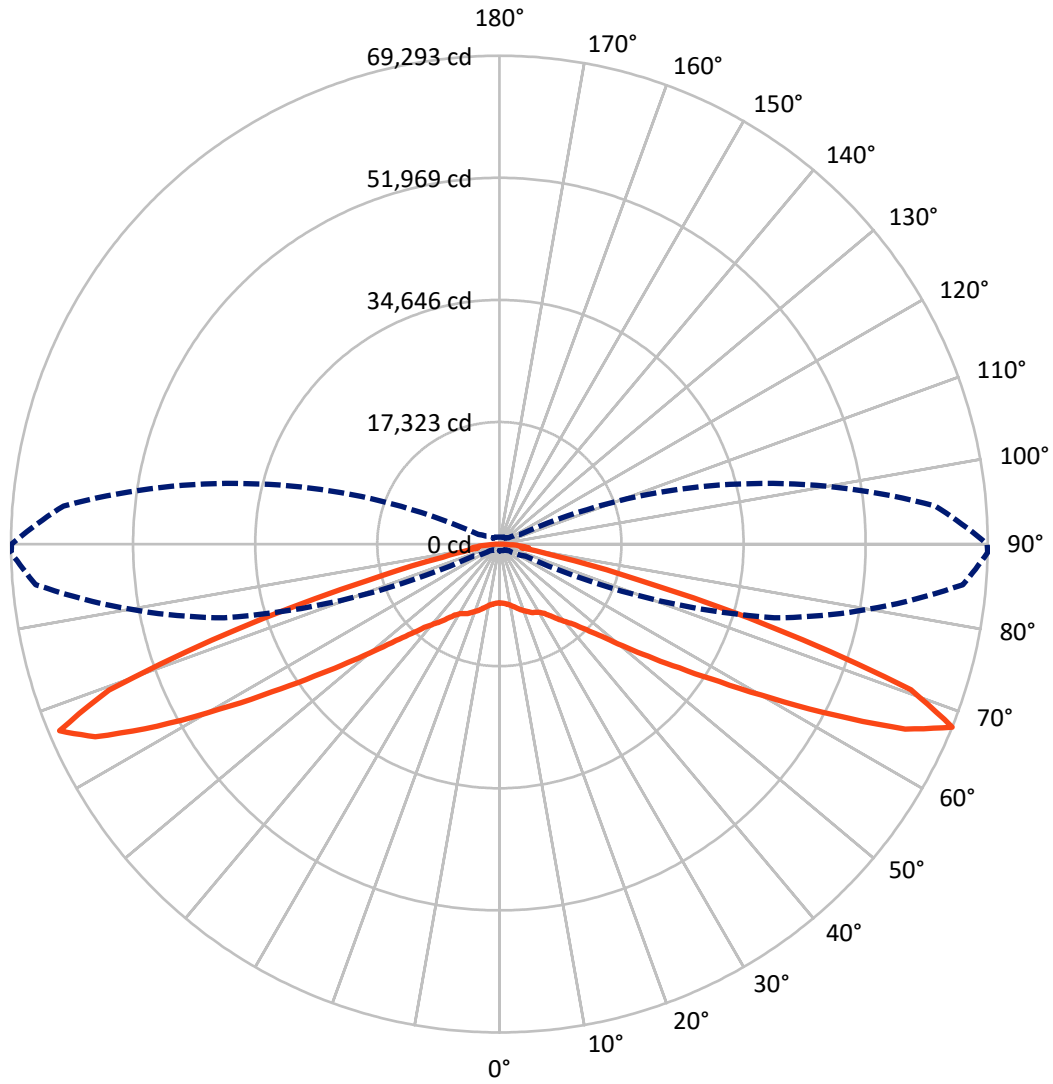
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 10.1 fc
 Type I - Medium - N/A

REPORT NUMBER: P643712
CATALOG NUMBER: GWS-SA6F-740-U-T1-W

Luminous Intensity Polar Plot



— Vertical Plane Through 89-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P643712

CATALOG NUMBER: GWS-SA6F-740-U-T1-W

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 24621.8 | 0.0 | 24621.8 |
| | % Fixture | 49.6 | 0.0 | 49.6 |
| Street Side | Lumens | 25057.3 | 0.0 | 25057.3 |
| | % Fixture | 50.4 | 0.0 | 50.4 |
| Total | Lumens | 49679.1 | 0.0 | 49679.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 836.4 | 1.7 |
| 10°-20° | 2723.4 | 5.5 |
| 20°-30° | 4603.8 | 9.3 |
| 30°-40° | 6318.1 | 12.7 |
| 40°-50° | 8057.0 | 16.2 |
| 50°-60° | 10108.8 | 20.3 |
| 60°-70° | 12192.0 | 24.5 |
| 70°-80° | 4410.7 | 8.9 |
| 80°-90° | 428.9 | 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° | 49679.1 | 100.0 |
| 0°-180° | 49679.1 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P643712

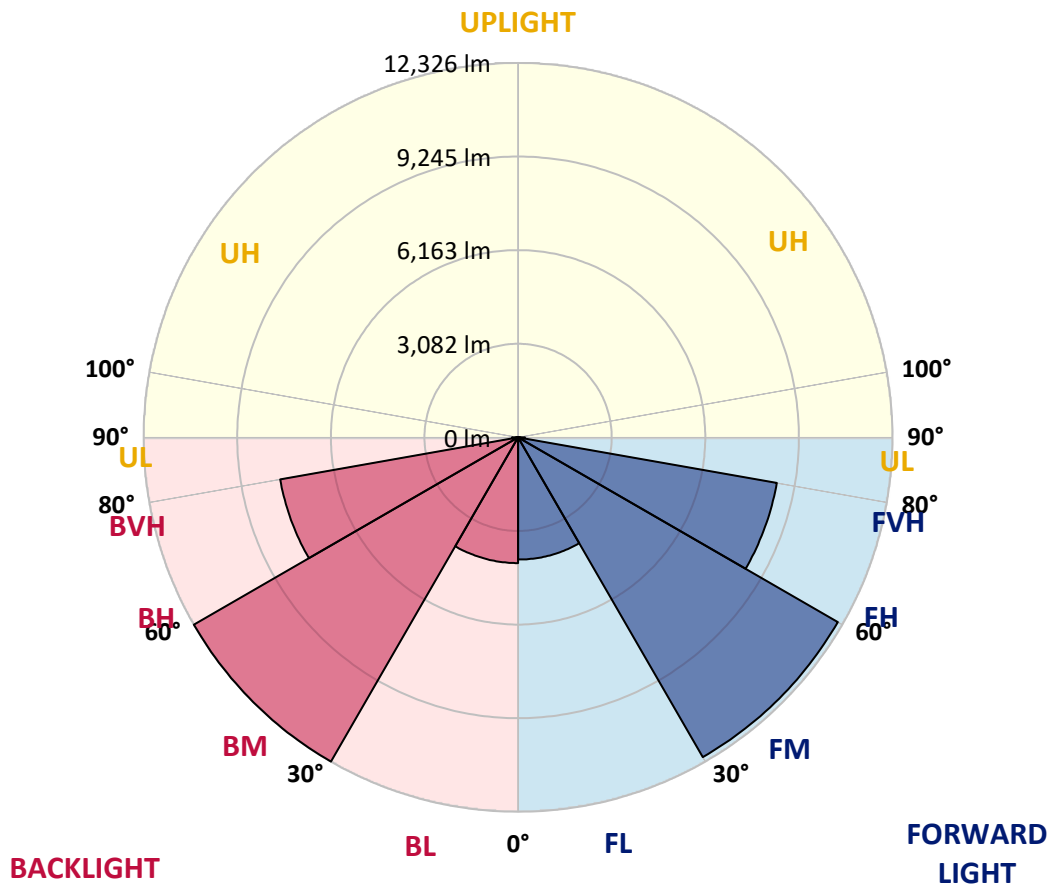
CATALOG NUMBER: GWS-SA6F-740-U-T1-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 4023.6 | 8.1 | | | |
| FM (30°-60°) | 12157.4 | 24.5 | | | |
| FH (60°-80°) | 8649.9 | 17.4 | | | G4/12000 |
| FVH (80°-90°) | 226.3 | 0.5 | | | G3/500 |
| BL (0°-30°) | 4140.0 | 8.3 | B4/5000 | | |
| BM (30°-60°) | 12326.4 | 24.8 | B5 | | |
| BH (60°-80°) | 7952.8 | 16.0 | B5 | | G5 |
| BVH (80°-90°) | 202.6 | 0.4 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B5-U0-G5

Type I Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 89° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0° | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 |
