

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: P641817

Luminaire Tested: GWS-SA6B-760-U-AFL-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P641817
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-46)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA6B-760-U-AFL-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (96) 5700K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16087.9 lumens
Efficiency: N/A
Efficacy: 115.8 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G0

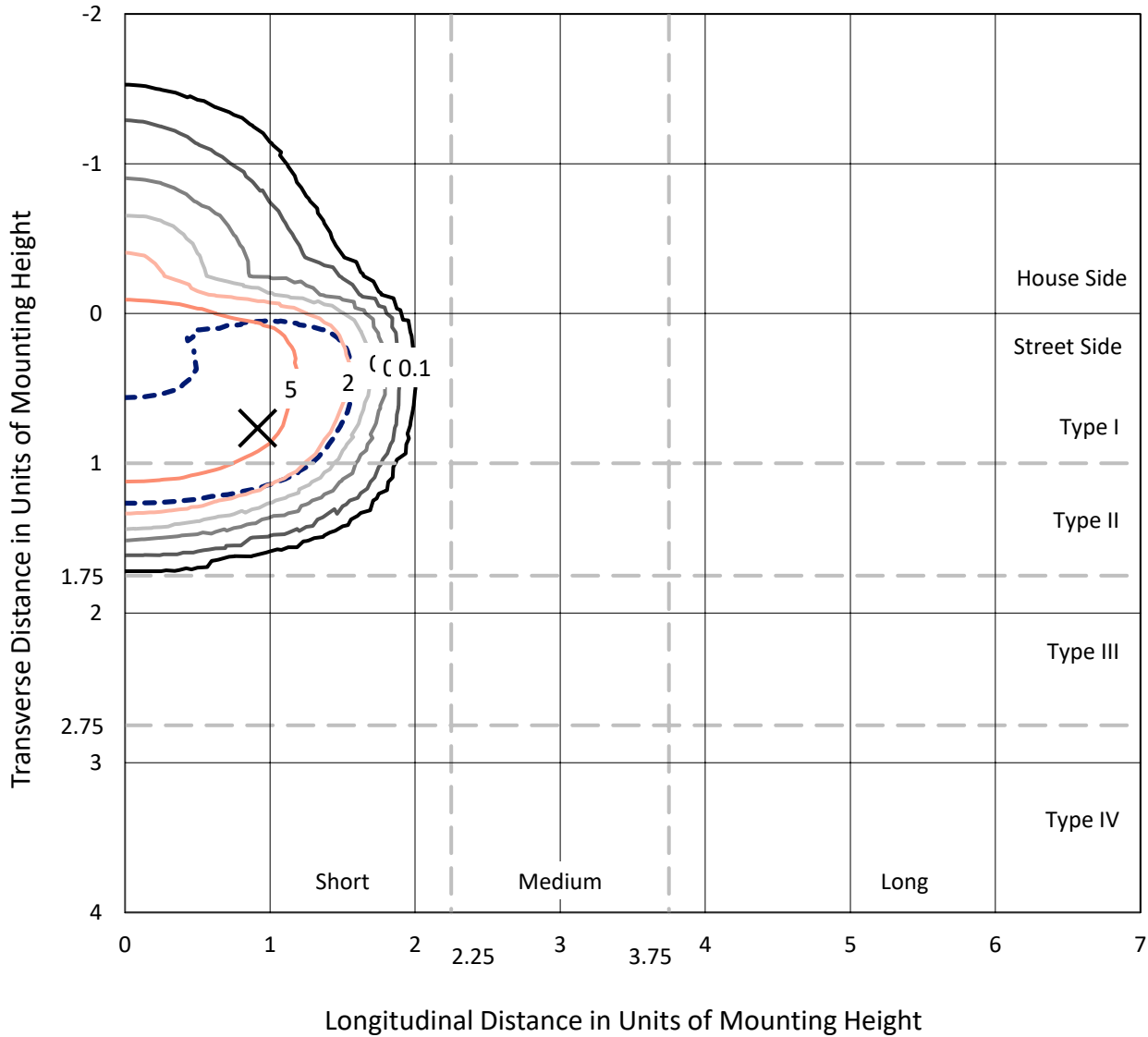
Input Watts (W): 138.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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 CATALOG NUMBER: GWS-SA6B-760-U-AFL-W-GRSBK

