

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: P437847

Luminaire Tested: **ISS-SA1F-735-U-T2-HSS**

Issue Date: 12/9/2020

Test Information

Test Method: LM-79-08
Report Number: P437847
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: ISS-SA1F-735-U-T2-HSS
Description: IMPACT ELITE LED QUARTER SPHERE LUMINAIRE
(1) 70 CRI, 3500K, 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: 5659 lumens
Efficiency: N/A
Efficacy: 85.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

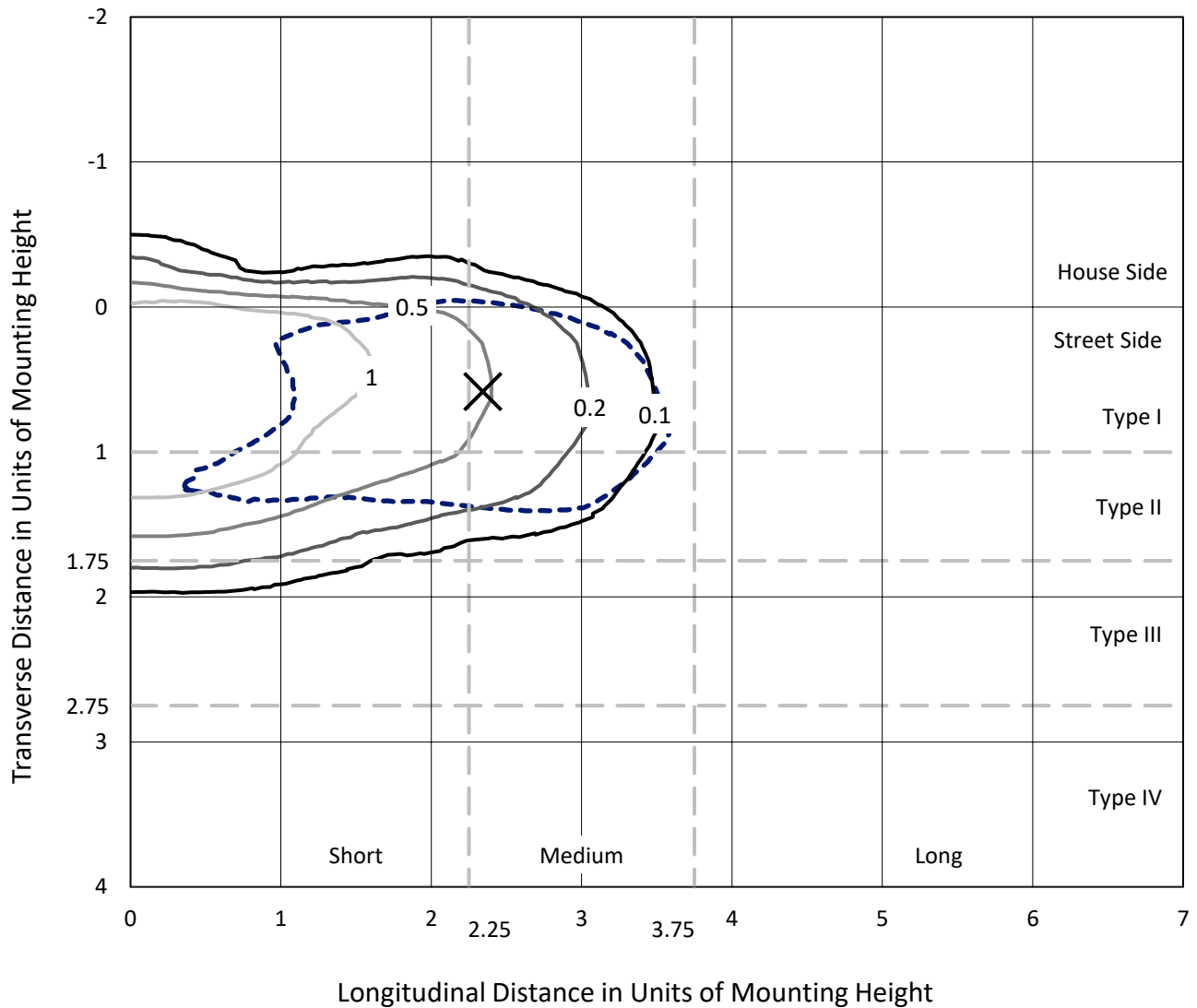
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

