

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: P628825

Luminaire Tested: GWS-SA1A-735-U-T3R-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P628825
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-15)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1A-735-U-T3R-W
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS
Light Source: (16) 3500K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2851.3 lumens
Efficiency: N/A
Efficacy: 144.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G1

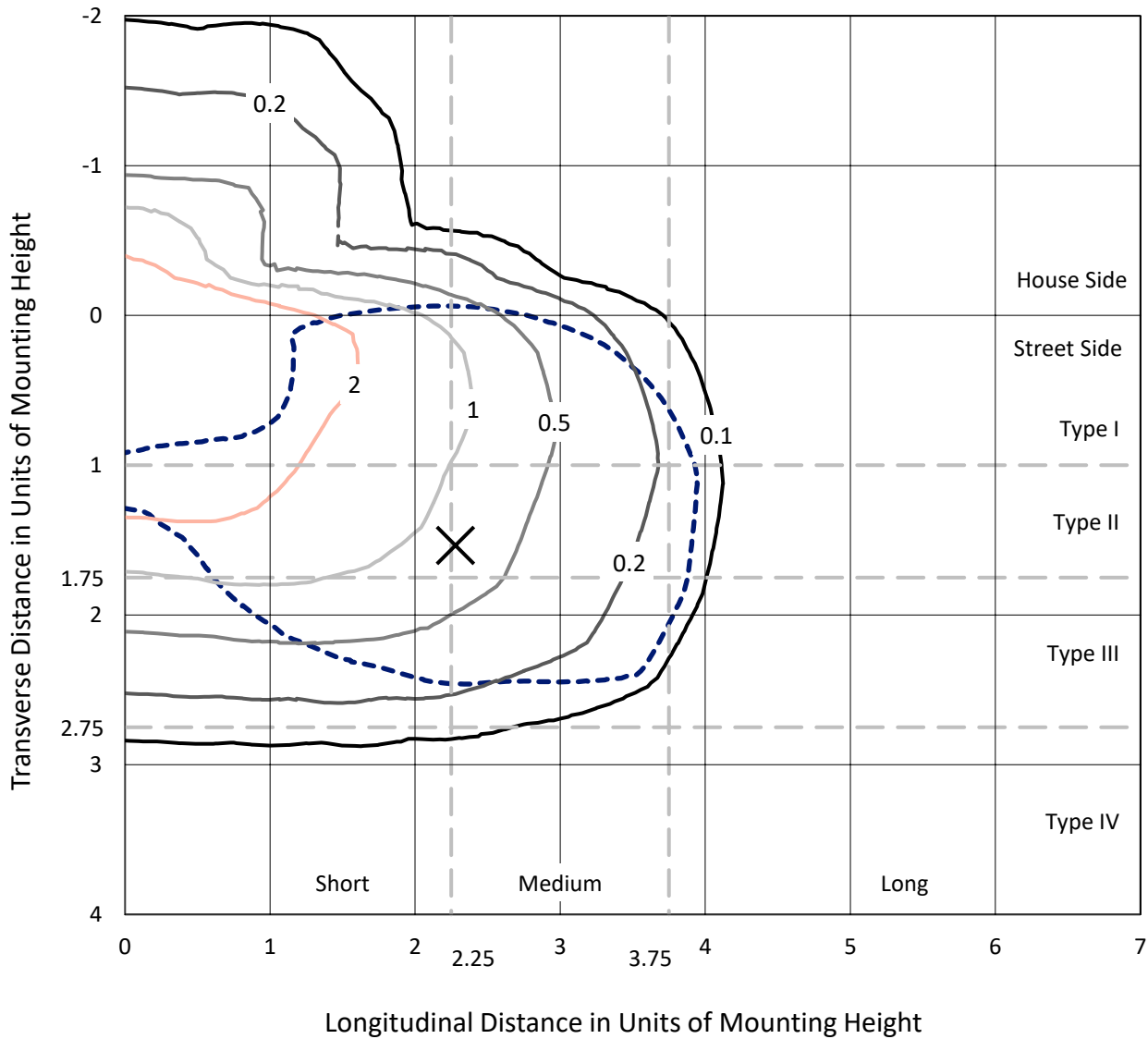
Input Watts (W): 19.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P628825
 CATALOG NUMBER: GWS-SA1A-735-U-T3R-W

