

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: P630807

Luminaire Tested: GWS-SA1E-735-U-T4W-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P630807
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-52)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA1E-735-U-T4W-W
Description: GALLEON WALL SLIM LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS
Light Source: (16) 3500K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7409.7 lumens
Efficiency: N/A
Efficacy: 126.9 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

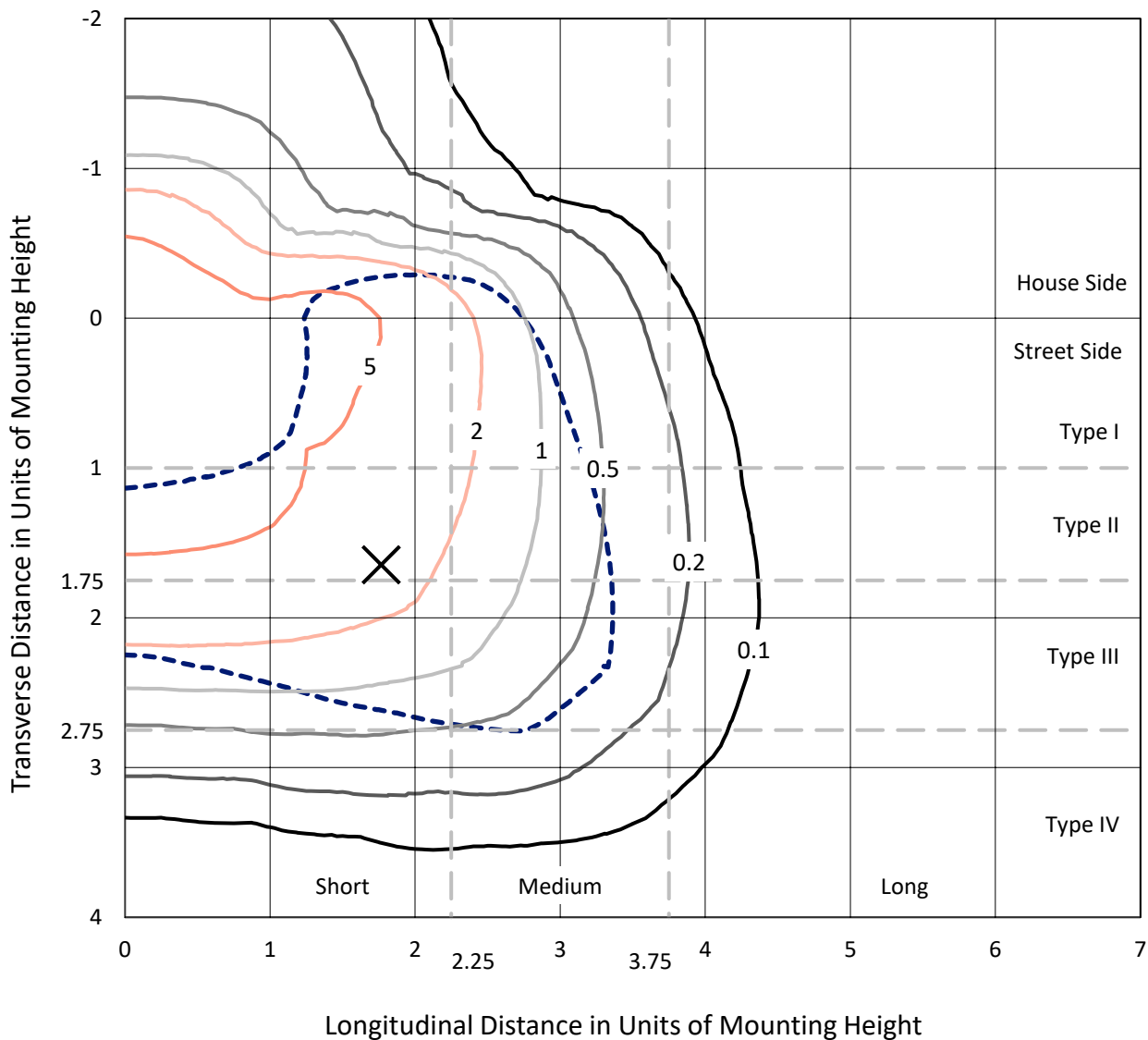
Input Watts (W): 58.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P630807
 CATALOG NUMBER: GWS-SA1E-735-U-T4W-W

