

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: P438355

Luminaire Tested: **ISW-SA1C-735-U-SL4**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438355
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-18)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISW-SA1C-735-U-SL4
Description: IMPACT ELITE LED WEDGE LUMINAIRE
(1) 70 CRI, 3500K, 615mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL LIGHT
ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4134 lumens
Efficiency: N/A
Efficacy: 120.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G1

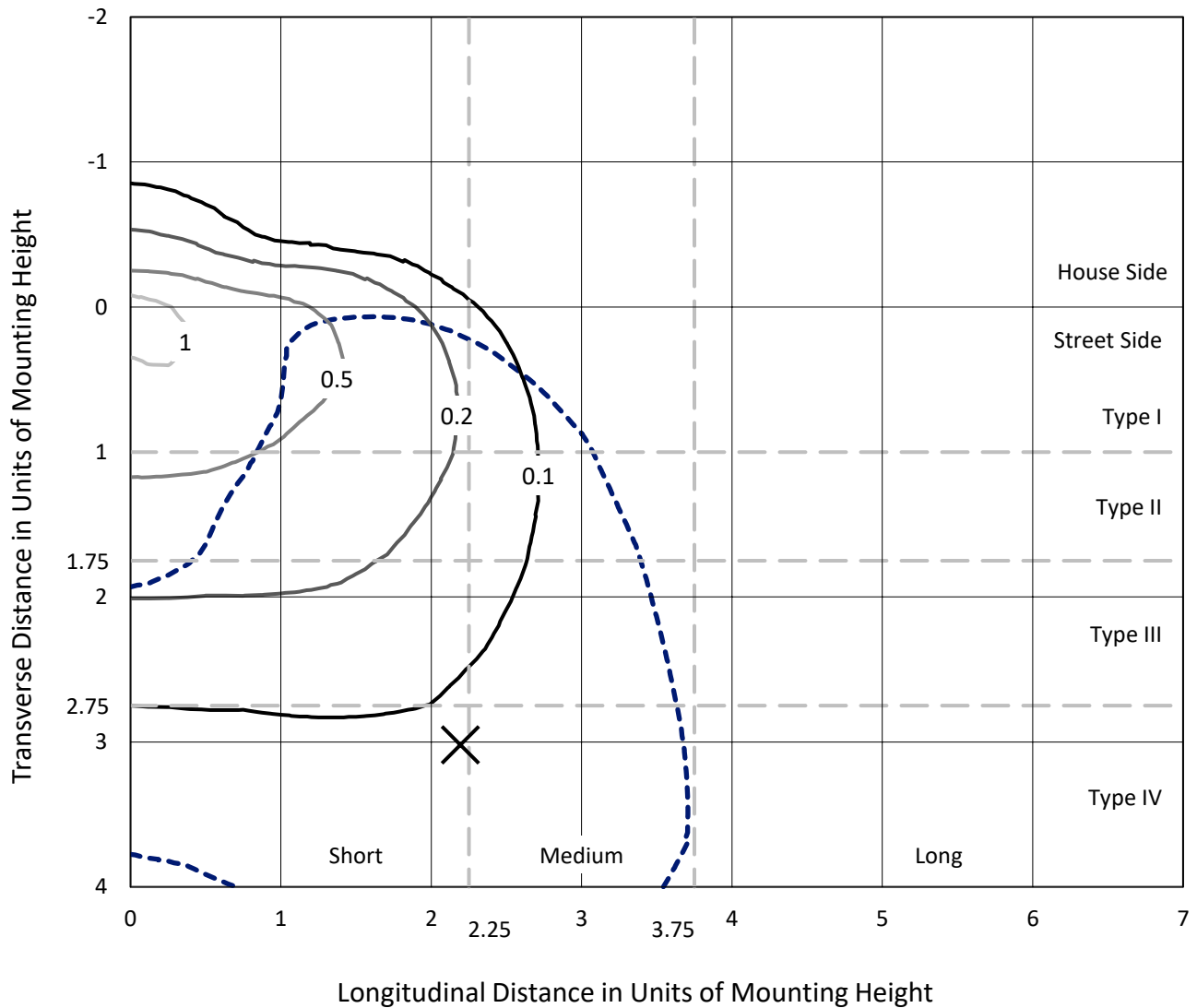
Input Watts (W): 34.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P438355
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Iso-Footcandle Lines of Horizontal Illumination

