

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: P636189

Luminaire Tested: GWS-SA3F-730-U-T3-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P636189
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-23)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA3F-730-U-T3-W
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: (48) 3000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 22280.3 lumens
Efficiency: N/A
Efficacy: 121.6 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B3 - U0 - G3

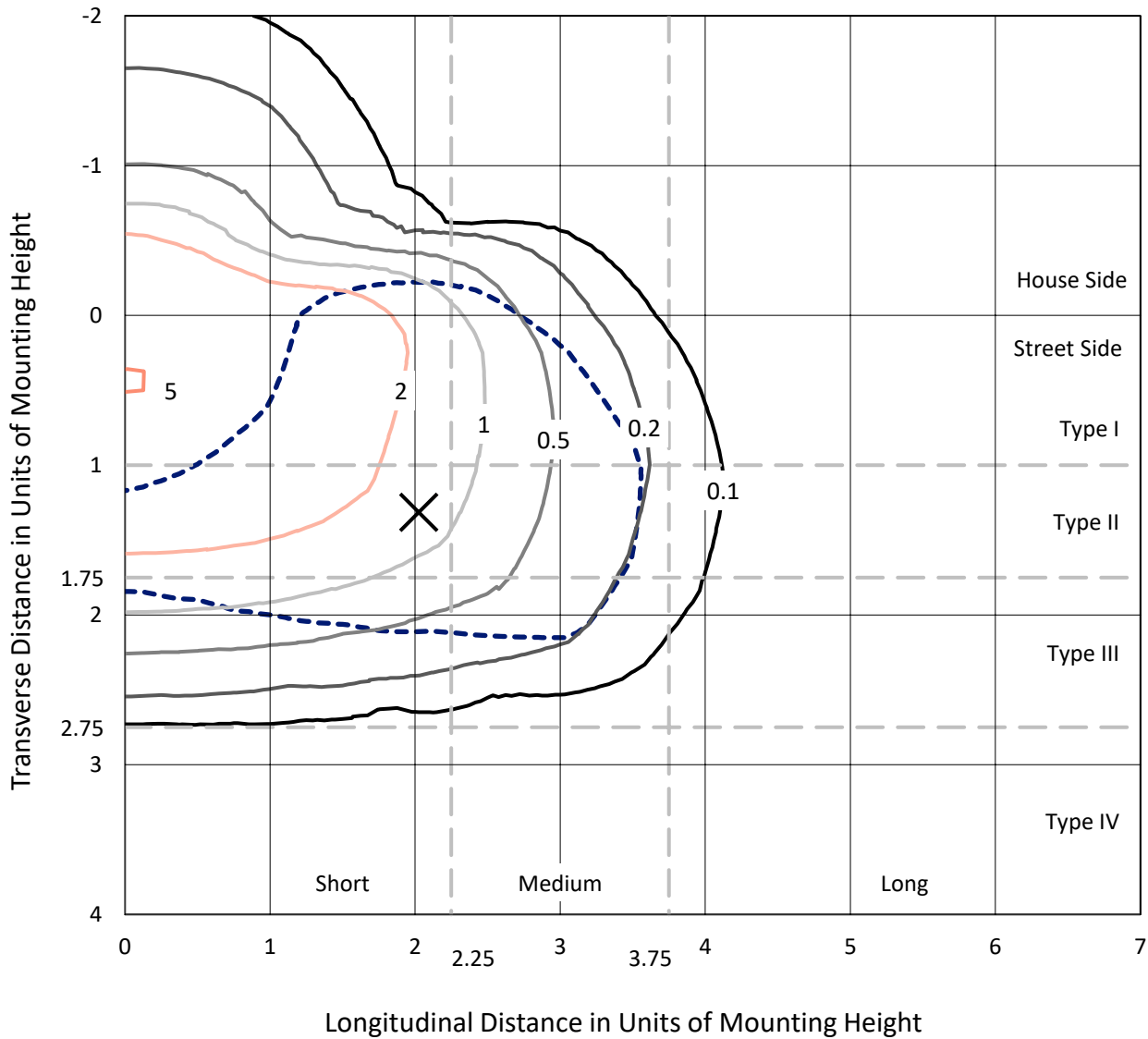
Input Watts (W): 183.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

