

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: P629343

Luminaire Tested: GWS-SA1B-740-U-SL2-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P629343
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-30)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1B-740-U-SL2-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: (16) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2841.1 lumens
Efficiency: N/A
Efficacy: 113.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G1

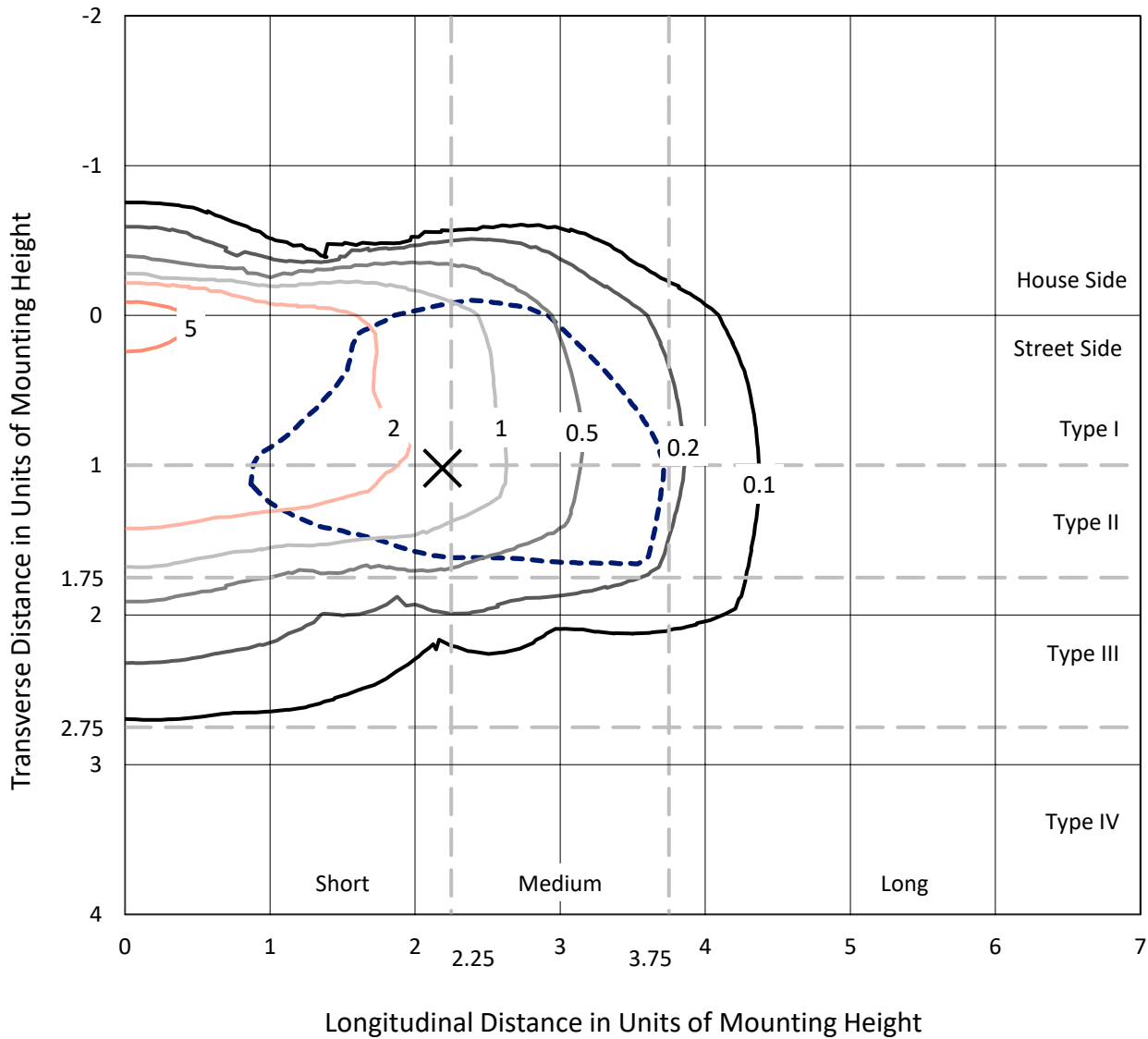
Input Watts (W): 25
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P629343
 CATALOG NUMBER: GWS-SA1B-740-U-SL2-W-HSS

Iso-Footcandle Lines of Horizontal Illumination

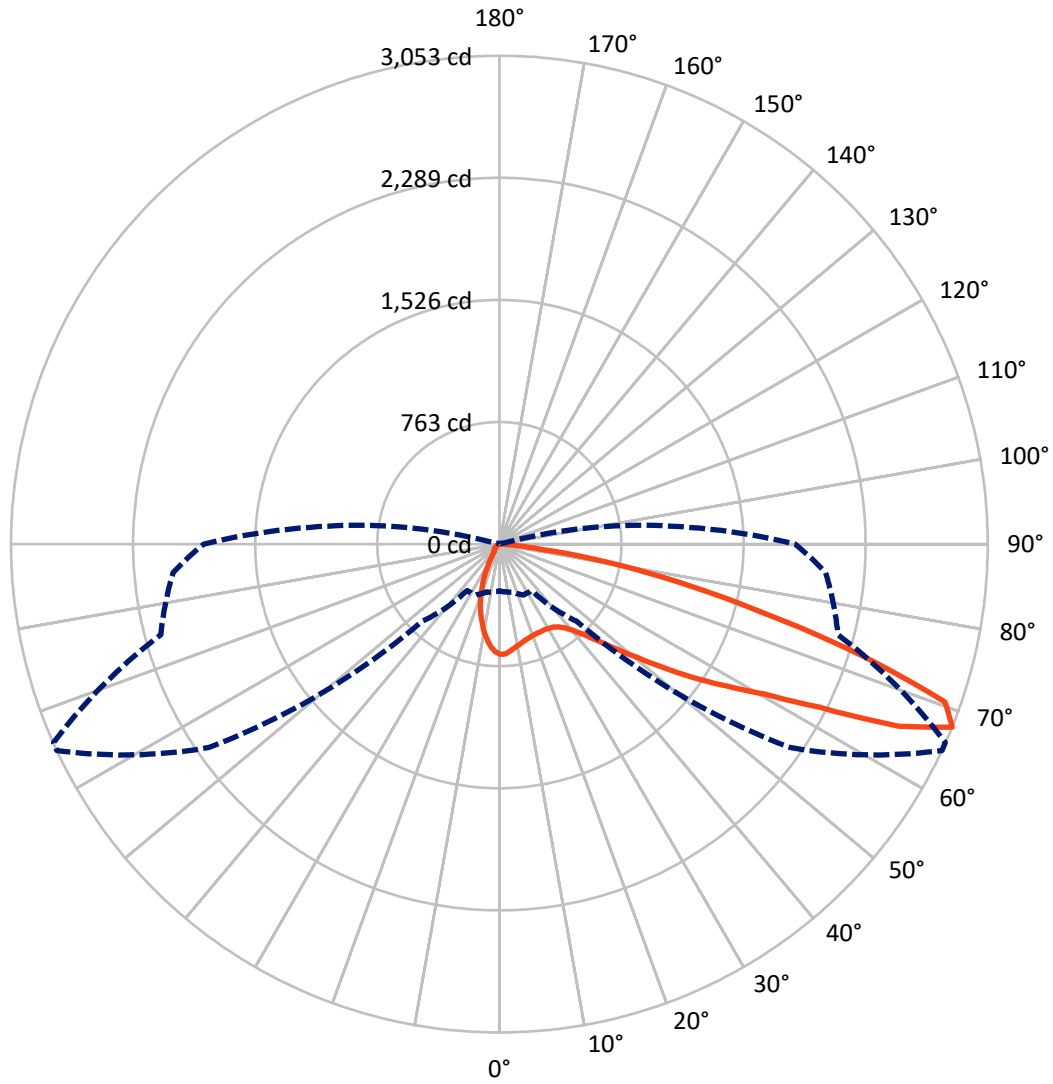
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 6.9 fc
 Type II - Short - N/A

REPORT NUMBER: P629343
CATALOG NUMBER: GWS-SA1B-740-U-SL2-W-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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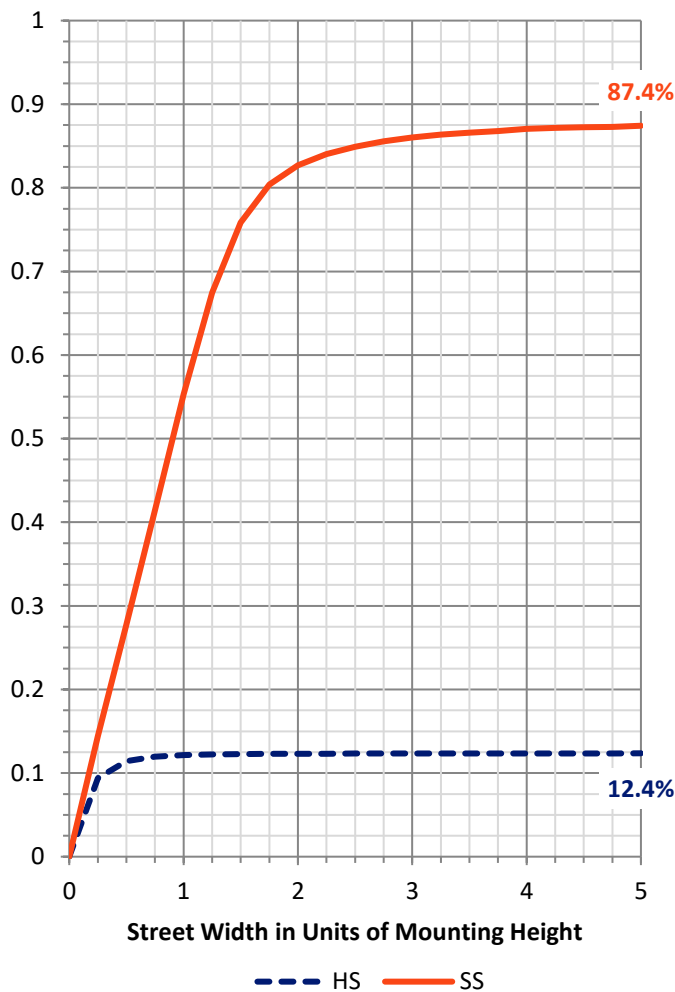
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 354.8 | 0.0 | 354.8 |
| | % Fixture | 12.5 | 0.0 | 12.5 |
| Street Side | Lumens | 2486.3 | 0.0 | 2486.3 |
| | % Fixture | 87.5 | 0.0 | 87.5 |
| Total | Lumens | 2841.1 | 0.0 | 2841.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 57.2 | 2.0 |
