

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: P437828

Luminaire Tested: **ISC-SA1F-730-U-T2-HSS**

Issue Date: 12/9/2020

Test Information

Test Method: LM-79-08
Report Number: P437828
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-7)
Test Lab: INNOVATION CENTER
Issue Date: 12/9/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: ISC-SA1F-730-U-T2-HSS
Description: IMPACT ELITE LED CYLINDER LUMINAIRE
(1) 70 CRI, 3000K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE II OPTICS
WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5486 lumens
Efficiency: N/A
Efficacy: 83.1 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G1

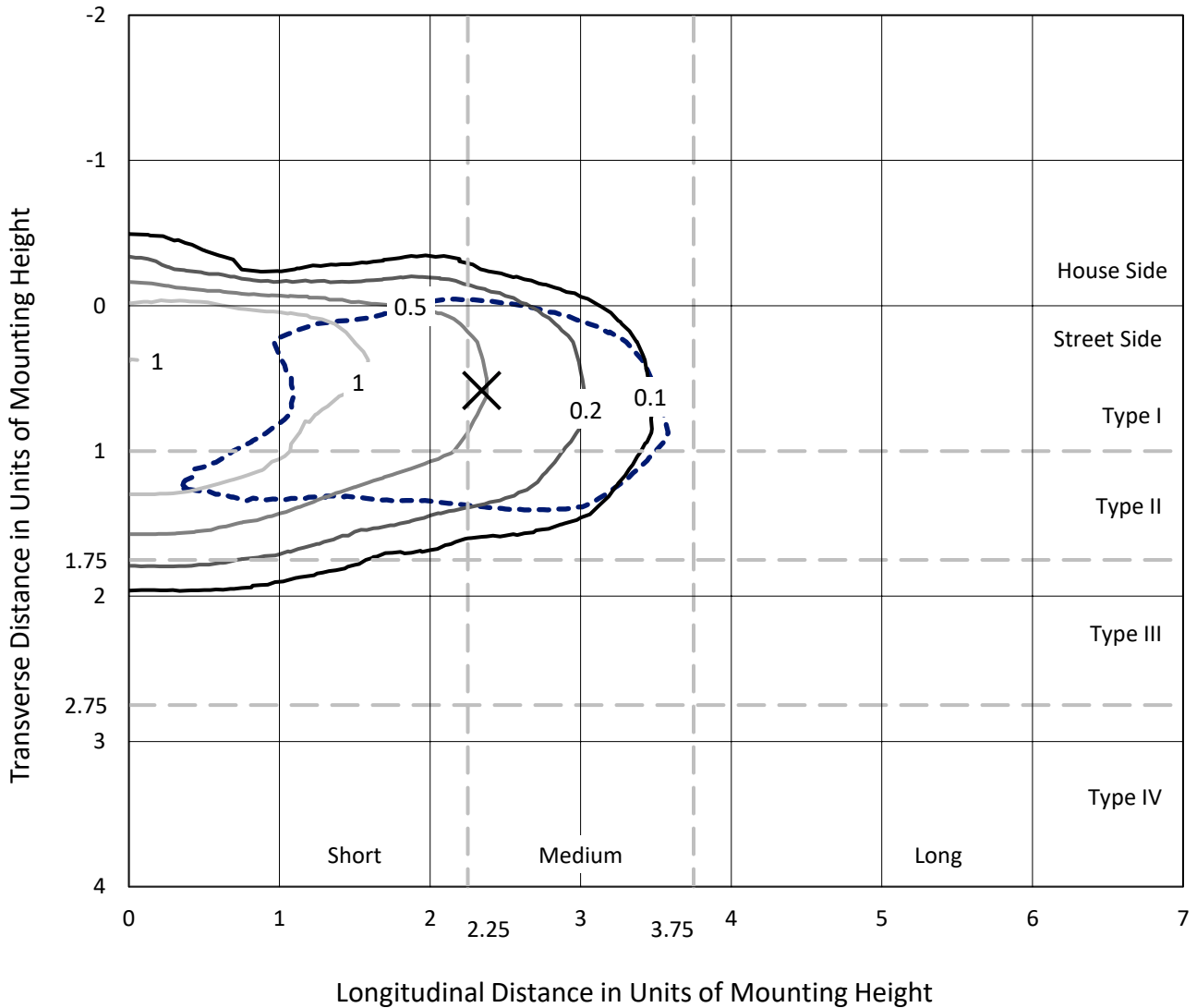
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