Iso-Footcandle Lines of Horizontal Illumination

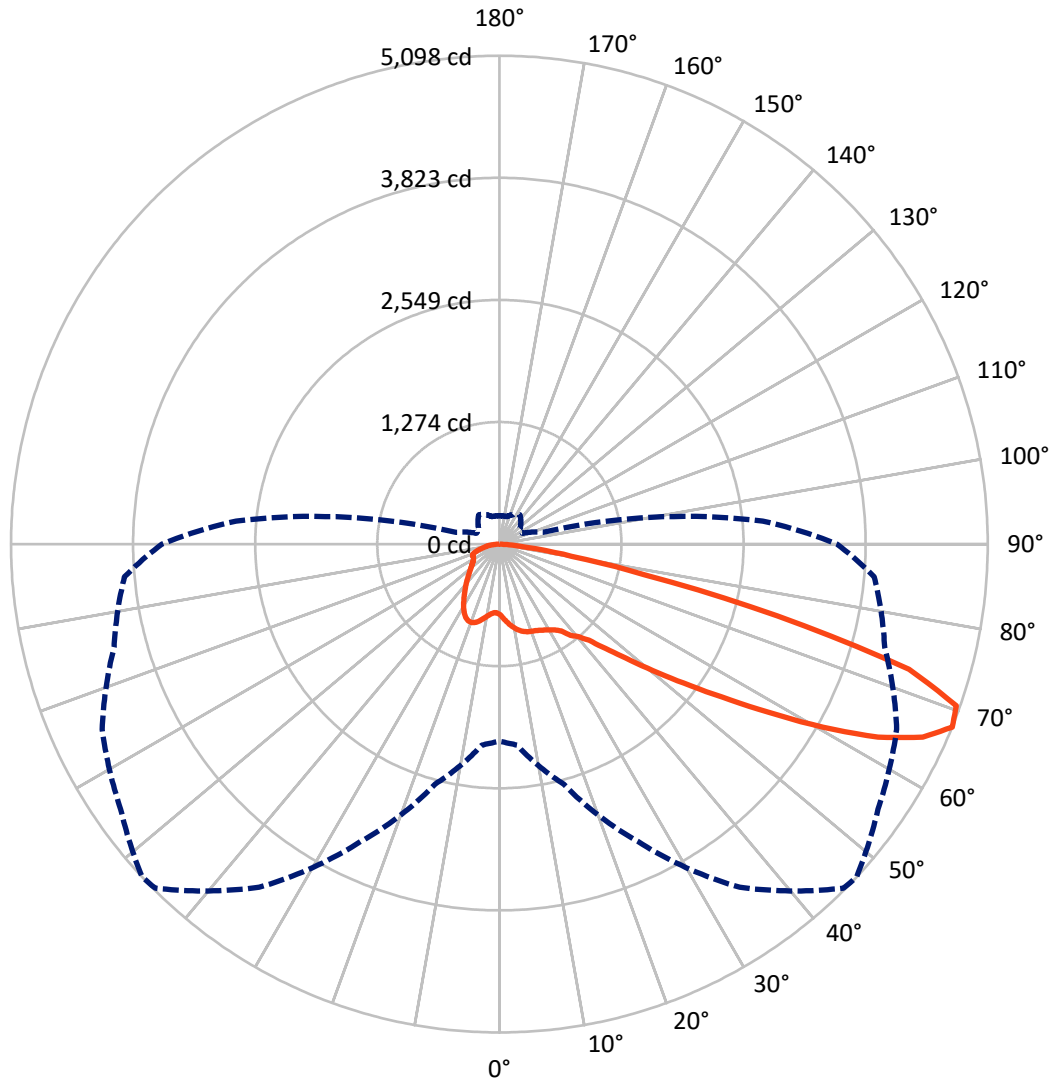
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.2 fc
 Type III - Short - N/A

REPORT NUMBER: P630807
CATALOG NUMBER: GWS-SA1E-735-U-T4W-W

Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P630807

CATALOG NUMBER: GWS-SA1E-735-U-T4W-W

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1688.7 | 0.0 | 1688.7 |
| | % Fixture | 22.8 | 0.0 | 22.8 |
| Street Side | Lumens | 5721.0 | 0.0 | 5721.0 |
| | % Fixture | 77.2 | 0.0 | 77.2 |
| Total | Lumens | 7409.7 | 0.0 | 7409.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 75.1 | 1.0 |
| 10°-20° | 250.1 | 3.4 |
| 20°-30° | 425.1 | 5.7 |
| 30°-40° | 622.7 | 8.4 |
| 40°-50° | 948.8 | 12.8 |
| 50°-60° | 1697.7 | 22.9 |
| 60°-70° | 2265.3 | 30.6 |
| 70°-80° | 1024.4 | 13.8 |
| 80°-90° | 100.4 | 1.4 |
| 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° | 7409.7 | 100.0 |
| 0°-180° | 7409.7 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P630807

