

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: P438533

Luminaire Tested: **IST-SA1D-735-U-T3-HSS**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438533
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-9)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: IST-SA1D-735-U-T3-HSS
Description: IMPACT ELITE LED TRAPEZOID LUMINAIRE
(1) 70 CRI, 3500K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE III OPTICS
WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3789 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G1

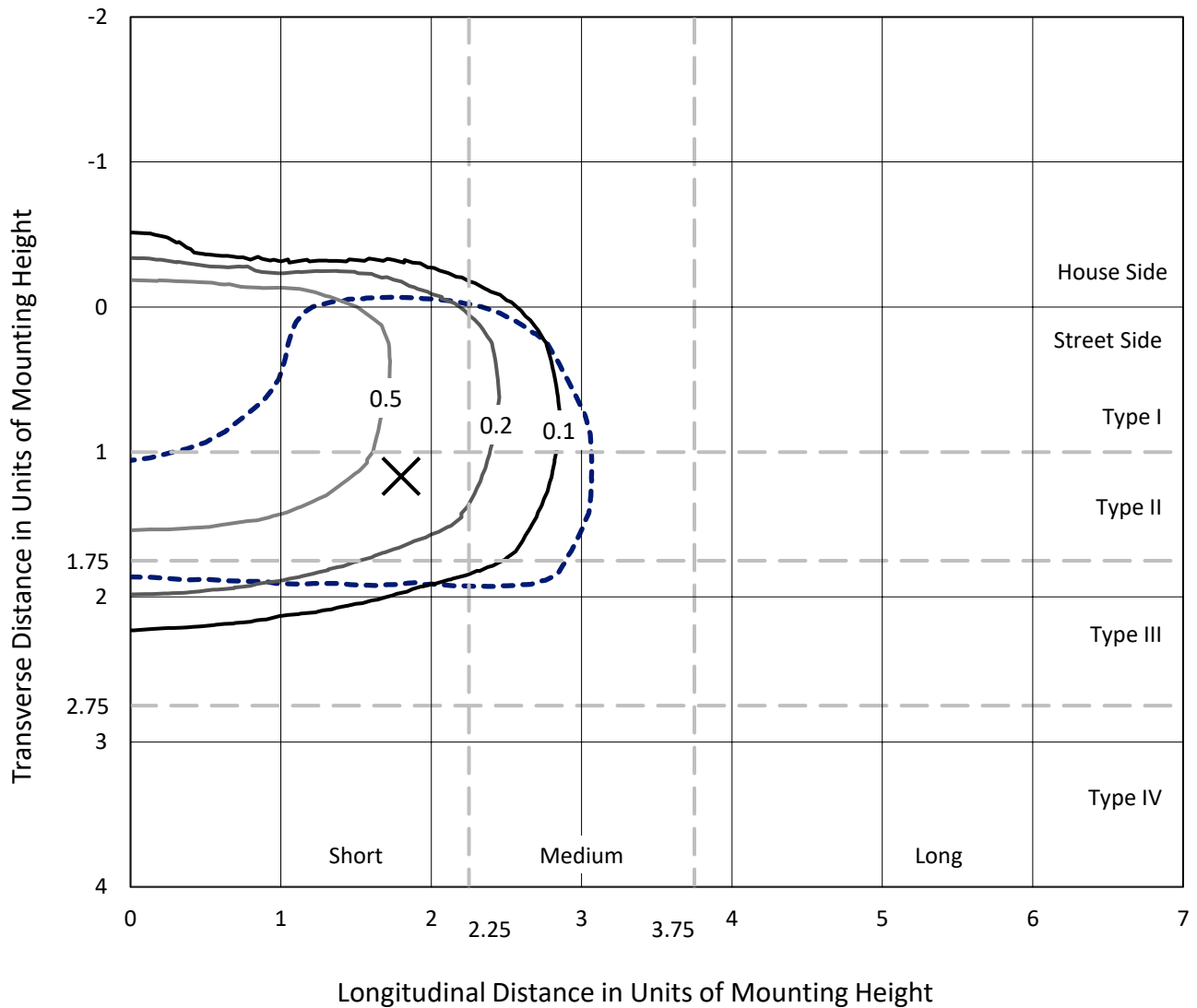
Input Watts (W): 45.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

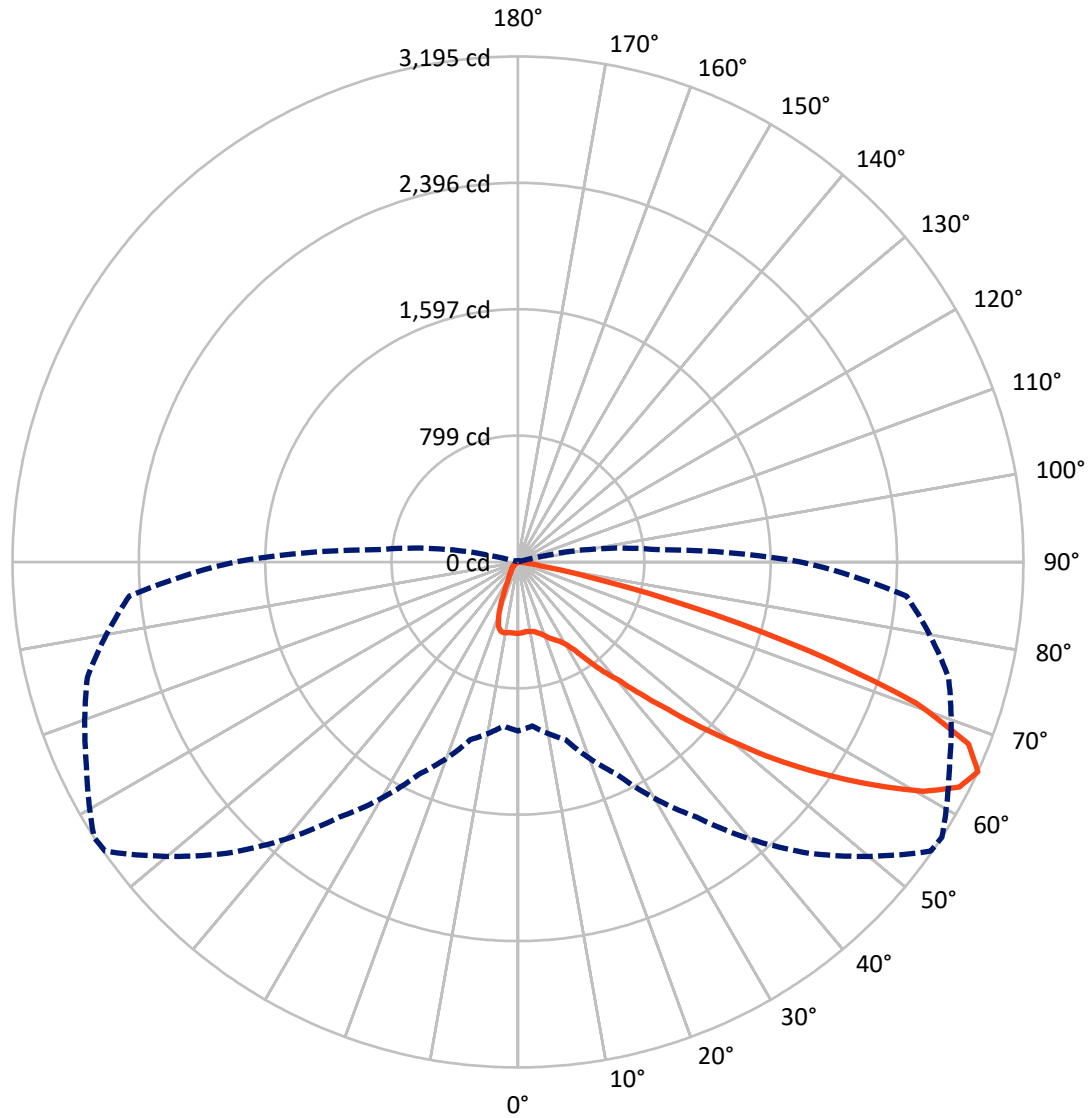
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 0.9 fc
 Type III - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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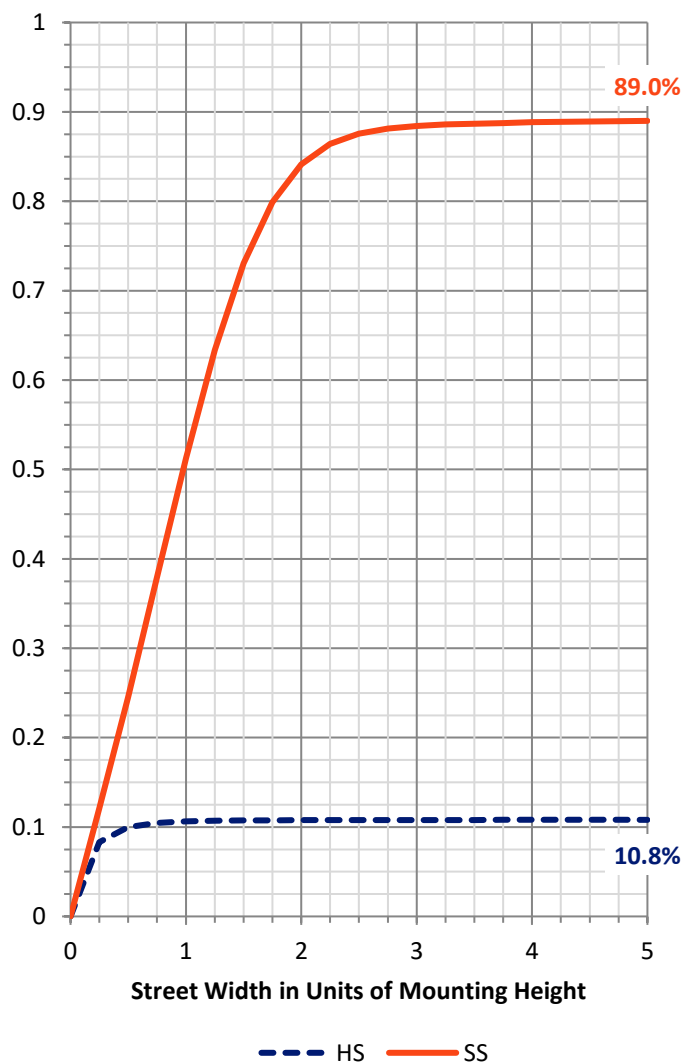
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 413.3 | 0.0 | 413.3 |
| | % Fixture | 10.9 | 0.0 | 10.9 |
| Street Side | Lumens | 3375.7 | 0.0 | 3375.7 |
| | % Fixture | 89.1 | 0.0 | 89.1 |
| Total | Lumens | 3789.0 | 0.0 | 3789.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 41.9 | 1.1 |
| 10°-20° | 113.4 | 3.0 |
| 20°-30° | 195.8 | 5.2 |
