

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: P438878

Luminaire Tested: **IST-SA1F-735-U-T4FT**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438878
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-10)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: IST-SA1F-735-U-T4FT
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE
(1) 70 CRI, 3500K, 1200mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV FORWARD
THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7332 lumens
Efficiency: N/A
Efficacy: 111.1 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

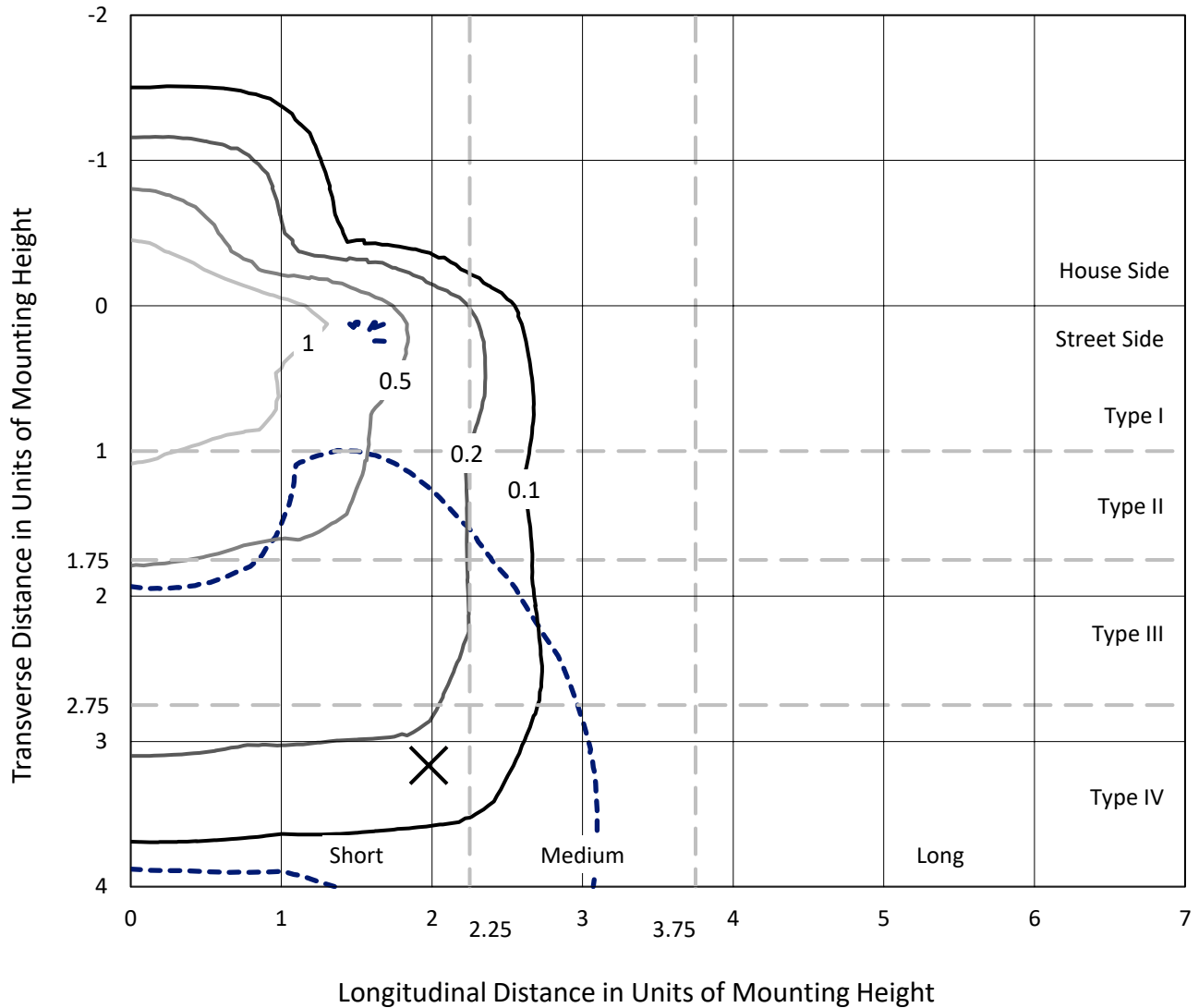
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

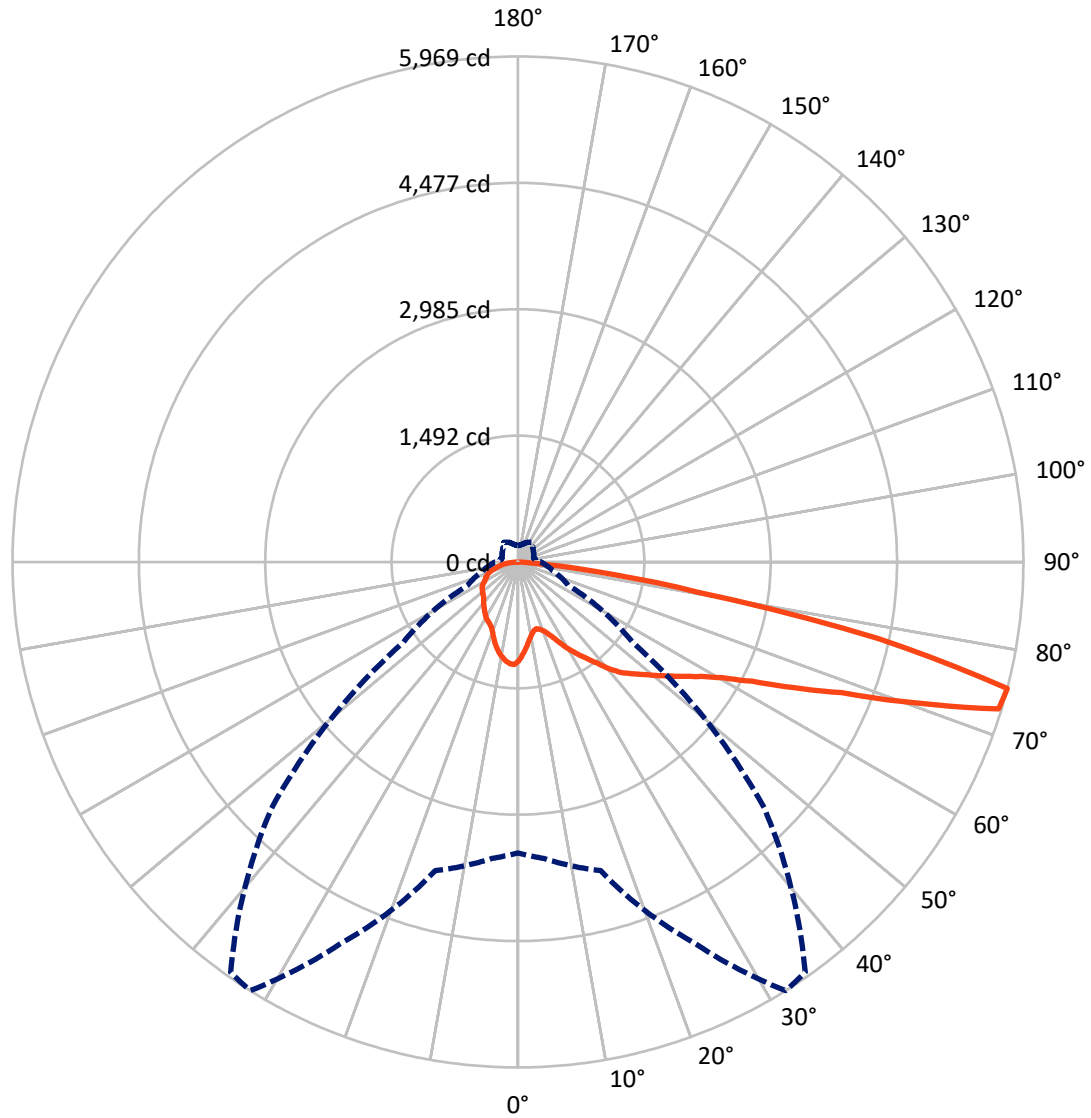
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 32-Deg Lateral - - - Horizontal Cone Through 75-Deg Vertical

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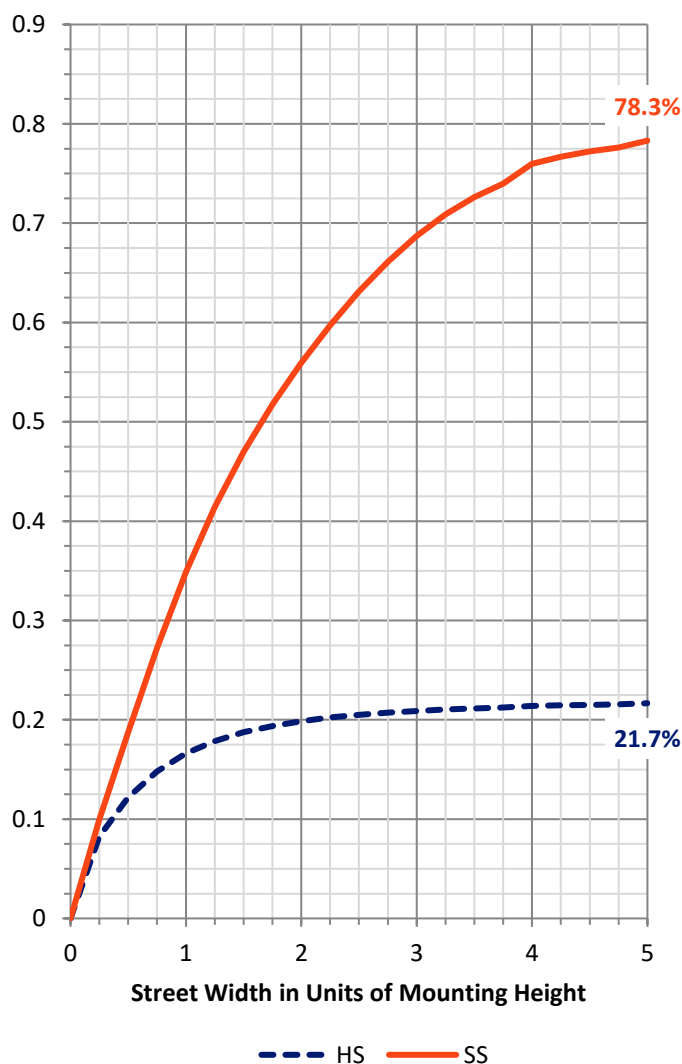
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1606.5 | 0.0 | 1606.5 |
| | % Fixture | 21.9 | 0.0 | 21.9 |
| Street Side | Lumens | 5725.5 | 0.0 | 5725.5 |
| | % Fixture | 78.1 | 0.0 | 78.1 |
| Total | Lumens | 7332.0 | 0.0 | 7332.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 105.9 | 1.4 |
| 10°-20° | 289.7 | 4.0 |
| 20°-30° | 479.4 | 6.5 |
| 30°-40° | 714.6 | 9.7 |
| 40°-50° | 1017.5 | 13.9 |
| 50°-60° | 1399.9 | 19.1 |
| 60°-70° | 1764.1 | 24.1 |
| 70°-80° | 1426.1 | 19.5 |
| 80°-90° | 134.8 | 1.8 |
