

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: P633737

Luminaire Tested: GWS-SA2F-735-U-RW-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P633737
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-51)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2F-735-U-RW-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE 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: 14104.8 lumens
Efficiency: N/A
Efficacy: 113.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type V - Short
BUG Rating: B3 - U0 - G1

Input Watts (W): 124.5
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

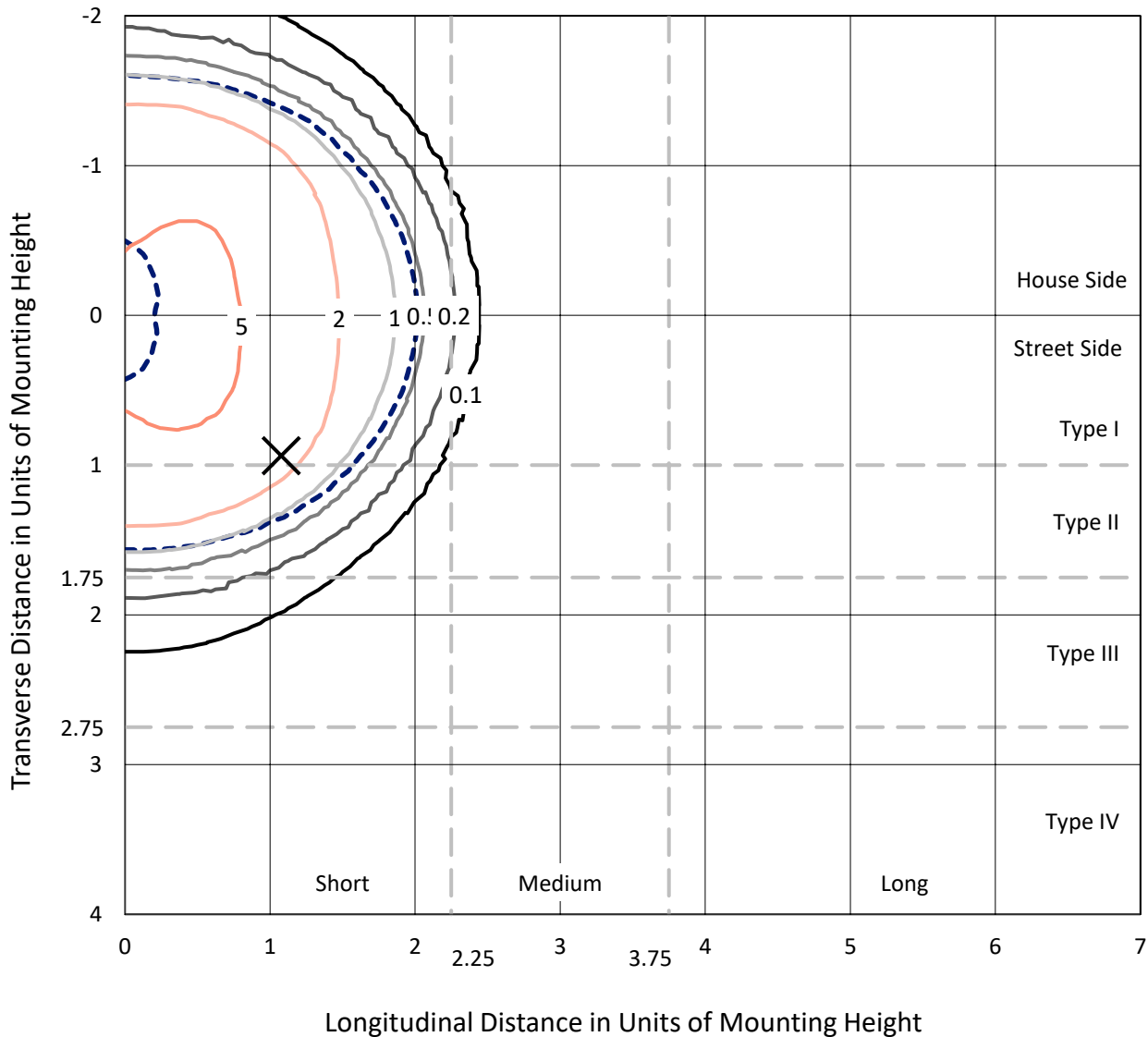


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Iso-Footcandle Lines of Horizontal Illumination