| 30°-40° | 346.9 | 9.2 |
| 40°-50° | 629.1 | 16.6 |
| 50°-60° | 1059.7 | 28.0 |
| 60°-70° | 1089.6 | 28.8 |
| 70°-80° | 301.9 | 8.0 |
| 80°-90° | 10.7 | 0.3 |
| 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° | 3789.0 | 100.0 |
| 0°-180° | 3789.0 | 100.0 |

Coefficient of Utilization

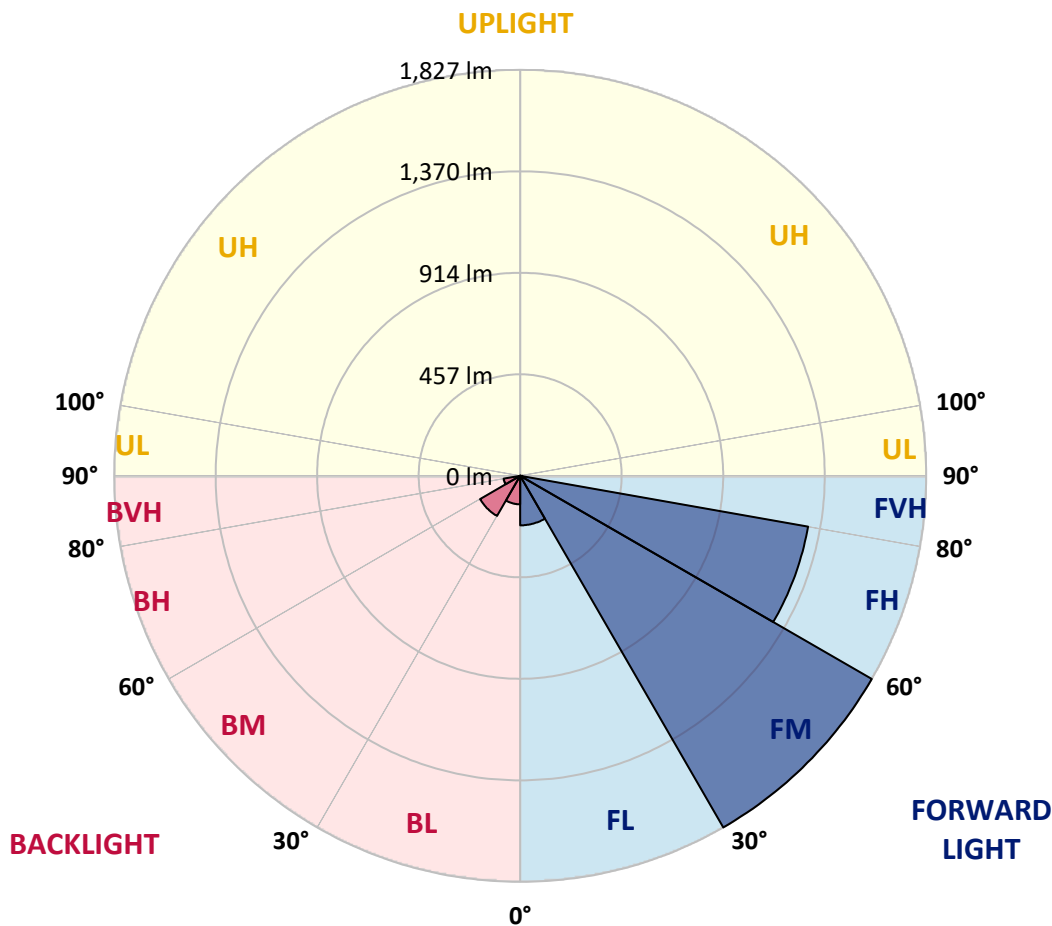


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 222.8 | 5.9 | | | |
| FM (30°-60°) | 1827.3 | 48.2 | | | |
| FH (60°-80°) | 1315.7 | 34.7 | | | G1/1800 |
| FVH (80°-90°) | 9.9 | 0.3 | | | G0/10 |
| BL (0°-30°) | 128.3 | 3.4 | B1/500 | | |
| BM (30°-60°) | 208.4 | 5.5 | B0/220 | | |
| BH (60°-80°) | 75.8 | 2.0 | B0/110 | | G0/110 |
| BVH (80°-90°) | 0.8 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1
 Type III Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 57° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 |
| 2.5° | 437.9 | 437.9 | 441.6 | 443.4 | 443.4 | 445.3 | 447.1 | 449.0 | 449.0 | 449.0 | 452.7 |
| 5° | 415.7 | 413.9 | 417.6 | 421.3 | 426.8 | 434.2 | 439.8 | 443.4 | 449.0 | 454.5 | 456.4 |
| 7.5° | 395.4 | 395.4 | 399.1 | 404.6 | 415.7 | 426.8 | 437.9 | 443.4 | 452.7 | 463.8 | 467.5 |
| 10° | 389.9 | 388.0 | 393.6 | 399.1 | 410.2 | 423.1 | 439.8 | 447.1 | 460.1 | 474.9 | 480.4 |