| 2.5° | 8363.2 | 8356.1 | 8338.2 | 8391.8 | 8381.1 | 8384.6 | 8406.0 | 8391.8 | 8366.8 | 8324.0 | 8384.6 |
| 5° | 8598.7 | 8595.1 | 8555.9 | 8588.0 | 8552.3 | 8527.3 | 8523.8 | 8488.1 | 8459.5 | 8413.2 | 8477.4 |
| 7.5° | 8827.0 | 8823.5 | 8791.4 | 8848.4 | 8819.9 | 8791.4 | 8759.3 | 8687.9 | 8620.1 | 8552.3 | 8623.7 |
| 10° | 9001.9 | 8998.3 | 8991.2 | 9073.2 | 9080.4 | 9091.1 | 9076.8 | 8955.5 | 8837.7 | 8755.7 | 8827.0 |
| 12.5° | 9101.8 | 9112.5 | 9130.3 | 9280.2 | 9355.1 | 9426.5 | 9444.3 | 9344.4 | 9148.2 | 9030.4 | 9116.0 |
| 15° | 9034.0 | 9055.4 | 9144.6 | 9415.7 | 9622.7 | 9783.2 | 9851.0 | 9769.0 | 9515.7 | 9319.4 | 9415.7 |
| 17.5° | 8709.3 | 8727.1 | 8902.0 | 9315.8 | 9772.5 | 10143.6 | 10254.2 | 10204.3 | 9922.4 | 9683.3 | 9776.1 |
| 20° | 8259.7 | 8299.0 | 8488.1 | 9066.1 | 9747.6 | 10393.4 | 10689.5 | 10671.7 | 10364.8 | 9997.3 | 10107.9 |
| 22.5° | 7853.0 | 7899.4 | 8099.2 | 8737.8 | 9579.9 | 10457.6 | 11128.4 | 11174.7 | 10768.0 | 10311.3 | 10400.5 |
| 25° | 7396.3 | 7439.1 | 7696.0 | 8348.9 | 9290.9 | 10407.6 | 11503.0 | 11713.5 | 11224.7 | 10671.7 | 10753.7 |
| 27.5° | 6928.9 | 6961.0 | 7214.3 | 7910.1 | 8912.7 | 10314.9 | 11799.1 | 12305.8 | 11674.2 | 10921.4 | 10978.5 |
| 30° | 6518.6 | 6561.4 | 6793.3 | 7471.2 | 8498.8 | 10129.3 | 12041.7 | 12937.3 | 12191.6 | 11203.3 | 11249.7 |
| 32.5° | 6122.6 | 6158.2 | 6411.6 | 7039.5 | 8059.9 | 9843.9 | 12259.4 | 13679.4 | 12958.7 | 11727.8 | 11727.8 |
| 35° | 5623.0 | 5687.3 | 5972.7 | 6625.6 | 7646.1 | 9465.7 | 12416.4 | 14542.9 | 14007.7 | 12502.0 | 12505.6 |
| 37.5° | 5162.8 | 5198.5 | 5498.2 | 6158.2 | 7210.8 | 9037.5 | 12430.6 | 15438.4 | 15334.9 | 13486.8 | 13493.9 |