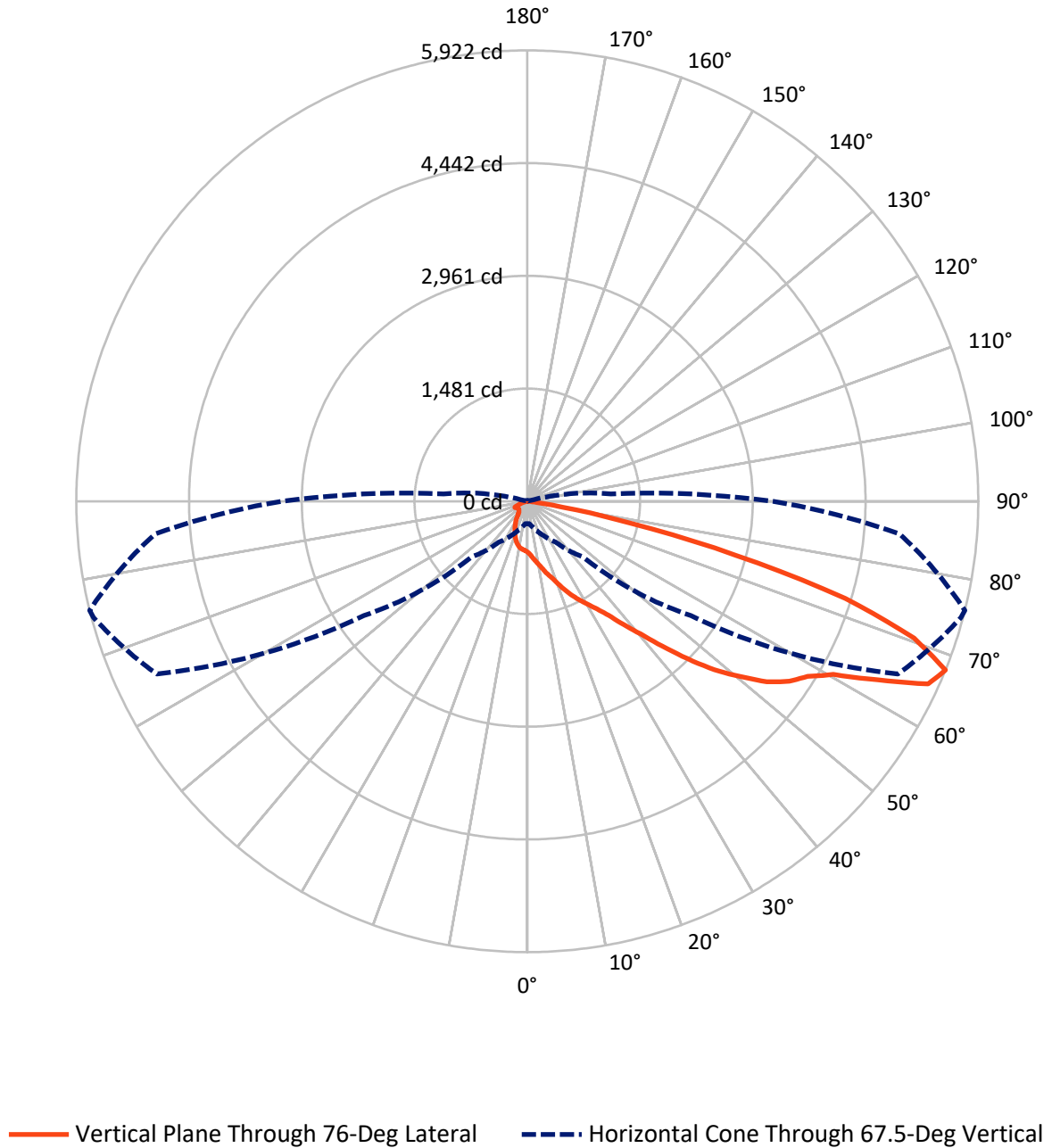
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.7 fc
 Type II - Medium - N/A

