

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: P639687

Luminaire Tested: GWS-SA5C-735-U-SL4-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P639687
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-36)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA5C-735-U-SL4-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: (80) 3500K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18505 lumens
Efficiency: N/A
Efficacy: 117.5 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G3

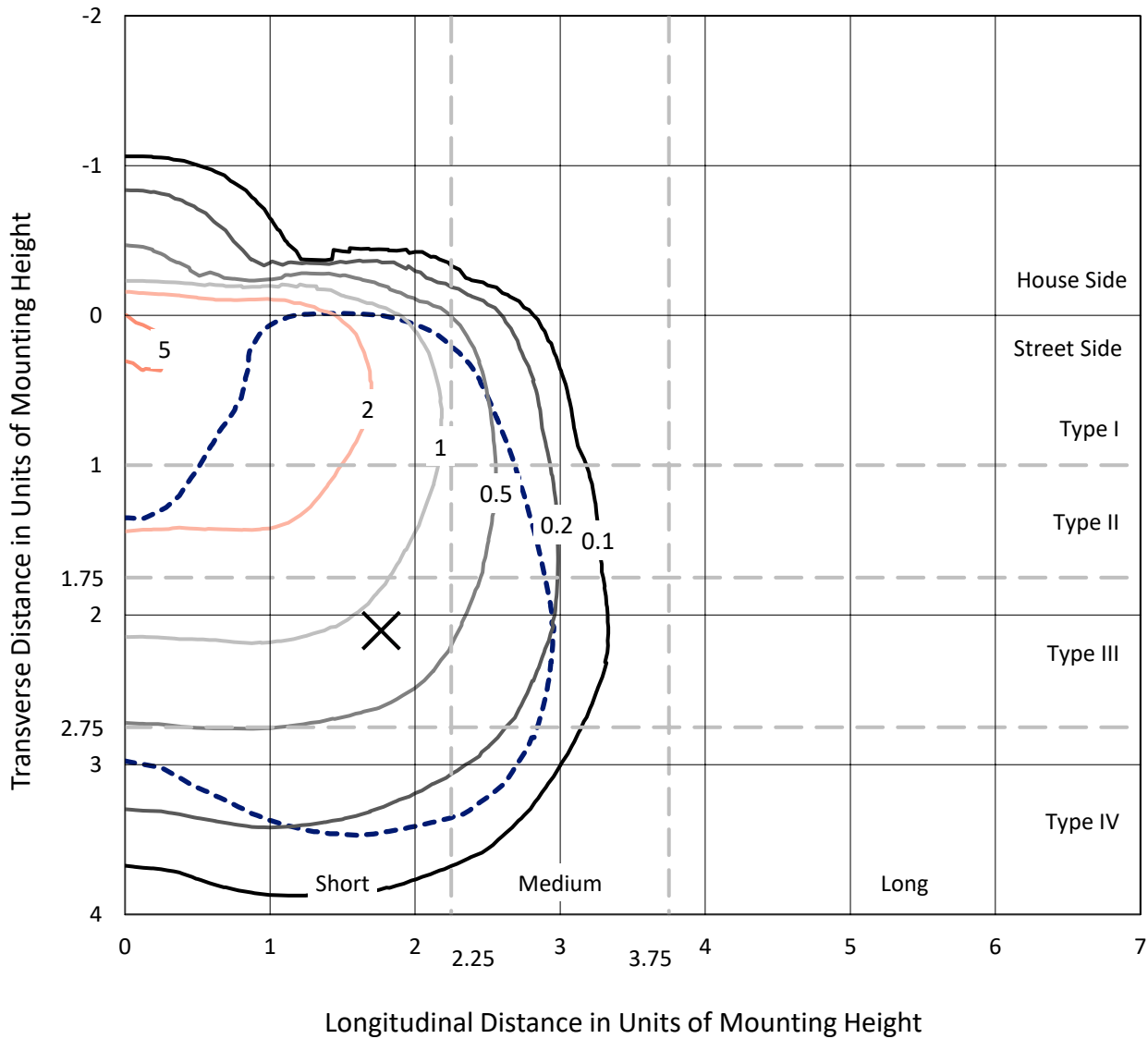
Input Watts (W): 157.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P639687
 CATALOG NUMBER: GWS-SA5C-735-U-SL4-W-HSS

Iso-Footcandle Lines of Horizontal Illumination

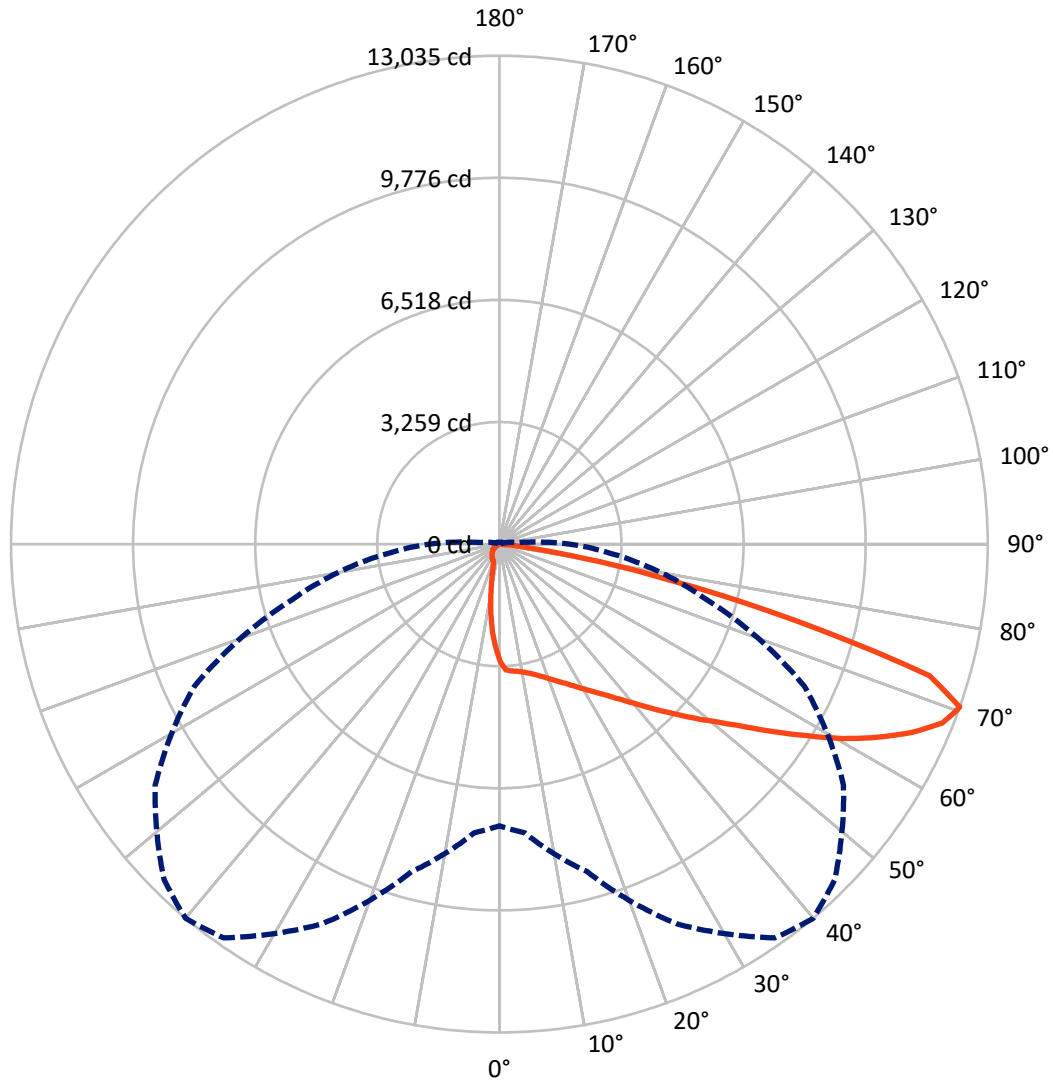
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.5 fc
 Type IV - Short - N/A

REPORT NUMBER: P639687
CATALOG NUMBER: GWS-SA5C-735-U-SL4-W-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 40-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P639687
 CATALOG NUMBER: GWS-SA5C-735-U-SL4-W-HSS

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1513.2 | 0.0 | 1513.2 |
| | % Fixture | 8.2 | 0.0 | 8.2 |
| Street Side | Lumens | 16991.8 | 0.0 | 16991.8 |
| | % Fixture | 91.8 | 0.0 | 91.8 |
| Total | Lumens | 18505.0 | 0.0 | 18505.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 265.4 | 1.4 |
| 10°-20° | 673.1 | 3.6 |
| 20°-30° | 1126.6 | 6.1 |
| 30°-40° | 1769.4 | 9.6 |
