

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: P641248

Luminaire Tested: GWS-SA5F-740-U-T3-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P641248
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-26)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA5F-740-U-T3-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (5) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source: (80) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30642.1 lumens
Efficiency: N/A
Efficacy: 98.7 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type III - Short
BUG Rating: B2 - U0 - G4

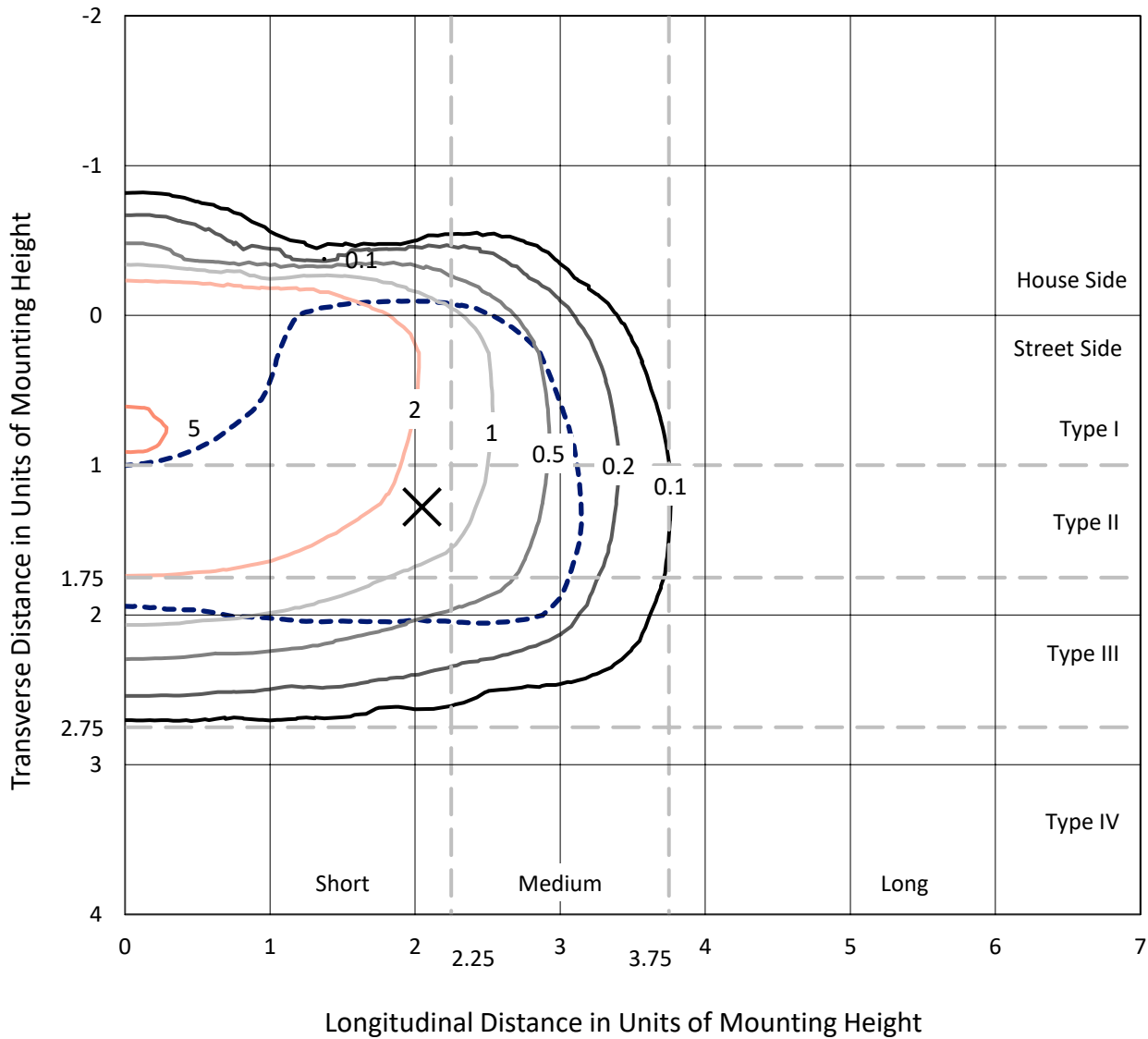
Input Watts (W): 310.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P641248
 CATALOG NUMBER: GWS-SA5F-740-U-T3-W-HSS

