

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: P629946

Luminaire Tested: GWS-SA1C-760-U-SL2-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P629946
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-30)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1C-760-U-SL2-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: (16) 5700K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3844.1 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G1

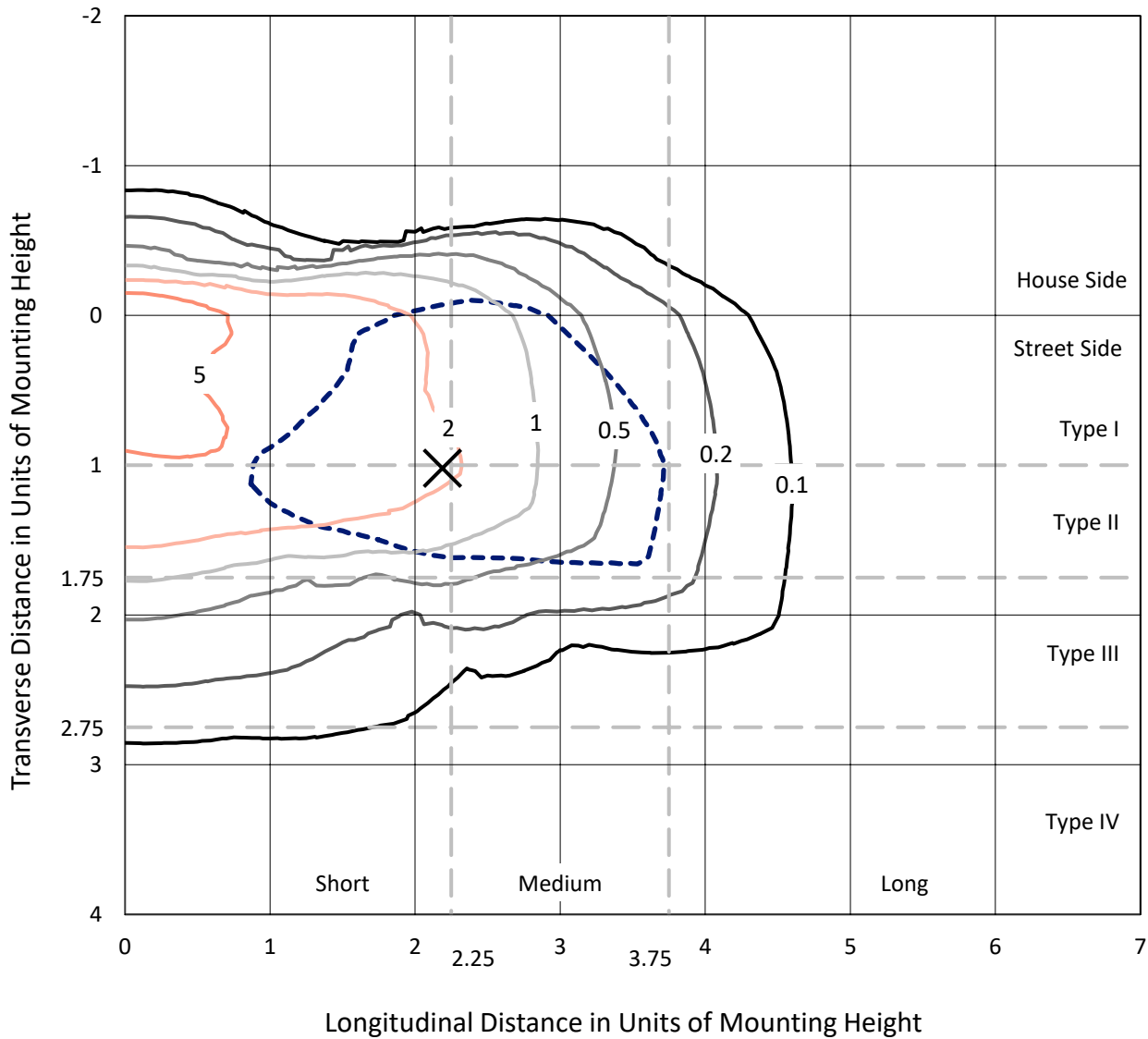
Input Watts (W): 34.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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 CATALOG NUMBER: GWS-SA1C-760-U-SL2-W-HSS

