

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: P438696

Luminaire Tested: **ISW-SA1E-735-U-SL4-HSS**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438696
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-19)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISW-SA1E-735-U-SL4-HSS
Description: IMPACT ELITE LED WEDGE LUMINAIRE
(1) 70 CRI, 3500K, 1050mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5441 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

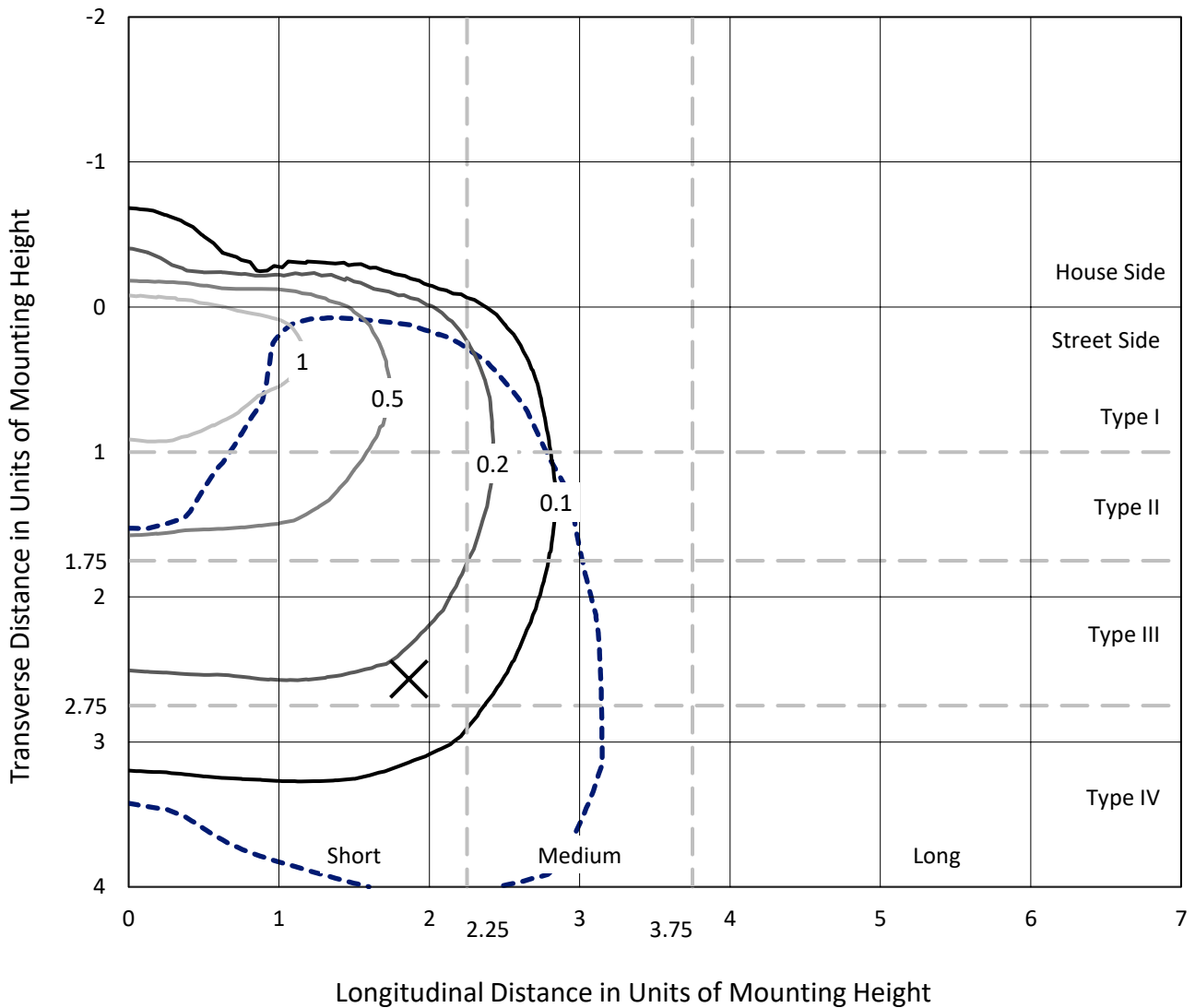
Input Watts (W): 58.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

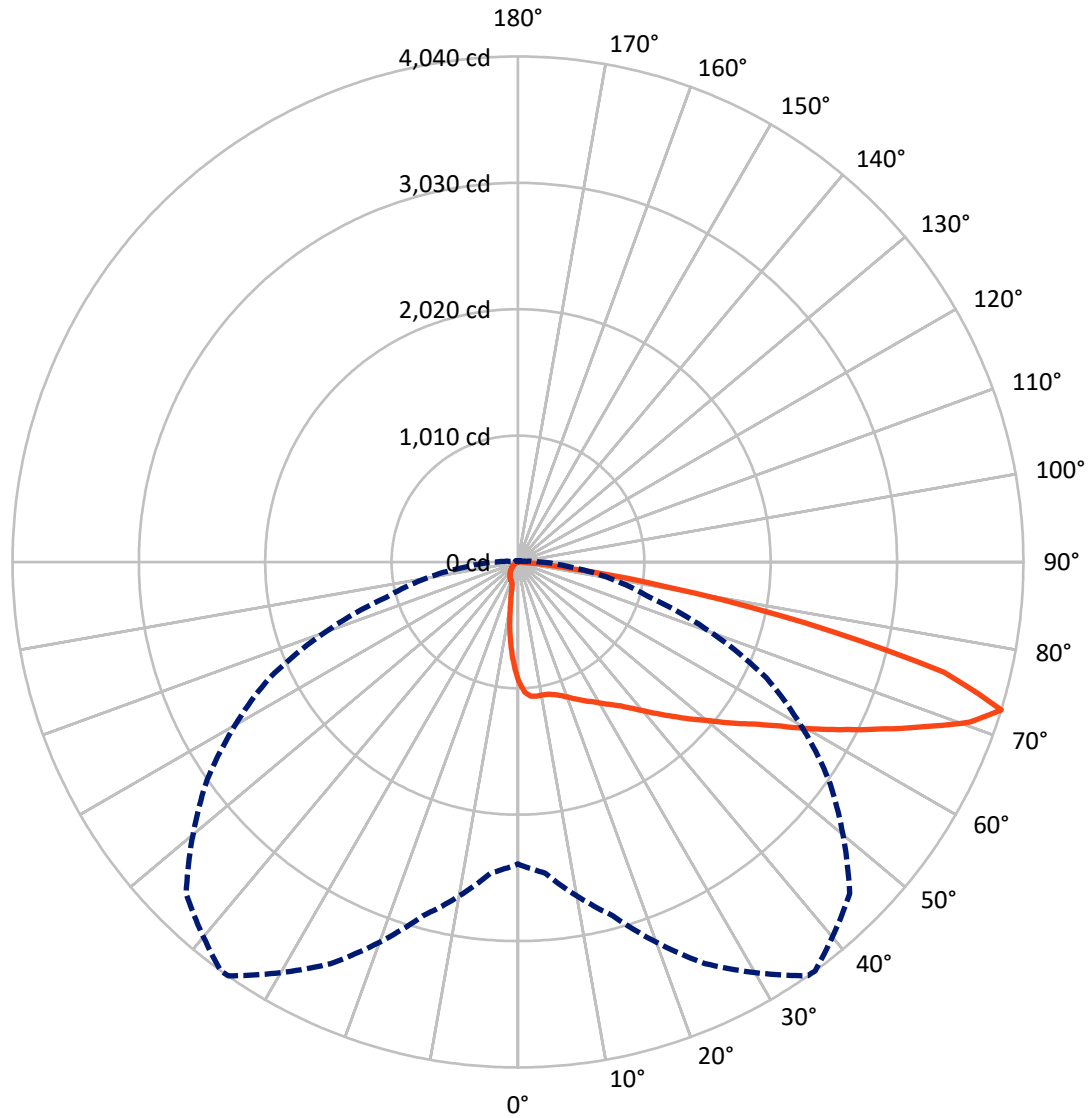
✕ Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P438696
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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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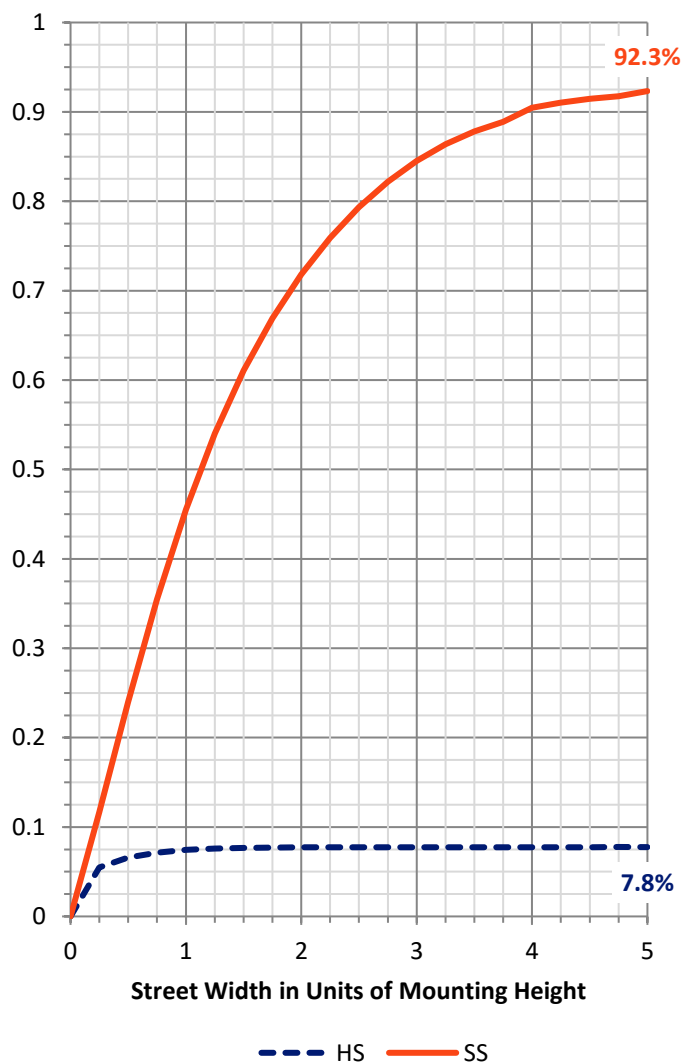
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 424.5 | 0.0 | 424.5 |
| | % Fixture | 7.8 | 0.0 | 7.8 |
| Street Side | Lumens | 5016.5 | 0.0 | 5016.5 |
| | % Fixture | 92.2 | 0.0 | 92.2 |
| Total | Lumens | 5441.0 | 0.0 | 5441.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 81.6 | 1.5 |
| 10°-20° | 204.9 | 3.8 |
| 20°-30° | 334.6 | 6.1 |
| 30°-40° | 508.7 | 9.3 |
| 40°-50° | 777.9 | 14.3 |
| 50°-60° | 1106.1 | 20.3 |