Iso-Footcandle Lines of Horizontal Illumination

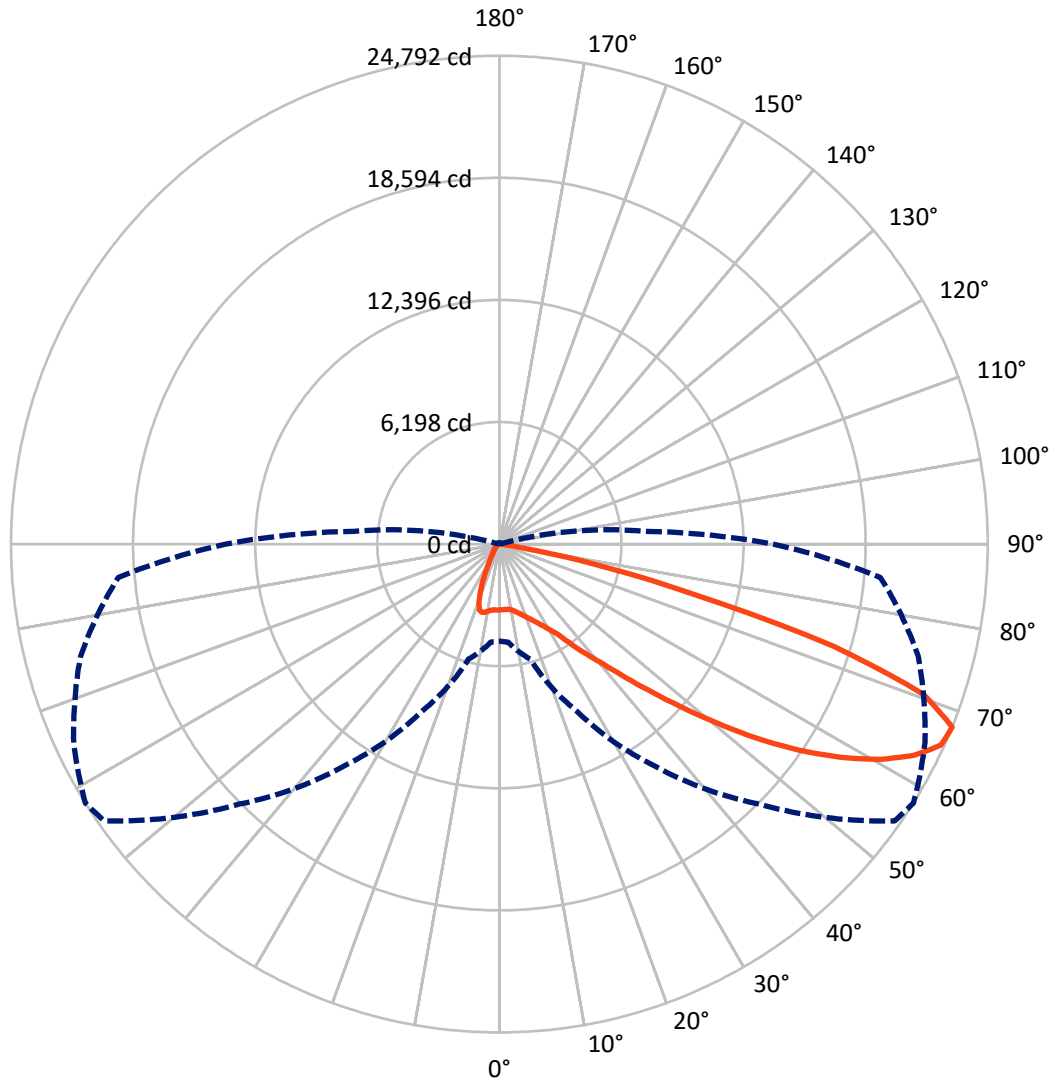
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 5.2 fc
 Type III - Short - N/A