| 10°-20° | 128.6 | 4.5 |
| 20°-30° | 183.8 | 6.5 |
| 30°-40° | 267.5 | 9.4 |
| 40°-50° | 418.9 | 14.7 |
| 50°-60° | 653.5 | 23.0 |
| 60°-70° | 717.8 | 25.3 |
| 70°-80° | 382.0 | 13.4 |
| 80°-90° | 31.8 | 1.1 |
| 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° | 2841.1 | 100.0 |
| 0°-180° | 2841.1 | 100.0 |

Coefficient of Utilization



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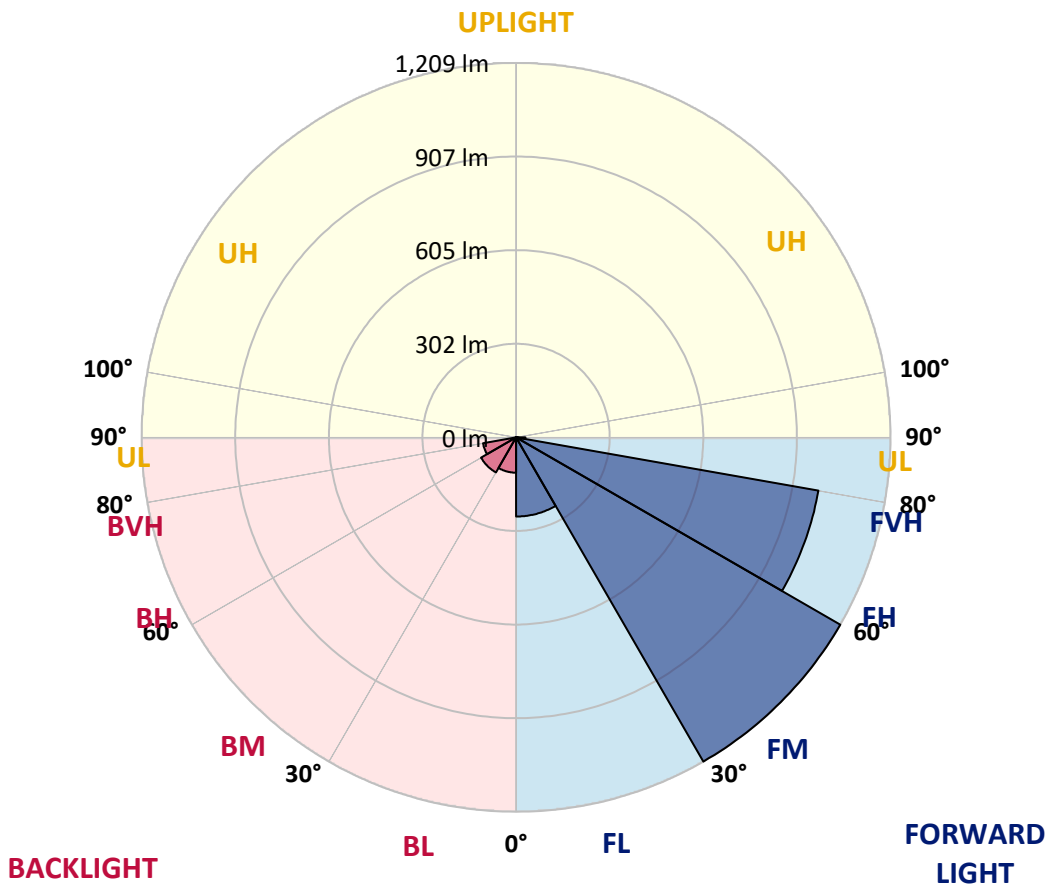
CATALOG NUMBER: GWS-SA1B-740-U-SL2-W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 255.7 | 9.0 | | | |
| FM (30°-60°) | 1209.1 | 42.6 | | | |
| FH (60°-80°) | 991.4 | 34.9 | | | G1/1800 |
| FVH (80°-90°) | 30.1 | 1.1 | | | G1/100 |
| BL (0°-30°) | 114.0 | 4.0 | B1/500 | | |
| BM (30°-60°) | 130.7 | 4.6 | B0/220 | | |
| BH (60°-80°) | 108.4 | 3.8 | B0/110 | | G0/110 |
| BVH (80°-90°) | 1.7 | 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





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CATALOG NUMBER: GWS-SA1B-740-U-SL2-W-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 |
| 2.5° | 665.2 | 667.2 | 664.4 | 671.3 | 672.6 | 680.3 | 684.7 | 687.8 | 687.5 | 691.4 | 691.4 |
| 5° | 626.1 | 628.2 | 626.6 | 634.1 | 640.0 | 652.1 | 662.1 | 673.6 | 674.2 | 686.0 | 690.3 |
| 7.5° | 593.0 | 593.2 | 593.2 | 602.5 | 610.2 | 625.1 | 640.0 | 657.7 | 659.8 | 678.0 | 689.6 |
