

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: P633238

Luminaire Tested: GWS-SA2E-735-U-AFL-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P633238
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-47)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2E-735-U-AFL-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (32) 3500K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13055.6 lumens
Efficiency: N/A
Efficacy: 120.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G1

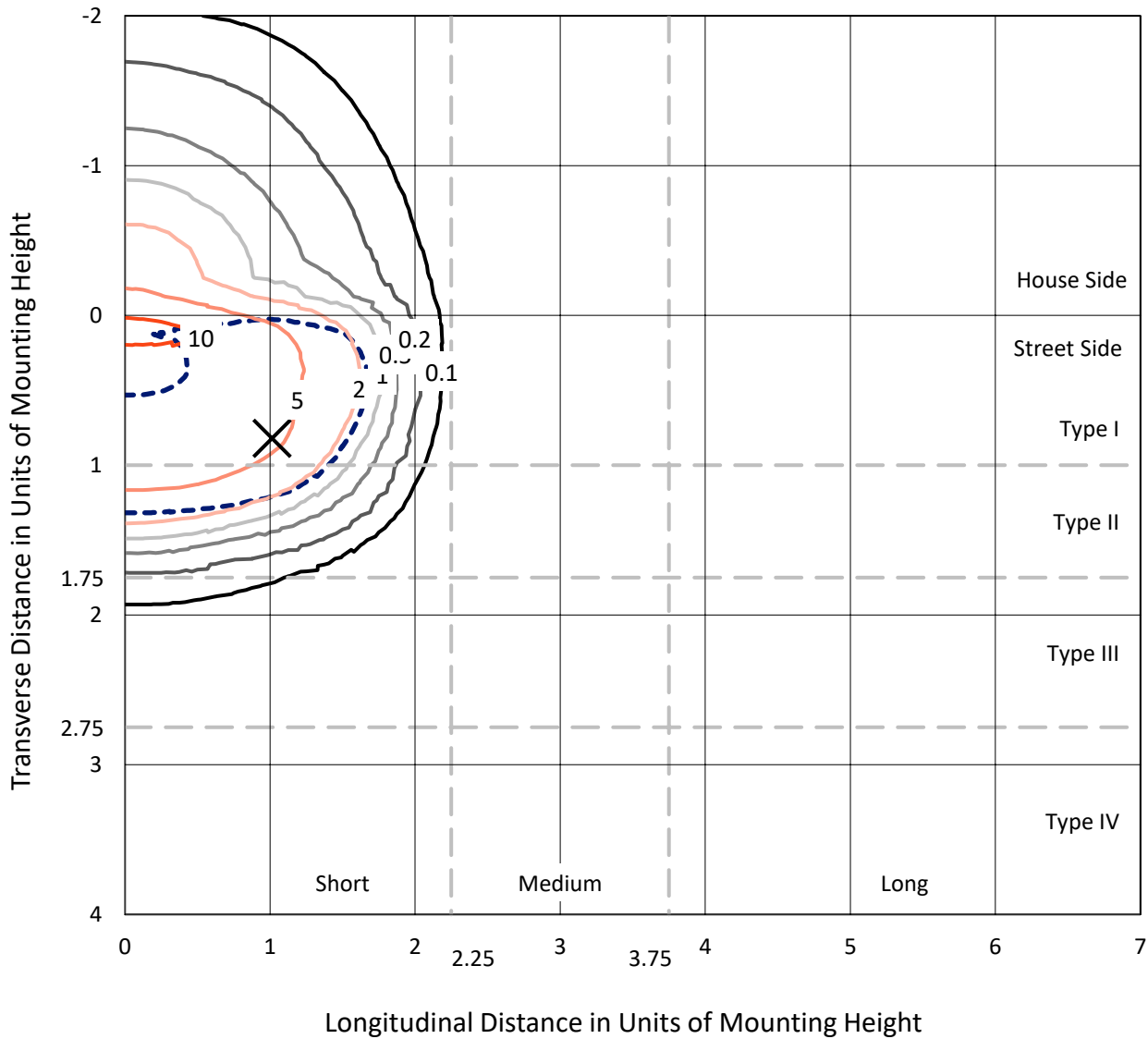
Input Watts (W): 108.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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 CATALOG NUMBER: GWS-SA2E-735-U-AFL-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination

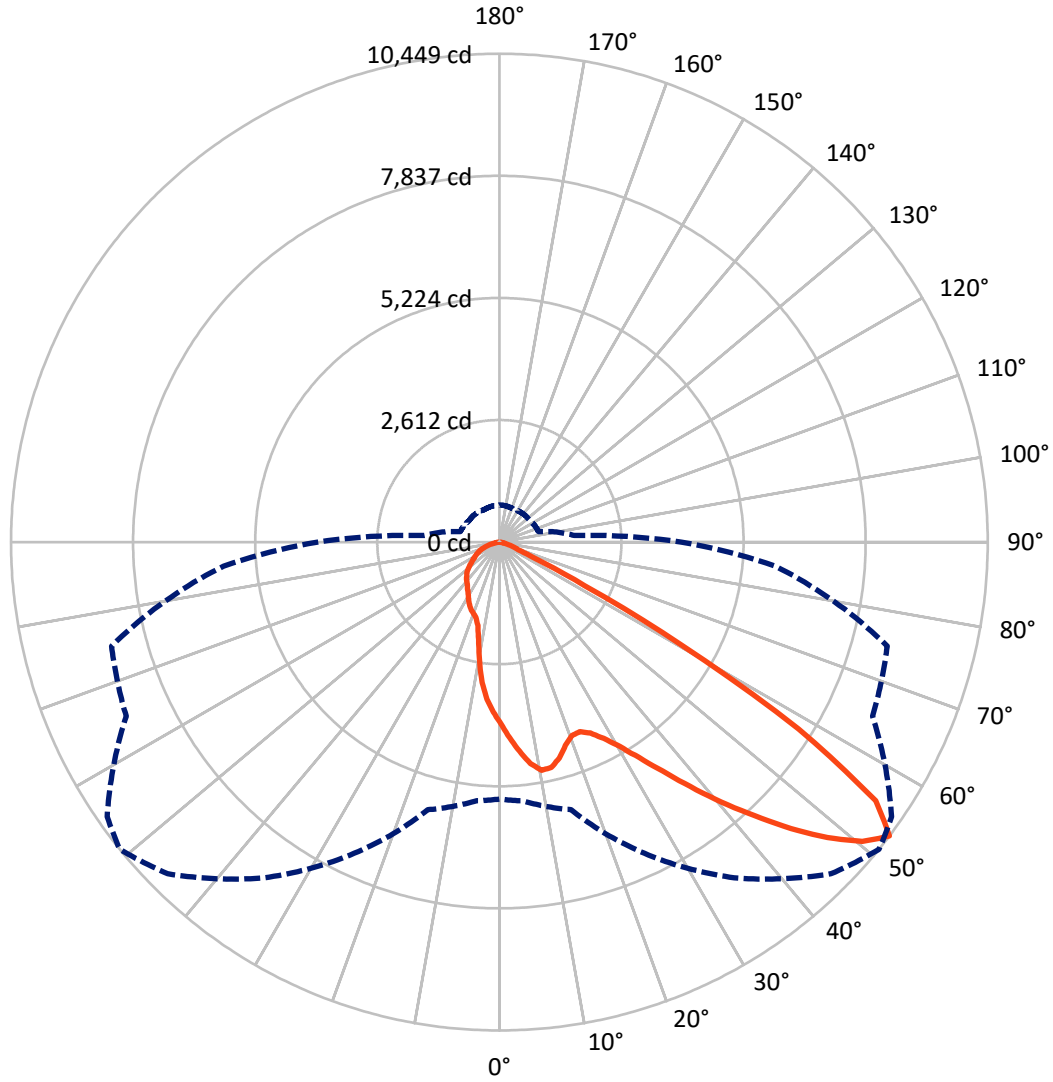
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 11.9 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 51-Deg Lateral - - - Horizontal Cone Through 52.5-Deg Vertical

