

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: P322881

Luminaire Tested: **GLEON-SA7B-740-U-T4W-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P322881
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-19)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA7B-740-U-T4W-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(7) 70 CRI, 4000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29297 lumens
Efficiency: N/A
Efficacy: 99.3 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G5

Input Watts (W): 295
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

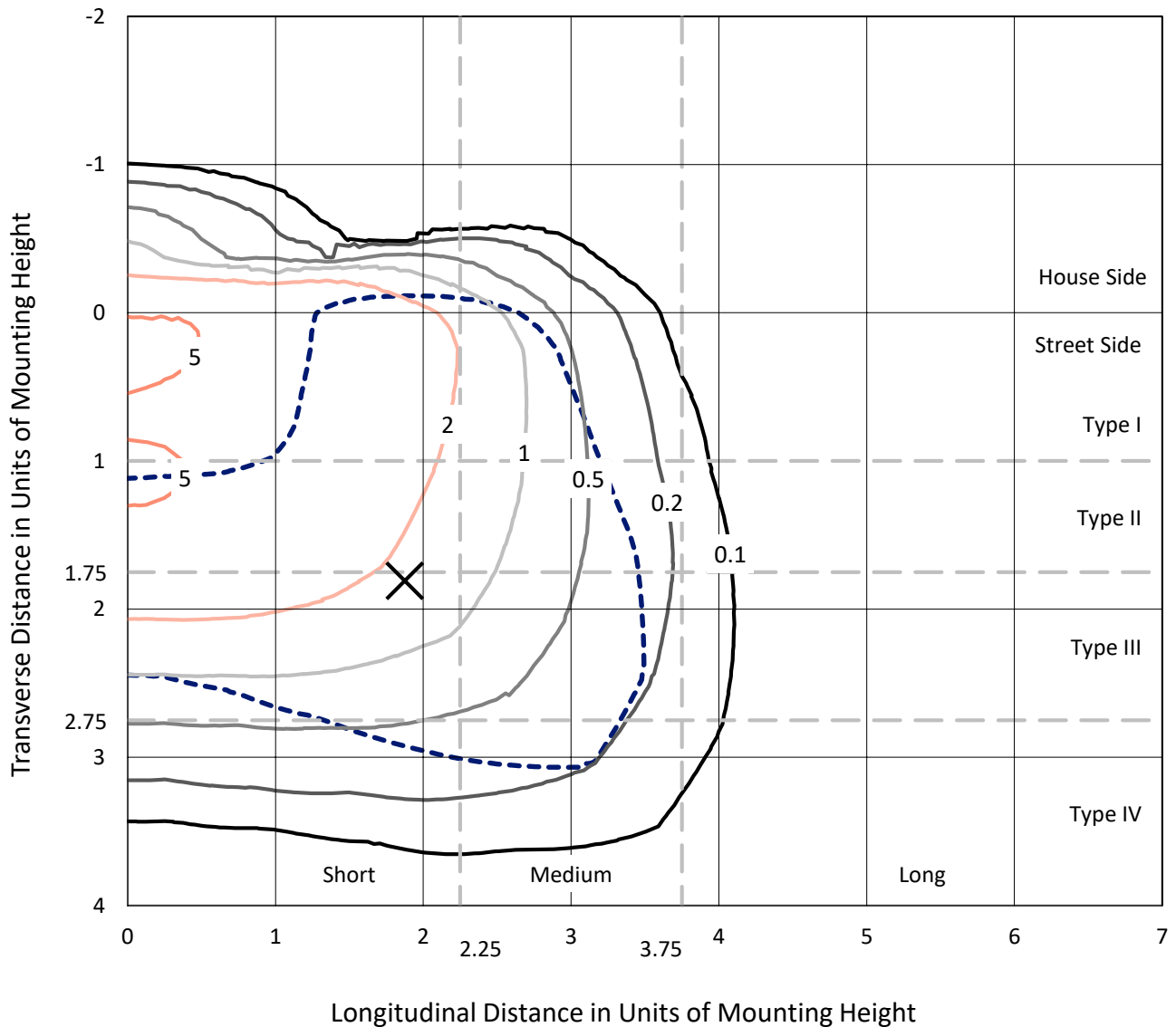




REPORT NUMBER: P322881
 CATALOG NUMBER: GLEON-SA7B-740-U-T4W-HSS

Iso-Footcandle Lines of Horizontal Illumination

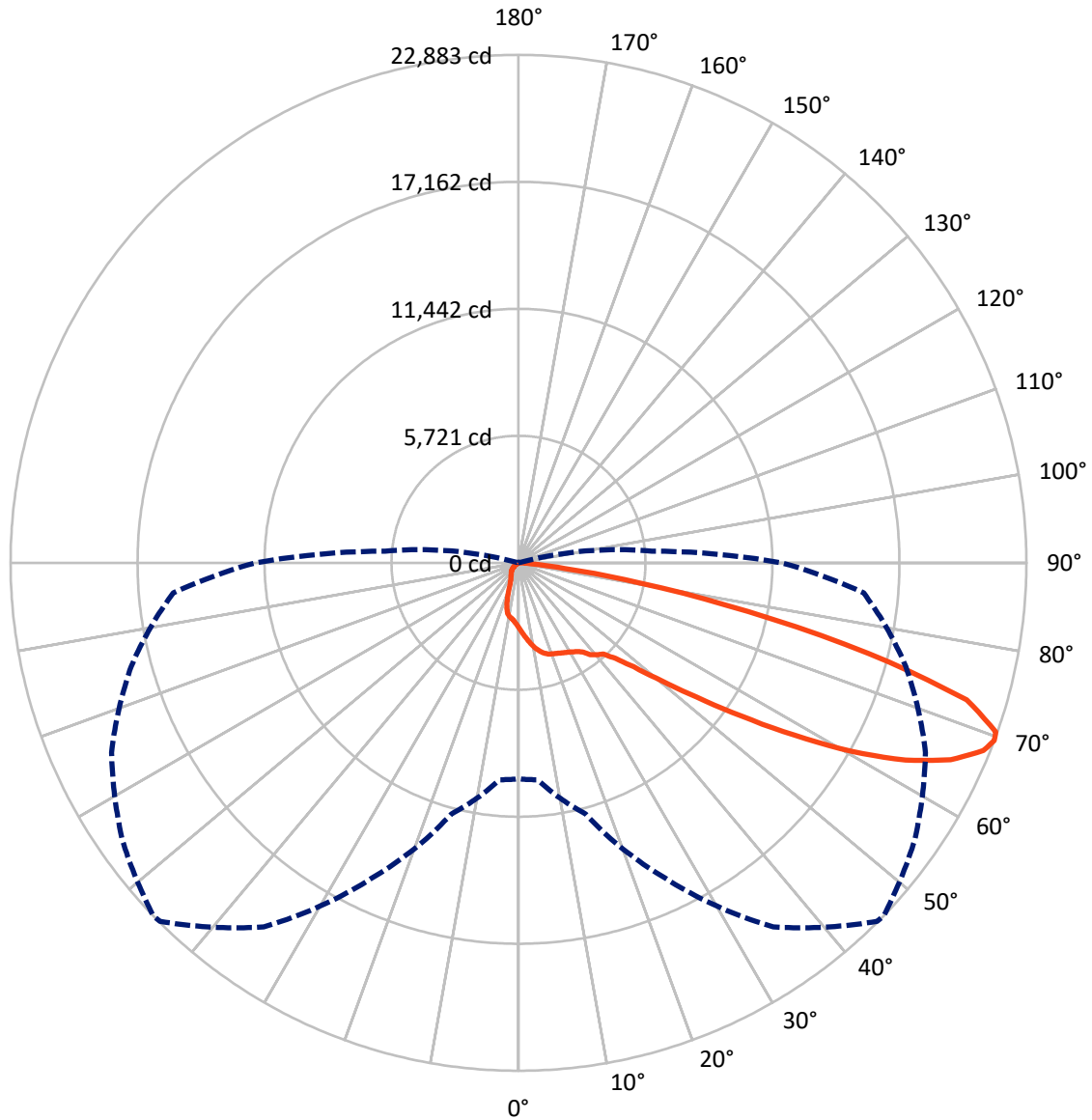
✕ Max cd
 - - - 1/2 Max cd



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

REPORT NUMBER: P322881
CATALOG NUMBER: GLEON-SA7B-740-U-T4W-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 46-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