| 10° | 565.7 | 566.5 | 566.8 | 577.3 | 585.8 | 603.8 | 622.8 | 644.1 | 646.4 | 671.1 | 689.1 |
| 12.5° | 547.0 | 547.2 | 548.3 | 559.3 | 568.6 | 587.3 | 606.6 | 631.0 | 634.1 | 663.1 | 686.7 |
| 15° | 538.0 | 537.5 | 538.0 | 547.2 | 556.5 | 574.5 | 594.3 | 620.5 | 623.8 | 656.4 | 687.0 |
| 17.5° | 537.5 | 536.7 | 536.2 | 543.1 | 549.0 | 565.0 | 585.0 | 613.5 | 617.1 | 653.3 | 689.8 |
| 20° | 544.9 | 544.4 | 541.8 | 544.9 | 546.2 | 559.3 | 579.1 | 608.1 | 611.7 | 652.8 | 696.0 |
| 22.5° | 564.5 | 563.2 | 559.3 | 556.5 | 549.5 | 557.3 | 575.0 | 604.3 | 608.4 | 654.1 | 704.0 |
| 25° | 593.5 | 593.0 | 588.1 | 581.2 | 563.4 | 560.3 | 575.2 | 604.3 | 608.1 | 655.7 | 712.4 |
| 27.5° | 637.2 | 634.1 | 627.9 | 615.8 | 590.4 | 572.4 | 580.4 | 605.8 | 609.7 | 657.7 | 719.4 |
| 30° | 681.6 | 681.3 | 679.3 | 667.0 | 629.2 | 595.5 | 591.2 | 609.9 | 613.5 | 659.5 | 725.8 |
| 32.5° | 727.6 | 728.4 | 733.5 | 724.0 | 682.6 | 630.0 | 610.7 | 618.4 | 621.0 | 663.1 | 731.4 |
| 35° | 771.3 | 772.8 | 786.4 | 789.8 | 747.6 | 682.1 | 642.6 | 635.4 | 635.6 | 671.1 | 738.9 |
| 37.5° | 813.1 | 818.3 | 840.1 | 856.3 | 828.6 | 745.3 | 688.5 | 664.1 | 662.1 | 687.0 | 750.2 |
| 40° | 860.7 | 870.4 | 897.9 | 925.4 | 916.7 | 828.8 | 751.2 | 708.3 | 704.0 | 716.3 | 770.5 |
