

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: P385856

Luminaire Tested: **GPC-SA1C-722-U-SL4-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P385856
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-25)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GPC-SA1C-722-U-SL4-HSS
Description: GALLEON PEDESTRIAN LUMINAIRE
(1) 70 CRI, 2200K, 1050mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4507 lumens
Efficiency: N/A
Efficacy: 77.7 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

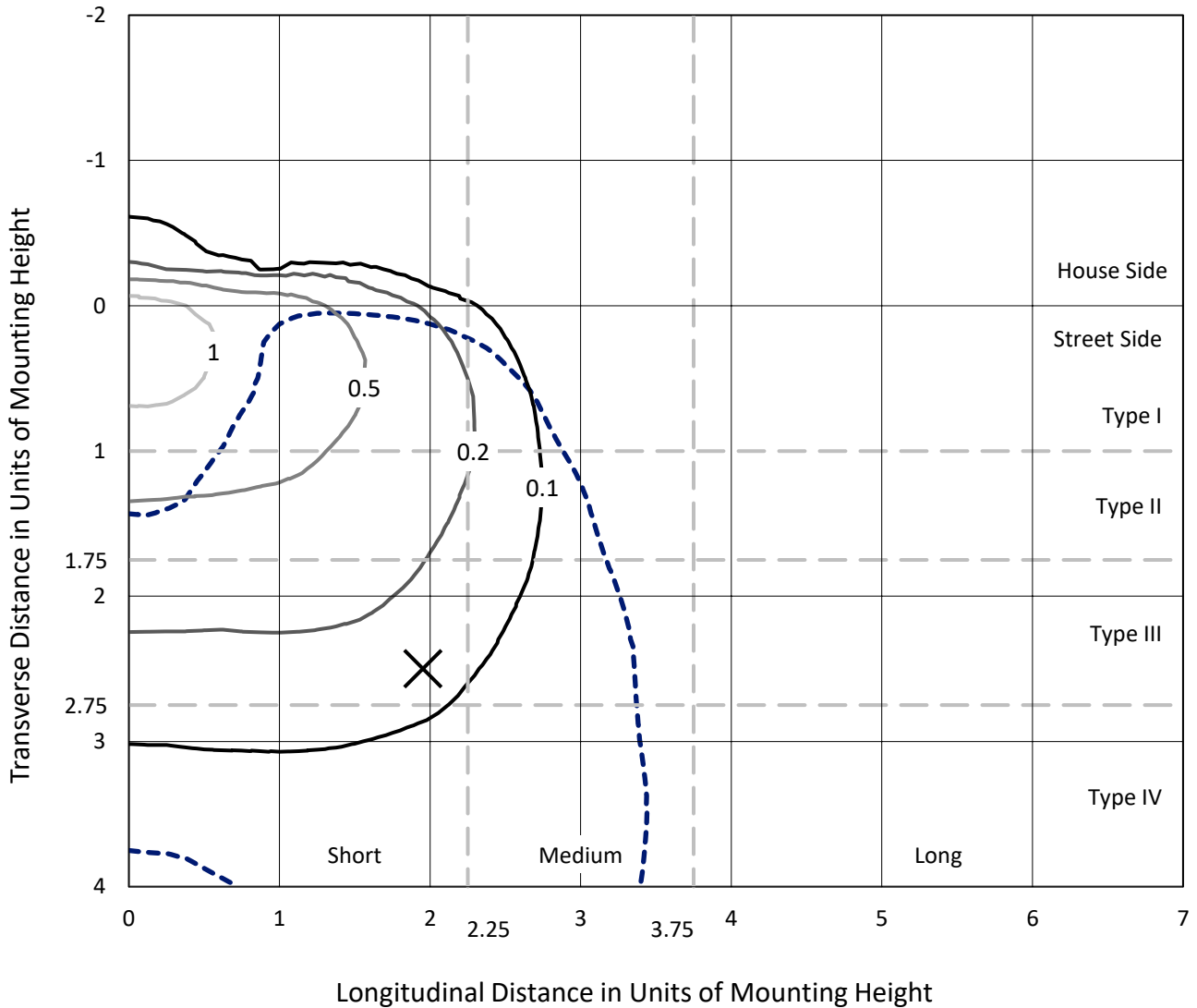
Input Watts (W): 58
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P385856
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Iso-Footcandle Lines of Horizontal Illumination

