

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P631838

Luminaire Tested: GWS-SA2B-740-U-T2R-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P631838
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-13)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2B-740-U-T2R-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (32) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6073.8 lumens
Efficiency: N/A
Efficacy: 130.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G1

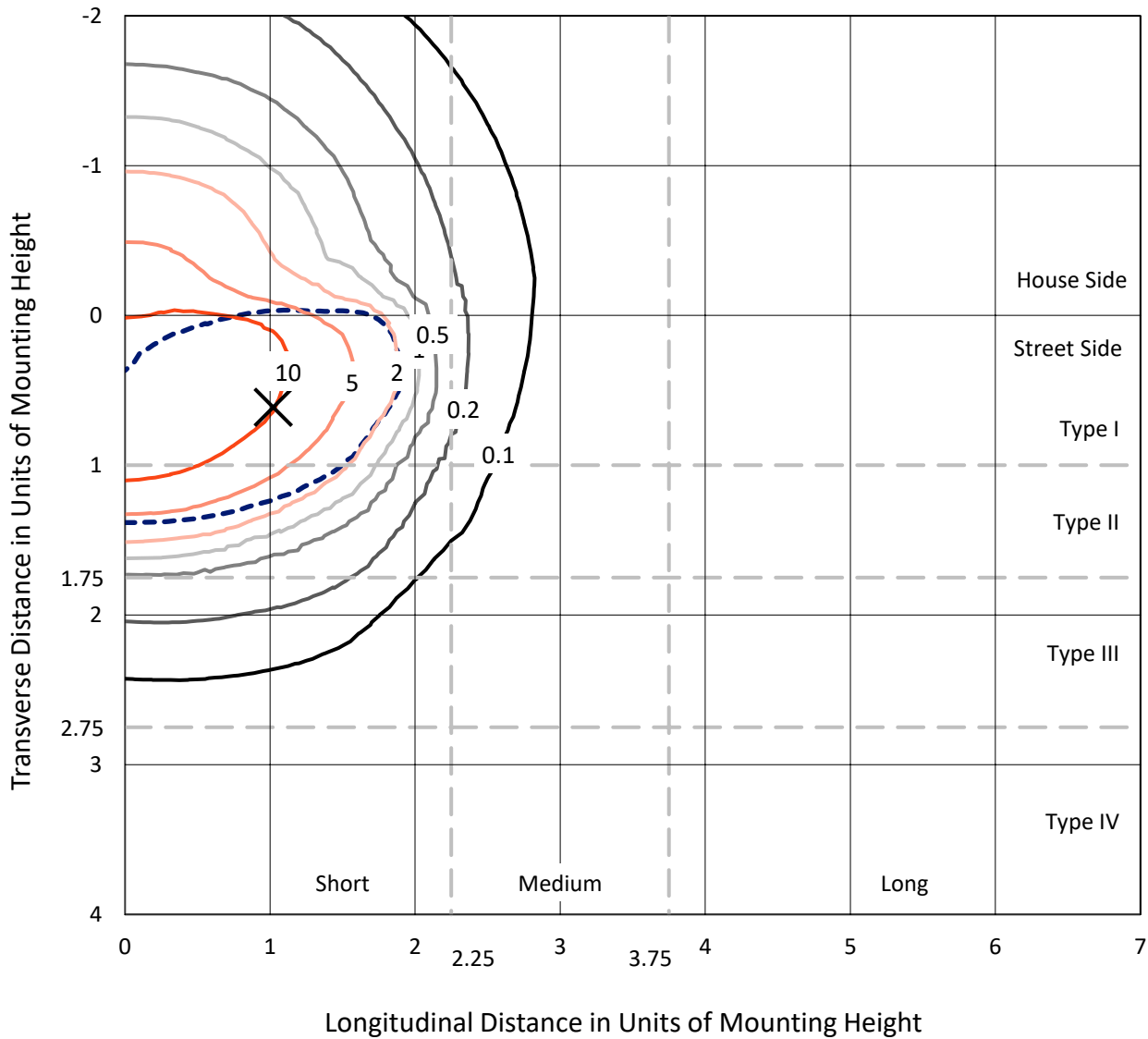
Input Watts (W): 46.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P631838
 CATALOG NUMBER: GWS-SA2B-740-U-T2R-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination

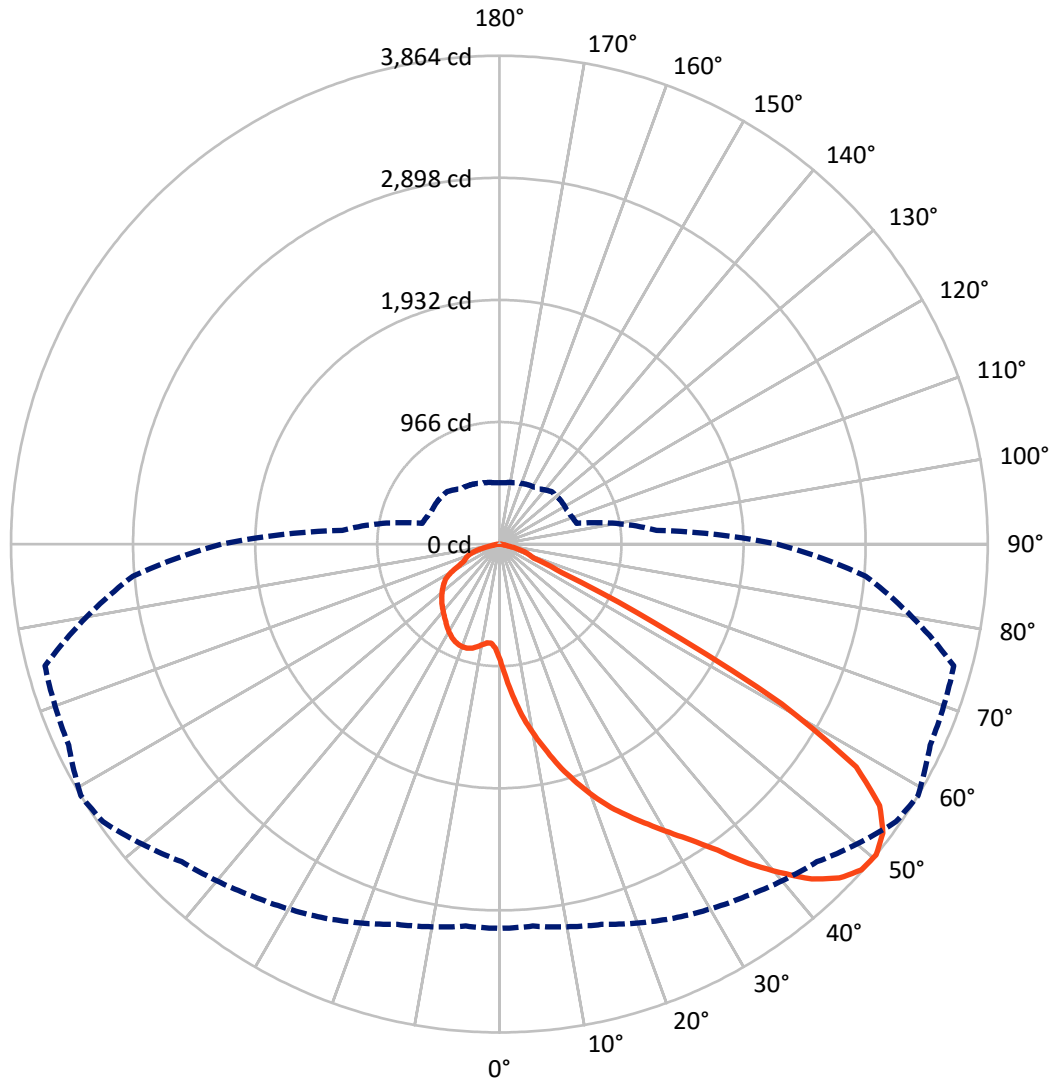
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 18.2 fc
 Type II - Short - N/A