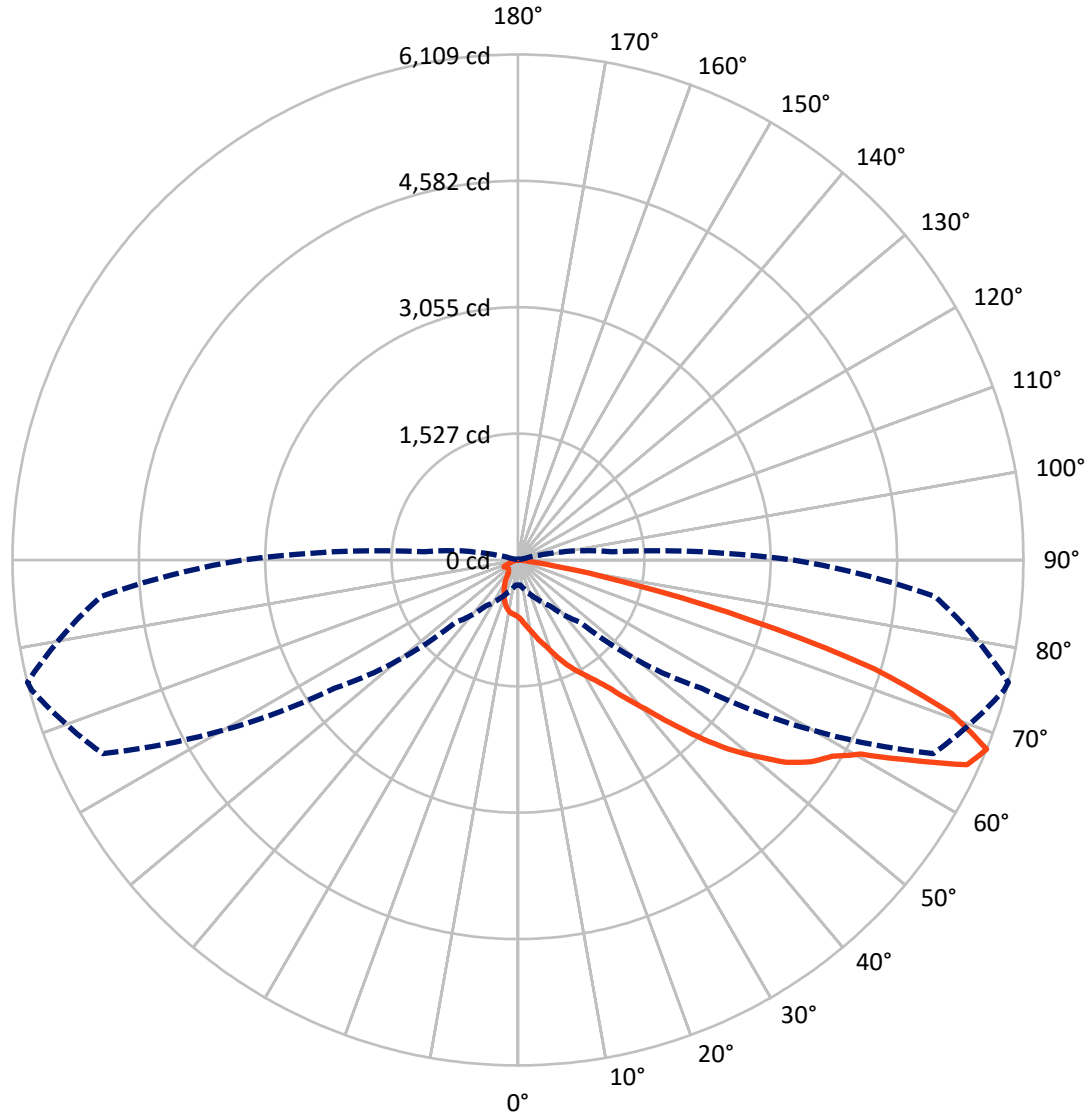
✕ Max cd
 - - - 1/2 Max cd



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

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Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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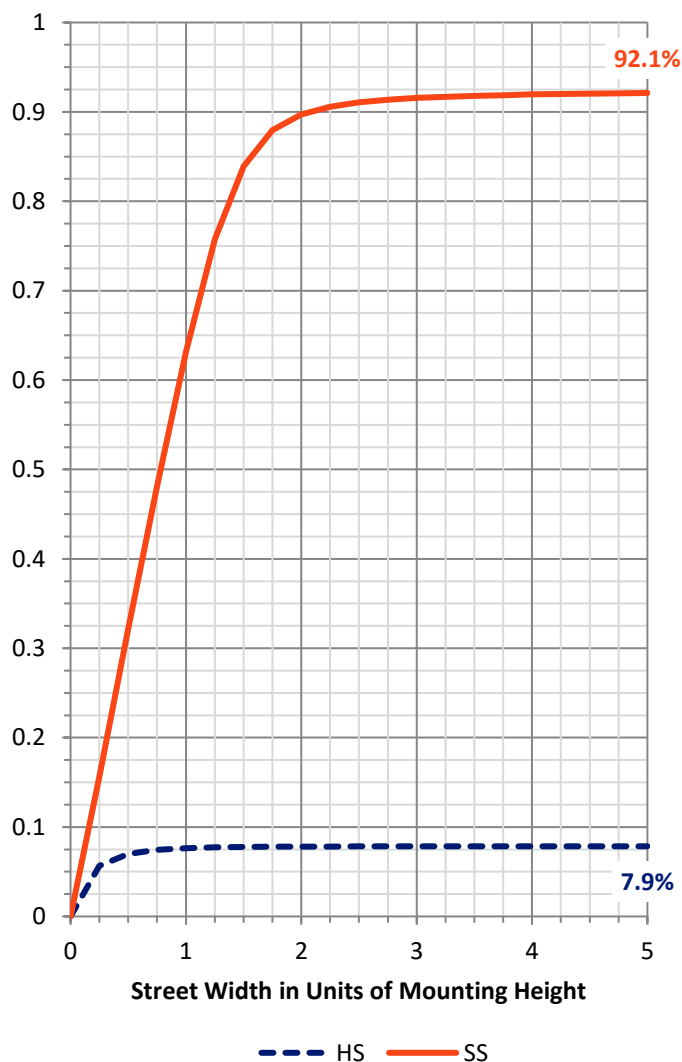
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 447.7 | 0.0 | 447.7 |
| | % Fixture | 7.9 | 0.0 | 7.9 |
| Street Side | Lumens | 5211.3 | 0.0 | 5211.3 |
| | % Fixture | 92.1 | 0.0 | 92.1 |
| Total | Lumens | 5659.0 | 0.0 | 5659.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 66.0 | 1.2 |
| 10°-20° | 183.9 | 3.2 |
| 20°-30° | 317.3 | 5.6 |
| 30°-40° | 565.3 | 10.0 |
| 40°-50° | 1006.7 | 17.8 |
| 50°-60° | 1509.6 | 26.7 |
| 60°-70° | 1429.8 | 25.3 |
| 70°-80° | 557.3 | 9.8 |
| 80°-90° | 23.1 | 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° | 5659.0 | 100.0 |
| 0°-180° | 5659.0 | 100.0 |