| 40°-50° | 2798.8 | 15.1 |
| 50°-60° | 4082.7 | 22.1 |
| 60°-70° | 5061.1 | 27.4 |
| 70°-80° | 2560.6 | 13.8 |
| 80°-90° | 167.2 | 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° | 18505.0 | 100.0 |
| 0°-180° | 18505.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P639687

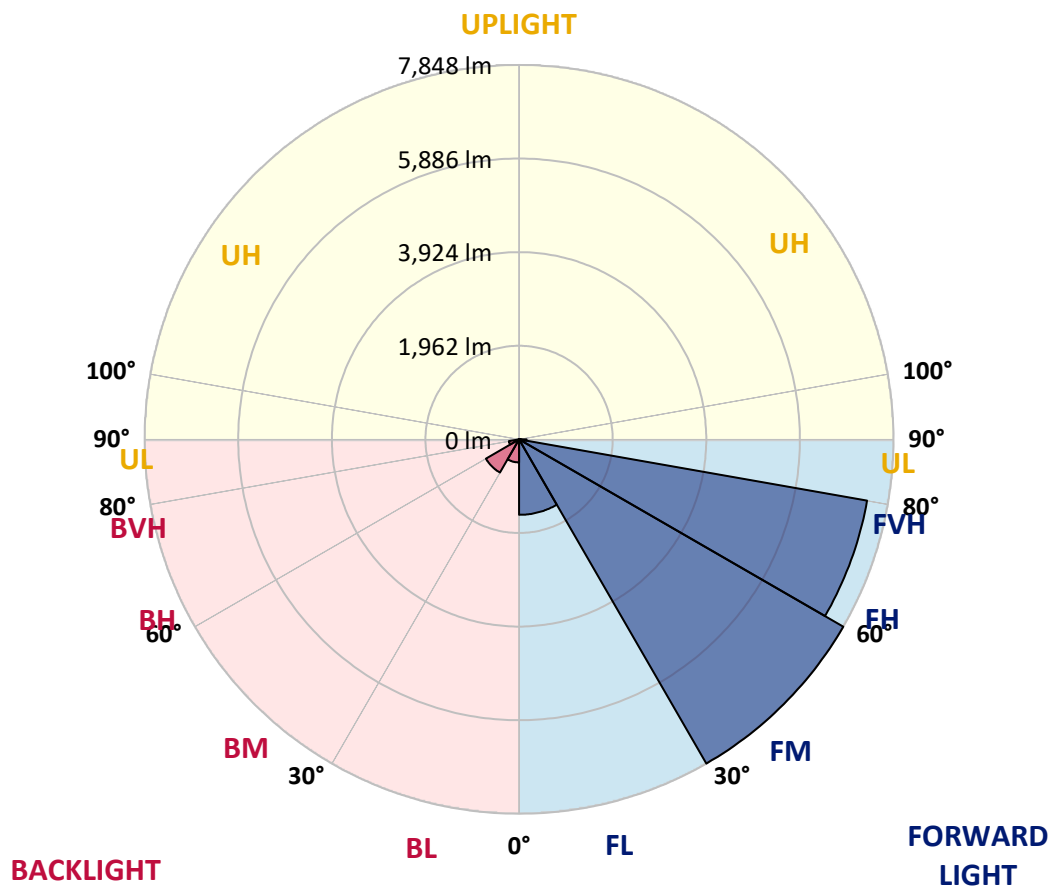
CATALOG NUMBER: GWS-SA5C-735-U-SL4-W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1581.8 | 8.5 | | | |
| FM (30°-60°) | 7847.8 | 42.4 | | | |
| FH (60°-80°) | 7406.0 | 40.0 | | | G3/7500 |
| FVH (80°-90°) | 156.1 | 0.8 | | | G2/225 |
| BL (0°-30°) | 483.2 | 2.6 | B1/500 | | |
| BM (30°-60°) | 803.2 | 4.3 | B1/1000 | | |
| BH (60°-80°) | 215.8 | 1.2 | B1/500 | | G1/500 |
| BVH (80°-90°) | 11.0 | 0.1 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 40° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0° | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 |
| 2.5° | 3375.8 | 3387.6 | 3385.9 | 3390.9 | 3379.2 | 3360.6 | 3357.3 | 3332.0 | 3286.6 | 3229.3 | 3165.3 |
| 5° | 3444.8 | 3458.3 | 3448.2 | 3443.1 | 3421.3 | 3401.0 | 3396.0 | 3369.1 | 3316.9 | 3239.4 | 3128.3 |
| 7.5° | 3503.8 | 3507.1 | 3500.4 | 3488.6 | 3456.6 | 3429.7 | 3411.2 | 3374.1 | 3311.8 | 3234.4 | 3106.4 |
| 10° | 3513.9 | 3512.2 | 3515.5 | 3517.2 | 3497.0 | 3473.4 | 3458.3 | 3407.8 | 3328.6 | 3246.1 | 3108.1 |
| 12.5° | 3502.1 | 3502.1 | 3524.0 | 3549.2 | 3549.2 | 3537.4 | 3522.3 | 3476.8 | 3384.2 | 3286.6 | 3141.8 |
