

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



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P383064

Luminaire Tested: **GLEON-SA4A-735-U-T2R-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P383064
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-9)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA4A-735-U-T2R-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(4) 70 CRI, 3500K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
ROADWAY OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14135.3 lumens
Efficiency: N/A
Efficacy: 109.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G2

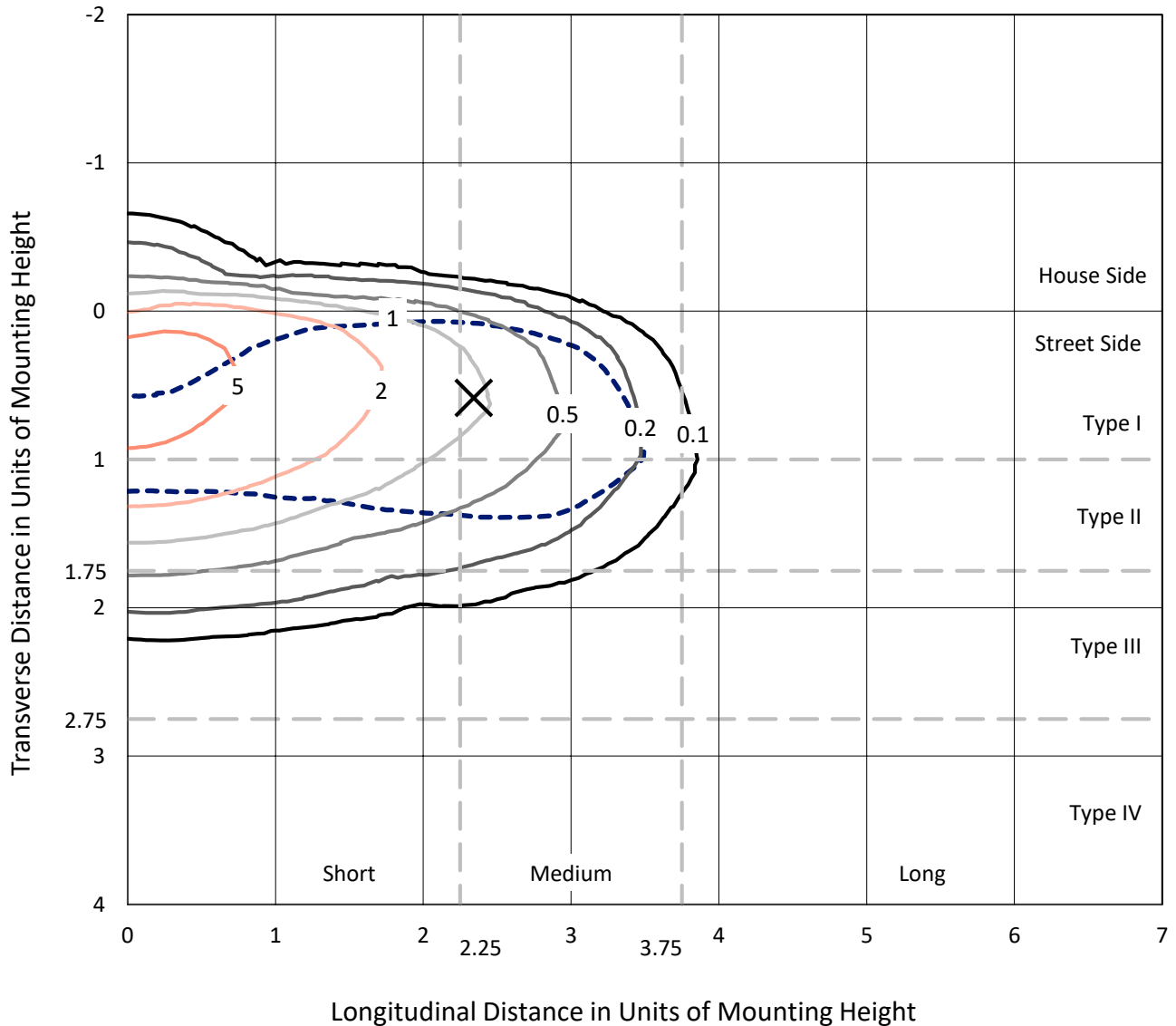
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P383064
 CATALOG NUMBER: GLEON-SA4A-735-U-T2R-HSS