| 12.5° | 386.2 | 386.2 | 388.0 | 397.3 | 408.3 | 425.0 | 445.3 | 450.8 | 471.2 | 487.8 | 500.7 |
| 15° | 384.3 | 384.3 | 388.0 | 395.4 | 408.3 | 426.8 | 454.5 | 463.8 | 487.8 | 511.8 | 522.9 |
| 17.5° | 399.1 | 397.3 | 395.4 | 399.1 | 412.0 | 432.4 | 469.3 | 478.6 | 508.1 | 537.7 | 550.6 |
| 20° | 443.4 | 441.6 | 436.1 | 423.1 | 423.1 | 447.1 | 487.8 | 498.9 | 537.7 | 567.2 | 574.6 |
| 22.5° | 526.6 | 532.1 | 511.8 | 478.6 | 454.5 | 465.6 | 511.8 | 524.7 | 569.1 | 600.5 | 600.5 |
| 25° | 646.7 | 639.3 | 620.8 | 565.4 | 517.4 | 495.2 | 532.1 | 545.1 | 598.7 | 635.6 | 628.2 |
| 27.5° | 772.3 | 774.2 | 748.3 | 685.5 | 607.9 | 548.8 | 554.3 | 569.1 | 630.1 | 672.6 | 655.9 |
| 30° | 872.1 | 864.7 | 851.8 | 800.1 | 715.1 | 633.8 | 596.8 | 606.0 | 665.2 | 713.2 | 698.4 |
| 32.5° | 960.8 | 957.1 | 940.5 | 896.1 | 820.4 | 733.5 | 667.0 | 668.9 | 715.1 | 774.2 | 755.7 |
| 35° | 1040.3 | 1043.9 | 1036.6 | 986.7 | 918.3 | 837.0 | 761.3 | 766.8 | 801.9 | 862.9 | 825.9 |
| 37.5° | 1140.0 | 1140.0 | 1127.1 | 1080.9 | 1029.2 | 947.9 | 875.8 | 877.7 | 896.1 | 946.0 | 899.8 |
| 40° | 1226.9 | 1230.6 | 1228.7 | 1193.6 | 1143.7 | 1069.8 | 983.0 | 983.0 | 988.5 | 1047.6 | 1023.6 |
| 42.5° | 1345.1 | 1350.7 | 1348.8 | 1315.6 | 1276.8 | 1223.2 | 1149.3 | 1143.7 | 1140.0 | 1213.9 | 1188.1 |