Iso-Footcandle Lines of Horizontal Illumination

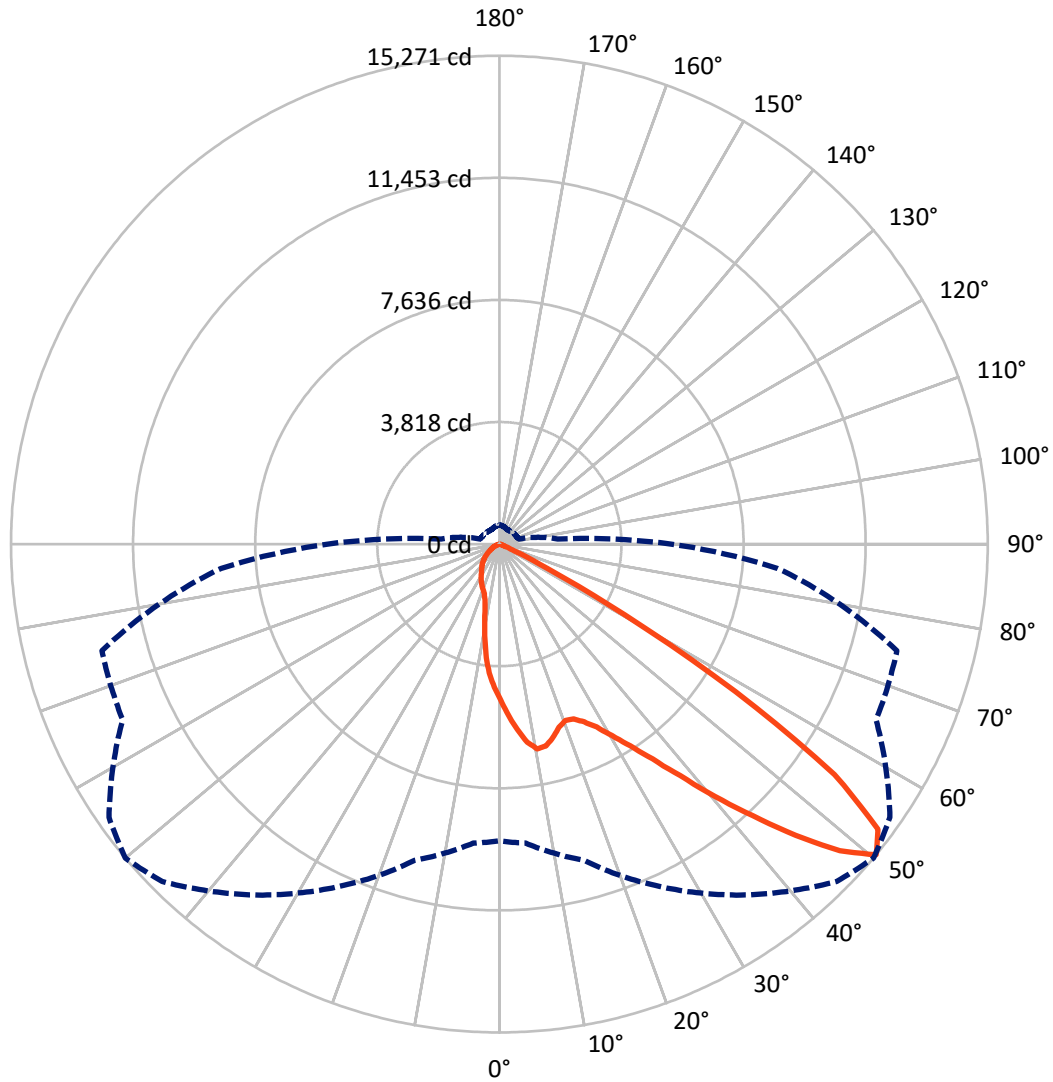
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10 fc
 Type II - Short - N/A

REPORT NUMBER: P641817
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Luminous Intensity Polar Plot



— Vertical Plane Through 50-Deg Lateral - - - Horizontal Cone Through 50-Deg Vertical

