

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: P438557

Luminaire Tested: **ISW-SA1D-740-U-T4W**

Issue Date: 12/10/2020

Test Information

Test Method: LM-79-08
Report Number: P438557
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2011-074-12)
Test Lab: INNOVATION CENTER
Issue Date: 12/10/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: ISW-SA1D-740-U-T4W
Description: IMPACT ELITE LED WEDGE LUMINAIRE
(1) 70 CRI, 4000K, 800mA LIGHTSQUARE WITH 16 LEDS AND TYPE IV WIDE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5665 lumens
Efficiency: N/A
Efficacy: 125.3 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

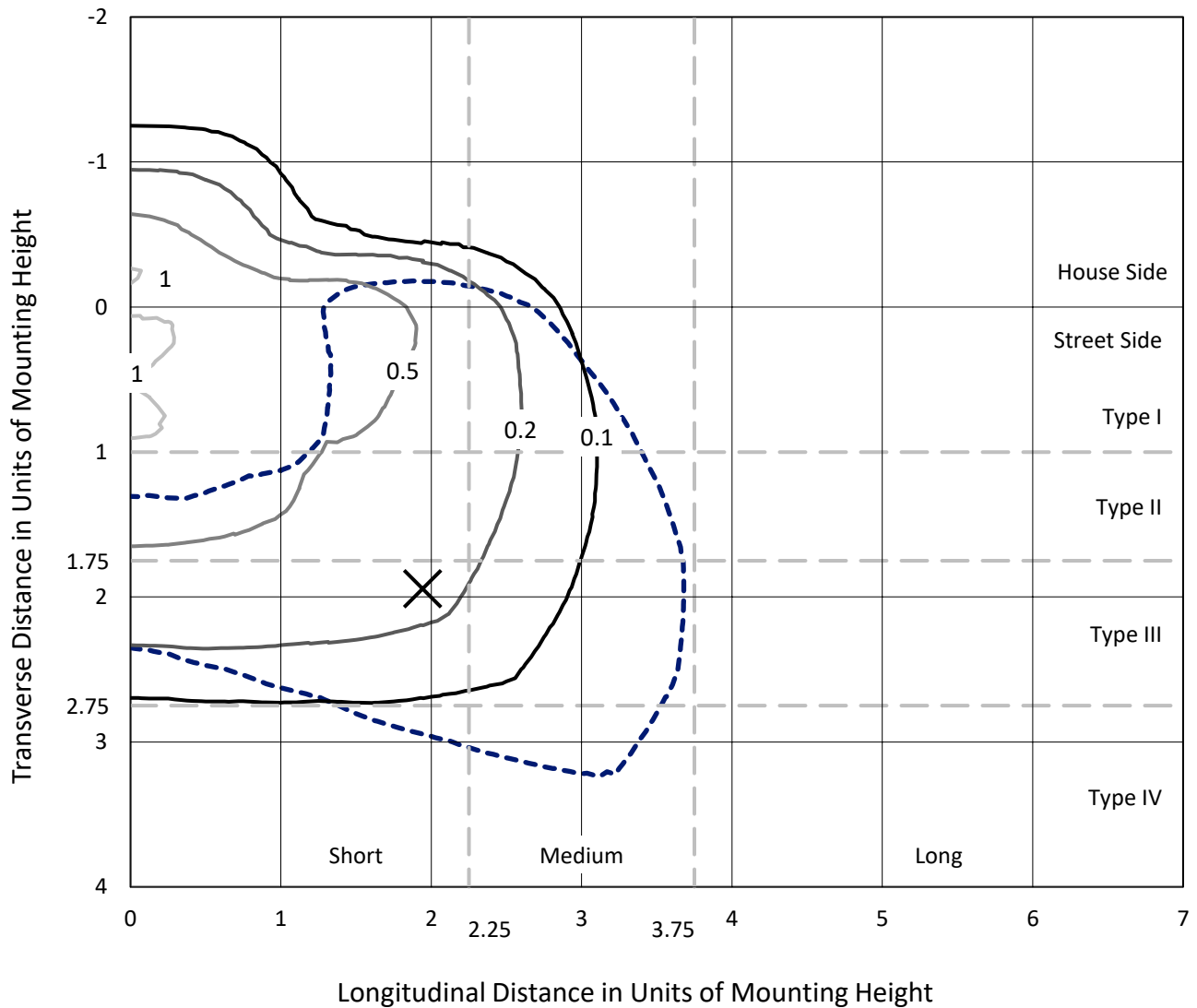
Input Watts (W): 45.2
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P438557
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Iso-Footcandle Lines of Horizontal Illumination

