

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: P437385

Luminaire Tested: **ISC-SA1C-760-U-SL4-HSS**

Issue Date: 12/9/2020

Test Information

Test Method: LM-79-08
Report Number: P437385
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/9/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISC-SA1C-760-U-SL4-HSS
Description: IMPACT ELITE LED CYLINDER LUMINAIRE
(1) 70 CRI, 5700K, 615mA 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: 3745 lumens
Efficiency: N/A
Efficacy: 109.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B0 - U0 - G1

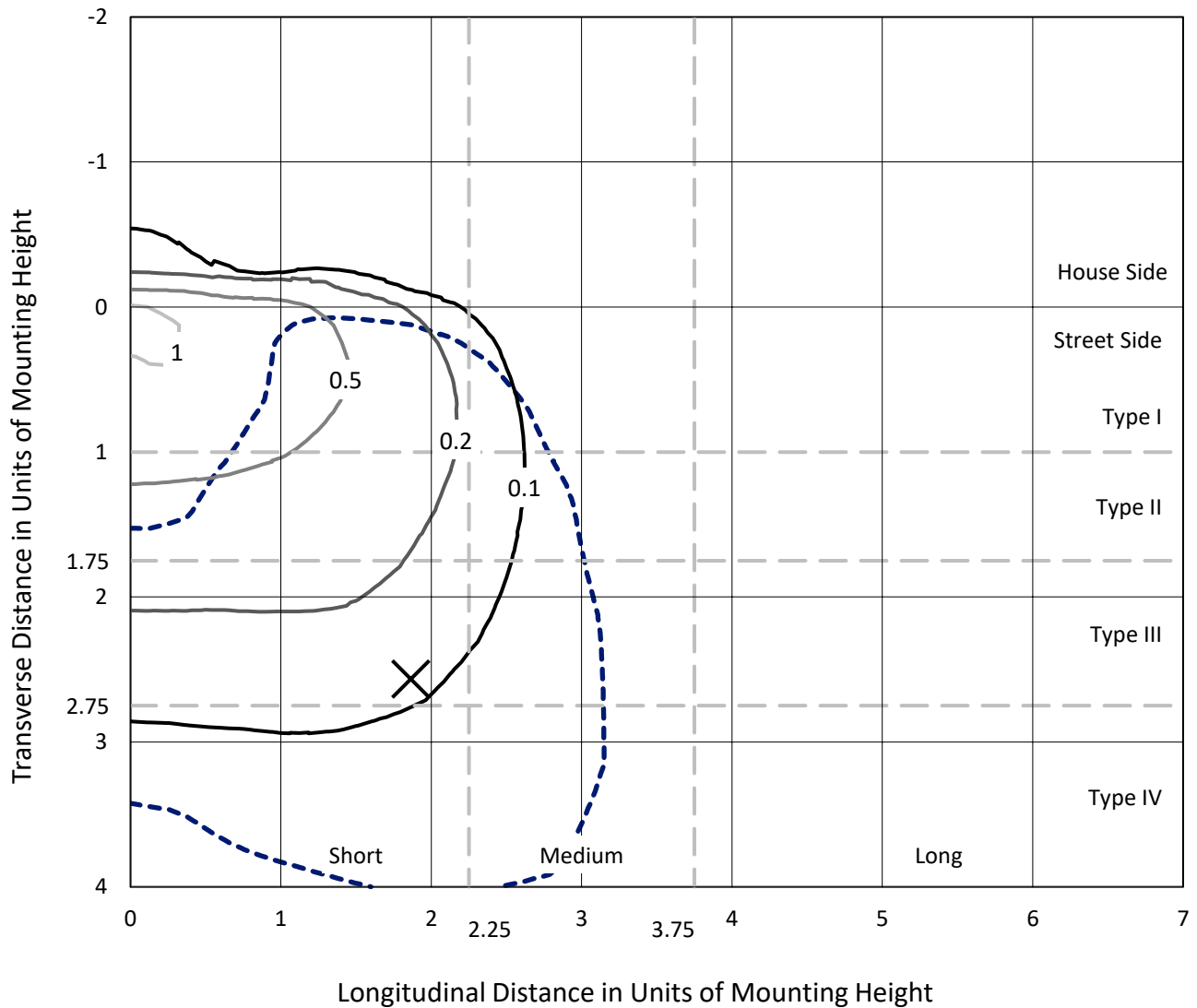
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