Iso-Footcandle Lines of Horizontal Illumination

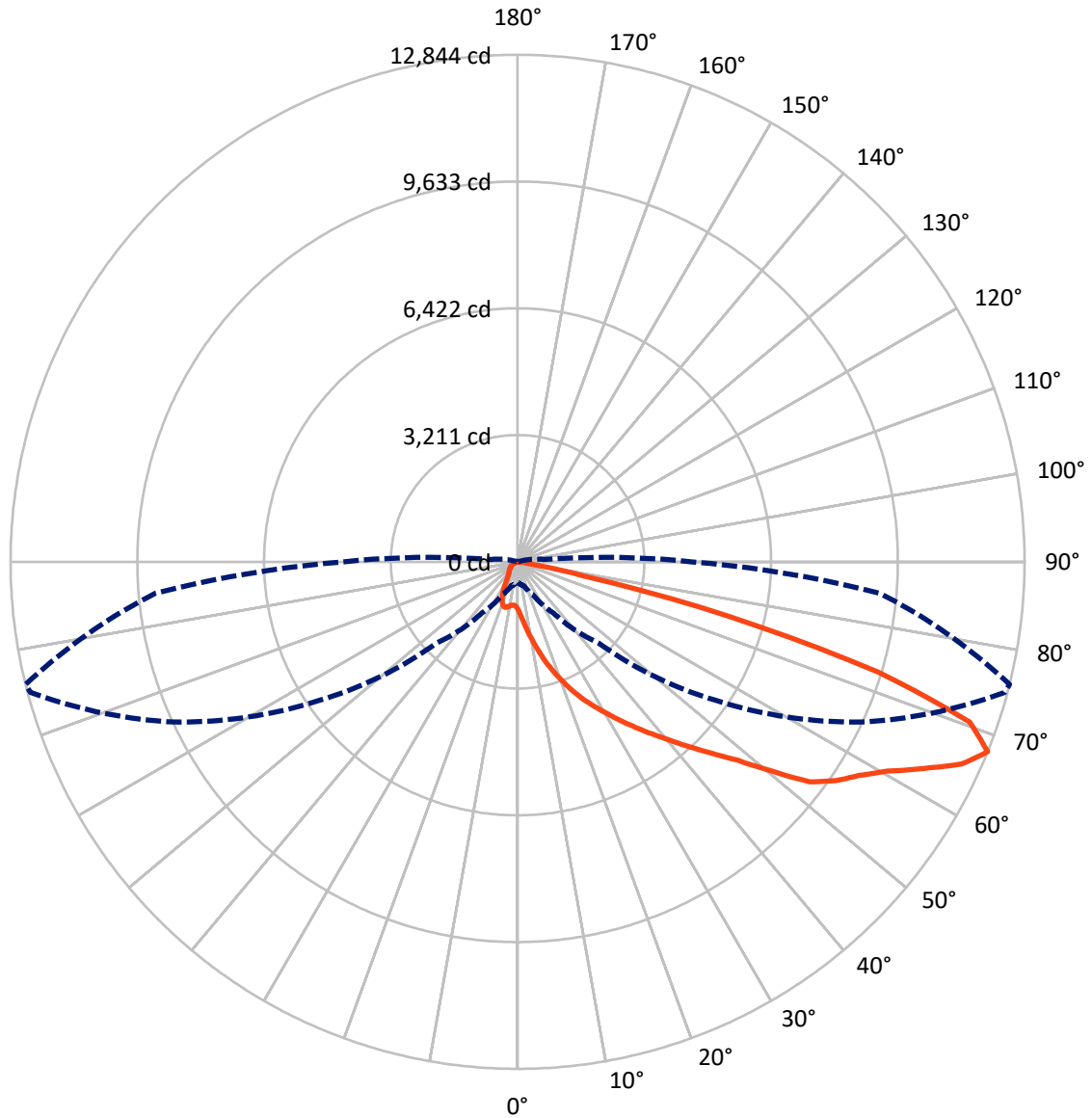
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.8 fc
 Type II - Medium - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 701.9 | 0.0 | 701.9 |
| | % Fixture | 5.0 | 0.0 | 5.0 |
| Street Side | Lumens | 13433.4 | 0.0 | 13433.4 |
| | % Fixture | 95.0 | 0.0 | 95.0 |
| Total | Lumens | 14135.3 | 0.0 | 14135.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 149.1 | 1.1 |
| 10°-20° | 591.1 | 4.2 |
| 20°-30° | 1202.6 | 8.5 |
| 30°-40° | 2087.4 | 14.8 |
| 40°-50° | 2949.2 | 20.9 |
| 50°-60° | 3344.5 | 23.7 |
| 60°-70° | 2774.0 | 19.6 |
| 70°-80° | 1004.8 | 7.1 |
| 80°-90° | 32.6 | 0.2 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-90° | 14135.3 | 100.0 |
| 0°-180° | 14135.3 | 100.0 |

