

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



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P386236

Luminaire Tested: **GPC-SA1D-760-U-T4W-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P386236
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-19)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GPC-SA1D-760-U-T4W-HSS
Description: GALLEON PEDESTRIAN LUMINAIRE
(1) 70 CRI, 5700K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6005 lumens
Efficiency: N/A
Efficacy: 89.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

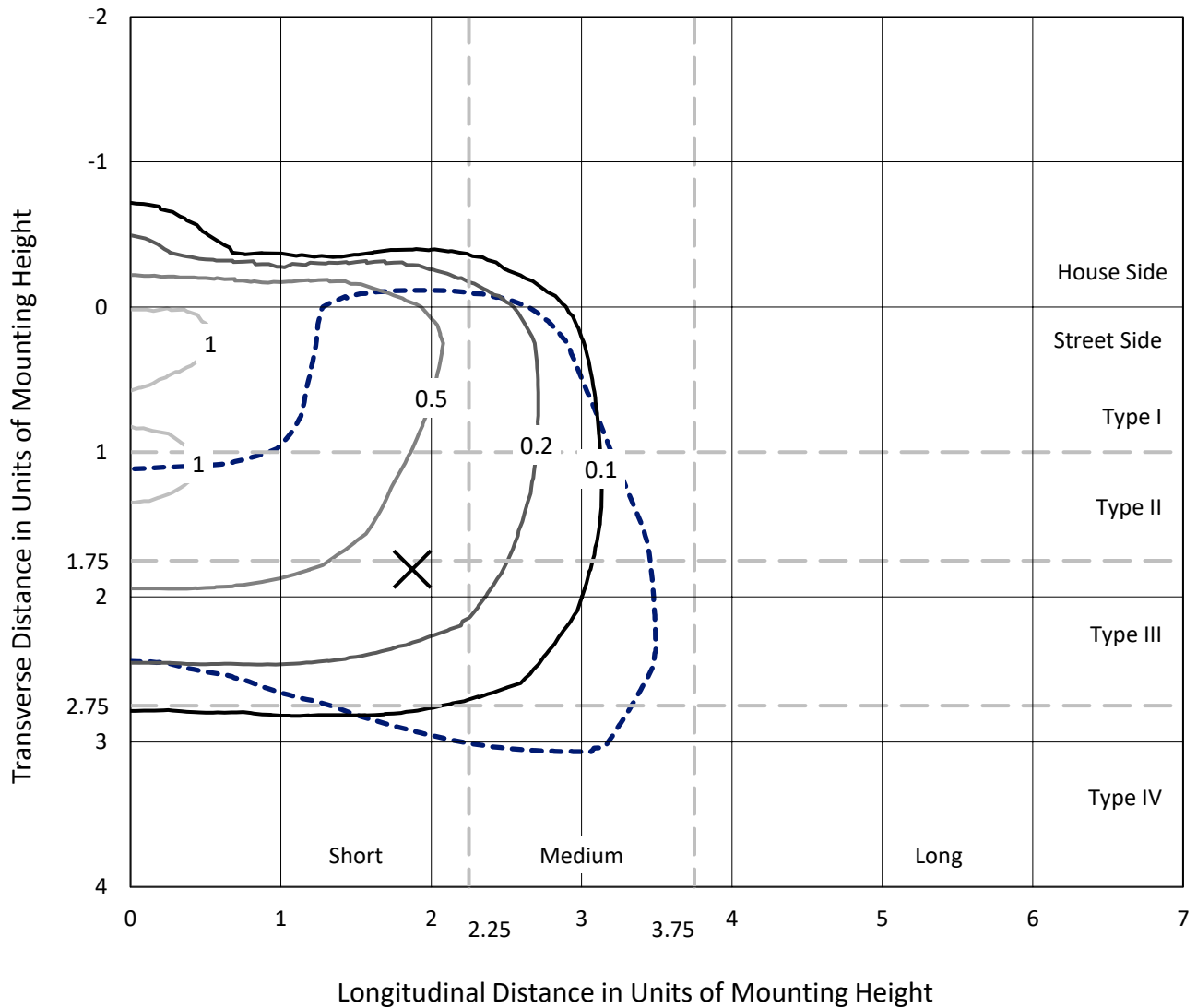
Input Watts (W): 67
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

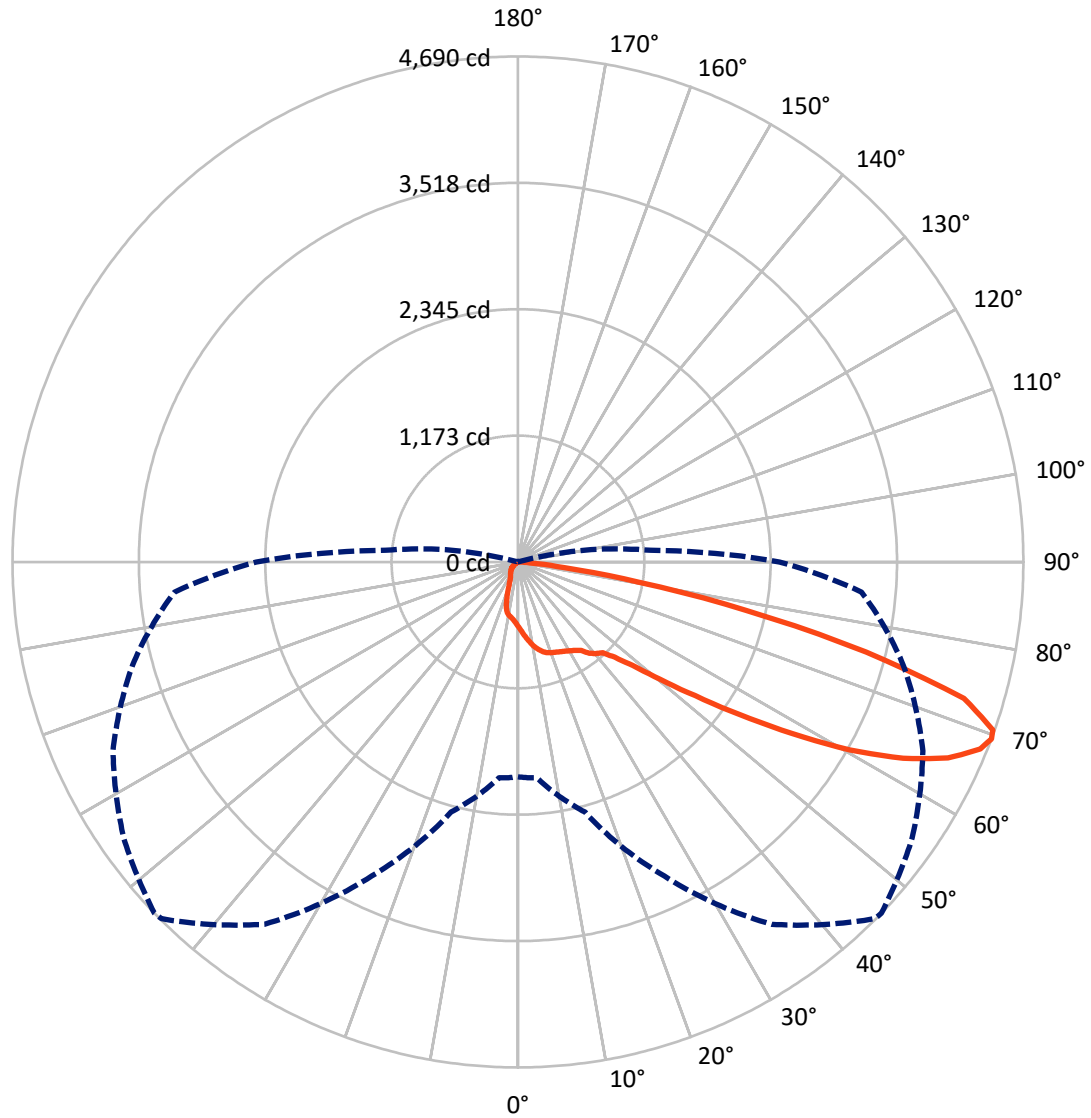
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.4 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 46-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical



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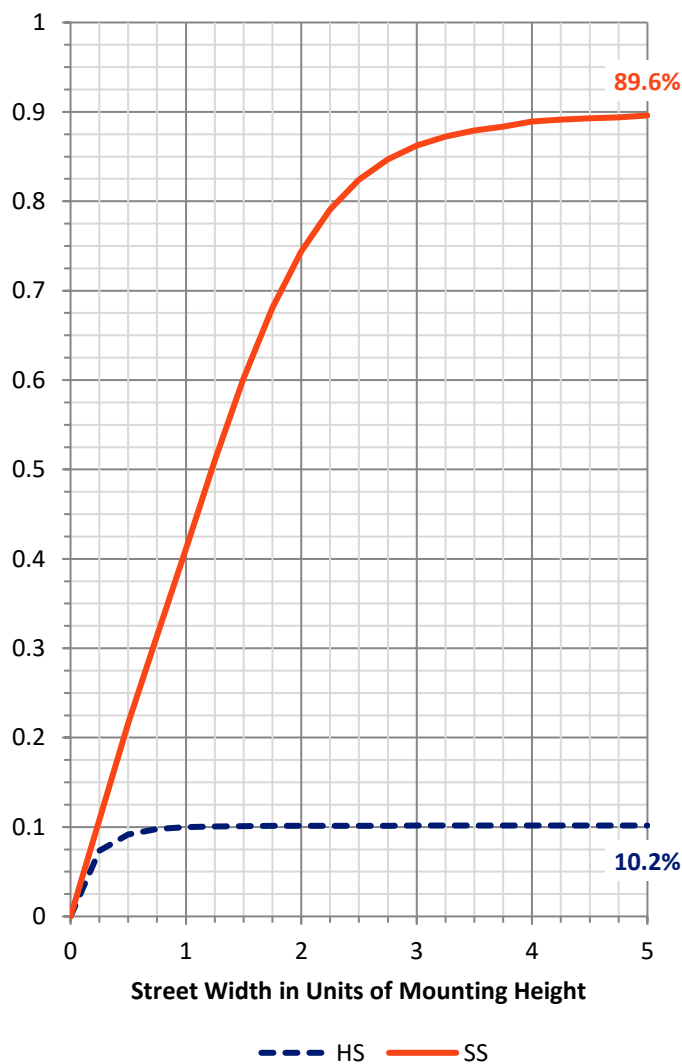
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 616.3 | 0.0 | 616.3 |
| | % Fixture | 10.3 | 0.0 | 10.3 |
| Street Side | Lumens | 5388.7 | 0.0 | 5388.7 |
| | % Fixture | 89.7 | 0.0 | 89.7 |
| Total | Lumens | 6005.0 | 0.0 | 6005.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 59.9 | 1.0 |