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Luminous Intensity Polar Plot



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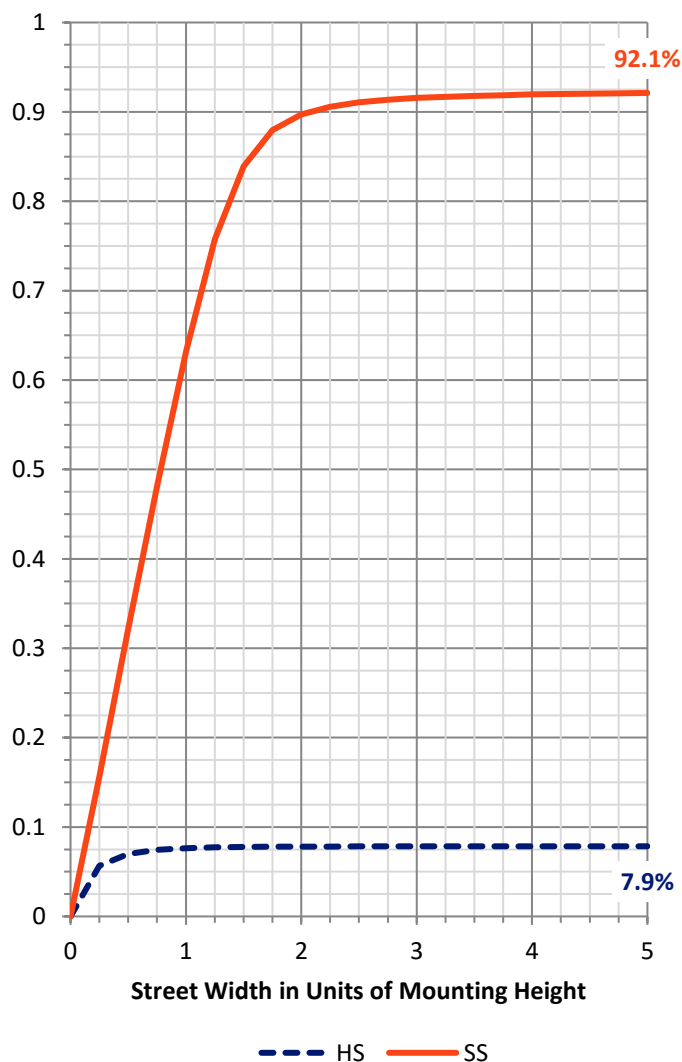
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 434.0 | 0.0 | 434.0 |
| | % Fixture | 7.9 | 0.0 | 7.9 |
| Street Side | Lumens | 5052.0 | 0.0 | 5052.0 |
| | % Fixture | 92.1 | 0.0 | 92.1 |
| Total | Lumens | 5486.0 | 0.0 | 5486.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 64.0 | 1.2 |
| 10°-20° | 178.3 | 3.2 |
| 20°-30° | 307.6 | 5.6 |
| 30°-40° | 548.0 | 10.0 |
| 40°-50° | 975.9 | 17.8 |
| 50°-60° | 1463.4 | 26.7 |
| 60°-70° | 1386.1 | 25.3 |
| 70°-80° | 540.3 | 9.8 |
| 80°-90° | 22.4 | 0.4 |
| 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° | 5486.0 | 100.0 |
| 0°-180° | 5486.0 | 100.0 |

