

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: P628880

Luminaire Tested: GWS-SA1A-740-U-T3R-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P628880
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-740-U-T3R-W
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS
Light Source: (16) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2891 lumens
Efficiency: N/A
Efficacy: 146.8 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

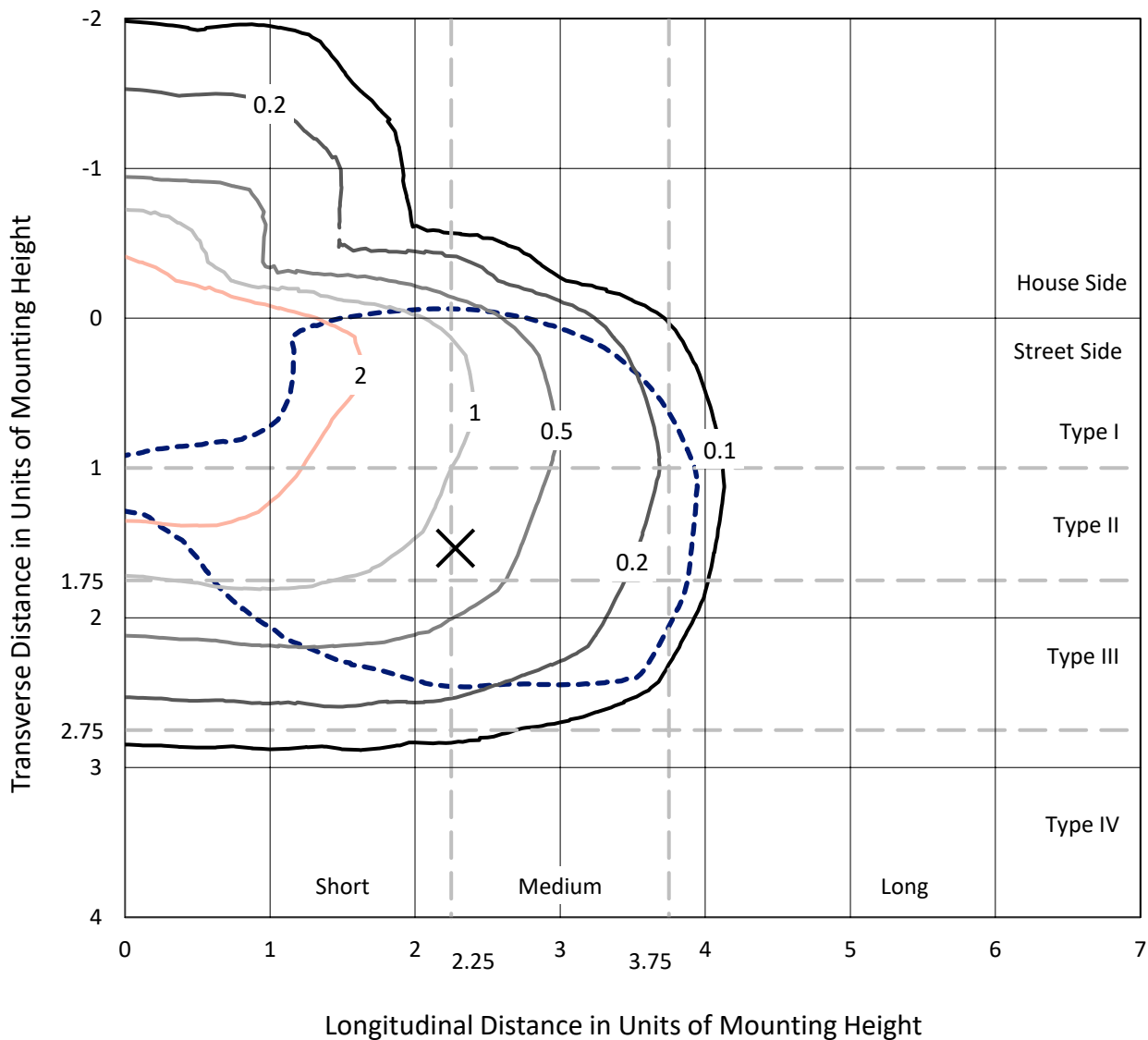
Input Watts (W): 19.7
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P628880
 CATALOG NUMBER: GWS-SA1A-740-U-T3R-W