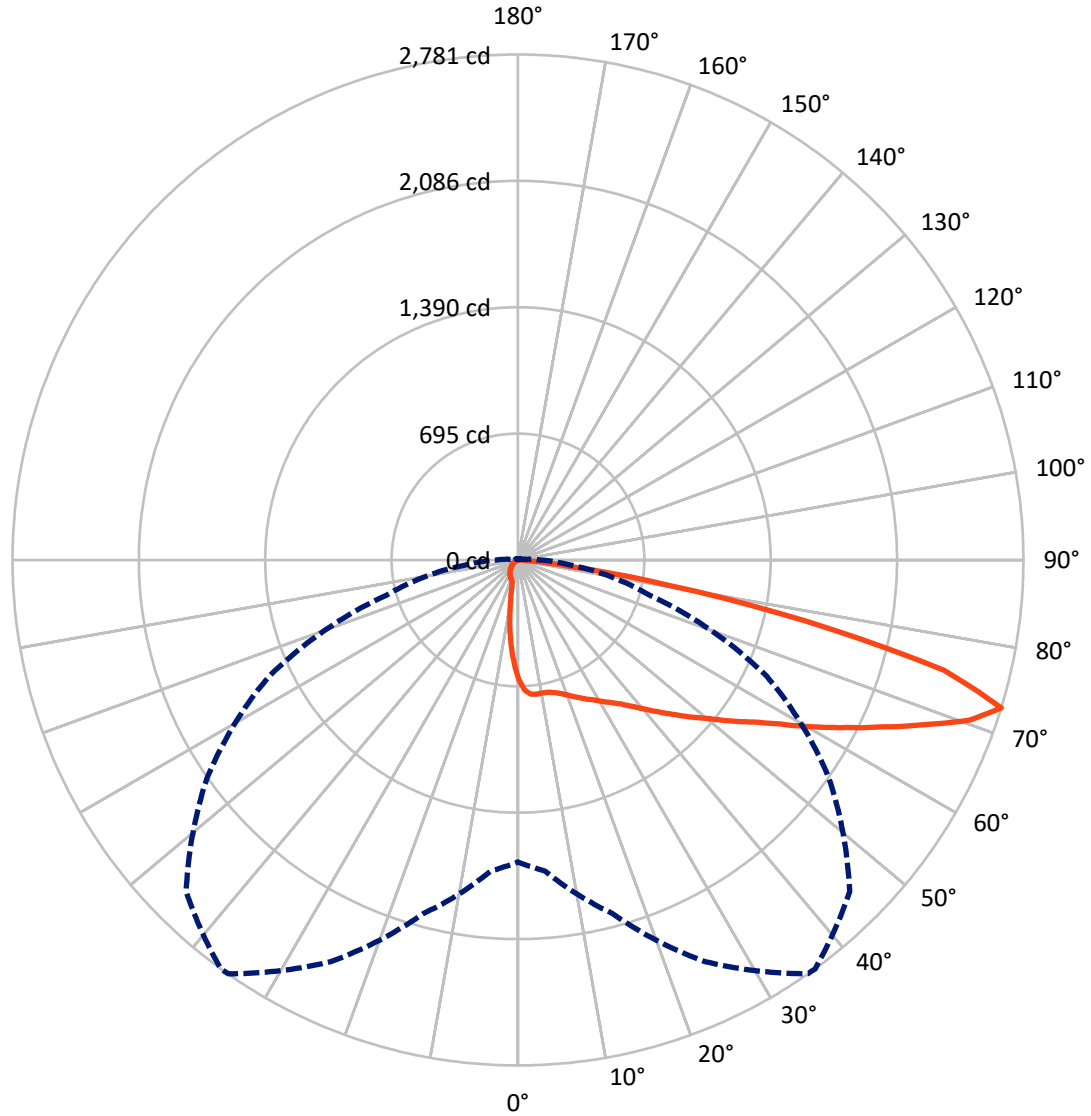
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 36-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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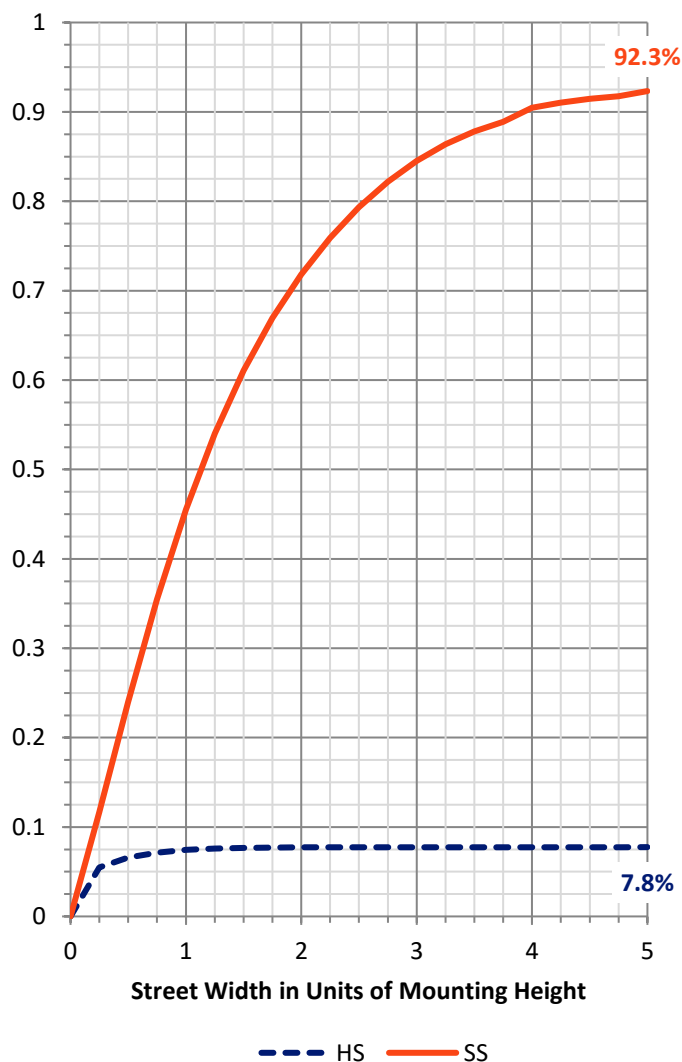
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 292.2 | 0.0 | 292.2 |
| | % Fixture | 7.8 | 0.0 | 7.8 |
| Street Side | Lumens | 3452.8 | 0.0 | 3452.8 |
| | % Fixture | 92.2 | 0.0 | 92.2 |
| Total | Lumens | 3745.0 | 0.0 | 3745.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 56.2 | 1.5 |
| 10°-20° | 141.0 | 3.8 |
| 20°-30° | 230.3 | 6.1 |
| 30°-40° | 350.1 | 9.3 |
| 40°-50° | 535.4 | 14.3 |
| 50°-60° | 761.3 | 20.3 |
| 60°-70° | 965.4 | 25.8 |
| 70°-80° | 661.0 | 17.7 |
| 80°-90° | 44.3 | 1.2 |
| 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° | 3745.0 | 100.0 |
| 0°-180° | 3745.0 | 100.0 |