| 60°-70° | 1402.6 | 25.8 |
| 70°-80° | 960.4 | 17.7 |
| 80°-90° | 64.3 | 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° | 5441.0 | 100.0 |
| 0°-180° | 5441.0 | 100.0 |

Coefficient of Utilization



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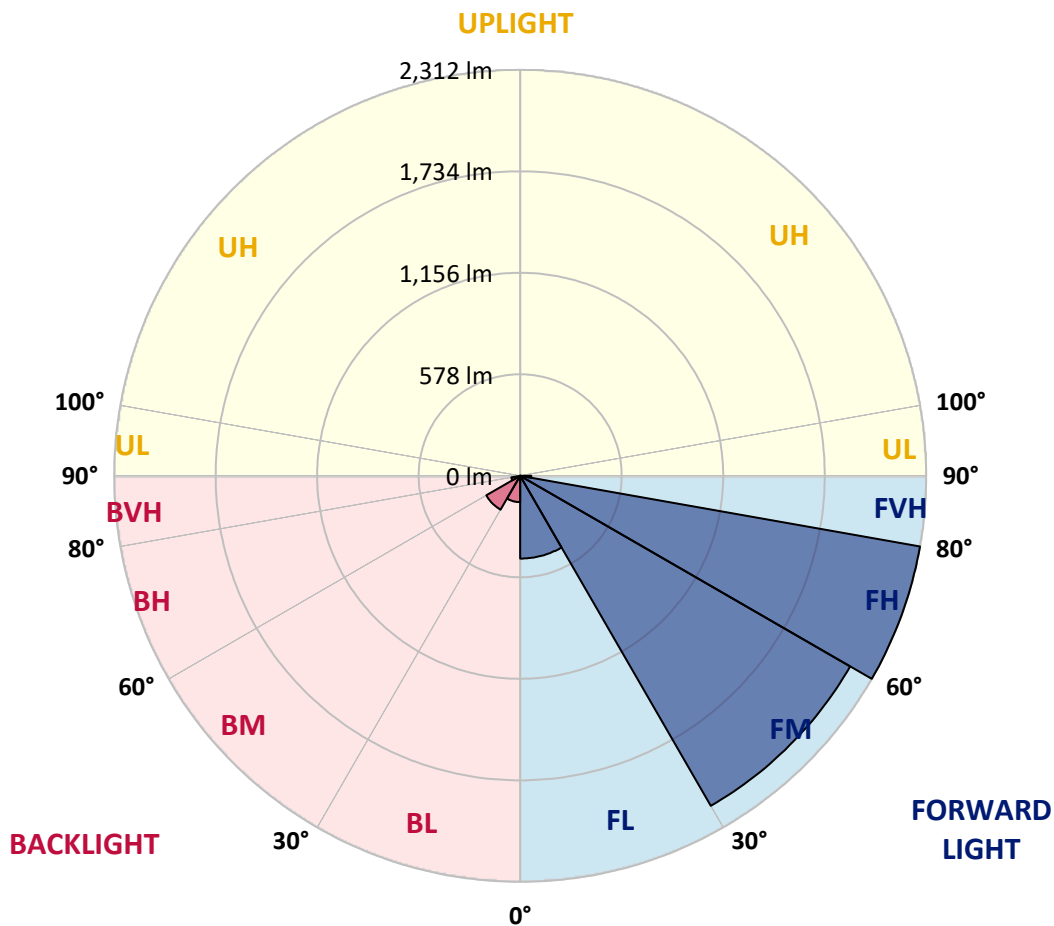
CATALOG NUMBER: ISW-SA1E-735-U-SL4-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 471.3 | 8.7 | | | |
| FM (30°-60°) | 2170.0 | 39.9 | | | |
| FH (60°-80°) | 2311.8 | 42.5 | | | G2/5000 |
| FVH (80°-90°) | 63.4 | 1.2 | | | G1/100 |
| BL (0°-30°) | 149.8 | 2.8 | B1/500 | | |
| BM (30°-60°) | 222.6 | 4.1 | B1/1000 | | |
| BH (60°-80°) | 51.2 | 0.9 | B0/110 | | G0/110 |
| BVH (80°-90°) | 0.9 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 36° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 |
| 2.5° | 1070.5 | 1063.3 | 1058.5 | 1053.7 | 1039.3 | 1041.7 | 1027.4 | 1013.0 | 991.4 | 981.9 | 967.5 |
| 5° | 1096.8 | 1094.4 | 1092.0 | 1084.8 | 1072.9 | 1077.7 | 1063.3 | 1048.9 | 1017.8 | 989.0 | 957.9 |
| 7.5° | 1092.0 | 1096.8 | 1094.4 | 1089.6 | 1080.0 | 1082.4 | 1070.5 | 1056.1 | 1029.8 | 991.4 | 948.3 |
| 10° | 1082.4 | 1084.8 | 1084.8 | 1082.4 | 1080.0 | 1080.0 | 1070.5 | 1058.5 | 1034.5 | 1001.0 | 945.9 |
| 12.5° | 1063.3 | 1068.1 | 1075.3 | 1080.0 | 1082.4 | 1084.8 | 1077.7 | 1068.1 | 1046.5 | 1010.6 | 953.1 |