| 10°-20° | 181.7 | 3.0 |
| 20°-30° | 285.7 | 4.8 |
| 30°-40° | 409.7 | 6.8 |
| 40°-50° | 708.2 | 11.8 |
| 50°-60° | 1399.1 | 23.3 |
| 60°-70° | 1955.3 | 32.6 |
| 70°-80° | 944.6 | 15.7 |
| 80°-90° | 60.7 | 1.0 |
| 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° | 6005.0 | 100.0 |
| 0°-180° | 6005.0 | 100.0 |

Coefficient of Utilization



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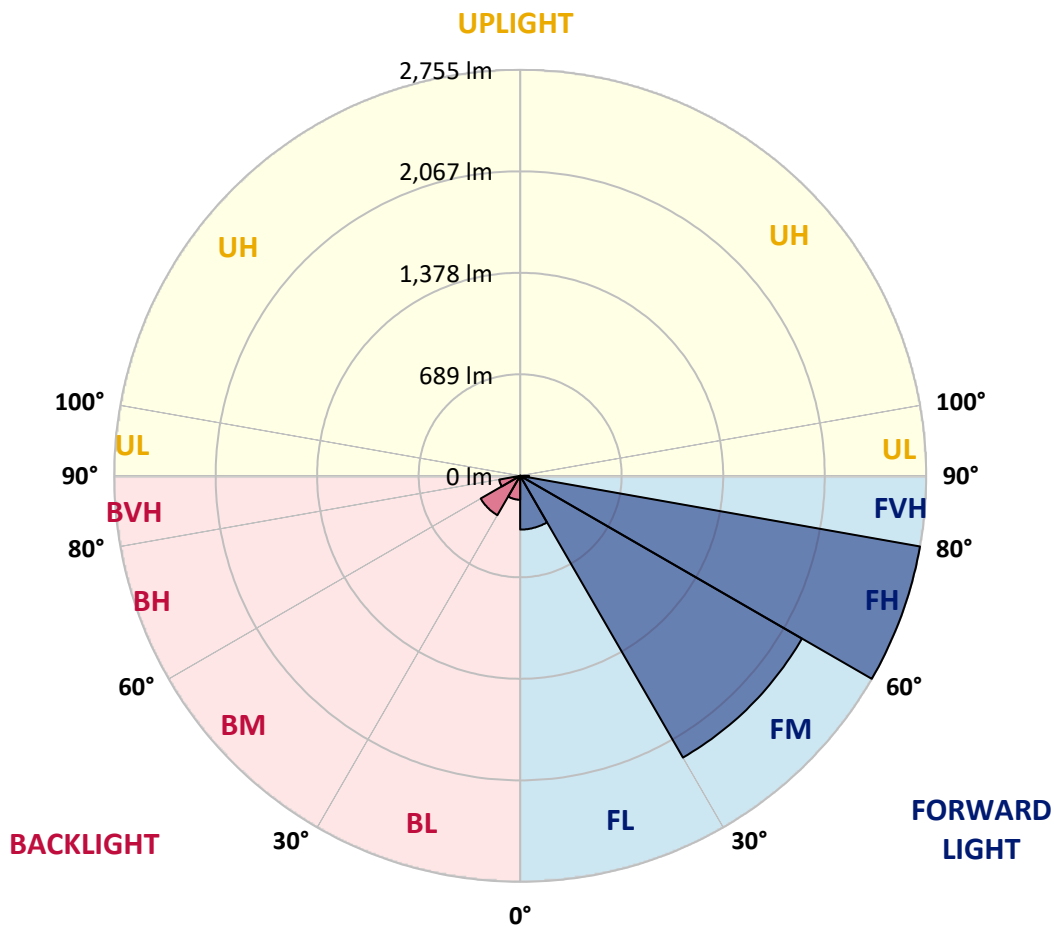
CATALOG NUMBER: GPC-SA1D-760-U-T4W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 364.9 | 6.1 | | | |
| FM (30°-60°) | 2208.2 | 36.8 | | | |
| FH (60°-80°) | 2755.5 | 45.9 | | | G2/5000 |
| FVH (80°-90°) | 60.2 | 1.0 | | | G1/100 |
| BL (0°-30°) | 162.4 | 2.7 | B1/500 | | |
| BM (30°-60°) | 308.8 | 5.1 | B1/1000 | | |
| BH (60°-80°) | 144.5 | 2.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 0.5 | 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-G2

Type IV Short





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CATALOG NUMBER: GPC-SA1D-760-U-T4W-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 46° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 |
| 2.5° | 668.4 | 667.6 | 663.6 | 661.9 | 652.4 | 646.7 | 644.5 | 637.4 | 627.3 | 617.2 | 605.9 |