REPORT NUMBER: P641248
CATALOG NUMBER: GWS-SA5F-740-U-T3-W-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P641248

CATALOG NUMBER: GWS-SA5F-740-U-T3-W-HSS

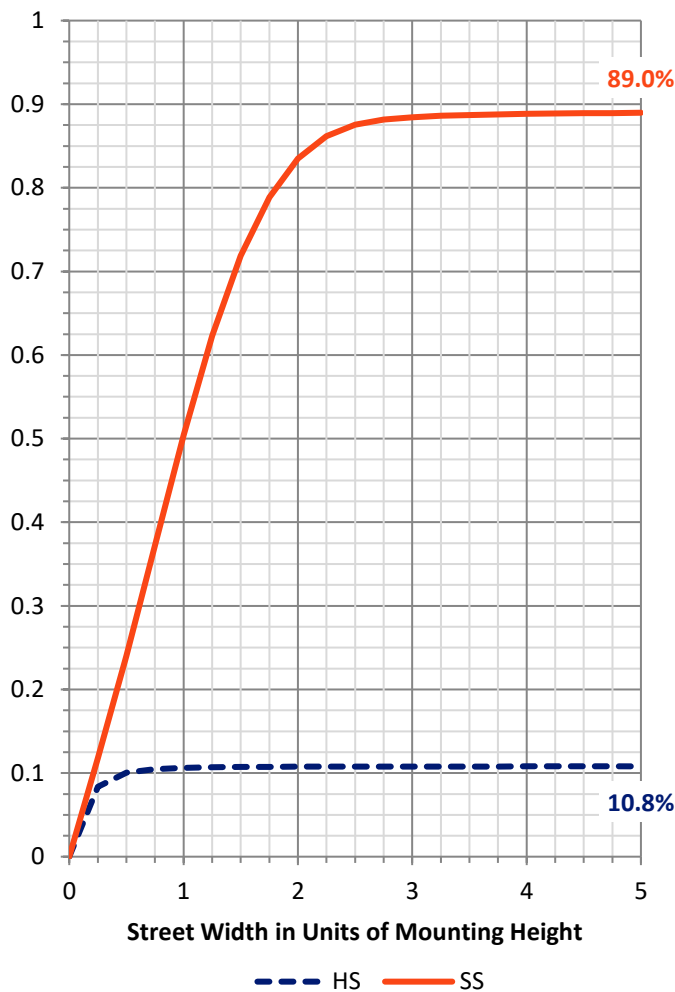
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3343.0 | 0.0 | 3343.0 |
| | % Fixture | 10.9 | 0.0 | 10.9 |
| Street Side | Lumens | 27299.1 | 0.0 | 27299.1 |
| | % Fixture | 89.1 | 0.0 | 89.1 |
| Total | Lumens | 30642.1 | 0.0 | 30642.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 313.7 | 1.0 |
| 10°-20° | 880.7 | 2.9 |
| 20°-30° | 1537.3 | 5.0 |
| 30°-40° | 2745.3 | 9.0 |
| 40°-50° | 5018.0 | 16.4 |
| 50°-60° | 8345.4 | 27.2 |
| 60°-70° | 9064.5 | 29.6 |
| 70°-80° | 2661.4 | 8.7 |
| 80°-90° | 75.8 | 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° | 30642.1 | 100.0 |
| 0°-180° | 30642.1 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P641248