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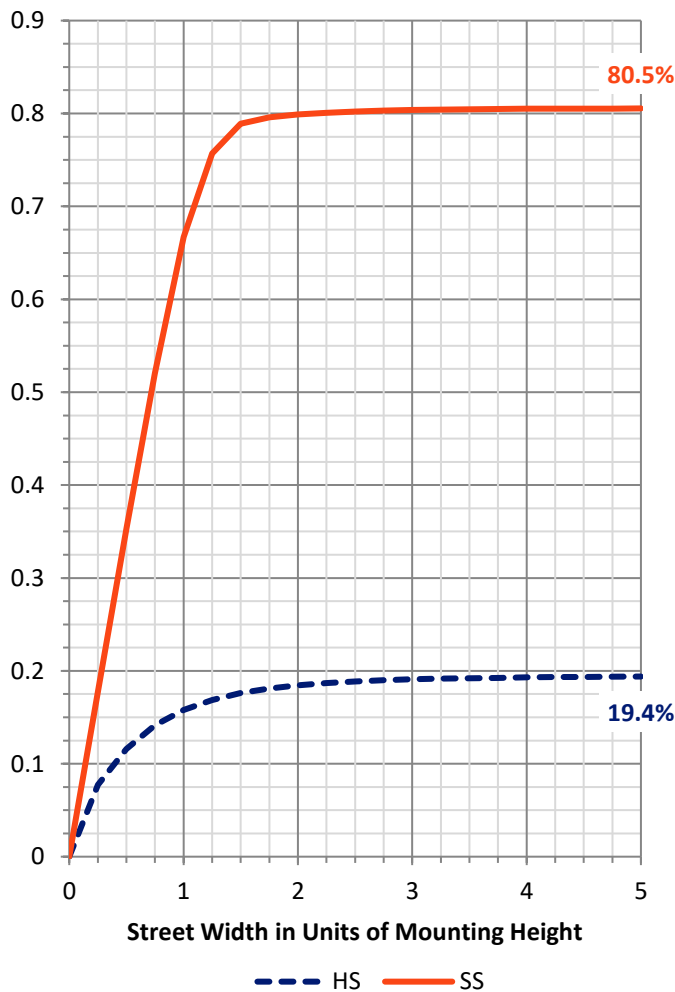
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2543.8 | 0.0 | 2543.8 |
| | % Fixture | 19.5 | 0.0 | 19.5 |
| Street Side | Lumens | 10511.8 | 0.0 | 10511.8 |
| | % Fixture | 80.5 | 0.0 | 80.5 |
| Total | Lumens | 13055.6 | 0.0 | 13055.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 362.7 | 2.8 |
| 10°-20° | 942.5 | 7.2 |
| 20°-30° | 1532.5 | 11.7 |
| 30°-40° | 2428.7 | 18.6 |
| 40°-50° | 3662.9 | 28.1 |
| 50°-60° | 3168.7 | 24.3 |
| 60°-70° | 718.4 | 5.5 |
| 70°-80° | 211.8 | 1.6 |
| 80°-90° | 27.3 | 0.2 |
| 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° | 13055.6 | 100.0 |
| 0°-180° | 13055.6 | 100.0 |