Iso-Footcandle Lines of Horizontal Illumination

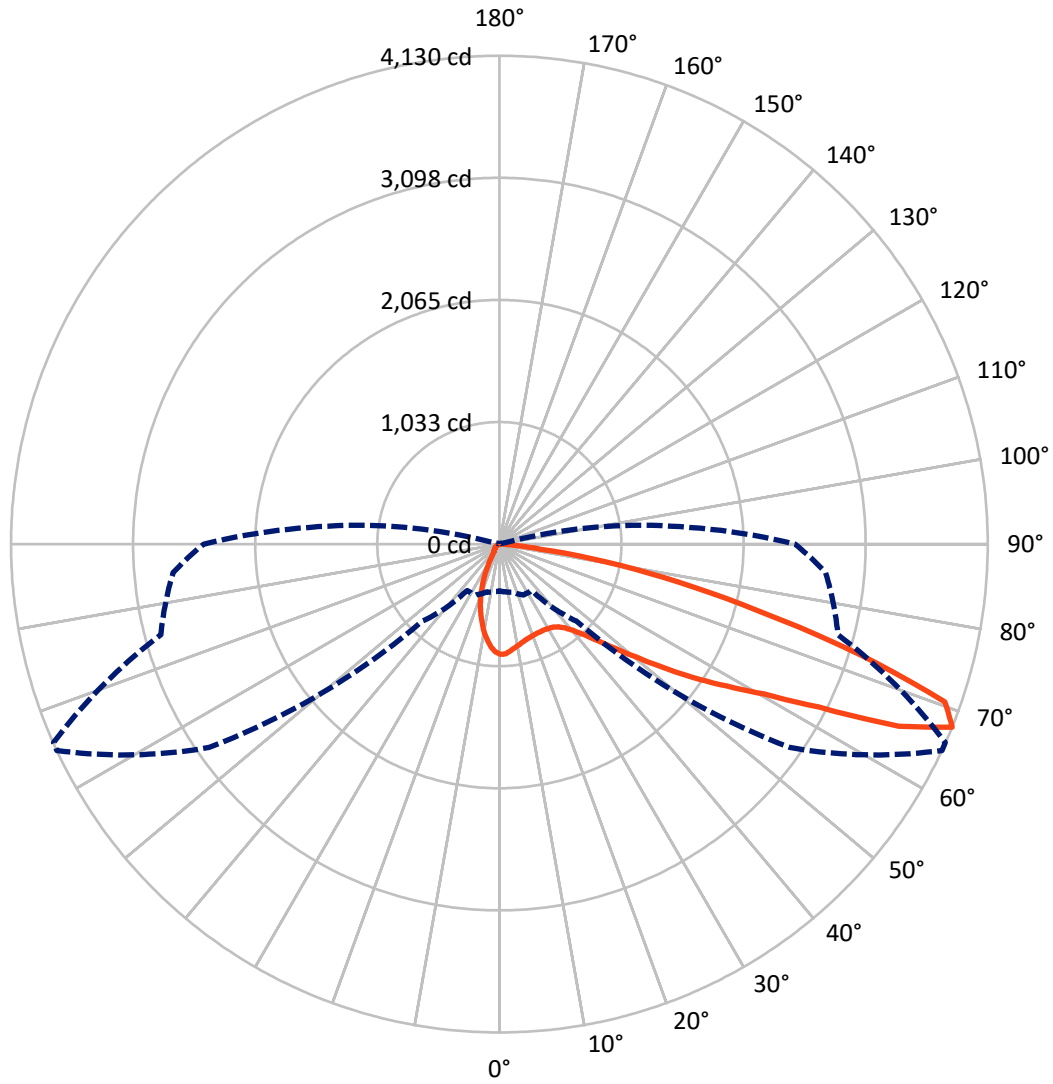
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.3 fc
 Type II - Short - N/A