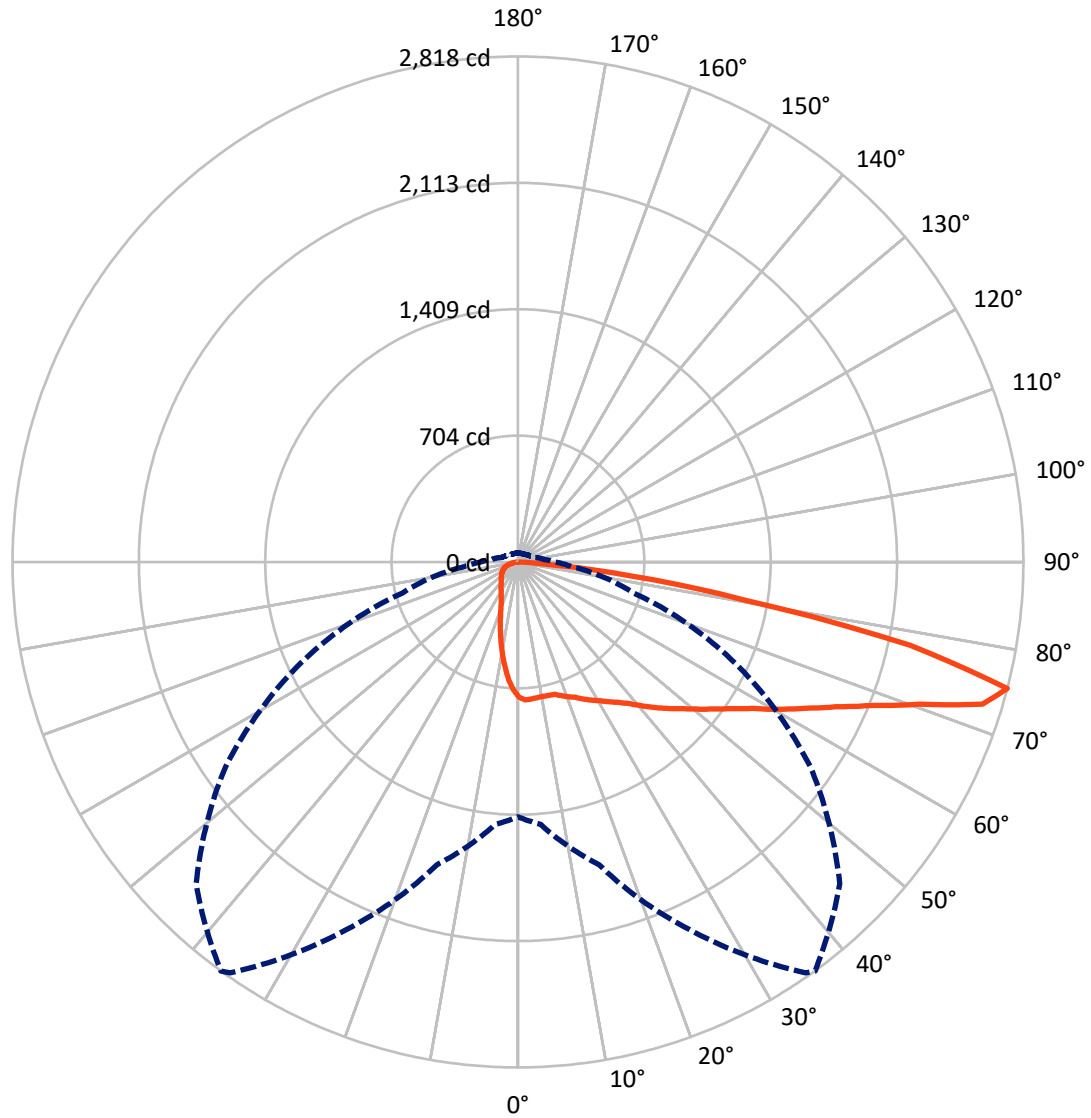
× Max cd
 - - - 1/2 Max cd



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 75-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 610.1 | 0.0 | 610.1 |
| | % Fixture | 14.8 | 0.0 | 14.8 |
| Street Side | Lumens | 3523.9 | 0.0 | 3523.9 |
| | % Fixture | 85.2 | 0.0 | 85.2 |
| Total | Lumens | 4134.0 | 0.0 | 4134.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 66.5 | 1.6 |
| 10°-20° | 172.0 | 4.2 |
| 20°-30° | 266.0 | 6.4 |
| 30°-40° | 385.3 | 9.3 |
| 40°-50° | 557.2 | 13.5 |
| 50°-60° | 772.9 | 18.7 |
| 60°-70° | 975.9 | 23.6 |
| 70°-80° | 838.3 | 20.3 |
| 80°-90° | 99.9 | 2.4 |
