

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: P629965

Luminaire Tested: GWS-SA1C-760-U-T2-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P629965
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-22)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1C-760-U-T2-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II OPTICS WITH HOUSE SIDE SHIELD
Light Source: (16) 5700K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3632.4 lumens
Efficiency: N/A
Efficacy: 106.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B0 - U0 - G1

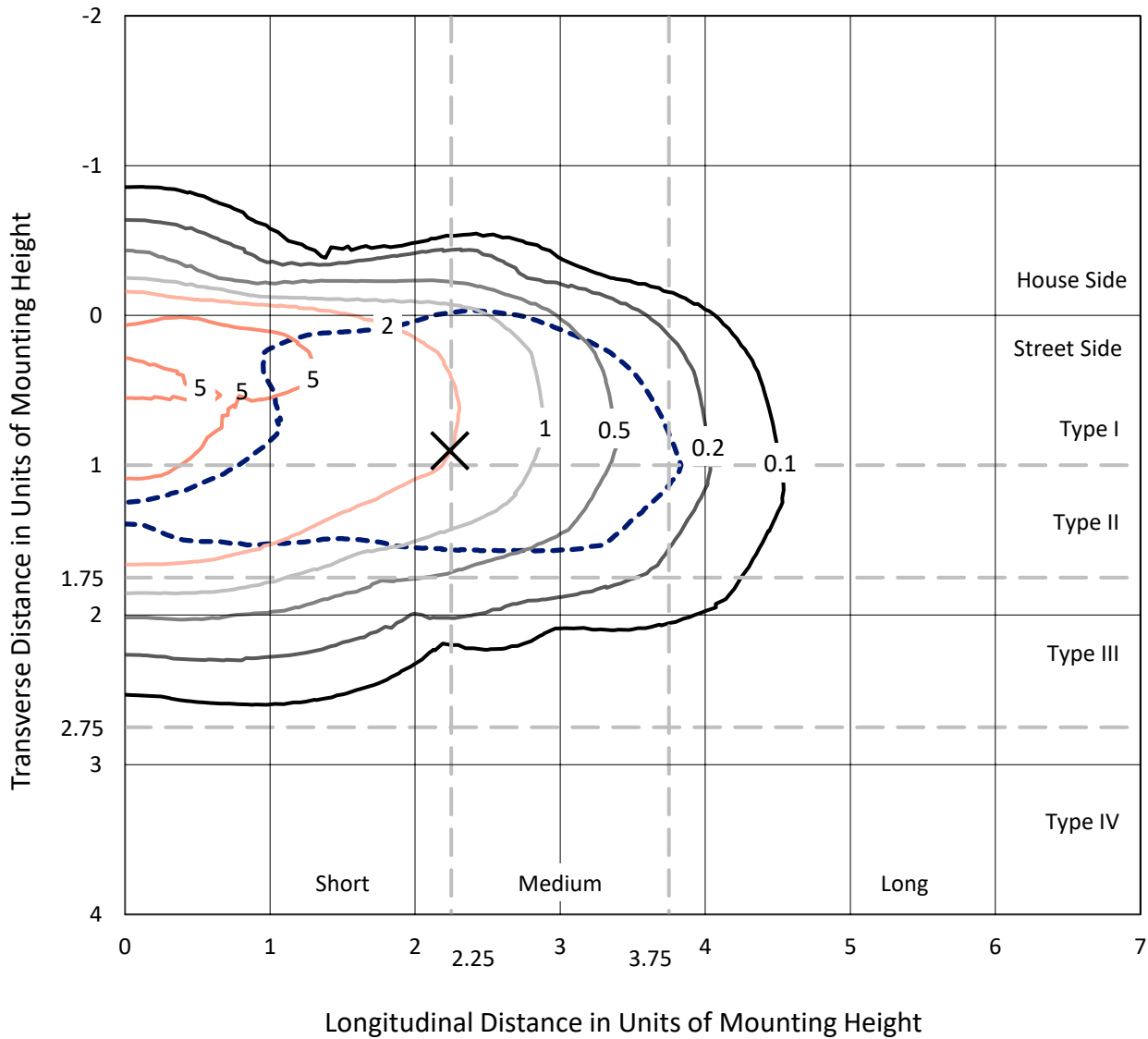
Input Watts (W): 34.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P629965
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Iso-Footcandle Lines of Horizontal Illumination

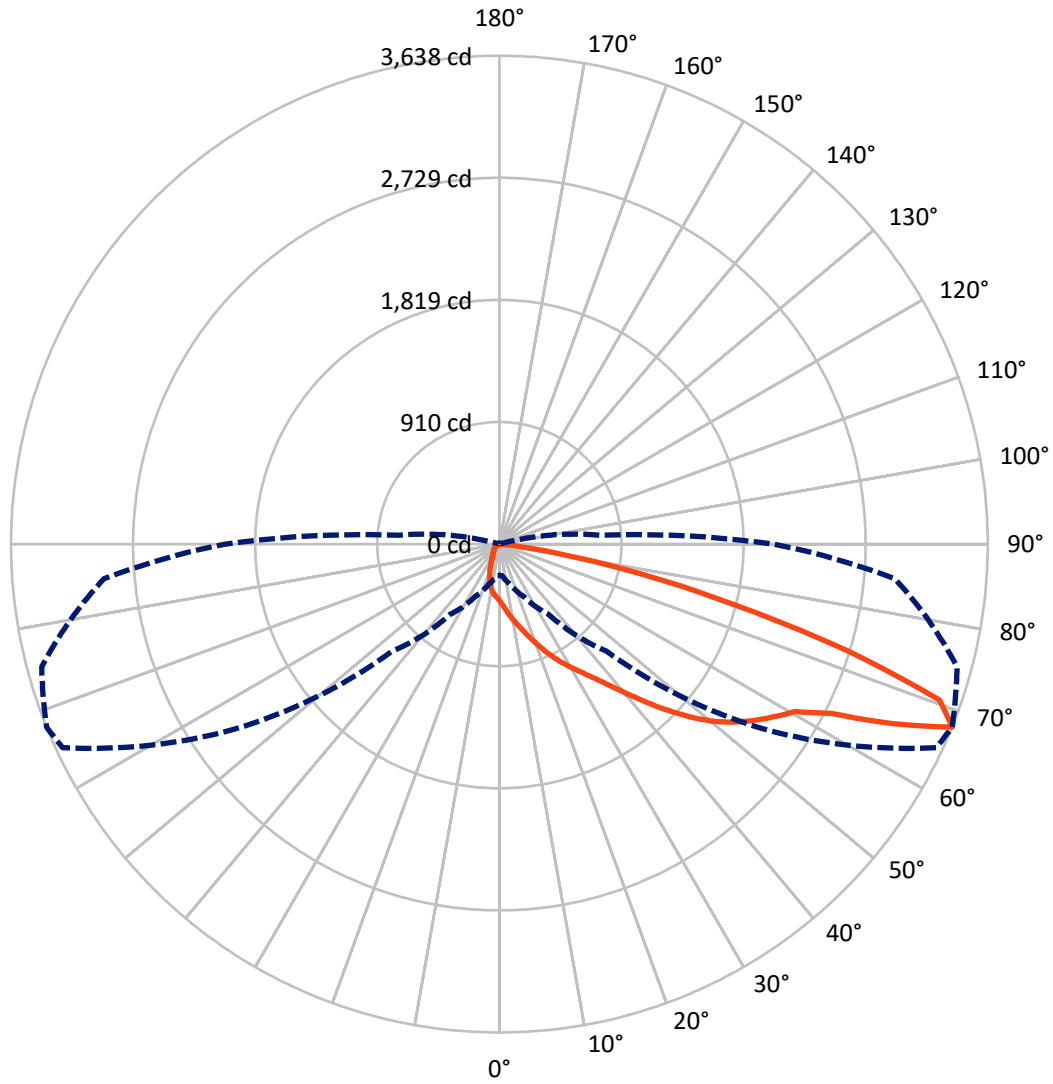
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.8 fc
 Type II - Short - N/A

REPORT NUMBER: P629965
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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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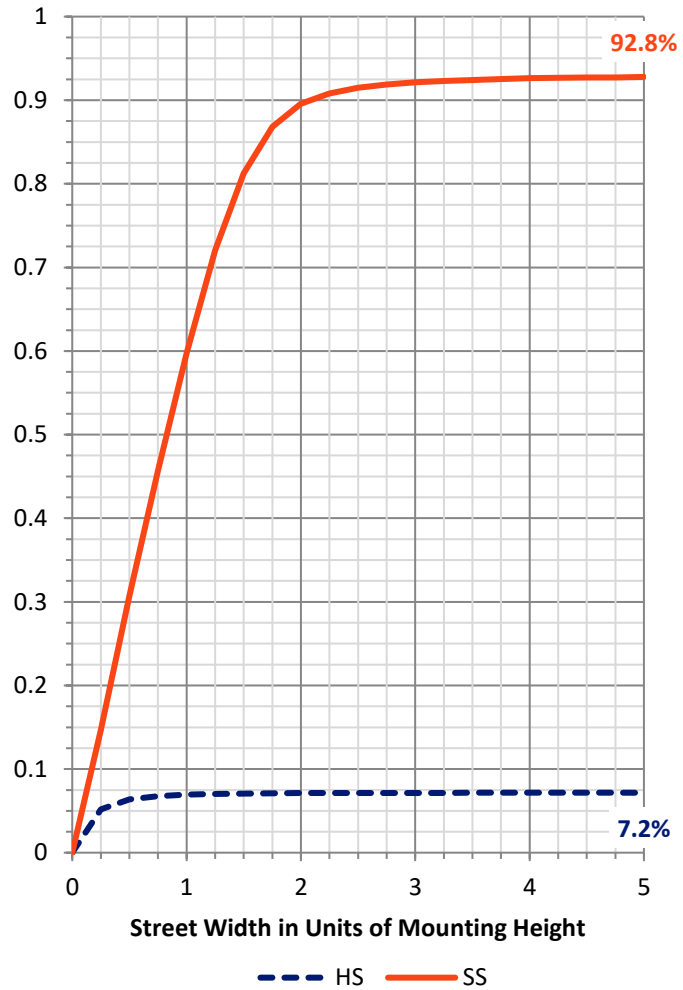
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 262.3 | 0.0 | 262.3 |
| | % Fixture | 7.2 | 0.0 | 7.2 |
| Street Side | Lumens | 3370.1 | 0.0 | 3370.1 |
| | % Fixture | 92.8 | 0.0 | 92.8 |