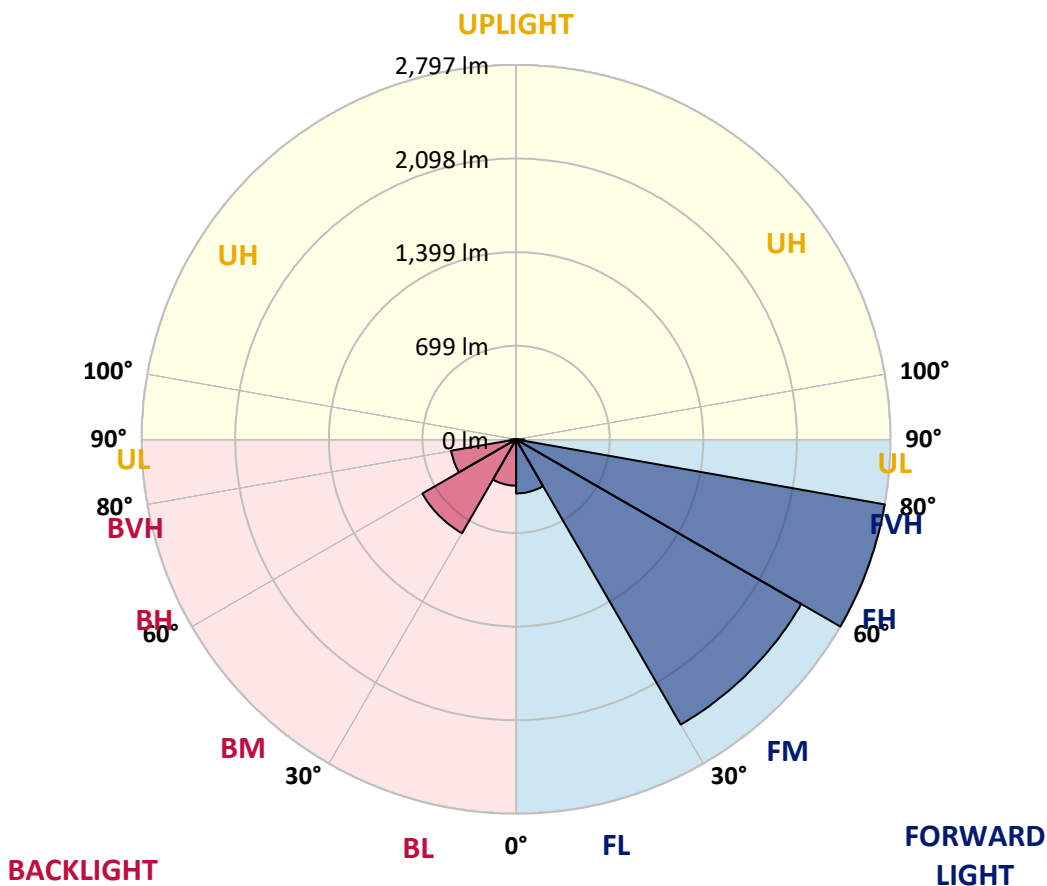
CATALOG NUMBER: GWS-SA1E-735-U-T4W-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 404.1 | 5.5 | | | |
| FM (30°-60°) | 2460.1 | 33.2 | | | |
| FH (60°-80°) | 2797.1 | 37.7 | | | G2/5000 |
| FVH (80°-90°) | 59.7 | 0.8 | | | G1/100 |
| BL (0°-30°) | 346.2 | 4.7 | B1/500 | | |
| BM (30°-60°) | 809.2 | 10.9 | B1/1000 | | |
| BH (60°-80°) | 492.7 | 6.6 | B1/500 | | G1/500 |
| BVH (80°-90°) | 40.7 | 0.5 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type III Short