Coefficient of Utilization

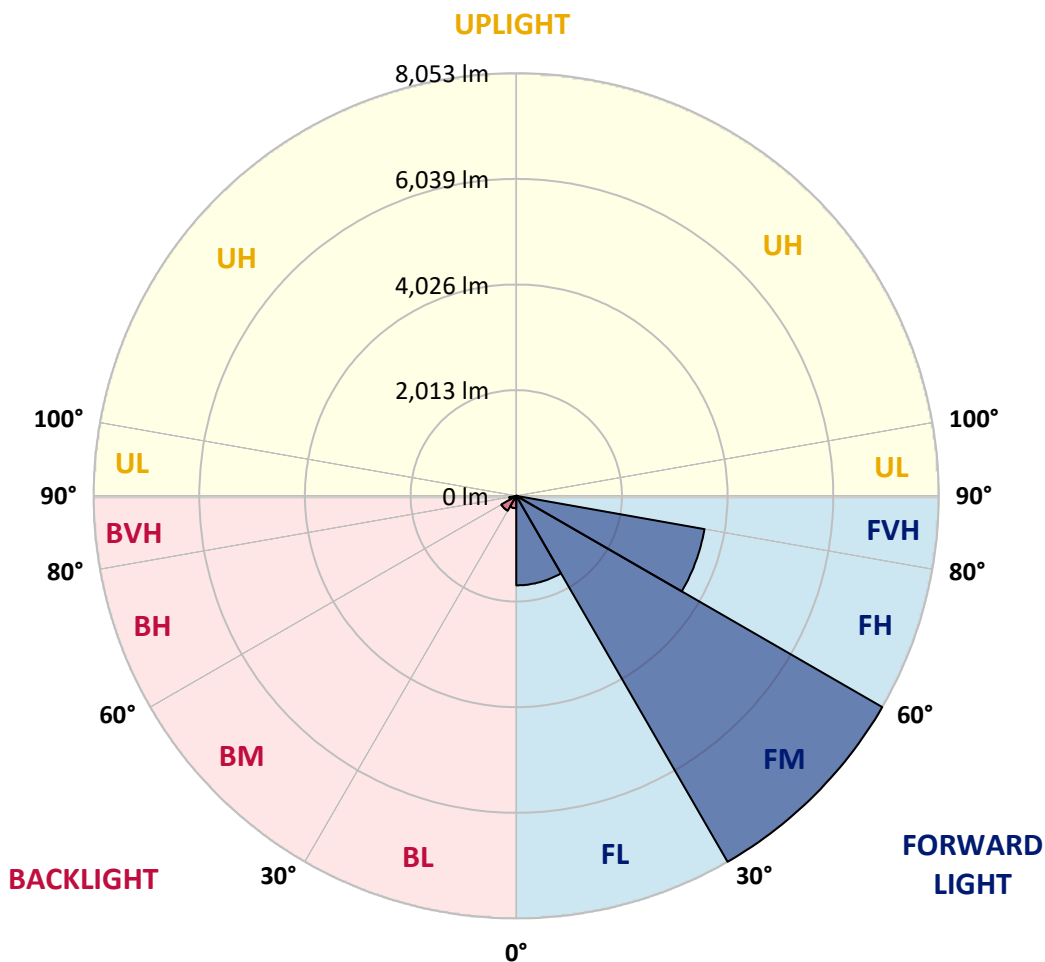


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1706.1 | 12.1 | | | |
| FM (30°-60°) | 8052.6 | 57.0 | | | |
| FH (60°-80°) | 3643.1 | 25.8 | | | G2/5000 |
| FVH (80°-90°) | 31.6 | 0.2 | | | G1/100 |
| BL (0°-30°) | 236.7 | 1.7 | B1/500 | | |
| BM (30°-60°) | 328.5 | 2.3 | B1/1000 | | |
| BH (60°-80°) | 135.6 | 1.0 | B1/500 | | G1/500 |
| BVH (80°-90°) | 1.0 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2
 Type II Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 0° | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 |
| 2.5° | 1790.0 | 1749.7 | 1758.9 | 1733.0 | 1685.9 | 1589.3 | 1506.9 | 1428.9 | 1337.8 | 1334.7 | 1259.8 |
| 5° | 2413.6 | 2379.5 | 2375.3 | 2322.6 | 2237.1 | 2073.0 | 1913.2 | 1731.1 | 1527.9 | 1513.1 | 1353.9 |
| 7.5° | 2979.7 | 2952.5 | 2942.6 | 2880.1 | 2720.9 | 2561.1 | 2353.0 | 2085.4 | 1767.6 | 1740.4 | 1480.9 |
| 10° | 3414.5 | 3401.5 | 3404.0 | 3359.4 | 3223.2 | 3074.5 | 2801.3 | 2460.1 | 2039.5 | 1997.4 | 1633.3 |
| 12.5° | 3744.1 | 3747.2 | 3769.4 | 3742.2 | 3666.0 | 3555.7 | 3264.0 | 2859.6 | 2340.6 | 2282.9 | 1807.3 |
| 15° | 3986.2 | 4001.6 | 4042.5 | 4076.6 | 4071.0 | 3975.7 | 3708.1 | 3265.3 | 2660.1 | 2596.3 | 2001.2 |
| 17.5° | 4142.9 | 4160.3 | 4219.7 | 4295.3 | 4364.7 | 4342.3 | 4136.7 | 3656.7 | 2983.5 | 2909.8 | 2208.6 |
| 20° | 4280.4 | 4300.9 | 4364.7 | 4464.3 | 4593.8 | 4621.7 | 4486.6 | 4036.4 | 3306.2 | 3216.4 | 2423.0 |