Coefficient of Utilization



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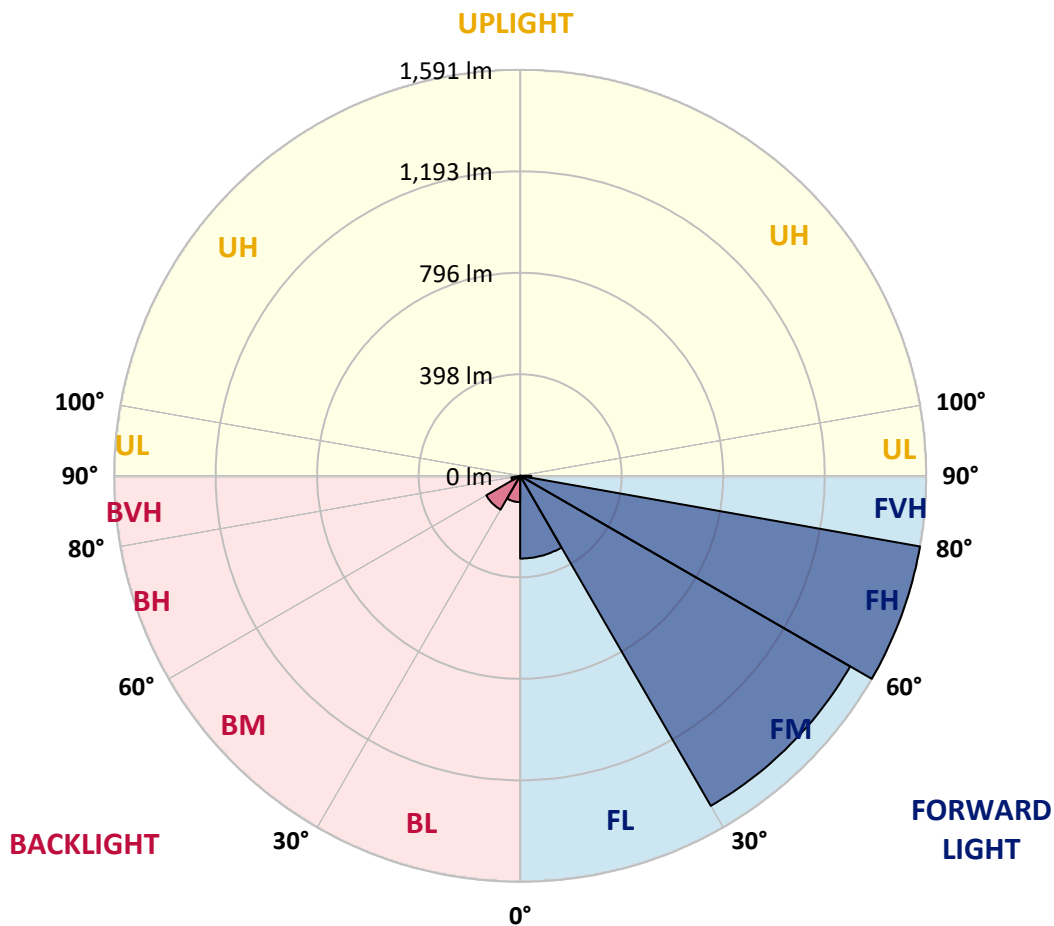
CATALOG NUMBER: ISC-SA1C-760-U-SL4-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 324.4 | 8.7 | | | |
| FM (30°-60°) | 1493.6 | 39.9 | | | |
| FH (60°-80°) | 1591.2 | 42.5 | | | G1/1800 |
| FVH (80°-90°) | 43.6 | 1.2 | | | G1/100 |
| BL (0°-30°) | 103.1 | 2.8 | B0/110 | | |
| BM (30°-60°) | 153.2 | 4.1 | B0/220 | | |
| BH (60°-80°) | 35.2 | 0.9 | B0/110 | | G0/110 |
| BVH (80°-90°) | 0.6 | 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 IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 |
| 2.5° | 736.8 | 731.9 | 728.6 | 725.3 | 715.4 | 717.0 | 707.1 | 697.2 | 682.4 | 675.8 | 665.9 |
| 5° | 754.9 | 753.3 | 751.6 | 746.7 | 738.4 | 741.7 | 731.9 | 722.0 | 700.5 | 680.8 | 659.3 |
| 7.5° | 751.6 | 754.9 | 753.3 | 750.0 | 743.4 | 745.0 | 736.8 | 726.9 | 708.8 | 682.4 | 652.7 |
| 10° | 745.0 | 746.7 | 746.7 | 745.0 | 743.4 | 743.4 | 736.8 | 728.6 | 712.1 | 689.0 | 651.1 |
| 12.5° | 731.9 | 735.1 | 740.1 | 743.4 | 745.0 | 746.7 | 741.7 | 735.1 | 720.3 | 695.6 | 656.0 |
| 15° | 726.9 | 730.2 | 740.1 | 750.0 | 754.9 | 756.6 | 751.6 | 743.4 | 730.2 | 708.8 | 664.3 |
| 17.5° | 726.9 | 730.2 | 746.7 | 761.5 | 771.4 | 773.1 | 766.5 | 758.2 | 741.7 | 720.3 | 674.2 |
| 20° | 736.8 | 740.1 | 759.9 | 786.2 | 791.2 | 794.5 | 784.6 | 773.1 | 754.9 | 733.5 | 685.7 |
| 22.5° | 753.3 | 758.2 | 782.9 | 807.7 | 817.6 | 819.2 | 807.7 | 786.2 | 769.8 | 748.3 | 695.6 |
| 25° | 781.3 | 792.8 | 815.9 | 842.3 | 843.9 | 845.6 | 827.5 | 806.0 | 786.2 | 764.8 | 707.1 |
| 27.5° | 820.9 | 830.8 | 850.5 | 880.2 | 870.3 | 870.3 | 855.5 | 827.5 | 807.7 | 787.9 | 726.9 |
| 30° | 872.0 | 878.6 | 901.6 | 913.2 | 900.0 | 901.6 | 883.5 | 857.1 | 840.6 | 820.9 | 756.6 |
| 32.5° | 919.8 | 924.7 | 949.4 | 951.1 | 936.2 | 934.6 | 921.4 | 890.1 | 876.9 | 870.3 | 797.8 |
| 35° | 964.3 | 970.9 | 990.6 | 989.0 | 974.2 | 972.5 | 965.9 | 937.9 | 937.9 | 944.5 | 858.8 |