| 45° | 1496.6 | 1509.6 | 1515.1 | 1474.5 | 1439.4 | 1407.9 | 1350.7 | 1328.5 | 1337.7 | 1406.1 | 1385.8 |
| 47.5° | 1640.8 | 1655.5 | 1681.4 | 1661.1 | 1644.4 | 1644.4 | 1566.8 | 1563.1 | 1548.4 | 1627.8 | 1572.4 |
| 50° | 1777.5 | 1779.3 | 1816.3 | 1847.7 | 1897.6 | 1888.3 | 1836.6 | 1814.4 | 1792.3 | 1845.8 | 1746.1 |
| 52.5° | 1855.1 | 1877.3 | 1925.3 | 2015.8 | 2124.8 | 2169.2 | 2115.6 | 2102.7 | 2058.3 | 2050.9 | 1914.2 |
| 55° | 1927.1 | 1927.1 | 2002.9 | 2160.0 | 2344.7 | 2439.0 | 2394.6 | 2379.8 | 2291.1 | 2265.3 | 2087.9 |
| 57.5° | 1951.2 | 1943.8 | 2045.4 | 2244.9 | 2522.1 | 2686.5 | 2695.8 | 2662.5 | 2538.7 | 2459.3 | 2265.3 |
| 60° | 1831.1 | 1818.1 | 1925.3 | 2189.5 | 2570.1 | 2865.8 | 2965.5 | 2943.4 | 2753.1 | 2647.7 | 2451.9 |
| 62.5° | 1485.5 | 1502.2 | 1638.9 | 1925.3 | 2400.2 | 2847.3 | 3144.8 | 3131.8 | 2912.0 | 2775.2 | 2525.8 |
| 65° | 1068.0 | 1040.3 | 1162.2 | 1480.0 | 1969.6 | 2603.4 | 3185.4 | 3194.7 | 3009.9 | 2817.7 | 2464.8 |
| 67.5° | 598.7 | 572.8 | 674.4 | 916.5 | 1400.6 | 2135.9 | 3019.1 | 3070.9 | 2939.7 | 2712.4 | 2202.5 |
| 70° | 229.1 | 243.9 | 314.1 | 452.7 | 825.9 | 1474.5 | 2597.9 | 2671.8 | 2577.5 | 2263.4 | 1640.8 |
| 72.5° | 81.3 | 92.4 | 129.3 | 201.4 | 382.5 | 794.5 | 1816.3 | 1927.1 | 1899.4 | 1572.4 | 938.6 |
| 75° | 48.0 | 49.9 | 66.5 | 97.9 | 168.1 | 310.4 | 1025.5 | 1117.9 | 1073.5 | 777.9 | 388.0 |