| 5° | 744.4 | 744.1 | 736.8 | 729.8 | 711.8 | 694.9 | 691.8 | 675.4 | 652.6 | 631.2 | 609.8 |
| 7.5° | 822.1 | 818.5 | 811.2 | 797.6 | 771.5 | 744.4 | 741.9 | 718.8 | 686.4 | 655.5 | 624.8 |
| 10° | 888.0 | 885.8 | 876.2 | 855.6 | 825.0 | 794.3 | 791.2 | 762.7 | 726.1 | 688.1 | 649.0 |
| 12.5° | 939.3 | 937.6 | 924.9 | 899.3 | 866.6 | 834.8 | 830.6 | 805.2 | 766.1 | 723.6 | 677.4 |
| 15° | 970.5 | 969.7 | 954.2 | 926.9 | 894.8 | 867.2 | 863.5 | 841.3 | 805.0 | 760.5 | 708.4 |
| 17.5° | 977.8 | 978.1 | 962.1 | 934.5 | 908.0 | 888.3 | 885.5 | 868.6 | 838.2 | 794.0 | 739.4 |
| 20° | 961.5 | 964.9 | 950.5 | 926.6 | 910.3 | 899.8 | 897.6 | 887.5 | 861.8 | 820.2 | 764.1 |
| 22.5° | 938.4 | 940.1 | 930.3 | 914.2 | 907.4 | 909.4 | 908.3 | 902.7 | 881.0 | 842.7 | 788.6 |
| 25° | 924.3 | 924.3 | 918.4 | 904.9 | 909.4 | 921.5 | 921.8 | 920.7 | 903.5 | 870.3 | 818.5 |
| 27.5° | 923.8 | 922.1 | 915.3 | 905.2 | 917.6 | 936.2 | 937.3 | 944.9 | 934.2 | 903.8 | 855.6 |
| 30° | 946.3 | 944.3 | 930.0 | 916.7 | 932.5 | 952.5 | 955.3 | 971.9 | 966.6 | 940.1 | 897.0 |
| 32.5° | 998.9 | 991.9 | 960.1 | 938.4 | 950.2 | 974.2 | 977.8 | 1004.3 | 1012.7 | 984.9 | 937.0 |
| 35° | 1071.0 | 1048.8 | 1002.9 | 979.5 | 980.6 | 1005.7 | 1009.1 | 1047.9 | 1073.0 | 1026.0 | 968.0 |