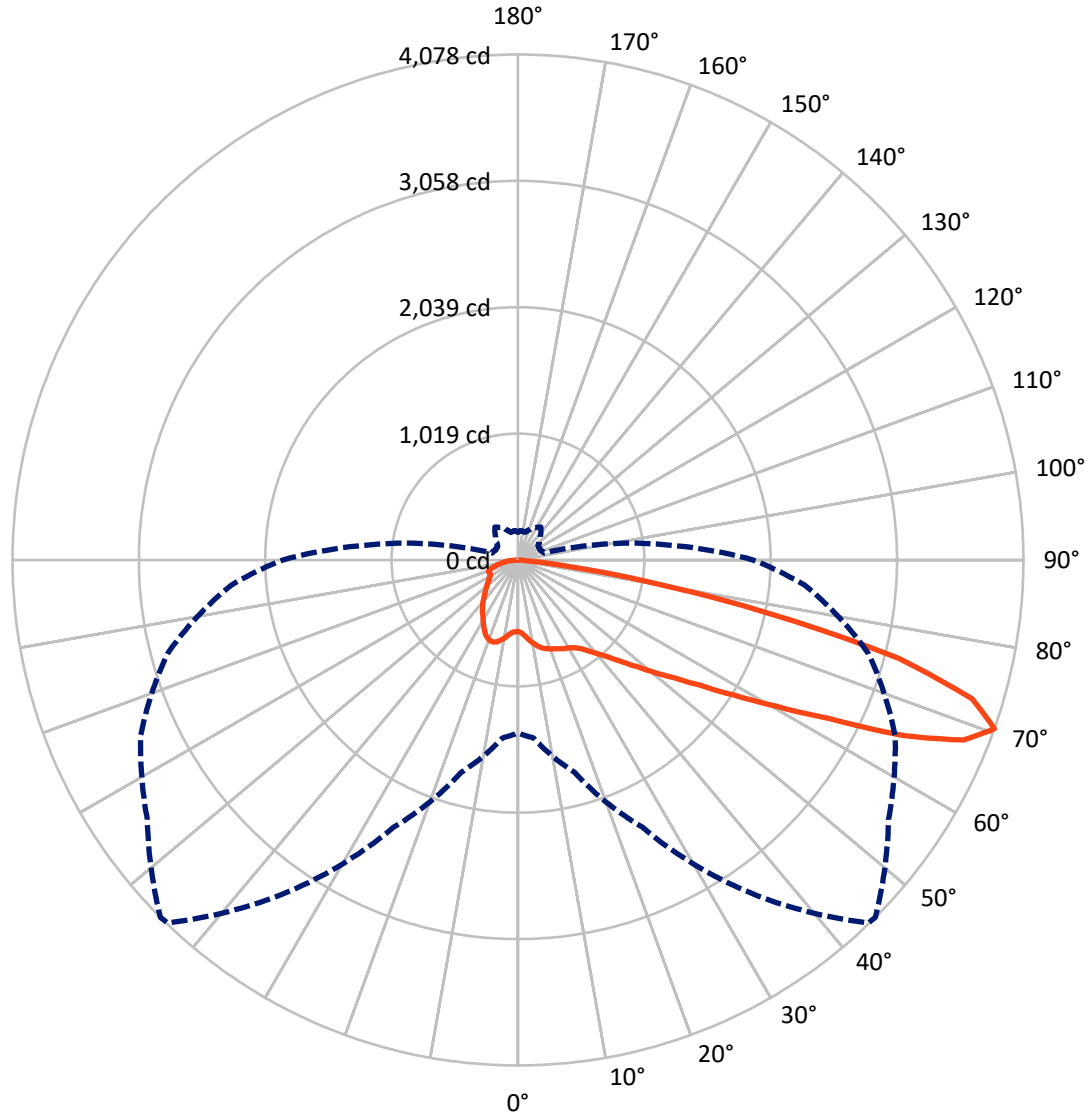
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.2 fc
 Type IV - Short - N/A

REPORT NUMBER: P438557
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Luminous Intensity Polar Plot