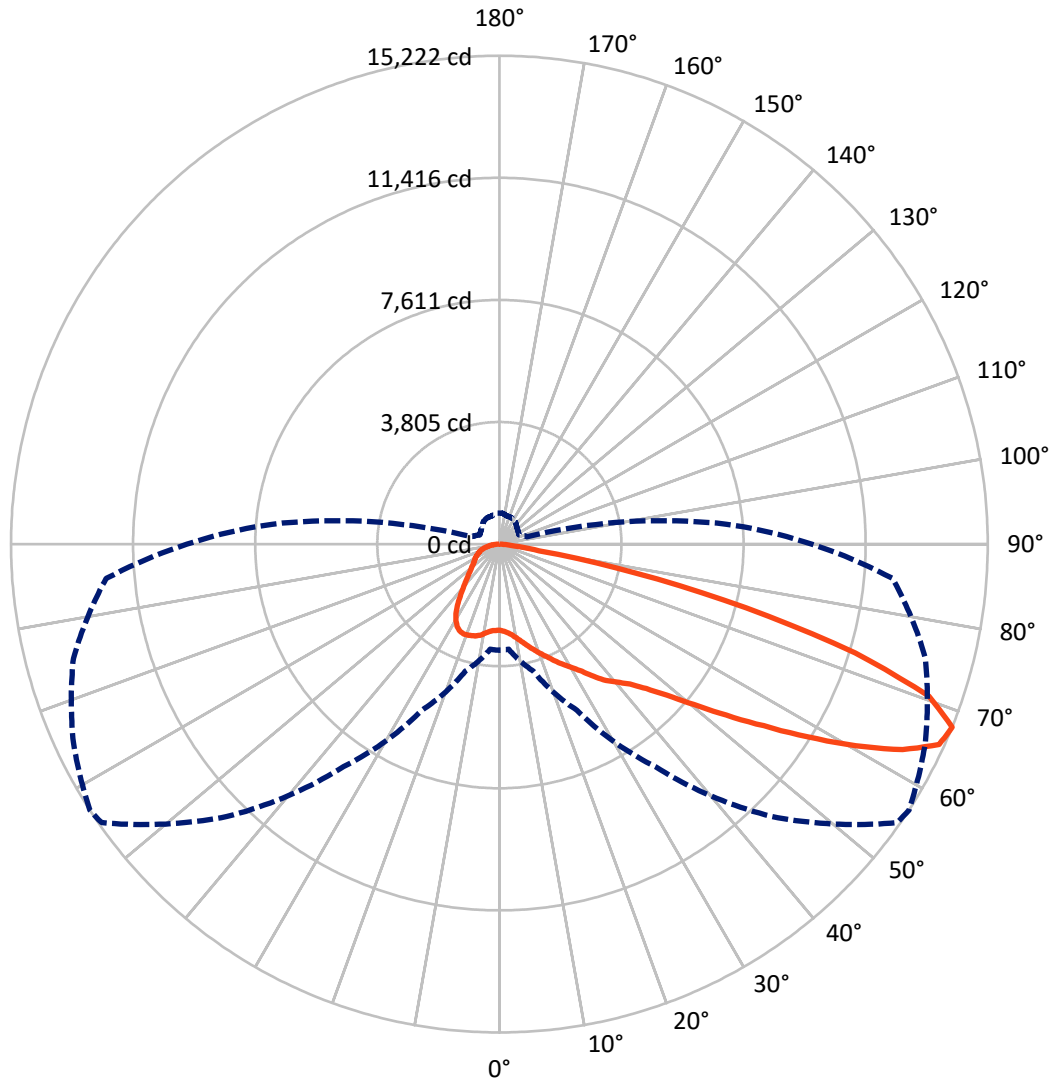
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc
 Type III - Short - N/A

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CATALOG NUMBER: GWS-SA3F-730-U-T3-W

Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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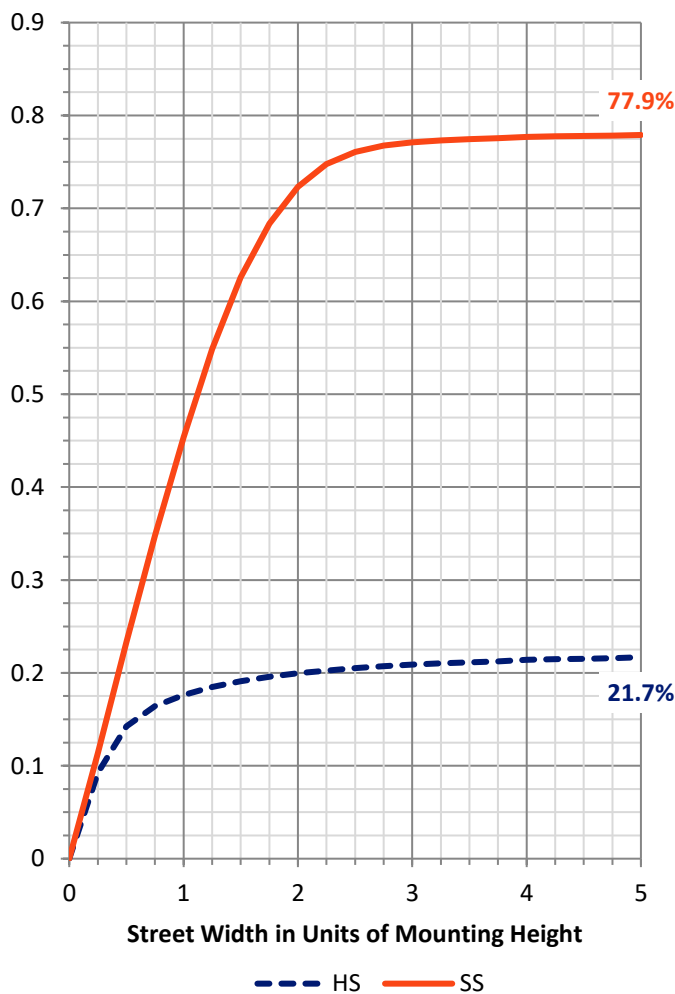
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 4898.6 | 0.0 | 4898.6 |
| | % Fixture | 22.0 | 0.0 | 22.0 |
| Street Side | Lumens | 17381.7 | 0.0 | 17381.7 |
| | % Fixture | 78.0 | 0.0 | 78.0 |
| Total | Lumens | 22280.3 | 0.0 | 22280.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 266.3 | 1.2 |
| 10°-20° | 881.5 | 4.0 |
| 20°-30° | 1571.5 | 7.1 |
| 30°-40° | 2284.7 | 10.3 |
| 40°-50° | 3306.7 | 14.8 |
| 50°-60° | 5174.9 | 23.2 |
| 60°-70° | 6036.9 | 27.1 |
| 70°-80° | 2520.0 | 11.3 |
| 80°-90° | 237.8 | 1.1 |
| 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° | 22280.3 | 100.0 |
| 0°-180° | 22280.3 | 100.0 |

