

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: P637262

Luminaire Tested: GWS-SA4C-740-U-SL2-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P637262
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-27)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA4C-740-U-SL2-W
Description: GALLEON WALL SLIM LUMINAIRE. (4) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS
Light Source: (64) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19075.6 lumens
Efficiency: N/A
Efficacy: 148.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G3

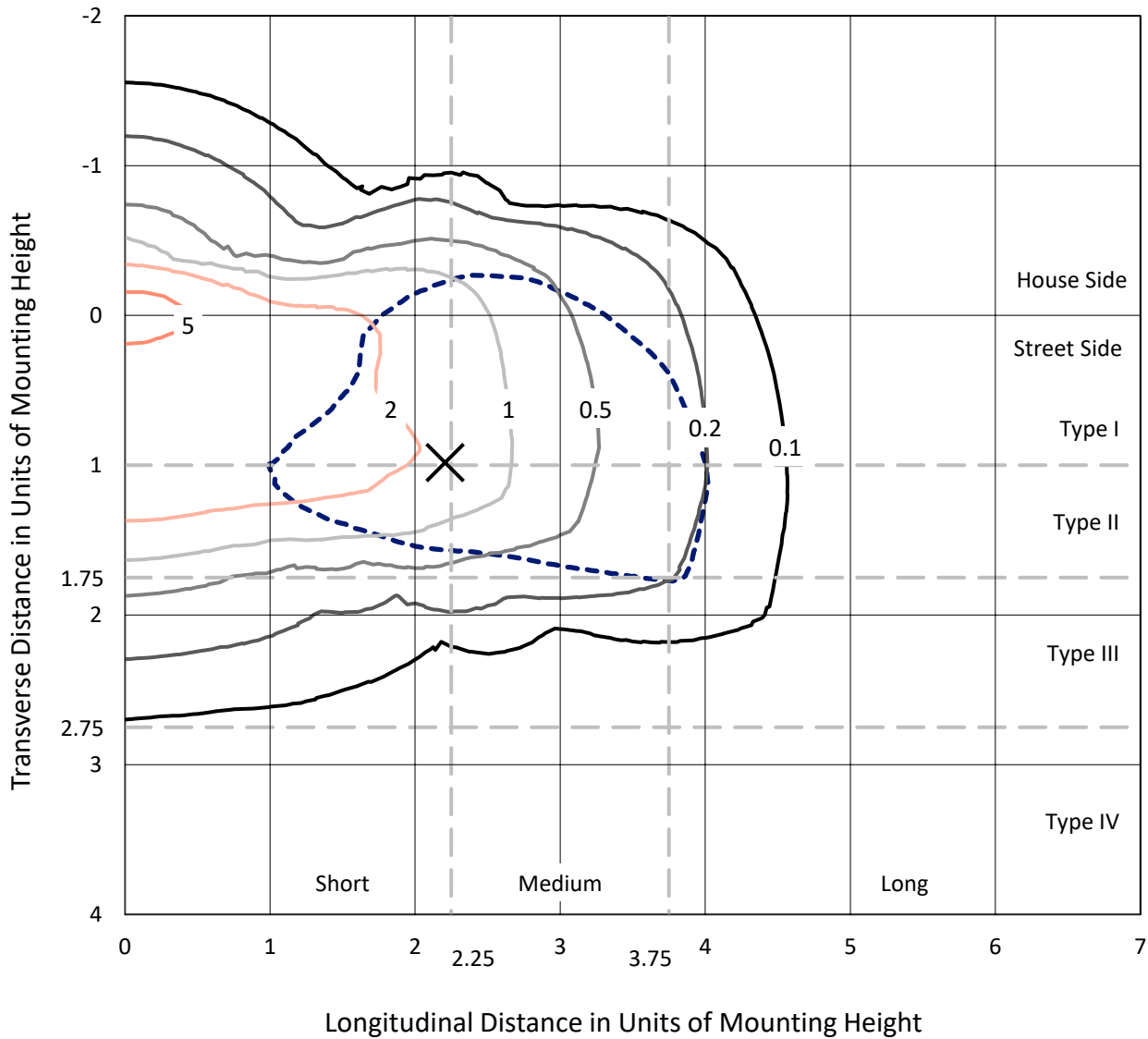
Input Watts (W): 128.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