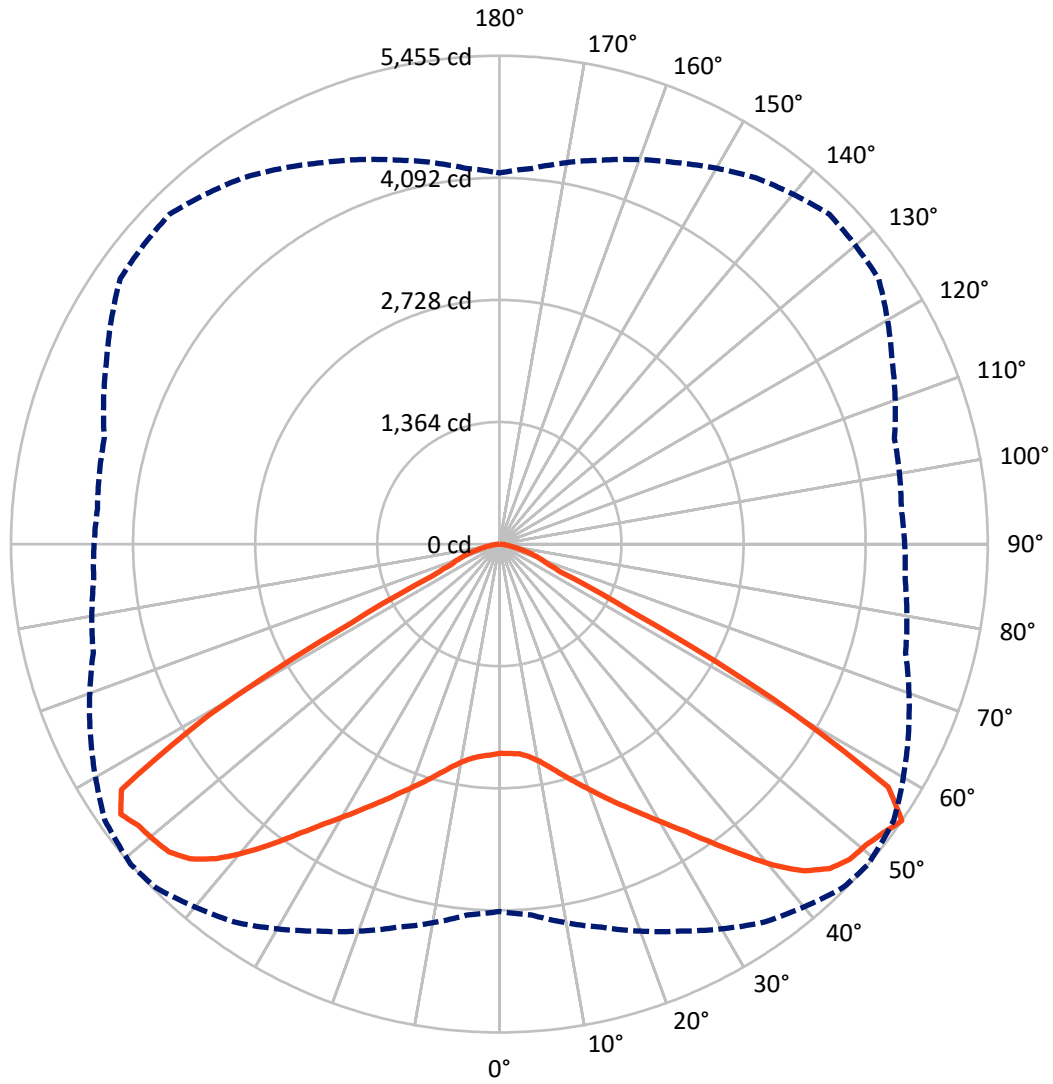
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6.5 fc
 Type V - Short - N/A