Iso-Footcandle Lines of Horizontal Illumination

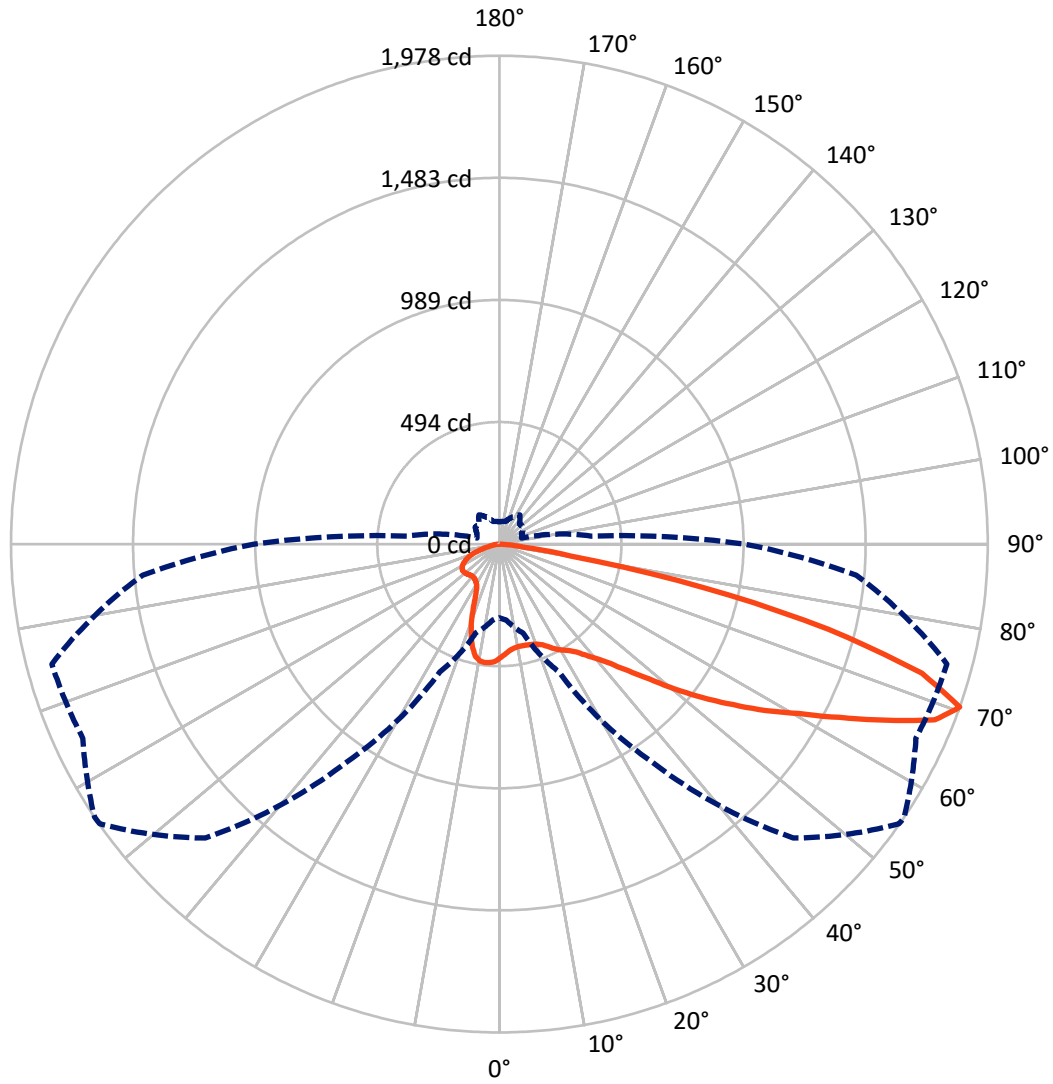
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 4.8 fc
 Type III - Medium - N/A

REPORT NUMBER: P628825
CATALOG NUMBER: GWS-SA1A-735-U-T3R-W

Luminous Intensity Polar Plot



— Vertical Plane Through 56-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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CATALOG NUMBER: GWS-SA1A-735-U-T3R-W

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 548.2 | 0.0 | 548.2 |
| | % Fixture | 19.2 | 0.0 | 19.2 |
| Street Side | Lumens | 2303.1 | 0.0 | 2303.1 |
| | % Fixture | 80.8 | 0.0 | 80.8 |
| Total | Lumens | 2851.3 | 0.0 | 2851.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 42.6 | 1.5 |
| 10°-20° | 115.4 | 4.0 |
| 20°-30° | 190.8 | 6.7 |
| 30°-40° | 285.3 | 10.0 |
| 40°-50° | 424.5 | 14.9 |
| 50°-60° | 603.5 | 21.2 |
| 60°-70° | 747.5 | 26.2 |
| 70°-80° | 412.7 | 14.5 |
| 80°-90° | 29.1 | 1.0 |
| 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° | 2851.3 | 100.0 |
| 0°-180° | 2851.3 | 100.0 |