| 40° | 4638.3 | 4684.7 | 5005.8 | 5658.7 | 6711.3 | 8588.0 | 12295.1 | 16273.3 | 16726.4 | 14500.0 | 14460.8 |
| 42.5° | 4106.7 | 4174.5 | 4481.3 | 5120.0 | 6172.5 | 8038.5 | 11934.7 | 17068.9 | 18492.5 | 15673.9 | 15577.6 |
| 45° | 3592.9 | 3635.7 | 3942.6 | 4545.5 | 5555.3 | 7382.0 | 11356.7 | 17832.5 | 20590.5 | 17457.8 | 17318.7 |
| 47.5° | 3014.9 | 3032.7 | 3350.3 | 3928.3 | 4916.6 | 6650.6 | 10528.9 | 18514.0 | 22895.4 | 19819.8 | 19580.8 |
| 50° | 2501.1 | 2526.1 | 2775.8 | 3271.8 | 4135.2 | 5783.6 | 9497.8 | 18913.6 | 25831.8 | 23041.6 | 22627.8 |
| 52.5° | 2023.0 | 2048.0 | 2247.8 | 2643.8 | 3418.1 | 4795.3 | 8220.5 | 18820.8 | 28811.0 | 27041.3 | 26438.3 |
| 55° | 1634.1 | 1651.9 | 1787.5 | 2097.9 | 2690.2 | 3814.1 | 6711.3 | 17989.5 | 32118.4 | 32264.7 | 30966.0 |
| 57.5° | 1380.8 | 1387.9 | 1480.7 | 1669.8 | 2101.5 | 2940.0 | 5180.6 | 16027.1 | 35586.5 | 38929.6 | 36796.0 |
| 60° | 1234.5 | 1238.1 | 1280.9 | 1398.6 | 1659.1 | 2244.2 | 3796.3 | 12901.6 | 39179.4 | 47267.8 | 44342.2 |
| 62.5° | 1141.7 | 1141.7 | 1177.4 | 1245.2 | 1377.2 | 1726.9 | 2790.1 | 9265.9 | 41759.0 | 56341.1 | 53433.2 |
| 65° | 1052.5 | 1052.5 | 1077.5 | 1134.6 | 1206.0 | 1409.3 | 2094.4 | 5976.3 | 43025.6 | 63926.5 | 63280.7 |
| 67.5° | 938.4 | 941.9 | 959.8 | 1020.4 | 1084.6 | 1177.4 | 1587.7 | 4042.5 | 40396.0 | 66024.4 | 69292.6 |
| 70° | 831.3 | 834.9 | 859.9 | 899.1 | 952.6 | 1016.9 | 1241.6 | 2786.5 | 29403.3 | 54988.8 | 61957.0 |
| 72.5° | 713.6 | 727.9 | 745.7 | 788.5 | 820.6 | 867.0 | 1013.3 | 1805.4 | 17108.2 | 35372.4 | 40956.2 |
| 75° | 585.1 | 603.0 | 624.4 | 667.2 | 688.6 | 706.4 | 834.9 | 1288.0 | 8231.2 | 17925.2 | 20412.1 |