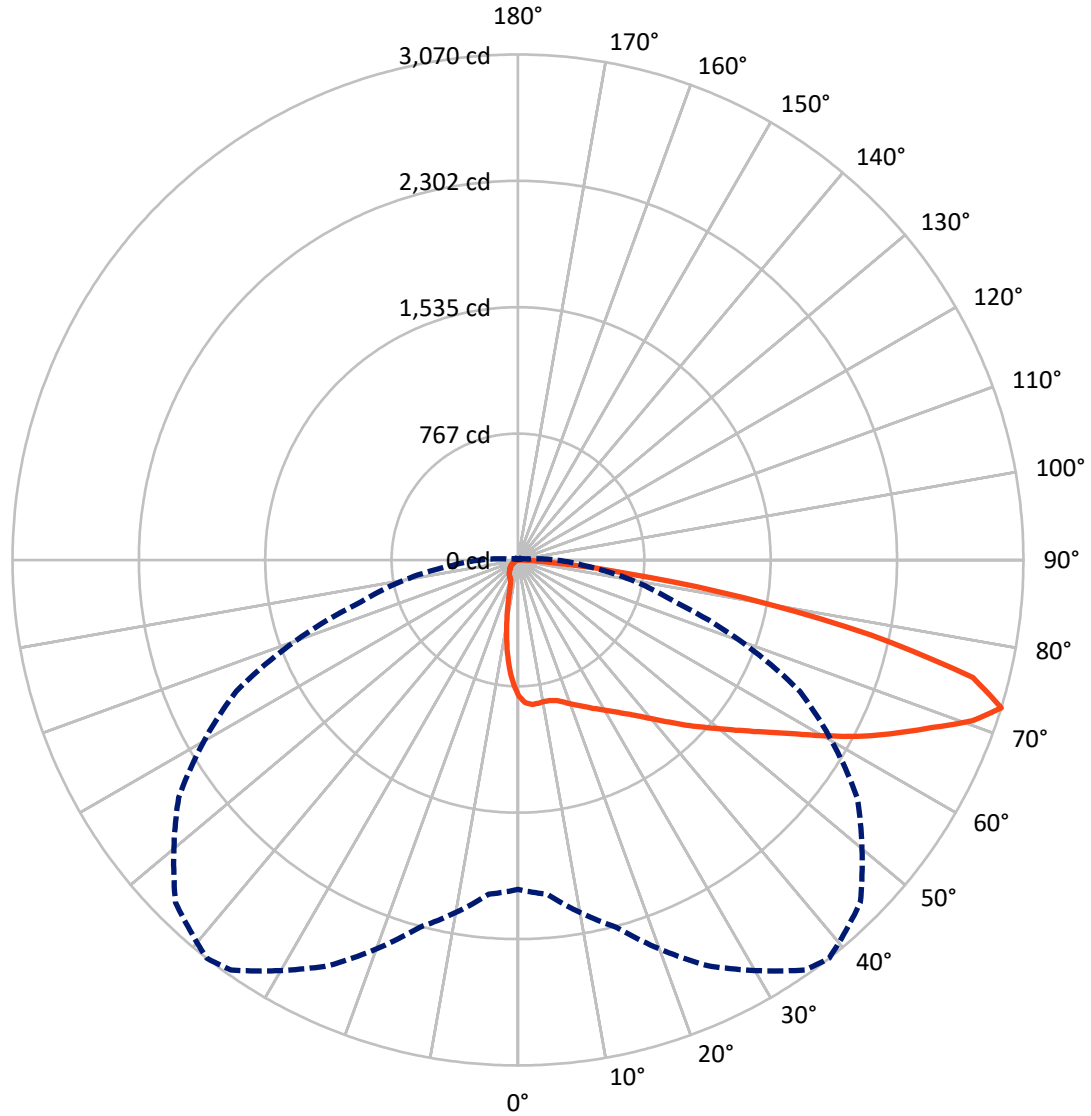
× Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P385856
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Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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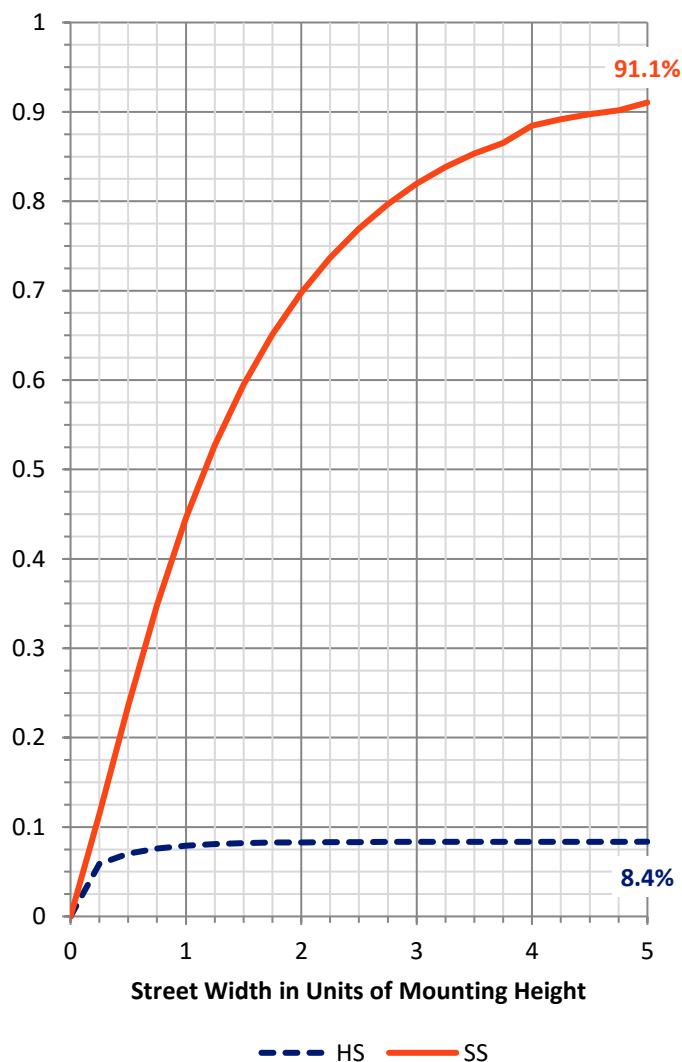
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 379.3 | 0.0 | 379.3 |
| | % Fixture | 8.4 | 0.0 | 8.4 |
| Street Side | Lumens | 4127.7 | 0.0 | 4127.7 |
| | % Fixture | 91.6 | 0.0 | 91.6 |
| Total | Lumens | 4507.0 | 0.0 | 4507.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 70.6 | 1.6 |
| 10°-20° | 172.7 | 3.8 |
| 20°-30° | 274.7 | 6.1 |
| 30°-40° | 413.0 | 9.2 |
| 40°-50° | 630.0 | 14.0 |
| 50°-60° | 890.4 | 19.8 |
| 60°-70° | 1116.9 | 24.8 |
| 70°-80° | 835.1 | 18.5 |
| 80°-90° | 103.6 | 2.3 |
| 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° | 4507.0 | 100.0 |
| 0°-180° | 4507.0 | 100.0 |