Coefficient of Utilization



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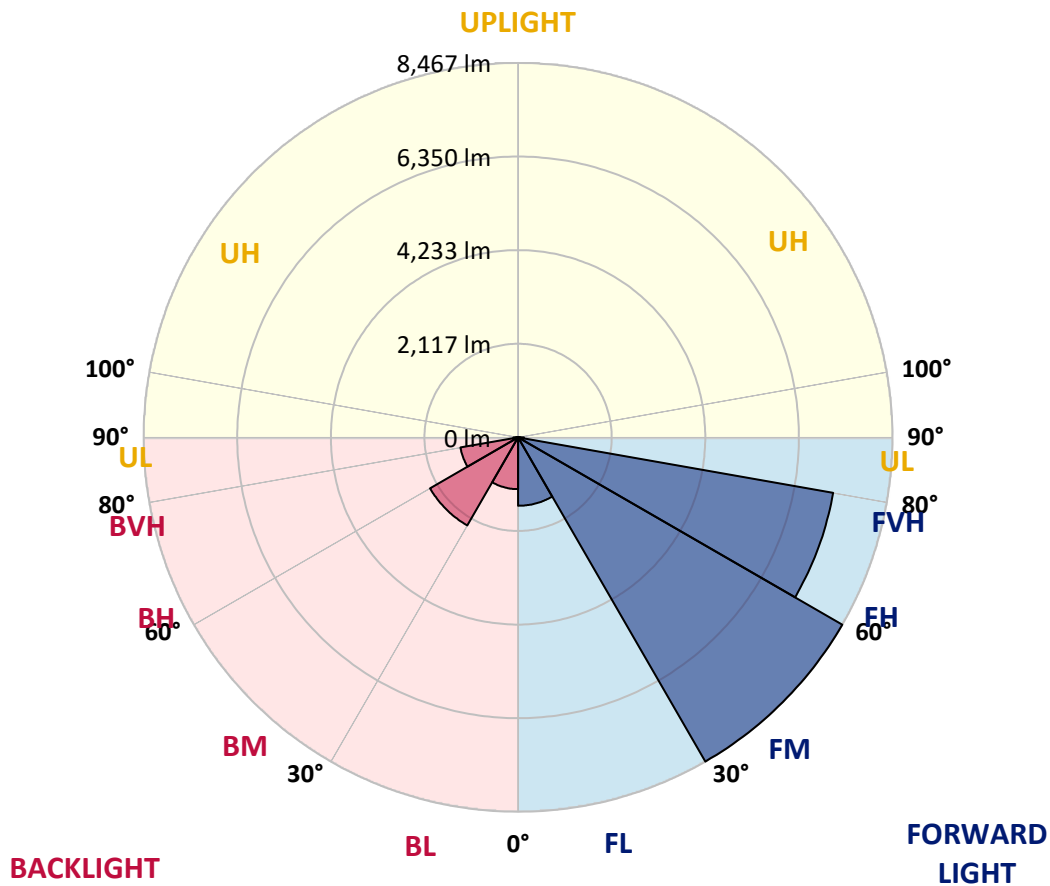
CATALOG NUMBER: GWS-SA3F-730-U-T3-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1547.6 | 6.9 | | | |
| FM (30°-60°) | 8466.8 | 38.0 | | | |
| FH (60°-80°) | 7234.8 | 32.5 | | | G3/7500 |
| FVH (80°-90°) | 132.5 | 0.6 | | | G2/225 |
| BL (0°-30°) | 1171.6 | 5.3 | B3/2500 | | |
| BM (30°-60°) | 2299.5 | 10.3 | B2/2500 | | |
| BH (60°-80°) | 1322.1 | 5.9 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 105.3 | 0.5 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 57° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 |
| 2.5° | 2722.9 | 2719.7 | 2718.1 | 2727.7 | 2724.5 | 2722.9 | 2722.9 | 2721.3 | 2718.1 | 2705.4 | 2687.8 |
| 5° | 2797.9 | 2791.6 | 2785.2 | 2793.2 | 2786.8 | 2780.4 | 2778.8 | 2775.6 | 2764.4 | 2745.3 | 2718.1 |
| 7.5° | 2876.2 | 2869.8 | 2871.4 | 2876.2 | 2871.4 | 2868.2 | 2863.4 | 2860.2 | 2842.6 | 2812.3 | 2775.6 |
| 10° | 2986.3 | 2986.3 | 2989.5 | 2994.3 | 2995.9 | 2991.1 | 2981.5 | 2976.7 | 2956.0 | 2917.7 | 2866.6 |
| 12.5° | 3145.9 | 3142.7 | 3142.7 | 3139.5 | 3144.3 | 3139.5 | 3129.9 | 3122.0 | 3096.4 | 3046.9 | 2973.5 |
| 15° | 3356.6 | 3343.8 | 3332.6 | 3311.9 | 3305.5 | 3287.9 | 3291.1 | 3286.4 | 3262.4 | 3195.4 | 3102.8 |
| 17.5° | 3581.6 | 3580.0 | 3562.5 | 3521.0 | 3479.5 | 3450.7 | 3457.1 | 3455.5 | 3442.8 | 3351.8 | 3233.7 |
| 20° | 3779.5 | 3787.5 | 3771.6 | 3739.6 | 3683.8 | 3629.5 | 3626.3 | 3634.3 | 3618.3 | 3527.4 | 3363.0 |
| 22.5° | 4001.4 | 3995.0 | 3979.1 | 3937.6 | 3896.1 | 3838.6 | 3819.4 | 3813.1 | 3806.7 | 3702.9 | 3495.4 |
| 25° | 4212.1 | 4231.2 | 4210.5 | 4172.2 | 4108.3 | 4046.1 | 4030.1 | 4036.5 | 4019.0 | 3881.7 | 3637.5 |
| 27.5° | 4478.6 | 4486.6 | 4473.8 | 4421.2 | 4366.9 | 4279.1 | 4248.8 | 4248.8 | 4242.4 | 4049.3 | 3749.2 |
| 30° | 4762.7 | 4785.1 | 4762.7 | 4719.6 | 4663.8 | 4537.7 | 4472.2 | 4465.9 | 4446.7 | 4221.7 | 3880.1 |
| 32.5° | 5048.4 | 5064.4 | 5048.4 | 5006.9 | 4943.1 | 4833.0 | 4738.8 | 4724.4 | 4698.9 | 4410.0 | 4014.2 |