| 37.5° | 997.2 | 1013.7 | 1038.4 | 1031.8 | 1022.0 | 1022.0 | 1017.0 | 995.6 | 1012.1 | 1036.8 | 939.5 |
| 40° | 1040.1 | 1050.0 | 1082.9 | 1078.0 | 1079.6 | 1079.6 | 1081.3 | 1068.1 | 1097.8 | 1139.0 | 1033.5 |
| 42.5° | 1063.2 | 1082.9 | 1122.5 | 1129.1 | 1143.9 | 1143.9 | 1157.1 | 1153.8 | 1209.9 | 1262.6 | 1142.3 |
| 45° | 1099.4 | 1120.9 | 1163.7 | 1188.4 | 1206.6 | 1214.8 | 1237.9 | 1256.0 | 1335.1 | 1401.1 | 1257.7 |
| 47.5° | 1145.6 | 1163.7 | 1200.0 | 1246.1 | 1279.1 | 1292.3 | 1338.4 | 1368.1 | 1473.6 | 1541.2 | 1366.5 |
| 50° | 1208.2 | 1211.5 | 1237.9 | 1307.1 | 1364.8 | 1373.0 | 1445.6 | 1495.0 | 1613.7 | 1676.3 | 1443.9 |
| 52.5° | 1275.8 | 1269.2 | 1284.0 | 1378.0 | 1458.8 | 1473.6 | 1556.0 | 1631.8 | 1750.5 | 1763.7 | 1475.2 |
| 55° | 1328.5 | 1328.5 | 1340.1 | 1455.5 | 1564.3 | 1572.5 | 1687.9 | 1768.6 | 1875.8 | 1814.8 | 1495.0 |
| 57.5° | 1396.1 | 1389.5 | 1407.7 | 1534.6 | 1696.1 | 1702.7 | 1836.2 | 1898.9 | 1945.0 | 1847.8 | 1491.7 |
| 60° | 1445.6 | 1453.8 | 1481.8 | 1636.8 | 1832.9 | 1862.6 | 1974.7 | 1994.5 | 2017.5 | 1859.3 | 1481.8 |
| 62.5° | 1514.8 | 1513.2 | 1567.5 | 1750.5 | 2010.9 | 2030.7 | 2108.2 | 2075.2 | 2073.6 | 1879.1 | 1468.6 |
| 65° | 1572.5 | 1585.7 | 1668.1 | 1887.3 | 2200.5 | 2213.7 | 2240.1 | 2197.2 | 2151.1 | 1900.5 | 1353.3 |
| 67.5° | 1661.5 | 1687.9 | 1791.7 | 2067.0 | 2403.2 | 2418.1 | 2441.2 | 2347.2 | 2172.5 | 1748.9 | 1127.4 |
| 70° | 1762.0 | 1796.7 | 1964.8 | 2306.0 | 2620.8 | 2637.3 | 2642.2 | 2362.0 | 1968.1 | 1373.0 | 764.8 |
| 72.5° | 1661.5 | 1717.5 | 2014.2 | 2437.9 | 2779.1 | 2780.7 | 2581.3 | 2086.8 | 1508.2 | 750.0 | 270.3 |
| 75° | 1069.8 | 1140.6 | 1668.1 | 2162.6 | 2393.4 | 2419.7 | 2024.1 | 1458.8 | 703.8 | 168.1 | 75.8 |
| 77.5° | 362.6 | 387.4 | 819.2 | 1364.8 | 1605.5 | 1615.3 | 1331.8 | 738.4 | 222.5 | 67.6 | 41.2 |
| 80° | 209.3 | 207.7 | 286.8 | 596.7 | 801.1 | 832.4 | 670.9 | 295.0 | 103.8 | 34.6 | 28.0 |
| 82.5° | 49.4 | 51.1 | 150.0 | 217.6 | 318.1 | 286.8 | 141.8 | 178.0 | 47.8 | 19.8 | 24.7 |
| 85° | 0.0 | 0.0 | 24.7 | 52.7 | 37.9 | 44.5 | 13.2 | 54.4 | 8.2 | 8.2 | 16.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 | 1.6 |