Coefficient of Utilization



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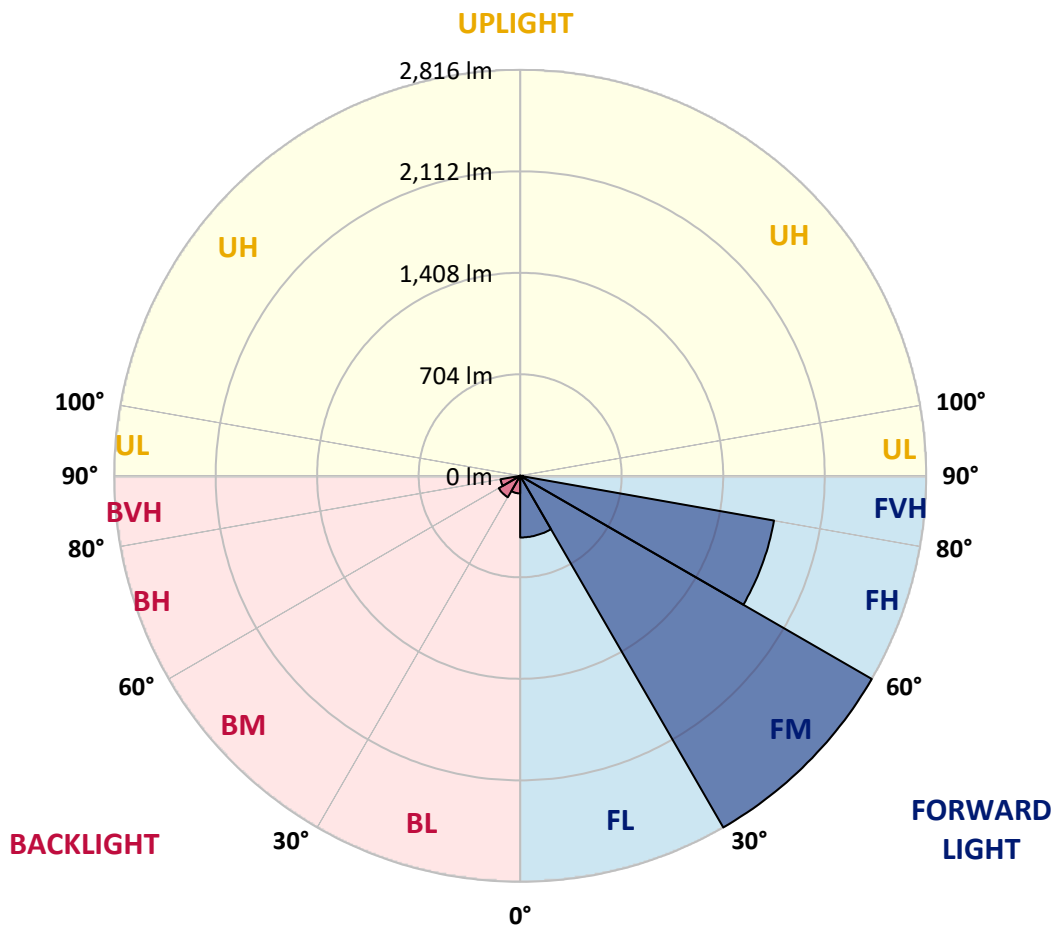
CATALOG NUMBER: ISC-SA1F-730-U-T2-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 427.7 | 7.8 | | | |
| FM (30°-60°) | 2816.1 | 51.3 | | | |
| FH (60°-80°) | 1787.8 | 32.6 | | | G1/1800 |
| FVH (80°-90°) | 20.4 | 0.4 | | | G1/100 |
| BL (0°-30°) | 122.2 | 2.2 | B1/500 | | |
| BM (30°-60°) | 171.3 | 3.1 | B0/220 | | |
| BH (60°-80°) | 138.6 | 2.5 | B1/500 | | G1/500 |
| BVH (80°-90°) | 2.0 | 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-G1