REPORT NUMBER: P629946
CATALOG NUMBER: GWS-SA1C-760-U-SL2-W-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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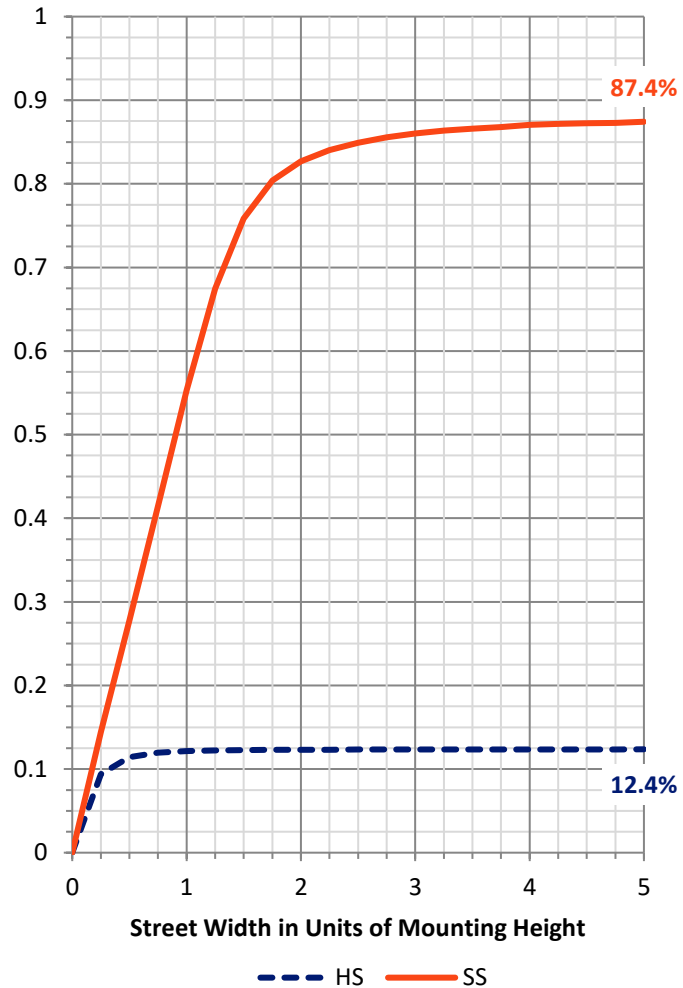
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 480.0 | 0.0 | 480.0 |
| | % Fixture | 12.5 | 0.0 | 12.5 |
| Street Side | Lumens | 3364.1 | 0.0 | 3364.1 |
| | % Fixture | 87.5 | 0.0 | 87.5 |
| Total | Lumens | 3844.1 | 0.0 | 3844.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 77.4 | 2.0 |
| 10°-20° | 174.1 | 4.5 |
| 20°-30° | 248.7 | 6.5 |
| 30°-40° | 361.9 | 9.4 |
| 40°-50° | 566.8 | 14.7 |
| 50°-60° | 884.2 | 23.0 |
| 60°-70° | 971.2 | 25.3 |
| 70°-80° | 516.9 | 13.4 |
| 80°-90° | 43.0 | 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° | 3844.1 | 100.0 |
| 0°-180° | 3844.1 | 100.0 |