| 35° | 5302.2 | 5316.6 | 5313.4 | 5323.0 | 5270.3 | 5131.4 | 5074.0 | 5067.6 | 5000.6 | 4655.8 | 4196.1 |
| 37.5° | 5579.9 | 5597.5 | 5573.5 | 5592.7 | 5572.0 | 5441.1 | 5423.5 | 5391.6 | 5295.8 | 4887.2 | 4387.7 |
| 40° | 5896.0 | 5911.9 | 5873.6 | 5881.6 | 5857.7 | 5784.2 | 5694.9 | 5651.8 | 5509.7 | 5137.8 | 4689.3 |
| 42.5° | 6234.3 | 6271.0 | 6288.6 | 6274.2 | 6218.4 | 6176.9 | 6020.5 | 5966.2 | 5848.1 | 5589.5 | 5185.7 |
| 45° | 6724.3 | 6778.6 | 6804.1 | 6767.4 | 6743.5 | 6684.4 | 6492.9 | 6427.5 | 6365.2 | 6226.3 | 5878.4 |
| 47.5° | 7252.6 | 7302.1 | 7383.5 | 7399.5 | 7418.6 | 7373.9 | 7104.2 | 7040.4 | 7051.5 | 7035.6 | 6730.7 |
| 50° | 7674.0 | 7715.5 | 7899.1 | 8095.4 | 8258.2 | 8270.9 | 7926.2 | 7857.6 | 7918.2 | 7969.3 | 7757.0 |
| 52.5° | 7980.5 | 8017.2 | 8259.8 | 8665.2 | 9033.9 | 9306.8 | 8934.9 | 8856.7 | 8906.2 | 9021.1 | 8923.7 |
| 55° | 8229.4 | 8280.5 | 8534.3 | 9156.8 | 9902.1 | 10333.1 | 10095.3 | 9996.3 | 9975.6 | 10117.6 | 10173.5 |
| 57.5° | 8360.3 | 8376.3 | 8732.2 | 9541.4 | 10539.0 | 11340.2 | 11444.0 | 11332.2 | 11134.3 | 11212.5 | 11503.0 |
| 60° | 8061.9 | 8089.0 | 8575.8 | 9640.4 | 11041.8 | 12339.4 | 12859.7 | 12767.1 | 12345.8 | 12388.9 | 12709.7 |
| 62.5° | 7236.7 | 7275.0 | 7860.7 | 9169.5 | 11083.3 | 13006.5 | 14166.9 | 14107.8 | 13542.8 | 13309.8 | 13405.6 |
| 65° | 5805.0 | 5817.8 | 6424.3 | 8004.4 | 10258.1 | 13089.5 | 15078.3 | 15063.9 | 14379.2 | 13833.3 | 13423.1 |
| 67.5° | 3310.3 | 3287.9 | 4098.8 | 5709.2 | 8465.7 | 12010.6 | 15137.3 | 15221.9 | 14650.5 | 13747.1 | 12305.9 |
| 70° | 1434.9 | 1438.1 | 1811.6 | 2817.1 | 5479.4 | 9707.4 | 14060.0 | 14205.2 | 13865.2 | 12312.2 | 9790.4 |
| 72.5° | 664.0 | 673.6 | 834.8 | 1219.4 | 2339.9 | 6022.0 | 11464.7 | 11595.6 | 11303.5 | 9854.3 | 7123.4 |
| 75° | 469.3 | 477.2 | 557.0 | 699.1 | 1075.8 | 2346.3 | 7669.2 | 7943.7 | 8085.8 | 7370.7 | 4694.1 |
| 77.5° | 355.9 | 367.1 | 407.0 | 485.2 | 664.0 | 831.6 | 3669.4 | 4323.8 | 5150.6 | 4585.6 | 2418.1 |
| 80° | 226.6 | 226.6 | 269.7 | 324.0 | 405.4 | 432.5 | 1059.8 | 1256.1 | 2520.2 | 1889.8 | 949.7 |