| 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° | 7332.0 | 100.0 |
| 0°-180° | 7332.0 | 100.0 |

Coefficient of Utilization



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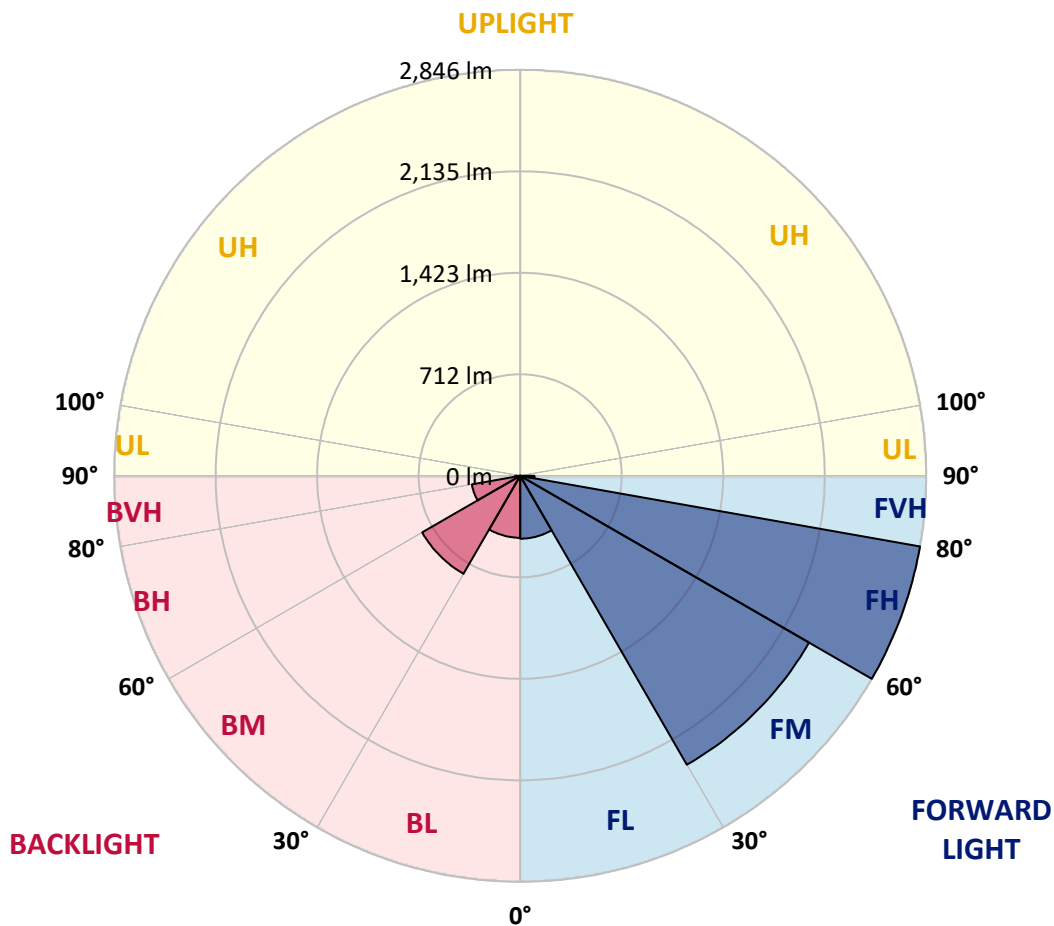
CATALOG NUMBER: IST-SA1F-735-U-T4FT

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 440.8 | 6.0 | | | |
| FM (30°-60°) | 2338.4 | 31.9 | | | |
| FH (60°-80°) | 2846.1 | 38.8 | | | G2/5000 |
| FVH (80°-90°) | 100.1 | 1.4 | | | G2/225 |
| BL (0°-30°) | 434.3 | 5.9 | B1/500 | | |
| BM (30°-60°) | 793.6 | 10.8 | B1/1000 | | |
| BH (60°-80°) | 344.1 | 4.7 | B1/500 | | G1/500 |
| BVH (80°-90°) | 34.6 | 0.5 | | | G1/100 |
| 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° | 32° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 |
| 2.5° | 1065.9 | 1073.9 | 1076.6 | 1081.9 | 1092.6 | 1087.2 | 1100.6 | 1116.5 | 1137.9 | 1148.5 | 1169.8 |
| 5° | 975.3 | 975.3 | 983.3 | 996.6 | 1015.3 | 1015.3 | 1039.3 | 1068.6 | 1105.9 | 1135.2 | 1172.5 |
| 7.5° | 895.4 | 895.4 | 903.4 | 919.4 | 938.0 | 951.3 | 980.6 | 1025.9 | 1076.6 | 1132.5 | 1180.5 |
| 10° | 828.8 | 831.4 | 836.7 | 852.7 | 876.7 | 890.0 | 932.7 | 983.3 | 1049.9 | 1121.9 | 1188.5 |
| 12.5° | 804.8 | 802.1 | 799.4 | 812.8 | 831.4 | 842.1 | 890.0 | 954.0 | 1031.3 | 1119.2 | 1204.5 |
| 15° | 823.4 | 818.1 | 810.1 | 810.1 | 818.1 | 823.4 | 863.4 | 930.0 | 1015.3 | 1116.5 | 1223.1 |
| 17.5° | 871.4 | 866.1 | 847.4 | 828.8 | 834.1 | 836.7 | 863.4 | 916.7 | 1007.3 | 1127.2 | 1249.8 |
