

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: P629944

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

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P629944
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-28)
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-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (16) 5700K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2847.5 lumens
Efficiency: N/A
Efficacy: 83.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G0

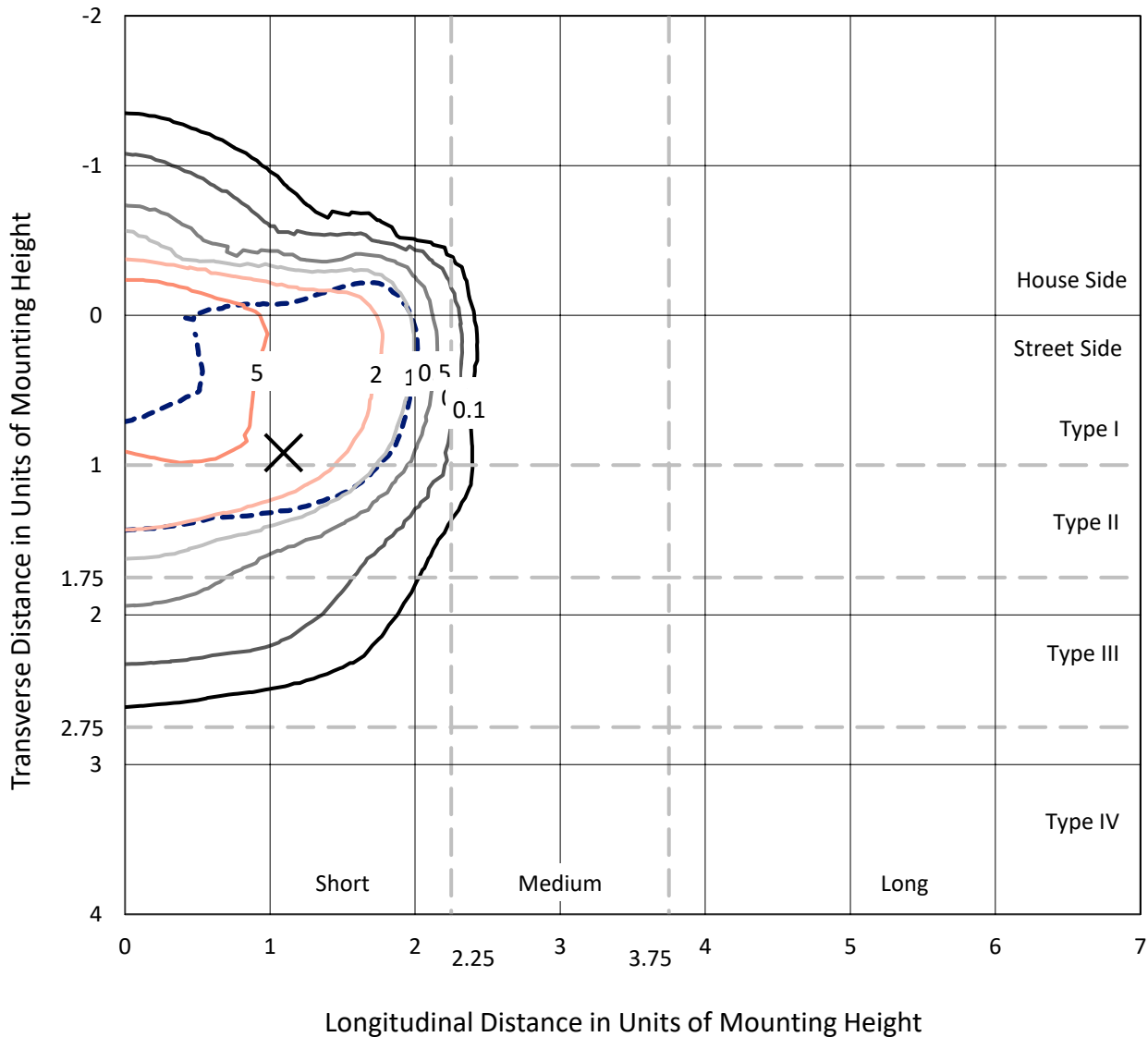
Input Watts (W): 34.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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