| 82.5° | 153.2 | 158.0 | 183.6 | 205.9 | 233.0 | 245.8 | 454.9 | 485.2 | 727.8 | 643.2 | 391.0 |
| 85° | 81.4 | 84.6 | 95.8 | 94.2 | 111.7 | 97.4 | 191.5 | 189.9 | 266.5 | 292.1 | 148.4 |
| 87.5° | 0.0 | 0.0 | 1.6 | 1.6 | 3.2 | 4.8 | 20.7 | 22.3 | 55.9 | 89.4 | 49.5 |
| 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: P636189
 CATALOG NUMBER: GWS-SA3F-730-U-T3-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 | 2684.6 |
| 2.5° | 2697.4 | 2678.2 | 2687.8 | 2684.6 | 2694.2 | 2694.2 | 2676.6 | 2671.9 | 2673.5 | 2654.3 | 2647.9 |
| 5° | 2721.3 | 2699.0 | 2703.8 | 2697.4 | 2707.0 | 2715.0 | 2707.0 | 2707.0 | 2716.5 | 2702.2 | 2694.2 |
| 7.5° | 2775.6 | 2750.1 | 2750.1 | 2742.1 | 2753.3 | 2759.6 | 2753.3 | 2762.8 | 2780.4 | 2766.0 | 2758.0 |
| 10° | 2861.8 | 2831.5 | 2833.1 | 2823.5 | 2828.3 | 2825.1 | 2799.5 | 2791.6 | 2796.4 | 2783.6 | 2777.2 |
| 12.5° | 2973.5 | 2932.0 | 2932.0 | 2912.9 | 2901.7 | 2868.2 | 2815.5 | 2796.4 | 2799.5 | 2788.4 | 2783.6 |
| 15° | 3080.5 | 3042.1 | 3034.2 | 2995.9 | 2944.8 | 2882.5 | 2834.7 | 2821.9 | 2825.1 | 2813.9 | 2805.9 |
| 17.5° | 3206.5 | 3157.1 | 3128.3 | 3058.1 | 2963.9 | 2900.1 | 2852.2 | 2821.9 | 2796.4 | 2770.8 | 2764.4 |
| 20° | 3323.1 | 3260.8 | 3208.1 | 3099.6 | 2984.7 | 2896.9 | 2807.5 | 2732.5 | 2670.3 | 2636.7 | 2628.8 |
| 22.5° | 3442.8 | 3363.0 | 3270.4 | 3128.3 | 2983.1 | 2839.4 | 2675.0 | 2561.7 | 2469.2 | 2419.7 | 2429.2 |
| 25° | 3556.1 | 3455.5 | 3329.4 | 3155.5 | 2932.0 | 2711.8 | 2488.3 | 2319.1 | 2213.8 | 2175.5 | 2164.3 |
| 27.5° | 3650.3 | 3525.8 | 3383.7 | 3142.7 | 2826.7 | 2528.2 | 2232.9 | 2044.6 | 1942.4 | 1899.3 | 1888.2 |
| 30° | 3755.6 | 3615.1 | 3461.9 | 3083.6 | 2660.7 | 2271.2 | 1944.0 | 1790.8 | 1717.4 | 1675.9 | 1677.5 |
| 32.5° | 3876.9 | 3730.1 | 3572.1 | 2970.3 | 2448.4 | 1993.5 | 1706.2 | 1600.9 | 1541.8 | 1500.3 | 1493.9 |
| 35° | 4039.7 | 3894.5 | 3645.5 | 2799.5 | 2178.7 | 1738.1 | 1543.4 | 1457.2 | 1383.8 | 1329.5 | 1318.4 |
| 37.5° | 4240.8 | 4141.9 | 3653.5 | 2571.3 | 1889.8 | 1562.6 | 1426.9 | 1334.3 | 1245.0 | 1173.1 | 1165.1 |