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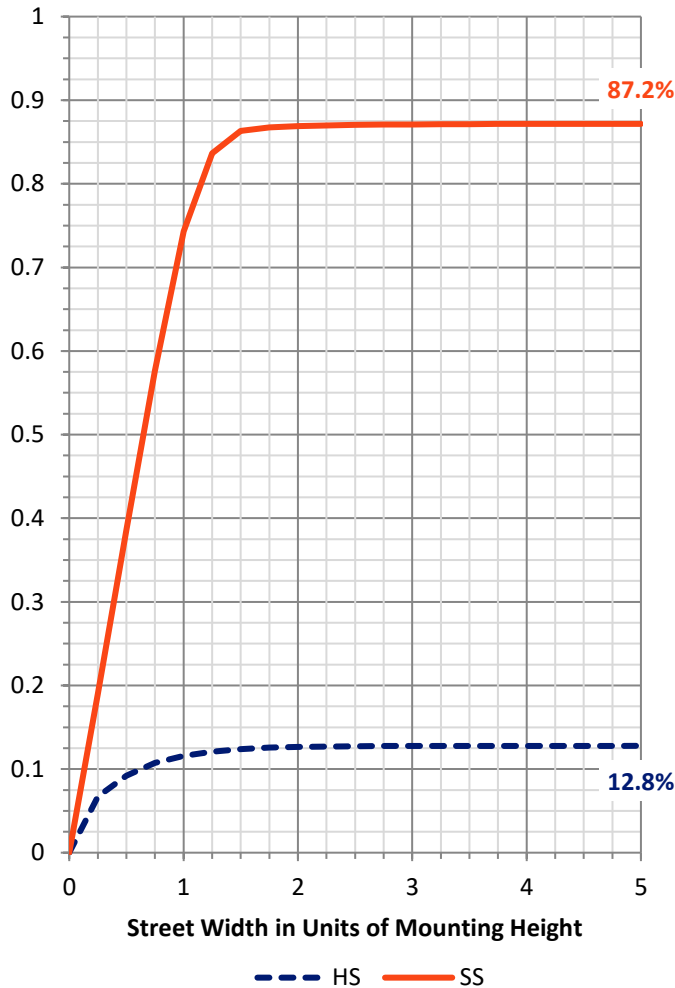
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2067.1 | 0.0 | 2067.1 |
| | % Fixture | 12.8 | 0.0 | 12.8 |
| Street Side | Lumens | 14020.9 | 0.0 | 14020.9 |
| | % Fixture | 87.2 | 0.0 | 87.2 |
| Total | Lumens | 16087.9 | 0.0 | 16087.9 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 452.1 | 2.8 |
| 10°-20° | 1166.5 | 7.3 |
| 20°-30° | 1925.2 | 12.0 |
| 30°-40° | 3177.0 | 19.7 |
| 40°-50° | 5026.8 | 31.2 |
| 50°-60° | 3805.9 | 23.7 |
| 60°-70° | 476.3 | 3.0 |
| 70°-80° | 53.9 | 0.3 |
| 80°-90° | 4.1 | 0.0 |
| 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° | 16087.9 | 100.0 |
| 0°-180° | 16087.9 | 100.0 |