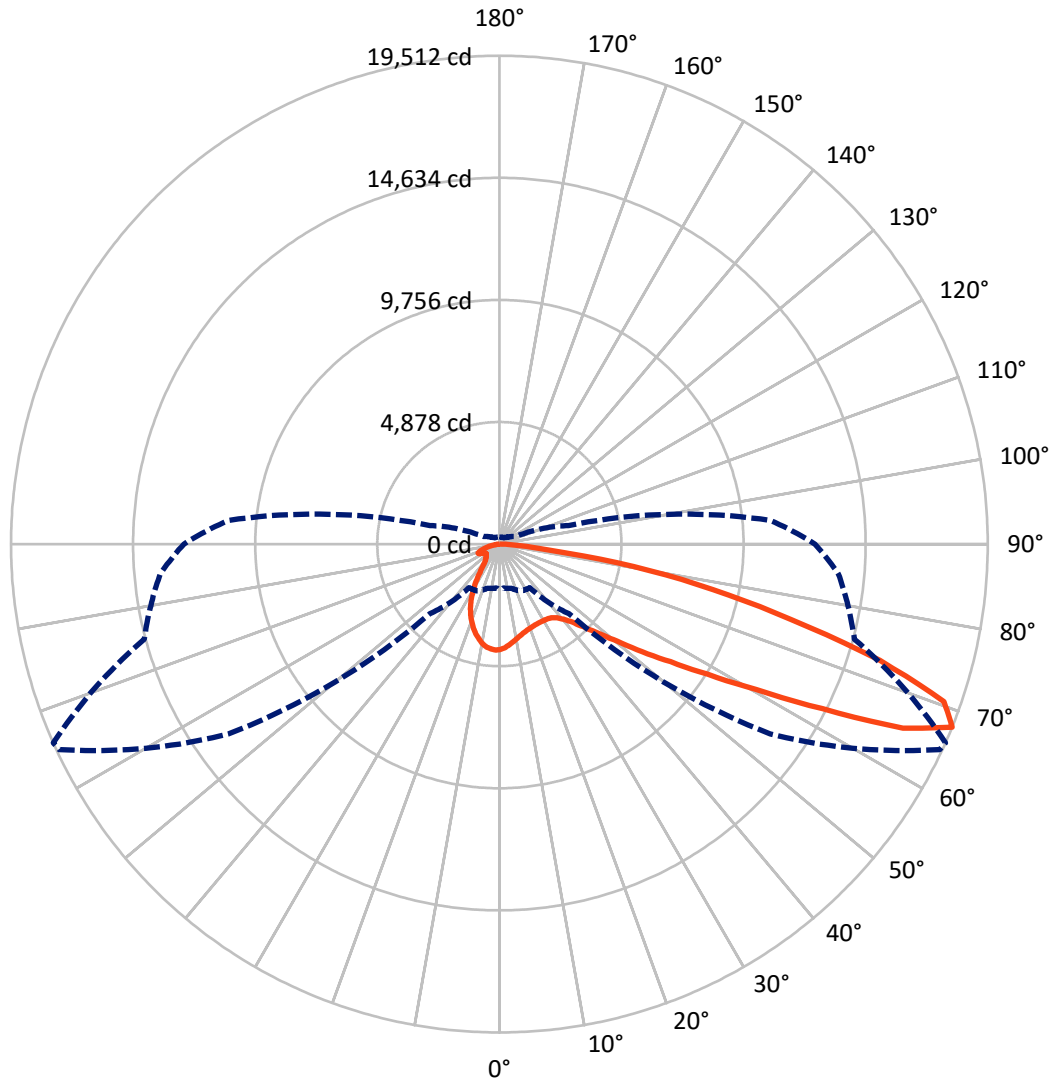
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.7 fc
 Type II - Short - N/A