| 37.5° | 1170.4 | 1159.4 | 1084.8 | 1022.3 | 1027.4 | 1065.4 | 1075.3 | 1117.5 | 1110.4 | 1048.5 | 1003.2 |
| 40° | 1388.3 | 1371.2 | 1291.8 | 1142.3 | 1072.2 | 1113.8 | 1116.9 | 1139.4 | 1140.0 | 1099.5 | 1076.4 |
| 42.5° | 1685.1 | 1678.1 | 1594.4 | 1359.9 | 1160.3 | 1146.2 | 1151.8 | 1189.8 | 1232.4 | 1207.0 | 1205.9 |
| 45° | 2013.7 | 2010.0 | 1921.3 | 1648.8 | 1338.5 | 1252.3 | 1259.4 | 1310.3 | 1391.7 | 1397.3 | 1433.1 |
| 47.5° | 2278.0 | 2276.4 | 2225.4 | 1971.2 | 1611.3 | 1432.3 | 1434.5 | 1488.6 | 1631.6 | 1702.3 | 1759.4 |
| 50° | 2519.1 | 2527.2 | 2487.0 | 2320.0 | 1983.0 | 1714.1 | 1708.7 | 1744.8 | 1974.5 | 2090.2 | 2161.2 |
| 52.5° | 2854.1 | 2865.6 | 2752.7 | 2645.5 | 2372.9 | 2063.8 | 2059.6 | 2097.3 | 2386.7 | 2473.4 | 2486.1 |
| 55° | 3150.0 | 3130.3 | 3041.1 | 3010.1 | 2848.5 | 2495.7 | 2494.6 | 2527.8 | 2785.4 | 2822.3 | 2845.7 |
| 57.5° | 3280.7 | 3273.1 | 3316.1 | 3387.1 | 3346.5 | 3006.1 | 3003.6 | 2978.3 | 3142.1 | 3146.1 | 3217.9 |
| 60° | 3363.1 | 3372.4 | 3504.5 | 3723.3 | 3824.3 | 3555.5 | 3539.1 | 3384.5 | 3482.8 | 3474.1 | 3550.9 |
| 62.5° | 3301.2 | 3319.5 | 3557.1 | 3921.8 | 4181.9 | 4034.9 | 4011.8 | 3756.8 | 3773.9 | 3743.8 | 3815.3 |