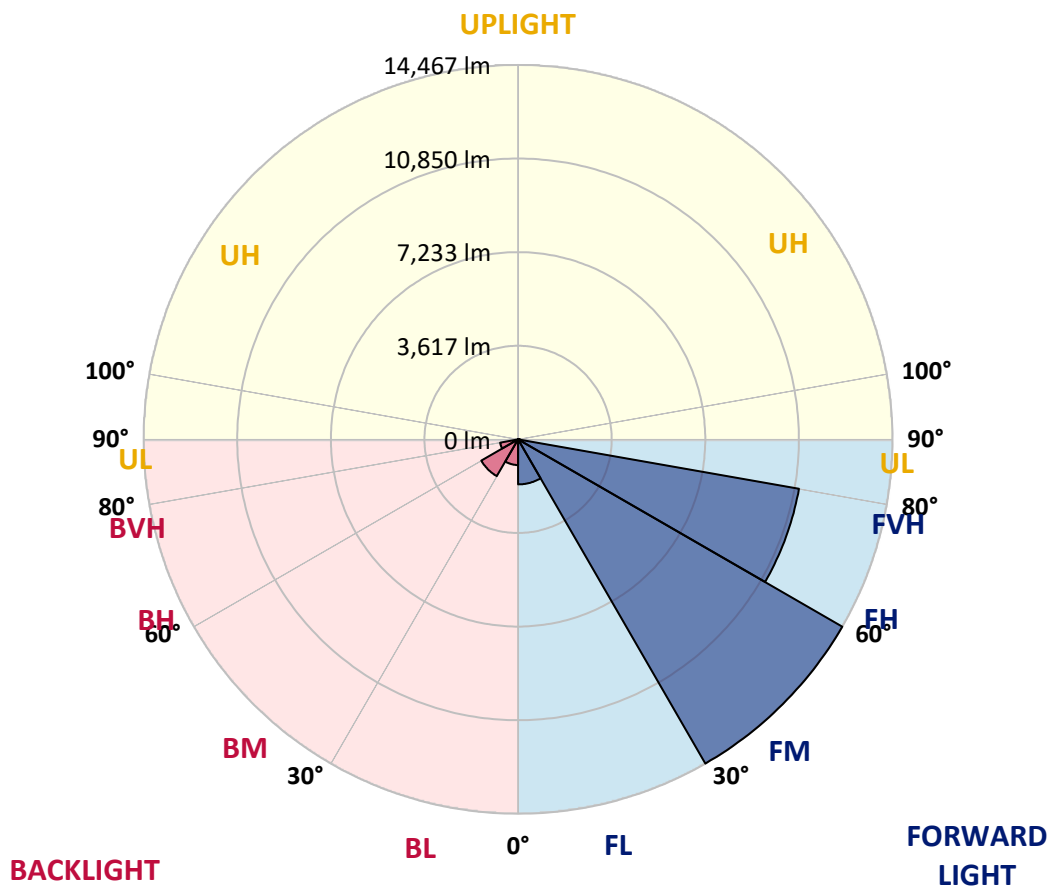
CATALOG NUMBER: GWS-SA5F-740-U-T3-W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 1740.0 | 5.7 | | | |
| FM (30°-60°) | 14466.8 | 47.2 | | | |
| FH (60°-80°) | 11020.3 | 36.0 | | | G4/12000 |
| FVH (80°-90°) | 72.1 | 0.2 | | | G1/100 |
| BL (0°-30°) | 991.6 | 3.2 | B2/1000 | | |
| BM (30°-60°) | 1642.0 | 5.4 | B2/2500 | | |
| BH (60°-80°) | 705.7 | 2.3 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 3.7 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G4