Iso-Footcandle Lines of Horizontal Illumination

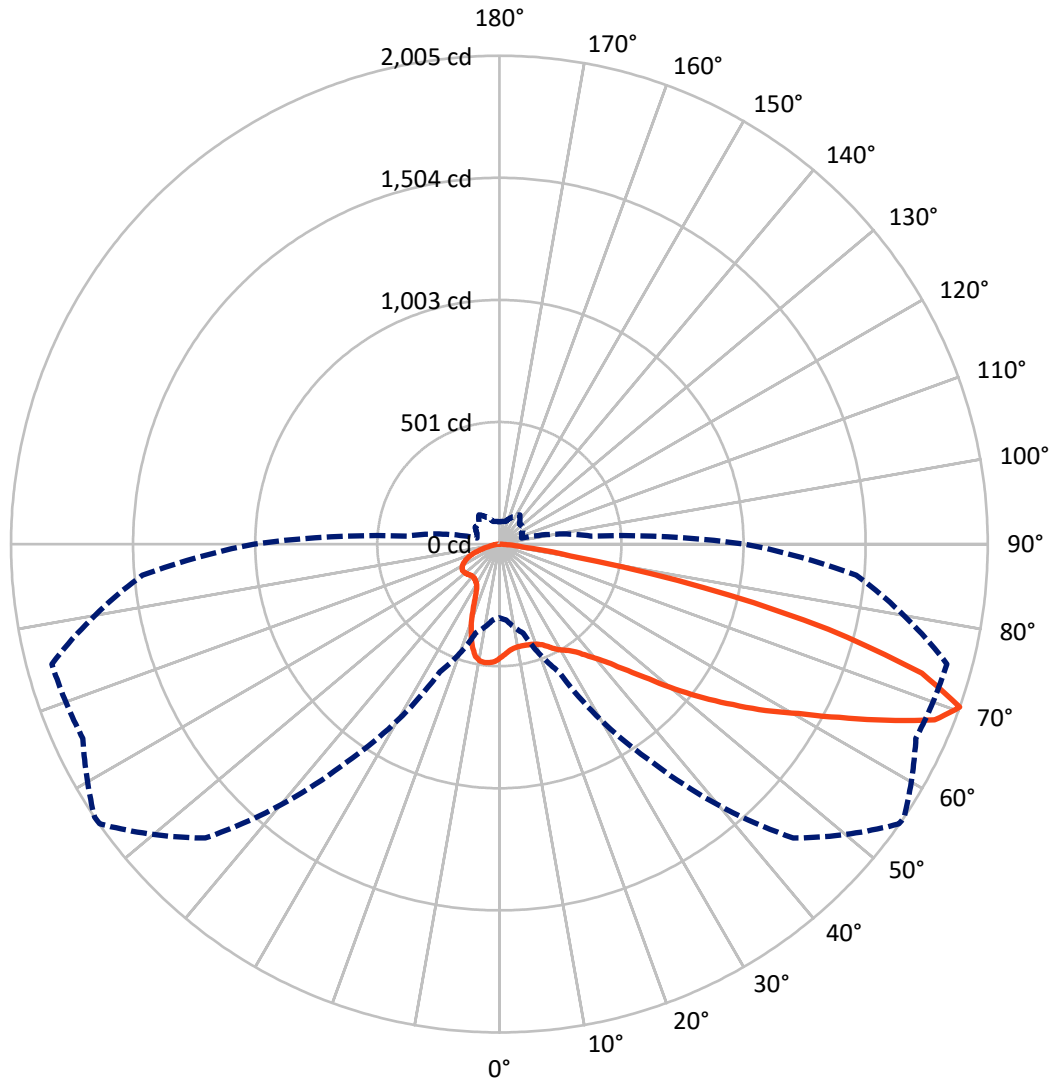
✕ Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P628880
CATALOG NUMBER: GWS-SA1A-740-U-T3R-W

Luminous Intensity Polar Plot



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

REPORT NUMBER: P628880

CATALOG NUMBER: GWS-SA1A-740-U-T3R-W

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 555.8 | 0.0 | 555.8 |
| | % Fixture | 19.2 | 0.0 | 19.2 |
| Street Side | Lumens | 2335.2 | 0.0 | 2335.2 |
| | % Fixture | 80.8 | 0.0 | 80.8 |
| Total | Lumens | 2891.0 | 0.0 | 2891.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 43.2 | 1.5 |
| 10°-20° | 117.0 | 4.0 |
| 20°-30° | 193.4 | 6.7 |
| 30°-40° | 289.2 | 10.0 |
| 40°-50° | 430.4 | 14.9 |
| 50°-60° | 611.9 | 21.2 |
| 60°-70° | 757.9 | 26.2 |
| 70°-80° | 418.5 | 14.5 |
| 80°-90° | 29.5 | 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° | 2891.0 | 100.0 |
| 0°-180° | 2891.0 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P628880