Coefficient of Utilization



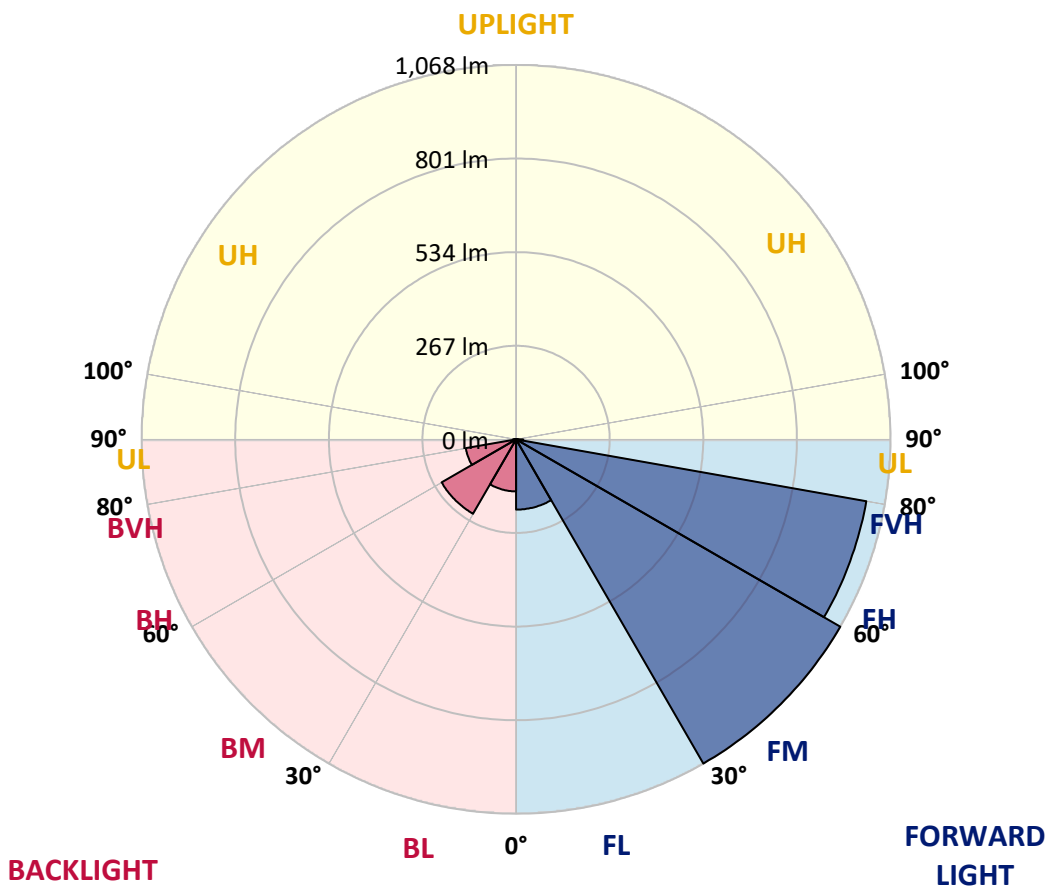
REPORT NUMBER: P628825

CATALOG NUMBER: GWS-SA1A-735-U-T3R-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 200.4 | 7.0 | | | |
| FM (30°-60°) | 1068.1 | 37.5 | | | |
| FH (60°-80°) | 1014.5 | 35.6 | | | G1/1800 |
| FVH (80°-90°) | 20.2 | 0.7 | | | G1/100 |
| BL (0°-30°) | 148.4 | 5.2 | B1/500 | | |
| BM (30°-60°) | 245.2 | 8.6 | B1/1000 | | |
| BH (60°-80°) | 145.7 | 5.1 | B1/500 | | G1/500 |
| BVH (80°-90°) | 8.9 | 0.3 | | | 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 Medium