| 65° | 2972.4 | 3000.8 | 3390.2 | 3884.3 | 4359.3 | 4409.7 | 4386.3 | 4085.3 | 4005.1 | 3955.5 | 3915.8 |
| 67.5° | 2413.5 | 2430.4 | 2836.9 | 3558.5 | 4279.3 | 4633.2 | 4628.4 | 4373.4 | 4179.7 | 3919.8 | 3611.8 |
| 69° | 1994.5 | 2011.1 | 2402.5 | 3215.6 | 4103.4 | 4681.1 | 4690.4 | 4465.7 | 4146.4 | 3702.4 | 3200.1 |
| 70° | 1689.3 | 1707.1 | 2071.7 | 2921.7 | 3899.2 | 4658.9 | 4675.5 | 4457.0 | 4051.3 | 3450.7 | 2838.9 |
| 72.5° | 886.0 | 901.3 | 1275.4 | 2012.8 | 3178.7 | 4277.9 | 4328.3 | 4080.3 | 3434.1 | 2506.1 | 1678.6 |
| 75° | 278.5 | 287.2 | 498.1 | 1052.2 | 2176.4 | 3326.3 | 3337.8 | 3200.7 | 2438.5 | 1378.5 | 699.1 |
| 77.5° | 106.1 | 103.6 | 165.8 | 387.7 | 1100.3 | 2094.5 | 2165.1 | 2000.2 | 1279.7 | 487.4 | 161.3 |
| 80° | 57.2 | 57.4 | 86.2 | 160.5 | 470.8 | 1076.4 | 1136.1 | 969.4 | 454.7 | 152.0 | 37.2 |
| 82.5° | 24.8 | 25.9 | 48.4 | 85.0 | 216.2 | 397.0 | 426.8 | 355.3 | 173.7 | 102.2 | 13.8 |
| 85° | 5.3 | 5.9 | 23.4 | 46.2 | 88.1 | 111.5 | 116.8 | 115.2 | 110.7 | 79.4 | 5.3 |
| 87.5° | 0.0 | 0.0 | 10.4 | 16.6 | 22.2 | 25.3 | 22.2 | 29.0 | 61.1 | 53.5 | 2.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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CATALOG NUMBER: GPC-SA1D-760-U-T4W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 | 601.7 |