| 42.5° | 913.3 | 923.9 | 960.4 | 998.9 | 1003.0 | 929.8 | 829.6 | 772.8 | 765.4 | 765.6 | 808.5 |
| 45° | 969.9 | 984.0 | 1026.4 | 1081.9 | 1106.8 | 1042.3 | 926.2 | 859.9 | 852.5 | 841.4 | 869.7 |
| 47.5° | 1044.1 | 1056.5 | 1097.3 | 1161.3 | 1209.1 | 1163.1 | 1052.9 | 971.9 | 958.3 | 942.1 | 964.7 |
| 50° | 1108.1 | 1118.9 | 1154.1 | 1234.2 | 1333.7 | 1318.8 | 1196.5 | 1111.9 | 1098.8 | 1071.4 | 1090.1 |
| 52.5° | 1122.2 | 1130.7 | 1163.1 | 1253.2 | 1429.0 | 1515.3 | 1372.5 | 1281.3 | 1272.0 | 1221.1 | 1228.3 |
| 55° | 1058.8 | 1071.6 | 1100.6 | 1200.8 | 1453.9 | 1707.5 | 1600.9 | 1472.1 | 1452.9 | 1371.7 | 1384.5 |
| 57.5° | 898.4 | 921.3 | 948.5 | 1078.8 | 1386.3 | 1809.7 | 1920.0 | 1674.3 | 1656.9 | 1516.6 | 1516.8 |
| 60° | 658.5 | 677.0 | 695.2 | 814.4 | 1226.0 | 1802.8 | 2209.5 | 1901.5 | 1869.6 | 1635.0 | 1630.7 |
| 62.5° | 478.9 | 488.4 | 488.1 | 530.5 | 841.9 | 1684.1 | 2361.6 | 2243.7 | 2169.4 | 1761.7 | 1736.8 |
| 65° | 376.6 | 376.4 | 387.4 | 401.3 | 470.2 | 1300.0 | 2380.4 | 2743.4 | 2663.2 | 1931.5 | 1879.6 |
| 67.5° | 293.1 | 298.8 | 309.8 | 350.7 | 353.3 | 680.3 | 2215.4 | 3052.5 | 3050.9 | 2190.7 | 2046.9 |
| 70° | 226.1 | 233.8 | 249.5 | 309.1 | 326.3 | 380.8 | 1657.6 | 2954.6 | 2979.5 | 2306.6 | 1928.4 |
| 72.5° | 145.2 | 144.6 | 167.8 | 249.7 | 313.4 | 317.3 | 916.7 | 2347.0 | 2375.2 | 2089.3 | 1559.2 |