| Total | Lumens | 3632.4 | 0.0 | 3632.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 41.2 | 1.1 |
| 10°-20° | 118.4 | 3.3 |
| 20°-30° | 203.5 | 5.6 |
| 30°-40° | 353.7 | 9.7 |
| 40°-50° | 617.2 | 17.0 |
| 50°-60° | 931.0 | 25.6 |
| 60°-70° | 933.5 | 25.7 |
| 70°-80° | 411.9 | 11.3 |
| 80°-90° | 22.0 | 0.6 |
| 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° | 3632.4 | 100.0 |
| 0°-180° | 3632.4 | 100.0 |

Coefficient of Utilization



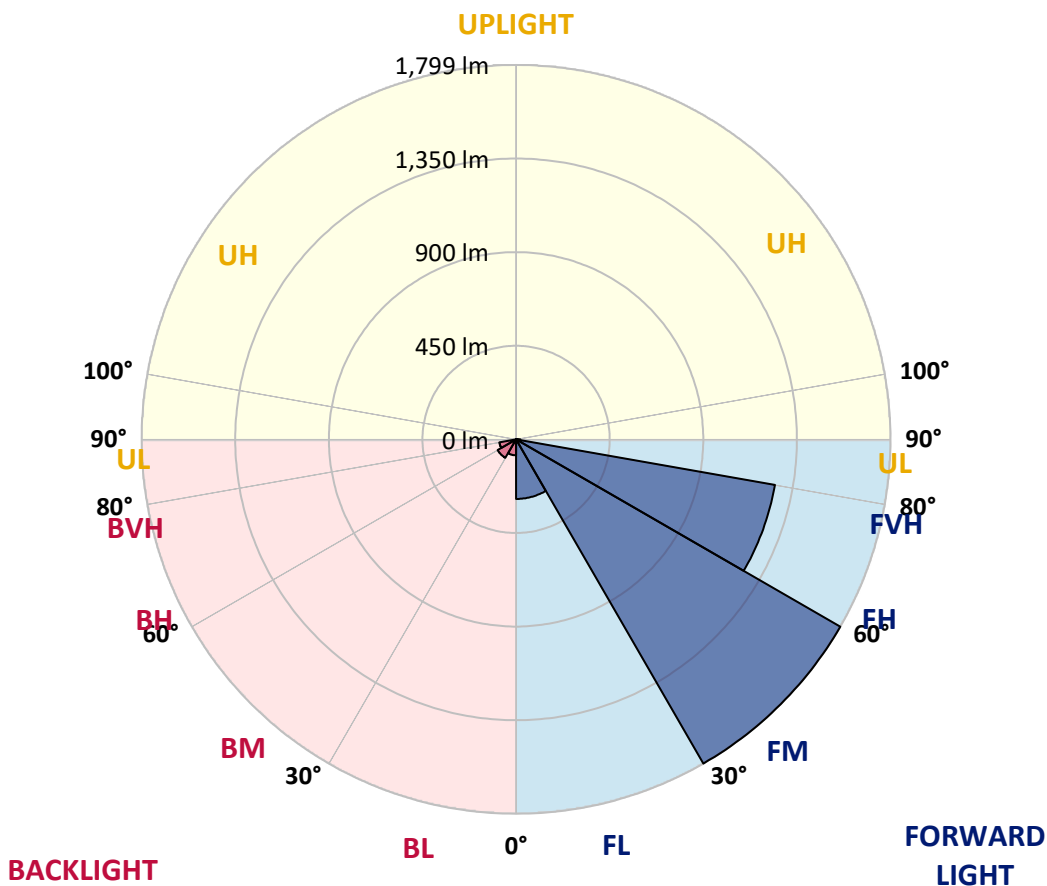
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 286.3 | 7.9 | | | |
| FM (30°-60°) | 1799.5 | 49.5 | | | |
| FH (60°-80°) | 1263.5 | 34.8 | | | G1/1800 |
| FVH (80°-90°) | 20.8 | 0.6 | | | G1/100 |
| BL (0°-30°) | 76.7 | 2.1 | B0/110 | | |
| BM (30°-60°) | 102.5 | 2.8 | B0/220 | | |
| BH (60°-80°) | 81.9 | 2.3 | B0/110 | | G0/110 |
| BVH (80°-90°) | 1.2 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B0-U0-G1
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 68° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 |
| 2.5° | 492.2 | 495.4 | 492.2 | 492.9 | 483.9 | 479.7 | 470.7 | 458.2 | 455.0 | 447.1 | 434.9 |
| 5° | 552.4 | 555.2 | 552.0 | 551.3 | 540.9 | 533.3 | 518.3 | 496.8 | 490.5 | 474.9 | 450.9 |
| 7.5° | 585.1 | 586.8 | 587.8 | 589.6 | 585.8 | 579.5 | 565.9 | 539.2 | 532.6 | 507.2 | 473.5 |