REPORT NUMBER: P637262
CATALOG NUMBER: GWS-SA4C-740-U-SL2-W

Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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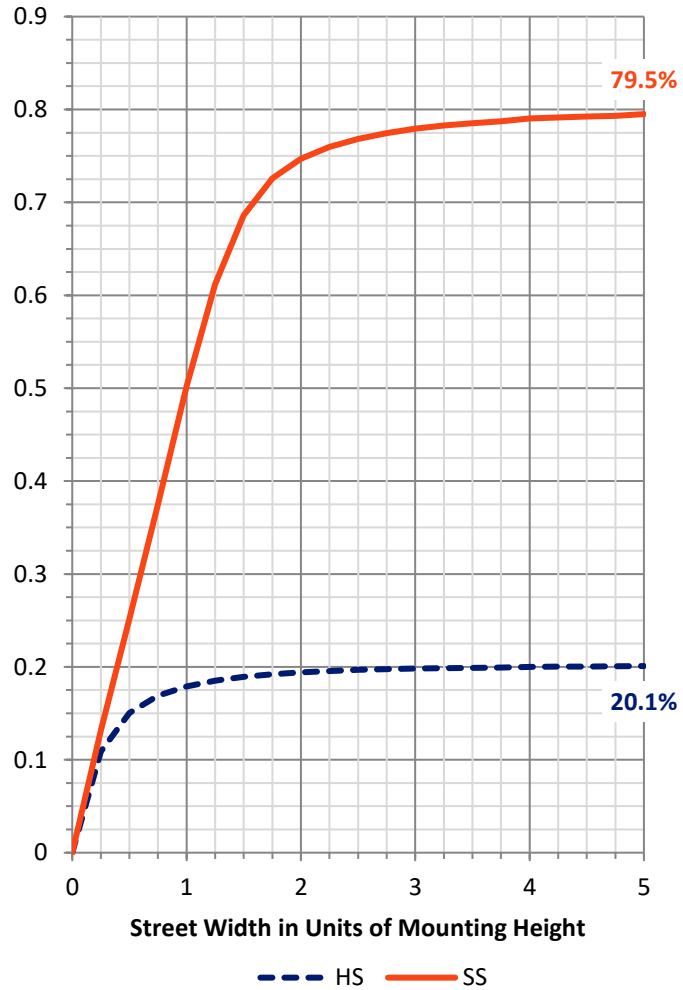
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3870.9 | 0.0 | 3870.9 |
| | % Fixture | 20.3 | 0.0 | 20.3 |
| Street Side | Lumens | 15204.7 | 0.0 | 15204.7 |
| | % Fixture | 79.7 | 0.0 | 79.7 |
| Total | Lumens | 19075.6 | 0.0 | 19075.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 369.9 | 1.9 |
| 10°-20° | 909.2 | 4.8 |
| 20°-30° | 1249.7 | 6.6 |
| 30°-40° | 1708.5 | 9.0 |
| 40°-50° | 2588.8 | 13.6 |
| 50°-60° | 4024.4 | 21.1 |
| 60°-70° | 4899.6 | 25.7 |
| 70°-80° | 2984.6 | 15.6 |
| 80°-90° | 340.9 | 1.8 |
| 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° | 19075.6 | 100.0 |
| 0°-180° | 19075.6 | 100.0 |