Coefficient of Utilization



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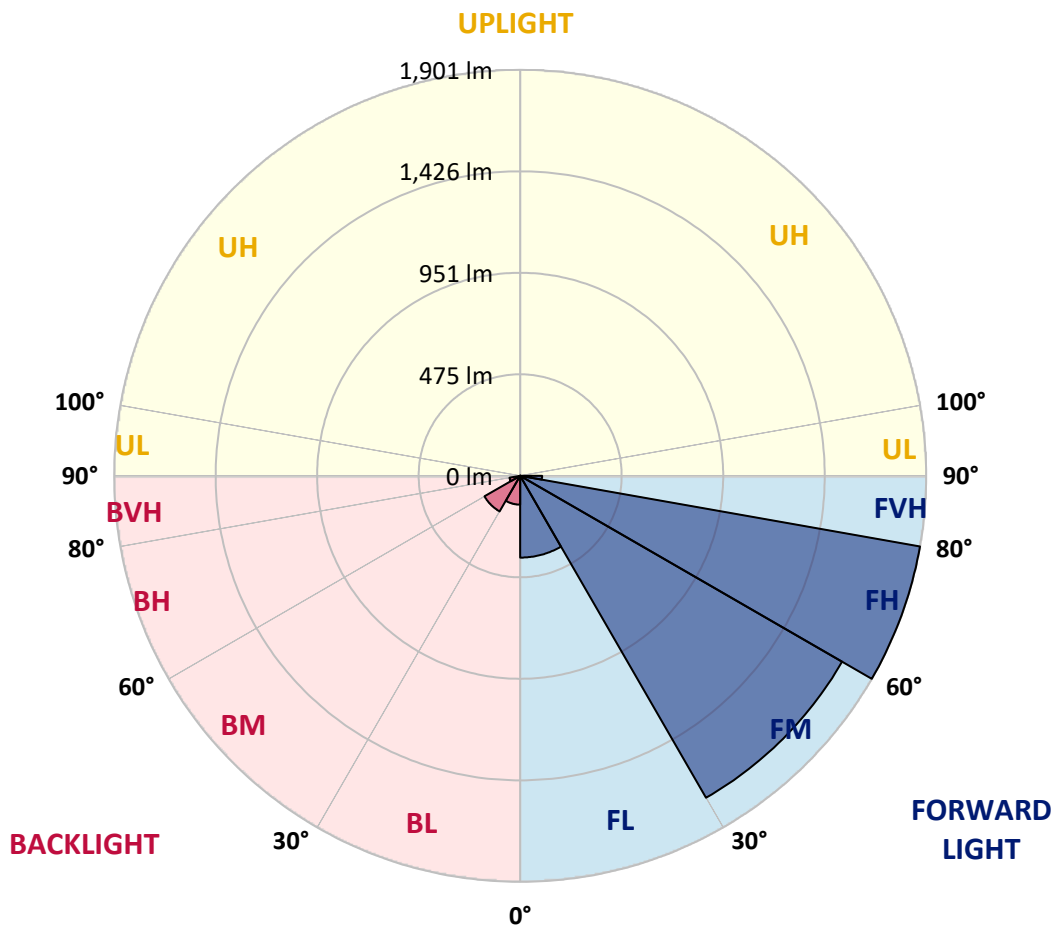
CATALOG NUMBER: GPC-SA1C-722-U-SL4-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 383.0 | 8.5 | | | |
| FM (30°-60°) | 1740.8 | 38.6 | | | |
| FH (60°-80°) | 1901.3 | 42.2 | | | G2/5000 |
| FVH (80°-90°) | 102.6 | 2.3 | | | G2/225 |
| BL (0°-30°) | 135.0 | 3.0 | B1/500 | | |
| BM (30°-60°) | 192.6 | 4.3 | B0/220 | | |
| BH (60°-80°) | 50.7 | 1.1 | B0/110 | | G0/110 |
| BVH (80°-90°) | 1.0 | 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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 38° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 |
| 2.5° | 879.7 | 879.9 | 877.9 | 874.5 | 870.2 | 867.9 | 864.2 | 858.2 | 851.8 | 840.4 | 828.1 |
| 5° | 897.7 | 897.7 | 895.1 | 890.6 | 883.7 | 881.6 | 874.5 | 864.9 | 851.8 | 833.3 | 812.5 |
| 7.5° | 895.8 | 896.2 | 892.7 | 888.0 | 881.0 | 879.2 | 870.6 | 859.9 | 843.6 | 821.1 | 794.6 |
| 10° | 886.1 | 887.0 | 884.2 | 882.0 | 875.6 | 873.6 | 865.5 | 854.8 | 838.6 | 814.6 | 784.1 |
| 12.5° | 876.2 | 877.1 | 878.1 | 880.1 | 876.2 | 875.4 | 869.1 | 860.1 | 844.5 | 819.7 | 785.2 |
| 15° | 869.8 | 871.7 | 878.4 | 886.5 | 887.4 | 886.7 | 882.5 | 874.1 | 858.4 | 832.6 | 793.3 |
| 17.5° | 869.8 | 872.8 | 886.8 | 902.2 | 907.6 | 908.2 | 904.6 | 892.8 | 874.1 | 846.4 | 800.7 |
| 20° | 877.1 | 881.2 | 903.1 | 924.8 | 933.8 | 933.8 | 926.9 | 910.4 | 888.5 | 859.0 | 805.8 |
| 22.5° | 895.8 | 901.3 | 928.8 | 953.9 | 963.4 | 961.3 | 952.0 | 928.0 | 903.5 | 873.2 | 812.2 |
| 25° | 932.7 | 936.8 | 965.5 | 990.7 | 996.5 | 991.9 | 980.1 | 949.4 | 922.6 | 892.5 | 823.8 |
| 27.5° | 980.2 | 980.8 | 1010.4 | 1031.7 | 1028.2 | 1025.0 | 1010.2 | 976.1 | 950.1 | 920.0 | 843.8 |
| 30° | 1032.5 | 1032.5 | 1058.5 | 1074.8 | 1063.9 | 1061.3 | 1046.5 | 1008.5 | 985.3 | 957.4 | 872.2 |
| 32.5° | 1083.0 | 1085.3 | 1106.4 | 1116.7 | 1104.5 | 1101.9 | 1087.5 | 1049.5 | 1032.1 | 1014.5 | 916.6 |
| 35° | 1131.9 | 1133.5 | 1153.6 | 1159.2 | 1147.6 | 1148.3 | 1138.0 | 1105.8 | 1099.3 | 1097.0 | 983.4 |
| 37.5° | 1179.2 | 1179.6 | 1200.0 | 1203.6 | 1197.7 | 1204.1 | 1205.0 | 1176.6 | 1188.8 | 1206.9 | 1077.6 |
| 40° | 1222.5 | 1222.8 | 1243.0 | 1252.2 | 1262.1 | 1270.4 | 1277.7 | 1262.5 | 1302.8 | 1344.9 | 1189.7 |
| 42.5° | 1257.1 | 1261.0 | 1286.7 | 1304.1 | 1330.3 | 1346.0 | 1365.8 | 1365.1 | 1438.5 | 1501.7 | 1325.2 |
| 45° | 1287.6 | 1294.3 | 1330.1 | 1360.6 | 1405.5 | 1430.6 | 1461.7 | 1486.0 | 1591.2 | 1676.4 | 1462.4 |
| 47.5° | 1327.8 | 1334.2 | 1375.0 | 1425.0 | 1484.9 | 1517.8 | 1569.3 | 1621.9 | 1759.1 | 1847.8 | 1596.4 |