REPORT NUMBER: P630807
 CATALOG NUMBER: GWS-SA1E-735-U-T4W-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 47° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 |
| 2.5° | 783.3 | 786.0 | 785.4 | 781.1 | 778.5 | 773.6 | 774.2 | 766.7 | 755.4 | 747.9 | 739.4 |
| 5° | 852.4 | 856.7 | 851.3 | 844.4 | 833.7 | 818.1 | 816.5 | 799.4 | 777.9 | 762.9 | 747.4 |
| 7.5° | 912.4 | 915.1 | 908.7 | 896.9 | 881.3 | 860.4 | 856.7 | 836.3 | 809.5 | 786.0 | 763.5 |
| 10° | 959.0 | 962.2 | 953.7 | 938.1 | 917.8 | 896.9 | 894.2 | 873.3 | 844.9 | 817.0 | 788.6 |
| 12.5° | 998.7 | 999.7 | 990.6 | 969.7 | 947.8 | 926.3 | 923.7 | 904.4 | 878.1 | 849.7 | 818.7 |
| 15° | 1021.7 | 1022.2 | 1011.0 | 988.0 | 967.1 | 948.3 | 946.7 | 930.1 | 906.0 | 879.2 | 846.0 |
| 17.5° | 1020.1 | 1021.2 | 1013.1 | 992.8 | 974.6 | 963.3 | 961.7 | 951.0 | 932.2 | 908.1 | 874.9 |
| 20° | 1000.3 | 1001.3 | 996.0 | 982.6 | 973.0 | 969.7 | 970.3 | 967.1 | 955.8 | 936.0 | 902.2 |
| 22.5° | 984.7 | 986.3 | 981.5 | 971.9 | 970.8 | 978.3 | 979.9 | 981.5 | 976.2 | 958.5 | 925.8 |
| 25° | 992.2 | 994.9 | 987.4 | 974.0 | 976.2 | 992.8 | 996.0 | 1001.3 | 997.1 | 982.1 | 953.7 |
| 27.5° | 1044.2 | 1045.8 | 1026.5 | 999.2 | 992.8 | 1010.5 | 1015.3 | 1023.8 | 1020.6 | 1006.7 | 984.7 |
| 30° | 1164.8 | 1163.7 | 1122.4 | 1055.5 | 1028.7 | 1035.6 | 1039.4 | 1051.7 | 1052.8 | 1043.7 | 1022.8 |
| 32.5° | 1334.6 | 1329.2 | 1265.5 | 1158.9 | 1081.2 | 1064.0 | 1068.3 | 1084.9 | 1097.2 | 1087.6 | 1059.2 |
| 35° | 1514.1 | 1509.3 | 1439.1 | 1314.2 | 1178.2 | 1118.7 | 1113.9 | 1126.7 | 1145.5 | 1118.7 | 1078.0 |
| 37.5° | 1685.0 | 1677.5 | 1605.7 | 1451.4 | 1297.6 | 1214.6 | 1207.6 | 1194.8 | 1183.5 | 1132.1 | 1101.0 |
| 40° | 1874.6 | 1866.1 | 1803.4 | 1628.7 | 1429.4 | 1288.0 | 1270.3 | 1219.4 | 1209.2 | 1176.5 | 1161.0 |
| 42.5° | 2077.2 | 2077.2 | 2025.2 | 1853.2 | 1588.5 | 1393.0 | 1370.0 | 1293.3 | 1304.1 | 1282.6 | 1264.4 |
| 45° | 2279.7 | 2285.6 | 2244.3 | 2079.3 | 1801.2 | 1591.2 | 1554.3 | 1445.5 | 1471.2 | 1461.6 | 1452.5 |
| 47.5° | 2452.2 | 2463.5 | 2455.4 | 2310.2 | 2061.6 | 1832.3 | 1776.1 | 1663.0 | 1718.2 | 1741.2 | 1767.0 |
| 50° | 2638.1 | 2650.4 | 2642.4 | 2585.1 | 2366.5 | 2124.3 | 2074.0 | 1957.2 | 2052.0 | 2121.1 | 2205.2 |
| 52.5° | 2914.0 | 2931.7 | 2864.7 | 2842.8 | 2736.7 | 2456.0 | 2410.9 | 2278.1 | 2450.1 | 2564.7 | 2752.2 |
| 55° | 3147.1 | 3146.6 | 3123.0 | 3173.3 | 3134.2 | 2861.5 | 2811.7 | 2691.2 | 2910.8 | 3032.4 | 3306.8 |
| 57.5° | 3255.3 | 3268.2 | 3349.1 | 3491.6 | 3569.8 | 3357.1 | 3309.4 | 3186.2 | 3405.3 | 3468.6 | 3764.8 |