REPORT NUMBER: P631838
CATALOG NUMBER: GWS-SA2B-740-U-T2R-W-GRSWH

Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 50-Deg Vertical

REPORT NUMBER: P631838

CATALOG NUMBER: GWS-SA2B-740-U-T2R-W-GRSWH

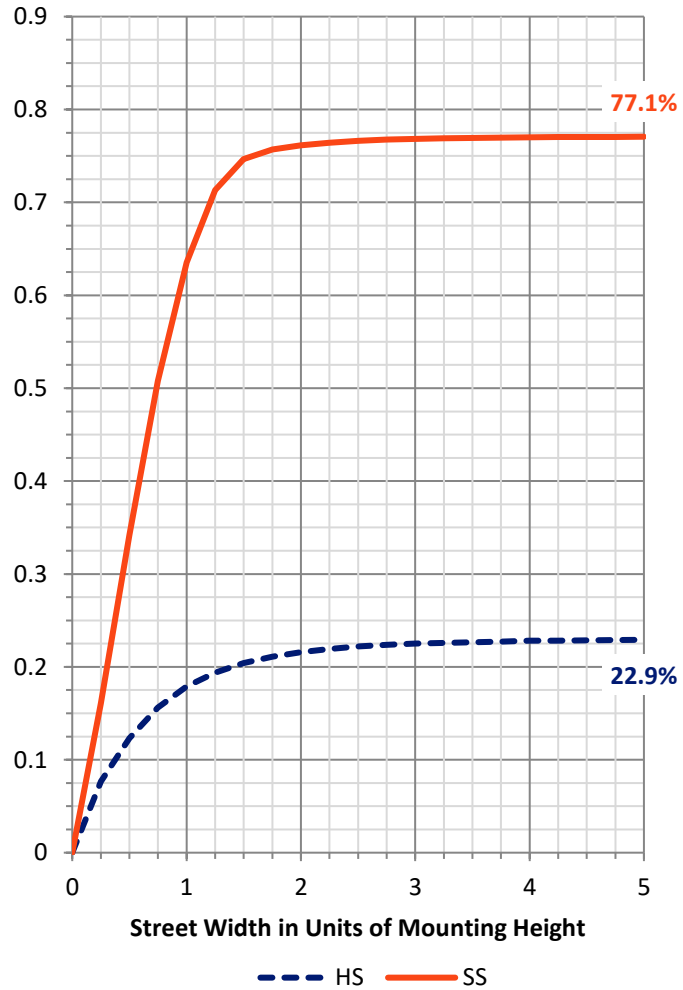
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1397.1 | 0.0 | 1397.1 |
| | % Fixture | 23.0 | 0.0 | 23.0 |
| Street Side | Lumens | 4676.7 | 0.0 | 4676.7 |
| | % Fixture | 77.0 | 0.0 | 77.0 |
| Total | Lumens | 6073.8 | 0.0 | 6073.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 103.2 | 1.7 |
| 10°-20° | 374.8 | 6.2 |
| 20°-30° | 709.6 | 11.7 |
| 30°-40° | 1176.8 | 19.4 |
| 40°-50° | 1607.6 | 26.5 |
| 50°-60° | 1459.3 | 24.0 |
| 60°-70° | 485.9 | 8.0 |
| 70°-80° | 141.7 | 2.3 |
| 80°-90° | 14.9 | 0.2 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 6073.8 | 100.0 |
| 0°-180° | 6073.8 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P631838