| 20° | 938.0 | 930.0 | 898.0 | 874.1 | 868.7 | 868.7 | 884.7 | 924.7 | 1012.6 | 1148.5 | 1284.4 |
| 22.5° | 1018.0 | 1010.0 | 972.6 | 930.0 | 924.7 | 922.0 | 930.0 | 956.7 | 1028.6 | 1172.5 | 1337.7 |
| 25° | 1124.5 | 1116.5 | 1071.2 | 1018.0 | 999.3 | 996.6 | 988.6 | 1004.6 | 1055.3 | 1204.5 | 1375.0 |
| 27.5° | 1239.1 | 1241.8 | 1188.5 | 1116.5 | 1097.9 | 1089.9 | 1068.6 | 1065.9 | 1087.2 | 1231.1 | 1439.0 |
| 30° | 1345.7 | 1340.4 | 1284.4 | 1225.8 | 1199.2 | 1188.5 | 1153.9 | 1137.9 | 1124.5 | 1271.1 | 1513.6 |
| 32.5° | 1396.4 | 1404.3 | 1377.7 | 1321.7 | 1300.4 | 1281.8 | 1241.8 | 1215.1 | 1196.5 | 1332.4 | 1604.2 |
| 35° | 1481.6 | 1484.3 | 1473.6 | 1439.0 | 1396.4 | 1383.0 | 1345.7 | 1327.1 | 1287.1 | 1407.0 | 1713.5 |
| 37.5° | 1566.9 | 1574.9 | 1572.2 | 1550.9 | 1513.6 | 1500.3 | 1468.3 | 1460.3 | 1380.4 | 1500.3 | 1849.4 |
| 40° | 1694.8 | 1681.5 | 1662.8 | 1670.8 | 1657.5 | 1649.5 | 1636.2 | 1609.5 | 1510.9 | 1601.5 | 1982.6 |
| 42.5° | 1833.4 | 1809.4 | 1742.8 | 1764.1 | 1782.7 | 1790.7 | 1809.4 | 1780.1 | 1646.8 | 1753.4 | 2091.9 |
| 45° | 1945.3 | 1926.6 | 1838.7 | 1844.0 | 1881.3 | 1908.0 | 1995.9 | 1979.9 | 1822.7 | 1918.7 | 2238.4 |
| 47.5° | 2009.3 | 1993.3 | 1932.0 | 1958.6 | 1982.6 | 2019.9 | 2190.5 | 2177.1 | 1987.9 | 2097.2 | 2414.3 |
| 50° | 2099.9 | 2073.2 | 2014.6 | 2062.6 | 2105.2 | 2134.5 | 2379.7 | 2374.3 | 2129.2 | 2281.1 | 2614.2 |
| 52.5° | 2150.5 | 2123.8 | 2118.5 | 2185.1 | 2235.8 | 2275.7 | 2582.2 | 2566.2 | 2267.7 | 2464.9 | 2803.4 |