Coefficient of Utilization



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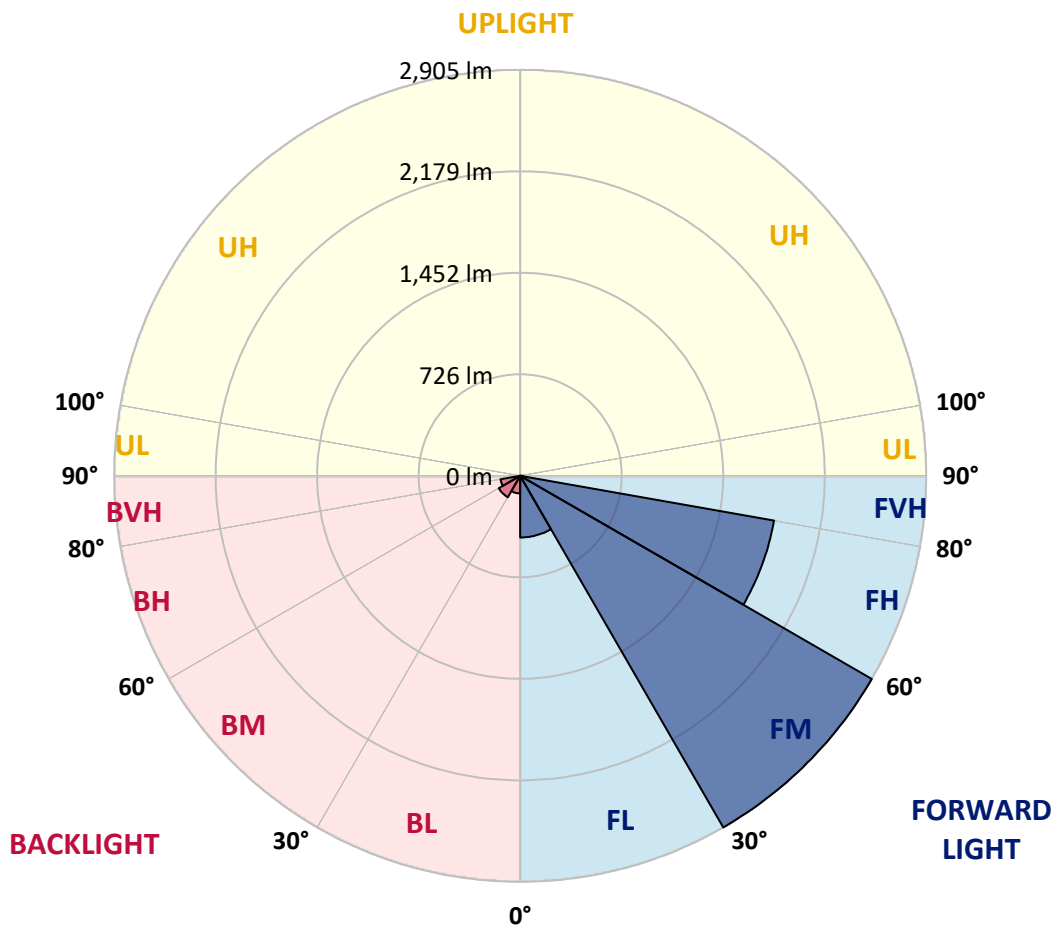
CATALOG NUMBER: ISS-SA1F-735-U-T2-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 441.2 | 7.8 | | | |
| FM (30°-60°) | 2904.9 | 51.3 | | | |
| FH (60°-80°) | 1844.1 | 32.6 | | | G2/5000 |
| FVH (80°-90°) | 21.0 | 0.4 | | | G1/100 |
| BL (0°-30°) | 126.0 | 2.2 | B1/500 | | |
| BM (30°-60°) | 176.7 | 3.1 | B0/220 | | |
| BH (60°-80°) | 142.9 | 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-G2