| 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° | 4134.0 | 100.0 |
| 0°-180° | 4134.0 | 100.0 |

Coefficient of Utilization

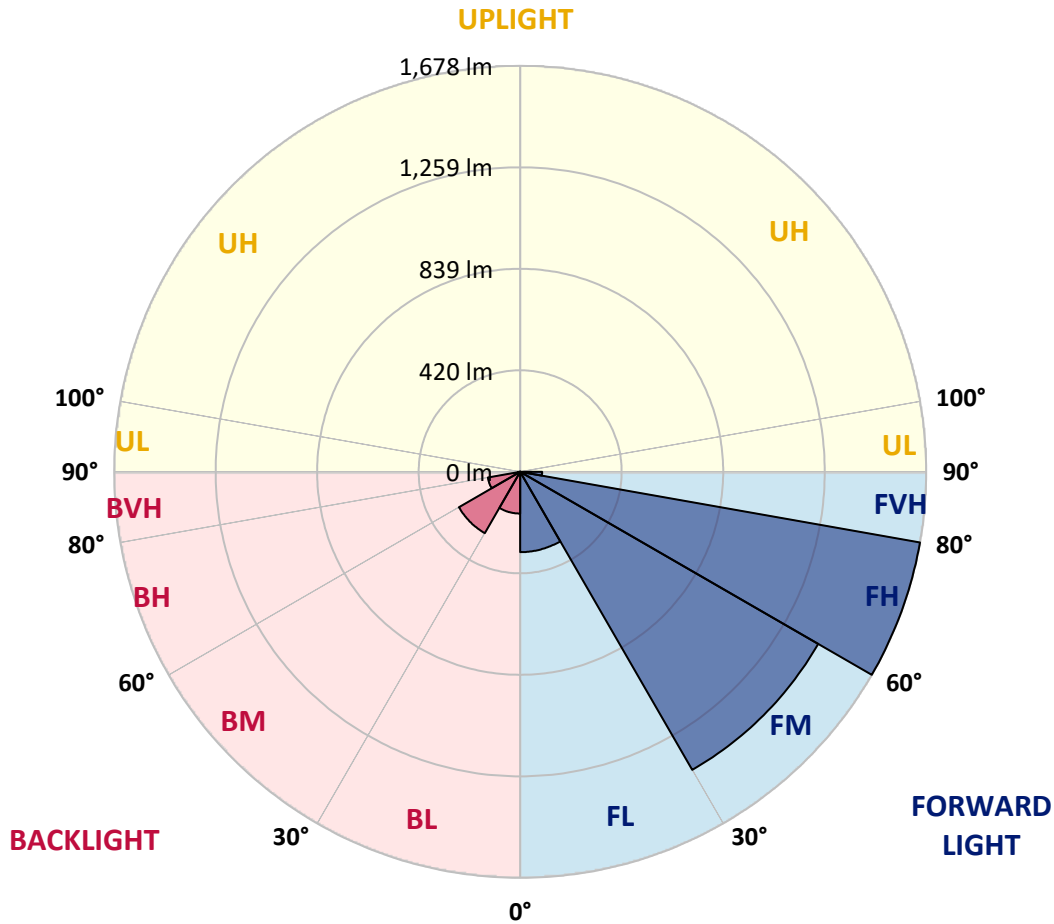


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 332.0 | 8.0 | | | |
| FM (30°-60°) | 1422.9 | 34.4 | | | |
| FH (60°-80°) | 1678.4 | 40.6 | | | G1/1800 |
| FVH (80°-90°) | 90.6 | 2.2 | | | G1/100 |
| BL (0°-30°) | 172.5 | 4.2 | B1/500 | | |
| BM (30°-60°) | 292.5 | 7.1 | B1/1000 | | |
| BH (60°-80°) | 135.8 | 3.3 | B1/500 | | G1/500 |
| BVH (80°-90°) | 9.2 | 0.2 | | | 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 IV Short