| 40° | 4585.6 | 4472.2 | 3588.0 | 2285.6 | 1644.0 | 1449.3 | 1329.5 | 1222.6 | 1118.9 | 1039.1 | 1027.9 |
| 42.5° | 5077.2 | 4844.1 | 3447.6 | 1963.2 | 1458.8 | 1359.9 | 1237.0 | 1101.3 | 996.0 | 940.1 | 932.1 |
| 45° | 5702.8 | 5259.1 | 3236.9 | 1659.9 | 1321.6 | 1272.1 | 1139.6 | 997.6 | 941.7 | 901.8 | 893.8 |
| 47.5° | 6469.0 | 5742.7 | 2994.3 | 1423.7 | 1214.6 | 1192.3 | 1040.7 | 962.4 | 913.0 | 879.4 | 871.5 |
| 50° | 7385.1 | 6358.8 | 2794.8 | 1238.6 | 1118.9 | 1099.7 | 1008.7 | 941.7 | 901.8 | 874.7 | 868.3 |
| 52.5° | 8430.6 | 7043.5 | 2697.4 | 1106.1 | 1035.9 | 1016.7 | 997.6 | 936.9 | 903.4 | 882.6 | 874.7 |
| 55° | 9515.9 | 7765.0 | 2606.4 | 1003.9 | 965.6 | 976.8 | 999.2 | 952.9 | 927.3 | 900.2 | 892.2 |
| 57.5° | 10564.5 | 8441.7 | 2383.0 | 924.1 | 914.6 | 957.7 | 1007.1 | 968.8 | 938.5 | 911.4 | 901.8 |
| 60° | 11287.6 | 8812.0 | 2004.7 | 860.3 | 876.3 | 933.7 | 986.4 | 944.9 | 906.6 | 895.4 | 890.6 |
| 62.5° | 11482.3 | 8767.3 | 1556.2 | 794.9 | 830.0 | 881.0 | 932.1 | 905.0 | 865.1 | 882.6 | 884.2 |
| 65° | 11027.4 | 8288.5 | 1168.3 | 731.0 | 769.3 | 812.4 | 876.3 | 865.1 | 850.7 | 898.6 | 900.2 |
| 67.5° | 9739.3 | 7112.2 | 890.6 | 675.1 | 707.1 | 759.7 | 858.7 | 905.0 | 908.2 | 968.8 | 962.4 |
| 70° | 7369.2 | 5313.4 | 697.5 | 622.5 | 659.2 | 759.7 | 914.6 | 935.3 | 897.0 | 952.9 | 940.1 |
| 72.5° | 5094.7 | 3506.6 | 593.7 | 576.2 | 600.1 | 724.6 | 913.0 | 913.0 | 871.5 | 871.5 | 847.5 |
| 75° | 3165.0 | 2062.1 | 517.1 | 517.1 | 517.1 | 633.6 | 887.4 | 841.1 | 767.7 | 734.2 | 715.0 |
| 77.5° | 1562.6 | 1002.3 | 434.1 | 450.1 | 432.5 | 529.9 | 724.6 | 687.9 | 643.2 | 608.1 | 595.3 |
| 80° | 667.2 | 501.2 | 351.1 | 368.7 | 347.9 | 399.0 | 574.6 | 566.6 | 523.5 | 477.2 | 462.9 |
| 82.5° | 306.4 | 258.6 | 280.9 | 288.9 | 253.8 | 300.1 | 419.8 | 419.8 | 395.8 | 332.0 | 308.0 |
| 85° | 130.9 | 137.3 | 194.7 | 194.7 | 159.6 | 169.2 | 225.0 | 213.9 | 191.5 | 156.4 | 143.6 |
| 87.5° | 44.7 | 67.0 | 99.0 | 86.2 | 33.5 | 14.4 | 8.0 | 3.2 | 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 |