| 15° | 3517.2 | 3522.3 | 3564.4 | 3611.5 | 3626.7 | 3614.9 | 3608.1 | 3561.0 | 3465.0 | 3357.3 | 3202.4 |
| 17.5° | 3571.1 | 3576.2 | 3643.5 | 3714.2 | 3732.7 | 3719.3 | 3705.8 | 3658.7 | 3555.9 | 3438.1 | 3271.4 |
| 20° | 3650.2 | 3663.7 | 3749.6 | 3840.5 | 3857.3 | 3840.5 | 3813.6 | 3747.9 | 3645.2 | 3525.6 | 3337.1 |
| 22.5° | 3795.0 | 3803.4 | 3896.1 | 3992.0 | 4000.4 | 3973.5 | 3933.1 | 3842.2 | 3734.4 | 3618.2 | 3411.2 |
| 25° | 3987.0 | 3998.8 | 4091.4 | 4184.0 | 4162.1 | 4121.7 | 4066.1 | 3963.4 | 3840.5 | 3727.7 | 3505.4 |
| 27.5° | 4216.0 | 4229.4 | 4320.3 | 4401.2 | 4343.9 | 4296.8 | 4234.5 | 4106.5 | 3981.9 | 3879.2 | 3626.7 |
| 30° | 4463.5 | 4475.2 | 4556.1 | 4628.5 | 4552.7 | 4497.1 | 4423.0 | 4291.7 | 4165.4 | 4088.0 | 3798.4 |
| 32.5° | 4702.5 | 4700.9 | 4778.3 | 4837.2 | 4759.8 | 4716.0 | 4648.7 | 4515.6 | 4414.6 | 4381.0 | 4054.3 |
| 35° | 4924.8 | 4924.8 | 4988.8 | 5047.7 | 4992.1 | 4968.6 | 4906.3 | 4800.2 | 4742.9 | 4783.4 | 4396.1 |
| 37.5° | 5148.7 | 5136.9 | 5197.5 | 5263.2 | 5258.2 | 5259.8 | 5224.5 | 5174.0 | 5177.3 | 5320.5 | 4865.9 |
| 40° | 5333.9 | 5328.9 | 5399.6 | 5485.5 | 5552.8 | 5606.7 | 5584.8 | 5603.3 | 5709.4 | 5977.1 | 5466.9 |
| 42.5° | 5482.1 | 5493.9 | 5584.8 | 5721.2 | 5891.2 | 6000.7 | 6015.8 | 6091.6 | 6364.3 | 6778.5 | 6145.5 |
| 45° | 5652.1 | 5653.8 | 5780.1 | 5988.9 | 6259.9 | 6433.4 | 6494.0 | 6689.3 | 7076.5 | 7610.3 | 6889.6 |
| 47.5° | 5860.9 | 5840.7 | 5982.1 | 6275.1 | 6667.4 | 6923.3 | 7031.1 | 7275.2 | 7874.6 | 8421.8 | 7495.8 |