| 55° | 2219.8 | 2225.1 | 2259.7 | 2310.4 | 2382.3 | 2448.9 | 2779.4 | 2699.4 | 2395.7 | 2646.1 | 2989.9 |
| 57.5° | 2371.7 | 2366.3 | 2433.0 | 2456.9 | 2550.2 | 2635.5 | 3013.9 | 2840.7 | 2502.2 | 2776.7 | 3077.8 |
| 60° | 2574.2 | 2584.9 | 2608.8 | 2670.1 | 2771.4 | 2902.0 | 3240.4 | 2987.2 | 2571.5 | 2870.0 | 3061.8 |
| 62.5° | 2957.9 | 2896.6 | 2886.0 | 2902.0 | 3101.8 | 3253.7 | 3461.6 | 3117.8 | 2600.8 | 2872.6 | 2894.0 |
| 65° | 3347.0 | 3323.0 | 3240.4 | 3280.4 | 3570.8 | 3709.4 | 3746.7 | 3203.1 | 2542.2 | 2707.4 | 2520.9 |
| 67.5° | 3749.4 | 3746.7 | 3658.8 | 3773.3 | 4122.4 | 4285.0 | 4063.8 | 3187.1 | 2350.3 | 2321.0 | 1937.3 |
| 70° | 4162.4 | 4181.1 | 4181.1 | 4506.2 | 4983.2 | 5025.8 | 4418.2 | 3035.2 | 1969.3 | 1644.2 | 1132.5 |
| 72.5° | 4343.6 | 4354.3 | 4450.2 | 5172.4 | 5934.5 | 5947.8 | 4620.8 | 2576.9 | 1343.1 | 876.7 | 570.3 |
| 75° | 3434.9 | 3514.9 | 3773.3 | 4980.5 | 5969.1 | 5915.8 | 4117.1 | 1649.5 | 655.5 | 437.0 | 317.1 |
| 77.5° | 1348.4 | 1377.7 | 1902.7 | 3171.1 | 4348.9 | 4402.2 | 2664.8 | 658.2 | 333.1 | 277.1 | 229.2 |
| 80° | 381.1 | 399.7 | 674.2 | 1260.4 | 2147.8 | 2374.3 | 1060.6 | 285.1 | 223.8 | 202.5 | 165.2 |
| 82.5° | 135.9 | 154.6 | 250.5 | 482.3 | 916.7 | 967.3 | 287.8 | 141.2 | 143.9 | 130.6 | 101.3 |
| 85° | 18.7 | 16.0 | 34.6 | 87.9 | 202.5 | 170.5 | 48.0 | 37.3 | 58.6 | 61.3 | 42.6 |
| 87.5° | 0.0 | 0.0 | 0.0 | 2.7 | 2.7 | 2.7 | 0.0 | 0.0 | 0.0 | 2.7 | 2.7 |
| 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: P438878