Coefficient of Utilization

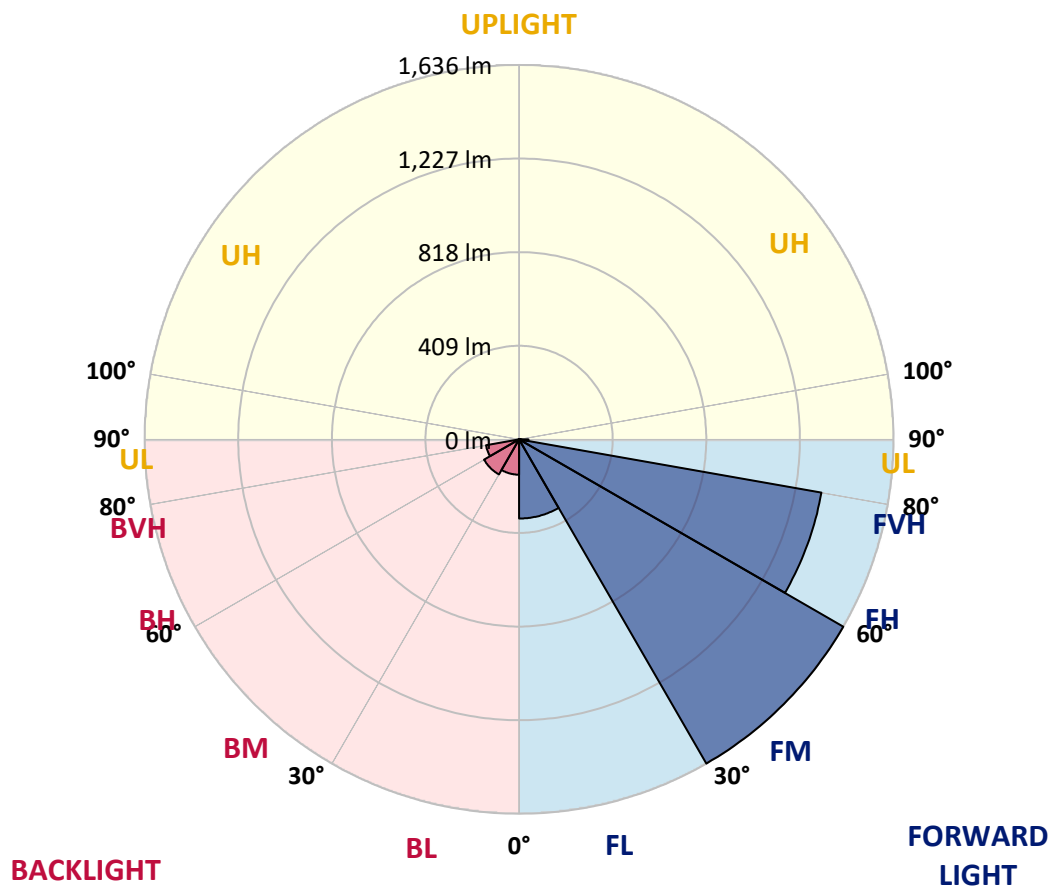


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 345.9 | 9.0 | | | |
| FM (30°-60°) | 1636.0 | 42.6 | | | |
| FH (60°-80°) | 1341.4 | 34.9 | | | G1/1800 |
| FVH (80°-90°) | 40.7 | 1.1 | | | G1/100 |
| BL (0°-30°) | 154.3 | 4.0 | B1/500 | | |
| BM (30°-60°) | 176.8 | 4.6 | B0/220 | | |
| BH (60°-80°) | 146.6 | 3.8 | B1/500 | | G1/500 |
| BVH (80°-90°) | 2.3 | 0.1 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 |
| 2.5° | 900.0 | 902.8 | 898.9 | 908.3 | 910.1 | 920.5 | 926.4 | 930.6 | 930.2 | 935.4 | 935.4 |
| 5° | 847.1 | 849.9 | 847.8 | 857.9 | 865.9 | 882.3 | 895.8 | 911.5 | 912.2 | 928.1 | 934.1 |
| 7.5° | 802.3 | 802.7 | 802.7 | 815.2 | 825.6 | 845.8 | 865.9 | 889.9 | 892.7 | 917.4 | 933.0 |
| 10° | 765.5 | 766.5 | 766.8 | 781.1 | 792.6 | 816.9 | 842.6 | 871.5 | 874.6 | 908.0 | 932.3 |
| 12.5° | 740.1 | 740.4 | 741.8 | 756.8 | 769.3 | 794.7 | 820.7 | 853.8 | 857.9 | 897.2 | 929.2 |
| 15° | 727.9 | 727.2 | 727.9 | 740.4 | 752.9 | 777.3 | 804.0 | 839.5 | 844.0 | 888.2 | 929.5 |
| 17.5° | 727.2 | 726.2 | 725.5 | 734.9 | 742.9 | 764.4 | 791.5 | 830.1 | 835.0 | 884.0 | 933.4 |
| 20° | 737.3 | 736.6 | 733.1 | 737.3 | 739.0 | 756.8 | 783.5 | 822.8 | 827.7 | 883.3 | 941.7 |
| 22.5° | 763.7 | 762.0 | 756.8 | 752.9 | 743.6 | 754.0 | 778.0 | 817.6 | 823.2 | 885.0 | 952.5 |
| 25° | 803.0 | 802.3 | 795.7 | 786.3 | 762.3 | 758.2 | 778.3 | 817.6 | 822.8 | 887.1 | 963.9 |
| 27.5° | 862.1 | 857.9 | 849.6 | 833.2 | 798.8 | 774.5 | 785.3 | 819.7 | 824.9 | 889.9 | 973.3 |
| 30° | 922.2 | 921.9 | 919.1 | 902.4 | 851.3 | 805.8 | 799.9 | 825.2 | 830.1 | 892.3 | 982.0 |
| 32.5° | 984.5 | 985.5 | 992.5 | 979.6 | 923.6 | 852.4 | 826.3 | 836.7 | 840.2 | 897.2 | 989.7 |
| 35° | 1043.6 | 1045.6 | 1064.1 | 1068.6 | 1011.6 | 922.9 | 869.4 | 859.7 | 860.0 | 908.0 | 999.8 |
| 37.5° | 1100.2 | 1107.2 | 1136.7 | 1158.6 | 1121.1 | 1008.4 | 931.6 | 898.6 | 895.8 | 929.5 | 1015.0 |
| 40° | 1164.5 | 1177.7 | 1214.9 | 1252.1 | 1240.3 | 1121.4 | 1016.4 | 958.4 | 952.5 | 969.2 | 1042.5 |