| 50° | 6091.6 | 6054.5 | 6214.5 | 6613.5 | 7123.7 | 7443.6 | 7662.5 | 8019.4 | 8665.9 | 9088.5 | 7947.0 |
| 52.5° | 6359.3 | 6323.9 | 6505.8 | 7002.5 | 7670.9 | 8059.8 | 8341.0 | 8701.3 | 9344.5 | 9597.0 | 8216.4 |
| 55° | 6699.4 | 6664.0 | 6856.0 | 7468.8 | 8317.4 | 8822.5 | 9117.2 | 9420.2 | 9975.8 | 9972.5 | 8411.7 |
| 57.5° | 7076.5 | 7027.7 | 7293.7 | 8058.1 | 9123.9 | 9649.2 | 9948.9 | 10097.1 | 10455.7 | 10263.8 | 8543.0 |
| 60° | 7509.2 | 7465.5 | 7834.2 | 8760.2 | 10055.0 | 10541.6 | 10730.1 | 10669.5 | 10849.7 | 10435.5 | 8497.6 |
| 62.5° | 7899.9 | 7879.7 | 8337.6 | 9504.4 | 10942.3 | 11353.1 | 11405.3 | 11141.0 | 11139.3 | 10438.9 | 8191.1 |
| 65° | 8305.6 | 8344.4 | 9024.6 | 10361.4 | 11834.6 | 12110.8 | 12021.5 | 11609.0 | 11255.4 | 10026.4 | 7285.3 |
| 67.5° | 8457.2 | 8570.0 | 9477.5 | 11135.9 | 12538.4 | 12753.9 | 12597.3 | 11843.1 | 10772.2 | 8639.0 | 5547.7 |
| 70° | 7521.0 | 7733.2 | 9049.8 | 11179.7 | 12829.7 | 13035.1 | 12659.6 | 11213.4 | 8980.8 | 5722.9 | 3039.1 |
| 72.5° | 5719.5 | 5967.0 | 7541.2 | 9154.2 | 11538.3 | 12006.4 | 11364.9 | 9135.7 | 5788.5 | 2507.0 | 1020.3 |
| 75° | 3200.7 | 3468.4 | 5616.8 | 6893.0 | 7746.6 | 8174.3 | 7938.6 | 5860.9 | 2564.3 | 655.0 | 304.7 |
| 77.5° | 1082.6 | 1171.8 | 2613.1 | 4264.8 | 5113.4 | 4729.5 | 4003.8 | 2911.1 | 942.9 | 249.2 | 161.6 |
| 80° | 641.5 | 675.2 | 973.2 | 2123.1 | 2690.5 | 2230.9 | 1761.1 | 1075.9 | 479.9 | 133.0 | 112.8 |