Coefficient of Utilization



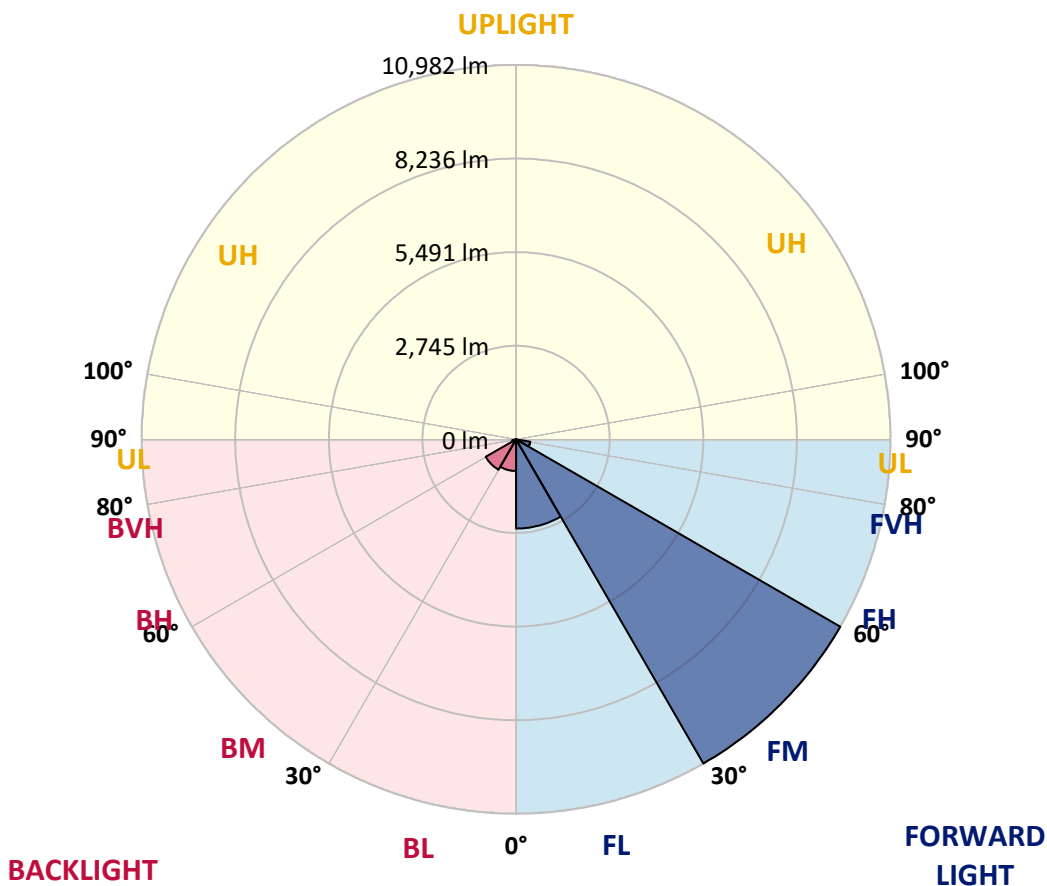
REPORT NUMBER: P641817

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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°) | 2616.1 | 16.3 | | | |
| FM (30°-60°) | 10981.7 | 68.3 | | | |
| FH (60°-80°) | 421.1 | 2.6 | | | G0/660 |
| FVH (80°-90°) | 1.9 | 0.0 | | | G0/10 |
| BL (0°-30°) | 927.8 | 5.8 | B2/1000 | | |
| BM (30°-60°) | 1028.0 | 6.4 | B2/2500 | | |
| BH (60°-80°) | 109.1 | 0.7 | B0/110 | | G0/110 |
| BVH (80°-90°) | 2.2 | 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-G0
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 50° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| 0° | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 |
| 2.5° | 5553.9 | 5598.3 | 5586.0 | 5527.8 | 5465.1 | 5420.7 | 5351.7 | 5330.3 | 5174.1 | 5065.4 | 4950.6 |
| 5° | 6224.6 | 6238.3 | 6223.0 | 6152.6 | 6042.3 | 5936.7 | 5823.4 | 5757.5 | 5495.7 | 5259.9 | 5019.5 |
| 7.5° | 6385.3 | 6368.5 | 6397.6 | 6432.8 | 6417.5 | 6371.6 | 6252.1 | 6180.2 | 5867.8 | 5483.4 | 5119.0 |
| 10° | 5883.1 | 5844.8 | 5953.5 | 6135.8 | 6327.2 | 6543.1 | 6512.4 | 6518.6 | 6230.7 | 5765.2 | 5249.2 |
| 12.5° | 5217.0 | 5201.7 | 5282.8 | 5494.2 | 5869.3 | 6359.3 | 6477.2 | 6674.8 | 6563.0 | 6069.9 | 5397.7 |
| 15° | 4924.5 | 4932.2 | 4981.2 | 5114.4 | 5383.9 | 5993.3 | 6276.6 | 6633.4 | 6860.0 | 6365.4 | 5561.5 |
| 17.5° | 4968.9 | 4996.5 | 4995.0 | 5039.4 | 5203.2 | 5691.7 | 6022.4 | 6503.3 | 7089.7 | 6705.4 | 5749.9 |
| 20° | 5270.6 | 5298.2 | 5256.8 | 5223.1 | 5278.2 | 5615.1 | 5889.2 | 6371.6 | 7244.4 | 7048.4 | 5948.9 |
| 22.5° | 5722.3 | 5754.5 | 5656.5 | 5560.0 | 5524.8 | 5740.7 | 5939.7 | 6318.0 | 7362.3 | 7362.3 | 6126.6 |
| 25° | 6269.0 | 6313.4 | 6161.8 | 5990.3 | 5892.3 | 6005.6 | 6155.7 | 6438.9 | 7483.3 | 7644.0 | 6247.5 |
| 27.5° | 6879.9 | 6881.5 | 6751.3 | 6558.4 | 6374.6 | 6388.4 | 6478.8 | 6711.5 | 7616.5 | 7947.2 | 6342.5 |
| 30° | 7567.5 | 7572.1 | 7399.0 | 7167.8 | 6936.6 | 6873.8 | 6950.4 | 7126.5 | 7893.6 | 8328.5 | 6474.2 |
| 32.5° | 8455.6 | 8477.0 | 8229.0 | 7889.0 | 7588.9 | 7471.0 | 7515.4 | 7700.7 | 8334.6 | 8806.3 | 6671.7 |
| 35° | 9656.1 | 9679.1 | 9313.1 | 8864.5 | 8386.7 | 8209.1 | 8253.5 | 8440.3 | 8973.2 | 9484.6 | 6987.1 |