Iso-Footcandle Lines of Horizontal Illumination

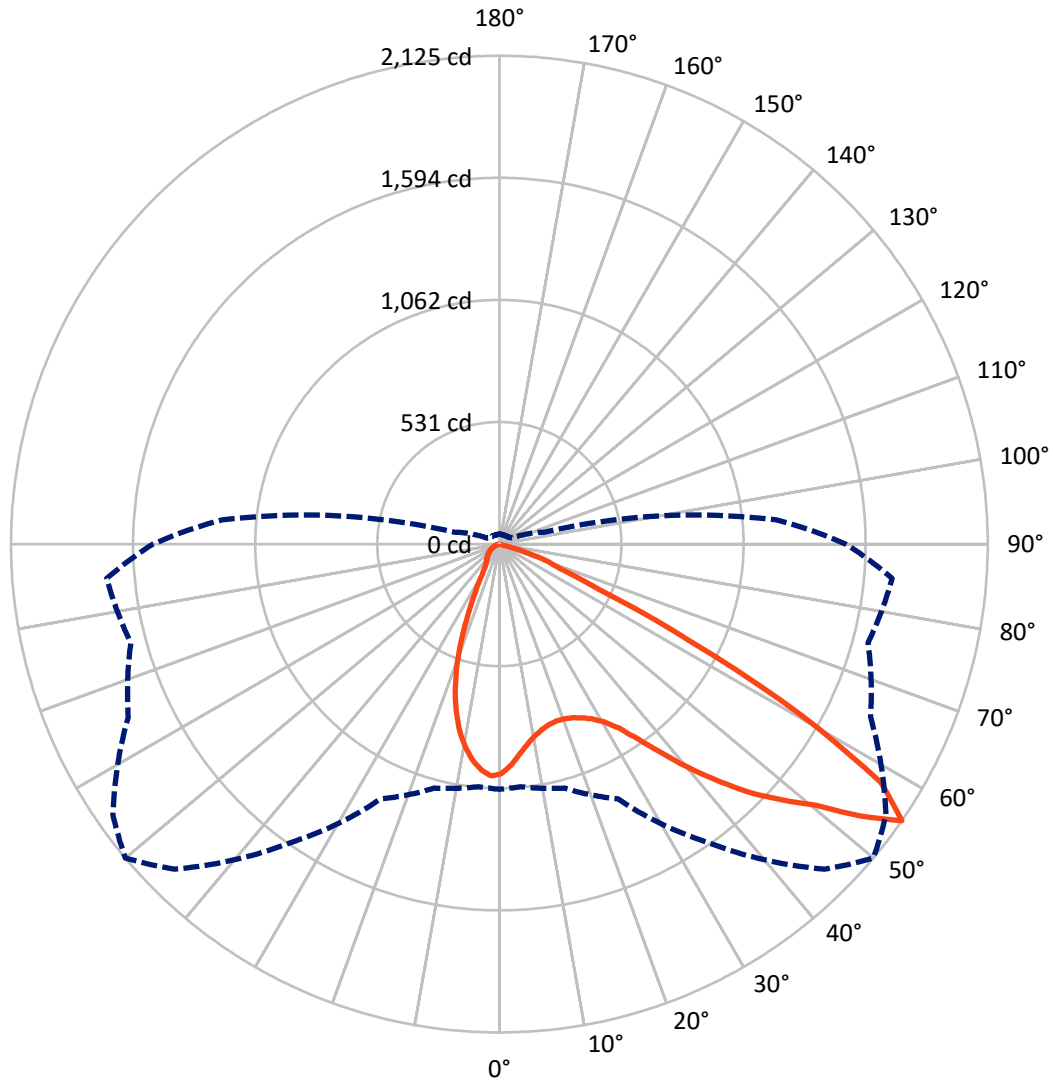
✕ Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 50-Deg Lateral - - - Horizontal Cone Through 55-Deg Vertical