REPORT NUMBER: P628825
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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 56° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 |
| 2.5° | 430.7 | 428.3 | 431.1 | 432.5 | 436.1 | 441.3 | 446.0 | 446.2 | 448.6 | 454.4 | 460.0 |
| 5° | 411.2 | 410.0 | 410.8 | 415.0 | 418.8 | 425.5 | 432.5 | 433.1 | 439.9 | 451.4 | 462.7 |
| 7.5° | 396.1 | 394.5 | 397.5 | 402.9 | 407.8 | 415.2 | 424.5 | 425.3 | 434.9 | 452.2 | 469.5 |
| 10° | 374.4 | 373.2 | 378.8 | 386.0 | 396.5 | 408.8 | 421.0 | 422.0 | 434.7 | 457.4 | 481.6 |
| 12.5° | 364.9 | 364.9 | 367.4 | 374.2 | 385.6 | 401.9 | 420.4 | 422.0 | 437.9 | 465.5 | 497.0 |
| 15° | 379.6 | 380.6 | 378.6 | 378.2 | 382.8 | 398.3 | 421.2 | 423.6 | 444.0 | 473.7 | 512.3 |
| 17.5° | 409.2 | 410.2 | 405.0 | 396.7 | 392.1 | 401.7 | 424.3 | 426.9 | 450.4 | 482.8 | 528.8 |
| 20° | 450.6 | 451.8 | 440.3 | 427.7 | 411.8 | 411.6 | 430.1 | 432.5 | 458.6 | 492.6 | 546.3 |
| 22.5° | 499.0 | 499.9 | 485.4 | 465.3 | 440.9 | 429.9 | 440.1 | 442.5 | 469.3 | 506.3 | 565.2 |
| 25° | 555.1 | 557.6 | 540.1 | 510.9 | 477.9 | 455.0 | 456.8 | 459.6 | 488.4 | 524.6 | 587.5 |
| 27.5° | 615.1 | 618.1 | 598.0 | 565.8 | 520.4 | 482.8 | 478.3 | 480.8 | 508.7 | 535.8 | 599.4 |
| 30° | 676.4 | 678.6 | 658.5 | 621.7 | 566.0 | 514.1 | 496.4 | 497.8 | 517.5 | 541.3 | 611.4 |
| 32.5° | 744.6 | 742.7 | 723.4 | 681.0 | 618.7 | 551.7 | 513.3 | 512.9 | 527.4 | 552.1 | 628.7 |
| 35° | 808.5 | 811.1 | 790.6 | 743.7 | 676.6 | 598.2 | 538.7 | 537.1 | 548.3 | 569.8 | 653.1 |
| 37.5° | 885.9 | 885.1 | 860.6 | 809.9 | 734.7 | 642.6 | 574.2 | 571.4 | 575.5 | 597.4 | 687.0 |
| 40° | 941.2 | 946.8 | 930.9 | 883.7 | 802.7 | 697.3 | 615.9 | 609.6 | 610.6 | 631.4 | 732.5 |
| 42.5° | 986.4 | 991.7 | 993.3 | 963.1 | 880.5 | 764.9 | 667.7 | 661.5 | 662.1 | 691.5 | 788.4 |
| 45° | 1021.2 | 1028.3 | 1051.0 | 1042.1 | 968.1 | 842.9 | 737.9 | 731.5 | 731.9 | 764.5 | 855.9 |
| 47.5° | 1035.5 | 1043.1 | 1089.2 | 1110.3 | 1061.2 | 936.2 | 825.2 | 815.7 | 817.1 | 853.1 | 933.2 |
| 50° | 1030.9 | 1041.1 | 1103.5 | 1162.8 | 1139.2 | 1031.1 | 929.5 | 922.9 | 917.5 | 969.7 | 1017.0 |
| 52.5° | 991.1 | 1002.3 | 1102.1 | 1196.2 | 1203.0 | 1120.8 | 1037.3 | 1033.5 | 1032.3 | 1093.6 | 1110.7 |
| 55° | 873.8 | 892.7 | 1053.6 | 1205.0 | 1252.9 | 1205.2 | 1154.1 | 1147.7 | 1153.9 | 1226.3 | 1205.4 |
| 57.5° | 808.9 | 823.0 | 958.7 | 1195.1 | 1293.7 | 1285.6 | 1270.7 | 1271.4 | 1278.4 | 1370.5 | 1320.2 |
| 60° | 771.9 | 788.4 | 906.0 | 1168.2 | 1332.9 | 1383.3 | 1392.8 | 1392.8 | 1405.5 | 1525.9 | 1436.8 |
| 62.5° | 722.8 | 739.5 | 856.7 | 1116.3 | 1369.1 | 1498.4 | 1546.2 | 1545.6 | 1550.6 | 1692.6 | 1550.8 |
| 65° | 623.3 | 638.8 | 757.8 | 1034.5 | 1386.8 | 1625.0 | 1720.5 | 1718.7 | 1708.7 | 1841.0 | 1626.2 |
| 67.5° | 452.6 | 467.3 | 580.5 | 878.9 | 1323.0 | 1727.2 | 1900.1 | 1900.9 | 1840.8 | 1934.5 | 1630.3 |
| 70° | 298.4 | 308.4 | 373.2 | 570.8 | 1075.9 | 1683.1 | 1975.3 | 1977.7 | 1861.1 | 1876.2 | 1450.9 |
| 72.5° | 186.2 | 193.2 | 233.0 | 340.4 | 635.8 | 1332.3 | 1782.3 | 1788.9 | 1674.3 | 1648.8 | 1192.1 |
| 75° | 123.7 | 128.5 | 155.0 | 198.5 | 294.2 | 721.0 | 1354.8 | 1376.1 | 1341.9 | 1292.5 | 830.6 |
| 77.5° | 74.4 | 78.4 | 98.7 | 126.1 | 130.3 | 281.7 | 790.8 | 845.9 | 850.7 | 674.8 | 347.8 |
| 80° | 34.0 | 38.6 | 54.5 | 72.0 | 69.4 | 98.1 | 278.9 | 291.7 | 344.2 | 214.3 | 109.8 |
| 82.5° | 20.1 | 22.1 | 36.2 | 35.8 | 29.6 | 47.7 | 100.3 | 102.9 | 87.5 | 78.4 | 46.8 |
| 85° | 8.0 | 9.5 | 15.3 | 13.5 | 10.9 | 15.5 | 37.8 | 39.6 | 38.0 | 34.2 | 17.3 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.4 | 3.4 | 3.6 | 5.2 | 9.5 | 5.2 |
| 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: P628825
 CATALOG NUMBER: GWS-SA1A-735-U-T3R-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 | 460.2 |