| 37.5° | 10841.3 | 10871.9 | 10501.4 | 10083.3 | 9428.0 | 9134.0 | 9179.9 | 9357.5 | 9931.7 | 10421.7 | 7492.4 |
| 40° | 11660.5 | 11701.9 | 11587.0 | 11305.3 | 10697.4 | 10311.5 | 10366.6 | 10430.9 | 10986.8 | 11542.6 | 8147.8 |
| 42.5° | 12092.3 | 12150.5 | 12199.5 | 12343.5 | 12023.4 | 11700.3 | 11606.9 | 11611.5 | 12060.2 | 12684.9 | 8829.2 |
| 45° | 12118.4 | 12175.0 | 12426.2 | 12982.0 | 13225.5 | 13158.1 | 12988.1 | 12873.3 | 12879.4 | 13446.0 | 9254.9 |
| 47.5° | 11276.2 | 11381.8 | 11851.9 | 12940.7 | 13856.4 | 14415.3 | 14329.5 | 14056.9 | 13223.9 | 13496.5 | 9209.0 |
| 50° | 9281.0 | 9385.1 | 10239.5 | 11806.0 | 13397.0 | 14917.5 | 15271.2 | 14905.3 | 12998.8 | 12867.2 | 8735.8 |
| 52.5° | 6740.6 | 6751.3 | 7305.6 | 9135.5 | 11535.0 | 13991.1 | 14824.1 | 14788.9 | 12655.8 | 12104.6 | 8089.6 |
| 55° | 3201.9 | 3163.6 | 3786.8 | 5155.7 | 7977.9 | 11316.0 | 12720.2 | 13118.3 | 12168.9 | 11553.3 | 7588.9 |
| 57.5° | 932.5 | 950.9 | 1228.1 | 2012.1 | 3990.5 | 7232.1 | 8711.3 | 9452.5 | 9988.4 | 9498.4 | 5886.2 |
| 60° | 418.0 | 419.6 | 467.0 | 612.5 | 1329.1 | 3364.2 | 4503.4 | 5420.7 | 5971.9 | 5534.0 | 2920.1 |
| 62.5° | 303.2 | 304.7 | 323.1 | 346.1 | 451.7 | 1139.3 | 1689.0 | 2250.9 | 2292.3 | 1500.6 | 739.6 |
| 65° | 252.7 | 252.7 | 255.7 | 255.7 | 271.0 | 407.3 | 513.0 | 661.5 | 557.4 | 413.4 | 289.4 |
| 67.5° | 203.7 | 205.2 | 208.3 | 208.3 | 203.7 | 203.7 | 220.5 | 241.9 | 258.8 | 320.0 | 266.4 |
| 70° | 159.3 | 157.7 | 157.7 | 159.3 | 154.7 | 131.7 | 142.4 | 162.3 | 177.6 | 249.6 | 231.2 |
| 72.5° | 124.0 | 125.6 | 124.0 | 117.9 | 107.2 | 78.1 | 84.2 | 105.7 | 113.3 | 156.2 | 156.2 |
| 75° | 93.4 | 94.9 | 88.8 | 67.4 | 44.4 | 24.5 | 32.2 | 52.1 | 65.8 | 76.6 | 56.7 |
| 77.5° | 12.3 | 12.3 | 9.2 | 9.2 | 7.7 | 9.2 | 9.2 | 12.3 | 18.4 | 18.4 | 13.8 |
| 80° | 1.5 | 1.5 | 1.5 | 3.1 | 4.6 | 6.1 | 6.1 | 6.1 | 6.1 | 7.7 | 7.7 |
| 82.5° | 1.5 | 1.5 | 1.5 | 1.5 | 4.6 | 4.6 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 |
| 85° | 0.0 | 0.0 | 0.0 | 1.5 | 3.1 | 4.6 | 4.6 | 6.1 | 6.1 | 6.1 | 6.1 |
| 87.5° | 0.0 | 0.0 | 0.0 | 1.5 | 3.1 | 4.6 | 4.6 | 4.6 | 6.1 | 6.1 | 6.1 |
| 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: P641817