| 60° | 3311.0 | 3327.1 | 3483.6 | 3765.4 | 3975.9 | 3898.2 | 3879.5 | 3722.5 | 3845.7 | 3838.2 | 4151.1 |
| 62.5° | 3232.8 | 3265.0 | 3516.2 | 3890.7 | 4265.8 | 4442.0 | 4436.1 | 4198.8 | 4220.2 | 4146.8 | 4390.6 |
| 65° | 2873.9 | 2908.7 | 3303.0 | 3828.1 | 4431.3 | 4855.7 | 4857.3 | 4630.1 | 4507.9 | 4296.8 | 4350.4 |
| 67.5° | 2055.2 | 2105.0 | 2592.6 | 3425.2 | 4372.9 | 5079.1 | 5097.8 | 4825.6 | 4575.4 | 4164.0 | 3928.2 |
| 70° | 1120.3 | 1156.7 | 1538.7 | 2489.7 | 3846.8 | 5025.5 | 5060.3 | 4731.4 | 4277.6 | 3602.0 | 3023.9 |
| 72.5° | 509.0 | 520.8 | 715.8 | 1366.2 | 2627.9 | 4325.8 | 4471.5 | 4222.4 | 3513.0 | 2660.6 | 1922.9 |
| 75° | 233.1 | 238.4 | 311.8 | 653.6 | 1373.2 | 2894.7 | 2997.1 | 3144.9 | 2444.7 | 1680.2 | 1002.4 |
| 77.5° | 146.3 | 147.9 | 177.3 | 299.0 | 684.7 | 1445.0 | 1552.7 | 1872.5 | 1431.6 | 831.5 | 419.0 |
| 80° | 86.3 | 87.9 | 110.4 | 161.8 | 321.5 | 661.1 | 763.5 | 740.4 | 672.9 | 359.0 | 190.7 |
| 82.5° | 43.4 | 45.0 | 63.8 | 92.2 | 175.2 | 263.1 | 309.7 | 311.3 | 250.7 | 194.5 | 107.7 |
| 85° | 15.5 | 16.1 | 20.9 | 36.4 | 74.5 | 86.8 | 97.0 | 118.4 | 122.7 | 113.0 | 52.0 |
| 87.5° | 0.0 | 0.0 | 0.5 | 1.1 | 2.1 | 8.6 | 9.1 | 17.1 | 35.9 | 40.2 | 20.9 |
| 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: P630807
 CATALOG NUMBER: GWS-SA1E-735-U-T4W-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 | 734.5 |
| 2.5° | 736.7 | 728.6 | 726.0 | 723.3 | 719.0 | 717.4 | 714.2 | 711.0 | 711.0 | 707.7 | 706.1 |
| 5° | 740.4 | 729.7 | 722.7 | 719.5 | 716.9 | 718.5 | 718.5 | 719.5 | 723.3 | 721.1 | 722.2 |
| 7.5° | 753.8 | 741.5 | 731.9 | 729.2 | 729.2 | 735.6 | 739.9 | 745.3 | 752.2 | 753.3 | 753.3 |
| 10° | 777.4 | 762.9 | 752.8 | 751.1 | 753.8 | 762.9 | 769.4 | 775.8 | 784.4 | 784.9 | 786.0 |
| 12.5° | 803.1 | 788.6 | 778.5 | 780.6 | 783.3 | 795.1 | 802.0 | 807.4 | 816.0 | 816.0 | 815.4 |
| 15° | 829.9 | 813.8 | 805.3 | 809.5 | 817.6 | 831.0 | 832.0 | 832.6 | 836.9 | 835.8 | 835.3 |
| 17.5° | 857.8 | 840.6 | 834.2 | 840.6 | 849.2 | 855.6 | 850.3 | 842.8 | 841.2 | 839.0 | 837.9 |
| 20° | 885.1 | 867.4 | 864.7 | 869.5 | 872.2 | 866.9 | 850.3 | 836.3 | 829.9 | 826.7 | 825.6 |
| 22.5° | 908.7 | 893.7 | 892.1 | 892.1 | 878.7 | 859.9 | 835.3 | 816.5 | 807.9 | 803.6 | 802.6 |
| 25° | 936.5 | 922.6 | 919.9 | 905.4 | 871.2 | 836.9 | 803.6 | 786.5 | 779.5 | 777.4 | 777.9 |
| 27.5° | 969.2 | 959.6 | 951.0 | 909.7 | 849.7 | 796.1 | 758.6 | 751.1 | 748.5 | 751.1 | 752.8 |
| 30° | 1009.4 | 999.7 | 980.5 | 904.4 | 815.4 | 743.1 | 707.2 | 706.7 | 714.7 | 721.7 | 722.7 |