| 42.5° | 1235.8 | 1250.0 | 1299.4 | 1351.5 | 1357.1 | 1258.0 | 1122.5 | 1045.6 | 1035.6 | 1035.9 | 1094.0 |
| 45° | 1312.3 | 1331.4 | 1388.7 | 1463.8 | 1497.5 | 1410.3 | 1253.2 | 1163.5 | 1153.4 | 1138.5 | 1176.7 |
| 47.5° | 1412.7 | 1429.4 | 1484.7 | 1571.2 | 1635.9 | 1573.7 | 1424.5 | 1315.0 | 1296.6 | 1274.7 | 1305.3 |
| 50° | 1499.3 | 1513.9 | 1561.5 | 1670.0 | 1804.5 | 1784.3 | 1618.9 | 1504.5 | 1486.8 | 1449.6 | 1474.9 |
| 52.5° | 1518.4 | 1529.9 | 1573.7 | 1695.7 | 1933.5 | 2050.3 | 1857.0 | 1733.6 | 1721.1 | 1652.2 | 1662.0 |
| 55° | 1432.5 | 1449.9 | 1489.2 | 1624.8 | 1967.2 | 2310.3 | 2166.0 | 1991.9 | 1965.8 | 1855.9 | 1873.3 |
| 57.5° | 1215.6 | 1246.6 | 1283.4 | 1459.7 | 1875.8 | 2448.6 | 2597.8 | 2265.4 | 2241.8 | 2052.0 | 2052.3 |
| 60° | 890.9 | 916.0 | 940.7 | 1102.0 | 1658.8 | 2439.2 | 2989.5 | 2572.7 | 2529.6 | 2212.3 | 2206.3 |
| 62.5° | 648.0 | 660.8 | 660.5 | 717.8 | 1139.1 | 2278.6 | 3195.3 | 3035.8 | 2935.3 | 2383.6 | 2349.9 |
| 65° | 509.6 | 509.3 | 524.2 | 543.0 | 636.1 | 1759.0 | 3220.7 | 3711.9 | 3603.4 | 2613.4 | 2543.2 |
| 67.5° | 396.6 | 404.3 | 419.2 | 474.5 | 478.0 | 920.5 | 2997.5 | 4130.1 | 4128.0 | 2964.2 | 2769.5 |
| 70° | 305.9 | 316.3 | 337.5 | 418.2 | 441.5 | 515.2 | 2242.8 | 3997.6 | 4031.3 | 3120.9 | 2609.2 |
| 72.5° | 196.4 | 195.7 | 227.0 | 337.9 | 424.1 | 429.3 | 1240.3 | 3175.5 | 3213.7 | 2826.8 | 2109.7 |
| 75° | 109.8 | 110.5 | 128.3 | 206.8 | 395.2 | 403.9 | 614.2 | 2264.4 | 2294.6 | 2203.9 | 1620.9 |
| 77.5° | 43.1 | 44.5 | 60.1 | 108.8 | 260.7 | 360.8 | 365.0 | 1544.1 | 1548.6 | 1365.8 | 994.2 |
| 80° | 17.4 | 18.4 | 30.6 | 67.4 | 158.9 | 243.0 | 260.7 | 909.7 | 891.3 | 528.7 | 289.2 |
| 82.5° | 5.2 | 5.6 | 12.2 | 38.2 | 83.1 | 172.8 | 175.9 | 349.0 | 329.5 | 113.7 | 73.7 |
| 85° | 0.3 | 0.3 | 2.8 | 11.8 | 29.5 | 43.5 | 117.1 | 113.7 | 100.8 | 28.5 | 32.7 |
| 87.5° | 0.0 | 0.0 | 0.3 | 0.3 | 0.7 | 1.4 | 12.5 | 20.9 | 21.2 | 5.2 | 14.6 |
| 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: P629946