| 2.5° | 463.7 | 462.5 | 468.5 | 473.1 | 475.1 | 477.1 | 475.3 | 474.7 | 474.7 | 470.7 | 468.7 |
| 5° | 468.7 | 469.3 | 477.5 | 481.4 | 481.4 | 479.7 | 474.9 | 471.5 | 470.3 | 465.1 | 463.7 |
| 7.5° | 478.1 | 480.8 | 488.4 | 488.2 | 482.6 | 473.7 | 461.7 | 452.4 | 444.0 | 440.3 | 438.1 |
| 10° | 493.6 | 497.0 | 502.3 | 493.8 | 478.1 | 454.8 | 429.3 | 409.2 | 397.1 | 387.5 | 387.5 |
| 12.5° | 511.3 | 514.5 | 513.5 | 494.0 | 461.7 | 418.0 | 381.2 | 358.1 | 341.2 | 332.4 | 332.4 |
| 15° | 529.0 | 531.6 | 520.8 | 484.8 | 427.3 | 369.2 | 328.9 | 301.2 | 286.5 | 278.3 | 278.3 |
| 17.5° | 546.9 | 546.7 | 523.8 | 463.5 | 382.4 | 315.1 | 275.7 | 254.1 | 249.1 | 247.7 | 247.5 |
| 20° | 564.2 | 559.6 | 520.0 | 427.9 | 330.4 | 260.6 | 235.7 | 237.1 | 244.5 | 247.7 | 248.1 |
| 22.5° | 583.7 | 572.2 | 508.7 | 382.4 | 271.2 | 222.8 | 224.4 | 236.1 | 246.9 | 251.7 | 252.3 |
| 25° | 603.6 | 583.1 | 489.8 | 329.1 | 221.8 | 208.9 | 221.4 | 234.4 | 246.7 | 252.9 | 253.5 |
| 27.5° | 611.6 | 583.1 | 457.6 | 267.4 | 195.4 | 203.1 | 216.8 | 229.4 | 242.3 | 249.5 | 250.9 |
| 30° | 618.3 | 578.1 | 412.6 | 211.7 | 184.6 | 197.4 | 209.3 | 221.0 | 233.6 | 242.5 | 244.1 |
| 32.5° | 627.5 | 573.6 | 358.1 | 177.9 | 179.6 | 192.0 | 200.3 | 210.1 | 221.6 | 227.4 | 226.8 |
| 35° | 638.4 | 566.8 | 292.4 | 161.9 | 175.3 | 187.4 | 193.2 | 199.1 | 193.8 | 193.6 | 194.2 |
| 37.5° | 653.9 | 560.8 | 235.0 | 154.6 | 172.5 | 184.2 | 189.0 | 176.5 | 169.3 | 166.3 | 165.1 |
| 40° | 676.2 | 558.4 | 185.4 | 150.4 | 172.1 | 184.0 | 180.6 | 161.3 | 151.4 | 140.9 | 140.7 |
| 42.5° | 704.3 | 556.6 | 153.2 | 148.4 | 173.5 | 188.6 | 168.9 | 151.2 | 130.9 | 126.3 | 125.9 |
| 45° | 740.5 | 553.7 | 137.1 | 148.0 | 176.9 | 192.2 | 167.7 | 137.3 | 123.5 | 121.4 | 121.4 |
| 47.5° | 784.2 | 549.3 | 129.9 | 148.0 | 180.8 | 190.6 | 164.1 | 134.3 | 120.0 | 122.2 | 123.7 |
| 50° | 834.2 | 543.7 | 126.1 | 147.6 | 184.6 | 190.6 | 156.4 | 133.7 | 119.2 | 130.7 | 135.3 |
| 52.5° | 887.7 | 537.3 | 123.5 | 146.0 | 187.2 | 190.8 | 156.8 | 135.7 | 120.0 | 132.7 | 136.5 |
| 55° | 946.8 | 536.2 | 119.8 | 142.6 | 188.0 | 185.6 | 157.8 | 140.1 | 121.2 | 120.2 | 120.4 |
| 57.5° | 1021.4 | 548.3 | 117.2 | 137.5 | 184.8 | 174.9 | 159.8 | 143.4 | 119.8 | 120.0 | 121.4 |
| 60° | 1099.4 | 571.0 | 119.4 | 132.7 | 178.1 | 164.9 | 161.3 | 141.8 | 113.0 | 109.8 | 110.2 |
| 62.5° | 1165.8 | 588.3 | 121.2 | 130.5 | 168.5 | 156.0 | 159.8 | 138.1 | 109.2 | 108.4 | 110.2 |
| 65° | 1193.5 | 574.0 | 116.8 | 125.9 | 154.4 | 145.2 | 156.8 | 133.5 | 106.0 | 102.9 | 103.1 |
| 67.5° | 1162.8 | 507.1 | 108.2 | 115.6 | 138.5 | 131.3 | 152.0 | 127.5 | 101.5 | 97.9 | 97.1 |
| 70° | 993.3 | 372.6 | 93.3 | 99.3 | 119.2 | 115.0 | 144.6 | 119.6 | 94.5 | 91.9 | 90.1 |
| 72.5° | 800.5 | 263.8 | 77.4 | 79.0 | 93.5 | 96.9 | 131.7 | 109.8 | 86.5 | 79.0 | 76.4 |
| 75° | 557.2 | 165.7 | 64.5 | 62.9 | 67.6 | 74.0 | 102.7 | 91.1 | 74.6 | 66.8 | 64.3 |
| 77.5° | 239.7 | 85.1 | 50.5 | 49.7 | 45.0 | 51.3 | 78.8 | 76.0 | 62.5 | 53.5 | 52.1 |
| 80° | 80.2 | 49.3 | 36.4 | 35.0 | 30.0 | 36.0 | 55.5 | 60.7 | 49.1 | 39.6 | 37.2 |
| 82.5° | 40.2 | 28.6 | 23.1 | 20.9 | 20.1 | 22.7 | 32.8 | 37.8 | 34.0 | 27.3 | 23.1 |
| 85° | 19.7 | 16.3 | 12.7 | 12.5 | 10.5 | 9.9 | 13.7 | 16.1 | 15.3 | 11.3 | 10.7 |
| 87.5° | 7.2 | 6.4 | 4.0 | 3.2 | 2.0 | 1.4 | 0.8 | 0.8 | 0.6 | 0.6 | 0.6 |
| 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 | CRI (Ra): | 73.1 | R9: | -34.6 |
| CIE u': | 0.2371 | R1: | 68.9 | R10: | 57.8 |
| CIE v': | 0.5177 | R2: | 81.1 | R11: | 68.6 |
| Duv: | 0.0032 | R3: | 93.1 | R12: | 53.9 |
| CIE x: | 0.4153 | R4: | 71.6 | R13: | 70.9 |
| CIE y: | 0.4030 | R5: | 69.4 | R14: | 96.2 |
| CIE z: | 0.1817 | R6: | 75.0 | | |
| Peak Wavelength (nm): | 590 | R7: | 79.5 | | |
| Dominant Wavelength (nm): | 580 | R8: | 46.4 | | |
| Purity: | 45.7 | | | | |
| Rf: | 76.9 | | | | |
| Rg: | 94.4 | | | | |