| 10° | 588.5 | 589.9 | 595.1 | 605.6 | 613.2 | 617.0 | 609.4 | 584.7 | 574.3 | 549.6 | 501.3 |
| 12.5° | 578.8 | 580.9 | 589.2 | 606.6 | 627.8 | 647.3 | 652.2 | 630.6 | 621.2 | 589.6 | 534.0 |
| 15° | 565.9 | 567.7 | 579.2 | 602.8 | 634.8 | 670.6 | 690.7 | 681.4 | 670.9 | 637.9 | 570.1 |
| 17.5° | 546.1 | 548.6 | 564.6 | 596.5 | 637.9 | 689.0 | 732.5 | 735.6 | 728.3 | 692.5 | 610.1 |
| 20° | 535.0 | 536.7 | 551.0 | 584.0 | 635.8 | 702.6 | 771.4 | 800.9 | 792.9 | 755.4 | 656.0 |
| 22.5° | 544.4 | 545.8 | 555.2 | 580.9 | 628.9 | 710.2 | 807.5 | 866.3 | 861.8 | 822.8 | 704.3 |
| 25° | 593.8 | 598.3 | 592.7 | 597.2 | 632.0 | 714.4 | 836.7 | 931.7 | 932.7 | 893.4 | 754.4 |
| 27.5° | 693.9 | 688.0 | 674.8 | 652.2 | 656.3 | 725.5 | 861.8 | 993.2 | 1002.2 | 962.2 | 798.9 |
| 30° | 795.7 | 792.3 | 784.3 | 749.1 | 719.9 | 750.2 | 883.0 | 1056.1 | 1070.4 | 1030.0 | 838.5 |
| 32.5° | 910.1 | 913.6 | 899.3 | 857.3 | 807.5 | 800.2 | 904.9 | 1115.9 | 1142.7 | 1106.9 | 885.1 |
| 35° | 1046.7 | 1047.8 | 1019.6 | 973.0 | 916.7 | 883.0 | 944.2 | 1181.9 | 1231.3 | 1204.9 | 947.3 |
| 37.5° | 1179.9 | 1186.1 | 1170.8 | 1097.5 | 1047.4 | 985.9 | 1009.2 | 1266.8 | 1336.3 | 1325.9 | 1025.5 |
| 40° | 1297.7 | 1307.4 | 1302.6 | 1231.7 | 1166.0 | 1114.2 | 1110.0 | 1366.2 | 1463.2 | 1475.0 | 1128.8 |
| 42.5° | 1391.6 | 1397.8 | 1401.6 | 1351.2 | 1293.2 | 1264.0 | 1234.4 | 1481.6 | 1613.0 | 1661.3 | 1255.3 |