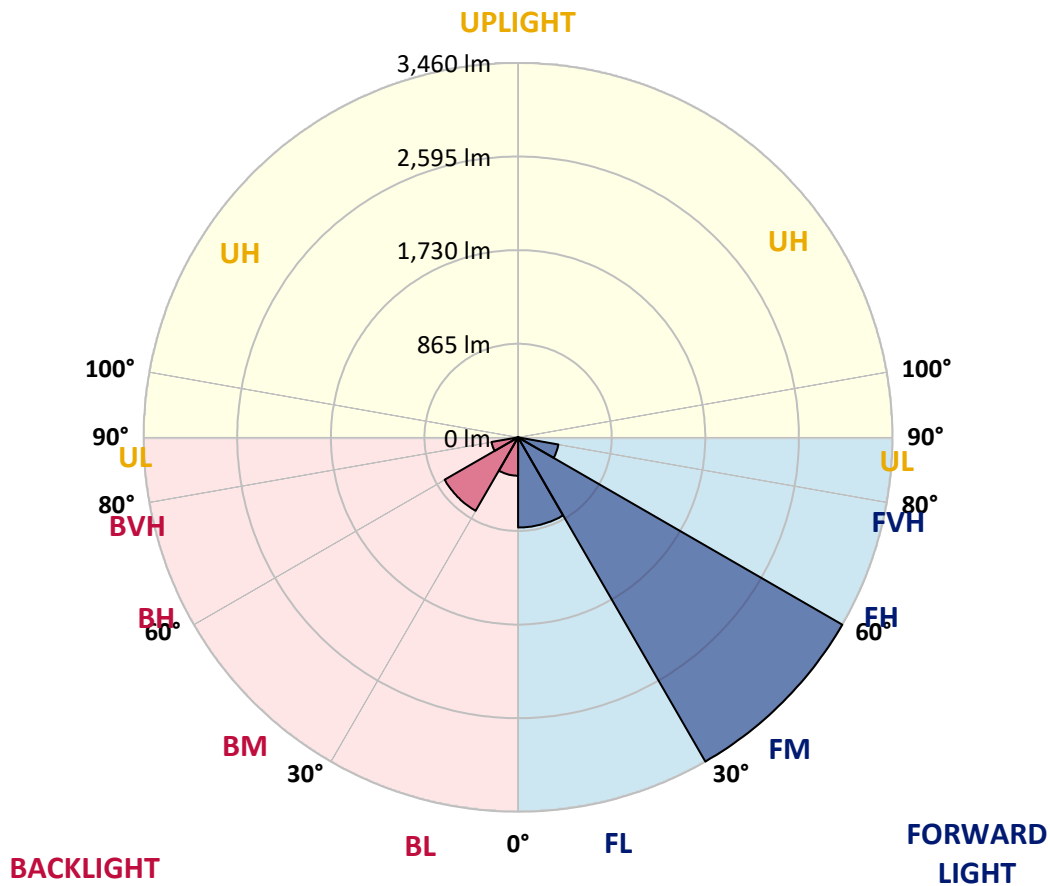
CATALOG NUMBER: GWS-SA2B-740-U-T2R-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 832.9 | 13.7 | | | |
| FM (30°-60°) | 3459.7 | 57.0 | | | |
| FH (60°-80°) | 378.3 | 6.2 | | | G0/660 |
| FVH (80°-90°) | 5.8 | 0.1 | | | G0/10 |
| BL (0°-30°) | 354.8 | 5.8 | B1/500 | | |
| BM (30°-60°) | 783.9 | 12.9 | B1/1000 | | |
| BH (60°-80°) | 249.4 | 4.1 | B1/500 | | G1/500 |
| BVH (80°-90°) | 9.1 | 0.1 | | | 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 II Short