| 82.5° | 191.9 | 227.3 | 537.1 | 788.0 | 1054.0 | 656.6 | 555.6 | 614.5 | 249.2 | 72.4 | 94.3 |
| 85° | 0.0 | 0.0 | 114.5 | 244.1 | 276.1 | 107.8 | 107.8 | 348.5 | 45.5 | 30.3 | 69.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.7 | 8.4 | 5.1 | 6.7 | 15.2 |
| 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: P639687

CATALOG NUMBER: GWS-SA5C-735-U-SL4-W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 | 3140.1 |
| 2.5° | 3119.9 | 3060.9 | 2991.9 | 2926.2 | 2864.0 | 2783.1 | 2744.4 | 2697.3 | 2656.9 | 2635.0 | 2646.8 |
| 5° | 3057.6 | 2965.0 | 2823.5 | 2680.4 | 2535.6 | 2399.3 | 2276.3 | 2193.8 | 2119.8 | 2081.0 | 2089.5 |
| 7.5° | 3003.7 | 2879.1 | 2658.5 | 2424.5 | 2192.2 | 1958.1 | 1767.9 | 1619.7 | 1505.2 | 1458.1 | 1449.7 |
| 10° | 2980.1 | 2823.5 | 2512.1 | 2175.3 | 1818.4 | 1503.5 | 1234.1 | 1070.8 | 954.7 | 897.4 | 907.5 |
| 12.5° | 2991.9 | 2794.9 | 2387.5 | 1931.2 | 1468.2 | 1101.1 | 843.5 | 690.3 | 607.8 | 574.1 | 565.7 |
| 15° | 3025.6 | 2788.2 | 2276.3 | 1682.0 | 1133.1 | 769.4 | 582.6 | 520.3 | 503.4 | 500.1 | 500.1 |
| 17.5° | 3064.3 | 2789.9 | 2161.9 | 1429.5 | 860.4 | 570.8 | 498.4 | 486.6 | 481.5 | 478.2 | 479.9 |
| 20° | 3103.0 | 2789.9 | 2030.5 | 1173.5 | 646.5 | 493.3 | 474.8 | 466.4 | 461.3 | 459.6 | 459.6 |
| 22.5° | 3150.2 | 2789.9 | 1884.0 | 936.1 | 518.6 | 468.1 | 452.9 | 447.9 | 442.8 | 441.1 | 439.4 |
| 25° | 3207.4 | 2791.6 | 1722.4 | 732.4 | 471.4 | 446.2 | 434.4 | 429.3 | 424.3 | 420.9 | 420.9 |