| 2.5° | 602.2 | 597.2 | 588.4 | 578.9 | 572.1 | 565.1 | 559.4 | 556.9 | 554.1 | 552.1 | 554.7 |
| 5° | 601.1 | 591.3 | 574.4 | 558.0 | 546.2 | 536.6 | 528.8 | 525.7 | 522.6 | 520.3 | 520.0 |
| 7.5° | 611.0 | 597.2 | 571.3 | 547.3 | 529.0 | 516.1 | 505.4 | 500.9 | 497.2 | 495.5 | 494.1 |
| 10° | 629.8 | 612.1 | 577.5 | 546.2 | 522.6 | 500.6 | 477.5 | 459.8 | 448.2 | 442.9 | 440.9 |
| 12.5° | 654.3 | 632.1 | 589.3 | 552.1 | 517.8 | 475.5 | 426.6 | 384.3 | 357.0 | 348.0 | 342.6 |
| 15° | 683.0 | 655.5 | 604.8 | 559.7 | 500.3 | 423.2 | 340.1 | 284.9 | 259.6 | 254.5 | 248.9 |
| 17.5° | 710.6 | 680.2 | 623.4 | 561.1 | 462.0 | 338.1 | 249.2 | 211.7 | 201.9 | 205.3 | 206.1 |
| 20° | 734.9 | 704.7 | 641.7 | 548.7 | 392.5 | 253.7 | 192.9 | 183.6 | 187.2 | 193.7 | 194.8 |
| 22.5° | 759.3 | 728.4 | 658.6 | 516.1 | 303.5 | 192.6 | 173.7 | 176.0 | 179.6 | 186.1 | 187.2 |
| 25° | 789.2 | 757.1 | 674.3 | 456.1 | 227.8 | 163.9 | 165.0 | 168.4 | 172.0 | 177.9 | 178.5 |
| 27.5° | 823.5 | 793.4 | 684.7 | 378.1 | 168.9 | 150.6 | 154.3 | 159.4 | 163.0 | 168.7 | 169.8 |
| 30° | 869.2 | 841.3 | 688.1 | 297.3 | 141.6 | 138.8 | 140.5 | 146.7 | 152.0 | 157.1 | 158.0 |