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CATALOG NUMBER: GWS-SA2F-735-U-RW-W-GRSWH

Luminous Intensity Polar Plot



— Vertical Plane Through 49-Deg Lateral - - - Horizontal Cone Through 55-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 6983.2 | 0.0 | 6983.2 |
| | % Fixture | 49.5 | 0.0 | 49.5 |
| Street Side | Lumens | 7121.6 | 0.0 | 7121.6 |
| | % Fixture | 50.5 | 0.0 | 50.5 |
| Total | Lumens | 14104.8 | 0.0 | 14104.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 227.9 | 1.6 |
| 10°-20° | 751.8 | 5.3 |
| 20°-30° | 1432.0 | 10.2 |
| 30°-40° | 2427.5 | 17.2 |
| 40°-50° | 3653.2 | 25.9 |
| 50°-60° | 3998.8 | 28.4 |
| 60°-70° | 1264.4 | 9.0 |
| 70°-80° | 303.5 | 2.2 |
| 80°-90° | 45.5 | 0.3 |
| 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° | 14104.8 | 100.0 |
| 0°-180° | 14104.8 | 100.0 |

Coefficient of Utilization



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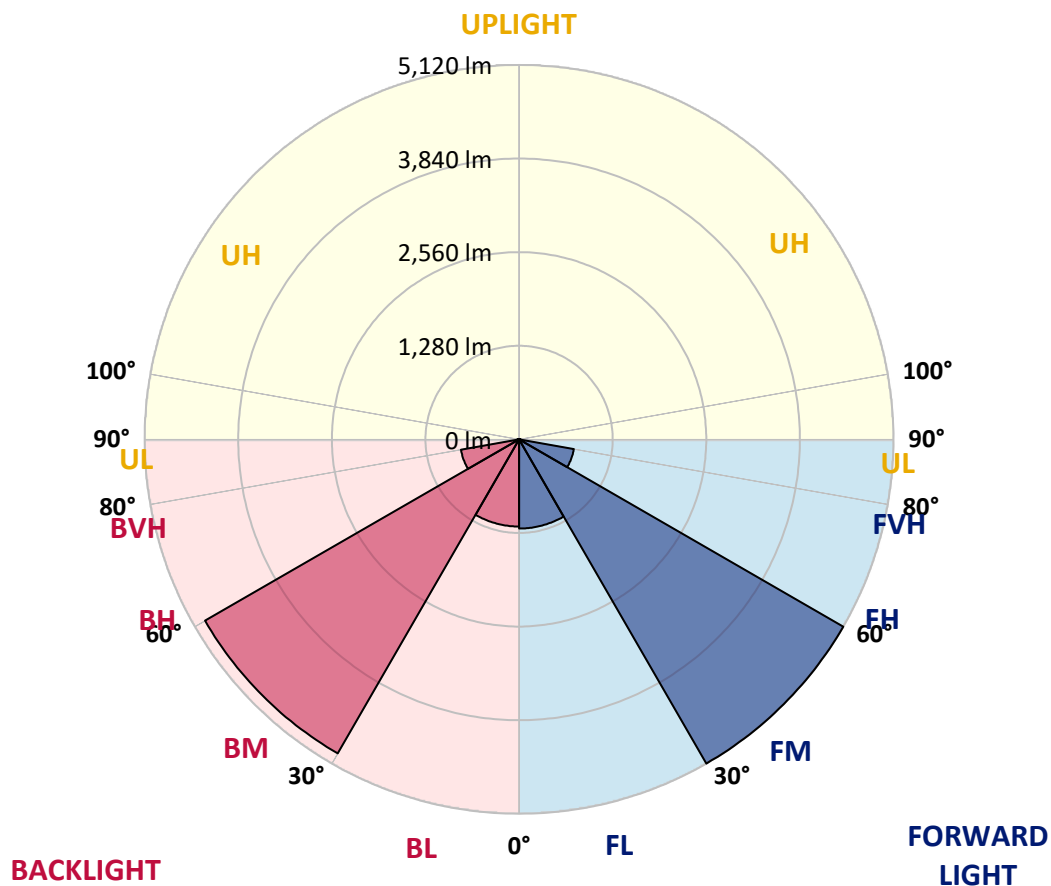
CATALOG NUMBER: GWS-SA2F-735-U-RW-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1219.5 | 8.6 | | | |
| FM (30°-60°) | 5120.4 | 36.3 | | | |
| FH (60°-80°) | 760.6 | 5.4 | | | G1/1800 |
| FVH (80°-90°) | 21.1 | 0.1 | | | G1/100 |
| BL (0°-30°) | 1192.2 | 8.5 | B3/2500 | | |
| BM (30°-60°) | 4959.2 | 35.2 | B3/5000 | | |
| BH (60°-80°) | 807.3 | 5.7 | B2/1000 | | G1/1800 |
| BVH (80°-90°) | 24.5 | 0.2 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G1