Coefficient of Utilization



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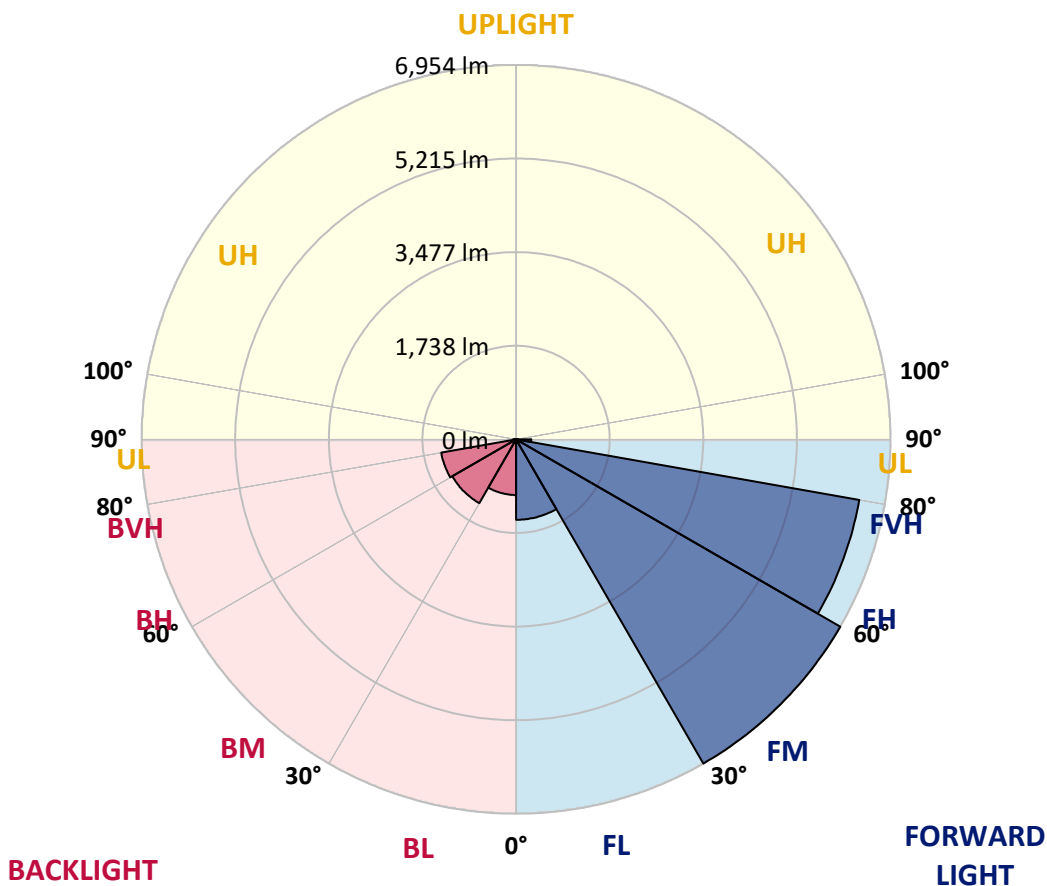
CATALOG NUMBER: GWS-SA4C-740-U-SL2-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1494.7 | 7.8 | | | |
| FM (30°-60°) | 6953.8 | 36.5 | | | |
| FH (60°-80°) | 6472.8 | 33.9 | | | G3/7500 |
| FVH (80°-90°) | 283.4 | 1.5 | | | G3/500 |
| BL (0°-30°) | 1034.1 | 5.4 | B3/2500 | | |
| BM (30°-60°) | 1367.9 | 7.2 | B2/2500 | | |
| BH (60°-80°) | 1411.4 | 7.4 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 57.5 | 0.3 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|
| 0° | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 |
| 2.5° | 3948.0 | 3961.9 | 3953.5 | 4006.4 | 4009.2 | 4076.0 | 4113.6 | 4145.6 | 4148.4 | 4190.1 | 4217.9 |
| 5° | 3678.0 | 3686.4 | 3686.4 | 3736.5 | 3769.9 | 3858.9 | 3945.2 | 4037.0 | 4044.0 | 4144.2 | 4220.7 |
| 7.5° | 3459.5 | 3467.9 | 3462.3 | 3529.1 | 3572.2 | 3671.0 | 3781.0 | 3921.5 | 3935.5 | 4096.9 | 4230.5 |
| 10° | 3288.4 | 3285.6 | 3299.5 | 3360.7 | 3416.4 | 3534.7 | 3657.1 | 3817.2 | 3838.0 | 4042.6 | 4241.6 |
| 12.5° | 3171.5 | 3174.2 | 3182.6 | 3246.6 | 3306.4 | 3423.3 | 3550.0 | 3723.9 | 3746.2 | 3980.0 | 4236.0 |
| 15° | 3115.8 | 3110.2 | 3117.2 | 3175.6 | 3232.7 | 3335.7 | 3466.5 | 3646.0 | 3668.3 | 3924.3 | 4237.4 |
| 17.5° | 3103.3 | 3099.1 | 3097.7 | 3139.5 | 3182.6 | 3278.6 | 3403.9 | 3586.2 | 3609.8 | 3888.1 | 4245.8 |
| 20° | 3142.2 | 3136.7 | 3121.4 | 3139.5 | 3157.5 | 3238.3 | 3359.3 | 3543.0 | 3569.5 | 3864.5 | 4262.5 |
| 22.5° | 3249.4 | 3239.7 | 3216.0 | 3193.7 | 3170.1 | 3218.8 | 3331.5 | 3511.0 | 3537.5 | 3849.2 | 4279.2 |
| 25° | 3412.2 | 3403.9 | 3378.8 | 3328.7 | 3242.4 | 3234.1 | 3325.9 | 3497.1 | 3523.5 | 3838.0 | 4286.1 |
| 27.5° | 3636.3 | 3623.7 | 3598.7 | 3526.3 | 3385.8 | 3291.1 | 3346.8 | 3495.7 | 3520.8 | 3825.5 | 4279.2 |
| 30° | 3902.1 | 3893.7 | 3879.8 | 3792.1 | 3604.3 | 3412.2 | 3394.1 | 3506.8 | 3526.3 | 3818.6 | 4265.3 |
| 32.5° | 4172.0 | 4163.7 | 4174.8 | 4133.1 | 3902.1 | 3612.6 | 3497.1 | 3537.5 | 3551.4 | 3817.2 | 4252.7 |
| 35° | 4410.0 | 4419.7 | 4500.4 | 4507.4 | 4280.6 | 3884.0 | 3659.9 | 3608.4 | 3611.2 | 3845.0 | 4258.3 |
| 37.5° | 4659.1 | 4696.7 | 4802.4 | 4892.9 | 4703.6 | 4243.0 | 3902.1 | 3742.0 | 3739.2 | 3916.0 | 4293.1 |
| 40° | 4988.9 | 5005.6 | 5140.6 | 5310.4 | 5192.1 | 4735.6 | 4245.8 | 3960.5 | 3941.0 | 4060.7 | 4386.3 |
| 42.5° | 5310.4 | 5350.7 | 5566.4 | 5761.2 | 5722.3 | 5290.9 | 4678.6 | 4287.5 | 4252.7 | 4316.8 | 4578.4 |
| 45° | 5719.5 | 5758.5 | 6000.6 | 6251.1 | 6322.1 | 5918.5 | 5232.4 | 4752.3 | 4717.5 | 4702.2 | 4930.5 |
| 47.5° | 6128.6 | 6169.0 | 6386.1 | 6747.9 | 6997.0 | 6703.4 | 5953.3 | 5366.0 | 5309.0 | 5249.1 | 5462.0 |