| 77.5° | 453.1 | 471.0 | 495.9 | 535.2 | 549.5 | 570.9 | 638.7 | 931.2 | 3942.6 | 7945.8 | 8566.6 |
| 80° | 303.3 | 310.4 | 331.8 | 378.2 | 403.2 | 417.4 | 471.0 | 635.1 | 1712.6 | 3189.7 | 3161.2 |
| 82.5° | 185.5 | 189.1 | 196.2 | 224.8 | 235.5 | 249.8 | 306.8 | 388.9 | 817.1 | 3625.0 | 4156.6 |
| 85° | 67.8 | 64.2 | 60.7 | 78.5 | 92.8 | 107.0 | 142.7 | 196.2 | 356.8 | 2490.4 | 2786.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 3.6 | 7.1 | 7.1 | 14.3 | 28.5 | 85.6 | 931.2 | 638.7 |
| 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: P643712
 CATALOG NUMBER: GWS-SA6F-740-U-T1-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|--------|
| 0° | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 | 8338.2 |
| 2.5° | 8366.8 | 8327.5 | 8377.5 | 8413.2 | 8491.7 | 8520.2 | 8527.3 | 8502.4 | 8502.4 | 8459.5 | 8466.7 |
| 5° | 8463.1 | 8438.1 | 8520.2 | 8580.9 | 8695.0 | 8737.8 | 8766.4 | 8748.5 | 8759.3 | 8730.7 | 8737.8 |
| 7.5° | 8609.4 | 8588.0 | 8730.7 | 8848.4 | 8966.2 | 9016.1 | 9041.1 | 9026.8 | 9030.4 | 8994.7 | 9005.4 |
| 10° | 8812.8 | 8819.9 | 8991.2 | 9144.6 | 9301.6 | 9351.5 | 9362.2 | 9319.4 | 9283.7 | 9219.5 | 9223.1 |
| 12.5° | 9091.1 | 9126.7 | 9369.4 | 9540.6 | 9701.2 | 9772.5 | 9694.0 | 9537.1 | 9390.8 | 9280.2 | 9265.9 |
| 15° | 9394.3 | 9458.6 | 9808.2 | 10025.9 | 10200.7 | 10165.0 | 9933.1 | 9579.9 | 9290.9 | 9126.7 | 9094.6 |
| 17.5° | 9758.3 | 9854.6 | 10293.5 | 10553.9 | 10703.8 | 10475.4 | 9990.2 | 9462.1 | 9059.0 | 8837.7 | 8794.9 |
| 20° | 10100.8 | 10254.2 | 10807.2 | 11146.2 | 11164.0 | 10650.3 | 9965.2 | 9223.1 | 8716.4 | 8445.3 | 8388.2 |
| 22.5° | 10414.8 | 10611.0 | 11346.0 | 11777.7 | 11545.8 | 10728.7 | 9811.8 | 8884.1 | 8302.6 | 7985.0 | 7935.1 |