| 50° | 1384.6 | 1381.7 | 1422.0 | 1493.7 | 1570.6 | 1613.8 | 1687.2 | 1766.0 | 1925.7 | 1997.2 | 1675.2 |
| 52.5° | 1445.0 | 1443.9 | 1473.6 | 1568.4 | 1671.7 | 1722.2 | 1819.2 | 1915.0 | 2085.0 | 2100.1 | 1711.4 |
| 55° | 1519.9 | 1511.8 | 1536.9 | 1653.5 | 1791.7 | 1845.9 | 1960.1 | 2062.5 | 2211.9 | 2158.2 | 1729.5 |
| 57.5° | 1598.3 | 1585.0 | 1609.0 | 1748.4 | 1927.0 | 1991.2 | 2116.2 | 2206.3 | 2296.3 | 2197.8 | 1729.3 |
| 60° | 1679.4 | 1663.6 | 1692.1 | 1867.1 | 2095.1 | 2169.4 | 2285.4 | 2303.4 | 2375.1 | 2217.9 | 1716.6 |
| 62.5° | 1747.1 | 1737.8 | 1780.1 | 1994.0 | 2282.8 | 2355.8 | 2413.3 | 2391.8 | 2441.5 | 2233.4 | 1686.8 |
| 65° | 1818.8 | 1819.4 | 1887.7 | 2142.1 | 2482.3 | 2531.6 | 2536.4 | 2506.3 | 2497.1 | 2230.2 | 1586.1 |
| 67.5° | 1915.8 | 1924.7 | 2038.7 | 2343.1 | 2676.5 | 2714.4 | 2714.1 | 2630.4 | 2537.8 | 2103.7 | 1362.8 |
| 70° | 2018.3 | 2039.5 | 2212.8 | 2573.1 | 2888.3 | 2926.9 | 2907.1 | 2709.4 | 2389.5 | 1701.1 | 964.5 |
| 72.5° | 2001.1 | 2037.8 | 2309.6 | 2718.2 | 3040.5 | 3069.9 | 2940.9 | 2515.3 | 1888.6 | 988.7 | 410.7 |
| 75° | 1543.8 | 1586.3 | 2117.7 | 2574.4 | 2880.9 | 2854.5 | 2526.9 | 1957.3 | 1032.1 | 275.9 | 92.5 |
| 77.5° | 815.5 | 838.2 | 1399.0 | 1961.2 | 2246.3 | 2191.1 | 1780.1 | 1085.8 | 314.6 | 68.3 | 41.6 |
| 80° | 427.1 | 432.4 | 609.6 | 1112.8 | 1386.4 | 1386.8 | 1054.9 | 476.9 | 129.7 | 35.0 | 27.9 |
| 82.5° | 228.7 | 233.2 | 322.1 | 514.2 | 726.4 | 658.5 | 403.9 | 262.4 | 75.4 | 19.8 | 26.8 |
| 85° | 55.0 | 56.0 | 182.7 | 234.9 | 285.6 | 204.0 | 120.0 | 220.3 | 20.4 | 11.6 | 21.7 |
| 87.5° | 21.2 | 21.5 | 67.8 | 101.6 | 72.8 | 47.2 | 56.2 | 82.2 | 2.6 | 4.5 | 3.4 |
| 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: P385856
 CATALOG NUMBER: GPC-SA1C-722-U-SL4-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 | 828.8 |
| 2.5° | 820.6 | 815.7 | 803.7 | 788.6 | 775.1 | 765.4 | 750.8 | 741.2 | 734.9 | 734.7 | 732.2 |
| 5° | 799.8 | 789.9 | 764.1 | 733.4 | 705.5 | 680.4 | 650.8 | 627.4 | 610.0 | 607.2 | 601.2 |
| 7.5° | 777.5 | 761.3 | 721.6 | 673.7 | 626.9 | 579.3 | 524.1 | 489.8 | 460.5 | 446.4 | 444.9 |
| 10° | 763.9 | 741.0 | 684.7 | 615.4 | 542.1 | 464.8 | 392.5 | 342.5 | 306.4 | 296.1 | 288.4 |
| 12.5° | 761.1 | 730.9 | 656.2 | 560.8 | 456.0 | 353.8 | 273.8 | 220.7 | 191.9 | 182.7 | 180.3 |
| 15° | 763.9 | 726.2 | 632.3 | 506.7 | 368.7 | 251.0 | 183.8 | 152.9 | 142.1 | 139.4 | 139.3 |
| 17.5° | 765.6 | 720.6 | 605.1 | 446.6 | 284.1 | 179.3 | 140.8 | 131.8 | 130.1 | 129.9 | 130.3 |
| 20° | 765.4 | 712.0 | 572.8 | 379.6 | 211.3 | 140.9 | 127.3 | 125.4 | 125.0 | 125.2 | 125.0 |