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



Point lies inside the ANSI 3500K 4-step quadrangle

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Photopic Flux vs. Wavelength



#####

| λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 4.9 | 620 | 136720 | 35.6 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 8.0 | 625 | 126308 | 27.9 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 12.1 | 630 | 114625 | 20.7 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 18.1 | 635 | 103216 | 15.5 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 25.4 | 640 | 92605 | 11.1 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 33.9 | 645 | 83234 | 8.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 43.0 | 650 | 73263 | 5.4 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 50.1 | 655 | 64627 | 3.7 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 57.9 | 660 | 56614 | 2.4 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 64.0 | 665 | 49537 | 1.6 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.0 | 540 | 107316 | 69.9 | 670 | 42866 | 0.9 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.0 | 545 | 113101 | 75.3 | 675 | 36708 | 0.6 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 0.0 | 550 | 120690 | 82.0 | 680 | 31814 | 0.4 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 0.1 | 555 | 128583 | 87.8 | 685 | 27485 | 0.2 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 0.3 | 560 | 137796 | 93.6 | 690 | 23698 | 0.1 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 0.8 | 565 | 146577 | 97.5 | 695 | 20309 | 0.1 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 1.6 | 570 | 154581 | 100.5 | 700 | 17890 | 0.1 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 2.4 | 575 | 162633 | 101.2 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 2.5 | 580 | 168101 | 99.9 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 2.1 | 585 | 173145 | 96.2 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 1.8 | 590 | 174675 | 90.3 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 1.7 | 595 | 173724 | 82.3 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 1.5 | 600 | 171241 | 73.8 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 1.7 | 605 | 165134 | 64.0 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 2.2 | 610 | 156652 | 53.8 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 3.3 | 615 | 147879 | 44.6 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: 12126