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 49° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 |
| 2.5° | 2302.1 | 2304.4 | 2309.0 | 2317.0 | 2325.1 | 2336.5 | 2341.1 | 2346.9 | 2345.7 | 2352.6 | 2352.6 |
| 5° | 2290.7 | 2294.1 | 2301.0 | 2312.5 | 2326.2 | 2348.0 | 2353.8 | 2367.5 | 2381.3 | 2398.5 | 2404.2 |
| 7.5° | 2304.4 | 2309.0 | 2317.0 | 2335.4 | 2356.0 | 2384.7 | 2396.2 | 2419.1 | 2445.5 | 2476.5 | 2489.1 |
| 10° | 2330.8 | 2336.5 | 2350.3 | 2380.1 | 2413.4 | 2457.0 | 2467.3 | 2496.0 | 2538.4 | 2580.9 | 2606.1 |
| 12.5° | 2360.6 | 2369.8 | 2395.0 | 2442.1 | 2491.4 | 2548.8 | 2564.8 | 2600.4 | 2646.2 | 2701.3 | 2735.7 |
| 15° | 2395.0 | 2403.1 | 2442.1 | 2508.6 | 2585.5 | 2661.2 | 2679.5 | 2713.9 | 2765.5 | 2819.5 | 2867.6 |
| 17.5° | 2467.3 | 2481.1 | 2527.0 | 2603.8 | 2693.3 | 2782.7 | 2803.4 | 2842.4 | 2883.7 | 2926.1 | 2972.0 |
| 20° | 2566.0 | 2577.4 | 2635.9 | 2731.1 | 2836.7 | 2918.1 | 2938.7 | 2973.2 | 2992.7 | 3014.5 | 3053.5 |
| 22.5° | 2664.6 | 2680.7 | 2747.2 | 2859.6 | 2983.5 | 3071.8 | 3087.9 | 3120.0 | 3106.2 | 3099.3 | 3124.6 |
| 25° | 2787.3 | 2809.1 | 2874.5 | 2997.2 | 3123.4 | 3232.4 | 3245.0 | 3272.5 | 3249.6 | 3214.0 | 3212.9 |
| 27.5° | 2939.9 | 2959.4 | 3027.1 | 3153.2 | 3278.3 | 3391.8 | 3415.9 | 3452.6 | 3402.2 | 3358.6 | 3327.6 |
| 30° | 3121.1 | 3133.7 | 3208.3 | 3342.5 | 3471.0 | 3578.8 | 3609.8 | 3646.5 | 3608.6 | 3536.4 | 3505.4 |
| 32.5° | 3332.2 | 3349.4 | 3435.4 | 3576.5 | 3691.2 | 3799.0 | 3830.0 | 3875.9 | 3834.6 | 3753.2 | 3714.2 |
| 35° | 3585.7 | 3602.9 | 3693.5 | 3847.2 | 3964.2 | 4075.5 | 4097.3 | 4135.1 | 4083.5 | 3989.4 | 3958.5 |
| 37.5° | 3861.0 | 3882.8 | 3997.5 | 4143.2 | 4265.9 | 4395.5 | 4396.7 | 4408.1 | 4334.7 | 4217.7 | 4183.3 |
| 40° | 4170.7 | 4199.4 | 4314.1 | 4465.5 | 4613.4 | 4719.0 | 4717.8 | 4685.7 | 4561.8 | 4380.6 | 4327.8 |
| 42.5° | 4476.9 | 4499.9 | 4615.7 | 4771.7 | 4919.7 | 5019.5 | 4989.7 | 4911.7 | 4732.7 | 4486.1 | 4416.2 |