| 32.5° | 1042.1 | 1037.8 | 1006.2 | 887.2 | 767.2 | 684.7 | 654.2 | 656.3 | 670.8 | 680.4 | 682.0 |
| 35° | 1067.8 | 1074.7 | 1027.6 | 858.8 | 709.9 | 629.5 | 605.4 | 606.5 | 614.5 | 627.9 | 628.5 |
| 37.5° | 1104.2 | 1127.8 | 1046.9 | 815.4 | 644.0 | 581.8 | 559.9 | 551.8 | 550.8 | 554.5 | 555.6 |
| 40° | 1177.6 | 1213.0 | 1060.8 | 752.2 | 580.2 | 539.0 | 514.3 | 498.8 | 485.4 | 475.2 | 472.0 |
| 42.5° | 1288.5 | 1329.2 | 1068.9 | 675.6 | 523.4 | 496.7 | 468.8 | 449.0 | 425.4 | 404.0 | 396.5 |
| 45° | 1492.1 | 1505.5 | 1068.9 | 594.2 | 473.1 | 457.0 | 429.1 | 405.6 | 375.6 | 350.4 | 345.0 |
| 47.5° | 1817.9 | 1775.0 | 1069.9 | 515.4 | 428.6 | 422.2 | 398.1 | 371.3 | 338.1 | 317.2 | 314.0 |
| 50° | 2308.6 | 2158.1 | 1091.9 | 450.0 | 391.6 | 392.7 | 375.0 | 345.6 | 315.6 | 300.0 | 297.4 |
| 52.5° | 2864.7 | 2630.1 | 1150.8 | 401.8 | 360.6 | 368.6 | 359.0 | 330.6 | 303.8 | 290.4 | 287.7 |
| 55° | 3387.7 | 3064.0 | 1201.2 | 367.5 | 334.3 | 348.2 | 347.7 | 321.5 | 297.4 | 284.0 | 282.3 |
| 57.5° | 3832.3 | 3361.4 | 1193.7 | 339.7 | 311.8 | 329.5 | 337.5 | 315.6 | 293.1 | 281.8 | 280.2 |
| 60° | 4108.8 | 3518.9 | 1087.1 | 314.0 | 294.7 | 316.1 | 331.6 | 314.0 | 295.2 | 292.5 | 293.1 |
| 62.5° | 4228.8 | 3490.0 | 882.4 | 294.7 | 283.4 | 309.7 | 338.1 | 325.2 | 315.0 | 321.5 | 325.2 |
| 65° | 4042.4 | 3241.4 | 649.3 | 280.2 | 272.7 | 311.3 | 353.1 | 342.9 | 315.0 | 319.3 | 320.9 |
| 67.5° | 3524.8 | 2759.2 | 469.3 | 265.7 | 259.3 | 316.1 | 374.5 | 340.2 | 296.8 | 296.8 | 293.6 |
| 70° | 2540.1 | 1984.5 | 340.7 | 251.3 | 245.9 | 309.1 | 375.6 | 322.0 | 275.9 | 274.3 | 266.3 |
| 72.5° | 1528.5 | 1170.6 | 265.7 | 235.2 | 225.6 | 274.3 | 352.0 | 300.6 | 255.6 | 242.2 | 232.5 |
| 75° | 794.0 | 586.7 | 222.9 | 217.5 | 193.4 | 232.5 | 322.0 | 267.3 | 218.6 | 206.8 | 201.4 |
| 77.5° | 340.2 | 274.3 | 191.3 | 193.9 | 160.7 | 195.6 | 259.8 | 231.5 | 193.9 | 178.9 | 174.1 |
| 80° | 167.7 | 155.9 | 151.1 | 155.4 | 128.6 | 151.1 | 224.0 | 202.5 | 164.5 | 147.3 | 140.4 |
| 82.5° | 95.9 | 91.1 | 108.8 | 110.4 | 91.6 | 126.4 | 189.1 | 171.4 | 136.1 | 117.3 | 106.1 |
| 85° | 44.5 | 47.7 | 65.9 | 66.4 | 56.8 | 86.8 | 123.8 | 96.4 | 72.3 | 60.0 | 57.3 |
| 87.5° | 17.7 | 20.9 | 28.9 | 28.4 | 16.6 | 16.1 | 10.7 | 5.9 | 4.8 | 4.3 | 3.8 |
| 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 |

REPORT NUMBER: SP1-2101-121-7

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 ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | 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)