Coefficient of Utilization



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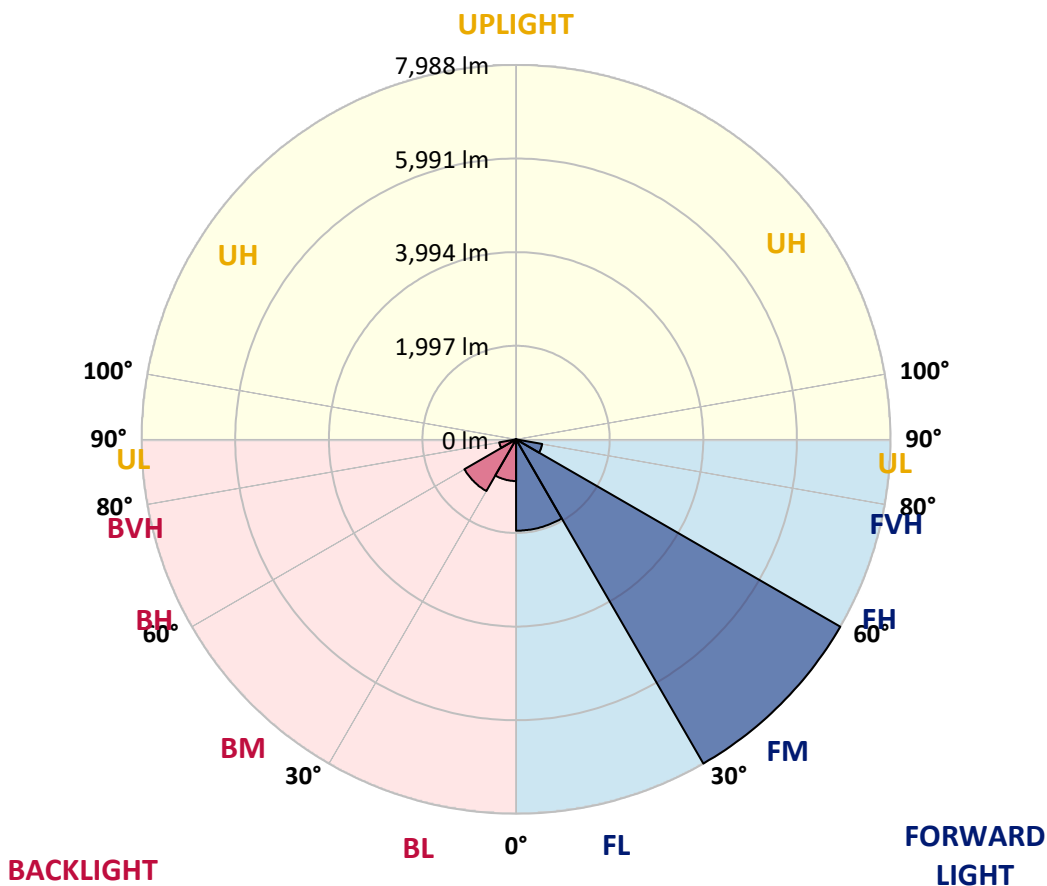
CATALOG NUMBER: GWS-SA2E-735-U-AFL-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 1948.6 | 14.9 | | | |
| FM (30°-60°) | 7987.6 | 61.2 | | | |
| FH (60°-80°) | 565.4 | 4.3 | | | G0/660 |
| FVH (80°-90°) | 10.3 | 0.1 | | | G1/100 |
| BL (0°-30°) | 889.2 | 6.8 | B2/1000 | | |
| BM (30°-60°) | 1272.7 | 9.7 | B2/2500 | | |
| BH (60°-80°) | 364.8 | 2.8 | B1/500 | | G1/500 |
| BVH (80°-90°) | 17.0 | 0.1 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 51° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|--------|--------|--------|
| 0° | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 |
| 2.5° | 4331.9 | 4356.7 | 4318.5 | 4304.1 | 4280.4 | 4239.1 | 4191.6 | 4178.2 | 4076.1 | 4009.0 | 3933.7 |
| 5° | 4767.3 | 4780.7 | 4749.8 | 4718.8 | 4660.0 | 4586.8 | 4495.0 | 4475.4 | 4289.7 | 4135.9 | 3976.0 |
| 7.5° | 4864.3 | 4859.1 | 4886.0 | 4903.5 | 4896.3 | 4867.4 | 4785.9 | 4747.7 | 4525.9 | 4282.4 | 4046.2 |
| 10° | 4480.5 | 4451.6 | 4550.7 | 4668.3 | 4809.6 | 4972.6 | 4963.3 | 4960.2 | 4767.3 | 4479.5 | 4135.9 |
| 12.5° | 3971.9 | 3957.5 | 4037.9 | 4185.5 | 4452.7 | 4813.7 | 4948.9 | 5054.1 | 4985.0 | 4667.2 | 4236.0 |
| 15° | 3681.0 | 3675.8 | 3730.5 | 3836.8 | 4049.3 | 4505.3 | 4794.1 | 5002.5 | 5171.7 | 4868.4 | 4342.3 |
| 17.5° | 3628.4 | 3631.5 | 3650.0 | 3710.9 | 3863.6 | 4239.1 | 4573.4 | 4864.3 | 5317.2 | 5089.2 | 4475.4 |
| 20° | 3782.1 | 3802.7 | 3770.7 | 3780.0 | 3862.5 | 4143.2 | 4422.7 | 4725.0 | 5410.0 | 5311.0 | 4618.8 |
| 22.5° | 4123.6 | 4116.3 | 4046.2 | 4004.9 | 4005.9 | 4202.0 | 4406.2 | 4660.0 | 5470.9 | 5526.6 | 4748.7 |
| 25° | 4510.4 | 4502.2 | 4418.6 | 4326.8 | 4269.0 | 4361.9 | 4524.9 | 4729.1 | 5525.6 | 5723.7 | 4852.9 |
| 27.5° | 4967.5 | 4941.7 | 4848.8 | 4731.2 | 4603.3 | 4643.5 | 4753.9 | 4915.9 | 5610.2 | 5917.6 | 4922.1 |
| 30° | 5410.0 | 5440.0 | 5306.9 | 5167.6 | 5032.4 | 5007.7 | 5071.7 | 5218.1 | 5782.5 | 6144.6 | 5004.6 |
| 32.5° | 5997.1 | 5986.7 | 5839.2 | 5657.6 | 5464.7 | 5446.1 | 5496.7 | 5630.8 | 6092.0 | 6458.2 | 5130.5 |
| 35° | 6707.9 | 6709.9 | 6500.5 | 6255.0 | 5980.5 | 5931.0 | 6015.6 | 6145.6 | 6553.1 | 6883.3 | 5329.6 |