| 32.5° | 911.9 | 888.6 | 676.9 | 224.4 | 131.2 | 127.8 | 127.8 | 131.5 | 137.7 | 142.5 | 143.6 |
| 35° | 951.4 | 936.2 | 640.8 | 164.1 | 123.3 | 117.7 | 114.9 | 114.9 | 118.8 | 122.8 | 123.9 |
| 37.5° | 1003.5 | 1002.9 | 582.5 | 130.9 | 115.7 | 109.2 | 103.3 | 98.8 | 97.4 | 98.3 | 98.8 |
| 40° | 1092.7 | 1093.6 | 506.5 | 117.4 | 109.2 | 100.5 | 91.5 | 83.3 | 75.7 | 73.2 | 72.9 |
| 42.5° | 1232.1 | 1219.4 | 426.8 | 110.9 | 103.6 | 91.5 | 78.0 | 67.0 | 55.2 | 51.5 | 51.2 |
| 45° | 1453.4 | 1378.2 | 342.4 | 105.0 | 97.7 | 81.4 | 64.5 | 49.6 | 40.0 | 37.2 | 37.2 |
| 47.5° | 1775.8 | 1586.8 | 265.2 | 98.5 | 89.8 | 69.8 | 48.7 | 35.8 | 29.3 | 27.9 | 28.2 |
| 50° | 2109.1 | 1791.2 | 203.3 | 90.4 | 80.2 | 57.7 | 36.0 | 25.9 | 22.2 | 22.2 | 22.5 |
| 52.5° | 2404.7 | 1941.0 | 158.5 | 81.7 | 68.4 | 45.3 | 27.3 | 20.3 | 18.6 | 18.3 | 18.6 |
| 55° | 2681.5 | 2037.6 | 121.3 | 71.5 | 54.3 | 33.8 | 20.8 | 16.6 | 15.5 | 14.9 | 14.6 |
| 57.5° | 2948.4 | 2085.5 | 90.9 | 57.7 | 39.4 | 24.5 | 16.6 | 14.1 | 13.0 | 12.1 | 11.8 |
| 60° | 3126.1 | 2046.6 | 62.5 | 42.5 | 27.3 | 17.7 | 13.8 | 12.1 | 10.7 | 9.9 | 9.6 |
| 62.5° | 3226.3 | 1940.5 | 40.3 | 30.7 | 19.4 | 13.2 | 11.0 | 10.1 | 8.2 | 7.3 | 7.3 |
| 65° | 3185.8 | 1765.3 | 28.2 | 22.0 | 14.1 | 9.9 | 8.2 | 8.2 | 5.9 | 4.8 | 4.5 |