| 45° | 1490.6 | 1492.7 | 1500.7 | 1466.7 | 1415.9 | 1418.3 | 1381.5 | 1621.7 | 1770.8 | 1867.8 | 1400.6 |
| 47.5° | 1616.8 | 1623.8 | 1620.0 | 1584.2 | 1538.3 | 1565.7 | 1533.4 | 1766.0 | 1926.6 | 2088.2 | 1549.4 |
| 50° | 1770.5 | 1777.8 | 1774.3 | 1732.6 | 1681.5 | 1693.0 | 1672.8 | 1906.1 | 2076.7 | 2296.1 | 1673.1 |
| 52.5° | 1849.7 | 1855.7 | 1898.8 | 1917.5 | 1890.8 | 1817.8 | 1791.7 | 2060.1 | 2203.6 | 2467.1 | 1786.8 |
| 55° | 1811.5 | 1815.7 | 1909.5 | 1988.8 | 2086.8 | 2013.8 | 1911.3 | 2178.9 | 2315.6 | 2600.6 | 1871.3 |
| 57.5° | 1653.0 | 1675.6 | 1803.2 | 1937.3 | 2143.5 | 2207.5 | 2105.3 | 2308.3 | 2423.3 | 2693.4 | 1954.4 |
| 60° | 1327.9 | 1326.9 | 1509.8 | 1750.7 | 2032.9 | 2260.6 | 2379.2 | 2483.1 | 2531.4 | 2764.7 | 2065.6 |
| 62.5° | 733.8 | 740.5 | 983.8 | 1301.2 | 1725.6 | 2123.0 | 2584.6 | 2785.2 | 2777.9 | 2889.2 | 2239.8 |
| 65° | 365.4 | 378.6 | 510.7 | 745.3 | 1148.2 | 1754.5 | 2620.1 | 3246.2 | 3225.3 | 3182.2 | 2599.6 |
| 67.5° | 231.9 | 237.1 | 310.1 | 433.1 | 638.3 | 1127.7 | 2399.3 | 3590.0 | 3638.3 | 3529.8 | 2956.6 |
| 70° | 150.2 | 158.9 | 215.5 | 296.2 | 385.2 | 581.2 | 1757.6 | 3367.2 | 3478.0 | 3491.6 | 2734.1 |
| 72.5° | 81.7 | 88.0 | 137.7 | 211.4 | 278.1 | 290.6 | 987.3 | 2526.9 | 2705.3 | 2961.8 | 2139.0 |