CATALOG NUMBER: GWS-SA6B-760-U-AFL-W-GRSBK

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 | 4874.0 |
| 2.5° | 4881.7 | 4792.8 | 4685.6 | 4612.1 | 4508.0 | 4439.1 | 4341.1 | 4275.3 | 4218.6 | 4174.2 | 4198.7 |
| 5° | 4883.2 | 4742.3 | 4523.3 | 4336.5 | 4132.9 | 3946.1 | 3745.5 | 3587.7 | 3445.3 | 3381.0 | 3416.2 |
| 7.5° | 4913.8 | 4711.7 | 4376.3 | 4044.1 | 3653.6 | 3267.7 | 2906.3 | 2612.3 | 2466.9 | 2397.9 | 2419.4 |
| 10° | 4973.5 | 4697.9 | 4212.5 | 3661.2 | 3027.3 | 2500.5 | 2149.9 | 1950.8 | 1869.7 | 1826.8 | 1834.4 |
| 12.5° | 5028.7 | 4688.7 | 3999.6 | 3157.5 | 2388.8 | 1940.1 | 1757.9 | 1730.3 | 1747.2 | 1748.7 | 1747.2 |
| 15° | 5103.7 | 4671.9 | 3736.3 | 2639.9 | 1911.0 | 1676.7 | 1681.3 | 1721.1 | 1760.9 | 1773.2 | 1770.1 |
| 17.5° | 5183.3 | 4645.8 | 3396.3 | 2143.8 | 1621.6 | 1600.2 | 1653.8 | 1707.4 | 1747.2 | 1753.3 | 1754.8 |
| 20° | 5266.0 | 4592.2 | 3008.9 | 1750.2 | 1486.9 | 1542.0 | 1601.7 | 1641.5 | 1670.6 | 1679.8 | 1682.9 |
| 22.5° | 5304.3 | 4478.9 | 2561.8 | 1468.5 | 1396.5 | 1470.0 | 1514.4 | 1566.5 | 1575.7 | 1542.0 | 1548.1 |
| 25° | 5284.4 | 4287.5 | 2125.4 | 1278.6 | 1306.2 | 1379.7 | 1445.5 | 1419.5 | 1381.2 | 1356.7 | 1364.4 |
| 27.5° | 5221.6 | 4033.3 | 1698.2 | 1139.3 | 1209.7 | 1303.1 | 1310.8 | 1281.7 | 1275.5 | 1255.6 | 1261.8 |
| 30° | 5154.2 | 3740.9 | 1365.9 | 1027.5 | 1111.7 | 1209.7 | 1186.7 | 1197.4 | 1199.0 | 1176.0 | 1183.7 |
| 32.5° | 5112.9 | 3434.6 | 1087.2 | 952.4 | 1048.9 | 1067.3 | 1113.2 | 1134.7 | 1136.2 | 1082.6 | 1091.8 |
| 35° | 5126.7 | 3133.0 | 920.3 | 891.2 | 990.7 | 986.1 | 1050.4 | 1062.7 | 973.9 | 900.4 | 908.0 |
| 37.5° | 5238.4 | 2854.3 | 825.3 | 843.7 | 889.7 | 924.9 | 973.9 | 892.7 | 872.8 | 839.1 | 843.7 |
| 40° | 5446.7 | 2616.9 | 768.7 | 814.6 | 820.8 | 877.4 | 802.4 | 813.1 | 814.6 | 793.2 | 797.8 |
| 42.5° | 5690.2 | 2419.4 | 735.0 | 797.8 | 782.5 | 791.7 | 716.6 | 738.1 | 761.0 | 751.8 | 753.4 |