REPORT NUMBER: P438355

CATALOG NUMBER: ISW-SA1C-735-U-SL4

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 |
| 2.5° | 775.8 | 775.8 | 775.8 | 774.3 | 771.2 | 769.7 | 766.6 | 763.5 | 761.9 | 755.8 | 754.2 |
| 5° | 775.8 | 777.4 | 775.8 | 774.3 | 771.2 | 768.1 | 765.0 | 758.9 | 754.2 | 746.5 | 738.8 |
| 7.5° | 768.1 | 769.7 | 769.7 | 768.1 | 765.0 | 763.5 | 760.4 | 752.7 | 746.5 | 735.7 | 723.4 |
| 10° | 755.8 | 758.9 | 758.9 | 760.4 | 761.9 | 761.9 | 758.9 | 752.7 | 743.4 | 731.1 | 711.0 |
| 12.5° | 740.3 | 748.1 | 752.7 | 757.3 | 763.5 | 763.5 | 765.0 | 755.8 | 748.1 | 731.1 | 711.0 |
| 15° | 735.7 | 740.3 | 749.6 | 763.5 | 769.7 | 765.0 | 771.2 | 766.6 | 757.3 | 740.3 | 715.7 |
| 17.5° | 734.2 | 738.8 | 754.2 | 771.2 | 780.4 | 783.5 | 783.5 | 777.4 | 766.6 | 749.6 | 718.8 |
| 20° | 740.3 | 746.5 | 766.6 | 788.2 | 802.0 | 802.0 | 800.5 | 792.8 | 778.9 | 758.9 | 724.9 |
| 22.5° | 760.4 | 761.9 | 785.1 | 811.3 | 822.1 | 819.0 | 822.1 | 808.2 | 792.8 | 772.7 | 732.6 |
| 25° | 786.6 | 789.7 | 808.2 | 839.1 | 845.2 | 846.8 | 842.1 | 826.7 | 809.8 | 789.7 | 741.9 |
| 27.5° | 822.1 | 826.7 | 840.6 | 869.9 | 874.5 | 871.4 | 865.3 | 846.8 | 829.8 | 811.3 | 760.4 |
| 30° | 863.7 | 866.8 | 883.8 | 896.1 | 900.8 | 897.7 | 893.0 | 873.0 | 859.1 | 842.1 | 788.2 |
| 32.5° | 903.8 | 905.4 | 923.9 | 936.2 | 928.5 | 928.5 | 922.3 | 902.3 | 891.5 | 888.4 | 823.6 |
| 35° | 945.5 | 948.6 | 965.5 | 971.7 | 959.4 | 960.9 | 959.4 | 942.4 | 945.5 | 951.7 | 877.6 |
| 37.5° | 984.0 | 988.7 | 1008.7 | 1010.3 | 1005.6 | 1001.0 | 1005.6 | 996.4 | 1002.6 | 1027.2 | 940.9 |
| 40° | 1018.0 | 1024.1 | 1048.8 | 1053.5 | 1051.9 | 1051.9 | 1055.0 | 1053.5 | 1076.6 | 1116.7 | 1018.0 |
| 42.5° | 1045.7 | 1053.5 | 1082.8 | 1095.1 | 1104.3 | 1109.0 | 1119.8 | 1122.9 | 1156.8 | 1221.6 | 1107.4 |
| 45° | 1073.5 | 1081.2 | 1121.3 | 1141.4 | 1163.0 | 1164.5 | 1186.1 | 1196.9 | 1260.1 | 1318.7 | 1204.6 |