| 75° | 46.6 | 51.1 | 75.4 | 143.6 | 204.1 | 176.9 | 437.7 | 1691.6 | 1805.2 | 2116.7 | 1532.7 |
| 77.5° | 28.2 | 32.0 | 42.4 | 69.9 | 127.9 | 118.2 | 165.5 | 1029.7 | 1102.0 | 1262.9 | 804.4 |
| 80° | 12.9 | 15.3 | 26.8 | 38.6 | 69.9 | 56.0 | 63.3 | 480.1 | 495.7 | 518.3 | 266.3 |
| 82.5° | 5.9 | 7.0 | 12.2 | 22.9 | 39.6 | 32.3 | 24.3 | 110.9 | 156.1 | 147.7 | 67.8 |
| 85° | 0.7 | 0.7 | 4.5 | 9.4 | 11.1 | 8.3 | 10.1 | 25.0 | 31.6 | 44.5 | 19.5 |
| 87.5° | 0.0 | 0.0 | 0.3 | 0.3 | 0.7 | 1.0 | 2.1 | 3.1 | 4.5 | 7.3 | 4.9 |
| 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: P629965
 CATALOG NUMBER: GWS-SA1C-760-U-T2-W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 | 422.7 |
| 2.5° | 429.3 | 419.6 | 410.9 | 398.0 | 389.3 | 379.6 | 373.0 | 365.0 | 361.9 | 359.5 | 356.0 |
| 5° | 439.1 | 423.4 | 402.2 | 378.6 | 359.1 | 340.7 | 323.6 | 312.5 | 302.8 | 301.4 | 296.5 |
| 7.5° | 455.0 | 431.8 | 396.0 | 357.4 | 324.3 | 293.7 | 269.8 | 250.3 | 240.6 | 237.4 | 231.9 |
| 10° | 476.3 | 444.3 | 386.6 | 327.5 | 279.8 | 243.3 | 216.2 | 194.3 | 179.0 | 173.5 | 169.3 |
| 12.5° | 499.9 | 455.7 | 371.6 | 290.6 | 236.4 | 194.7 | 160.3 | 137.0 | 127.2 | 123.8 | 120.6 |
| 15° | 527.0 | 466.5 | 348.0 | 253.8 | 194.0 | 143.2 | 118.9 | 108.8 | 104.6 | 103.6 | 102.6 |
| 17.5° | 553.1 | 473.5 | 319.8 | 215.5 | 149.1 | 111.2 | 99.8 | 95.9 | 94.9 | 93.9 | 93.2 |