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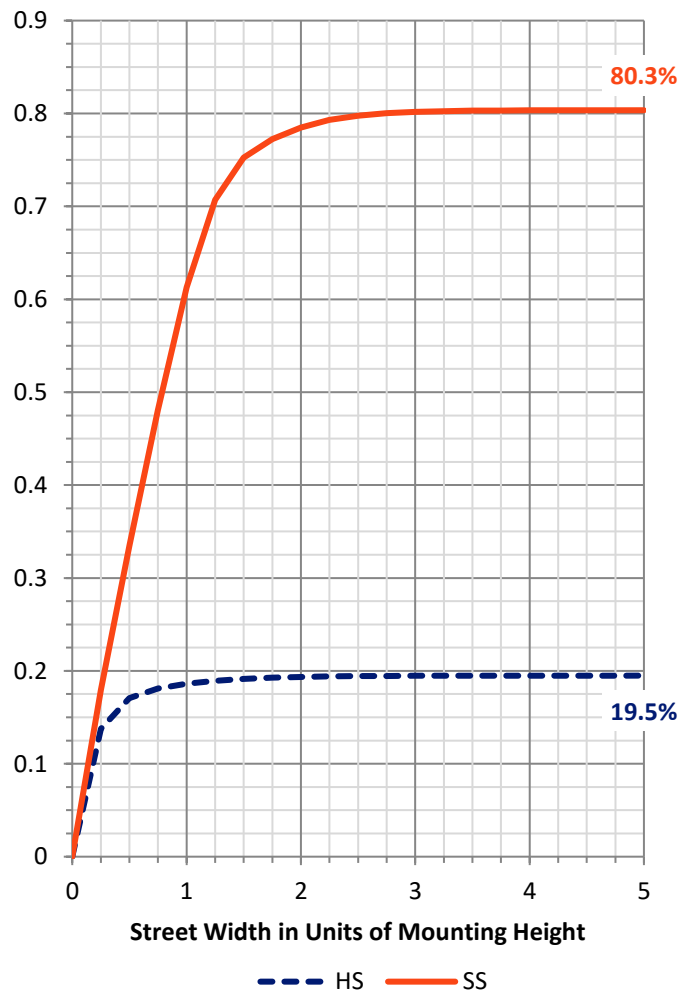
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 561.1 | 0.0 | 561.1 |
| | % Fixture | 19.7 | 0.0 | 19.7 |
| Street Side | Lumens | 2286.4 | 0.0 | 2286.4 |
| | % Fixture | 80.3 | 0.0 | 80.3 |
| Total | Lumens | 2847.5 | 0.0 | 2847.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 87.7 | 3.1 |
| 10°-20° | 215.9 | 7.6 |
| 20°-30° | 304.6 | 10.7 |
| 30°-40° | 450.7 | 15.8 |
| 40°-50° | 650.2 | 22.8 |
| 50°-60° | 766.9 | 26.9 |
| 60°-70° | 342.1 | 12.0 |
| 70°-80° | 29.4 | 1.0 |
| 80°-90° | 0.0 | 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° | 2847.5 | 100.0 |
| 0°-180° | 2847.5 | 100.0 |