| 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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CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 | 657.7 |
| 2.5° | 656.0 | 647.8 | 631.3 | 618.1 | 600.0 | 585.2 | 570.3 | 563.7 | 552.2 | 548.9 | 550.5 |
| 5° | 646.1 | 633.0 | 601.6 | 570.3 | 535.7 | 502.7 | 468.1 | 448.3 | 440.1 | 425.3 | 422.0 |
| 7.5° | 634.6 | 614.8 | 570.3 | 519.2 | 459.9 | 412.1 | 364.3 | 331.3 | 301.6 | 290.1 | 285.2 |
| 10° | 629.7 | 604.9 | 542.3 | 464.8 | 384.1 | 306.6 | 247.2 | 204.4 | 178.0 | 168.1 | 164.8 |
| 12.5° | 629.7 | 600.0 | 515.9 | 412.1 | 304.9 | 215.9 | 161.5 | 136.8 | 128.6 | 126.9 | 125.3 |
| 15° | 636.2 | 598.3 | 491.2 | 356.0 | 230.8 | 150.0 | 123.6 | 120.3 | 118.7 | 118.7 | 120.3 |
| 17.5° | 639.5 | 595.0 | 464.8 | 301.6 | 169.8 | 120.3 | 115.4 | 115.4 | 115.4 | 115.4 | 115.4 |
| 20° | 647.8 | 593.4 | 435.2 | 244.0 | 128.6 | 112.1 | 110.4 | 110.4 | 110.4 | 110.4 | 112.1 |
| 22.5° | 649.4 | 593.4 | 398.9 | 187.9 | 113.7 | 107.1 | 105.5 | 105.5 | 105.5 | 107.1 | 107.1 |
| 25° | 659.3 | 590.1 | 364.3 | 143.4 | 107.1 | 100.5 | 100.5 | 98.9 | 100.5 | 100.5 | 100.5 |
| 27.5° | 672.5 | 591.7 | 321.4 | 118.7 | 100.5 | 95.6 | 94.0 | 94.0 | 94.0 | 94.0 | 94.0 |
| 30° | 687.3 | 595.0 | 276.9 | 105.5 | 94.0 | 90.7 | 89.0 | 87.4 | 87.4 | 87.4 | 87.4 |
| 32.5° | 715.4 | 598.3 | 229.1 | 95.6 | 87.4 | 84.1 | 82.4 | 80.8 | 80.8 | 80.8 | 80.8 |
| 35° | 758.2 | 616.5 | 187.9 | 89.0 | 80.8 | 77.5 | 75.8 | 74.2 | 74.2 | 74.2 | 72.5 |
| 37.5° | 815.9 | 644.5 | 148.3 | 82.4 | 74.2 | 70.9 | 69.2 | 67.6 | 65.9 | 65.9 | 65.9 |
| 40° | 885.1 | 674.2 | 123.6 | 74.2 | 67.6 | 64.3 | 62.6 | 61.0 | 59.3 | 57.7 | 57.7 |
| 42.5° | 967.6 | 710.4 | 98.9 | 67.6 | 61.0 | 57.7 | 56.0 | 54.4 | 51.1 | 49.4 | 51.1 |
| 45° | 1059.9 | 745.0 | 84.1 | 62.6 | 56.0 | 52.7 | 51.1 | 47.8 | 44.5 | 42.9 | 42.9 |
| 47.5° | 1140.6 | 753.3 | 74.2 | 56.0 | 51.1 | 47.8 | 46.2 | 41.2 | 37.9 | 34.6 | 34.6 |
| 50° | 1195.0 | 738.4 | 65.9 | 51.1 | 46.2 | 44.5 | 41.2 | 34.6 | 29.7 | 28.0 | 26.4 |