| 37.5° | 7446.5 | 7443.4 | 7260.8 | 6982.3 | 6607.8 | 6537.6 | 6634.6 | 6731.6 | 7129.8 | 7462.0 | 5639.1 |
| 40° | 7964.4 | 7985.1 | 7899.4 | 7752.9 | 7398.1 | 7226.8 | 7312.4 | 7379.5 | 7757.1 | 8142.9 | 6046.6 |
| 42.5° | 8258.5 | 8289.4 | 8308.0 | 8395.7 | 8208.9 | 8026.3 | 7995.4 | 8030.5 | 8317.3 | 8775.3 | 6429.3 |
| 45° | 8321.4 | 8362.7 | 8497.8 | 8822.8 | 8895.0 | 8843.4 | 8742.3 | 8657.7 | 8735.1 | 9224.1 | 6680.0 |
| 47.5° | 8043.9 | 8116.1 | 8405.0 | 8973.4 | 9395.3 | 9557.3 | 9444.9 | 9315.9 | 8976.5 | 9339.6 | 6654.2 |
| 50° | 6944.1 | 7028.7 | 7679.7 | 8666.0 | 9466.5 | 10056.6 | 10067.0 | 9876.1 | 8947.6 | 9006.4 | 6330.3 |
| 52.5° | 5497.7 | 5555.5 | 5927.9 | 7346.5 | 8768.1 | 10036.0 | 10448.7 | 10244.4 | 8808.3 | 8589.6 | 5924.8 |
| 55° | 3285.8 | 3378.7 | 3726.4 | 4846.7 | 6830.6 | 8895.0 | 9774.0 | 9873.0 | 8740.2 | 8239.9 | 5648.4 |
| 57.5° | 1109.0 | 1154.4 | 1486.6 | 2140.7 | 4025.5 | 6512.9 | 7551.8 | 7954.1 | 7934.5 | 7705.5 | 5108.8 |
| 60° | 528.2 | 538.5 | 605.6 | 811.9 | 1611.5 | 3403.5 | 4470.2 | 4934.4 | 5357.4 | 5399.7 | 3178.6 |
| 62.5° | 402.3 | 408.5 | 442.6 | 486.9 | 647.9 | 1434.0 | 2048.9 | 2403.8 | 2567.8 | 2203.6 | 1157.5 |
| 65° | 336.3 | 341.5 | 367.3 | 395.1 | 440.5 | 621.1 | 786.1 | 906.8 | 817.1 | 636.5 | 551.9 |
| 67.5° | 280.6 | 284.7 | 304.3 | 334.3 | 365.2 | 415.8 | 436.4 | 448.8 | 470.4 | 528.2 | 507.6 |
| 70° | 219.7 | 223.9 | 244.5 | 270.3 | 300.2 | 312.6 | 332.2 | 344.6 | 387.9 | 462.2 | 460.1 |
| 72.5° | 169.2 | 174.4 | 185.7 | 202.2 | 227.0 | 239.3 | 261.0 | 275.5 | 300.2 | 360.1 | 384.8 |
| 75° | 123.8 | 126.9 | 137.2 | 142.4 | 145.5 | 142.4 | 164.0 | 180.5 | 213.6 | 236.3 | 242.4 |
| 77.5° | 50.6 | 56.7 | 54.7 | 54.7 | 65.0 | 78.4 | 89.8 | 100.1 | 122.8 | 136.2 | 137.2 |
| 80° | 20.6 | 22.7 | 26.8 | 29.9 | 36.1 | 46.4 | 53.6 | 57.8 | 68.1 | 76.3 | 82.5 |
| 82.5° | 12.4 | 13.4 | 15.5 | 16.5 | 20.6 | 26.8 | 30.9 | 34.0 | 42.3 | 50.6 | 53.6 |
| 85° | 6.2 | 6.2 | 7.2 | 8.3 | 10.3 | 12.4 | 14.4 | 16.5 | 21.7 | 26.8 | 29.9 |
| 87.5° | 1.0 | 1.0 | 1.0 | 2.1 | 3.1 | 4.1 | 5.2 | 6.2 | 7.2 | 8.3 | 10.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P633238