| 47.5° | 1105.9 | 1115.1 | 1152.2 | 1192.3 | 1216.9 | 1221.6 | 1261.7 | 1283.3 | 1360.4 | 1436.0 | 1295.6 |
| 50° | 1150.6 | 1153.7 | 1183.0 | 1250.9 | 1281.7 | 1289.4 | 1334.2 | 1378.9 | 1463.7 | 1539.3 | 1375.8 |
| 52.5° | 1206.1 | 1203.1 | 1216.9 | 1303.3 | 1351.1 | 1361.9 | 1434.4 | 1479.1 | 1580.9 | 1650.4 | 1439.0 |
| 55° | 1252.4 | 1249.3 | 1269.4 | 1363.5 | 1439.0 | 1442.1 | 1528.5 | 1571.7 | 1688.9 | 1732.1 | 1493.0 |
| 57.5° | 1306.4 | 1300.2 | 1320.3 | 1436.0 | 1539.3 | 1540.8 | 1641.1 | 1690.5 | 1786.1 | 1804.6 | 1528.5 |
| 60° | 1351.1 | 1351.1 | 1377.4 | 1506.9 | 1650.4 | 1667.3 | 1758.3 | 1796.9 | 1880.2 | 1857.0 | 1545.5 |
| 62.5° | 1392.8 | 1400.5 | 1437.5 | 1601.0 | 1781.5 | 1795.3 | 1887.9 | 1903.3 | 1977.3 | 1897.1 | 1527.0 |
| 65° | 1442.1 | 1454.5 | 1525.4 | 1713.6 | 1937.2 | 1946.5 | 2023.6 | 2045.2 | 2074.5 | 1895.6 | 1446.8 |
| 67.5° | 1494.6 | 1514.6 | 1608.7 | 1840.1 | 2108.4 | 2133.1 | 2216.4 | 2194.8 | 2139.3 | 1835.4 | 1278.6 |
| 70° | 1565.5 | 1590.2 | 1724.4 | 2008.2 | 2342.9 | 2373.7 | 2483.2 | 2350.6 | 2105.4 | 1621.0 | 1036.5 |
| 72.5° | 1619.5 | 1651.9 | 1835.4 | 2225.7 | 2660.6 | 2708.4 | 2682.2 | 2353.7 | 1887.9 | 1292.5 | 694.1 |
| 75° | 1420.5 | 1469.9 | 1747.5 | 2261.1 | 2796.3 | 2817.9 | 2537.2 | 1989.7 | 1337.2 | 667.9 | 299.2 |
| 77.5° | 1038.0 | 1034.9 | 1277.1 | 1756.8 | 2292.0 | 2234.9 | 1924.9 | 1294.1 | 635.5 | 242.2 | 151.2 |
| 80° | 521.3 | 501.3 | 691.0 | 936.2 | 1237.0 | 1275.6 | 1138.3 | 672.5 | 251.4 | 129.6 | 91.0 |
| 82.5° | 192.8 | 197.4 | 253.0 | 382.5 | 621.6 | 630.8 | 459.6 | 285.3 | 137.3 | 67.9 | 47.8 |
| 85° | 74.0 | 77.1 | 83.3 | 83.3 | 115.7 | 128.0 | 118.8 | 114.1 | 46.3 | 23.1 | 26.2 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 |
| 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: P438355
 CATALOG NUMBER: ISW-SA1C-735-U-SL4