| 27.5° | 3289.9 | 2805.0 | 1543.9 | 570.8 | 444.5 | 426.0 | 415.9 | 410.8 | 405.8 | 400.7 | 400.7 |
| 30° | 3409.5 | 2838.7 | 1343.6 | 471.4 | 419.2 | 404.1 | 394.0 | 390.6 | 385.6 | 380.5 | 378.8 |
| 32.5° | 3587.9 | 2897.6 | 1136.5 | 422.6 | 395.7 | 380.5 | 368.7 | 365.4 | 360.3 | 355.3 | 353.6 |
| 35° | 3837.1 | 3005.4 | 934.4 | 392.3 | 365.4 | 350.2 | 343.5 | 341.8 | 335.1 | 330.0 | 330.0 |
| 37.5° | 4202.5 | 3180.5 | 740.8 | 362.0 | 340.1 | 328.3 | 319.9 | 316.5 | 309.8 | 304.7 | 303.1 |
| 40° | 4648.7 | 3407.8 | 575.8 | 338.4 | 316.5 | 304.7 | 296.3 | 291.3 | 282.9 | 276.1 | 272.8 |
| 42.5° | 5217.7 | 3685.6 | 454.6 | 313.2 | 294.6 | 282.9 | 276.1 | 266.0 | 254.2 | 244.1 | 242.5 |
| 45° | 5810.4 | 3971.8 | 375.5 | 289.6 | 274.4 | 264.3 | 255.9 | 242.5 | 225.6 | 213.8 | 210.5 |
| 47.5° | 6265.0 | 4150.3 | 328.3 | 264.3 | 252.6 | 244.1 | 234.0 | 217.2 | 197.0 | 183.5 | 180.2 |
| 50° | 6590.0 | 4177.2 | 293.0 | 240.8 | 234.0 | 225.6 | 210.5 | 190.3 | 168.4 | 154.9 | 151.5 |
| 52.5° | 6749.9 | 4056.0 | 264.3 | 218.9 | 213.8 | 205.4 | 186.9 | 165.0 | 141.4 | 128.0 | 124.6 |
| 55° | 6822.3 | 3827.0 | 237.4 | 200.4 | 193.6 | 183.5 | 163.3 | 139.7 | 116.2 | 104.4 | 101.0 |
| 57.5° | 6793.7 | 3488.6 | 213.8 | 181.8 | 173.4 | 161.6 | 139.7 | 114.5 | 96.0 | 84.2 | 82.5 |
| 60° | 6581.5 | 3013.8 | 190.3 | 163.3 | 153.2 | 139.7 | 117.9 | 94.3 | 77.4 | 69.0 | 67.3 |
| 62.5° | 6123.6 | 2424.5 | 166.7 | 141.4 | 134.7 | 121.2 | 101.0 | 77.4 | 64.0 | 58.9 | 57.2 |