Type II Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 |
| 2.5° | 790.3 | 782.6 | 777.5 | 774.9 | 769.8 | 754.4 | 741.6 | 718.5 | 697.9 | 697.9 | 685.1 |
| 5° | 862.2 | 859.6 | 849.3 | 844.2 | 841.6 | 831.4 | 808.3 | 780.1 | 746.7 | 744.1 | 713.3 |
| 7.5° | 882.7 | 885.3 | 885.3 | 890.4 | 893.0 | 887.8 | 867.3 | 841.6 | 798.0 | 792.9 | 746.7 |
| 10° | 875.0 | 875.0 | 882.7 | 898.1 | 918.6 | 928.9 | 926.3 | 905.8 | 854.5 | 849.3 | 785.2 |
| 12.5° | 846.8 | 851.9 | 864.7 | 890.4 | 928.9 | 959.7 | 977.6 | 969.9 | 918.6 | 913.5 | 836.5 |
| 15° | 808.3 | 813.4 | 836.5 | 872.4 | 923.7 | 982.8 | 1023.8 | 1046.9 | 995.6 | 990.5 | 890.4 |
| 17.5° | 754.4 | 759.5 | 785.2 | 839.1 | 910.9 | 993.0 | 1072.6 | 1118.8 | 1075.1 | 1059.7 | 946.8 |
| 20° | 733.9 | 739.0 | 759.5 | 803.1 | 887.8 | 993.0 | 1116.2 | 1203.4 | 1170.1 | 1157.2 | 1018.7 |
| 22.5° | 816.0 | 813.4 | 795.4 | 800.6 | 864.7 | 985.3 | 1149.6 | 1308.6 | 1283.0 | 1265.0 | 1095.7 |
| 25° | 964.8 | 975.1 | 949.4 | 890.4 | 880.1 | 977.6 | 1172.6 | 1390.8 | 1388.2 | 1370.2 | 1175.2 |
| 27.5° | 1136.7 | 1141.9 | 1113.6 | 1052.0 | 967.4 | 993.0 | 1198.3 | 1472.9 | 1485.7 | 1470.3 | 1236.8 |
| 30° | 1277.8 | 1295.8 | 1275.3 | 1218.8 | 1129.0 | 1059.7 | 1216.3 | 1547.3 | 1590.9 | 1570.4 | 1295.8 |
| 32.5° | 1480.6 | 1488.3 | 1467.7 | 1385.6 | 1293.2 | 1188.0 | 1249.6 | 1611.4 | 1706.4 | 1688.4 | 1365.1 |
| 35° | 1693.5 | 1703.8 | 1665.3 | 1575.5 | 1462.6 | 1344.6 | 1329.2 | 1698.7 | 1873.2 | 1837.2 | 1470.3 |
| 37.5° | 1883.4 | 1893.7 | 1875.7 | 1765.4 | 1655.0 | 1529.3 | 1470.3 | 1816.7 | 2075.9 | 2052.8 | 1601.2 |
| 40° | 2034.8 | 2060.5 | 2055.3 | 1960.4 | 1857.8 | 1744.9 | 1673.0 | 1955.3 | 2309.4 | 2288.8 | 1767.9 |
| 42.5° | 2188.8 | 2206.7 | 2196.5 | 2127.2 | 2055.3 | 1986.1 | 1896.2 | 2147.7 | 2609.6 | 2599.3 | 1975.8 |
| 45° | 2381.2 | 2409.4 | 2396.6 | 2340.2 | 2252.9 | 2237.5 | 2152.8 | 2378.6 | 2966.3 | 2950.9 | 2227.3 |
| 47.5° | 2666.0 | 2691.7 | 2671.2 | 2594.2 | 2494.1 | 2465.9 | 2394.0 | 2640.4 | 3315.2 | 3307.5 | 2476.2 |
| 50° | 2820.0 | 2845.7 | 2899.5 | 2912.4 | 2845.7 | 2694.3 | 2609.6 | 2889.3 | 3628.3 | 3615.4 | 2714.8 |
| 52.5° | 2766.1 | 2789.2 | 2920.1 | 3043.2 | 3189.5 | 3061.2 | 2871.3 | 3158.7 | 3915.7 | 3938.8 | 2948.3 |
| 55° | 2535.2 | 2566.0 | 2753.3 | 2950.9 | 3305.0 | 3476.9 | 3258.8 | 3464.0 | 4141.5 | 4174.8 | 3102.2 |
| 57.5° | 2068.2 | 2104.1 | 2345.3 | 2650.6 | 3127.9 | 3582.1 | 3738.6 | 3884.9 | 4295.4 | 4339.0 | 3299.8 |
| 60° | 1239.4 | 1295.8 | 1544.7 | 1950.1 | 2612.1 | 3333.2 | 4079.9 | 4490.4 | 4595.6 | 4616.2 | 3720.6 |