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 | 754.2 |
| 2.5° | 749.6 | 746.5 | 740.3 | 729.5 | 723.4 | 718.8 | 712.6 | 706.4 | 704.9 | 703.3 | 711.0 |
| 5° | 731.1 | 726.5 | 711.0 | 697.2 | 681.7 | 669.4 | 657.1 | 646.3 | 640.1 | 638.5 | 641.6 |
| 7.5° | 712.6 | 706.4 | 683.3 | 655.5 | 629.3 | 607.7 | 586.1 | 575.3 | 558.3 | 558.3 | 559.9 |
| 10° | 701.8 | 691.0 | 658.6 | 617.0 | 583.0 | 544.5 | 518.2 | 492.0 | 481.2 | 473.5 | 470.4 |
| 12.5° | 695.6 | 678.7 | 635.5 | 589.2 | 536.8 | 485.9 | 450.4 | 418.0 | 401.0 | 388.7 | 388.7 |
| 15° | 697.2 | 678.7 | 620.0 | 559.9 | 492.0 | 430.3 | 385.6 | 350.1 | 328.5 | 316.2 | 313.1 |
| 17.5° | 695.6 | 672.5 | 601.5 | 522.9 | 447.3 | 382.5 | 328.5 | 291.5 | 269.9 | 262.2 | 260.7 |
| 20° | 698.7 | 667.9 | 579.9 | 488.9 | 404.1 | 334.7 | 279.2 | 245.2 | 232.9 | 226.7 | 225.2 |
| 22.5° | 700.2 | 658.6 | 558.3 | 451.9 | 357.8 | 290.0 | 243.7 | 220.6 | 211.3 | 206.7 | 205.1 |
| 25° | 703.3 | 657.1 | 533.7 | 418.0 | 319.3 | 256.0 | 220.6 | 200.5 | 195.9 | 192.8 | 192.8 |
| 27.5° | 715.7 | 657.1 | 512.1 | 374.8 | 279.2 | 228.3 | 200.5 | 188.2 | 185.1 | 183.5 | 183.5 |
| 30° | 731.1 | 660.1 | 492.0 | 339.3 | 248.3 | 206.7 | 186.6 | 177.4 | 175.8 | 174.3 | 174.3 |
| 32.5° | 757.3 | 670.9 | 468.9 | 305.4 | 222.1 | 191.3 | 175.8 | 168.1 | 165.0 | 165.0 | 165.0 |
| 35° | 792.8 | 689.4 | 445.7 | 274.5 | 200.5 | 175.8 | 165.0 | 157.3 | 155.8 | 157.3 | 157.3 |
| 37.5° | 843.7 | 711.0 | 425.7 | 246.8 | 183.5 | 163.5 | 154.2 | 149.6 | 148.1 | 148.1 | 149.6 |
| 40° | 906.9 | 749.6 | 405.6 | 225.2 | 171.2 | 152.7 | 146.5 | 141.9 | 140.4 | 141.9 | 141.9 |
| 42.5° | 976.3 | 791.2 | 388.7 | 203.6 | 158.9 | 145.0 | 137.3 | 134.2 | 132.6 | 134.2 | 135.7 |
| 45° | 1053.5 | 834.4 | 374.8 | 188.2 | 149.6 | 137.3 | 131.1 | 129.6 | 128.0 | 128.0 | 129.6 |
| 47.5° | 1118.2 | 880.7 | 364.0 | 177.4 | 141.9 | 131.1 | 126.5 | 123.4 | 121.8 | 120.3 | 121.8 |
| 50° | 1178.4 | 916.2 | 360.9 | 171.2 | 137.3 | 124.9 | 120.3 | 117.2 | 115.7 | 114.1 | 115.7 |
| 52.5° | 1223.1 | 934.7 | 360.9 | 166.6 | 132.6 | 120.3 | 115.7 | 112.6 | 111.1 | 108.0 | 109.5 |
| 55° | 1254.0 | 943.9 | 356.3 | 163.5 | 128.0 | 115.7 | 109.5 | 108.0 | 106.4 | 103.3 | 103.3 |
| 57.5° | 1272.5 | 942.4 | 339.3 | 162.0 | 126.5 | 109.5 | 104.9 | 103.3 | 101.8 | 98.7 | 98.7 |
| 60° | 1269.4 | 913.1 | 308.5 | 155.8 | 123.4 | 104.9 | 98.7 | 98.7 | 98.7 | 95.6 | 95.6 |
| 62.5° | 1224.7 | 831.3 | 257.6 | 146.5 | 120.3 | 100.3 | 92.5 | 95.6 | 97.2 | 94.1 | 94.1 |
| 65° | 1104.3 | 706.4 | 212.8 | 134.2 | 112.6 | 95.6 | 87.9 | 92.5 | 95.6 | 94.1 | 92.5 |
| 67.5° | 930.1 | 559.9 | 175.8 | 121.8 | 104.9 | 89.5 | 81.7 | 87.9 | 89.5 | 89.5 | 89.5 |
| 70° | 718.8 | 402.6 | 145.0 | 106.4 | 94.1 | 80.2 | 74.0 | 77.1 | 78.7 | 78.7 | 80.2 |
| 72.5° | 425.7 | 240.6 | 118.8 | 91.0 | 80.2 | 69.4 | 64.8 | 66.3 | 64.8 | 64.8 | 64.8 |
| 75° | 209.8 | 149.6 | 95.6 | 77.1 | 67.9 | 58.6 | 54.0 | 50.9 | 50.9 | 50.9 | 49.4 |
| 77.5° | 128.0 | 111.1 | 78.7 | 61.7 | 54.0 | 44.7 | 41.6 | 38.6 | 38.6 | 38.6 | 38.6 |
| 80° | 91.0 | 86.4 | 60.2 | 46.3 | 37.0 | 32.4 | 30.8 | 29.3 | 29.3 | 27.8 | 27.8 |
| 82.5° | 57.1 | 64.8 | 44.7 | 30.8 | 24.7 | 23.1 | 21.6 | 20.1 | 18.5 | 17.0 | 17.0 |
| 85° | 32.4 | 41.6 | 26.2 | 17.0 | 13.9 | 10.8 | 9.3 | 9.3 | 7.7 | 7.7 | 6.2 |
| 87.5° | 1.5 | 3.1 | 3.1 | 3.1 | 3.1 | 1.5 | 1.5 | 1.5 | 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 |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