Type III Short





REPORT NUMBER: P641248

CATALOG NUMBER: GWS-SA5F-740-U-T3-W-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 58° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 |
| 2.5° | 3276.2 | 3270.3 | 3270.3 | 3294.2 | 3297.2 | 3309.2 | 3336.1 | 3339.1 | 3354.0 | 3348.0 | 3327.1 |
| 5° | 3105.7 | 3108.7 | 3126.6 | 3168.5 | 3204.4 | 3249.3 | 3315.1 | 3330.1 | 3363.0 | 3381.0 | 3369.0 |
| 7.5° | 2947.1 | 2950.1 | 2977.0 | 3042.9 | 3111.7 | 3201.4 | 3309.2 | 3339.1 | 3404.9 | 3452.8 | 3455.8 |
| 10° | 2887.3 | 2884.3 | 2911.2 | 2986.0 | 3075.8 | 3201.4 | 3357.0 | 3395.9 | 3494.7 | 3578.4 | 3593.4 |
| 12.5° | 2905.2 | 2902.2 | 2929.2 | 2998.0 | 3096.7 | 3255.3 | 3440.8 | 3494.7 | 3620.3 | 3749.0 | 3775.9 |
| 15° | 2977.0 | 2974.0 | 2992.0 | 3048.8 | 3156.6 | 3321.1 | 3548.5 | 3629.3 | 3787.9 | 3943.5 | 3985.3 |
| 17.5° | 3192.5 | 3177.5 | 3159.6 | 3165.5 | 3228.4 | 3398.9 | 3686.1 | 3784.9 | 3982.4 | 4167.9 | 4203.8 |
| 20° | 3575.4 | 3536.5 | 3488.7 | 3425.8 | 3395.9 | 3512.6 | 3844.7 | 3958.4 | 4197.8 | 4410.2 | 4416.2 |
| 22.5° | 4152.9 | 4137.9 | 4027.2 | 3844.7 | 3716.1 | 3719.1 | 4030.2 | 4161.9 | 4455.1 | 4688.5 | 4655.6 |
| 25° | 4957.7 | 4948.8 | 4778.2 | 4479.0 | 4143.9 | 4030.2 | 4266.6 | 4401.2 | 4760.3 | 5008.6 | 4903.9 |
| 27.5° | 5957.1 | 5894.2 | 5693.8 | 5289.9 | 4790.2 | 4434.1 | 4565.8 | 4685.5 | 5083.4 | 5316.8 | 5119.3 |
| 30° | 6827.7 | 6830.7 | 6642.2 | 6220.4 | 5657.9 | 5041.5 | 4930.8 | 5035.5 | 5379.6 | 5625.0 | 5385.6 |
| 32.5° | 7665.5 | 7692.4 | 7486.0 | 7106.0 | 6489.7 | 5834.4 | 5454.4 | 5472.4 | 5759.6 | 6025.9 | 5735.7 |
| 35° | 8443.4 | 8464.4 | 8320.8 | 7997.6 | 7423.2 | 6663.2 | 6184.5 | 6175.5 | 6331.1 | 6603.3 | 6223.4 |
| 37.5° | 9314.1 | 9335.0 | 9194.4 | 8904.2 | 8365.6 | 7611.7 | 7013.3 | 7001.3 | 7064.1 | 7285.5 | 6851.7 |
| 40° | 10241.6 | 10280.5 | 10124.9 | 9879.6 | 9365.0 | 8727.7 | 7976.7 | 7869.0 | 7806.1 | 8066.4 | 7665.5 |
| 42.5° | 11181.1 | 11240.9 | 11187.1 | 10941.7 | 10501.9 | 9975.3 | 9227.3 | 9059.8 | 8925.1 | 9251.3 | 8826.4 |
| 45° | 12348.0 | 12419.8 | 12395.9 | 12207.4 | 11866.3 | 11438.4 | 10732.3 | 10537.8 | 10475.0 | 10777.2 | 10271.5 |
| 47.5° | 13470.0 | 13547.8 | 13634.5 | 13592.7 | 13350.3 | 13152.8 | 12368.9 | 12258.2 | 12240.3 | 12563.4 | 11779.5 |
| 50° | 14304.8 | 14376.6 | 14708.7 | 14948.0 | 15112.6 | 15070.7 | 14391.5 | 14227.0 | 14200.0 | 14406.5 | 13371.3 |
| 52.5° | 14903.2 | 14972.0 | 15429.8 | 16177.8 | 16782.1 | 17111.3 | 16426.1 | 16390.2 | 16243.6 | 16171.8 | 14861.3 |
| 55° | 15366.9 | 15462.7 | 15944.4 | 17075.4 | 18293.1 | 19023.1 | 18595.3 | 18466.6 | 18089.6 | 17676.7 | 16243.6 |
| 57.5° | 15459.7 | 15498.6 | 16177.8 | 17703.7 | 19466.0 | 20647.8 | 20647.8 | 20423.4 | 19696.3 | 19124.9 | 17841.3 |
| 60° | 14627.9 | 14747.6 | 15666.1 | 17652.8 | 19968.6 | 21710.0 | 22350.2 | 22194.7 | 21213.3 | 20510.2 | 19379.2 |
| 62.5° | 12781.8 | 12916.5 | 14035.5 | 16435.1 | 19466.0 | 21928.4 | 23639.8 | 23615.9 | 22508.8 | 21656.1 | 20653.8 |
| 65° | 9801.8 | 9900.5 | 10875.9 | 13748.2 | 17341.6 | 21087.6 | 24561.3 | 24627.2 | 23532.1 | 22413.1 | 21093.6 |
| 67.5° | 4924.8 | 4993.7 | 6046.8 | 9391.9 | 13745.3 | 18667.1 | 24498.5 | 24791.7 | 23843.3 | 22012.2 | 19415.1 |
| 70° | 1720.4 | 1789.2 | 2285.9 | 4030.2 | 8365.6 | 14253.9 | 22380.2 | 22858.9 | 22015.1 | 18789.8 | 14322.7 |
| 72.5° | 589.4 | 622.3 | 948.5 | 1496.0 | 3255.3 | 8449.4 | 17018.5 | 17739.6 | 16228.6 | 12614.3 | 8231.0 |
| 75° | 335.1 | 356.0 | 508.6 | 810.8 | 1364.4 | 2779.6 | 9655.2 | 10098.0 | 9460.7 | 6875.6 | 3386.9 |
| 77.5° | 227.4 | 245.3 | 317.2 | 460.8 | 754.0 | 894.6 | 3937.5 | 4957.7 | 4323.4 | 2244.0 | 864.7 |
| 80° | 134.6 | 146.6 | 194.5 | 272.3 | 386.0 | 347.1 | 843.7 | 1122.0 | 1445.1 | 670.2 | 260.3 |
| 82.5° | 62.8 | 71.8 | 125.7 | 179.5 | 194.5 | 146.6 | 248.3 | 302.2 | 406.9 | 329.1 | 107.7 |
| 85° | 0.0 | 0.0 | 41.9 | 74.8 | 71.8 | 41.9 | 68.8 | 74.8 | 110.7 | 164.6 | 41.9 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 6.0 | 9.0 | 18.0 | 32.9 | 18.0 |
| 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: P641248