| 25° | 10757.3 | 11035.6 | 11974.0 | 12377.1 | 11927.6 | 10696.6 | 9490.7 | 8463.1 | 7803.0 | 7478.4 | 7442.7 |
| 27.5° | 10992.8 | 11342.4 | 12605.5 | 12990.8 | 12241.5 | 10514.7 | 9076.8 | 8002.9 | 7346.4 | 7039.5 | 6989.6 |
| 30° | 11263.9 | 11709.9 | 13301.2 | 13658.0 | 12434.2 | 10247.1 | 8634.4 | 7574.7 | 6921.8 | 6590.0 | 6554.3 |
| 32.5° | 11756.3 | 12316.5 | 14164.7 | 14364.5 | 12494.9 | 9915.3 | 8209.8 | 7160.8 | 6479.3 | 6147.5 | 6097.6 |
| 35° | 12548.4 | 13204.9 | 15377.7 | 15153.0 | 12448.5 | 9551.3 | 7806.6 | 6675.6 | 6026.2 | 5715.8 | 5665.9 |
| 37.5° | 13547.4 | 14364.5 | 16730.0 | 15863.0 | 12320.0 | 9151.7 | 7328.5 | 6268.8 | 5619.5 | 5305.5 | 5277.0 |
| 40° | 14478.6 | 15484.8 | 18246.4 | 16476.7 | 12059.6 | 8659.3 | 6868.3 | 5844.3 | 5180.6 | 4848.8 | 4784.6 |
| 42.5° | 15645.3 | 16983.3 | 20001.8 | 17008.3 | 11631.4 | 8070.6 | 6350.9 | 5319.8 | 4631.2 | 4331.5 | 4253.0 |
| 45° | 17418.6 | 19081.3 | 22042.6 | 17518.5 | 10992.8 | 7346.4 | 5701.5 | 4681.1 | 4028.2 | 3721.3 | 3660.7 |
| 47.5° | 19630.7 | 21703.7 | 24254.7 | 17821.8 | 10022.3 | 6582.8 | 4966.5 | 4006.8 | 3353.8 | 3007.8 | 2979.2 |
| 50° | 22738.4 | 25517.8 | 26627.4 | 17768.3 | 8937.6 | 5676.6 | 4138.8 | 3204.0 | 2658.1 | 2408.3 | 2369.1 |
| 52.5° | 26523.9 | 30305.9 | 29192.7 | 17126.0 | 7785.2 | 4645.4 | 3225.4 | 2515.4 | 2108.6 | 1930.2 | 1898.1 |
| 55° | 31272.8 | 36039.6 | 31893.7 | 15748.8 | 6329.5 | 3557.2 | 2533.2 | 1983.8 | 1705.5 | 1598.4 | 1584.2 |
| 57.5° | 37152.8 | 43464.4 | 34494.7 | 13429.7 | 4759.6 | 2715.2 | 1951.7 | 1637.7 | 1505.7 | 1441.4 | 1437.9 |
| 60° | 44913.0 | 51346.0 | 36753.2 | 10436.2 | 3407.4 | 2076.5 | 1612.7 | 1462.8 | 1359.4 | 1316.6 | 1313.0 |