All Brands

Data applicable to all product families using SA light engines

Report Number: SP1-2101-121-7

Luminaire Tested: IFLD-S-SA2A-735-U-T2

Test Date: 03/04/2021

Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-7
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/04/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-735-U-T2**
 Description: STREETWORKS INF FLOOD

PROGRAMMED @ 615mA.

Spectral Parameters

CCT (K): 3388
 CIE u': 0.2371
 CIE v': 0.5177
 Duv: 0.0032
 CIE x: 0.4153
 CIE y: 0.4030
 CIE z: 0.1817
 Peak Wavelength (nm): 590
 Dominant Wavelength (nm): 580
 Purity: 45.7
 Rf: 76.9
 Rg: 94.4

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.1 | | |
| R1: | 68.9 | R9: | -34.6 |
| R2: | 81.1 | R10: | 57.8 |
| R3: | 93.1 | R11: | 68.6 |
| R4: | 71.6 | R12: | 53.9 |
| R5: | 69.4 | R13: | 70.9 |
| R6: | 75.0 | R14: | 96.2 |
| R7: | 79.5 | | |
| R8: | 46.4 | | |

Test Conditions

Stabilization Time: 81M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/30%
 Sphere Temperature (°C): 24.1



REPORT NUMBER: SP1-2101-121-7

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | IN0046 | 12/1/2020 | 12/1/2021 |

REPORT NUMBER: SP1-2101-121-7

CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3500K 4-step quadrangle

REPORT NUMBER: SP1-2101-121-7

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 | 2672 | 0.0 | 490 | 34553 | 4.9 | 620 | 136720 | 35.6 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 8.0 | 625 | 126308 | 27.9 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 12.1 | 630 | 114625 | 20.7 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 18.1 | 635 | 103216 | 15.5 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 25.4 | 640 | 92605 | 11.1 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 33.9 | 645 | 83234 | 8.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 43.0 | 650 | 73263 | 5.4 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 50.1 | 655 | 64627 | 3.7 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 57.9 | 660 | 56614 | 2.4 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 64.0 | 665 | 49537 | 1.6 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.0 | 540 | 107316 | 69.9 | 670 | 42866 | 0.9 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.0 | 545 | 113101 | 75.3 | 675 | 36708 | 0.6 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 0.0 | 550 | 120690 | 82.0 | 680 | 31814 | 0.4 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 0.1 | 555 | 128583 | 87.8 | 685 | 27485 | 0.2 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 0.3 | 560 | 137796 | 93.6 | 690 | 23698 | 0.1 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 0.8 | 565 | 146577 | 97.5 | 695 | 20309 | 0.1 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 1.6 | 570 | 154581 | 100.5 | 700 | 17890 | 0.1 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 2.4 | 575 | 162633 | 101.2 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 2.5 | 580 | 168101 | 99.9 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 2.1 | 585 | 173145 | 96.2 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 1.8 | 590 | 174675 | 90.3 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 1.7 | 595 | 173724 | 82.3 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 1.5 | 600 | 171241 | 73.8 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 1.7 | 605 | 165134 | 64.0 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 2.2 | 610 | 156652 | 53.8 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 3.3 | 615 | 147879 | 44.6 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: 12126