| 50° | 6404.2 | 6451.5 | 6658.8 | 7093.0 | 7677.5 | 7683.0 | 6807.7 | 6170.4 | 6098.0 | 6003.4 | 6210.7 |
| 52.5° | 6394.4 | 6425.0 | 6622.6 | 7123.6 | 8167.3 | 8808.8 | 7951.6 | 7194.6 | 7136.1 | 6930.2 | 7111.1 |
| 55° | 5892.0 | 5938.0 | 6137.0 | 6763.2 | 8220.2 | 9876.2 | 9632.7 | 8402.5 | 8298.1 | 7929.4 | 8128.4 |
| 57.5° | 4883.1 | 4922.1 | 5122.5 | 5894.8 | 7751.2 | 10423.1 | 11767.4 | 9941.6 | 9798.3 | 9017.6 | 9247.2 |
| 60° | 3686.4 | 3639.0 | 3733.7 | 4410.0 | 6629.6 | 10437.0 | 13651.6 | 12029.0 | 11789.7 | 10181.0 | 10373.0 |
| 62.5° | 2766.5 | 2719.2 | 2740.1 | 2930.7 | 4494.9 | 9593.7 | 14725.9 | 14884.6 | 14489.4 | 11494.6 | 11457.1 |
| 65° | 2186.2 | 2159.8 | 2219.6 | 2350.4 | 2620.4 | 7305.9 | 14734.3 | 17972.6 | 17723.5 | 13017.1 | 12569.0 |
| 67.5° | 1781.3 | 1764.6 | 1825.8 | 2067.9 | 2125.0 | 3925.7 | 13211.9 | 19414.3 | 19511.7 | 14684.2 | 13600.1 |
| 70° | 1434.7 | 1409.7 | 1505.7 | 1824.4 | 1976.1 | 2375.5 | 9464.3 | 18679.5 | 18836.7 | 15677.8 | 13309.3 |
| 72.5° | 990.8 | 992.2 | 1040.9 | 1477.9 | 1907.9 | 2051.2 | 5353.5 | 15553.9 | 15894.9 | 14777.4 | 11700.6 |
| 75° | 668.0 | 673.5 | 687.5 | 975.5 | 1757.6 | 1990.0 | 2852.8 | 11775.7 | 12016.5 | 12214.1 | 9671.6 |
| 77.5° | 403.6 | 406.3 | 438.4 | 590.0 | 1212.1 | 1857.8 | 1932.9 | 8536.1 | 8725.4 | 8051.8 | 5995.0 |
| 80° | 233.8 | 243.5 | 272.8 | 395.2 | 818.3 | 1395.8 | 1496.0 | 5233.8 | 5448.1 | 3579.2 | 1905.1 |
| 82.5° | 103.0 | 109.9 | 148.9 | 229.6 | 477.3 | 1187.0 | 1167.6 | 2067.9 | 2037.3 | 997.8 | 661.0 |
| 85° | 18.1 | 22.3 | 32.0 | 72.4 | 175.3 | 626.2 | 905.9 | 912.9 | 858.6 | 378.5 | 274.1 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.2 | 136.4 | 244.9 | 243.5 | 107.2 | 94.6 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P637262
 CATALOG NUMBER: GWS-SA4C-740-U-SL2-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 | 4215.2 |
| 2.5° | 4236.0 | 4198.5 | 4231.9 | 4236.0 | 4229.1 | 4223.5 | 4181.8 | 4145.6 | 4141.4 | 4102.4 | 4102.4 |
| 5° | 4251.3 | 4216.6 | 4233.3 | 4201.2 | 4151.2 | 4099.7 | 4010.6 | 3949.4 | 3921.5 | 3871.4 | 3871.4 |
| 7.5° | 4272.2 | 4236.0 | 4216.6 | 4137.2 | 4020.3 | 3907.6 | 3764.3 | 3644.6 | 3595.9 | 3524.9 | 3522.1 |
| 10° | 4291.7 | 4245.8 | 4179.0 | 4024.5 | 3838.0 | 3658.5 | 3449.8 | 3280.0 | 3164.5 | 3079.6 | 3079.6 |
| 12.5° | 4290.3 | 4230.5 | 4098.3 | 3870.0 | 3612.6 | 3352.4 | 3074.1 | 2818.0 | 2664.9 | 2532.7 | 2524.4 |
| 15° | 4287.5 | 4205.4 | 3995.3 | 3690.5 | 3349.6 | 2989.2 | 2610.6 | 2276.7 | 2049.8 | 1920.4 | 1909.3 |
| 17.5° | 4284.7 | 4173.4 | 3879.8 | 3486.0 | 3029.5 | 2538.3 | 2038.7 | 1676.9 | 1487.6 | 1408.3 | 1411.1 |
| 20° | 4284.7 | 4137.2 | 3755.9 | 3250.8 | 2660.7 | 1998.3 | 1496.0 | 1233.0 | 1185.6 | 1189.8 | 1194.0 |