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-2-R4

Test Date: 10/03/2019

Luminaire Tested: SA1C-730-U-5WQ

Data in this report applies to families of products SA1C-730-U-5WQ .

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-2-R4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/28/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: McGRAW-EDISON
 Catalog Number: **SA1C-730-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-2-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. (1) 70 CRI, 3000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

CCT (K): 2993
 CIE u': 0.2508
 CIE v': 0.5215
 Duv: 0.0000
 CIE x: 0.4374
 CIE y: 0.4043
 CIE z: 0.1583
 Peak Wavelength (nm): 593
 Dominant Wavelength (nm): 582
 Purity: 53

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.8 | | |
| R1: | 67.5 | R9: | -38.3 |
| R2: | 82.9 | R10: | 62.5 |
| R3: | 94.7 | R11: | 63.7 |
| R4: | 67.7 | R12: | 57.8 |
| R5: | 67.9 | R13: | 70.4 |
| R6: | 77.6 | R14: | 97.3 |
| R7: | 76.0 | | |
| R8: | 40.5 | | |

Rf: 75.7
 Rg: 93.9



Test Conditions

Stabilization Time: 53M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0./44%
 Sphere Temperature (°C): 25.7

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| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

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CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 3000K 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

REPORT NUMBER: SP1-1908-441-2-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 8494.8

S/P: 1.23

| 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

REPORT NUMBER: SP1-1908-441-2-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3101.5 M/P: 0.45

| 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

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Summary

$R_f = 75.7$
 $R_g = 93.9$
 CIE $R_a = 71.8$
 $R_9 = -38.3$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 67 | CES51 = 87 | CES76 = 63 |
| CES02 = 63 | CES27 = 88 | CES52 = 86 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 67 |
| CES04 = 71 | CES29 = 66 | CES54 = 84 | CES79 = 87 |
| CES05 = 49 | CES30 = 73 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 70 | CES56 = 75 | CES81 = 71 |
| CES07 = 41 | CES32 = 65 | CES57 = 74 | CES82 = 94 |
| CES08 = 40 | CES33 = 73 | CES58 = 76 | CES83 = 90 |
| CES09 = 29 | CES34 = 79 | CES59 = 85 | CES84 = 89 |
| CES10 = 76 | CES35 = 89 | CES60 = 93 | CES85 = 77 |
| CES11 = 59 | CES36 = 97 | CES61 = 84 | CES86 = 61 |
| CES12 = 65 | CES37 = 87 | CES62 = 91 | CES87 = 78 |
| CES13 = 43 | CES38 = 81 | CES63 = 77 | CES88 = 77 |
| CES14 = 74 | CES39 = 95 | CES64 = 72 | CES89 = 67 |
| CES15 = 71 | CES40 = 92 | CES65 = 68 | CES90 = 76 |
| CES16 = 47 | CES41 = 88 | CES66 = 69 | CES91 = 89 |
| CES17 = 50 | CES42 = 89 | CES67 = 67 | CES92 = 58 |
| CES18 = 56 | CES43 = 79 | CES68 = 72 | CES93 = 74 |
| CES19 = 73 | CES44 = 99 | CES69 = 81 | CES94 = 49 |
| CES20 = 66 | CES45 = 85 | CES70 = 66 | CES95 = 68 |
| CES21 = 87 | CES46 = 80 | CES71 = 67 | CES96 = 76 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 69 | CES73 = 59 | CES98 = 75 |
| CES24 = 91 | CES49 = 80 | CES74 = 95 | CES99 = 62 |
| CES25 = 73 | CES50 = 87 | CES75 = 69 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)