| 22.5° | 4578.3 | 4577.7 | 4616.7 | 4675.0 | 4798.2 | 4870.0 | 4784.5 | 4388.8 | 3625.1 | 3531.6 | 2641.6 |
| 25° | 5117.2 | 5096.7 | 5083.1 | 5037.3 | 5064.5 | 5109.1 | 5061.4 | 4718.3 | 3945.9 | 3851.2 | 2863.3 |
| 27.5° | 5757.6 | 5770.0 | 5659.7 | 5536.5 | 5441.1 | 5395.2 | 5317.2 | 5023.6 | 4254.4 | 4150.3 | 3080.1 |
| 30° | 6433.3 | 6437.0 | 6306.9 | 6149.6 | 5939.6 | 5765.6 | 5630.6 | 5315.3 | 4571.5 | 4458.2 | 3290.7 |
| 32.5° | 7042.8 | 7018.6 | 6889.8 | 6675.5 | 6410.4 | 6214.6 | 5934.1 | 5641.2 | 4907.2 | 4797.6 | 3524.8 |
| 35° | 7525.9 | 7497.4 | 7340.7 | 7145.5 | 6870.5 | 6673.6 | 6336.1 | 5966.3 | 5260.3 | 5153.0 | 3759.5 |
| 37.5° | 7878.9 | 7845.4 | 7684.4 | 7483.8 | 7246.5 | 7131.9 | 6802.4 | 6320.0 | 5645.5 | 5530.3 | 4006.7 |
| 40° | 8001.5 | 7972.4 | 7871.5 | 7724.7 | 7533.9 | 7507.9 | 7297.3 | 6726.9 | 6064.7 | 5942.2 | 4286.6 |
| 42.5° | 7928.4 | 7900.0 | 7864.0 | 7814.5 | 7735.2 | 7760.0 | 7764.4 | 7190.8 | 6530.5 | 6409.8 | 4595.7 |
| 45° | 7638.6 | 7613.2 | 7650.3 | 7722.8 | 7821.3 | 7944.0 | 8190.4 | 7689.4 | 7050.8 | 6922.0 | 4953.0 |
| 47.5° | 7211.9 | 7193.2 | 7296.1 | 7477.0 | 7764.9 | 8103.1 | 8580.0 | 8213.4 | 7634.9 | 7515.4 | 5399.0 |
| 50° | 6604.9 | 6601.8 | 6807.4 | 7137.5 | 7580.4 | 8179.9 | 8982.6 | 8809.2 | 8446.2 | 8320.5 | 6018.9 |
| 52.5° | 5659.7 | 5666.0 | 6070.3 | 6598.7 | 7256.5 | 8127.8 | 9241.5 | 9574.7 | 9390.1 | 9259.5 | 6556.0 |