Type II Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 |
| 2.5° | 815.2 | 807.3 | 802.0 | 799.4 | 794.1 | 778.2 | 764.9 | 741.1 | 720.0 | 720.0 | 706.7 |
| 5° | 889.4 | 886.7 | 876.1 | 870.8 | 868.2 | 857.6 | 833.8 | 804.7 | 770.2 | 767.6 | 735.8 |
| 7.5° | 910.5 | 913.2 | 913.2 | 918.5 | 921.1 | 915.8 | 894.6 | 868.2 | 823.2 | 817.9 | 770.2 |
| 10° | 902.6 | 902.6 | 910.5 | 926.4 | 947.6 | 958.2 | 955.5 | 934.3 | 881.4 | 876.1 | 809.9 |
| 12.5° | 873.5 | 878.8 | 892.0 | 918.5 | 958.2 | 989.9 | 1008.5 | 1000.5 | 947.6 | 942.3 | 862.9 |
| 15° | 833.8 | 839.1 | 862.9 | 899.9 | 952.9 | 1013.8 | 1056.1 | 1079.9 | 1027.0 | 1021.7 | 918.5 |
| 17.5° | 778.2 | 783.5 | 809.9 | 865.5 | 939.6 | 1024.3 | 1106.4 | 1154.0 | 1109.0 | 1093.2 | 976.7 |
| 20° | 757.0 | 762.3 | 783.5 | 828.5 | 915.8 | 1024.3 | 1151.4 | 1241.4 | 1207.0 | 1193.7 | 1050.8 |
| 22.5° | 841.7 | 839.1 | 820.5 | 825.8 | 892.0 | 1016.4 | 1185.8 | 1349.9 | 1323.4 | 1304.9 | 1130.2 |
| 25° | 995.2 | 1005.8 | 979.3 | 918.5 | 907.9 | 1008.5 | 1209.6 | 1434.6 | 1432.0 | 1413.4 | 1212.3 |
| 27.5° | 1172.6 | 1177.9 | 1148.7 | 1085.2 | 997.9 | 1024.3 | 1236.1 | 1519.3 | 1532.5 | 1516.7 | 1275.8 |
| 30° | 1318.1 | 1336.7 | 1315.5 | 1257.3 | 1164.6 | 1093.2 | 1254.6 | 1596.1 | 1641.1 | 1619.9 | 1336.7 |
| 32.5° | 1527.2 | 1535.2 | 1514.0 | 1429.3 | 1334.0 | 1225.5 | 1289.0 | 1662.2 | 1760.2 | 1741.6 | 1408.1 |
| 35° | 1746.9 | 1757.5 | 1717.8 | 1625.2 | 1508.7 | 1387.0 | 1371.1 | 1752.2 | 1932.2 | 1895.2 | 1516.7 |
| 37.5° | 1942.8 | 1953.4 | 1934.9 | 1821.1 | 1707.2 | 1577.5 | 1516.7 | 1874.0 | 2141.3 | 2117.5 | 1651.7 |
| 40° | 2099.0 | 2125.4 | 2120.1 | 2022.2 | 1916.3 | 1799.9 | 1725.8 | 2016.9 | 2382.2 | 2361.0 | 1823.7 |
| 42.5° | 2257.8 | 2276.3 | 2265.7 | 2194.3 | 2120.1 | 2048.7 | 1956.0 | 2215.4 | 2691.9 | 2681.3 | 2038.1 |
| 45° | 2456.3 | 2485.4 | 2472.2 | 2414.0 | 2324.0 | 2308.1 | 2220.7 | 2453.7 | 3059.8 | 3043.9 | 2297.5 |
| 47.5° | 2750.1 | 2776.6 | 2755.4 | 2676.0 | 2572.8 | 2543.6 | 2469.5 | 2723.6 | 3419.8 | 3411.8 | 2554.2 |
| 50° | 2908.9 | 2935.4 | 2991.0 | 3004.2 | 2935.4 | 2779.2 | 2691.9 | 2980.4 | 3742.7 | 3729.5 | 2800.4 |
| 52.5° | 2853.3 | 2877.2 | 3012.1 | 3139.2 | 3290.1 | 3157.7 | 2961.9 | 3258.3 | 4039.1 | 4063.0 | 3041.3 |
| 55° | 2615.1 | 2646.9 | 2840.1 | 3043.9 | 3409.2 | 3586.5 | 3361.5 | 3573.3 | 4272.1 | 4306.5 | 3200.1 |