| 62.5° | 687.7 | 674.8 | 875.0 | 1208.6 | 1801.3 | 2707.1 | 4028.6 | 5226.9 | 5162.7 | 5162.7 | 4439.1 |
| 65° | 413.1 | 425.9 | 528.6 | 718.5 | 1046.9 | 1785.9 | 3592.3 | 5681.0 | 5765.7 | 5783.7 | 5021.6 |
| 67.5° | 292.5 | 295.1 | 369.5 | 492.7 | 654.3 | 1029.0 | 2619.8 | 5368.0 | 5896.6 | 5922.2 | 4906.1 |
| 70° | 189.9 | 192.4 | 264.3 | 351.5 | 467.0 | 567.1 | 1601.2 | 4423.7 | 5401.3 | 5388.5 | 4339.0 |
| 72.5° | 115.5 | 120.6 | 166.8 | 259.2 | 359.2 | 320.7 | 862.2 | 3197.2 | 4280.0 | 4367.3 | 3405.0 |
| 75° | 71.8 | 77.0 | 100.1 | 179.6 | 251.5 | 218.1 | 379.8 | 2134.9 | 2761.0 | 2827.7 | 2199.0 |
| 77.5° | 41.1 | 46.2 | 64.1 | 102.6 | 179.6 | 151.4 | 179.6 | 1121.3 | 1336.9 | 1380.5 | 882.7 |
| 80° | 15.4 | 18.0 | 33.4 | 51.3 | 110.3 | 92.4 | 82.1 | 379.8 | 425.9 | 477.3 | 269.4 |
| 82.5° | 2.6 | 5.1 | 15.4 | 30.8 | 43.6 | 43.6 | 35.9 | 115.5 | 118.0 | 125.7 | 71.8 |
| 85° | 0.0 | 0.0 | 5.1 | 7.7 | 7.7 | 7.7 | 12.8 | 23.1 | 35.9 | 35.9 | 20.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 2.6 | 2.6 | 5.1 | 5.1 | 5.1 | 5.1 |
| 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° | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 | 667.1 |
| 2.5° | 672.3 | 667.1 | 646.6 | 626.1 | 610.7 | 597.9 | 577.3 | 577.3 | 569.6 | 561.9 | 564.5 |
| 5° | 690.2 | 674.8 | 636.4 | 597.9 | 561.9 | 528.6 | 500.4 | 487.5 | 469.6 | 464.4 | 461.9 |
| 7.5° | 713.3 | 685.1 | 621.0 | 559.4 | 500.4 | 456.7 | 420.8 | 397.7 | 377.2 | 372.1 | 374.6 |
| 10° | 741.6 | 700.5 | 603.0 | 508.1 | 436.2 | 382.3 | 341.3 | 323.3 | 300.2 | 292.5 | 284.8 |
| 12.5° | 782.6 | 718.5 | 574.8 | 451.6 | 372.1 | 318.2 | 259.2 | 215.5 | 200.1 | 195.0 | 195.0 |
| 15° | 816.0 | 728.7 | 538.9 | 397.7 | 318.2 | 233.5 | 184.7 | 177.1 | 174.5 | 174.5 | 174.5 |
| 17.5° | 854.5 | 736.4 | 495.2 | 346.4 | 246.3 | 171.9 | 161.7 | 161.7 | 159.1 | 159.1 | 156.5 |
| 20° | 895.5 | 739.0 | 449.0 | 300.2 | 174.5 | 154.0 | 146.3 | 143.7 | 138.6 | 136.0 | 136.0 |
| 22.5° | 941.7 | 736.4 | 397.7 | 246.3 | 154.0 | 141.1 | 128.3 | 123.2 | 118.0 | 112.9 | 112.9 |
| 25° | 980.2 | 731.3 | 351.5 | 177.1 | 141.1 | 123.2 | 110.3 | 102.6 | 97.5 | 94.9 | 92.4 |
| 27.5° | 1013.6 | 703.1 | 305.3 | 151.4 | 128.3 | 110.3 | 94.9 | 87.2 | 82.1 | 79.5 | 79.5 |
| 30° | 1016.1 | 656.9 | 266.9 | 141.1 | 118.0 | 97.5 | 82.1 | 77.0 | 74.4 | 71.8 | 71.8 |
| 32.5° | 1031.5 | 610.7 | 225.8 | 133.4 | 105.2 | 87.2 | 74.4 | 69.3 | 64.1 | 64.1 | 64.1 |
| 35° | 1062.3 | 569.6 | 174.5 | 120.6 | 94.9 | 77.0 | 66.7 | 61.6 | 59.0 | 56.5 | 56.5 |