| 45° | 4698.3 | 4715.5 | 4837.1 | 5012.6 | 5162.9 | 5224.8 | 5170.9 | 5076.9 | 4834.8 | 4552.7 | 4449.4 |
| 47.5° | 4802.7 | 4825.6 | 4948.4 | 5122.7 | 5292.5 | 5328.1 | 5263.8 | 5175.5 | 4894.5 | 4614.6 | 4475.8 |
| 50° | 4746.5 | 4776.3 | 4915.1 | 5076.9 | 5268.4 | 5341.8 | 5295.9 | 5207.6 | 4957.6 | 4675.4 | 4522.8 |
| 52.5° | 4600.8 | 4629.5 | 4805.0 | 5001.1 | 5217.9 | 5363.6 | 5362.5 | 5290.2 | 5029.8 | 4692.6 | 4525.1 |
| 55° | 4103.0 | 4159.2 | 4432.2 | 4770.6 | 5156.0 | 5427.9 | 5455.4 | 5378.5 | 5041.3 | 4697.2 | 4549.2 |
| 57.5° | 2670.3 | 2769.0 | 3028.2 | 3468.7 | 4241.8 | 4936.9 | 5122.7 | 5141.1 | 4958.7 | 4677.7 | 4553.8 |
| 60° | 1114.9 | 1194.1 | 1399.4 | 1691.9 | 2330.8 | 3157.8 | 3518.0 | 3879.3 | 4315.2 | 4473.5 | 4511.4 |
| 62.5° | 692.8 | 699.7 | 720.3 | 786.9 | 1000.2 | 1404.0 | 1635.7 | 1974.1 | 2622.2 | 3173.9 | 3428.5 |
| 65° | 625.1 | 628.6 | 633.2 | 628.6 | 638.9 | 688.2 | 750.2 | 868.3 | 1132.1 | 1406.3 | 1732.0 |
| 67.5° | 550.6 | 555.2 | 558.6 | 555.2 | 558.6 | 560.9 | 567.8 | 578.1 | 626.3 | 665.3 | 695.1 |
| 70° | 445.1 | 451.9 | 457.7 | 455.4 | 469.1 | 469.1 | 476.0 | 484.1 | 508.1 | 536.8 | 557.5 |
| 72.5° | 339.5 | 333.8 | 340.7 | 343.0 | 355.6 | 362.5 | 372.8 | 382.0 | 409.5 | 426.7 | 453.1 |
| 75° | 220.2 | 214.5 | 224.8 | 230.6 | 247.8 | 256.9 | 266.1 | 275.3 | 294.8 | 306.3 | 331.5 |
| 77.5° | 119.3 | 118.1 | 128.5 | 136.5 | 154.9 | 166.3 | 173.2 | 180.1 | 196.1 | 199.6 | 215.6 |
| 80° | 68.8 | 68.8 | 75.7 | 81.4 | 92.9 | 105.5 | 112.4 | 118.1 | 129.6 | 133.1 | 139.9 |
| 82.5° | 37.9 | 37.9 | 41.3 | 44.7 | 53.9 | 60.8 | 66.5 | 71.1 | 81.4 | 84.9 | 88.3 |
| 85° | 18.4 | 17.2 | 19.5 | 21.8 | 25.2 | 28.7 | 32.1 | 34.4 | 42.4 | 44.7 | 49.3 |
| 87.5° | 2.3 | 2.3 | 2.3 | 3.4 | 4.6 | 6.9 | 8.0 | 8.0 | 12.6 | 14.9 | 17.2 |
| 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: P633737