| 22.5° | 4272.2 | 4092.7 | 3618.2 | 2994.7 | 2250.2 | 1469.5 | 1103.5 | 1014.5 | 1039.5 | 1078.5 | 1084.1 |
| 25° | 4243.0 | 4018.9 | 3458.1 | 2710.8 | 1761.8 | 1070.1 | 900.4 | 883.7 | 929.6 | 978.3 | 992.2 |
| 27.5° | 4197.1 | 3934.1 | 3278.6 | 2378.2 | 1297.0 | 860.0 | 791.8 | 790.4 | 826.6 | 862.8 | 875.3 |
| 30° | 4148.4 | 3839.4 | 3089.4 | 2008.1 | 939.3 | 748.7 | 722.2 | 722.2 | 740.3 | 762.6 | 759.8 |
| 32.5° | 4091.3 | 3743.4 | 2886.2 | 1622.6 | 765.4 | 686.1 | 677.7 | 673.5 | 676.3 | 684.7 | 684.7 |
| 35° | 4042.6 | 3658.5 | 2677.4 | 1214.9 | 686.1 | 651.3 | 642.9 | 633.2 | 629.0 | 623.4 | 626.2 |
| 37.5° | 4024.5 | 3591.7 | 2461.7 | 915.7 | 647.1 | 626.2 | 612.3 | 598.4 | 588.6 | 585.9 | 584.5 |
| 40° | 4053.7 | 3563.9 | 2246.0 | 754.2 | 619.3 | 599.8 | 584.5 | 566.4 | 558.0 | 558.0 | 558.0 |
| 42.5° | 4167.9 | 3584.8 | 2026.2 | 681.9 | 599.8 | 577.5 | 555.2 | 538.6 | 535.8 | 538.6 | 539.9 |
| 45° | 4376.6 | 3665.5 | 1798.0 | 645.7 | 583.1 | 555.2 | 528.8 | 516.3 | 516.3 | 519.1 | 519.1 |
| 47.5° | 4749.5 | 3877.0 | 1572.5 | 623.4 | 566.4 | 537.2 | 509.3 | 496.8 | 495.4 | 498.2 | 498.2 |
| 50° | 5395.2 | 4258.3 | 1369.3 | 608.1 | 553.9 | 523.2 | 495.4 | 478.7 | 474.5 | 473.1 | 473.1 |
| 52.5° | 6209.3 | 4919.3 | 1239.9 | 597.0 | 538.6 | 507.9 | 480.1 | 457.8 | 449.5 | 445.3 | 445.3 |
| 55° | 7193.2 | 5800.2 | 1239.9 | 588.6 | 519.1 | 489.8 | 457.8 | 435.6 | 423.0 | 417.5 | 417.5 |
| 57.5° | 8307.9 | 6825.8 | 1454.2 | 581.7 | 503.8 | 469.0 | 434.2 | 411.9 | 398.0 | 389.6 | 389.6 |
| 60° | 9442.0 | 7909.9 | 1984.4 | 571.9 | 489.8 | 442.5 | 407.7 | 386.9 | 368.8 | 359.0 | 357.6 |
| 62.5° | 10617.9 | 9103.9 | 2683.0 | 577.5 | 480.1 | 417.5 | 379.9 | 356.3 | 340.9 | 331.2 | 329.8 |
| 65° | 11695.0 | 10240.8 | 3293.9 | 620.7 | 481.5 | 395.2 | 347.9 | 327.0 | 314.5 | 302.0 | 300.6 |
| 67.5° | 12609.3 | 10868.4 | 2865.3 | 708.3 | 510.7 | 368.8 | 315.9 | 295.0 | 283.9 | 275.5 | 274.1 |
| 70° | 11969.2 | 9911.0 | 1625.4 | 762.6 | 551.1 | 340.9 | 279.7 | 265.8 | 254.7 | 249.1 | 247.7 |
| 72.5° | 10235.2 | 8391.4 | 1086.8 | 673.5 | 502.4 | 304.8 | 246.3 | 235.2 | 226.8 | 219.9 | 218.5 |
| 75° | 8291.2 | 6654.6 | 830.8 | 552.5 | 391.0 | 247.7 | 211.5 | 203.2 | 194.8 | 187.9 | 186.5 |
| 77.5° | 4905.4 | 3845.0 | 612.3 | 437.0 | 275.5 | 193.4 | 175.3 | 168.4 | 160.0 | 154.5 | 153.1 |
| 80° | 1565.6 | 1335.9 | 388.3 | 300.6 | 182.3 | 148.9 | 135.0 | 129.4 | 121.1 | 114.1 | 112.7 |
| 82.5° | 597.0 | 516.3 | 206.0 | 153.1 | 121.1 | 101.6 | 90.5 | 84.9 | 79.3 | 72.4 | 71.0 |
| 85° | 264.4 | 247.7 | 114.1 | 82.1 | 65.4 | 50.1 | 44.5 | 41.7 | 34.8 | 29.2 | 27.8 |
| 87.5° | 93.2 | 93.2 | 48.7 | 23.7 | 13.9 | 7.0 | 4.2 | 1.4 | 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 LUMINAIRES UTILIZING SA LIGHT ENGINES