| 37.5° | 1111.1 | 541.4 | 143.7 | 110.3 | 87.2 | 69.3 | 61.6 | 56.5 | 53.9 | 51.3 | 51.3 |
| 40° | 1175.2 | 526.0 | 130.9 | 100.1 | 77.0 | 64.1 | 56.5 | 51.3 | 46.2 | 43.6 | 43.6 |
| 42.5° | 1285.5 | 526.0 | 120.6 | 89.8 | 69.3 | 59.0 | 51.3 | 46.2 | 41.1 | 38.5 | 38.5 |
| 45° | 1413.8 | 546.5 | 112.9 | 79.5 | 61.6 | 53.9 | 46.2 | 38.5 | 33.4 | 30.8 | 30.8 |
| 47.5° | 1555.0 | 585.0 | 105.2 | 71.8 | 56.5 | 48.8 | 41.1 | 30.8 | 25.7 | 23.1 | 23.1 |
| 50° | 1719.2 | 641.5 | 100.1 | 64.1 | 51.3 | 43.6 | 33.4 | 23.1 | 20.5 | 18.0 | 18.0 |
| 52.5° | 1857.8 | 697.9 | 92.4 | 59.0 | 46.2 | 38.5 | 25.7 | 20.5 | 15.4 | 15.4 | 15.4 |
| 55° | 1988.6 | 759.5 | 87.2 | 53.9 | 43.6 | 30.8 | 20.5 | 15.4 | 12.8 | 12.8 | 12.8 |
| 57.5° | 2163.1 | 836.5 | 79.5 | 48.8 | 35.9 | 23.1 | 18.0 | 12.8 | 10.3 | 10.3 | 10.3 |
| 60° | 2519.8 | 1008.4 | 69.3 | 43.6 | 30.8 | 20.5 | 15.4 | 12.8 | 10.3 | 7.7 | 7.7 |
| 62.5° | 3099.7 | 1288.1 | 59.0 | 38.5 | 23.1 | 18.0 | 12.8 | 10.3 | 7.7 | 5.1 | 5.1 |
| 65° | 3466.6 | 1357.4 | 48.8 | 30.8 | 18.0 | 12.8 | 10.3 | 7.7 | 5.1 | 2.6 | 2.6 |
| 67.5° | 3230.5 | 1103.4 | 38.5 | 23.1 | 15.4 | 10.3 | 7.7 | 5.1 | 2.6 | 0.0 | 0.0 |
| 70° | 2727.6 | 833.9 | 28.2 | 15.4 | 12.8 | 7.7 | 5.1 | 2.6 | 0.0 | 0.0 | 0.0 |
| 72.5° | 2155.4 | 633.8 | 25.7 | 12.8 | 10.3 | 5.1 | 5.1 | 2.6 | 0.0 | 0.0 | 0.0 |
| 75° | 1413.8 | 325.9 | 20.5 | 12.8 | 7.7 | 5.1 | 2.6 | 2.6 | 0.0 | 0.0 | 0.0 |
| 77.5° | 556.8 | 123.2 | 15.4 | 10.3 | 7.7 | 5.1 | 2.6 | 2.6 | 0.0 | 0.0 | 0.0 |
| 80° | 151.4 | 41.1 | 7.7 | 5.1 | 5.1 | 2.6 | 2.6 | 2.6 | 0.0 | 0.0 | 0.0 |
| 82.5° | 38.5 | 18.0 | 5.1 | 5.1 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 0.0 | 0.0 |
| 85° | 12.8 | 5.1 | 5.1 | 2.6 | 2.6 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 5.1 | 5.1 | 5.1 | 2.6 | 2.6 | 2.6 | 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: SP1-1908-441-2-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-730-U-5WQ**
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-2-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. (1) 70 CRI, 3000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 2993 | CRI (Ra): | 71.8 | R9: | -38.3 |
| CIE u': | 0.2508 | R1: | 67.5 | R10: | 62.5 |
| CIE v': | 0.5215 | R2: | 82.9 | R11: | 63.7 |
| Duv: | 0.0000 | R3: | 94.7 | R12: | 57.8 |
| CIE x: | 0.4374 | R4: | 67.7 | R13: | 70.4 |
| CIE y: | 0.4043 | R5: | 67.9 | R14: | 97.3 |
| CIE z: | 0.1583 | R6: | 77.6 | | |
| Peak Wavelength (nm): | 593 | R7: | 76.0 | | |
| Dominant Wavelength (nm): | 582 | R8: | 40.5 | | |
| Purity: | 53 | | | | |
| Rf: | 75.7 | | | | |
| Rg: | 93.9 | | | | |