| 15° | 1056.1 | 1060.9 | 1075.3 | 1089.6 | 1096.8 | 1099.2 | 1092.0 | 1080.0 | 1060.9 | 1029.8 | 965.1 |
| 17.5° | 1056.1 | 1060.9 | 1084.8 | 1106.4 | 1120.8 | 1123.2 | 1113.6 | 1101.6 | 1077.7 | 1046.5 | 979.5 |
| 20° | 1070.5 | 1075.3 | 1104.0 | 1142.3 | 1149.5 | 1154.3 | 1139.9 | 1123.2 | 1096.8 | 1065.7 | 996.2 |
| 22.5° | 1094.4 | 1101.6 | 1137.5 | 1173.4 | 1187.8 | 1190.2 | 1173.4 | 1142.3 | 1118.4 | 1087.2 | 1010.6 |
| 25° | 1135.1 | 1151.9 | 1185.4 | 1223.7 | 1226.1 | 1228.5 | 1202.2 | 1171.1 | 1142.3 | 1111.2 | 1027.4 |
| 27.5° | 1192.6 | 1207.0 | 1235.7 | 1278.8 | 1264.4 | 1264.4 | 1242.9 | 1202.2 | 1173.4 | 1144.7 | 1056.1 |
| 30° | 1266.8 | 1276.4 | 1309.9 | 1326.7 | 1307.6 | 1309.9 | 1283.6 | 1245.3 | 1221.3 | 1192.6 | 1099.2 |
| 32.5° | 1336.3 | 1343.5 | 1379.4 | 1381.8 | 1360.2 | 1357.8 | 1338.7 | 1293.2 | 1274.0 | 1264.4 | 1159.1 |
| 35° | 1401.0 | 1410.5 | 1439.3 | 1436.9 | 1415.3 | 1412.9 | 1403.3 | 1362.6 | 1362.6 | 1372.2 | 1247.7 |
| 37.5° | 1448.8 | 1472.8 | 1508.7 | 1499.1 | 1484.8 | 1484.8 | 1477.6 | 1446.5 | 1470.4 | 1506.3 | 1365.0 |
| 40° | 1511.1 | 1525.5 | 1573.4 | 1566.2 | 1568.6 | 1568.6 | 1571.0 | 1551.8 | 1594.9 | 1654.8 | 1501.5 |
| 42.5° | 1544.6 | 1573.4 | 1630.9 | 1640.4 | 1662.0 | 1662.0 | 1681.1 | 1676.4 | 1757.8 | 1834.4 | 1659.6 |