CATALOG NUMBER: GWS-SA5F-740-U-T3-W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 | 3339.1 |
| 2.5° | 3351.0 | 3330.1 | 3354.0 | 3342.1 | 3354.0 | 3351.0 | 3327.1 | 3312.1 | 3312.1 | 3285.2 | 3276.2 |
| 5° | 3392.9 | 3372.0 | 3378.0 | 3351.0 | 3345.1 | 3330.1 | 3300.2 | 3288.2 | 3288.2 | 3261.3 | 3252.3 |
| 7.5° | 3485.7 | 3452.8 | 3446.8 | 3392.9 | 3369.0 | 3327.1 | 3273.2 | 3252.3 | 3249.3 | 3222.4 | 3213.4 |
| 10° | 3632.3 | 3593.4 | 3566.5 | 3497.6 | 3428.8 | 3345.1 | 3231.4 | 3135.6 | 3081.8 | 3010.0 | 3004.0 |
| 12.5° | 3811.8 | 3763.9 | 3722.0 | 3617.3 | 3503.6 | 3315.1 | 2980.0 | 2630.0 | 2414.5 | 2244.0 | 2256.0 |
| 15° | 4012.3 | 3967.4 | 3901.6 | 3743.0 | 3509.6 | 3018.9 | 2318.8 | 1780.2 | 1516.9 | 1376.3 | 1370.3 |
| 17.5° | 4230.7 | 4164.9 | 4057.2 | 3841.7 | 3321.1 | 2306.8 | 1508.0 | 1065.2 | 927.5 | 879.6 | 867.7 |
| 20° | 4434.1 | 4353.4 | 4218.7 | 3862.7 | 2776.6 | 1561.8 | 942.5 | 825.8 | 801.9 | 786.9 | 786.9 |
| 22.5° | 4649.6 | 4547.8 | 4347.4 | 3701.1 | 2064.5 | 999.3 | 801.9 | 774.9 | 757.0 | 736.0 | 733.0 |
| 25° | 4868.0 | 4736.3 | 4464.1 | 3279.2 | 1352.4 | 786.9 | 751.0 | 721.1 | 688.2 | 655.2 | 646.3 |
| 27.5° | 5053.5 | 4882.9 | 4553.8 | 2650.9 | 867.7 | 709.1 | 685.2 | 634.3 | 589.4 | 553.5 | 547.5 |
| 30° | 5274.9 | 5056.5 | 4592.7 | 1938.8 | 682.2 | 625.3 | 589.4 | 535.6 | 481.7 | 445.8 | 433.8 |
| 32.5° | 5571.1 | 5331.7 | 4532.9 | 1262.6 | 604.4 | 550.5 | 493.7 | 430.8 | 377.0 | 338.1 | 332.1 |
| 35° | 6031.9 | 5747.6 | 4257.6 | 804.8 | 547.5 | 475.7 | 406.9 | 341.1 | 296.2 | 266.3 | 260.3 |
| 37.5° | 6594.4 | 6331.1 | 3805.8 | 604.4 | 490.7 | 412.9 | 332.1 | 269.3 | 236.4 | 215.4 | 209.4 |
| 40° | 7429.1 | 7061.1 | 3246.3 | 529.6 | 433.8 | 350.1 | 272.3 | 221.4 | 197.5 | 179.5 | 173.5 |
| 42.5° | 8512.2 | 7922.8 | 2603.0 | 481.7 | 380.0 | 293.2 | 221.4 | 182.5 | 161.6 | 149.6 | 146.6 |