| 77.5° | 33.3 | 33.3 | 42.5 | 59.1 | 96.1 | 123.8 | 400.9 | 454.5 | 467.5 | 280.8 | 114.6 |
| 80° | 20.3 | 22.2 | 29.6 | 38.8 | 55.4 | 57.3 | 123.8 | 146.0 | 136.7 | 99.8 | 40.6 |
| 82.5° | 9.2 | 9.2 | 16.6 | 25.9 | 27.7 | 24.0 | 38.8 | 42.5 | 49.9 | 44.3 | 18.5 |
| 85° | 0.0 | 0.0 | 5.5 | 9.2 | 7.4 | 5.5 | 12.9 | 12.9 | 16.6 | 20.3 | 9.2 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 3.7 | 1.8 |
| 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: P438533
 CATALOG NUMBER: IST-SA1D-735-U-T3-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 | 450.8 |
| 2.5° | 452.7 | 454.5 | 452.7 | 450.8 | 450.8 | 449.0 | 449.0 | 449.0 | 449.0 | 449.0 | 449.0 |
| 5° | 456.4 | 458.2 | 456.4 | 452.7 | 449.0 | 445.3 | 441.6 | 441.6 | 441.6 | 441.6 | 445.3 |
| 7.5° | 467.5 | 467.5 | 463.8 | 456.4 | 447.1 | 443.4 | 436.1 | 434.2 | 430.5 | 428.7 | 430.5 |
| 10° | 484.1 | 484.1 | 476.7 | 465.6 | 450.8 | 436.1 | 423.1 | 404.6 | 393.6 | 386.2 | 384.3 |
| 12.5° | 500.7 | 498.9 | 489.6 | 474.9 | 450.8 | 417.6 | 375.1 | 328.9 | 301.2 | 280.8 | 277.2 |
| 15° | 522.9 | 521.0 | 506.3 | 480.4 | 439.8 | 369.5 | 286.4 | 223.6 | 190.3 | 175.5 | 173.7 |
| 17.5° | 546.9 | 543.2 | 522.9 | 484.1 | 404.6 | 279.0 | 188.5 | 146.0 | 133.0 | 129.3 | 129.3 |