| 45° | 1597.3 | 1628.5 | 1690.7 | 1726.6 | 1753.0 | 1765.0 | 1798.5 | 1824.8 | 1939.8 | 2035.6 | 1827.2 |
| 47.5° | 1664.4 | 1690.7 | 1743.4 | 1810.5 | 1858.4 | 1877.5 | 1944.6 | 1987.7 | 2140.9 | 2239.1 | 1985.3 |
| 50° | 1755.4 | 1760.2 | 1798.5 | 1899.1 | 1982.9 | 1994.9 | 2100.2 | 2172.1 | 2344.5 | 2435.5 | 2097.8 |
| 52.5° | 1853.6 | 1844.0 | 1865.5 | 2002.0 | 2119.4 | 2140.9 | 2260.7 | 2370.8 | 2543.3 | 2562.4 | 2143.3 |
| 55° | 1930.2 | 1930.2 | 1947.0 | 2114.6 | 2272.7 | 2284.6 | 2452.3 | 2569.6 | 2725.3 | 2636.7 | 2172.1 |
| 57.5° | 2028.4 | 2018.8 | 2045.1 | 2229.5 | 2464.2 | 2473.8 | 2667.8 | 2758.8 | 2825.9 | 2684.6 | 2167.3 |
| 60° | 2100.2 | 2112.2 | 2152.9 | 2378.0 | 2663.0 | 2706.1 | 2869.0 | 2897.7 | 2931.2 | 2701.3 | 2152.9 |
| 62.5° | 2200.8 | 2198.4 | 2277.4 | 2543.3 | 2921.6 | 2950.4 | 3062.9 | 3015.0 | 3012.6 | 2730.1 | 2133.8 |
| 65° | 2284.6 | 2303.8 | 2423.5 | 2742.0 | 3197.0 | 3216.2 | 3254.5 | 3192.3 | 3125.2 | 2761.2 | 1966.1 |
| 67.5° | 2413.9 | 2452.3 | 2603.1 | 3003.1 | 3491.6 | 3513.2 | 3546.7 | 3410.2 | 3156.3 | 2540.9 | 1638.0 |
| 70° | 2560.0 | 2610.3 | 2854.6 | 3350.3 | 3807.7 | 3831.7 | 3838.8 | 3431.7 | 2859.4 | 1994.9 | 1111.2 |
| 72.5° | 2413.9 | 2495.4 | 2926.4 | 3541.9 | 4037.6 | 4040.0 | 3750.2 | 3031.8 | 2191.2 | 1089.6 | 392.7 |
| 75° | 1554.2 | 1657.2 | 2423.5 | 3142.0 | 3477.2 | 3515.5 | 2940.8 | 2119.4 | 1022.6 | 244.3 | 110.2 |