| 22.5° | 764.1 | 701.9 | 537.2 | 310.5 | 159.7 | 126.0 | 121.5 | 120.4 | 120.2 | 120.2 | 120.2 |
| 25° | 766.5 | 693.9 | 498.1 | 244.5 | 131.6 | 119.0 | 116.2 | 115.3 | 115.1 | 115.1 | 114.7 |
| 27.5° | 775.3 | 689.4 | 455.2 | 188.1 | 118.9 | 112.9 | 110.6 | 110.4 | 109.9 | 109.7 | 110.1 |
| 30° | 789.5 | 689.4 | 408.2 | 146.4 | 111.2 | 106.5 | 104.8 | 104.4 | 104.3 | 104.1 | 104.3 |
| 32.5° | 814.6 | 694.6 | 356.9 | 121.7 | 103.9 | 99.4 | 98.3 | 98.8 | 98.3 | 98.3 | 98.3 |
| 35° | 859.9 | 710.3 | 303.2 | 106.1 | 96.2 | 92.5 | 91.3 | 92.1 | 91.7 | 91.7 | 91.5 |
| 37.5° | 926.0 | 739.5 | 249.1 | 96.8 | 89.5 | 85.5 | 84.0 | 85.2 | 84.8 | 84.8 | 84.6 |
| 40° | 1006.5 | 782.0 | 197.7 | 89.7 | 82.9 | 78.8 | 77.5 | 78.1 | 77.1 | 77.1 | 77.5 |
| 42.5° | 1105.8 | 835.9 | 152.7 | 82.7 | 76.4 | 72.4 | 71.7 | 71.1 | 69.4 | 68.5 | 68.7 |
| 45° | 1216.3 | 892.1 | 119.0 | 76.0 | 70.2 | 67.0 | 65.9 | 64.4 | 61.6 | 59.7 | 59.9 |
| 47.5° | 1314.9 | 935.3 | 96.8 | 69.4 | 64.6 | 62.1 | 60.5 | 57.7 | 53.5 | 51.3 | 51.5 |
| 50° | 1366.8 | 941.9 | 82.4 | 62.9 | 59.3 | 56.9 | 54.5 | 50.2 | 45.3 | 42.9 | 42.7 |
| 52.5° | 1380.1 | 911.2 | 71.7 | 56.9 | 54.1 | 51.3 | 48.1 | 42.3 | 36.9 | 34.3 | 33.9 |
| 55° | 1384.9 | 864.4 | 62.1 | 51.3 | 48.5 | 45.3 | 41.2 | 34.6 | 29.6 | 27.0 | 26.8 |
| 57.5° | 1368.8 | 794.6 | 54.7 | 46.2 | 42.9 | 38.9 | 33.9 | 27.7 | 22.8 | 20.8 | 20.8 |
| 60° | 1333.1 | 700.0 | 48.9 | 40.8 | 37.1 | 32.6 | 27.3 | 21.5 | 17.0 | 15.3 | 15.3 |
| 62.5° | 1261.8 | 577.6 | 43.4 | 35.2 | 31.6 | 27.0 | 22.1 | 16.3 | 12.0 | 11.0 | 11.2 |
| 65° | 1127.2 | 438.2 | 38.0 | 30.1 | 27.0 | 22.3 | 17.2 | 11.6 | 8.0 | 8.0 | 8.4 |
| 67.5° | 919.2 | 304.4 | 32.4 | 25.6 | 23.2 | 18.2 | 13.1 | 8.0 | 5.6 | 6.4 | 7.1 |
| 70° | 608.5 | 170.7 | 27.7 | 21.2 | 19.8 | 14.4 | 9.7 | 5.4 | 4.5 | 6.0 | 7.3 |
| 72.5° | 229.7 | 66.4 | 23.2 | 17.0 | 17.2 | 11.0 | 6.9 | 4.1 | 4.1 | 6.6 | 8.6 |
| 75° | 64.0 | 32.6 | 16.7 | 12.5 | 13.5 | 8.0 | 5.1 | 3.6 | 3.9 | 7.5 | 10.1 |
| 77.5° | 37.6 | 24.0 | 10.9 | 7.3 | 9.2 | 5.6 | 3.4 | 2.8 | 3.4 | 6.4 | 9.7 |
| 80° | 30.3 | 12.7 | 6.4 | 3.7 | 5.1 | 3.2 | 2.2 | 1.7 | 0.9 | 2.4 | 5.1 |
| 82.5° | 30.3 | 7.7 | 3.0 | 2.6 | 2.6 | 1.7 | 1.1 | 0.7 | 0.2 | 0.0 | 1.3 |
| 85° | 20.4 | 3.2 | 1.9 | 1.7 | 1.3 | 0.6 | 0.4 | 0.2 | 0.0 | 0.0 | 0.0 |
| 87.5° | 3.4 | 1.3 | 0.7 | 0.4 | 0.2 | 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: SP1-1908-441-10-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-722-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): 2237
 CIE u': 0.2876
 CIE v': 0.5346
 Duv: -0.0006
 CIE x: 0.5005
 CIE y: 0.4134
 CIE z: 0.0860
 Peak Wavelength (nm): 603
 Dominant Wavelength (nm): 587
 Purity: 74.5