CATALOG NUMBER: GWS-SA1C-760-U-SL2-W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 | 932.3 |
| 2.5° | 935.4 | 922.9 | 921.9 | 912.2 | 902.4 | 890.3 | 876.0 | 865.6 | 858.3 | 845.4 | 843.0 |
| 5° | 934.1 | 917.4 | 901.7 | 873.9 | 843.0 | 809.6 | 780.4 | 753.3 | 736.3 | 724.8 | 719.9 |
| 7.5° | 931.3 | 910.1 | 873.9 | 821.4 | 769.6 | 711.2 | 665.7 | 624.0 | 595.5 | 578.8 | 571.5 |
| 10° | 929.2 | 900.7 | 841.9 | 762.3 | 682.0 | 601.4 | 532.2 | 470.3 | 435.9 | 408.8 | 404.3 |
| 12.5° | 925.0 | 887.1 | 800.9 | 693.2 | 589.6 | 482.5 | 394.2 | 318.4 | 265.9 | 242.3 | 233.9 |
| 15° | 920.8 | 872.9 | 759.9 | 620.2 | 488.8 | 356.7 | 249.6 | 176.6 | 140.4 | 129.3 | 128.6 |
| 17.5° | 920.1 | 860.0 | 715.4 | 551.0 | 383.1 | 233.6 | 142.2 | 114.4 | 106.7 | 103.9 | 103.9 |
| 20° | 922.2 | 849.2 | 671.6 | 471.4 | 279.1 | 142.2 | 106.0 | 99.1 | 94.6 | 92.1 | 92.1 |
| 22.5° | 924.3 | 838.1 | 629.5 | 391.1 | 185.3 | 103.9 | 93.5 | 87.6 | 82.4 | 79.6 | 78.2 |
| 25° | 925.7 | 825.9 | 583.0 | 310.4 | 121.0 | 90.4 | 82.0 | 74.4 | 68.1 | 64.7 | 64.7 |
| 27.5° | 925.4 | 811.3 | 536.0 | 231.5 | 93.9 | 80.3 | 70.2 | 62.2 | 56.0 | 52.1 | 52.5 |
| 30° | 922.6 | 795.4 | 487.4 | 161.6 | 82.0 | 70.2 | 60.1 | 51.8 | 45.5 | 42.4 | 42.1 |
| 32.5° | 920.5 | 778.3 | 431.0 | 113.7 | 73.7 | 61.5 | 51.1 | 43.1 | 37.9 | 35.5 | 35.1 |
| 35° | 918.1 | 761.6 | 377.5 | 86.6 | 66.4 | 53.2 | 43.1 | 36.5 | 32.3 | 30.2 | 30.2 |
| 37.5° | 918.8 | 744.3 | 319.5 | 74.4 | 59.1 | 46.2 | 36.8 | 31.3 | 27.8 | 25.7 | 25.4 |
| 40° | 929.5 | 733.8 | 262.5 | 67.4 | 52.5 | 40.0 | 32.0 | 27.1 | 23.6 | 21.6 | 21.2 |
| 42.5° | 956.3 | 734.2 | 207.9 | 62.2 | 46.6 | 34.1 | 27.8 | 23.3 | 20.2 | 17.7 | 17.4 |
| 45° | 1009.8 | 748.8 | 159.6 | 56.7 | 40.3 | 29.5 | 24.0 | 19.8 | 16.7 | 14.6 | 14.3 |
| 47.5° | 1097.4 | 792.2 | 121.0 | 51.8 | 35.1 | 25.7 | 20.5 | 16.7 | 13.9 | 12.2 | 11.8 |
| 50° | 1236.8 | 870.8 | 95.2 | 45.9 | 29.5 | 22.2 | 17.4 | 13.9 | 11.5 | 9.7 | 9.4 |
| 52.5° | 1404.4 | 988.6 | 81.7 | 40.7 | 25.4 | 19.5 | 14.9 | 11.5 | 9.4 | 8.0 | 7.6 |
| 55° | 1597.0 | 1129.4 | 75.4 | 35.5 | 21.6 | 16.7 | 12.2 | 9.4 | 7.6 | 6.6 | 5.9 |
| 57.5° | 1773.6 | 1256.3 | 75.1 | 30.2 | 18.4 | 14.3 | 10.1 | 8.0 | 6.6 | 5.2 | 4.9 |
| 60° | 1945.6 | 1362.3 | 70.6 | 25.0 | 16.0 | 11.8 | 8.7 | 6.6 | 5.6 | 4.5 | 4.2 |
| 62.5° | 2101.7 | 1448.5 | 59.1 | 20.2 | 13.6 | 9.7 | 7.3 | 5.9 | 4.9 | 3.8 | 3.8 |
| 65° | 2297.8 | 1558.4 | 45.2 | 16.3 | 11.1 | 8.0 | 6.3 | 5.2 | 4.5 | 3.5 | 3.5 |
| 67.5° | 2500.4 | 1616.4 | 32.3 | 13.6 | 9.0 | 7.0 | 5.6 | 4.9 | 3.8 | 3.1 | 3.1 |
| 70° | 2264.7 | 1365.8 | 23.3 | 11.1 | 7.6 | 5.9 | 4.9 | 4.5 | 3.8 | 3.1 | 2.8 |
| 72.5° | 1768.7 | 984.8 | 17.4 | 8.7 | 6.6 | 5.6 | 4.5 | 4.2 | 3.5 | 2.8 | 2.8 |
| 75° | 1311.6 | 574.3 | 13.2 | 7.0 | 5.2 | 4.5 | 4.5 | 4.2 | 3.5 | 2.8 | 2.4 |
| 77.5° | 713.0 | 200.2 | 10.1 | 5.6 | 4.2 | 3.5 | 3.8 | 3.8 | 3.1 | 2.4 | 2.1 |
| 80° | 188.8 | 54.9 | 7.0 | 4.2 | 3.5 | 2.8 | 2.8 | 3.5 | 2.8 | 2.1 | 2.1 |
| 82.5° | 54.9 | 16.0 | 4.9 | 3.5 | 2.8 | 2.4 | 2.4 | 2.4 | 2.1 | 1.7 | 1.4 |
| 85° | 26.8 | 5.9 | 3.5 | 2.8 | 2.4 | 2.1 | 1.7 | 1.7 | 1.4 | 1.0 | 1.0 |
| 87.5° | 11.8 | 2.4 | 2.8 | 2.4 | 2.4 | 1.7 | 1.4 | 1.0 | 1.0 | 0.7 | 0.3 |
| 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: SP1-1908-441-9-R4