| 77.5° | 526.9 | 562.8 | 1190.2 | 1982.9 | 2332.5 | 2346.9 | 1935.0 | 1072.9 | 323.3 | 98.2 | 59.9 |
| 80° | 304.1 | 301.7 | 416.7 | 866.9 | 1163.9 | 1209.4 | 974.7 | 428.7 | 150.9 | 50.3 | 40.7 |
| 82.5° | 71.8 | 74.2 | 217.9 | 316.1 | 462.2 | 416.7 | 206.0 | 258.6 | 69.4 | 28.7 | 35.9 |
| 85° | 0.0 | 0.0 | 35.9 | 76.6 | 55.1 | 64.7 | 19.2 | 79.0 | 12.0 | 12.0 | 23.9 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P438696
 CATALOG NUMBER: ISW-SA1E-735-U-SL4-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 | 955.5 |
| 2.5° | 953.1 | 941.2 | 917.2 | 898.0 | 871.7 | 850.1 | 828.6 | 819.0 | 802.3 | 797.5 | 799.9 |
| 5° | 938.8 | 919.6 | 874.1 | 828.6 | 778.3 | 730.4 | 680.1 | 651.4 | 639.4 | 617.9 | 613.1 |
| 7.5° | 922.0 | 893.3 | 828.6 | 754.4 | 668.1 | 598.7 | 529.2 | 481.4 | 438.2 | 421.5 | 414.3 |
| 10° | 914.8 | 878.9 | 787.9 | 675.3 | 558.0 | 445.4 | 359.2 | 297.0 | 258.6 | 244.3 | 239.5 |
| 12.5° | 914.8 | 871.7 | 749.6 | 598.7 | 443.0 | 313.7 | 234.7 | 198.8 | 186.8 | 184.4 | 182.0 |
| 15° | 924.4 | 869.3 | 713.6 | 517.3 | 335.3 | 217.9 | 179.6 | 174.8 | 172.4 | 172.4 | 174.8 |
| 17.5° | 929.2 | 864.5 | 675.3 | 438.2 | 246.7 | 174.8 | 167.6 | 167.6 | 167.6 | 167.6 | 167.6 |
| 20° | 941.2 | 862.1 | 632.2 | 354.4 | 186.8 | 162.8 | 160.5 | 160.5 | 160.5 | 160.5 | 162.8 |