| 67.5° | 2823.1 | 1491.4 | 21.4 | 16.3 | 10.1 | 7.3 | 6.2 | 7.0 | 3.7 | 2.3 | 2.3 |
| 69° | 2429.0 | 1236.0 | 18.3 | 13.5 | 8.4 | 5.9 | 5.3 | 6.5 | 2.5 | 1.7 | 1.4 |
| 70° | 2111.1 | 1066.2 | 16.6 | 11.8 | 7.0 | 5.1 | 4.8 | 6.2 | 2.5 | 1.4 | 1.1 |
| 72.5° | 1263.0 | 594.6 | 12.7 | 8.4 | 4.5 | 3.9 | 3.9 | 7.0 | 2.5 | 1.4 | 1.1 |
| 75° | 510.5 | 209.5 | 9.3 | 5.9 | 3.4 | 3.4 | 4.8 | 9.0 | 2.3 | 1.1 | 0.8 |
| 77.5° | 115.7 | 45.9 | 5.3 | 3.7 | 2.3 | 3.4 | 5.6 | 7.0 | 1.4 | 0.6 | 0.0 |
| 80° | 28.2 | 11.3 | 3.4 | 2.3 | 1.4 | 2.5 | 4.2 | 3.9 | 0.3 | 0.0 | 0.0 |
| 82.5° | 9.3 | 3.9 | 1.4 | 1.1 | 0.3 | 0.8 | 2.0 | 1.1 | 0.0 | 0.0 | 0.0 |
| 85° | 3.9 | 2.3 | 0.6 | 0.3 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 2.5 | 0.8 | 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



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

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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 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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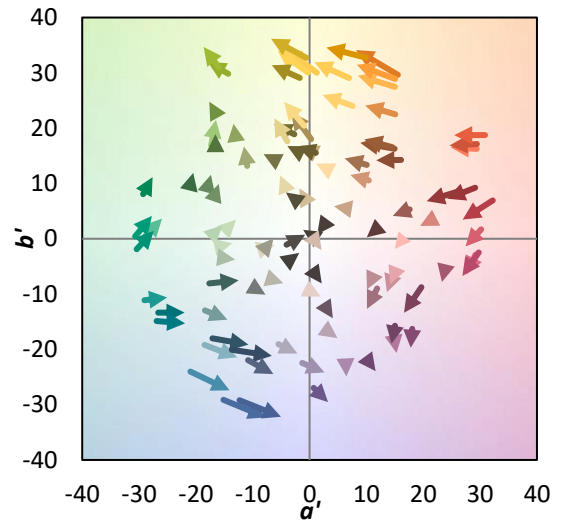
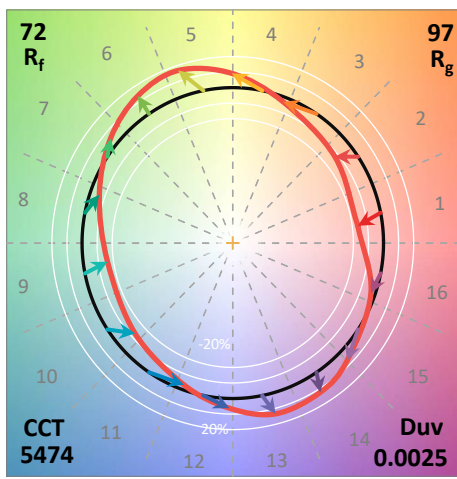
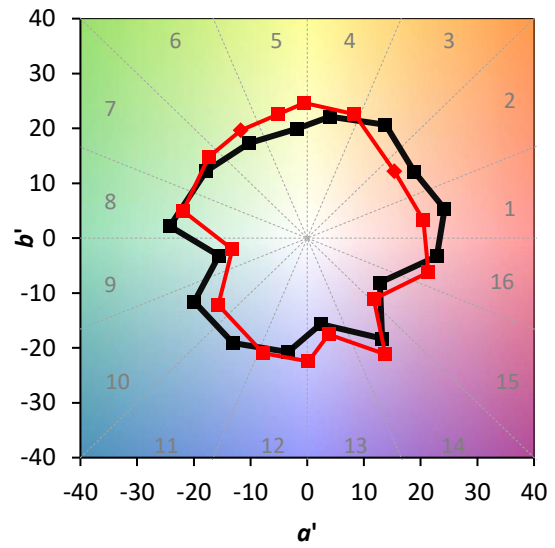
TM-30-18

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)