| 65° | 5185.8 | 1714.0 | 143.1 | 119.5 | 116.2 | 102.7 | 84.2 | 64.0 | 55.6 | 52.2 | 50.5 |
| 67.5° | 3727.7 | 1042.2 | 121.2 | 102.7 | 99.3 | 87.6 | 70.7 | 55.6 | 50.5 | 48.8 | 48.8 |
| 70° | 1873.9 | 493.3 | 96.0 | 84.2 | 84.2 | 72.4 | 60.6 | 50.5 | 48.8 | 47.1 | 47.1 |
| 72.5° | 636.4 | 210.5 | 72.4 | 65.7 | 69.0 | 62.3 | 52.2 | 47.1 | 47.1 | 47.1 | 47.1 |
| 75° | 217.2 | 111.1 | 50.5 | 47.1 | 50.5 | 50.5 | 45.5 | 45.5 | 47.1 | 47.1 | 47.1 |
| 77.5° | 141.4 | 74.1 | 35.4 | 32.0 | 38.7 | 38.7 | 38.7 | 42.1 | 45.5 | 45.5 | 45.5 |
| 80° | 116.2 | 40.4 | 23.6 | 21.9 | 28.6 | 28.6 | 32.0 | 38.7 | 42.1 | 42.1 | 42.1 |
| 82.5° | 99.3 | 25.3 | 13.5 | 15.2 | 20.2 | 21.9 | 26.9 | 32.0 | 37.0 | 38.7 | 38.7 |
| 85° | 67.3 | 13.5 | 10.1 | 11.8 | 13.5 | 16.8 | 21.9 | 26.9 | 30.3 | 33.7 | 33.7 |
| 87.5° | 18.5 | 5.1 | 6.7 | 8.4 | 8.4 | 11.8 | 16.8 | 20.2 | 23.6 | 25.3 | 25.3 |
| 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 | CRI (Ra): | 73.1 | R9: | -34.6 |
| CIE u': | 0.2371 | R1: | 68.9 | R10: | 57.8 |
| CIE v': | 0.5177 | R2: | 81.1 | R11: | 68.6 |
| Duv: | 0.0032 | R3: | 93.1 | R12: | 53.9 |
| CIE x: | 0.4153 | R4: | 71.6 | R13: | 70.9 |
| CIE y: | 0.4030 | R5: | 69.4 | R14: | 96.2 |
| CIE z: | 0.1817 | R6: | 75.0 | | |
| Peak Wavelength (nm): | 590 | R7: | 79.5 | | |
| Dominant Wavelength (nm): | 580 | R8: | 46.4 | | |
| Purity: | 45.7 | | | | |
| Rf: | 76.9 | | | | |
| Rg: | 94.4 | | | | |



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)