CATALOG NUMBER: GWS-SA2E-735-U-AFL-W-GRSWH

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 | 3887.3 |
| 2.5° | 3889.4 | 3833.7 | 3768.7 | 3717.1 | 3657.2 | 3612.9 | 3549.9 | 3510.7 | 3473.6 | 3442.7 | 3420.0 |
| 5° | 3893.5 | 3799.6 | 3664.5 | 3544.8 | 3421.0 | 3303.4 | 3182.7 | 3084.7 | 2997.0 | 2923.7 | 2917.5 |
| 7.5° | 3917.2 | 3782.1 | 3570.6 | 3361.2 | 3119.7 | 2886.6 | 2653.4 | 2463.6 | 2319.2 | 2243.9 | 2228.4 |
| 10° | 3957.5 | 3780.0 | 3474.6 | 3140.4 | 2728.7 | 2353.2 | 2076.7 | 1932.3 | 1848.7 | 1818.8 | 1808.5 |
| 12.5° | 3999.8 | 3774.9 | 3351.9 | 2828.8 | 2257.3 | 1928.2 | 1776.5 | 1759.0 | 1774.5 | 1776.5 | 1775.5 |
| 15° | 4051.3 | 3771.8 | 3197.1 | 2463.6 | 1912.7 | 1731.1 | 1741.4 | 1778.6 | 1814.7 | 1822.9 | 1822.9 |
| 17.5° | 4114.3 | 3764.5 | 2986.7 | 2106.7 | 1697.1 | 1693.0 | 1747.6 | 1797.2 | 1831.2 | 1837.4 | 1837.4 |
| 20° | 4180.3 | 3746.0 | 2727.7 | 1815.7 | 1609.4 | 1669.2 | 1728.0 | 1766.2 | 1789.9 | 1798.2 | 1799.2 |
| 22.5° | 4225.7 | 3696.4 | 2429.6 | 1600.1 | 1554.7 | 1623.8 | 1666.1 | 1705.3 | 1705.3 | 1684.7 | 1678.5 |
| 25° | 4235.0 | 3590.2 | 2106.7 | 1452.6 | 1489.7 | 1553.7 | 1597.0 | 1574.3 | 1532.0 | 1515.5 | 1514.5 |
| 27.5° | 4200.9 | 3435.4 | 1787.9 | 1347.4 | 1411.3 | 1475.3 | 1468.1 | 1435.0 | 1416.5 | 1400.0 | 1406.2 |
| 30° | 4159.7 | 3249.7 | 1511.4 | 1260.7 | 1320.5 | 1383.5 | 1358.7 | 1347.4 | 1333.9 | 1315.4 | 1319.5 |
| 32.5° | 4131.8 | 3042.4 | 1298.9 | 1193.6 | 1259.7 | 1270.0 | 1287.5 | 1286.5 | 1274.1 | 1239.0 | 1237.0 |
| 35° | 4140.1 | 2832.9 | 1156.5 | 1139.0 | 1209.1 | 1205.0 | 1238.0 | 1231.8 | 1146.2 | 1097.7 | 1094.6 |
| 37.5° | 4206.1 | 2631.8 | 1072.9 | 1095.6 | 1128.6 | 1154.4 | 1183.3 | 1109.0 | 1079.1 | 1048.2 | 1050.2 |
| 40° | 4331.9 | 2445.0 | 1027.5 | 1071.9 | 1080.2 | 1118.3 | 1051.3 | 1050.2 | 1036.8 | 1009.0 | 1007.9 |
| 42.5° | 4474.3 | 2287.2 | 996.6 | 1060.5 | 1049.2 | 1056.4 | 985.2 | 993.5 | 992.5 | 974.9 | 969.8 |
| 45° | 4561.0 | 2141.7 | 971.8 | 1018.3 | 1021.3 | 949.1 | 927.5 | 936.7 | 941.9 | 932.6 | 931.6 |
| 47.5° | 4471.2 | 1974.6 | 946.0 | 953.3 | 980.1 | 900.6 | 873.8 | 874.8 | 884.1 | 885.2 | 881.0 |
| 50° | 4219.5 | 1787.9 | 915.1 | 897.5 | 880.0 | 850.1 | 825.3 | 820.2 | 829.5 | 838.7 | 841.8 |
| 52.5° | 3894.5 | 1609.4 | 863.5 | 836.7 | 795.4 | 795.4 | 784.1 | 767.6 | 779.9 | 792.3 | 796.4 |
| 55° | 3656.2 | 1477.3 | 790.3 | 760.3 | 714.9 | 730.4 | 728.4 | 713.9 | 730.4 | 739.7 | 742.8 |
| 57.5° | 3168.2 | 1187.4 | 695.3 | 686.1 | 647.9 | 666.5 | 670.6 | 652.0 | 643.8 | 645.8 | 648.9 |
| 60° | 1880.7 | 766.5 | 627.3 | 626.2 | 592.2 | 613.8 | 626.2 | 607.6 | 582.9 | 586.0 | 590.1 |
| 62.5° | 843.9 | 586.0 | 541.6 | 537.5 | 536.5 | 564.3 | 577.7 | 560.2 | 525.1 | 528.2 | 532.3 |
| 65° | 531.3 | 506.5 | 470.4 | 470.4 | 486.9 | 510.7 | 521.0 | 506.5 | 466.3 | 461.2 | 465.3 |
| 67.5° | 493.1 | 471.5 | 434.3 | 427.1 | 435.4 | 455.0 | 456.0 | 428.1 | 404.4 | 400.3 | 400.3 |
| 70° | 442.6 | 426.1 | 390.0 | 375.5 | 372.4 | 371.4 | 368.3 | 361.1 | 345.6 | 341.5 | 343.5 |
| 72.5° | 366.2 | 354.9 | 332.2 | 316.7 | 308.5 | 307.4 | 295.1 | 288.9 | 275.5 | 273.4 | 272.4 |
| 75° | 242.4 | 245.5 | 245.5 | 243.5 | 236.3 | 233.2 | 219.7 | 213.6 | 198.1 | 191.9 | 190.9 |
| 77.5° | 143.4 | 146.5 | 150.6 | 151.7 | 150.6 | 150.6 | 138.2 | 131.0 | 115.5 | 107.3 | 105.2 |
| 80° | 87.7 | 89.8 | 91.8 | 94.9 | 90.8 | 87.7 | 76.3 | 69.1 | 61.9 | 56.7 | 55.7 |
| 82.5° | 56.7 | 58.8 | 59.8 | 61.9 | 59.8 | 55.7 | 46.4 | 42.3 | 37.1 | 33.0 | 32.0 |
| 85° | 32.0 | 33.0 | 35.1 | 35.1 | 32.0 | 28.9 | 23.7 | 20.6 | 17.5 | 15.5 | 15.5 |
| 87.5° | 11.3 | 11.3 | 11.3 | 12.4 | 10.3 | 9.3 | 6.2 | 4.1 | 3.1 | 3.1 | 3.1 |
| 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