 CATALOG NUMBER: IST-SA1F-735-U-T4FT

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 | 1167.2 |
| 2.5° | 1175.2 | 1180.5 | 1191.2 | 1196.5 | 1201.8 | 1212.5 | 1209.8 | 1215.1 | 1215.1 | 1212.5 | 1217.8 |
| 5° | 1185.8 | 1199.2 | 1212.5 | 1217.8 | 1220.5 | 1220.5 | 1207.2 | 1199.2 | 1196.5 | 1193.8 | 1196.5 |
| 7.5° | 1196.5 | 1215.1 | 1228.5 | 1225.8 | 1215.1 | 1196.5 | 1180.5 | 1167.2 | 1153.9 | 1148.5 | 1153.9 |
| 10° | 1215.1 | 1233.8 | 1241.8 | 1223.1 | 1193.8 | 1164.5 | 1140.5 | 1121.9 | 1100.6 | 1097.9 | 1100.6 |
| 12.5° | 1231.1 | 1255.1 | 1255.1 | 1212.5 | 1172.5 | 1132.5 | 1095.2 | 1065.9 | 1039.3 | 1031.3 | 1031.3 |
| 15° | 1257.8 | 1276.4 | 1257.8 | 1199.2 | 1143.2 | 1092.6 | 1039.3 | 1002.0 | 970.0 | 956.7 | 959.3 |
| 17.5° | 1287.1 | 1300.4 | 1252.5 | 1177.8 | 1111.2 | 1044.6 | 975.3 | 924.7 | 900.7 | 887.4 | 890.0 |
| 20° | 1321.7 | 1324.4 | 1252.5 | 1151.2 | 1063.3 | 975.3 | 900.7 | 863.4 | 847.4 | 839.4 | 842.1 |
| 22.5° | 1367.0 | 1356.4 | 1244.5 | 1116.5 | 1002.0 | 906.0 | 836.7 | 826.1 | 826.1 | 826.1 | 834.1 |
| 25° | 1415.0 | 1385.7 | 1231.1 | 1071.2 | 922.0 | 823.4 | 796.8 | 810.1 | 820.8 | 820.8 | 826.1 |
| 27.5° | 1463.0 | 1415.0 | 1204.5 | 1004.6 | 828.8 | 764.8 | 775.5 | 796.8 | 807.4 | 807.4 | 812.8 |
| 30° | 1521.6 | 1449.6 | 1172.5 | 914.0 | 740.8 | 724.8 | 751.5 | 778.1 | 794.1 | 794.1 | 799.4 |
| 32.5° | 1596.2 | 1479.0 | 1124.5 | 820.8 | 682.2 | 690.2 | 719.5 | 748.8 | 767.5 | 772.8 | 775.5 |