S/P: 1.36

| 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 | 2672 | 0.0 | 490 | 34553 | 53.2 | 620 | 136720 | 1.7 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 71.7 | 625 | 126308 | 1.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 91.4 | 630 | 114625 | 0.6 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 110.0 | 635 | 103216 | 0.4 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 125.1 | 640 | 92605 | 0.2 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 135.7 | 645 | 83234 | 0.1 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 140.8 | 650 | 73263 | 0.1 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 139.6 | 655 | 64627 | 0.1 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 135.7 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.1 | 535 | 103269 | 128.7 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.2 | 540 | 107316 | 118.6 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.6 | 545 | 113101 | 108.4 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 2.0 | 550 | 120690 | 98.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 5.9 | 555 | 128583 | 87.9 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 14.3 | 560 | 137796 | 77.0 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 30.5 | 565 | 146577 | 65.8 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 55.5 | 570 | 154581 | 54.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 77.4 | 575 | 162633 | 44.3 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 73.6 | 580 | 168101 | 34.6 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 53.7 | 585 | 173145 | 26.5 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 41.9 | 590 | 174675 | 19.5 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 34.3 | 595 | 173724 | 13.9 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 27.9 | 600 | 171241 | 9.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 27.1 | 605 | 165134 | 6.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 31.3 | 610 | 156652 | 4.2 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 40.0 | 615 | 147879 | 2.7 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: 4490.7 M/P: 0.5

| 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 | 2672 | 0.0 | 490 | 34553 | 28.8 | 620 | 136720 | 0.1 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 36.6 | 625 | 126308 | 0.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 43.9 | 630 | 114625 | 0.0 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 49.6 | 635 | 103216 | 0.0 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 53.0 | 640 | 92605 | 0.0 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 53.5 | 645 | 83234 | 0.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 51.6 | 650 | 73263 | 0.0 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 47.3 | 655 | 64627 | 0.0 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 42.5 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 37.2 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.1 | 540 | 107316 | 31.4 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.4 | 545 | 113101 | 26.3 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 1.4 | 550 | 120690 | 21.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 3.7 | 555 | 128583 | 17.3 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 8.9 | 560 | 137796 | 13.6 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 18.2 | 565 | 146577 | 10.3 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 33.2 | 570 | 154581 | 7.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 45.6 | 575 | 162633 | 5.4 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 43.8 | 580 | 168101 | 3.8 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 32.2 | 585 | 173145 | 2.6 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 25.6 | 590 | 174675 | 1.7 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 21.2 | 595 | 173724 | 1.1 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 17.4 | 600 | 171241 | 0.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 16.6 | 605 | 165134 | 0.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 18.6 | 610 | 156652 | 0.3 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 22.7 | 615 | 147879 | 0.2 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

Summary

$R_f = 76.9$
 $R_g = 94.4$
 CIE $R_a = 73.1$
 $R_g = -34.6$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 63 |
| CES02 = 62 | CES27 = 88 | CES52 = 89 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 80 | CES78 = 65 |
| CES04 = 70 | CES29 = 67 | CES54 = 84 | CES79 = 87 |
| CES05 = 48 | CES30 = 74 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 71 | CES56 = 75 | CES81 = 75 |
| CES07 = 40 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 39 | CES33 = 74 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 78 | CES59 = 87 | CES84 = 89 |
| CES10 = 75 | CES35 = 89 | CES60 = 93 | CES85 = 80 |
| CES11 = 58 | CES36 = 98 | CES61 = 86 | CES86 = 66 |
| CES12 = 64 | CES37 = 86 | CES62 = 89 | CES87 = 79 |
| CES13 = 43 | CES38 = 82 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 74 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 68 | CES90 = 77 |
| CES16 = 47 | CES41 = 89 | CES66 = 71 | CES91 = 88 |
| CES17 = 50 | CES42 = 88 | CES67 = 69 | CES92 = 60 |
| CES18 = 56 | CES43 = 82 | CES68 = 74 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 82 | CES94 = 52 |
| CES20 = 65 | CES45 = 87 | CES70 = 67 | CES95 = 69 |
| CES21 = 86 | CES46 = 82 | CES71 = 66 | CES96 = 78 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 72 | CES73 = 59 | CES98 = 76 |
| CES24 = 91 | CES49 = 82 | CES74 = 97 | CES99 = 63 |
| CES25 = 72 | CES50 = 88 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)