S/P: 1.36

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 53.2 | 620 | 136720 | 1.7 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 71.7 | 625 | 126308 | 1.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 91.4 | 630 | 114625 | 0.6 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 110.0 | 635 | 103216 | 0.4 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 125.1 | 640 | 92605 | 0.2 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 135.7 | 645 | 83234 | 0.1 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 140.8 | 650 | 73263 | 0.1 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 139.6 | 655 | 64627 | 0.1 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 135.7 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.1 | 535 | 103269 | 128.7 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.2 | 540 | 107316 | 118.6 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.6 | 545 | 113101 | 108.4 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 2.0 | 550 | 120690 | 98.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 5.9 | 555 | 128583 | 87.9 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 14.3 | 560 | 137796 | 77.0 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 30.5 | 565 | 146577 | 65.8 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 55.5 | 570 | 154581 | 54.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 77.4 | 575 | 162633 | 44.3 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 73.6 | 580 | 168101 | 34.6 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 53.7 | 585 | 173145 | 26.5 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 41.9 | 590 | 174675 | 19.5 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 34.3 | 595 | 173724 | 13.9 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 27.9 | 600 | 171241 | 9.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 27.1 | 605 | 165134 | 6.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 31.3 | 610 | 156652 | 4.2 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 40.0 | 615 | 147879 | 2.7 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Melanopic Flux vs. Wavelength