| 55° | 4759.8 | 4796.9 | 5083.7 | 5845.6 | 6759.7 | 7934.6 | 9330.7 | 9932.1 | 9911.0 | 9787.1 | 6854.5 |
| 57.5° | 3878.4 | 3945.9 | 4222.1 | 4933.8 | 6034.5 | 7489.3 | 9281.8 | 10086.9 | 10298.7 | 10204.0 | 7248.4 |
| 60° | 2923.4 | 2954.3 | 3272.7 | 3937.9 | 5103.6 | 6676.7 | 8926.8 | 10171.1 | 10828.9 | 10763.3 | 7820.1 |
| 62.5° | 1859.9 | 1937.3 | 2219.8 | 2861.4 | 3973.8 | 5548.2 | 8328.6 | 10169.9 | 11492.2 | 11528.2 | 8557.8 |
| 65° | 979.8 | 1070.3 | 1220.1 | 1773.2 | 2730.7 | 4287.8 | 7428.6 | 10074.5 | 12306.1 | 12356.2 | 9134.4 |
| 67.5° | 528.3 | 554.4 | 633.6 | 920.4 | 1583.7 | 2904.8 | 6106.3 | 9603.8 | 12777.4 | 12843.7 | 9214.9 |
| 70° | 386.5 | 400.8 | 430.5 | 509.1 | 797.1 | 1687.1 | 4455.7 | 8536.6 | 12169.8 | 12145.1 | 8187.4 |
| 72.5° | 296.7 | 319.0 | 341.2 | 372.9 | 458.3 | 900.5 | 2774.1 | 6684.8 | 9710.4 | 9546.9 | 6119.9 |
| 75° | 234.1 | 237.8 | 269.4 | 297.9 | 343.7 | 512.8 | 1231.9 | 3893.3 | 5926.7 | 5539.5 | 3173.6 |
| 77.5° | 187.1 | 189.6 | 208.1 | 232.9 | 276.2 | 336.9 | 381.6 | 1531.7 | 1892.2 | 1688.3 | 688.7 |
| 80° | 110.9 | 117.1 | 154.8 | 179.6 | 229.2 | 212.5 | 139.4 | 332.6 | 295.4 | 267.5 | 115.8 |
| 82.5° | 61.9 | 66.9 | 87.3 | 141.9 | 159.8 | 101.5 | 69.4 | 89.8 | 69.4 | 67.5 | 32.8 |
| 85° | 0.0 | 3.1 | 56.4 | 87.9 | 65.0 | 22.3 | 29.1 | 29.7 | 20.4 | 19.2 | 13.0 |
| 87.5° | 0.0 | 0.0 | 17.3 | 16.8 | 2.5 | 3.7 | 6.8 | 9.9 | 8.0 | 8.0 | 6.8 |
| 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: P383064