REPORT NUMBER: P631838

CATALOG NUMBER: GWS-SA2B-740-U-T2R-W-GRSWH

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 59° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 |
| 2.5° | 1192.3 | 1201.2 | 1187.4 | 1188.4 | 1153.7 | 1137.9 | 1093.4 | 1067.2 | 1049.8 | 1001.4 | 957.3 |
| 5° | 1432.8 | 1422.4 | 1411.5 | 1405.1 | 1374.9 | 1332.3 | 1276.9 | 1232.9 | 1192.3 | 1097.3 | 1005.8 |
| 7.5° | 1580.2 | 1574.8 | 1567.3 | 1563.4 | 1533.7 | 1489.2 | 1433.8 | 1396.2 | 1337.3 | 1208.7 | 1064.7 |
| 10° | 1705.4 | 1699.0 | 1694.5 | 1697.5 | 1673.2 | 1644.5 | 1584.2 | 1541.1 | 1474.8 | 1326.4 | 1135.9 |
| 12.5° | 1802.4 | 1805.8 | 1807.3 | 1823.1 | 1812.7 | 1795.4 | 1733.1 | 1687.6 | 1613.9 | 1450.6 | 1219.5 |
| 15° | 1879.0 | 1878.0 | 1895.4 | 1925.5 | 1942.4 | 1931.5 | 1881.5 | 1843.4 | 1753.4 | 1572.8 | 1309.6 |
| 17.5° | 1896.8 | 1897.8 | 1925.0 | 1978.0 | 2032.9 | 2059.6 | 2031.4 | 1985.9 | 1896.8 | 1693.5 | 1403.1 |
| 20° | 1911.2 | 1913.2 | 1941.4 | 2001.7 | 2081.9 | 2156.6 | 2161.0 | 2128.4 | 2051.7 | 1824.1 | 1498.1 |
| 22.5° | 2001.7 | 2006.2 | 2013.6 | 2051.7 | 2123.9 | 2218.4 | 2270.4 | 2263.5 | 2199.1 | 1961.2 | 1600.5 |
| 25° | 2239.7 | 2226.3 | 2190.2 | 2179.3 | 2207.1 | 2283.7 | 2372.3 | 2385.7 | 2354.0 | 2112.1 | 1710.8 |
| 27.5° | 2533.6 | 2519.2 | 2465.8 | 2409.4 | 2349.5 | 2376.3 | 2470.8 | 2510.8 | 2511.3 | 2278.3 | 1821.6 |
| 30° | 2800.3 | 2788.9 | 2745.3 | 2664.7 | 2561.3 | 2522.7 | 2592.5 | 2646.4 | 2678.5 | 2470.3 | 1947.8 |
| 32.5° | 3028.3 | 3017.9 | 2959.1 | 2893.3 | 2792.3 | 2714.7 | 2739.9 | 2791.8 | 2867.0 | 2718.6 | 2104.6 |
| 35° | 3220.3 | 3209.9 | 3153.5 | 3087.2 | 2993.7 | 2947.2 | 2938.3 | 2973.9 | 3071.4 | 2977.9 | 2284.7 |
| 37.5° | 3376.1 | 3365.7 | 3306.9 | 3244.5 | 3173.3 | 3176.3 | 3189.6 | 3206.9 | 3262.8 | 3255.4 | 2477.2 |
| 40° | 3477.1 | 3466.2 | 3424.1 | 3379.6 | 3334.6 | 3370.2 | 3436.5 | 3415.7 | 3445.4 | 3479.5 | 2654.3 |