— Vertical Plane Through 45-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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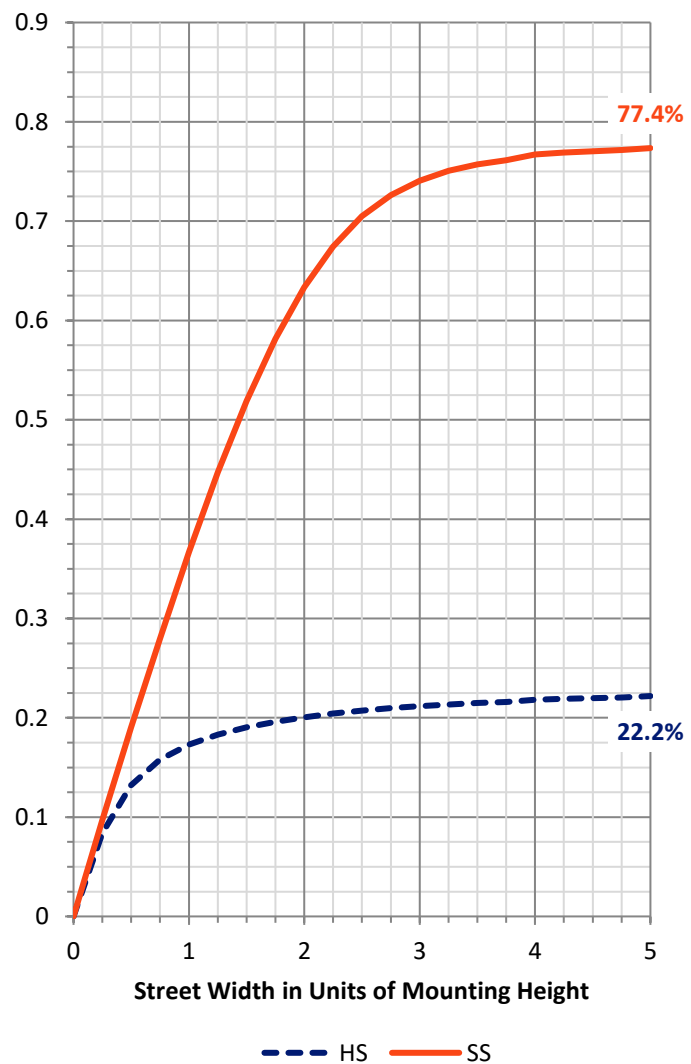
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1279.0 | 0.0 | 1279.0 |
| | % Fixture | 22.6 | 0.0 | 22.6 |
| Street Side | Lumens | 4386.0 | 0.0 | 4386.0 |
| | % Fixture | 77.4 | 0.0 | 77.4 |
| Total | Lumens | 5665.0 | 0.0 | 5665.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 59.4 | 1.0 |
| 10°-20° | 199.0 | 3.5 |
| 20°-30° | 337.0 | 5.9 |
| 30°-40° | 487.2 | 8.6 |
| 40°-50° | 702.5 | 12.4 |
| 50°-60° | 1152.1 | 20.3 |
| 60°-70° | 1650.7 | 29.1 |
| 70°-80° | 981.1 | 17.3 |
| 80°-90° | 96.0 | 1.7 |
| 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° | 5665.0 | 100.0 |
| 0°-180° | 5665.0 | 100.0 |