Coefficient of Utilization



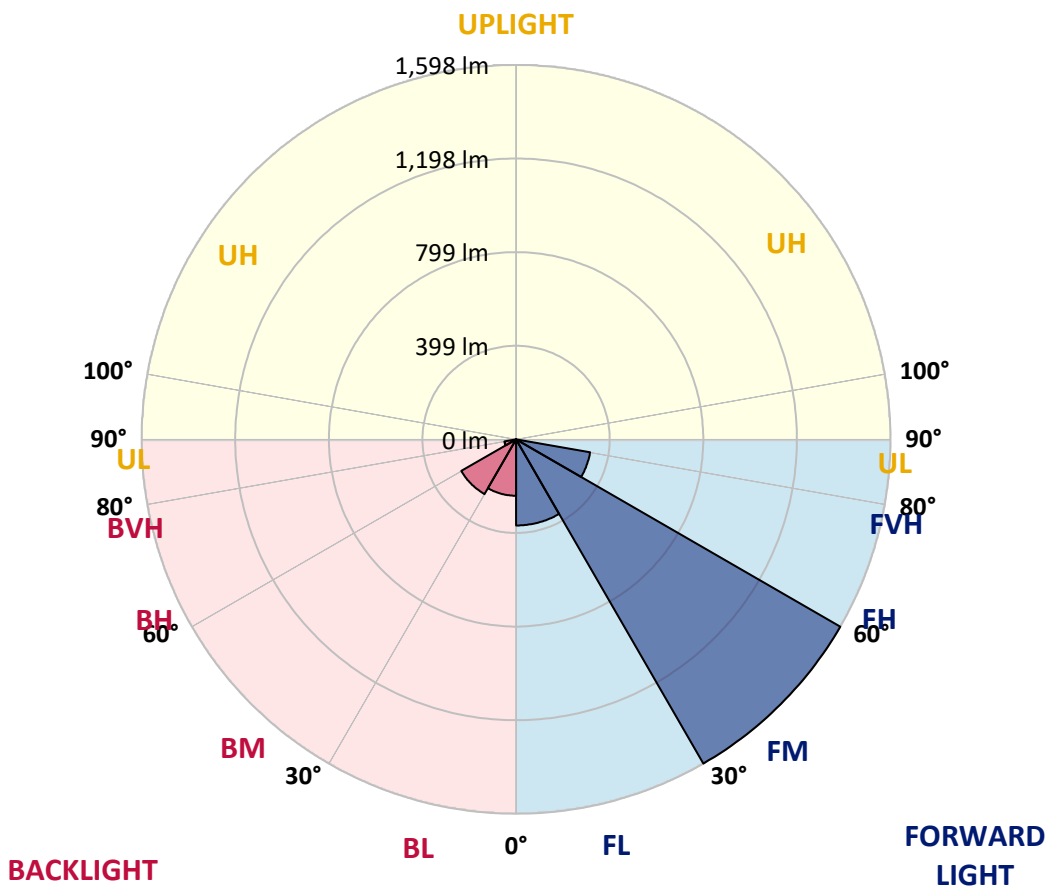
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 367.6 | 12.9 | | | |
| FM (30°-60°) | 1597.9 | 56.1 | | | |
| FH (60°-80°) | 320.9 | 11.3 | | | G0/660 |
| FVH (80°-90°) | 0.0 | 0.0 | | | G0/10 |
| BL (0°-30°) | 240.6 | 8.4 | B1/500 | | |
| BM (30°-60°) | 269.8 | 9.5 | B1/1000 | | |
| BH (60°-80°) | 50.7 | 1.8 | B0/110 | | G0/110 |
| BVH (80°-90°) | 0.0 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G0
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 50° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 |
| 2.5° | 928.1 | 928.8 | 929.2 | 938.6 | 942.1 | 956.0 | 963.3 | 967.1 | 977.2 | 989.0 | 998.7 |
| 5° | 865.9 | 864.9 | 866.6 | 878.4 | 886.1 | 906.6 | 917.7 | 925.4 | 947.6 | 975.4 | 998.7 |
| 7.5° | 811.7 | 813.8 | 815.9 | 828.7 | 840.2 | 862.4 | 878.4 | 889.9 | 920.8 | 962.2 | 1001.5 |
| 10° | 773.5 | 773.5 | 776.6 | 791.2 | 804.7 | 832.2 | 848.2 | 862.8 | 899.6 | 950.4 | 1004.6 |
| 12.5° | 745.3 | 745.6 | 749.5 | 766.2 | 781.8 | 810.3 | 827.0 | 841.2 | 881.9 | 938.6 | 1005.3 |
| 15° | 732.1 | 731.0 | 734.2 | 751.9 | 769.3 | 796.1 | 813.4 | 827.3 | 869.4 | 932.0 | 1008.8 |
| 17.5° | 728.6 | 727.9 | 730.4 | 747.7 | 765.5 | 791.5 | 808.6 | 822.5 | 867.7 | 934.1 | 1019.2 |
| 20° | 738.7 | 737.3 | 736.3 | 751.2 | 767.9 | 793.6 | 811.3 | 827.0 | 876.0 | 945.5 | 1035.2 |
| 22.5° | 762.7 | 762.7 | 760.2 | 767.5 | 778.7 | 802.0 | 820.4 | 840.9 | 897.9 | 968.5 | 1058.9 |
| 25° | 806.8 | 803.4 | 798.8 | 802.0 | 800.6 | 815.2 | 837.1 | 865.6 | 939.3 | 1006.4 | 1087.7 |
| 27.5° | 857.2 | 860.4 | 852.7 | 853.1 | 840.9 | 835.7 | 861.1 | 904.2 | 1000.8 | 1059.9 | 1130.5 |
| 30° | 925.7 | 923.3 | 923.6 | 922.6 | 894.4 | 869.7 | 897.2 | 954.6 | 1078.3 | 1141.6 | 1186.1 |
| 32.5° | 979.2 | 982.7 | 994.2 | 1000.8 | 964.0 | 924.3 | 953.5 | 1023.0 | 1166.6 | 1234.7 | 1254.2 |