| 42.5° | 3522.1 | 3508.2 | 3484.0 | 3474.1 | 3460.2 | 3515.7 | 3643.3 | 3622.5 | 3586.9 | 3628.9 | 2785.9 |
| 45° | 3477.1 | 3465.2 | 3464.7 | 3494.9 | 3527.0 | 3598.3 | 3786.3 | 3769.5 | 3679.4 | 3701.2 | 2864.6 |
| 47.5° | 3339.0 | 3328.6 | 3356.8 | 3436.0 | 3515.2 | 3619.1 | 3850.1 | 3853.1 | 3745.2 | 3731.4 | 2915.5 |
| 50° | 3040.7 | 3033.8 | 3115.4 | 3265.3 | 3401.9 | 3554.2 | 3829.8 | 3863.9 | 3761.0 | 3722.0 | 2909.1 |
| 52.5° | 2434.1 | 2466.3 | 2643.9 | 2894.3 | 3159.4 | 3440.4 | 3754.6 | 3799.1 | 3684.9 | 3660.1 | 2874.5 |
| 55° | 1666.3 | 1681.1 | 1858.8 | 2224.4 | 2644.9 | 3194.1 | 3581.9 | 3650.7 | 3594.8 | 3649.7 | 2910.6 |
| 57.5° | 862.8 | 874.7 | 1014.7 | 1339.3 | 1793.9 | 2524.2 | 3102.5 | 3328.1 | 3413.2 | 3702.2 | 3022.9 |
| 60° | 354.2 | 364.1 | 422.0 | 578.9 | 904.9 | 1469.9 | 2232.8 | 2567.2 | 2767.1 | 3381.1 | 2684.5 |
| 62.5° | 257.3 | 262.2 | 289.9 | 345.3 | 474.0 | 720.3 | 1263.6 | 1386.8 | 1527.3 | 2119.0 | 1704.4 |
| 65° | 216.7 | 222.1 | 244.4 | 278.0 | 345.8 | 441.8 | 539.8 | 542.7 | 598.1 | 863.3 | 631.8 |
| 67.5° | 181.6 | 186.5 | 206.3 | 235.0 | 279.5 | 313.7 | 289.9 | 290.4 | 289.4 | 313.2 | 302.8 |
| 70° | 141.5 | 145.5 | 165.2 | 195.9 | 219.2 | 201.4 | 226.6 | 250.8 | 240.4 | 249.8 | 264.2 |
| 72.5° | 103.4 | 107.9 | 125.2 | 148.4 | 142.5 | 143.5 | 183.5 | 208.3 | 202.4 | 212.7 | 226.1 |
| 75° | 74.7 | 77.7 | 86.6 | 74.2 | 78.2 | 94.5 | 129.1 | 142.5 | 148.4 | 157.3 | 169.2 |
| 77.5° | 24.2 | 24.2 | 27.2 | 34.1 | 42.5 | 52.4 | 65.8 | 71.2 | 80.1 | 90.0 | 98.5 |
| 80° | 12.4 | 12.9 | 15.3 | 18.8 | 23.7 | 30.2 | 38.6 | 41.1 | 45.5 | 51.0 | 54.4 |
| 82.5° | 5.9 | 6.4 | 7.4 | 9.4 | 12.4 | 15.8 | 21.3 | 23.7 | 26.7 | 30.2 | 32.7 |
| 85° | 1.5 | 1.5 | 2.0 | 3.0 | 4.0 | 5.9 | 7.9 | 9.4 | 11.9 | 14.3 | 15.8 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.5 | 1.5 | 2.0 | 2.5 | 3.0 | 4.0 |
| 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: P631838