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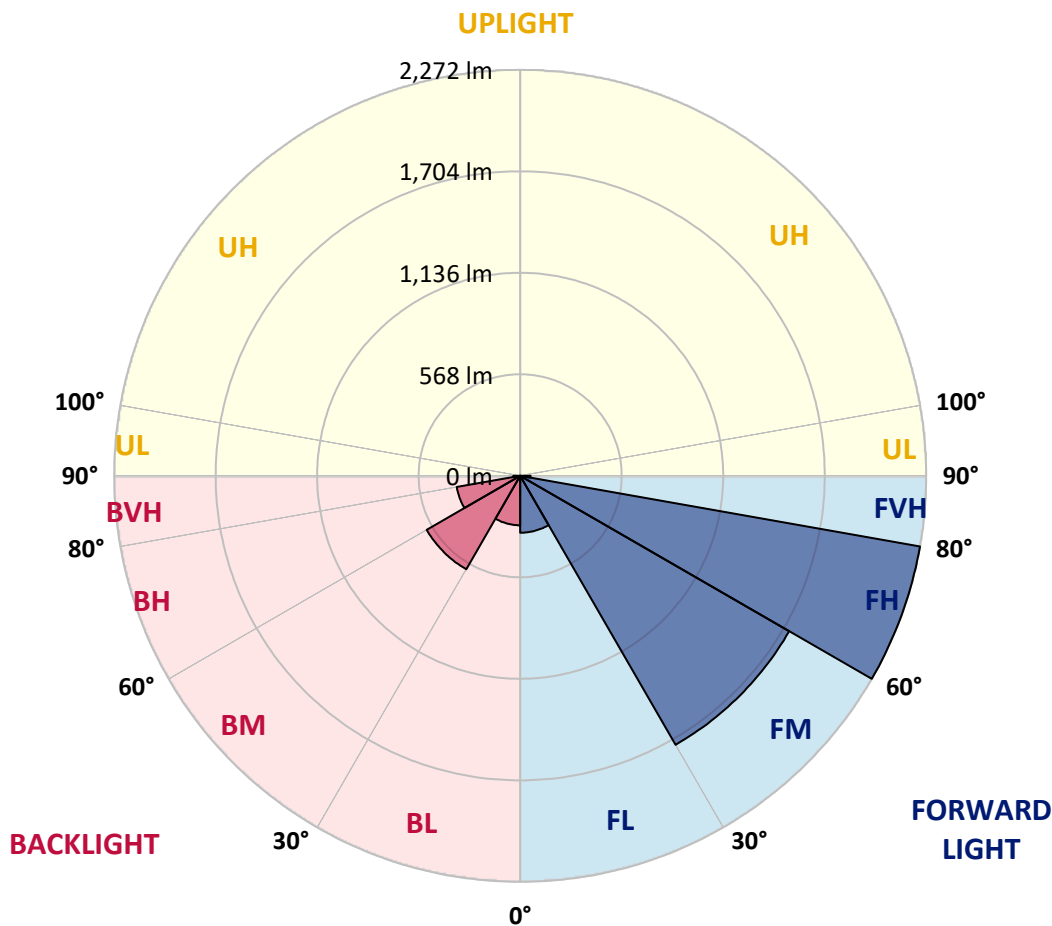
CATALOG NUMBER: ISW-SA1D-740-U-T4W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 318.6 | 5.6 | | | |
| FM (30°-60°) | 1738.0 | 30.7 | | | |
| FH (60°-80°) | 2271.5 | 40.1 | | | G2/5000 |
| FVH (80°-90°) | 57.8 | 1.0 | | | G1/100 |
| BL (0°-30°) | 276.8 | 4.9 | B1/500 | | |
| BM (30°-60°) | 603.8 | 10.7 | B1/1000 | | |
| BH (60°-80°) | 360.3 | 6.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 38.2 | 0.7 | | | 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° | 35° | 44° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 |
| 2.5° | 605.2 | 605.2 | 603.2 | 601.1 | 597.1 | 593.0 | 590.9 | 584.8 | 584.8 | 582.8 | 578.7 |
| 5° | 650.0 | 646.0 | 643.9 | 635.8 | 629.7 | 619.5 | 617.4 | 603.2 | 595.0 | 588.9 | 584.8 |
| 7.5° | 696.9 | 698.9 | 690.8 | 680.6 | 666.3 | 652.1 | 652.1 | 635.8 | 621.5 | 607.2 | 595.0 |
| 10° | 741.7 | 741.7 | 731.6 | 719.3 | 705.1 | 686.7 | 682.6 | 664.3 | 648.0 | 629.7 | 615.4 |
| 12.5° | 776.4 | 774.3 | 762.1 | 749.9 | 731.6 | 717.3 | 713.2 | 690.8 | 676.5 | 654.1 | 633.7 |
| 15° | 800.8 | 800.8 | 788.6 | 770.3 | 751.9 | 737.7 | 737.7 | 721.4 | 701.0 | 678.6 | 654.1 |
| 17.5° | 815.1 | 813.1 | 802.9 | 782.5 | 766.2 | 754.0 | 751.9 | 739.7 | 727.5 | 705.1 | 674.5 |
| 20° | 815.1 | 811.0 | 802.9 | 786.6 | 772.3 | 764.2 | 766.2 | 756.0 | 747.9 | 721.4 | 696.9 |
| 22.5° | 813.1 | 811.0 | 796.8 | 784.5 | 780.5 | 778.4 | 776.4 | 772.3 | 758.0 | 737.7 | 717.3 |
| 25° | 831.4 | 829.4 | 813.1 | 796.8 | 788.6 | 788.6 | 792.7 | 784.5 | 776.4 | 756.0 | 737.7 |
| 27.5° | 882.3 | 874.2 | 851.8 | 821.2 | 809.0 | 806.9 | 809.0 | 798.8 | 792.7 | 778.4 | 762.1 |
| 30° | 967.9 | 963.9 | 929.2 | 872.2 | 839.6 | 823.3 | 821.2 | 819.2 | 811.0 | 800.8 | 786.6 |
| 32.5° | 1080.0 | 1075.9 | 1022.9 | 949.6 | 880.3 | 843.6 | 845.7 | 835.5 | 835.5 | 821.2 | 809.0 |
| 35° | 1218.6 | 1210.4 | 1157.4 | 1053.5 | 941.4 | 880.3 | 876.2 | 862.0 | 864.0 | 839.6 | 827.3 |
| 37.5° | 1340.8 | 1332.7 | 1281.7 | 1159.5 | 1018.9 | 939.4 | 933.3 | 898.6 | 876.2 | 845.7 | 847.7 |
| 40° | 1444.8 | 1446.8 | 1410.1 | 1287.9 | 1118.7 | 1004.6 | 994.4 | 927.2 | 900.7 | 874.2 | 886.4 |
| 42.5° | 1550.7 | 1556.8 | 1532.4 | 1402.0 | 1220.6 | 1075.9 | 1071.9 | 976.1 | 953.7 | 933.3 | 961.8 |
| 45° | 1654.7 | 1666.9 | 1646.5 | 1524.2 | 1334.7 | 1183.9 | 1167.6 | 1055.6 | 1041.3 | 1029.1 | 1114.6 |
| 47.5° | 1746.4 | 1750.4 | 1748.4 | 1652.6 | 1461.1 | 1306.2 | 1283.8 | 1159.5 | 1177.8 | 1210.4 | 1353.1 |
| 50° | 1860.5 | 1866.6 | 1834.0 | 1781.0 | 1632.2 | 1444.8 | 1424.4 | 1289.9 | 1365.3 | 1471.3 | 1687.3 |