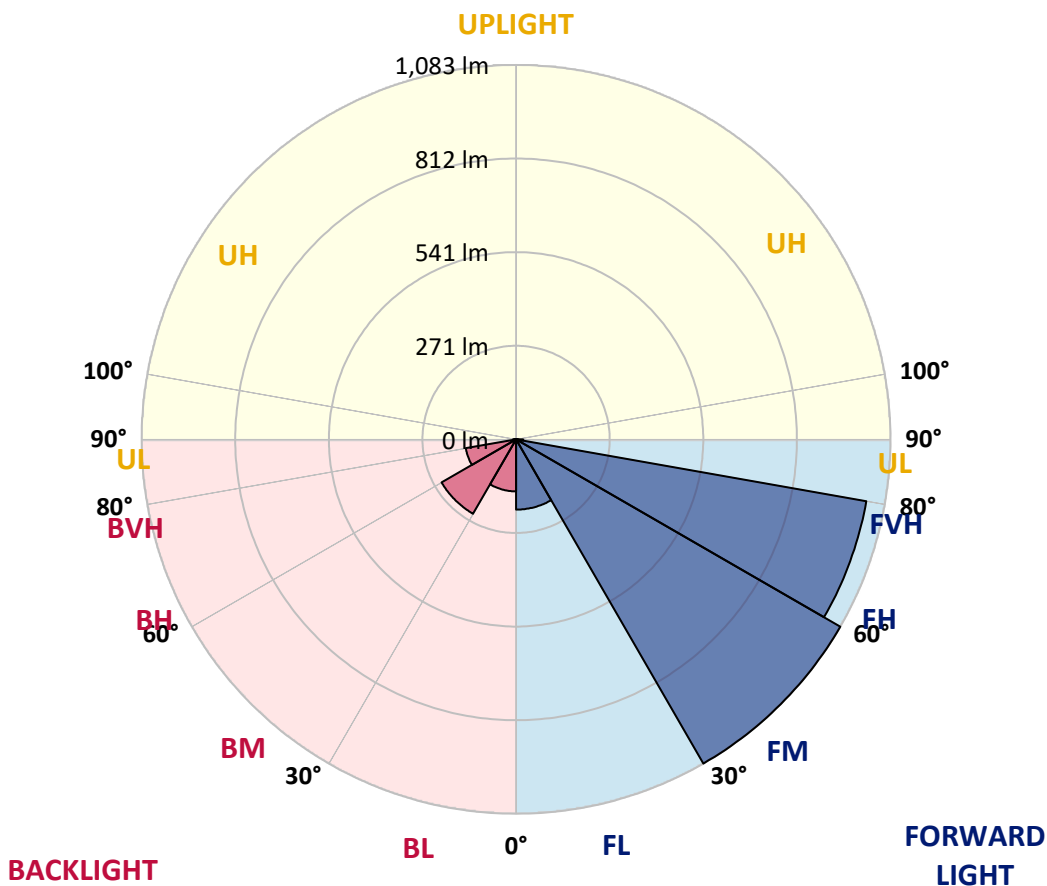
CATALOG NUMBER: GWS-SA1A-740-U-T3R-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 203.2 | 7.0 | | | |
| FM (30°-60°) | 1082.9 | 37.5 | | | |
| FH (60°-80°) | 1028.6 | 35.6 | | | G1/1800 |
| FVH (80°-90°) | 20.5 | 0.7 | | | G1/100 |
| BL (0°-30°) | 150.5 | 5.2 | B1/500 | | |
| BM (30°-60°) | 248.6 | 8.6 | B1/1000 | | |
| BH (60°-80°) | 147.7 | 5.1 | B1/500 | | G1/500 |
| BVH (80°-90°) | 9.0 | 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: P628880
 CATALOG NUMBER: GWS-SA1A-740-U-T3R-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 56° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 |
| 2.5° | 436.7 | 434.2 | 437.1 | 438.5 | 442.2 | 447.5 | 452.2 | 452.4 | 454.8 | 460.7 | 466.4 |
| 5° | 416.9 | 415.7 | 416.5 | 420.8 | 424.7 | 431.4 | 438.5 | 439.1 | 446.1 | 457.7 | 469.1 |
| 7.5° | 401.6 | 400.0 | 403.0 | 408.5 | 413.4 | 421.0 | 430.4 | 431.2 | 441.0 | 458.5 | 476.0 |
| 10° | 379.6 | 378.4 | 384.1 | 391.4 | 402.0 | 414.5 | 426.9 | 427.9 | 440.8 | 463.8 | 488.3 |
| 12.5° | 370.0 | 370.0 | 372.5 | 379.4 | 391.0 | 407.5 | 426.3 | 427.9 | 444.0 | 472.0 | 504.0 |
| 15° | 384.9 | 385.9 | 383.9 | 383.5 | 388.2 | 403.9 | 427.1 | 429.5 | 450.1 | 480.3 | 519.5 |
| 17.5° | 414.9 | 415.9 | 410.6 | 402.2 | 397.5 | 407.3 | 430.2 | 432.8 | 456.7 | 489.5 | 536.2 |
| 20° | 456.9 | 458.1 | 446.5 | 433.6 | 417.5 | 417.3 | 436.1 | 438.5 | 465.0 | 499.5 | 553.9 |
| 22.5° | 506.0 | 506.8 | 492.1 | 471.7 | 447.1 | 435.9 | 446.3 | 448.7 | 475.8 | 513.3 | 573.1 |
| 25° | 562.9 | 565.3 | 547.6 | 518.0 | 484.6 | 461.4 | 463.2 | 466.0 | 495.2 | 531.9 | 595.7 |
| 27.5° | 623.6 | 626.7 | 606.3 | 573.7 | 527.6 | 489.5 | 485.0 | 487.4 | 515.8 | 543.3 | 607.7 |
| 30° | 685.8 | 688.1 | 667.7 | 630.4 | 573.9 | 521.3 | 503.3 | 504.8 | 524.8 | 548.8 | 620.0 |
| 32.5° | 754.9 | 753.1 | 733.5 | 690.5 | 627.3 | 559.4 | 520.5 | 520.1 | 534.7 | 559.8 | 637.5 |