| 22.5° | 943.5 | 862.1 | 579.5 | 273.0 | 165.2 | 155.7 | 153.3 | 153.3 | 153.3 | 155.7 | 155.7 |
| 25° | 957.9 | 857.3 | 529.2 | 208.3 | 155.7 | 146.1 | 146.1 | 143.7 | 146.1 | 146.1 | 146.1 |
| 27.5° | 977.1 | 859.7 | 467.0 | 172.4 | 146.1 | 138.9 | 136.5 | 136.5 | 136.5 | 136.5 | 136.5 |
| 30° | 998.6 | 864.5 | 402.3 | 153.3 | 136.5 | 131.7 | 129.3 | 126.9 | 126.9 | 126.9 | 126.9 |
| 32.5° | 1039.3 | 869.3 | 332.9 | 138.9 | 126.9 | 122.1 | 119.7 | 117.3 | 117.3 | 117.3 | 117.3 |
| 35° | 1101.6 | 895.7 | 273.0 | 129.3 | 117.3 | 112.6 | 110.2 | 107.8 | 107.8 | 107.8 | 105.4 |
| 37.5° | 1185.4 | 936.4 | 215.5 | 119.7 | 107.8 | 103.0 | 100.6 | 98.2 | 95.8 | 95.8 | 95.8 |
| 40° | 1286.0 | 979.5 | 179.6 | 107.8 | 98.2 | 93.4 | 91.0 | 88.6 | 86.2 | 83.8 | 83.8 |
| 42.5° | 1405.7 | 1032.2 | 143.7 | 98.2 | 88.6 | 83.8 | 81.4 | 79.0 | 74.2 | 71.8 | 74.2 |
| 45° | 1539.8 | 1082.4 | 122.1 | 91.0 | 81.4 | 76.6 | 74.2 | 69.4 | 64.7 | 62.3 | 62.3 |
| 47.5° | 1657.2 | 1094.4 | 107.8 | 81.4 | 74.2 | 69.4 | 67.1 | 59.9 | 55.1 | 50.3 | 50.3 |
| 50° | 1736.2 | 1072.9 | 95.8 | 74.2 | 67.1 | 64.7 | 59.9 | 50.3 | 43.1 | 40.7 | 38.3 |
| 52.5° | 1745.8 | 1015.4 | 83.8 | 67.1 | 62.3 | 57.5 | 50.3 | 43.1 | 35.9 | 31.1 | 31.1 |
| 55° | 1736.2 | 919.6 | 74.2 | 62.3 | 55.1 | 50.3 | 43.1 | 33.5 | 26.3 | 23.9 | 21.6 |