| 52.5° | 2029.6 | 2037.7 | 1946.0 | 1913.4 | 1844.2 | 1611.9 | 1581.3 | 1481.4 | 1644.5 | 1803.4 | 2060.2 |
| 55° | 2127.4 | 2115.2 | 2074.4 | 2078.5 | 2039.8 | 1811.6 | 1785.1 | 1715.8 | 1948.1 | 2137.6 | 2482.0 |
| 57.5° | 2190.6 | 2184.5 | 2208.9 | 2263.9 | 2263.9 | 2068.3 | 2058.1 | 2027.6 | 2274.1 | 2502.4 | 2816.2 |
| 60° | 2292.5 | 2304.7 | 2361.8 | 2471.8 | 2530.9 | 2404.5 | 2398.4 | 2404.5 | 2640.9 | 2757.1 | 3054.6 |
| 62.5° | 2355.6 | 2382.1 | 2526.8 | 2716.3 | 2840.6 | 2854.9 | 2816.2 | 2812.1 | 2926.2 | 2969.0 | 3211.5 |
| 65° | 2243.6 | 2286.4 | 2522.7 | 2830.4 | 3211.5 | 3441.8 | 3413.2 | 3166.7 | 3162.6 | 3160.5 | 3180.9 |
| 67.5° | 1948.1 | 1980.7 | 2323.0 | 2779.5 | 3411.2 | 3892.1 | 3875.8 | 3482.5 | 3386.7 | 3176.8 | 2895.6 |
| 70° | 1395.9 | 1440.7 | 1774.9 | 2380.1 | 3282.8 | 4071.4 | 4077.5 | 3649.6 | 3358.2 | 2928.2 | 2321.0 |
| 72.5° | 864.0 | 866.0 | 1082.0 | 1695.4 | 2779.5 | 3808.6 | 3833.0 | 3484.5 | 3022.0 | 2439.2 | 1640.4 |
| 75° | 266.9 | 289.4 | 458.5 | 888.5 | 1880.8 | 3097.4 | 3172.8 | 2895.6 | 2418.8 | 1687.3 | 898.6 |
| 77.5° | 132.5 | 136.5 | 165.1 | 326.0 | 904.8 | 2005.1 | 2062.2 | 1933.8 | 1528.3 | 817.1 | 377.0 |
| 80° | 75.4 | 79.5 | 101.9 | 144.7 | 346.4 | 996.5 | 1043.3 | 1018.9 | 619.5 | 295.5 | 161.0 |
| 82.5° | 36.7 | 38.7 | 50.9 | 73.4 | 146.7 | 297.5 | 334.2 | 366.8 | 236.4 | 156.9 | 87.6 |
| 85° | 10.2 | 10.2 | 14.3 | 24.5 | 38.7 | 61.1 | 61.1 | 67.2 | 83.5 | 79.5 | 42.8 |
| 87.5° | 0.0 | 0.0 | 0.0 | 2.0 | 2.0 | 2.0 | 4.1 | 2.0 | 4.1 | 6.1 | 6.1 |
| 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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 CATALOG NUMBER: ISW-SA1D-740-U-T4W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 | 576.7 |
| 2.5° | 578.7 | 578.7 | 574.6 | 576.7 | 576.7 | 578.7 | 578.7 | 580.8 | 582.8 | 584.8 | 584.8 |
| 5° | 582.8 | 580.8 | 578.7 | 580.8 | 582.8 | 586.9 | 593.0 | 599.1 | 603.2 | 609.3 | 607.2 |
| 7.5° | 595.0 | 588.9 | 590.9 | 590.9 | 599.1 | 607.2 | 619.5 | 627.6 | 635.8 | 639.9 | 639.9 |
| 10° | 609.3 | 605.2 | 603.2 | 611.3 | 619.5 | 635.8 | 646.0 | 658.2 | 664.3 | 674.5 | 670.4 |
| 12.5° | 629.7 | 619.5 | 621.5 | 631.7 | 648.0 | 660.2 | 668.4 | 678.6 | 684.7 | 692.8 | 690.8 |
| 15° | 646.0 | 639.9 | 641.9 | 658.2 | 674.5 | 682.6 | 686.7 | 690.8 | 692.8 | 698.9 | 701.0 |
| 17.5° | 666.3 | 664.3 | 666.3 | 680.6 | 690.8 | 692.8 | 690.8 | 686.7 | 684.7 | 690.8 | 688.8 |
| 20° | 688.8 | 686.7 | 688.8 | 698.9 | 694.9 | 686.7 | 678.6 | 672.5 | 666.3 | 670.4 | 672.5 |
| 22.5° | 707.1 | 709.1 | 711.2 | 707.1 | 690.8 | 670.4 | 656.2 | 646.0 | 641.9 | 646.0 | 650.0 |