| 45° | 9777.9 | 8763.6 | 1923.9 | 433.8 | 329.1 | 242.4 | 182.5 | 149.6 | 134.6 | 125.7 | 122.7 |
| 47.5° | 11073.4 | 9499.6 | 1328.4 | 383.0 | 281.2 | 200.5 | 152.6 | 128.7 | 116.7 | 104.7 | 101.7 |
| 50° | 12455.7 | 10121.9 | 906.6 | 332.1 | 239.4 | 164.6 | 131.6 | 116.7 | 101.7 | 92.8 | 89.8 |
| 52.5° | 13470.0 | 10352.3 | 631.3 | 287.2 | 203.5 | 140.6 | 116.7 | 104.7 | 92.8 | 80.8 | 77.8 |
| 55° | 14406.5 | 10346.3 | 478.7 | 242.4 | 173.5 | 122.7 | 104.7 | 92.8 | 80.8 | 71.8 | 68.8 |
| 57.5° | 15340.0 | 10265.6 | 377.0 | 206.4 | 149.6 | 110.7 | 92.8 | 80.8 | 74.8 | 62.8 | 59.8 |
| 60° | 15944.4 | 9960.4 | 293.2 | 173.5 | 128.7 | 95.7 | 80.8 | 71.8 | 62.8 | 53.9 | 50.9 |
| 62.5° | 16264.5 | 9535.5 | 224.4 | 137.6 | 104.7 | 83.8 | 71.8 | 62.8 | 53.9 | 44.9 | 41.9 |
| 65° | 15830.7 | 8781.5 | 176.5 | 107.7 | 80.8 | 71.8 | 59.8 | 50.9 | 41.9 | 32.9 | 29.9 |
| 67.5° | 13906.8 | 7405.2 | 137.6 | 86.8 | 62.8 | 53.9 | 50.9 | 41.9 | 29.9 | 23.9 | 20.9 |
| 70° | 9828.7 | 5071.4 | 107.7 | 65.8 | 47.9 | 41.9 | 38.9 | 32.9 | 23.9 | 18.0 | 15.0 |
| 72.5° | 5394.6 | 2558.2 | 77.8 | 47.9 | 35.9 | 32.9 | 29.9 | 26.9 | 20.9 | 15.0 | 15.0 |
| 75° | 2076.4 | 703.1 | 56.8 | 32.9 | 23.9 | 23.9 | 20.9 | 20.9 | 18.0 | 12.0 | 12.0 |
| 77.5° | 541.6 | 209.4 | 35.9 | 20.9 | 15.0 | 15.0 | 15.0 | 12.0 | 12.0 | 9.0 | 9.0 |
| 80° | 173.5 | 68.8 | 20.9 | 15.0 | 12.0 | 9.0 | 9.0 | 6.0 | 9.0 | 6.0 | 6.0 |
| 82.5° | 56.8 | 23.9 | 12.0 | 12.0 | 9.0 | 6.0 | 6.0 | 3.0 | 3.0 | 0.0 | 0.0 |
| 85° | 20.9 | 12.0 | 9.0 | 6.0 | 6.0 | 6.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 12.0 | 6.0 | 6.0 | 6.0 | 6.0 | 3.0 | 0.0 | 0.0 | 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



CCT = 3905K
 CIE x = 0.3841
 CIE y = 0.3774
 Duv = -0.0008

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

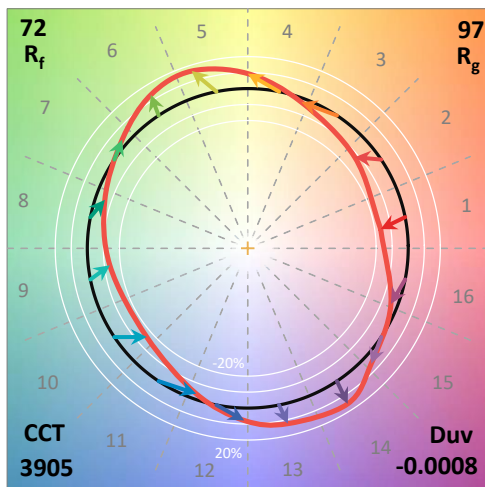
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 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)