| 20° | 582.6 | 478.3 | 286.8 | 179.4 | 115.8 | 94.2 | 88.6 | 85.9 | 83.8 | 81.7 | 81.3 |
| 22.5° | 612.9 | 478.3 | 251.0 | 143.9 | 97.0 | 84.5 | 78.2 | 73.0 | 69.2 | 67.1 | 66.4 |
| 25° | 641.7 | 471.7 | 215.5 | 115.1 | 85.5 | 75.1 | 67.1 | 61.2 | 56.0 | 53.5 | 52.8 |
| 27.5° | 662.2 | 454.7 | 184.6 | 97.3 | 77.5 | 66.7 | 57.0 | 50.4 | 46.2 | 43.8 | 43.5 |
| 30° | 675.1 | 429.3 | 156.1 | 86.9 | 70.6 | 58.1 | 48.3 | 42.8 | 39.6 | 37.9 | 37.2 |
| 32.5° | 684.8 | 398.0 | 130.7 | 79.6 | 64.0 | 50.4 | 42.1 | 37.5 | 34.8 | 33.4 | 33.0 |
| 35° | 704.3 | 368.5 | 111.9 | 73.0 | 57.0 | 44.1 | 36.8 | 33.4 | 31.3 | 29.5 | 29.2 |
| 37.5° | 731.4 | 343.8 | 97.0 | 67.1 | 50.4 | 39.3 | 33.4 | 30.2 | 28.5 | 26.8 | 26.4 |
| 40° | 771.4 | 328.2 | 85.9 | 61.2 | 44.5 | 35.5 | 30.6 | 27.8 | 25.4 | 23.6 | 23.3 |
| 42.5° | 832.9 | 320.9 | 78.6 | 55.3 | 39.3 | 32.0 | 28.2 | 24.7 | 22.2 | 20.5 | 20.2 |
| 45° | 906.3 | 324.7 | 72.3 | 49.4 | 35.8 | 29.5 | 25.0 | 21.6 | 19.1 | 17.4 | 17.0 |
| 47.5° | 984.8 | 338.2 | 67.1 | 43.8 | 32.3 | 27.1 | 22.2 | 18.4 | 16.3 | 14.6 | 14.3 |
| 50° | 1066.9 | 360.5 | 62.6 | 38.6 | 29.5 | 24.3 | 19.1 | 16.0 | 13.9 | 12.5 | 12.2 |
| 52.5° | 1138.1 | 390.7 | 58.1 | 34.8 | 27.1 | 21.6 | 16.7 | 13.9 | 11.8 | 10.4 | 10.1 |
| 55° | 1206.3 | 419.2 | 54.6 | 31.3 | 24.3 | 18.8 | 14.6 | 11.8 | 10.1 | 8.7 | 8.3 |