| 52.5° | 1201.6 | 698.9 | 57.7 | 46.2 | 42.9 | 39.6 | 34.6 | 29.7 | 24.7 | 21.4 | 21.4 |
| 55° | 1195.0 | 633.0 | 51.1 | 42.9 | 37.9 | 34.6 | 29.7 | 23.1 | 18.1 | 16.5 | 14.8 |
| 57.5° | 1173.6 | 563.7 | 46.2 | 37.9 | 34.6 | 29.7 | 23.1 | 18.1 | 13.2 | 11.5 | 9.9 |
| 60° | 1134.0 | 479.7 | 41.2 | 34.6 | 29.7 | 24.7 | 18.1 | 13.2 | 8.2 | 6.6 | 6.6 |
| 62.5° | 1059.9 | 387.4 | 36.3 | 29.7 | 24.7 | 19.8 | 14.8 | 8.2 | 4.9 | 3.3 | 3.3 |
| 65° | 913.2 | 290.1 | 31.3 | 24.7 | 19.8 | 16.5 | 9.9 | 4.9 | 1.6 | 0.0 | 0.0 |
| 67.5° | 710.4 | 196.1 | 24.7 | 19.8 | 16.5 | 13.2 | 8.2 | 1.6 | 0.0 | 0.0 | 0.0 |
| 70° | 418.7 | 103.8 | 19.8 | 14.8 | 13.2 | 9.9 | 4.9 | 1.6 | 0.0 | 0.0 | 0.0 |
| 72.5° | 120.3 | 41.2 | 14.8 | 11.5 | 9.9 | 6.6 | 3.3 | 1.6 | 0.0 | 0.0 | 0.0 |
| 75° | 49.4 | 24.7 | 9.9 | 8.2 | 8.2 | 4.9 | 1.6 | 1.6 | 0.0 | 0.0 | 0.0 |
| 77.5° | 33.0 | 18.1 | 6.6 | 4.9 | 4.9 | 3.3 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 26.4 | 9.9 | 3.3 | 3.3 | 3.3 | 1.6 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 23.1 | 6.6 | 1.6 | 1.6 | 1.6 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 11.5 | 3.3 | 1.6 | 1.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 1.6 | 1.6 | 1.6 | 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
 CIE u': 0.2052
 CIE v': 0.4804
 Duv: 0.0025
 CIE x: 0.3330
 CIE y: 0.3466
 CIE z: 0.3204
 Peak Wavelength (nm): 442
 Dominant Wavelength (nm): 554
 Purity: 4.1

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.7 | | |
| R1: | 70.6 | R9: | -27.1 |
| R2: | 74.6 | R10: | 40.8 |
| R3: | 78.3 | R11: | 74.6 |
| R4: | 73.8 | R12: | 50.4 |
| R5: | 72.4 | R13: | 70.0 |
| R6: | 67.5 | R14: | 87.8 |
| R7: | 77.5 | | |
| R8: | 58.9 | | |

Rf: 72.1
 Rg: 97.2



Test Conditions

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

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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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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)