| 57.5° | 2133.4 | 2170.4 | 2419.2 | 2734.2 | 3226.5 | 3695.0 | 3856.5 | 4007.4 | 4430.9 | 4475.9 | 3403.9 |
| 60° | 1278.4 | 1336.7 | 1593.4 | 2011.6 | 2694.5 | 3438.3 | 4208.5 | 4632.0 | 4740.6 | 4761.7 | 3838.0 |
| 62.5° | 709.4 | 696.1 | 902.6 | 1246.7 | 1858.1 | 2792.5 | 4155.6 | 5391.7 | 5325.5 | 5325.5 | 4579.1 |
| 65° | 426.1 | 439.4 | 545.3 | 741.1 | 1079.9 | 1842.2 | 3705.6 | 5860.2 | 5947.5 | 5966.1 | 5179.9 |
| 67.5° | 301.7 | 304.4 | 381.2 | 508.2 | 675.0 | 1061.4 | 2702.5 | 5537.3 | 6082.5 | 6109.0 | 5060.8 |
| 70° | 195.9 | 198.5 | 272.6 | 362.6 | 481.7 | 585.0 | 1651.7 | 4563.2 | 5571.7 | 5558.4 | 4475.9 |
| 72.5° | 119.1 | 124.4 | 172.0 | 267.3 | 370.6 | 330.9 | 889.4 | 3298.0 | 4415.0 | 4505.0 | 3512.4 |
| 75° | 74.1 | 79.4 | 103.2 | 185.3 | 259.4 | 225.0 | 391.7 | 2202.2 | 2848.0 | 2916.9 | 2268.4 |
| 77.5° | 42.4 | 47.6 | 66.2 | 105.9 | 185.3 | 156.2 | 185.3 | 1156.7 | 1379.0 | 1424.0 | 910.5 |
| 80° | 15.9 | 18.5 | 34.4 | 52.9 | 113.8 | 95.3 | 84.7 | 391.7 | 439.4 | 492.3 | 277.9 |
| 82.5° | 2.6 | 5.3 | 15.9 | 31.8 | 45.0 | 45.0 | 37.1 | 119.1 | 121.8 | 129.7 | 74.1 |
| 85° | 0.0 | 0.0 | 5.3 | 7.9 | 7.9 | 7.9 | 13.2 | 23.8 | 37.1 | 37.1 | 21.2 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 2.6 | 2.6 | 2.6 | 5.3 | 5.3 | 5.3 | 5.3 |
| 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° | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 | 688.2 |
| 2.5° | 693.5 | 688.2 | 667.0 | 645.8 | 630.0 | 616.7 | 595.5 | 595.5 | 587.6 | 579.7 | 582.3 |
| 5° | 712.0 | 696.1 | 656.4 | 616.7 | 579.7 | 545.3 | 516.1 | 502.9 | 484.4 | 479.1 | 476.4 |
| 7.5° | 735.8 | 706.7 | 640.5 | 577.0 | 516.1 | 471.1 | 434.1 | 410.3 | 389.1 | 383.8 | 386.4 |
| 10° | 764.9 | 722.6 | 622.0 | 524.1 | 450.0 | 394.4 | 352.0 | 333.5 | 309.7 | 301.7 | 293.8 |
| 12.5° | 807.3 | 741.1 | 592.9 | 465.9 | 383.8 | 328.2 | 267.3 | 222.3 | 206.5 | 201.2 | 201.2 |
| 15° | 841.7 | 751.7 | 555.8 | 410.3 | 328.2 | 240.9 | 190.6 | 182.6 | 180.0 | 180.0 | 180.0 |
| 17.5° | 881.4 | 759.7 | 510.8 | 357.3 | 254.1 | 177.3 | 166.8 | 166.8 | 164.1 | 164.1 | 161.5 |
| 20° | 923.8 | 762.3 | 463.2 | 309.7 | 180.0 | 158.8 | 150.9 | 148.2 | 142.9 | 140.3 | 140.3 |
| 22.5° | 971.4 | 759.7 | 410.3 | 254.1 | 158.8 | 145.6 | 132.3 | 127.1 | 121.8 | 116.5 | 116.5 |
| 25° | 1011.1 | 754.4 | 362.6 | 182.6 | 145.6 | 127.1 | 113.8 | 105.9 | 100.6 | 97.9 | 95.3 |