| 35° | 819.7 | 822.4 | 801.6 | 754.1 | 686.0 | 606.5 | 546.2 | 544.5 | 555.9 | 577.8 | 662.2 |
| 37.5° | 898.2 | 897.4 | 872.6 | 821.2 | 744.9 | 651.6 | 582.2 | 579.4 | 583.5 | 605.7 | 696.6 |
| 40° | 954.3 | 960.0 | 943.9 | 896.0 | 813.8 | 707.0 | 624.4 | 618.1 | 619.1 | 640.1 | 742.7 |
| 42.5° | 1000.2 | 1005.5 | 1007.1 | 976.5 | 892.7 | 775.5 | 677.0 | 670.7 | 671.3 | 701.1 | 799.4 |
| 45° | 1035.4 | 1042.6 | 1065.6 | 1056.6 | 981.6 | 854.6 | 748.2 | 741.7 | 742.1 | 775.1 | 867.9 |
| 47.5° | 1049.9 | 1057.7 | 1104.3 | 1125.8 | 1076.0 | 949.2 | 836.7 | 827.1 | 828.5 | 865.0 | 946.1 |
| 50° | 1045.2 | 1055.6 | 1118.8 | 1179.0 | 1155.1 | 1045.4 | 942.5 | 935.8 | 930.2 | 983.3 | 1031.2 |
| 52.5° | 1004.9 | 1016.3 | 1117.4 | 1212.8 | 1219.7 | 1136.4 | 1051.8 | 1047.9 | 1046.7 | 1108.8 | 1126.2 |
| 55° | 886.0 | 905.2 | 1068.3 | 1221.8 | 1270.3 | 1222.0 | 1170.2 | 1163.7 | 1170.0 | 1243.4 | 1222.2 |
| 57.5° | 820.2 | 834.4 | 972.0 | 1211.8 | 1311.7 | 1303.5 | 1288.4 | 1289.1 | 1296.2 | 1389.6 | 1338.6 |
| 60° | 782.6 | 799.4 | 918.6 | 1184.5 | 1351.4 | 1402.6 | 1412.2 | 1412.2 | 1425.0 | 1547.1 | 1456.8 |
| 62.5° | 732.9 | 749.8 | 868.7 | 1131.9 | 1388.1 | 1519.2 | 1567.7 | 1567.1 | 1572.2 | 1716.2 | 1572.4 |
| 65° | 632.0 | 647.7 | 768.4 | 1048.9 | 1406.1 | 1647.7 | 1744.5 | 1742.7 | 1732.5 | 1866.6 | 1648.9 |
| 67.5° | 458.9 | 473.8 | 588.6 | 891.1 | 1341.4 | 1751.2 | 1926.5 | 1927.4 | 1866.4 | 1961.4 | 1653.0 |
| 70° | 302.5 | 312.7 | 378.4 | 578.8 | 1090.9 | 1706.6 | 2002.8 | 2005.2 | 1887.0 | 1902.3 | 1471.1 |
| 72.5° | 188.8 | 195.9 | 236.3 | 345.1 | 644.6 | 1350.8 | 1807.1 | 1813.8 | 1697.6 | 1671.7 | 1208.7 |
| 75° | 125.4 | 130.3 | 157.2 | 201.2 | 298.3 | 731.1 | 1373.7 | 1395.3 | 1360.6 | 1310.5 | 842.2 |
| 77.5° | 75.4 | 79.5 | 100.1 | 127.8 | 132.1 | 285.6 | 801.8 | 857.7 | 862.6 | 684.2 | 352.7 |
| 80° | 34.5 | 39.1 | 55.2 | 73.0 | 70.3 | 99.5 | 282.8 | 295.8 | 349.0 | 217.3 | 111.3 |
| 82.5° | 20.4 | 22.4 | 36.7 | 36.3 | 30.0 | 48.3 | 101.7 | 104.4 | 88.7 | 79.5 | 47.5 |