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 72.0 | | |
| R1: | 68.9 | R9: | -17.4 |
| R2: | 83.0 | R10: | 61.3 |
| R3: | 95.2 | R11: | 59.8 |
| R4: | 66.2 | R12: | 50.5 |
| R5: | 65.9 | R13: | 71.1 |
| R6: | 76.3 | R14: | 96.9 |
| R7: | 76.7 | | |
| R8: | 43.8 | | |

Rf: 69.8
 Rg: 99.2



Test Conditions

Stabilization Time: 71M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.7/41%
 Sphere Temperature (°C): 25.6

REPORT NUMBER: SP1-1908-441-10-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 2200K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-10-R4

Photopic Flux vs. Wavelength

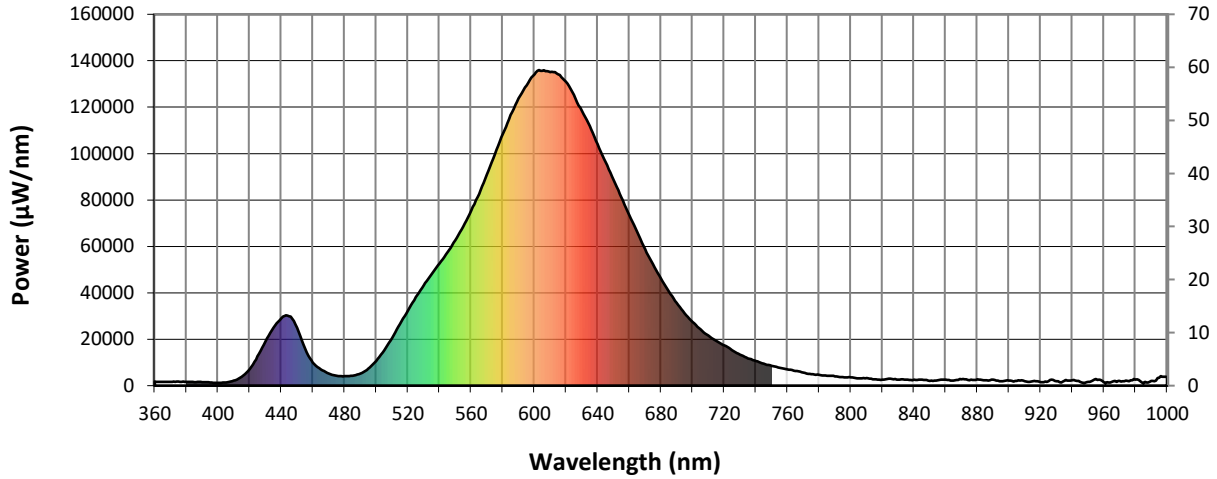


#####

| 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 | 1768 | NR | 490 | 5206 | NR | 620 | 130919 | NR | 750 | 8553 | NR | 880 | 2713 | NR |
| 365 | 1569 | NR | 495 | 7286 | NR | 625 | 125335 | NR | 755 | 7696 | NR | 885 | 2316 | NR |
| 370 | 1594 | NR | 500 | 10654 | NR | 630 | 118388 | NR | 760 | 6978 | NR | 890 | 2539 | NR |
| 375 | 1744 | NR | 505 | 15189 | NR | 635 | 111855 | NR | 765 | 6377 | NR | 895 | 1933 | NR |
| 380 | 1659 | NR | 510 | 20541 | NR | 640 | 104062 | NR | 770 | 5600 | NR | 900 | 2216 | NR |
| 385 | 1504 | NR | 515 | 26492 | NR | 645 | 96365 | NR | 775 | 5000 | NR | 905 | 2067 | NR |
| 390 | 1541 | NR | 520 | 32294 | NR | 650 | 88651 | NR | 780 | 4709 | NR | 910 | 1959 | NR |
| 395 | 1355 | NR | 525 | 38123 | NR | 655 | 81152 | NR | 785 | 4305 | NR | 915 | 1874 | NR |
| 400 | 1243 | NR | 530 | 43232 | NR | 660 | 73523 | NR | 790 | 4040 | NR | 920 | 1484 | NR |
| 405 | 1417 | NR | 535 | 48012 | NR | 665 | 66123 | NR | 795 | 3642 | NR | 925 | 1914 | NR |
| 410 | 2147 | NR | 540 | 52623 | NR | 670 | 58677 | NR | 800 | 3594 | NR | 930 | 1948 | NR |
| 415 | 3837 | NR | 545 | 57516 | NR | 675 | 52349 | NR | 805 | 3190 | NR | 935 | 2079 | NR |
| 420 | 7159 | NR | 550 | 62613 | NR | 680 | 46159 | NR | 810 | 3241 | NR | 940 | 2263 | NR |
| 425 | 12599 | NR | 555 | 68554 | NR | 685 | 40525 | NR | 815 | 2732 | NR | 945 | 1688 | NR |
| 430 | 19019 | NR | 560 | 75325 | NR | 690 | 35615 | NR | 820 | 2612 | NR | 950 | 1560 | NR |
| 435 | 24875 | NR | 565 | 82533 | NR | 695 | 31158 | NR | 825 | 2966 | NR | 955 | 2826 | NR |
| 440 | 29103 | NR | 570 | 90909 | NR | 700 | 27409 | NR | 830 | 2574 | NR | 960 | 1477 | NR |
| 445 | 29901 | NR | 575 | 99621 | NR | 705 | 24204 | NR | 835 | 2633 | NR | 965 | 1568 | NR |
| 450 | 24862 | NR | 580 | 108484 | NR | 710 | 21558 | NR | 840 | 2526 | NR | 970 | 2030 | NR |
| 455 | 15942 | NR | 585 | 116679 | NR | 715 | 19222 | NR | 845 | 2631 | NR | 975 | 1986 | NR |
| 460 | 9916 | NR | 590 | 123752 | NR | 720 | 17310 | NR | 850 | 2079 | NR | 980 | 2540 | NR |
| 465 | 7051 | NR | 595 | 129324 | NR | 725 | 15280 | NR | 855 | 2309 | NR | 985 | 1139 | NR |
| 470 | 5227 | NR | 600 | 134082 | NR | 730 | 13282 | NR | 860 | 2528 | NR | 990 | 2018 | NR |
| 475 | 4257 | NR | 605 | 135698 | NR | 735 | 11753 | NR | 865 | 2121 | NR | 995 | 3445 | NR |
| 480 | 4052 | NR | 610 | 135144 | NR | 740 | 10654 | NR | 870 | 2751 | NR | 1000 | 3704 | NR |
| 485 | 4298 | NR | 615 | 134180 | NR | 745 | 9451 | NR | 875 | 2317 | NR | | | |

REPORT NUMBER: SP1-1908-441-10-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 4696.9