| 62.5° | 54139.7 | 58503.2 | 38158.9 | 7107.3 | 2561.8 | 1655.5 | 1420.0 | 1327.3 | 1266.6 | 1241.6 | 1238.1 |
| 65° | 63623.2 | 63027.4 | 37488.2 | 4656.1 | 1944.5 | 1405.8 | 1273.7 | 1223.8 | 1170.3 | 1145.3 | 1145.3 |
| 67.5° | 69224.8 | 62071.2 | 32339.7 | 3232.5 | 1541.3 | 1234.5 | 1148.9 | 1102.5 | 1013.3 | 991.9 | 991.9 |
| 70° | 61314.8 | 50297.0 | 21197.0 | 2365.5 | 1248.8 | 1081.1 | 999.0 | 934.8 | 899.1 | 877.7 | 874.1 |
| 72.5° | 40553.0 | 32728.6 | 11271.1 | 1641.2 | 1041.8 | 920.5 | 845.6 | 820.6 | 777.8 | 756.4 | 752.8 |
| 75° | 20183.7 | 17190.3 | 5776.5 | 1184.6 | 867.0 | 738.6 | 706.4 | 695.7 | 660.1 | 631.5 | 624.4 |
| 77.5° | 8413.2 | 7653.2 | 2693.8 | 859.9 | 660.1 | 595.8 | 567.3 | 567.3 | 528.1 | 495.9 | 481.7 |
| 80° | 3171.9 | 2825.8 | 1273.7 | 588.7 | 488.8 | 442.4 | 424.6 | 410.3 | 378.2 | 339.0 | 317.5 |
| 82.5° | 4242.3 | 2772.3 | 624.4 | 367.5 | 321.1 | 285.4 | 260.5 | 249.8 | 231.9 | 214.1 | 199.8 |
| 85° | 2747.3 | 1969.5 | 281.9 | 189.1 | 160.6 | 121.3 | 107.0 | 99.9 | 89.2 | 78.5 | 71.4 |
| 87.5° | 560.2 | 660.1 | 85.6 | 35.7 | 21.4 | 10.7 | 10.7 | 3.6 | 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



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 ($R_{f,i}$)

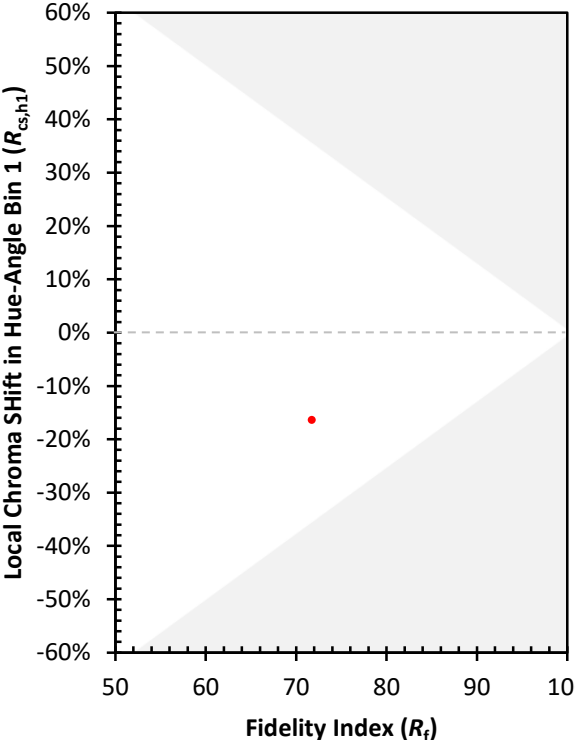
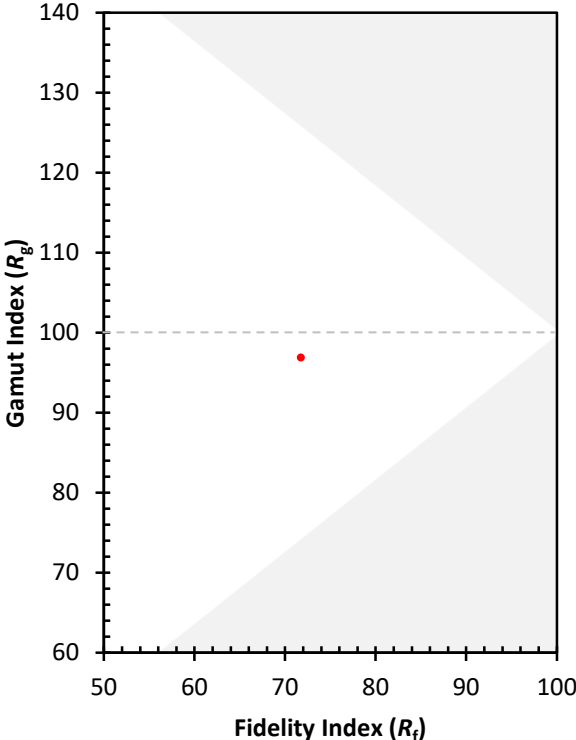
| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 55 | CES51 = 86 | CES76 = 45 |
| CES02 = 61 | CES27 = 80 | CES52 = 87 | CES77 = 68 |
| CES03 = 30 | CES28 = 79 | CES53 = 74 | CES78 = 49 |
| CES04 = 70 | CES29 = 51 | CES54 = 81 | CES79 = 77 |
| CES05 = 47 | CES30 = 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)