| 57.5° | 1280.3 | 449.5 | 50.4 | 28.2 | 21.9 | 16.7 | 12.9 | 10.1 | 8.7 | 7.3 | 7.0 |
| 60° | 1388.1 | 494.3 | 44.1 | 25.7 | 19.1 | 14.6 | 11.1 | 9.0 | 7.6 | 5.9 | 5.6 |
| 62.5° | 1543.5 | 576.0 | 37.2 | 22.2 | 16.3 | 12.5 | 9.4 | 7.6 | 6.3 | 4.9 | 4.2 |
| 65° | 1834.1 | 715.1 | 30.6 | 18.4 | 13.2 | 10.4 | 8.0 | 6.3 | 4.9 | 3.5 | 3.1 |
| 67.5° | 2043.4 | 751.2 | 24.7 | 14.9 | 10.8 | 8.0 | 6.6 | 4.9 | 3.5 | 2.4 | 2.1 |
| 70° | 1786.5 | 539.5 | 19.1 | 12.2 | 9.0 | 6.3 | 5.2 | 3.8 | 2.4 | 1.7 | 1.4 |
| 72.5° | 1346.0 | 352.5 | 14.3 | 9.4 | 7.0 | 5.2 | 3.8 | 3.1 | 2.1 | 1.4 | 1.0 |
| 75° | 948.7 | 203.7 | 10.4 | 7.0 | 4.9 | 3.8 | 3.1 | 2.4 | 1.7 | 1.0 | 1.0 |
| 77.5° | 486.3 | 84.1 | 7.3 | 4.9 | 3.5 | 2.4 | 2.1 | 1.4 | 1.4 | 1.0 | 0.7 |
| 80° | 147.7 | 27.8 | 4.2 | 3.1 | 2.4 | 1.7 | 1.0 | 1.0 | 1.0 | 0.7 | 0.3 |
| 82.5° | 33.7 | 9.0 | 2.4 | 2.4 | 1.7 | 1.4 | 1.0 | 0.3 | 0.3 | 0.0 | 0.0 |
| 85° | 8.7 | 2.8 | 2.1 | 1.7 | 1.7 | 1.4 | 0.7 | 0.3 | 0.0 | 0.0 | 0.0 |
| 87.5° | 3.1 | 1.7 | 1.7 | 1.7 | 1.4 | 1.0 | 0.7 | 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

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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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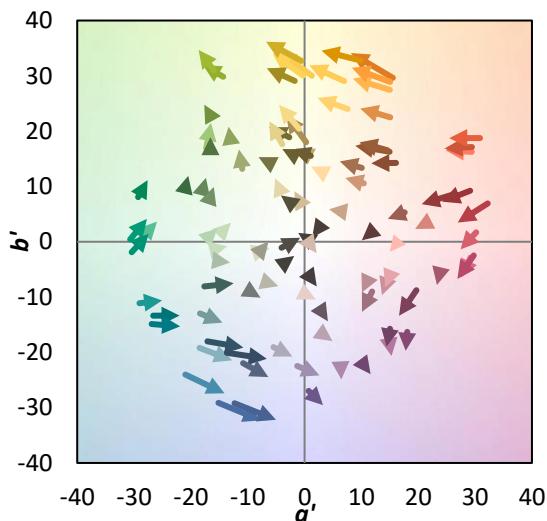
TM-30-18

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)