| 20° | 572.8 | 567.2 | 535.8 | 478.6 | 334.4 | 190.3 | 131.2 | 121.9 | 120.1 | 118.3 | 118.3 |
| 22.5° | 593.1 | 583.9 | 545.1 | 450.8 | 249.4 | 131.2 | 116.4 | 114.6 | 112.7 | 110.9 | 110.9 |
| 25° | 615.3 | 600.5 | 552.5 | 389.9 | 164.4 | 112.7 | 109.0 | 107.2 | 103.5 | 101.6 | 101.6 |
| 27.5° | 641.1 | 619.0 | 563.5 | 306.7 | 114.6 | 101.6 | 97.9 | 96.1 | 90.5 | 86.8 | 86.8 |
| 30° | 674.4 | 646.7 | 569.1 | 223.6 | 96.1 | 88.7 | 85.0 | 81.3 | 73.9 | 70.2 | 70.2 |
| 32.5° | 728.0 | 704.0 | 558.0 | 149.7 | 86.8 | 79.5 | 73.9 | 66.5 | 59.1 | 55.4 | 53.6 |
| 35° | 796.4 | 763.1 | 519.2 | 105.3 | 77.6 | 70.2 | 61.0 | 51.7 | 46.2 | 44.3 | 44.3 |
| 37.5° | 872.1 | 827.8 | 460.1 | 85.0 | 70.2 | 61.0 | 51.7 | 42.5 | 37.0 | 35.1 | 35.1 |
| 40° | 979.3 | 910.9 | 378.8 | 73.9 | 61.0 | 51.7 | 42.5 | 35.1 | 31.4 | 29.6 | 29.6 |
| 42.5° | 1119.7 | 1016.2 | 286.4 | 68.4 | 55.4 | 44.3 | 35.1 | 29.6 | 25.9 | 24.0 | 24.0 |
| 45° | 1276.8 | 1127.1 | 208.8 | 61.0 | 48.0 | 37.0 | 27.7 | 24.0 | 20.3 | 18.5 | 18.5 |
| 47.5° | 1433.8 | 1206.5 | 144.1 | 55.4 | 40.6 | 31.4 | 24.0 | 18.5 | 14.8 | 14.8 | 12.9 |
| 50° | 1570.5 | 1249.0 | 103.5 | 48.0 | 37.0 | 25.9 | 18.5 | 14.8 | 12.9 | 11.1 | 11.1 |
| 52.5° | 1690.6 | 1267.5 | 79.5 | 42.5 | 31.4 | 22.2 | 14.8 | 12.9 | 11.1 | 11.1 | 11.1 |