| 75° | 81.2 | 81.7 | 94.8 | 152.9 | 292.1 | 298.5 | 454.0 | 1673.6 | 1695.9 | 1628.9 | 1198.0 |
| 77.5° | 31.9 | 32.9 | 44.4 | 80.4 | 192.7 | 266.7 | 269.8 | 1141.2 | 1144.6 | 1009.4 | 734.8 |
| 80° | 12.8 | 13.6 | 22.6 | 49.8 | 117.4 | 179.6 | 192.7 | 672.4 | 658.7 | 390.8 | 213.8 |
| 82.5° | 3.9 | 4.1 | 9.0 | 28.3 | 61.4 | 127.7 | 130.0 | 257.9 | 243.6 | 84.0 | 54.5 |
| 85° | 0.3 | 0.3 | 2.1 | 8.7 | 21.8 | 32.1 | 86.6 | 84.0 | 74.5 | 21.1 | 24.2 |
| 87.5° | 0.0 | 0.0 | 0.3 | 0.3 | 0.5 | 1.0 | 9.2 | 15.4 | 15.7 | 3.9 | 10.8 |
| 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: GWS-SA1B-740-U-SL2-W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 | 689.1 |
| 2.5° | 691.4 | 682.1 | 681.3 | 674.2 | 667.0 | 658.0 | 647.4 | 639.7 | 634.3 | 624.8 | 623.0 |
| 5° | 690.3 | 678.0 | 666.4 | 645.9 | 623.0 | 598.4 | 576.8 | 556.7 | 544.2 | 535.7 | 532.1 |
| 7.5° | 688.3 | 672.6 | 645.9 | 607.1 | 568.8 | 525.7 | 492.0 | 461.2 | 440.1 | 427.8 | 422.4 |
| 10° | 686.7 | 665.7 | 622.3 | 563.4 | 504.1 | 444.5 | 393.3 | 347.6 | 322.2 | 302.1 | 298.8 |
| 12.5° | 683.7 | 655.7 | 591.9 | 512.3 | 435.7 | 356.6 | 291.3 | 235.3 | 196.5 | 179.1 | 172.9 |
| 15° | 680.6 | 645.1 | 561.6 | 458.3 | 361.2 | 263.6 | 184.5 | 130.5 | 103.8 | 95.6 | 95.1 |
| 17.5° | 680.1 | 635.6 | 528.7 | 407.2 | 283.1 | 172.6 | 105.1 | 84.5 | 78.9 | 76.8 | 76.8 |