Test Date: 10/23/2019

Luminaire Tested: SA1C-760-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-9-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-760-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

CCT (K): 5474
 CIE u': 0.2052
 CIE v': 0.4804
 Duv: 0.0025
 CIE x: 0.3330
 CIE y: 0.3466
 CIE z: 0.3204
 Peak Wavelength (nm): 442
 Dominant Wavelength (nm): 554
 Purity: 4.1

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.7 | | |
| R1: | 70.6 | R9: | -27.1 |
| R2: | 74.6 | R10: | 40.8 |
| R3: | 78.3 | R11: | 74.6 |
| R4: | 73.8 | R12: | 50.4 |
| R5: | 72.4 | R13: | 70.0 |
| R6: | 67.5 | R14: | 87.8 |
| R7: | 77.5 | | |
| R8: | 58.9 | | |

Rf: 72.1
 Rg: 97.2



Test Conditions

Stabilization Time: 240M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.6/31%
 Sphere Temperature (°C): 25.9

REPORT NUMBER: SP1-1908-441-9-R4

| 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 5700K 4-step quadrangle

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Photopic Flux vs. Wavelength



#####

| 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 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

REPORT NUMBER: SP1-1908-441-9-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 13759.3 S/P: 1.85

| 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 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

REPORT NUMBER: SP1-1908-441-9-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 5527.6 M/P: 0.74