S/P: 0.85

| 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 | 1768 | NR | 490 | 5206 | NR | 620 | 130919 | NR | 750 | 8553 | NR | 880 | 2713 | NR |
| 365 | 1569 | NR | 495 | 7286 | NR | 625 | 125335 | NR | 755 | 7696 | NR | 885 | 2316 | NR |
| 370 | 1594 | NR | 500 | 10654 | NR | 630 | 118388 | NR | 760 | 6978 | NR | 890 | 2539 | NR |
| 375 | 1744 | NR | 505 | 15189 | NR | 635 | 111855 | NR | 765 | 6377 | NR | 895 | 1933 | NR |
| 380 | 1659 | NR | 510 | 20541 | NR | 640 | 104062 | NR | 770 | 5600 | NR | 900 | 2216 | NR |
| 385 | 1504 | NR | 515 | 26492 | NR | 645 | 96365 | NR | 775 | 5000 | NR | 905 | 2067 | NR |
| 390 | 1541 | NR | 520 | 32294 | NR | 650 | 88651 | NR | 780 | 4709 | NR | 910 | 1959 | NR |
| 395 | 1355 | NR | 525 | 38123 | NR | 655 | 81152 | NR | 785 | 4305 | NR | 915 | 1874 | NR |
| 400 | 1243 | NR | 530 | 43232 | NR | 660 | 73523 | NR | 790 | 4040 | NR | 920 | 1484 | NR |
| 405 | 1417 | NR | 535 | 48012 | NR | 665 | 66123 | NR | 795 | 3642 | NR | 925 | 1914 | NR |
| 410 | 2147 | NR | 540 | 52623 | NR | 670 | 58677 | NR | 800 | 3594 | NR | 930 | 1948 | NR |
| 415 | 3837 | NR | 545 | 57516 | NR | 675 | 52349 | NR | 805 | 3190 | NR | 935 | 2079 | NR |
| 420 | 7159 | NR | 550 | 62613 | NR | 680 | 46159 | NR | 810 | 3241 | NR | 940 | 2263 | NR |
| 425 | 12599 | NR | 555 | 68554 | NR | 685 | 40525 | NR | 815 | 2732 | NR | 945 | 1688 | NR |
| 430 | 19019 | NR | 560 | 75325 | NR | 690 | 35615 | NR | 820 | 2612 | NR | 950 | 1560 | NR |
| 435 | 24875 | NR | 565 | 82533 | NR | 695 | 31158 | NR | 825 | 2966 | NR | 955 | 2826 | NR |
| 440 | 29103 | NR | 570 | 90909 | NR | 700 | 27409 | NR | 830 | 2574 | NR | 960 | 1477 | NR |
| 445 | 29901 | NR | 575 | 99621 | NR | 705 | 24204 | NR | 835 | 2633 | NR | 965 | 1568 | NR |
| 450 | 24862 | NR | 580 | 108484 | NR | 710 | 21558 | NR | 840 | 2526 | NR | 970 | 2030 | NR |
| 455 | 15942 | NR | 585 | 116679 | NR | 715 | 19222 | NR | 845 | 2631 | NR | 975 | 1986 | NR |
| 460 | 9916 | NR | 590 | 123752 | NR | 720 | 17310 | NR | 850 | 2079 | NR | 980 | 2540 | NR |
| 465 | 7051 | NR | 595 | 129324 | NR | 725 | 15280 | NR | 855 | 2309 | NR | 985 | 1139 | NR |
| 470 | 5227 | NR | 600 | 134082 | NR | 730 | 13282 | NR | 860 | 2528 | NR | 990 | 2018 | NR |
| 475 | 4257 | NR | 605 | 135698 | NR | 735 | 11753 | NR | 865 | 2121 | NR | 995 | 3445 | NR |
| 480 | 4052 | NR | 610 | 135144 | NR | 740 | 10654 | NR | 870 | 2751 | NR | 1000 | 3704 | NR |
| 485 | 4298 | NR | 615 | 134180 | NR | 745 | 9451 | NR | 875 | 2317 | NR | | | |

REPORT NUMBER: SP1-1908-441-10-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 1470.8 M/P: 0.27