| 25° | 729.5 | 731.6 | 733.6 | 713.2 | 674.5 | 641.9 | 621.5 | 615.4 | 617.4 | 623.6 | 625.6 |
| 27.5° | 758.0 | 764.2 | 758.0 | 711.2 | 652.1 | 605.2 | 588.9 | 586.9 | 588.9 | 595.0 | 601.1 |
| 30° | 788.6 | 796.8 | 776.4 | 701.0 | 621.5 | 568.5 | 554.3 | 554.3 | 560.4 | 564.5 | 570.6 |
| 32.5° | 815.1 | 831.4 | 792.7 | 682.6 | 578.7 | 533.9 | 523.7 | 519.6 | 519.6 | 523.7 | 525.7 |
| 35° | 847.7 | 868.1 | 802.9 | 650.0 | 538.0 | 505.4 | 497.2 | 485.0 | 474.8 | 476.8 | 474.8 |
| 37.5° | 880.3 | 910.9 | 798.8 | 599.1 | 493.1 | 472.8 | 464.6 | 446.3 | 430.0 | 419.8 | 423.9 |
| 40° | 941.4 | 978.1 | 790.6 | 533.9 | 452.4 | 444.2 | 430.0 | 409.6 | 389.2 | 370.9 | 368.8 |
| 42.5° | 1049.4 | 1051.5 | 772.3 | 474.8 | 413.7 | 409.6 | 397.4 | 379.0 | 354.6 | 330.1 | 330.1 |
| 45° | 1194.1 | 1157.4 | 747.9 | 419.8 | 377.0 | 381.1 | 370.9 | 352.5 | 324.0 | 301.6 | 301.6 |
| 47.5° | 1412.2 | 1283.8 | 701.0 | 370.9 | 346.4 | 354.6 | 348.5 | 330.1 | 299.5 | 279.2 | 279.2 |
| 50° | 1717.8 | 1489.6 | 654.1 | 336.2 | 324.0 | 332.2 | 330.1 | 307.7 | 279.2 | 262.9 | 262.9 |
| 52.5° | 2072.4 | 1758.6 | 621.5 | 309.7 | 297.5 | 311.8 | 311.8 | 291.4 | 264.9 | 252.7 | 250.6 |
| 55° | 2437.1 | 2011.3 | 588.9 | 287.3 | 279.2 | 291.4 | 297.5 | 279.2 | 254.7 | 244.5 | 242.5 |
| 57.5° | 2695.9 | 2137.6 | 544.1 | 269.0 | 258.8 | 275.1 | 283.2 | 271.0 | 248.6 | 238.4 | 236.4 |
| 60° | 2826.4 | 2149.8 | 456.5 | 250.6 | 240.5 | 260.8 | 275.1 | 264.9 | 248.6 | 244.5 | 244.5 |
| 62.5° | 2856.9 | 2098.9 | 364.8 | 234.3 | 228.2 | 252.7 | 277.1 | 273.1 | 260.8 | 264.9 | 266.9 |
| 65° | 2726.5 | 1929.7 | 297.5 | 222.1 | 220.1 | 250.6 | 289.4 | 287.3 | 262.9 | 273.1 | 275.1 |
| 67.5° | 2414.7 | 1636.3 | 252.7 | 209.9 | 207.9 | 254.7 | 311.8 | 287.3 | 248.6 | 258.8 | 254.7 |
| 70° | 1897.1 | 1296.0 | 218.0 | 197.7 | 197.7 | 252.7 | 324.0 | 283.2 | 232.3 | 236.4 | 224.2 |
| 72.5° | 1247.1 | 849.7 | 193.6 | 185.4 | 179.3 | 230.3 | 315.9 | 275.1 | 224.2 | 211.9 | 197.7 |
| 75° | 631.7 | 421.8 | 173.2 | 175.2 | 156.9 | 195.6 | 305.7 | 273.1 | 222.1 | 201.7 | 195.6 |
| 77.5° | 260.8 | 197.7 | 154.9 | 158.9 | 132.5 | 167.1 | 287.3 | 252.7 | 199.7 | 179.3 | 173.2 |
| 80° | 136.5 | 122.3 | 130.4 | 132.5 | 108.0 | 132.5 | 228.2 | 218.0 | 179.3 | 165.1 | 156.9 |
| 82.5° | 79.5 | 77.4 | 99.8 | 101.9 | 75.4 | 108.0 | 201.7 | 189.5 | 150.8 | 134.5 | 130.4 |
| 85° | 36.7 | 42.8 | 67.2 | 61.1 | 46.9 | 71.3 | 122.3 | 93.7 | 67.2 | 59.1 | 57.1 |
| 87.5° | 4.1 | 6.1 | 14.3 | 14.3 | 10.2 | 6.1 | 2.0 | 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: SP1-2101-121-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/05/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