| 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 | 3540 | NR | 490 | 33363 | NR | 620 | 80193 | NR | 750 | 4663 | NR | 880 | 4678 | NR |
| 365 | 2862 | NR | 495 | 44177 | NR | 625 | 73091 | NR | 755 | 4147 | NR | 885 | 4128 | NR |
| 370 | 2865 | NR | 500 | 57019 | NR | 630 | 66269 | NR | 760 | 4040 | NR | 890 | 4504 | NR |
| 375 | 3254 | NR | 505 | 70030 | NR | 635 | 60012 | NR | 765 | 3474 | NR | 895 | 4371 | NR |
| 380 | 3076 | NR | 510 | 81972 | NR | 640 | 53914 | NR | 770 | 3469 | NR | 900 | 4082 | NR |
| 385 | 2904 | NR | 515 | 92590 | NR | 645 | 48385 | NR | 775 | 3181 | NR | 905 | 2982 | NR |
| 390 | 2689 | NR | 520 | 100305 | NR | 650 | 43219 | NR | 780 | 2969 | NR | 910 | 4351 | NR |
| 395 | 2619 | NR | 525 | 107452 | NR | 655 | 38562 | NR | 785 | 3132 | NR | 915 | 3365 | NR |
| 400 | 2679 | NR | 530 | 111373 | NR | 660 | 34110 | NR | 790 | 2507 | NR | 920 | 3430 | NR |
| 405 | 3515 | NR | 535 | 114505 | NR | 665 | 30085 | NR | 795 | 2968 | NR | 925 | 4264 | NR |
| 410 | 6934 | NR | 540 | 116408 | NR | 670 | 26205 | NR | 800 | 2758 | NR | 930 | 4095 | NR |
| 415 | 14943 | NR | 545 | 118700 | NR | 675 | 22906 | NR | 805 | 2872 | NR | 935 | 5048 | NR |
| 420 | 31939 | NR | 550 | 119209 | NR | 680 | 20058 | NR | 810 | 3094 | NR | 940 | 4074 | NR |
| 425 | 64701 | NR | 555 | 120742 | NR | 685 | 17413 | NR | 815 | 3222 | NR | 945 | 4949 | NR |
| 430 | 110939 | NR | 560 | 121594 | NR | 690 | 15447 | NR | 820 | 3238 | NR | 950 | 4387 | NR |
| 435 | 164597 | NR | 565 | 121913 | NR | 695 | 13398 | NR | 825 | 3524 | NR | 955 | 4978 | NR |
| 440 | 207696 | NR | 570 | 122147 | NR | 700 | 11777 | NR | 830 | 2921 | NR | 960 | 4706 | NR |
| 445 | 201830 | NR | 575 | 121605 | NR | 705 | 10412 | NR | 835 | 3595 | NR | 965 | 5083 | NR |
| 450 | 145410 | NR | 580 | 120248 | NR | 710 | 9544 | NR | 840 | 3016 | NR | 970 | 4522 | NR |
| 455 | 89594 | NR | 585 | 117717 | NR | 715 | 8940 | NR | 845 | 4032 | NR | 975 | 4740 | NR |
| 460 | 58321 | NR | 590 | 114359 | NR | 720 | 7897 | NR | 850 | 3579 | NR | 980 | 6122 | NR |
| 465 | 39318 | NR | 595 | 109974 | NR | 725 | 7045 | NR | 855 | 4571 | NR | 985 | 6450 | NR |
| 470 | 27693 | NR | 600 | 105269 | NR | 730 | 6483 | NR | 860 | 4485 | NR | 990 | 4875 | NR |
| 475 | 23081 | NR | 605 | 99453 | NR | 735 | 5838 | NR | 865 | 3978 | NR | 995 | 4764 | NR |
| 480 | 23002 | NR | 610 | 92921 | NR | 740 | 5261 | NR | 870 | 4298 | NR | 1000 | 3640 | NR |
| 485 | 26201 | NR | 615 | 86989 | NR | 745 | 4760 | NR | 875 | 4356 | NR | | | |

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Summary

$R_f = 72.1$
 $R_g = 97.2$
 CIE $R_a = 71.7$
 $R_g = -27.1$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 54 | CES51 = 88 | CES76 = 43 |
| CES02 = 59 | CES27 = 79 | CES52 = 90 | CES77 = 64 |
| CES03 = 30 | CES28 = 77 | CES53 = 77 | CES78 = 46 |
| CES04 = 69 | CES29 = 50 | CES54 = 81 | CES79 = 74 |
| CES05 = 46 | CES30 = 59 | CES55 = 80 | CES80 = 70 |
| CES06 = 50 | CES31 = 55 | CES56 = 70 | CES81 = 71 |
| CES07 = 38 | CES32 = 52 | CES57 = 68 | CES82 = 88 |
| CES08 = 38 | CES33 = 63 | CES58 = 70 | CES83 = 82 |
| CES09 = 29 | CES34 = 63 | CES59 = 88 | CES84 = 87 |
| CES10 = 72 | CES35 = 79 | CES60 = 92 | CES85 = 84 |
| CES11 = 55 | CES36 = 90 | CES61 = 88 | CES86 = 76 |
| CES12 = 61 | CES37 = 72 | CES62 = 81 | CES87 = 75 |
| CES13 = 41 | CES38 = 68 | CES63 = 75 | CES88 = 77 |
| CES14 = 74 | CES39 = 91 | CES64 = 72 | CES89 = 76 |
| CES15 = 70 | CES40 = 83 | CES65 = 65 | CES90 = 76 |
| CES16 = 46 | CES41 = 84 | CES66 = 66 | CES91 = 92 |
| CES17 = 48 | CES42 = 70 | CES67 = 64 | CES92 = 70 |
| CES18 = 55 | CES43 = 69 | CES68 = 71 | CES93 = 83 |
| CES19 = 70 | CES44 = 98 | CES69 = 80 | CES94 = 60 |
| CES20 = 64 | CES45 = 79 | CES70 = 58 | CES95 = 73 |
| CES21 = 85 | CES46 = 78 | CES71 = 55 | CES96 = 79 |
| CES22 = 77 | CES47 = 76 | CES72 = 84 | CES97 = 84 |
| CES23 = 91 | CES48 = 68 | CES73 = 47 | CES98 = 73 |
| CES24 = 90 | CES49 = 78 | CES74 = 94 | CES99 = 62 |
| CES25 = 71 | CES50 = 87 | CES75 = 51 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)