All Brands

Data applicable to all product families using SA light engines

Report Number: SP1-2101-121-7

Luminaire Tested: IFLD-S-SA2A-735-U-T2

Test Date: 03/04/2021

Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-7
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/04/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-735-U-T2**
 Description: STREETWORKS INF FLOOD

PROGRAMMED @ 615mA.

Spectral Parameters

CCT (K): 3388
 CIE u': 0.2371
 CIE v': 0.5177
 Duv: 0.0032
 CIE x: 0.4153
 CIE y: 0.4030
 CIE z: 0.1817
 Peak Wavelength (nm): 590
 Dominant Wavelength (nm): 580
 Purity: 45.7

 Rf: 76.9
 Rg: 94.4

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.1 | | |
| R1: | 68.9 | R9: | -34.6 |
| R2: | 81.1 | R10: | 57.8 |
| R3: | 93.1 | R11: | 68.6 |
| R4: | 71.6 | R12: | 53.9 |
| R5: | 69.4 | R13: | 70.9 |
| R6: | 75.0 | R14: | 96.2 |
| R7: | 79.5 | | |
| R8: | 46.4 | | |

Test Conditions

Stabilization Time: 81M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/30%
 Sphere Temperature (°C): 24.1



REPORT NUMBER: SP1-2101-121-7

| 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: SP1-2101-121-7

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2101-121-7

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 | 2672 | 0.0 | 490 | 34553 | 4.9 | 620 | 136720 | 35.6 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 8.0 | 625 | 126308 | 27.9 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 12.1 | 630 | 114625 | 20.7 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 18.1 | 635 | 103216 | 15.5 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 25.4 | 640 | 92605 | 11.1 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 33.9 | 645 | 83234 | 8.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 43.0 | 650 | 73263 | 5.4 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 50.1 | 655 | 64627 | 3.7 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 57.9 | 660 | 56614 | 2.4 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 64.0 | 665 | 49537 | 1.6 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.0 | 540 | 107316 | 69.9 | 670 | 42866 | 0.9 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.0 | 545 | 113101 | 75.3 | 675 | 36708 | 0.6 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 0.0 | 550 | 120690 | 82.0 | 680 | 31814 | 0.4 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 0.1 | 555 | 128583 | 87.8 | 685 | 27485 | 0.2 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 0.3 | 560 | 137796 | 93.6 | 690 | 23698 | 0.1 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 0.8 | 565 | 146577 | 97.5 | 695 | 20309 | 0.1 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 1.6 | 570 | 154581 | 100.5 | 700 | 17890 | 0.1 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 2.4 | 575 | 162633 | 101.2 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 2.5 | 580 | 168101 | 99.9 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 2.1 | 585 | 173145 | 96.2 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 1.8 | 590 | 174675 | 90.3 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 1.7 | 595 | 173724 | 82.3 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 1.5 | 600 | 171241 | 73.8 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 1.7 | 605 | 165134 | 64.0 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 2.2 | 610 | 156652 | 53.8 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 3.3 | 615 | 147879 | 44.6 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: 12126