CATALOG NUMBER: GWS-SA2B-740-U-T2R-W-GRSWH

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 | 920.2 |
| 2.5° | 937.5 | 909.8 | 874.2 | 844.0 | 816.3 | 795.1 | 776.7 | 767.8 | 759.4 | 753.5 | 755.5 |
| 5° | 963.3 | 915.8 | 849.5 | 803.5 | 775.3 | 760.9 | 751.0 | 746.1 | 745.1 | 741.1 | 739.6 |
| 7.5° | 1000.9 | 933.1 | 844.5 | 798.0 | 779.2 | 771.8 | 766.4 | 763.4 | 764.9 | 760.9 | 759.4 |
| 10° | 1047.4 | 961.8 | 856.9 | 815.8 | 799.5 | 794.1 | 788.1 | 784.2 | 782.2 | 776.3 | 775.3 |
| 12.5° | 1105.3 | 997.4 | 879.2 | 838.6 | 822.3 | 812.9 | 804.9 | 798.0 | 793.6 | 786.1 | 784.2 |
| 15° | 1167.6 | 1037.0 | 905.4 | 860.9 | 841.6 | 827.7 | 814.8 | 804.5 | 796.5 | 786.6 | 785.2 |
| 17.5° | 1235.4 | 1078.5 | 927.2 | 876.2 | 851.5 | 833.1 | 814.3 | 799.0 | 788.1 | 775.3 | 773.8 |
| 20° | 1306.1 | 1120.6 | 943.5 | 883.6 | 851.9 | 827.2 | 802.0 | 781.7 | 767.8 | 755.0 | 754.0 |
| 22.5° | 1379.3 | 1159.2 | 953.4 | 881.6 | 844.0 | 813.4 | 783.2 | 760.4 | 744.1 | 728.8 | 727.8 |
| 25° | 1453.1 | 1196.3 | 955.8 | 873.7 | 828.2 | 792.6 | 762.4 | 735.7 | 717.4 | 700.1 | 698.1 |
| 27.5° | 1527.8 | 1227.5 | 949.9 | 857.9 | 806.9 | 768.3 | 738.2 | 711.9 | 693.1 | 675.8 | 672.9 |
| 30° | 1607.4 | 1254.2 | 937.0 | 837.1 | 782.2 | 742.6 | 712.9 | 693.1 | 675.3 | 658.0 | 655.0 |
| 32.5° | 1692.5 | 1277.4 | 918.7 | 811.9 | 753.5 | 716.9 | 695.1 | 677.3 | 659.5 | 644.2 | 641.2 |
| 35° | 1793.9 | 1292.8 | 891.5 | 779.2 | 726.8 | 698.1 | 683.2 | 662.5 | 640.7 | 623.9 | 622.4 |
| 37.5° | 1898.8 | 1304.6 | 858.9 | 748.1 | 703.5 | 687.2 | 674.8 | 646.6 | 619.4 | 599.1 | 596.7 |
| 40° | 2000.2 | 1314.5 | 818.3 | 718.9 | 682.3 | 679.3 | 662.5 | 627.3 | 580.3 | 557.6 | 555.6 |
| 42.5° | 2094.7 | 1317.5 | 775.8 | 687.7 | 663.0 | 661.5 | 642.7 | 588.3 | 552.1 | 537.8 | 535.8 |
| 45° | 2159.6 | 1315.0 | 731.7 | 658.5 | 643.7 | 635.7 | 616.0 | 560.1 | 537.8 | 524.9 | 522.4 |
| 47.5° | 2207.5 | 1302.2 | 682.3 | 627.8 | 621.9 | 611.0 | 568.5 | 542.2 | 521.5 | 508.6 | 506.1 |
| 50° | 2199.1 | 1248.7 | 632.3 | 598.1 | 595.7 | 586.3 | 533.8 | 520.0 | 501.7 | 487.8 | 485.8 |
| 52.5° | 2155.6 | 1147.3 | 581.3 | 565.5 | 570.4 | 552.1 | 509.1 | 493.3 | 477.4 | 461.6 | 458.1 |
| 55° | 2166.5 | 1074.1 | 542.7 | 533.8 | 542.7 | 501.2 | 481.4 | 464.6 | 449.7 | 434.4 | 431.4 |
| 57.5° | 2214.0 | 1001.9 | 501.7 | 499.7 | 509.1 | 462.1 | 445.8 | 424.5 | 403.2 | 390.8 | 390.8 |
| 60° | 1859.2 | 730.2 | 429.4 | 434.4 | 455.7 | 430.4 | 416.1 | 394.3 | 371.1 | 360.2 | 360.2 |
| 62.5° | 1099.3 | 458.1 | 356.2 | 350.8 | 364.1 | 380.0 | 387.9 | 370.1 | 342.4 | 328.0 | 328.5 |
| 65° | 484.4 | 333.5 | 314.2 | 309.7 | 305.8 | 316.6 | 338.4 | 339.9 | 310.7 | 293.9 | 294.4 |
| 67.5° | 298.3 | 301.8 | 293.9 | 290.4 | 287.0 | 285.0 | 283.0 | 284.0 | 276.1 | 260.7 | 260.2 |
| 70° | 269.1 | 278.5 | 273.1 | 270.1 | 265.7 | 262.2 | 250.3 | 231.0 | 217.7 | 213.7 | 218.2 |
| 72.5° | 231.5 | 244.4 | 241.4 | 240.0 | 234.5 | 226.1 | 210.3 | 191.5 | 175.6 | 165.7 | 167.7 |
| 75° | 174.6 | 185.0 | 186.5 | 187.0 | 181.1 | 173.2 | 156.8 | 141.0 | 127.1 | 116.8 | 119.2 |
| 77.5° | 100.4 | 106.4 | 107.9 | 109.3 | 104.9 | 101.9 | 91.0 | 79.7 | 72.2 | 61.3 | 64.3 |
| 80° | 55.9 | 58.4 | 58.4 | 58.9 | 56.4 | 52.9 | 45.5 | 39.1 | 35.6 | 30.7 | 31.2 |
| 82.5° | 33.6 | 34.6 | 35.1 | 35.6 | 34.1 | 30.7 | 25.2 | 20.8 | 18.8 | 16.3 | 15.8 |
| 85° | 16.3 | 17.3 | 17.3 | 17.8 | 15.3 | 13.4 | 10.4 | 7.9 | 6.9 | 4.9 | 5.4 |
| 87.5° | 4.0 | 4.5 | 4.5 | 4.0 | 3.5 | 2.5 | 1.5 | 0.5 | 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

MCGRAW, INVUE, LUMARK AND STREETWORKS

DATA VALID FOR LUMINAIRES UTILIZING SA LIGHT ENGINES

Report Number: SP1-2101-121-2

Luminaire Tested: IFLD-S-SA2A-740-U-T3R-HSS

Test Date: 03/05/2021

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

REPORT NUMBER: SP1-2101-121-2

| 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: SP1-2101-121-2

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

REPORT NUMBER: SP1-2101-121-2

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)