| 35° | 1035.9 | 1042.2 | 1065.5 | 1087.0 | 1056.1 | 1010.5 | 1041.8 | 1113.8 | 1249.7 | 1326.9 | 1332.4 |
| 37.5° | 1095.7 | 1108.2 | 1136.0 | 1173.9 | 1169.0 | 1128.7 | 1157.2 | 1220.5 | 1315.0 | 1382.5 | 1397.1 |
| 40° | 1164.2 | 1176.3 | 1221.9 | 1276.5 | 1287.9 | 1278.9 | 1288.3 | 1325.1 | 1358.2 | 1384.9 | 1424.9 |
| 42.5° | 1239.3 | 1256.0 | 1313.7 | 1386.7 | 1429.8 | 1437.8 | 1415.9 | 1412.0 | 1376.9 | 1357.1 | 1419.0 |
| 45° | 1327.9 | 1347.4 | 1412.7 | 1507.3 | 1575.8 | 1586.5 | 1548.6 | 1499.6 | 1388.7 | 1336.6 | 1401.3 |
| 47.5° | 1427.3 | 1445.8 | 1510.8 | 1624.4 | 1726.3 | 1730.5 | 1664.4 | 1585.5 | 1423.9 | 1360.2 | 1414.8 |
| 50° | 1460.7 | 1472.2 | 1528.5 | 1662.0 | 1849.7 | 1881.7 | 1786.1 | 1682.1 | 1494.4 | 1429.8 | 1480.9 |
| 52.5° | 1346.0 | 1350.5 | 1399.5 | 1534.4 | 1824.7 | 2030.1 | 1963.7 | 1826.4 | 1619.9 | 1535.8 | 1582.7 |
| 55° | 1066.5 | 1059.2 | 1098.8 | 1222.6 | 1585.8 | 1999.9 | 2124.7 | 2053.0 | 1781.6 | 1660.2 | 1715.2 |
| 57.5° | 746.0 | 737.3 | 728.3 | 812.0 | 1183.3 | 1695.3 | 1957.8 | 2084.7 | 1935.6 | 1783.6 | 1858.0 |
| 60° | 613.2 | 604.9 | 561.1 | 522.5 | 715.4 | 1217.4 | 1503.8 | 1742.6 | 1923.0 | 1777.4 | 1853.5 |
| 62.5° | 529.8 | 524.9 | 507.2 | 454.7 | 421.0 | 694.9 | 941.7 | 1170.4 | 1475.6 | 1395.7 | 1399.9 |
| 65° | 416.1 | 414.7 | 426.9 | 432.4 | 372.3 | 384.5 | 480.4 | 608.3 | 797.8 | 752.3 | 713.3 |
| 67.5° | 284.4 | 281.2 | 304.2 | 374.0 | 358.0 | 303.5 | 281.2 | 283.7 | 345.2 | 211.0 | 167.6 |
| 70° | 180.8 | 173.5 | 173.8 | 231.9 | 291.3 | 239.5 | 216.9 | 190.8 | 171.7 | 31.3 | 35.5 |
| 72.5° | 115.8 | 111.2 | 95.6 | 104.6 | 134.9 | 116.8 | 117.8 | 101.5 | 67.8 | 16.7 | 19.5 |
| 75° | 48.7 | 44.8 | 34.4 | 27.5 | 27.1 | 17.0 | 14.9 | 13.9 | 9.4 | 9.4 | 10.1 |
| 77.5° | 0.3 | 0.0 | 0.0 | 0.3 | 0.7 | 0.3 | 0.3 | 0.7 | 1.4 | 2.1 | 2.4 |
| 80° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P629944
 CATALOG NUMBER: GWS-SA1C-760-U-SL2-W-GRSBK