Test Conditions

Stabilization Time: 53M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0./44%
 Sphere Temperature (°C): 25.7

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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 3000K 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

REPORT NUMBER: SP1-1908-441-2-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 8494.8

S/P: 1.23

| 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

REPORT NUMBER: SP1-1908-441-2-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3101.5 M/P: 0.45

| 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

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Summary

$R_f = 75.7$
 $R_g = 93.9$
 CIE $R_a = 71.8$
 $R_g = -38.3$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 67 | CES51 = 87 | CES76 = 63 |
| CES02 = 63 | CES27 = 88 | CES52 = 86 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 67 |
| CES04 = 71 | CES29 = 66 | CES54 = 84 | CES79 = 87 |
| CES05 = 49 | CES30 = 73 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 70 | CES56 = 75 | CES81 = 71 |
| CES07 = 41 | CES32 = 65 | CES57 = 74 | CES82 = 94 |
| CES08 = 40 | CES33 = 73 | CES58 = 76 | CES83 = 90 |
| CES09 = 29 | CES34 = 79 | CES59 = 85 | CES84 = 89 |
| CES10 = 76 | CES35 = 89 | CES60 = 93 | CES85 = 77 |
| CES11 = 59 | CES36 = 97 | CES61 = 84 | CES86 = 61 |
| CES12 = 65 | CES37 = 87 | CES62 = 91 | CES87 = 78 |
| CES13 = 43 | CES38 = 81 | CES63 = 77 | CES88 = 77 |
| CES14 = 74 | CES39 = 95 | CES64 = 72 | CES89 = 67 |
| CES15 = 71 | CES40 = 92 | CES65 = 68 | CES90 = 76 |
| CES16 = 47 | CES41 = 88 | CES66 = 69 | CES91 = 89 |
| CES17 = 50 | CES42 = 89 | CES67 = 67 | CES92 = 58 |
| CES18 = 56 | CES43 = 79 | CES68 = 72 | CES93 = 74 |
| CES19 = 73 | CES44 = 99 | CES69 = 81 | CES94 = 49 |
| CES20 = 66 | CES45 = 85 | CES70 = 66 | CES95 = 68 |
| CES21 = 87 | CES46 = 80 | CES71 = 67 | CES96 = 76 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 69 | CES73 = 59 | CES98 = 75 |
| CES24 = 91 | CES49 = 80 | CES74 = 95 | CES99 = 62 |
| CES25 = 73 | CES50 = 87 | CES75 = 69 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)