CATALOG NUMBER: GWS-SA2F-735-U-RW-W-GRSWH

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 | 2336.5 |
| 2.5° | 2359.5 | 2344.6 | 2353.8 | 2357.2 | 2357.2 | 2353.8 | 2338.8 | 2334.3 | 2327.4 | 2317.0 | 2317.0 |
| 5° | 2412.3 | 2400.8 | 2403.1 | 2397.3 | 2383.6 | 2366.4 | 2338.8 | 2325.1 | 2313.6 | 2301.0 | 2299.8 |
| 7.5° | 2502.9 | 2488.0 | 2485.7 | 2463.9 | 2427.2 | 2390.5 | 2349.2 | 2323.9 | 2306.7 | 2290.7 | 2289.5 |
| 10° | 2621.0 | 2607.3 | 2590.0 | 2546.5 | 2492.5 | 2438.6 | 2382.4 | 2348.0 | 2322.8 | 2299.8 | 2298.7 |
| 12.5° | 2752.9 | 2736.9 | 2704.7 | 2640.5 | 2572.8 | 2520.1 | 2455.8 | 2403.1 | 2365.2 | 2334.3 | 2328.5 |
| 15° | 2896.3 | 2873.4 | 2818.3 | 2742.6 | 2676.1 | 2619.9 | 2551.0 | 2475.3 | 2418.0 | 2368.7 | 2362.9 |
| 17.5° | 3006.4 | 2976.6 | 2917.0 | 2845.8 | 2790.8 | 2734.6 | 2645.1 | 2549.9 | 2467.3 | 2405.4 | 2396.2 |
| 20° | 3082.1 | 3058.0 | 2990.4 | 2937.6 | 2905.5 | 2856.2 | 2751.8 | 2644.0 | 2551.0 | 2473.0 | 2468.5 |
| 22.5° | 3152.1 | 3123.4 | 3056.9 | 3025.9 | 3025.9 | 2992.7 | 2892.9 | 2765.5 | 2656.6 | 2566.0 | 2554.5 |
| 25° | 3231.2 | 3200.3 | 3149.8 | 3146.4 | 3162.4 | 3147.5 | 3027.1 | 2890.6 | 2763.2 | 2661.2 | 2642.8 |
| 27.5° | 3341.4 | 3307.0 | 3277.1 | 3297.8 | 3320.7 | 3304.7 | 3170.5 | 3012.2 | 2878.0 | 2774.7 | 2758.7 |
| 30° | 3516.9 | 3474.4 | 3446.9 | 3472.1 | 3516.9 | 3469.8 | 3324.2 | 3156.7 | 3021.3 | 2907.8 | 2899.7 |
| 32.5° | 3721.0 | 3672.9 | 3644.2 | 3684.3 | 3724.5 | 3651.1 | 3506.5 | 3346.0 | 3203.7 | 3084.4 | 3070.7 |
| 35° | 3966.5 | 3905.7 | 3863.3 | 3917.2 | 3958.5 | 3886.2 | 3742.8 | 3590.3 | 3432.0 | 3308.1 | 3289.7 |
| 37.5° | 4184.4 | 4111.0 | 4082.4 | 4158.1 | 4213.1 | 4166.1 | 4010.1 | 3866.7 | 3693.5 | 3558.2 | 3550.1 |
| 40° | 4342.7 | 4270.5 | 4249.8 | 4374.9 | 4471.2 | 4459.7 | 4319.8 | 4155.8 | 3992.9 | 3836.9 | 3822.0 |
| 42.5° | 4411.6 | 4361.1 | 4365.7 | 4534.3 | 4683.4 | 4756.8 | 4631.8 | 4456.3 | 4299.2 | 4137.4 | 4127.1 |