| 85° | 8.2 | 9.6 | 15.5 | 13.7 | 11.0 | 15.7 | 38.3 | 40.2 | 38.5 | 34.7 | 17.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.2 | 0.4 | 3.5 | 3.7 | 5.3 | 9.6 | 5.3 |
| 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: P628880
 CATALOG NUMBER: GWS-SA1A-740-U-T3R-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 | 466.7 |
| 2.5° | 470.1 | 468.9 | 475.0 | 479.7 | 481.7 | 483.8 | 481.9 | 481.3 | 481.3 | 477.3 | 475.2 |
| 5° | 475.2 | 475.8 | 484.2 | 488.1 | 488.1 | 486.4 | 481.5 | 478.1 | 476.8 | 471.5 | 470.1 |
| 7.5° | 484.8 | 487.4 | 495.2 | 495.0 | 489.3 | 480.3 | 468.1 | 458.7 | 450.1 | 446.5 | 444.2 |
| 10° | 500.5 | 504.0 | 509.3 | 500.7 | 484.8 | 461.1 | 435.3 | 414.9 | 402.6 | 392.9 | 392.9 |
| 12.5° | 518.4 | 521.7 | 520.7 | 500.9 | 468.1 | 423.8 | 386.5 | 363.1 | 346.0 | 337.0 | 337.0 |
| 15° | 536.4 | 539.0 | 528.0 | 491.5 | 433.2 | 374.3 | 333.5 | 305.4 | 290.5 | 282.2 | 282.2 |
| 17.5° | 554.5 | 554.3 | 531.1 | 469.9 | 387.8 | 319.5 | 279.5 | 257.7 | 252.6 | 251.2 | 251.0 |
| 20° | 572.1 | 567.4 | 527.2 | 433.8 | 335.0 | 264.2 | 238.9 | 240.4 | 247.9 | 251.2 | 251.6 |
| 22.5° | 591.8 | 580.2 | 515.8 | 387.8 | 275.0 | 225.9 | 227.5 | 239.3 | 250.3 | 255.2 | 255.9 |
| 25° | 612.0 | 591.2 | 496.6 | 333.7 | 224.9 | 211.8 | 224.5 | 237.7 | 250.1 | 256.5 | 257.1 |
| 27.5° | 620.2 | 591.2 | 464.0 | 271.1 | 198.2 | 205.9 | 219.8 | 232.6 | 245.7 | 253.0 | 254.4 |
| 30° | 626.9 | 586.1 | 418.3 | 214.7 | 187.2 | 200.2 | 212.2 | 224.0 | 236.9 | 245.9 | 247.5 |
| 32.5° | 636.3 | 581.6 | 363.1 | 180.4 | 182.1 | 194.7 | 203.1 | 213.0 | 224.7 | 230.6 | 230.0 |
| 35° | 647.3 | 574.7 | 296.4 | 164.1 | 177.8 | 190.0 | 195.9 | 201.8 | 196.5 | 196.3 | 196.9 |
| 37.5° | 663.0 | 568.6 | 238.3 | 156.8 | 174.9 | 186.7 | 191.6 | 179.0 | 171.7 | 168.6 | 167.4 |
| 40° | 685.6 | 566.1 | 188.0 | 152.5 | 174.5 | 186.5 | 183.1 | 163.5 | 153.5 | 142.9 | 142.7 |