| 20° | 681.6 | 627.7 | 496.4 | 348.4 | 206.3 | 105.1 | 78.4 | 73.2 | 69.9 | 68.1 | 68.1 |
| 22.5° | 683.1 | 619.4 | 465.3 | 289.0 | 136.9 | 76.8 | 69.1 | 64.7 | 60.9 | 58.8 | 57.8 |
| 25° | 684.2 | 610.4 | 430.9 | 229.4 | 89.4 | 66.8 | 60.6 | 55.0 | 50.4 | 47.8 | 47.8 |
| 27.5° | 683.9 | 599.6 | 396.2 | 171.1 | 69.4 | 59.3 | 51.9 | 46.0 | 41.4 | 38.5 | 38.8 |
| 30° | 681.9 | 587.8 | 360.2 | 119.5 | 60.6 | 51.9 | 44.4 | 38.3 | 33.7 | 31.3 | 31.1 |
| 32.5° | 680.3 | 575.2 | 318.6 | 84.0 | 54.5 | 45.5 | 37.8 | 31.9 | 28.0 | 26.2 | 25.9 |
| 35° | 678.5 | 562.9 | 279.0 | 64.0 | 49.1 | 39.3 | 31.9 | 27.0 | 23.9 | 22.4 | 22.4 |
| 37.5° | 679.0 | 550.1 | 236.1 | 55.0 | 43.7 | 34.2 | 27.2 | 23.1 | 20.6 | 19.0 | 18.8 |
| 40° | 687.0 | 542.4 | 194.0 | 49.8 | 38.8 | 29.5 | 23.6 | 20.0 | 17.5 | 15.9 | 15.7 |
| 42.5° | 706.8 | 542.6 | 153.6 | 46.0 | 34.4 | 25.2 | 20.6 | 17.2 | 14.9 | 13.1 | 12.8 |
| 45° | 746.3 | 553.4 | 117.9 | 41.9 | 29.8 | 21.8 | 17.7 | 14.6 | 12.3 | 10.8 | 10.5 |
| 47.5° | 811.1 | 585.5 | 89.4 | 38.3 | 25.9 | 19.0 | 15.2 | 12.3 | 10.3 | 9.0 | 8.7 |
| 50° | 914.1 | 643.6 | 70.4 | 33.9 | 21.8 | 16.4 | 12.8 | 10.3 | 8.5 | 7.2 | 6.9 |
| 52.5° | 1038.0 | 730.7 | 60.4 | 30.1 | 18.8 | 14.4 | 11.0 | 8.5 | 6.9 | 5.9 | 5.7 |