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| 0° | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 | 999.1 |
| 2.5° | 1004.6 | 996.3 | 1005.7 | 1009.1 | 1008.8 | 1009.1 | 999.1 | 992.1 | 991.8 | 983.1 | 978.9 |
| 5° | 1008.4 | 1001.8 | 1008.8 | 1004.3 | 993.5 | 979.9 | 961.9 | 946.2 | 939.3 | 929.2 | 924.3 |
| 7.5° | 1015.7 | 1008.8 | 1007.8 | 989.7 | 962.9 | 934.4 | 902.4 | 873.9 | 858.6 | 840.2 | 841.2 |
| 10° | 1021.0 | 1013.0 | 999.4 | 962.6 | 918.1 | 872.5 | 824.9 | 782.5 | 755.7 | 731.0 | 726.9 |
| 12.5° | 1023.0 | 1011.2 | 979.6 | 924.0 | 861.4 | 802.0 | 732.1 | 671.6 | 629.9 | 597.6 | 593.0 |
| 15° | 1026.9 | 1007.8 | 954.2 | 877.4 | 791.5 | 707.4 | 618.4 | 535.7 | 480.4 | 443.2 | 446.3 |
| 17.5° | 1032.8 | 1003.9 | 925.7 | 825.3 | 716.4 | 597.6 | 477.3 | 382.4 | 331.6 | 310.1 | 310.4 |
| 20° | 1041.1 | 999.4 | 894.4 | 767.9 | 626.4 | 473.5 | 333.7 | 262.1 | 247.9 | 247.2 | 246.1 |
| 22.5° | 1052.2 | 994.9 | 861.1 | 705.0 | 519.7 | 331.6 | 222.1 | 199.9 | 205.8 | 217.3 | 219.3 |
| 25° | 1065.5 | 989.3 | 823.9 | 634.1 | 403.2 | 217.6 | 166.5 | 163.0 | 177.3 | 192.6 | 196.1 |
| 27.5° | 1086.0 | 986.5 | 781.5 | 553.4 | 283.0 | 156.1 | 136.3 | 138.4 | 151.2 | 164.1 | 167.2 |
| 30° | 1120.7 | 991.8 | 735.2 | 463.0 | 181.8 | 124.4 | 118.2 | 121.3 | 128.3 | 134.9 | 137.7 |
| 32.5° | 1168.0 | 1007.1 | 690.4 | 364.3 | 129.7 | 108.1 | 106.7 | 108.5 | 111.2 | 115.1 | 116.1 |
| 35° | 1223.3 | 1033.5 | 644.1 | 260.7 | 107.1 | 98.7 | 97.3 | 97.3 | 98.7 | 99.4 | 99.8 |
| 37.5° | 1268.8 | 1061.3 | 600.7 | 173.5 | 95.9 | 91.4 | 89.3 | 88.3 | 87.9 | 88.6 | 89.0 |
| 40° | 1288.6 | 1072.8 | 553.4 | 126.2 | 87.9 | 84.8 | 81.7 | 78.6 | 78.6 | 81.0 | 81.3 |
| 42.5° | 1274.7 | 1059.9 | 498.8 | 104.3 | 82.4 | 77.9 | 73.0 | 70.2 | 71.6 | 74.0 | 74.7 |
| 45° | 1245.2 | 1028.3 | 438.7 | 92.1 | 76.8 | 70.9 | 65.4 | 63.6 | 65.0 | 68.1 | 68.8 |
| 47.5° | 1240.3 | 1007.4 | 366.7 | 84.1 | 70.9 | 65.0 | 59.1 | 57.4 | 59.1 | 61.5 | 62.2 |
| 50° | 1288.6 | 1025.5 | 286.8 | 77.2 | 65.4 | 58.7 | 53.9 | 52.1 | 53.2 | 54.6 | 55.3 |
| 52.5° | 1376.9 | 1092.6 | 231.5 | 70.6 | 58.7 | 52.5 | 49.4 | 47.3 | 47.3 | 48.7 | 49.0 |
| 55° | 1507.3 | 1209.7 | 199.9 | 62.9 | 51.1 | 47.6 | 44.8 | 42.8 | 42.8 | 43.5 | 43.8 |
| 57.5° | 1657.5 | 1351.5 | 207.2 | 52.8 | 44.8 | 43.1 | 40.7 | 38.9 | 39.6 | 39.6 | 39.6 |
| 60° | 1636.6 | 1341.1 | 221.8 | 44.5 | 39.6 | 38.9 | 36.8 | 36.2 | 37.9 | 36.5 | 35.8 |
| 62.5° | 1205.5 | 926.4 | 116.1 | 36.5 | 34.1 | 33.4 | 32.0 | 33.4 | 35.8 | 32.0 | 30.6 |
| 65° | 585.4 | 448.4 | 46.6 | 29.9 | 28.9 | 28.2 | 27.5 | 29.5 | 30.9 | 25.0 | 23.6 |
| 67.5° | 137.7 | 111.9 | 30.2 | 25.4 | 24.0 | 22.6 | 23.3 | 23.6 | 22.6 | 17.0 | 16.3 |
| 70° | 35.8 | 35.1 | 23.6 | 21.2 | 19.1 | 17.7 | 17.7 | 17.4 | 14.9 | 10.8 | 10.1 |
| 72.5° | 19.5 | 19.1 | 17.0 | 16.0 | 13.2 | 11.8 | 12.2 | 10.8 | 8.3 | 6.3 | 5.9 |
| 75° | 9.7 | 10.4 | 9.7 | 9.0 | 7.3 | 6.6 | 6.6 | 5.9 | 4.2 | 2.4 | 2.4 |
| 77.5° | 2.1 | 2.4 | 2.4 | 2.1 | 1.7 | 1.4 | 1.4 | 1.7 | 0.7 | 0.0 | 0.0 |
| 80° | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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 | CRI (Ra): | 71.7 | R9: | -27.1 |
| CIE u': | 0.2052 | R1: | 70.6 | R10: | 40.8 |
| CIE v': | 0.4804 | R2: | 74.6 | R11: | 74.6 |
| Duv: | 0.0025 | R3: | 78.3 | R12: | 50.4 |
| CIE x: | 0.3330 | R4: | 73.8 | R13: | 70.0 |
| CIE y: | 0.3466 | R5: | 72.4 | R14: | 87.8 |
| CIE z: | 0.3204 | R6: | 67.5 | | |
| Peak Wavelength (nm): | 442 | R7: | 77.5 | | |
| Dominant Wavelength (nm): | 554 | R8: | 58.9 | | |
| Purity: | 4.1 | | | | |
| Rf: | 72.1 | | | | |
| Rg: | 97.2 | | | | |