Spectral Parameters

| | | | | | |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K): | 3905 | CRI (Ra): | 71.2 | R9: | -29.7 |
| CIE u': | 0.2273 | R1: | 68.9 | R10: | 46.2 |
| CIE v': | 0.5024 | R2: | 77.0 | R11: | 68.8 |
| Duv: | -0.0008 | R3: | 84.0 | R12: | 45.6 |
| CIE x: | 0.3841 | R4: | 71.6 | R13: | 69.5 |
| CIE y: | 0.3774 | R5: | 68.9 | R14: | 90.7 |
| CIE z: | 0.2385 | R6: | 68.3 | | |
| Peak Wavelength (nm): | 443 | R7: | 78.7 | | |
| Dominant Wavelength (nm): | 579 | R8: | 52.2 | | |
| Purity: | 28.7 | | | | |
| Rf: | 71.7 | | | | |
| Rg: | 96.9 | | | | |



Test Conditions

Stabilization Time: 211M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.8/312%
 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 4000K 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 | 2304 | 0.0 | 490 | 19043 | 2.7 | 620 | 97577 | 25.4 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 4.8 | 625 | 90158 | 19.9 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 8.0 | 630 | 82240 | 14.9 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 13.3 | 635 | 74361 | 11.2 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 20.2 | 640 | 66994 | 8.0 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 28.5 | 645 | 60405 | 5.8 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 37.4 | 650 | 53806 | 3.9 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 44.9 | 655 | 47610 | 2.7 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 52.6 | 660 | 42018 | 1.8 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.0 | 535 | 94097 | 58.4 | 665 | 36742 | 1.2 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.0 | 540 | 96845 | 63.1 | 670 | 32105 | 0.7 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.0 | 545 | 100829 | 67.1 | 675 | 27946 | 0.5 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 0.1 | 550 | 105648 | 71.8 | 680 | 24146 | 0.3 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 0.2 | 555 | 110017 | 75.1 | 685 | 21191 | 0.2 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 0.5 | 560 | 114586 | 77.9 | 690 | 18544 | 0.1 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 1.2 | 565 | 118987 | 79.1 | 695 | 16058 | 0.1 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 2.1 | 570 | 122326 | 79.5 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 2.9 | 575 | 125968 | 78.4 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 2.7 | 580 | 127613 | 75.8 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 2.0 | 585 | 129466 | 71.9 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 1.5 | 590 | 128813 | 66.6 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 1.3 | 595 | 126387 | 59.9 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 1.0 | 600 | 123477 | 53.2 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 1.1 | 605 | 118718 | 46.0 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 1.2 | 610 | 112091 | 38.5 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 1.7 | 615 | 105039 | 31.7 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-2

Scotopic Flux vs. Wavelength



Scotopic Lumens: 10425.8 S/P: 1.47

| 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 | 2304 | 0.0 | 490 | 19043 | 29.3 | 620 | 97577 | 1.2 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 43.0 | 625 | 90158 | 0.8 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 60.8 | 630 | 82240 | 0.5 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 81.1 | 635 | 74361 | 0.3 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 99.6 | 640 | 66994 | 0.2 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 113.9 | 645 | 60405 | 0.1 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 122.6 | 650 | 53806 | 0.1 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 125.0 | 655 | 47610 | 0.0 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 123.1 | 660 | 42018 | 0.0 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.1 | 535 | 94097 | 117.3 | 665 | 36742 | 0.0 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.2 | 540 | 96845 | 107.0 | 670 | 32105 | 0.0 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.9 | 545 | 100829 | 96.7 | 675 | 27946 | 0.0 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 3.0 | 550 | 105648 | 86.4 | 680 | 24146 | 0.0 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 9.3 | 555 | 110017 | 75.2 | 685 | 21191 | 0.0 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 23.0 | 560 | 114586 | 64.0 | 690 | 18544 | 0.0 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 45.7 | 565 | 118987 | 53.4 | 695 | 16058 | 0.0 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 75.5 | 570 | 122326 | 43.2 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 93.8 | 575 | 125968 | 34.3 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 79.3 | 580 | 127613 | 26.3 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 51.3 | 585 | 129466 | 19.8 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 35.6 | 590 | 128813 | 14.3 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 26.0 | 595 | 126387 | 10.1 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 19.3 | 600 | 123477 | 7.0 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 16.8 | 605 | 118718 | 4.7 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 17.7 | 610 | 112091 | 3.0 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 21.4 | 615 | 105039 | 1.9 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3927.2 M/P: 0.55