S/P: 1.36

| 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 | 2672 | 0.0 | 490 | 34553 | 53.2 | 620 | 136720 | 1.7 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 71.7 | 625 | 126308 | 1.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 91.4 | 630 | 114625 | 0.6 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 110.0 | 635 | 103216 | 0.4 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 125.1 | 640 | 92605 | 0.2 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 135.7 | 645 | 83234 | 0.1 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 140.8 | 650 | 73263 | 0.1 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 139.6 | 655 | 64627 | 0.1 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 135.7 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.1 | 535 | 103269 | 128.7 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.2 | 540 | 107316 | 118.6 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.6 | 545 | 113101 | 108.4 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 2.0 | 550 | 120690 | 98.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 5.9 | 555 | 128583 | 87.9 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 14.3 | 560 | 137796 | 77.0 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 30.5 | 565 | 146577 | 65.8 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 55.5 | 570 | 154581 | 54.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 77.4 | 575 | 162633 | 44.3 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 73.6 | 580 | 168101 | 34.6 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 53.7 | 585 | 173145 | 26.5 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 41.9 | 590 | 174675 | 19.5 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 34.3 | 595 | 173724 | 13.9 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 27.9 | 600 | 171241 | 9.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 27.1 | 605 | 165134 | 6.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 31.3 | 610 | 156652 | 4.2 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 40.0 | 615 | 147879 | 2.7 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: 4490.7 M/P: 0.5

| 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 | 2672 | 0.0 | 490 | 34553 | 28.8 | 620 | 136720 | 0.1 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 36.6 | 625 | 126308 | 0.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 43.9 | 630 | 114625 | 0.0 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 49.6 | 635 | 103216 | 0.0 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 53.0 | 640 | 92605 | 0.0 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 53.5 | 645 | 83234 | 0.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 51.6 | 650 | 73263 | 0.0 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 47.3 | 655 | 64627 | 0.0 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 42.5 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 37.2 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.1 | 540 | 107316 | 31.4 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.4 | 545 | 113101 | 26.3 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 1.4 | 550 | 120690 | 21.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 3.7 | 555 | 128583 | 17.3 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 8.9 | 560 | 137796 | 13.6 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 18.2 | 565 | 146577 | 10.3 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 33.2 | 570 | 154581 | 7.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 45.6 | 575 | 162633 | 5.4 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 43.8 | 580 | 168101 | 3.8 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 32.2 | 585 | 173145 | 2.6 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 25.6 | 590 | 174675 | 1.7 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 21.2 | 595 | 173724 | 1.1 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 17.4 | 600 | 171241 | 0.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 16.6 | 605 | 165134 | 0.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 18.6 | 610 | 156652 | 0.3 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 22.7 | 615 | 147879 | 0.2 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

Summary

$R_f = 76.9$
 $R_g = 94.4$
 $CIE R_a = 73.1$
 $R_g = -34.6$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 63 |
| CES02 = 62 | CES27 = 88 | CES52 = 89 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 80 | CES78 = 65 |
| CES04 = 70 | CES29 = 67 | CES54 = 84 | CES79 = 87 |
| CES05 = 48 | CES30 = 74 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 71 | CES56 = 75 | CES81 = 75 |
| CES07 = 40 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 39 | CES33 = 74 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 78 | CES59 = 87 | CES84 = 89 |
| CES10 = 75 | CES35 = 89 | CES60 = 93 | CES85 = 80 |
| CES11 = 58 | CES36 = 98 | CES61 = 86 | CES86 = 66 |
| CES12 = 64 | CES37 = 86 | CES62 = 89 | CES87 = 79 |
| CES13 = 43 | CES38 = 82 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 74 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 68 | CES90 = 77 |
| CES16 = 47 | CES41 = 89 | CES66 = 71 | CES91 = 88 |
| CES17 = 50 | CES42 = 88 | CES67 = 69 | CES92 = 60 |
| CES18 = 56 | CES43 = 82 | CES68 = 74 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 82 | CES94 = 52 |
| CES20 = 65 | CES45 = 87 | CES70 = 67 | CES95 = 69 |
| CES21 = 86 | CES46 = 82 | CES71 = 66 | CES96 = 78 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 72 | CES73 = 59 | CES98 = 76 |
| CES24 = 91 | CES49 = 82 | CES74 = 97 | CES99 = 63 |
| CES25 = 72 | CES50 = 88 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)