| 42.5° | 714.1 | 564.3 | 155.3 | 150.5 | 175.9 | 191.2 | 171.2 | 153.3 | 132.7 | 128.0 | 127.6 |
| 45° | 750.8 | 561.5 | 139.0 | 150.0 | 179.4 | 194.9 | 170.0 | 139.2 | 125.2 | 123.1 | 123.1 |
| 47.5° | 795.1 | 557.0 | 131.7 | 150.0 | 183.3 | 193.3 | 166.4 | 136.2 | 121.7 | 124.0 | 125.4 |
| 50° | 845.8 | 551.3 | 127.8 | 149.6 | 187.2 | 193.3 | 158.6 | 135.6 | 120.9 | 132.5 | 137.2 |
| 52.5° | 900.1 | 544.7 | 125.2 | 148.0 | 189.8 | 193.5 | 159.0 | 137.6 | 121.7 | 134.6 | 138.4 |
| 55° | 960.0 | 543.7 | 121.5 | 144.5 | 190.6 | 188.2 | 160.0 | 142.1 | 122.9 | 121.9 | 122.1 |
| 57.5° | 1035.6 | 555.9 | 118.9 | 139.4 | 187.4 | 177.4 | 162.1 | 145.4 | 121.5 | 121.7 | 123.1 |
| 60° | 1114.7 | 579.0 | 121.1 | 134.6 | 180.6 | 167.2 | 163.5 | 143.7 | 114.6 | 111.3 | 111.7 |
| 62.5° | 1182.0 | 596.5 | 122.9 | 132.3 | 170.8 | 158.2 | 162.1 | 140.1 | 110.7 | 109.9 | 111.7 |
| 65° | 1210.2 | 582.0 | 118.4 | 127.6 | 156.6 | 147.2 | 159.0 | 135.4 | 107.4 | 104.4 | 104.6 |
| 67.5° | 1179.0 | 514.2 | 109.7 | 117.2 | 140.5 | 133.1 | 154.1 | 129.3 | 103.0 | 99.3 | 98.5 |
| 70° | 1007.1 | 377.8 | 94.6 | 100.7 | 120.9 | 116.6 | 146.6 | 121.3 | 95.8 | 93.2 | 91.3 |
| 72.5° | 811.6 | 267.5 | 78.5 | 80.1 | 94.8 | 98.3 | 133.5 | 111.3 | 87.7 | 80.1 | 77.5 |
| 75° | 564.9 | 168.0 | 65.4 | 63.8 | 68.5 | 75.0 | 104.2 | 92.4 | 75.6 | 67.7 | 65.2 |
| 77.5° | 243.0 | 86.2 | 51.2 | 50.4 | 45.7 | 52.0 | 79.9 | 77.1 | 63.4 | 54.2 | 52.8 |
| 80° | 81.3 | 49.9 | 36.9 | 35.5 | 30.4 | 36.5 | 56.3 | 61.6 | 49.7 | 40.2 | 37.7 |
| 82.5° | 40.8 | 28.9 | 23.4 | 21.2 | 20.4 | 23.0 | 33.2 | 38.3 | 34.5 | 27.7 | 23.4 |
| 85° | 20.0 | 16.5 | 12.8 | 12.6 | 10.6 | 10.0 | 13.9 | 16.3 | 15.5 | 11.4 | 10.8 |
| 87.5° | 7.3 | 6.5 | 4.1 | 3.3 | 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

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 |

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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

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)