| 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 | 2304 | 0.0 | 490 | 19043 | 15.8 | 620 | 97577 | 0.1 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 22.0 | 625 | 90158 | 0.0 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 29.2 | 630 | 82240 | 0.0 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 36.6 | 635 | 74361 | 0.0 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 42.2 | 640 | 66994 | 0.0 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 44.9 | 645 | 60405 | 0.0 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 44.9 | 650 | 53806 | 0.0 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 42.4 | 655 | 47610 | 0.0 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 38.6 | 660 | 42018 | 0.0 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.0 | 535 | 94097 | 33.9 | 665 | 36742 | 0.0 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.2 | 540 | 96845 | 28.3 | 670 | 32105 | 0.0 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.6 | 545 | 100829 | 23.4 | 675 | 27946 | 0.0 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 2.1 | 550 | 105648 | 19.0 | 680 | 24146 | 0.0 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 5.9 | 555 | 110017 | 14.8 | 685 | 21191 | 0.0 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 14.3 | 560 | 114586 | 11.3 | 690 | 18544 | 0.0 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 27.3 | 565 | 118987 | 8.4 | 695 | 16058 | 0.0 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 45.1 | 570 | 122326 | 6.0 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 55.3 | 575 | 125968 | 4.2 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 47.2 | 580 | 127613 | 2.9 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 30.8 | 585 | 129466 | 1.9 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 21.7 | 590 | 128813 | 1.3 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 16.1 | 595 | 126387 | 0.8 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 12.0 | 600 | 123477 | 0.5 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 10.3 | 605 | 118718 | 0.3 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 10.5 | 610 | 112091 | 0.2 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 12.1 | 615 | 105039 | 0.1 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

Summary

$R_f = 71.7$
 $R_g = 96.9$
 CIE $R_a = 71.2$
 $R_g = -29.7$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 55 | CES51 = 86 | CES76 = 45 |
| CES02 = 61 | CES27 = 80 | CES52 = 87 | CES77 = 68 |
| CES03 = 30 | CES28 = 79 | CES53 = 74 | CES78 = 49 |
| CES04 = 70 | CES29 = 51 | CES54 = 81 | CES79 = 77 |
| CES05 = 47 | CES30 = 60 | CES55 = 80 | CES80 = 75 |
| CES06 = 50 | CES31 = 56 | CES56 = 69 | CES81 = 75 |
| CES07 = 40 | CES32 = 52 | CES57 = 67 | CES82 = 90 |
| CES08 = 39 | CES33 = 62 | CES58 = 69 | CES83 = 85 |
| CES09 = 29 | CES34 = 65 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 81 | CES60 = 91 | CES85 = 83 |
| CES11 = 57 | CES36 = 92 | CES61 = 85 | CES86 = 72 |
| CES12 = 63 | CES37 = 74 | CES62 = 81 | CES87 = 77 |
| CES13 = 42 | CES38 = 69 | CES63 = 72 | CES88 = 77 |
| CES14 = 74 | CES39 = 92 | CES64 = 69 | CES89 = 72 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 75 |
| CES16 = 46 | CES41 = 84 | CES66 = 63 | CES91 = 91 |
| CES17 = 49 | CES42 = 75 | CES67 = 60 | CES92 = 66 |
| CES18 = 56 | CES43 = 70 | CES68 = 67 | CES93 = 80 |
| CES19 = 72 | CES44 = 98 | CES69 = 77 | CES94 = 56 |
| CES20 = 65 | CES45 = 80 | CES70 = 57 | CES95 = 72 |
| CES21 = 86 | CES46 = 77 | CES71 = 53 | CES96 = 78 |
| CES22 = 78 | CES47 = 74 | CES72 = 84 | CES97 = 83 |
| CES23 = 92 | CES48 = 66 | CES73 = 47 | CES98 = 73 |
| CES24 = 91 | CES49 = 76 | CES74 = 96 | CES99 = 63 |
| CES25 = 72 | CES50 = 85 | CES75 = 52 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)