CATALOG NUMBER: GLEON-SA4A-735-U-T2R-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 | 1199.1 |
| 2.5° | 1222.7 | 1189.2 | 1126.0 | 1064.1 | 1012.0 | 969.3 | 930.9 | 915.4 | 903.0 | 901.2 | 891.3 |
| 5° | 1277.2 | 1209.6 | 1088.8 | 989.8 | 923.4 | 876.4 | 836.2 | 811.4 | 792.2 | 784.7 | 777.9 |
| 7.5° | 1359.5 | 1257.3 | 1083.9 | 969.9 | 890.7 | 811.4 | 737.0 | 656.6 | 606.3 | 587.2 | 576.0 |
| 10° | 1459.8 | 1320.5 | 1102.5 | 964.3 | 825.6 | 658.4 | 535.2 | 432.9 | 391.4 | 377.8 | 374.1 |
| 12.5° | 1576.9 | 1399.1 | 1134.6 | 929.7 | 686.8 | 467.6 | 369.2 | 334.4 | 325.2 | 320.8 | 320.8 |
| 15° | 1711.3 | 1485.3 | 1157.5 | 829.4 | 507.9 | 353.6 | 319.6 | 303.5 | 293.5 | 288.0 | 288.6 |
| 17.5° | 1848.7 | 1569.5 | 1146.5 | 683.8 | 374.7 | 314.7 | 289.2 | 271.9 | 258.3 | 252.7 | 251.4 |
| 20° | 1987.5 | 1647.5 | 1084.5 | 509.1 | 317.1 | 285.5 | 257.0 | 237.8 | 224.2 | 218.6 | 217.4 |
| 22.5° | 2131.2 | 1713.8 | 975.5 | 373.5 | 284.9 | 253.3 | 225.4 | 206.2 | 193.2 | 188.3 | 185.8 |
| 25° | 2271.2 | 1767.6 | 823.1 | 302.3 | 254.6 | 223.0 | 196.4 | 178.4 | 166.7 | 161.6 | 161.1 |
| 27.5° | 2401.9 | 1801.7 | 646.6 | 267.0 | 227.9 | 195.7 | 171.6 | 155.5 | 145.5 | 141.9 | 141.2 |
| 30° | 2519.6 | 1804.8 | 478.2 | 240.9 | 204.4 | 172.1 | 149.9 | 135.6 | 127.0 | 123.2 | 122.0 |
| 32.5° | 2638.5 | 1778.8 | 348.1 | 217.4 | 182.7 | 151.7 | 130.0 | 119.0 | 112.7 | 109.6 | 109.6 |
| 35° | 2750.6 | 1718.7 | 271.3 | 196.9 | 161.6 | 131.9 | 114.6 | 106.6 | 102.8 | 99.7 | 99.7 |
| 37.5° | 2860.2 | 1632.6 | 230.4 | 179.0 | 141.9 | 115.2 | 101.0 | 96.0 | 92.9 | 89.8 | 89.8 |
| 40° | 2971.7 | 1524.3 | 209.3 | 162.3 | 125.8 | 102.2 | 89.8 | 85.5 | 82.3 | 79.9 | 79.3 |
| 42.5° | 3108.6 | 1399.1 | 195.7 | 146.8 | 111.5 | 90.5 | 79.3 | 74.3 | 71.8 | 69.4 | 68.1 |
| 45° | 3267.1 | 1291.4 | 184.5 | 131.3 | 99.7 | 80.5 | 68.7 | 63.8 | 60.1 | 57.0 | 56.4 |
| 47.5° | 3495.6 | 1213.3 | 169.7 | 114.6 | 88.6 | 70.0 | 59.4 | 53.8 | 48.3 | 45.2 | 44.6 |