| 35° | 1678.8 | 1518.9 | 1057.9 | 716.8 | 642.2 | 663.5 | 687.5 | 714.2 | 730.2 | 735.5 | 735.5 |
| 37.5° | 1764.1 | 1558.9 | 970.0 | 628.9 | 607.6 | 636.9 | 660.9 | 674.2 | 684.9 | 684.9 | 684.9 |
| 40° | 1849.4 | 1580.2 | 855.4 | 559.6 | 572.9 | 615.6 | 636.9 | 631.6 | 628.9 | 620.9 | 623.6 |
| 42.5° | 1937.3 | 1596.2 | 732.8 | 509.0 | 538.3 | 591.6 | 607.6 | 594.2 | 572.9 | 559.6 | 562.3 |
| 45° | 2033.2 | 1620.2 | 631.6 | 471.7 | 503.6 | 570.3 | 586.3 | 559.6 | 533.0 | 511.6 | 506.3 |
| 47.5° | 2142.5 | 1660.2 | 541.0 | 437.0 | 482.3 | 556.9 | 572.9 | 535.6 | 501.0 | 471.7 | 466.3 |
| 50° | 2291.7 | 1721.5 | 471.7 | 413.0 | 469.0 | 548.9 | 562.3 | 514.3 | 474.3 | 437.0 | 434.4 |
| 52.5° | 2443.6 | 1766.8 | 423.7 | 391.7 | 453.0 | 533.0 | 548.9 | 498.3 | 450.4 | 410.4 | 405.0 |
| 55° | 2555.5 | 1761.4 | 381.1 | 370.4 | 431.7 | 511.6 | 535.6 | 479.7 | 418.4 | 381.1 | 375.7 |
| 57.5° | 2603.5 | 1652.2 | 346.4 | 351.8 | 407.7 | 485.0 | 514.3 | 450.4 | 394.4 | 362.4 | 359.7 |
| 60° | 2520.9 | 1476.3 | 322.4 | 330.4 | 381.1 | 450.4 | 474.3 | 429.0 | 378.4 | 349.1 | 346.4 |
| 62.5° | 2377.0 | 1279.1 | 303.8 | 314.4 | 354.4 | 418.4 | 450.4 | 402.4 | 357.1 | 335.8 | 333.1 |
| 65° | 2035.9 | 1063.3 | 285.1 | 295.8 | 330.4 | 386.4 | 429.0 | 386.4 | 341.1 | 319.8 | 317.1 |
| 67.5° | 1537.6 | 764.8 | 266.5 | 277.1 | 309.1 | 362.4 | 410.4 | 365.1 | 317.1 | 301.1 | 301.1 |
| 70° | 916.7 | 469.0 | 242.5 | 258.5 | 282.5 | 333.1 | 381.1 | 335.8 | 287.8 | 282.5 | 277.1 |