| 55° | 1180.3 | 834.7 | 55.8 | 26.2 | 15.9 | 12.3 | 9.0 | 6.9 | 5.7 | 4.9 | 4.4 |
| 57.5° | 1310.8 | 928.5 | 55.5 | 22.4 | 13.6 | 10.5 | 7.5 | 5.9 | 4.9 | 3.9 | 3.6 |
| 60° | 1438.0 | 1006.9 | 52.2 | 18.5 | 11.8 | 8.7 | 6.4 | 4.9 | 4.1 | 3.3 | 3.1 |
| 62.5° | 1553.3 | 1070.6 | 43.7 | 14.9 | 10.0 | 7.2 | 5.4 | 4.4 | 3.6 | 2.8 | 2.8 |
| 65° | 1698.2 | 1151.8 | 33.4 | 12.1 | 8.2 | 5.9 | 4.6 | 3.9 | 3.3 | 2.6 | 2.6 |
| 67.5° | 1848.0 | 1194.7 | 23.9 | 10.0 | 6.7 | 5.1 | 4.1 | 3.6 | 2.8 | 2.3 | 2.3 |
| 70° | 1673.8 | 1009.4 | 17.2 | 8.2 | 5.7 | 4.4 | 3.6 | 3.3 | 2.8 | 2.3 | 2.1 |
| 72.5° | 1307.2 | 727.9 | 12.8 | 6.4 | 4.9 | 4.1 | 3.3 | 3.1 | 2.6 | 2.1 | 2.1 |
| 75° | 969.4 | 424.4 | 9.8 | 5.1 | 3.9 | 3.3 | 3.3 | 3.1 | 2.6 | 2.1 | 1.8 |
| 77.5° | 526.9 | 148.0 | 7.5 | 4.1 | 3.1 | 2.6 | 2.8 | 2.8 | 2.3 | 1.8 | 1.5 |
| 80° | 139.5 | 40.6 | 5.1 | 3.1 | 2.6 | 2.1 | 2.1 | 2.6 | 2.1 | 1.5 | 1.5 |
| 82.5° | 40.6 | 11.8 | 3.6 | 2.6 | 2.1 | 1.8 | 1.8 | 1.8 | 1.5 | 1.3 | 1.0 |
| 85° | 19.8 | 4.4 | 2.6 | 2.1 | 1.8 | 1.5 | 1.3 | 1.3 | 1.0 | 0.8 | 0.8 |
| 87.5° | 8.7 | 1.8 | 2.1 | 1.8 | 1.8 | 1.3 | 1.0 | 0.8 | 0.8 | 0.5 | 0.3 |
| 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 LUMINIAIRES 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 |

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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)