| 45° | 5812.7 | 2226.4 | 705.9 | 739.6 | 744.2 | 656.9 | 640.1 | 663.0 | 692.1 | 696.7 | 698.3 |
| 47.5° | 5703.9 | 2042.7 | 675.3 | 655.4 | 686.0 | 598.7 | 578.8 | 586.5 | 620.2 | 638.5 | 641.6 |
| 50° | 5371.7 | 1831.4 | 629.3 | 580.3 | 563.5 | 537.5 | 519.1 | 520.6 | 558.9 | 591.1 | 597.2 |
| 52.5° | 4904.6 | 1610.9 | 554.3 | 491.5 | 453.3 | 473.2 | 477.8 | 468.6 | 503.8 | 535.9 | 542.1 |
| 55° | 4451.4 | 1335.3 | 439.5 | 399.7 | 364.4 | 407.3 | 419.6 | 407.3 | 418.0 | 439.5 | 441.0 |
| 57.5° | 3134.5 | 754.9 | 336.9 | 330.8 | 301.7 | 349.1 | 369.0 | 350.7 | 332.3 | 346.1 | 349.1 |
| 60° | 1453.2 | 395.1 | 258.8 | 258.8 | 251.1 | 300.1 | 333.8 | 307.8 | 272.6 | 278.7 | 283.3 |
| 62.5° | 454.8 | 249.6 | 189.9 | 179.2 | 205.2 | 255.7 | 283.3 | 257.3 | 215.9 | 215.9 | 222.0 |
| 65° | 257.3 | 214.4 | 150.1 | 137.8 | 166.9 | 205.2 | 222.0 | 194.5 | 157.7 | 154.7 | 154.7 |
| 67.5° | 238.9 | 203.7 | 133.2 | 111.8 | 117.9 | 131.7 | 137.8 | 119.4 | 108.7 | 107.2 | 108.7 |
| 70° | 197.5 | 170.0 | 107.2 | 76.6 | 72.0 | 70.4 | 73.5 | 68.9 | 65.8 | 67.4 | 72.0 |
| 72.5° | 122.5 | 102.6 | 67.4 | 45.9 | 39.8 | 38.3 | 38.3 | 38.3 | 36.8 | 36.8 | 36.8 |
| 75° | 44.4 | 38.3 | 30.6 | 23.0 | 19.9 | 18.4 | 18.4 | 19.9 | 18.4 | 16.8 | 15.3 |
| 77.5° | 13.8 | 12.3 | 12.3 | 12.3 | 10.7 | 9.2 | 7.7 | 7.7 | 6.1 | 4.6 | 4.6 |
| 80° | 7.7 | 7.7 | 7.7 | 7.7 | 6.1 | 6.1 | 4.6 | 3.1 | 1.5 | 1.5 | 0.0 |
| 82.5° | 7.7 | 7.7 | 7.7 | 6.1 | 6.1 | 6.1 | 4.6 | 3.1 | 1.5 | 0.0 | 0.0 |
| 85° | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 4.6 | 3.1 | 1.5 | 0.0 | 0.0 |
| 87.5° | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 6.1 | 4.6 | 3.1 | 1.5 | 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: SP1-1908-441-9-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

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

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 | 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)