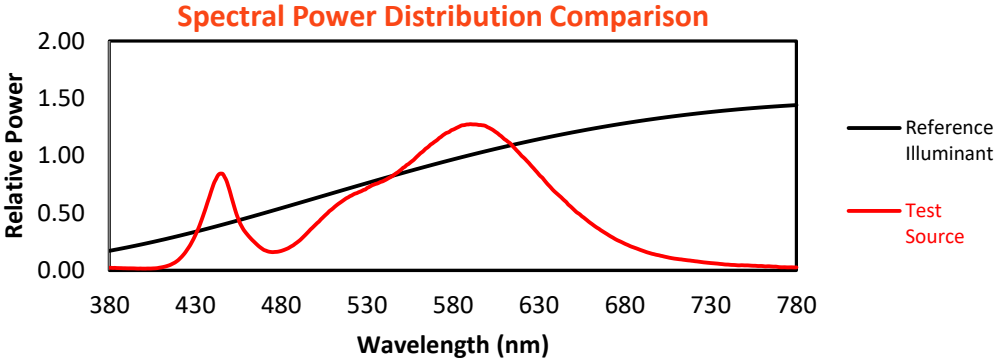


Melanopic Lumens: 4490.7 M/P: 0.5

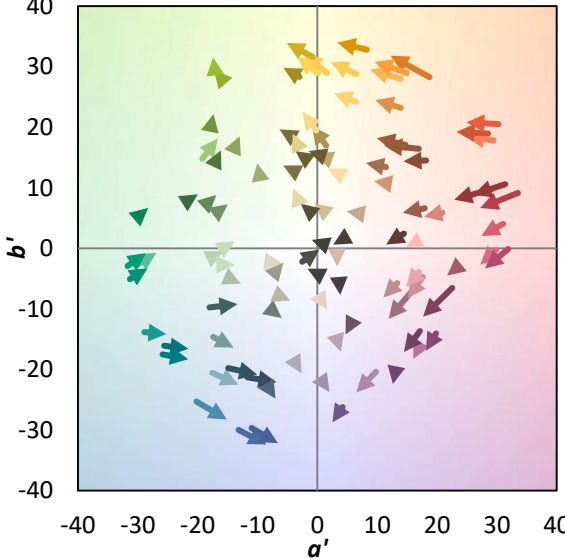
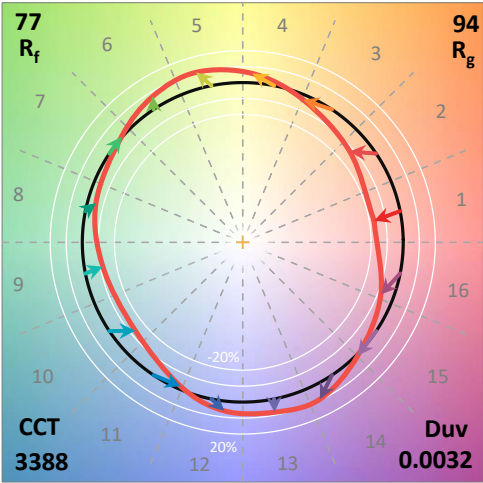
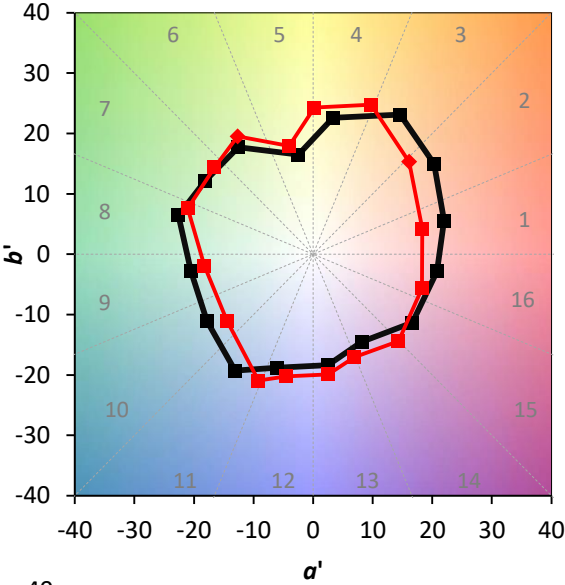
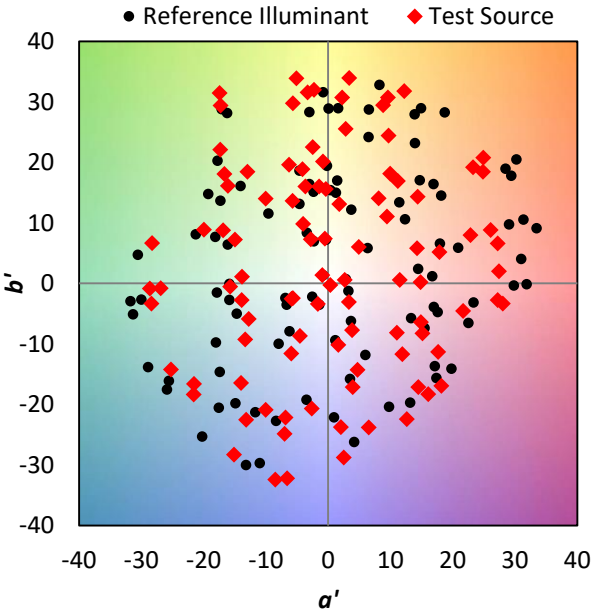
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 28.8 | 620 | 136720 | 0.1 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 36.6 | 625 | 126308 | 0.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 43.9 | 630 | 114625 | 0.0 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 49.6 | 635 | 103216 | 0.0 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 53.0 | 640 | 92605 | 0.0 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 53.5 | 645 | 83234 | 0.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 51.6 | 650 | 73263 | 0.0 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 47.3 | 655 | 64627 | 0.0 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 42.5 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 37.2 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.1 | 540 | 107316 | 31.4 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.4 | 545 | 113101 | 26.3 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 1.4 | 550 | 120690 | 21.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 3.7 | 555 | 128583 | 17.3 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 8.9 | 560 | 137796 | 13.6 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 18.2 | 565 | 146577 | 10.3 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 33.2 | 570 | 154581 | 7.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 45.6 | 575 | 162633 | 5.4 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 43.8 | 580 | 168101 | 3.8 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 32.2 | 585 | 173145 | 2.6 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 25.6 | 590 | 174675 | 1.7 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 21.2 | 595 | 173724 | 1.1 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 17.4 | 600 | 171241 | 0.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 16.6 | 605 | 165134 | 0.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 18.6 | 610 | 156652 | 0.3 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 22.7 | 615 | 147879 | 0.2 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

Summary

$R_f = 76.9$
 $R_g = 94.4$
 $CIE R_a = 73.1$
 $R_g = -34.6$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 63 |
| CES02 = 62 | CES27 = 88 | CES52 = 89 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 80 | CES78 = 65 |
| CES04 = 70 | CES29 = 67 | CES54 = 84 | CES79 = 87 |
| CES05 = 48 | CES30 = 74 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 71 | CES56 = 75 | CES81 = 75 |
| CES07 = 40 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 39 | CES33 = 74 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 78 | CES59 = 87 | CES84 = 89 |
| CES10 = 75 | CES35 = 89 | CES60 = 93 | CES85 = 80 |
| CES11 = 58 | CES36 = 98 | CES61 = 86 | CES86 = 66 |
| CES12 = 64 | CES37 = 86 | CES62 = 89 | CES87 = 79 |
| CES13 = 43 | CES38 = 82 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 74 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 68 | CES90 = 77 |
| CES16 = 47 | CES41 = 89 | CES66 = 71 | CES91 = 88 |
| CES17 = 50 | CES42 = 88 | CES67 = 69 | CES92 = 60 |
| CES18 = 56 | CES43 = 82 | CES68 = 74 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 82 | CES94 = 52 |
| CES20 = 65 | CES45 = 87 | CES70 = 67 | CES95 = 69 |
| CES21 = 86 | CES46 = 82 | CES71 = 66 | CES96 = 78 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 72 | CES73 = 59 | CES98 = 76 |
| CES24 = 91 | CES49 = 82 | CES74 = 97 | CES99 = 63 |
| CES25 = 72 | CES50 = 88 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)