| 57.5° | 1705.1 | 819.0 | 67.1 | 55.1 | 50.3 | 43.1 | 33.5 | 26.3 | 19.2 | 16.8 | 14.4 |
| 60° | 1647.6 | 696.9 | 59.9 | 50.3 | 43.1 | 35.9 | 26.3 | 19.2 | 12.0 | 9.6 | 9.6 |
| 62.5° | 1539.8 | 562.8 | 52.7 | 43.1 | 35.9 | 28.7 | 21.6 | 12.0 | 7.2 | 4.8 | 4.8 |
| 65° | 1326.7 | 421.5 | 45.5 | 35.9 | 28.7 | 23.9 | 14.4 | 7.2 | 2.4 | 0.0 | 0.0 |
| 67.5° | 1032.2 | 285.0 | 35.9 | 28.7 | 23.9 | 19.2 | 12.0 | 2.4 | 0.0 | 0.0 | 0.0 |
| 70° | 608.3 | 150.9 | 28.7 | 21.6 | 19.2 | 14.4 | 7.2 | 2.4 | 0.0 | 0.0 | 0.0 |
| 72.5° | 174.8 | 59.9 | 21.6 | 16.8 | 14.4 | 9.6 | 4.8 | 2.4 | 0.0 | 0.0 | 0.0 |
| 75° | 71.8 | 35.9 | 14.4 | 12.0 | 12.0 | 7.2 | 2.4 | 2.4 | 0.0 | 0.0 | 0.0 |
| 77.5° | 47.9 | 26.3 | 9.6 | 7.2 | 7.2 | 4.8 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 38.3 | 14.4 | 4.8 | 4.8 | 4.8 | 2.4 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 33.5 | 9.6 | 2.4 | 2.4 | 2.4 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 16.8 | 4.8 | 2.4 | 2.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 2.4 | 2.4 | 2.4 | 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 |

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 |

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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 3500K 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 | 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)