| 27.5° | 1045.5 | 725.2 | 315.0 | 156.2 | 132.3 | 113.8 | 97.9 | 90.0 | 84.7 | 82.1 | 82.1 |
| 30° | 1048.2 | 677.6 | 275.3 | 145.6 | 121.8 | 100.6 | 84.7 | 79.4 | 76.8 | 74.1 | 74.1 |
| 32.5° | 1064.0 | 630.0 | 232.9 | 137.6 | 108.5 | 90.0 | 76.8 | 71.5 | 66.2 | 66.2 | 66.2 |
| 35° | 1095.8 | 587.6 | 180.0 | 124.4 | 97.9 | 79.4 | 68.8 | 63.5 | 60.9 | 58.2 | 58.2 |
| 37.5° | 1146.1 | 558.5 | 148.2 | 113.8 | 90.0 | 71.5 | 63.5 | 58.2 | 55.6 | 52.9 | 52.9 |
| 40° | 1212.3 | 542.6 | 135.0 | 103.2 | 79.4 | 66.2 | 58.2 | 52.9 | 47.6 | 45.0 | 45.0 |
| 42.5° | 1326.1 | 542.6 | 124.4 | 92.6 | 71.5 | 60.9 | 52.9 | 47.6 | 42.4 | 39.7 | 39.7 |
| 45° | 1458.4 | 563.8 | 116.5 | 82.1 | 63.5 | 55.6 | 47.6 | 39.7 | 34.4 | 31.8 | 31.8 |
| 47.5° | 1604.0 | 603.5 | 108.5 | 74.1 | 58.2 | 50.3 | 42.4 | 31.8 | 26.5 | 23.8 | 23.8 |
| 50° | 1773.4 | 661.7 | 103.2 | 66.2 | 52.9 | 45.0 | 34.4 | 23.8 | 21.2 | 18.5 | 18.5 |
| 52.5° | 1916.3 | 720.0 | 95.3 | 60.9 | 47.6 | 39.7 | 26.5 | 21.2 | 15.9 | 15.9 | 15.9 |
| 55° | 2051.3 | 783.5 | 90.0 | 55.6 | 45.0 | 31.8 | 21.2 | 15.9 | 13.2 | 13.2 | 13.2 |
| 57.5° | 2231.3 | 862.9 | 82.1 | 50.3 | 37.1 | 23.8 | 18.5 | 13.2 | 10.6 | 10.6 | 10.6 |
| 60° | 2599.2 | 1040.2 | 71.5 | 45.0 | 31.8 | 21.2 | 15.9 | 13.2 | 10.6 | 7.9 | 7.9 |
| 62.5° | 3197.4 | 1328.7 | 60.9 | 39.7 | 23.8 | 18.5 | 13.2 | 10.6 | 7.9 | 5.3 | 5.3 |
| 65° | 3575.9 | 1400.2 | 50.3 | 31.8 | 18.5 | 13.2 | 10.6 | 7.9 | 5.3 | 2.6 | 2.6 |
| 67.5° | 3332.4 | 1138.2 | 39.7 | 23.8 | 15.9 | 10.6 | 7.9 | 5.3 | 2.6 | 0.0 | 0.0 |
| 70° | 2813.6 | 860.2 | 29.1 | 15.9 | 13.2 | 7.9 | 5.3 | 2.6 | 0.0 | 0.0 | 0.0 |
| 72.5° | 2223.4 | 653.8 | 26.5 | 13.2 | 10.6 | 5.3 | 5.3 | 2.6 | 0.0 | 0.0 | 0.0 |
| 75° | 1458.4 | 336.2 | 21.2 | 13.2 | 7.9 | 5.3 | 2.6 | 2.6 | 0.0 | 0.0 | 0.0 |
| 77.5° | 574.4 | 127.1 | 15.9 | 10.6 | 7.9 | 5.3 | 2.6 | 2.6 | 0.0 | 0.0 | 0.0 |
| 80° | 156.2 | 42.4 | 7.9 | 5.3 | 5.3 | 2.6 | 2.6 | 2.6 | 0.0 | 0.0 | 0.0 |
| 82.5° | 39.7 | 18.5 | 5.3 | 5.3 | 2.6 | 2.6 | 2.6 | 2.6 | 0.0 | 0.0 | 0.0 |
| 85° | 13.2 | 5.3 | 5.3 | 2.6 | 2.6 | 2.6 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 5.3 | 5.3 | 5.3 | 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 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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



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| 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)