Report Number: SP1-2101-121-2

Luminaire Tested: IFLD-S-SA2A-740-U-T3R-HSS

Test Date: 03/05/2021

Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/05/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

Spectral Parameters

| | | | | | |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K): | 3905 | CRI (Ra): | 71.2 | R9: | -29.7 |
| CIE u': | 0.2273 | R1: | 68.9 | R10: | 46.2 |
| CIE v': | 0.5024 | R2: | 77.0 | R11: | 68.8 |
| Duv: | -0.0008 | R3: | 84.0 | R12: | 45.6 |
| CIE x: | 0.3841 | R4: | 71.6 | R13: | 69.5 |
| CIE y: | 0.3774 | R5: | 68.9 | R14: | 90.7 |
| CIE z: | 0.2385 | R6: | 68.3 | | |
| Peak Wavelength (nm): | 443 | R7: | 78.7 | | |
| Dominant Wavelength (nm): | 579 | R8: | 52.2 | | |
| Purity: | 28.7 | | | | |
| Rf: | 71.7 | | | | |
| Rg: | 96.9 | | | | |



Test Conditions

Stabilization Time: 211M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.8/312%
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2101-121-2

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | IN0046 | 12/1/2020 | 12/1/2021 |

REPORT NUMBER: SP1-2101-121-2

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 4000K 4-step quadrangle

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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)