| 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 | 1768 | NR | 490 | 5206 | NR | 620 | 130919 | NR | 750 | 8553 | NR | 880 | 2713 | NR |
| 365 | 1569 | NR | 495 | 7286 | NR | 625 | 125335 | NR | 755 | 7696 | NR | 885 | 2316 | NR |
| 370 | 1594 | NR | 500 | 10654 | NR | 630 | 118388 | NR | 760 | 6978 | NR | 890 | 2539 | NR |
| 375 | 1744 | NR | 505 | 15189 | NR | 635 | 111855 | NR | 765 | 6377 | NR | 895 | 1933 | NR |
| 380 | 1659 | NR | 510 | 20541 | NR | 640 | 104062 | NR | 770 | 5600 | NR | 900 | 2216 | NR |
| 385 | 1504 | NR | 515 | 26492 | NR | 645 | 96365 | NR | 775 | 5000 | NR | 905 | 2067 | NR |
| 390 | 1541 | NR | 520 | 32294 | NR | 650 | 88651 | NR | 780 | 4709 | NR | 910 | 1959 | NR |
| 395 | 1355 | NR | 525 | 38123 | NR | 655 | 81152 | NR | 785 | 4305 | NR | 915 | 1874 | NR |
| 400 | 1243 | NR | 530 | 43232 | NR | 660 | 73523 | NR | 790 | 4040 | NR | 920 | 1484 | NR |
| 405 | 1417 | NR | 535 | 48012 | NR | 665 | 66123 | NR | 795 | 3642 | NR | 925 | 1914 | NR |
| 410 | 2147 | NR | 540 | 52623 | NR | 670 | 58677 | NR | 800 | 3594 | NR | 930 | 1948 | NR |
| 415 | 3837 | NR | 545 | 57516 | NR | 675 | 52349 | NR | 805 | 3190 | NR | 935 | 2079 | NR |
| 420 | 7159 | NR | 550 | 62613 | NR | 680 | 46159 | NR | 810 | 3241 | NR | 940 | 2263 | NR |
| 425 | 12599 | NR | 555 | 68554 | NR | 685 | 40525 | NR | 815 | 2732 | NR | 945 | 1688 | NR |
| 430 | 19019 | NR | 560 | 75325 | NR | 690 | 35615 | NR | 820 | 2612 | NR | 950 | 1560 | NR |
| 435 | 24875 | NR | 565 | 82533 | NR | 695 | 31158 | NR | 825 | 2966 | NR | 955 | 2826 | NR |
| 440 | 29103 | NR | 570 | 90909 | NR | 700 | 27409 | NR | 830 | 2574 | NR | 960 | 1477 | NR |
| 445 | 29901 | NR | 575 | 99621 | NR | 705 | 24204 | NR | 835 | 2633 | NR | 965 | 1568 | NR |
| 450 | 24862 | NR | 580 | 108484 | NR | 710 | 21558 | NR | 840 | 2526 | NR | 970 | 2030 | NR |
| 455 | 15942 | NR | 585 | 116679 | NR | 715 | 19222 | NR | 845 | 2631 | NR | 975 | 1986 | NR |
| 460 | 9916 | NR | 590 | 123752 | NR | 720 | 17310 | NR | 850 | 2079 | NR | 980 | 2540 | NR |
| 465 | 7051 | NR | 595 | 129324 | NR | 725 | 15280 | NR | 855 | 2309 | NR | 985 | 1139 | NR |
| 470 | 5227 | NR | 600 | 134082 | NR | 730 | 13282 | NR | 860 | 2528 | NR | 990 | 2018 | NR |
| 475 | 4257 | NR | 605 | 135698 | NR | 735 | 11753 | NR | 865 | 2121 | NR | 995 | 3445 | NR |
| 480 | 4052 | NR | 610 | 135144 | NR | 740 | 10654 | NR | 870 | 2751 | NR | 1000 | 3704 | NR |
| 485 | 4298 | NR | 615 | 134180 | NR | 745 | 9451 | NR | 875 | 2317 | NR | | | |

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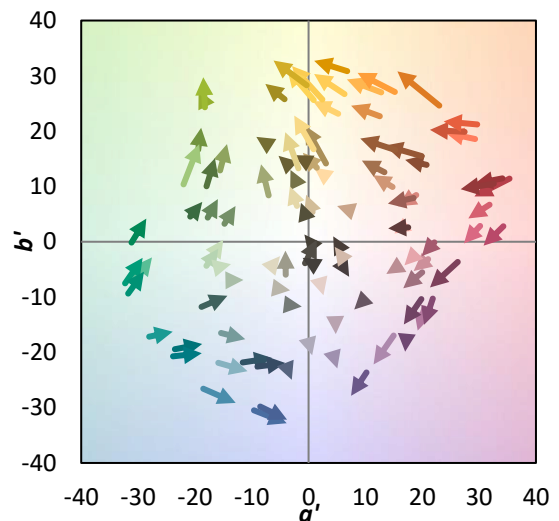
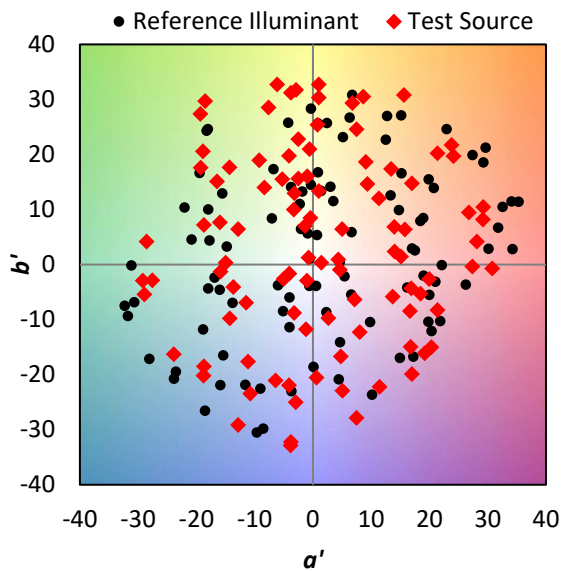
TM-30-18

Summary

$R_f = 69.8$
 $R_g = 99.2$
 CIE $R_a = 72.0$
 $R_9 = -17.4$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 56 | CES51 = 74 | CES76 = 56 |
| CES02 = 65 | CES27 = 76 | CES52 = 76 | CES77 = 81 |
| CES03 = 32 | CES28 = 83 | CES53 = 65 | CES78 = 63 |
| CES04 = 72 | CES29 = 46 | CES54 = 78 | CES79 = 84 |
| CES05 = 52 | CES30 = 48 | CES55 = 75 | CES80 = 84 |
| CES06 = 52 | CES31 = 51 | CES56 = 65 | CES81 = 63 |
| CES07 = 44 | CES32 = 51 | CES57 = 62 | CES82 = 92 |
| CES08 = 42 | CES33 = 53 | CES58 = 66 | CES83 = 83 |
| CES09 = 29 | CES34 = 70 | CES59 = 84 | CES84 = 92 |
| CES10 = 78 | CES35 = 85 | CES60 = 90 | CES85 = 81 |
| CES11 = 61 | CES36 = 78 | CES61 = 84 | CES86 = 56 |
| CES12 = 68 | CES37 = 80 | CES62 = 70 | CES87 = 78 |
| CES13 = 45 | CES38 = 53 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 84 | CES65 = 67 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 90 |
| CES17 = 51 | CES42 = 79 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 64 | CES68 = 69 | CES93 = 79 |
| CES19 = 74 | CES44 = 98 | CES69 = 80 | CES94 = 52 |
| CES20 = 68 | CES45 = 73 | CES70 = 63 | CES95 = 76 |
| CES21 = 89 | CES46 = 67 | CES71 = 63 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 87 | CES97 = 77 |
| CES23 = 92 | CES48 = 48 | CES73 = 56 | CES98 = 71 |
| CES24 = 92 | CES49 = 64 | CES74 = 87 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)