| 45° | 4426.5 | 4395.5 | 4432.2 | 4643.3 | 4839.4 | 4989.7 | 4883.0 | 4736.2 | 4558.4 | 4402.4 | 4397.8 |
| 47.5° | 4442.5 | 4425.3 | 4481.5 | 4705.2 | 4938.1 | 5112.4 | 5052.8 | 4901.4 | 4721.3 | 4568.7 | 4557.2 |
| 50° | 4480.4 | 4473.5 | 4536.6 | 4748.8 | 4985.1 | 5145.7 | 5078.0 | 4927.7 | 4743.1 | 4592.8 | 4565.3 |
| 52.5° | 4491.9 | 4480.4 | 4571.0 | 4816.5 | 5063.1 | 5144.5 | 4998.9 | 4802.7 | 4616.9 | 4449.4 | 4420.7 |
| 55° | 4527.4 | 4506.8 | 4568.7 | 4841.7 | 5170.9 | 5211.1 | 4994.3 | 4700.6 | 4441.4 | 4213.1 | 4145.4 |
| 57.5° | 4536.6 | 4513.7 | 4553.8 | 4800.4 | 5053.9 | 5018.4 | 4389.8 | 3793.3 | 3304.7 | 3051.2 | 3079.8 |
| 60° | 4487.3 | 4494.2 | 4425.3 | 4397.8 | 4053.7 | 3578.8 | 2687.5 | 2148.4 | 1687.3 | 1492.3 | 1534.8 |
| 62.5° | 3415.9 | 3444.6 | 3209.5 | 2790.8 | 2146.1 | 1701.1 | 1125.3 | 874.1 | 739.8 | 705.4 | 711.2 |
| 65° | 1724.0 | 1763.0 | 1518.7 | 1256.0 | 933.7 | 754.8 | 652.7 | 632.0 | 625.1 | 617.1 | 617.1 |
| 67.5° | 682.5 | 694.0 | 684.8 | 641.2 | 596.5 | 580.4 | 575.8 | 573.5 | 565.5 | 560.9 | 562.1 |
| 70° | 548.3 | 557.5 | 543.7 | 516.2 | 497.8 | 496.7 | 494.4 | 489.8 | 484.1 | 484.1 | 487.5 |
| 72.5° | 447.4 | 456.5 | 437.0 | 419.8 | 406.1 | 395.7 | 390.0 | 386.6 | 378.5 | 378.5 | 382.0 |
| 75° | 329.2 | 334.9 | 318.9 | 316.6 | 301.7 | 291.4 | 282.2 | 277.6 | 267.3 | 262.7 | 266.1 |
| 77.5° | 219.1 | 217.9 | 209.9 | 209.9 | 204.2 | 191.6 | 181.2 | 170.9 | 157.1 | 148.0 | 150.3 |
| 80° | 142.2 | 142.2 | 138.8 | 138.8 | 133.1 | 122.7 | 110.1 | 99.8 | 91.8 | 84.9 | 84.9 |
| 82.5° | 90.6 | 89.5 | 88.3 | 87.2 | 84.9 | 74.6 | 65.4 | 58.5 | 52.8 | 48.2 | 49.3 |
| 85° | 50.5 | 50.5 | 48.2 | 48.2 | 43.6 | 37.9 | 33.3 | 28.7 | 25.2 | 24.1 | 24.1 |
| 87.5° | 17.2 | 17.2 | 16.1 | 16.1 | 13.8 | 10.3 | 8.0 | 6.9 | 5.7 | 4.6 | 5.7 |
| 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)