| 50° | 3787.4 | 1148.9 | 150.5 | 99.7 | 77.4 | 59.4 | 49.6 | 42.8 | 37.8 | 34.7 | 34.7 |
| 52.5° | 3932.3 | 1064.7 | 133.1 | 86.7 | 65.0 | 50.2 | 40.2 | 32.2 | 29.7 | 26.6 | 26.6 |
| 55° | 3990.6 | 1000.3 | 115.8 | 73.7 | 53.8 | 41.5 | 31.6 | 24.8 | 22.9 | 21.1 | 20.4 |
| 57.5° | 4154.1 | 981.7 | 101.0 | 62.6 | 44.6 | 32.8 | 24.1 | 18.5 | 17.3 | 14.9 | 14.9 |
| 60° | 4417.3 | 991.0 | 87.3 | 53.3 | 36.0 | 25.4 | 18.0 | 14.3 | 13.0 | 10.5 | 10.5 |
| 62.5° | 4701.6 | 979.2 | 73.7 | 45.8 | 27.9 | 18.5 | 12.4 | 10.5 | 10.5 | 6.1 | 5.6 |
| 65° | 4756.1 | 872.0 | 63.2 | 37.8 | 21.7 | 13.6 | 8.0 | 6.8 | 9.3 | 1.2 | 0.0 |
| 67.5° | 4414.2 | 676.3 | 54.5 | 29.1 | 16.1 | 10.5 | 6.1 | 3.1 | 8.0 | 0.0 | 0.0 |
| 70° | 3529.7 | 429.8 | 44.0 | 21.1 | 12.4 | 8.7 | 4.9 | 1.2 | 6.1 | 0.0 | 0.0 |
| 72.5° | 2496.0 | 249.6 | 34.7 | 14.9 | 10.5 | 6.8 | 3.7 | 0.0 | 3.7 | 0.0 | 0.0 |
| 75° | 1262.2 | 133.1 | 21.7 | 11.2 | 8.0 | 4.9 | 2.5 | 0.0 | 0.7 | 0.0 | 0.0 |
| 77.5° | 273.1 | 61.9 | 13.6 | 8.0 | 5.6 | 3.1 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 59.4 | 27.3 | 8.7 | 4.9 | 3.1 | 1.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 21.7 | 14.3 | 4.4 | 2.5 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 11.7 | 7.5 | 2.5 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 6.1 | 2.5 | 0.7 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

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
 CIE u': 0.2371
 CIE v': 0.5177
 Duv: 0.0032
 CIE x: 0.4153
 CIE y: 0.4030
 CIE z: 0.1817
 Peak Wavelength (nm): 590
 Dominant Wavelength (nm): 580
 Purity: 45.7

 Rf: 76.9
 Rg: 94.4

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.1 | | |
| R1: | 68.9 | R9: | -34.6 |
| R2: | 81.1 | R10: | 57.8 |
| R3: | 93.1 | R11: | 68.6 |
| R4: | 71.6 | R12: | 53.9 |
| R5: | 69.4 | R13: | 70.9 |
| R6: | 75.0 | R14: | 96.2 |
| R7: | 79.5 | | |
| R8: | 46.4 | | |

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



CCT = 3388K
 CIE x = 0.4153
 CIE y = 0.4030
 Duv = 0.0032

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)