Test Conditions

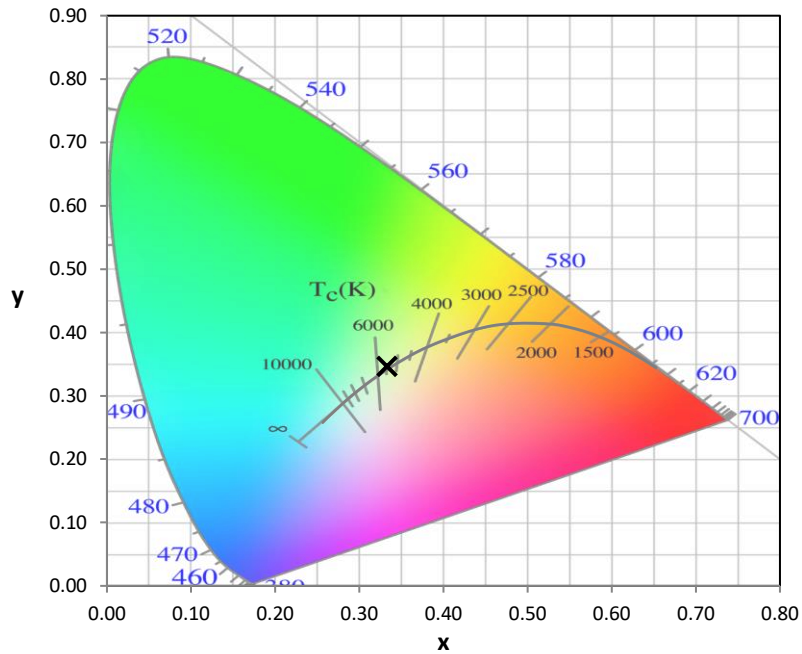
Stabilization Time: 240M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.6/31%
 Sphere Temperature (°C): 25.9

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 ($\mu\text{W}/\text{nm}$) | 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)