| 55° | 1792.3 | 1252.7 | 62.8 | 37.0 | 27.7 | 18.5 | 12.9 | 11.1 | 9.2 | 9.2 | 9.2 |
| 57.5° | 1892.0 | 1208.4 | 49.9 | 31.4 | 22.2 | 12.9 | 11.1 | 9.2 | 7.4 | 7.4 | 7.4 |
| 60° | 1943.8 | 1151.1 | 40.6 | 25.9 | 18.5 | 11.1 | 9.2 | 7.4 | 7.4 | 5.5 | 5.5 |
| 62.5° | 1908.7 | 1034.7 | 33.3 | 22.2 | 12.9 | 9.2 | 7.4 | 5.5 | 5.5 | 3.7 | 3.7 |
| 65° | 1790.4 | 886.9 | 25.9 | 16.6 | 9.2 | 7.4 | 5.5 | 5.5 | 3.7 | 1.8 | 1.8 |
| 67.5° | 1509.6 | 694.7 | 20.3 | 12.9 | 7.4 | 5.5 | 3.7 | 3.7 | 1.8 | 0.0 | 0.0 |
| 70° | 1079.1 | 458.2 | 16.6 | 9.2 | 5.5 | 5.5 | 3.7 | 1.8 | 0.0 | 0.0 | 0.0 |
| 72.5° | 622.7 | 221.7 | 12.9 | 5.5 | 3.7 | 3.7 | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 |
| 75° | 232.8 | 77.6 | 11.1 | 5.5 | 3.7 | 1.8 | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 |
| 77.5° | 77.6 | 31.4 | 9.2 | 7.4 | 5.5 | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 24.0 | 14.8 | 3.7 | 3.7 | 3.7 | 3.7 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 12.9 | 7.4 | 1.8 | 1.8 | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 5.5 | 3.7 | 1.8 | 1.8 | 1.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 1.8 | 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



CCT = 3388K
 CIE x = 0.4153
 CIE y = 0.4030
 Duv = 0.0032

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)