| 72.5° | 447.7 | 298.5 | 221.2 | 234.5 | 253.2 | 295.8 | 338.4 | 298.5 | 250.5 | 237.2 | 234.5 |
| 75° | 269.1 | 215.8 | 191.9 | 207.9 | 221.2 | 247.8 | 285.1 | 255.8 | 218.5 | 197.2 | 194.5 |
| 77.5° | 194.5 | 162.6 | 162.6 | 178.5 | 178.5 | 205.2 | 245.2 | 218.5 | 183.9 | 170.5 | 167.9 |
| 80° | 138.6 | 122.6 | 133.2 | 143.9 | 138.6 | 173.2 | 207.9 | 183.9 | 149.2 | 138.6 | 135.9 |
| 82.5° | 90.6 | 85.3 | 101.3 | 98.6 | 98.6 | 133.2 | 170.5 | 138.6 | 109.3 | 90.6 | 85.3 |
| 85° | 37.3 | 42.6 | 58.6 | 56.0 | 56.0 | 74.6 | 87.9 | 71.9 | 50.6 | 40.0 | 40.0 |
| 87.5° | 0.0 | 2.7 | 8.0 | 5.3 | 5.3 | 8.0 | 2.7 | 2.7 | 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 | CRI (Ra): | 73.1 | R9: | -34.6 |
| CIE u': | 0.2371 | R1: | 68.9 | R10: | 57.8 |
| CIE v': | 0.5177 | R2: | 81.1 | R11: | 68.6 |
| Duv: | 0.0032 | R3: | 93.1 | R12: | 53.9 |
| CIE x: | 0.4153 | R4: | 71.6 | R13: | 70.9 |
| CIE y: | 0.4030 | R5: | 69.4 | R14: | 96.2 |
| CIE z: | 0.1817 | R6: | 75.0 | | |
| Peak Wavelength (nm): | 590 | R7: | 79.5 | | |
| Dominant Wavelength (nm): | 580 | R8: | 46.4 | | |
| Purity: | 45.7 | | | | |
| Rf: | 76.9 | | | | |
| Rg: | 94.4 | | | | |



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

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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 ($\mu\text{W}/\text{nm}$) | 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 | 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)