REPORT NUMBER: P322881
 CATALOG NUMBER: GLEON-SA7B-740-U-T4W-HSS

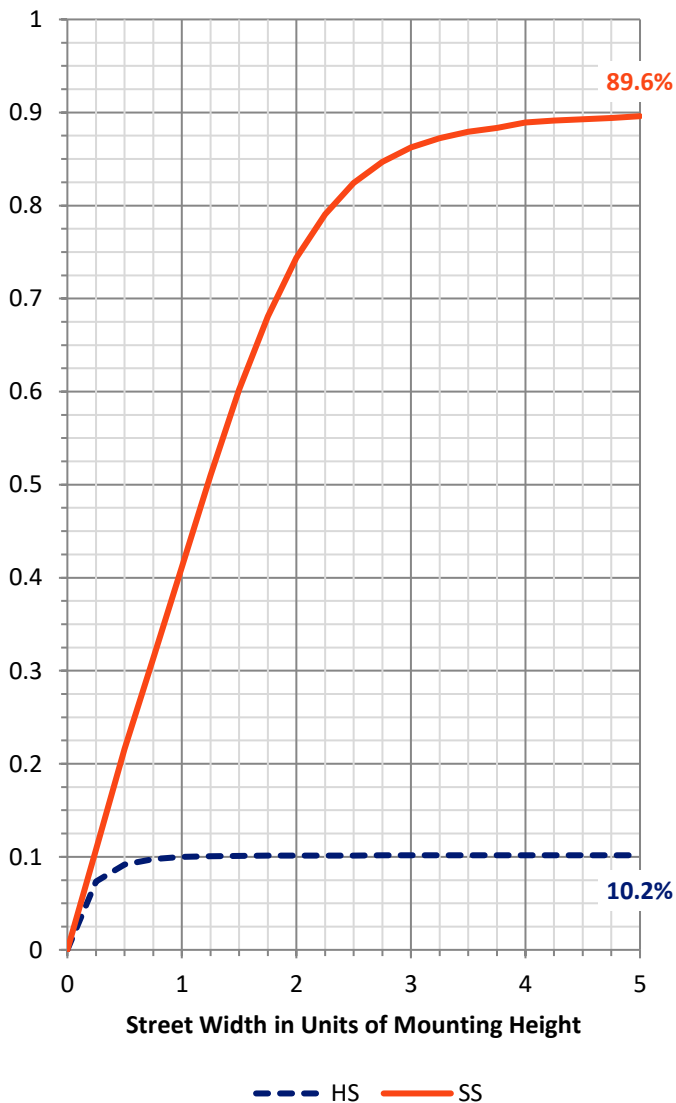
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3006.7 | 0.0 | 3006.7 |
| | % Fixture | 10.3 | 0.0 | 10.3 |
| Street Side | Lumens | 26290.3 | 0.0 | 26290.3 |
| | % Fixture | 89.7 | 0.0 | 89.7 |
| Total | Lumens | 29297.0 | 0.0 | 29297.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 292.2 | 1.0 |
| 10°-20° | 886.4 | 3.0 |
| 20°-30° | 1394.0 | 4.8 |
| 30°-40° | 1999.0 | 6.8 |
| 40°-50° | 3455.1 | 11.8 |
| 50°-60° | 6825.8 | 23.3 |
| 60°-70° | 9539.6 | 32.6 |
| 70°-80° | 4608.7 | 15.7 |
| 80°-90° | 296.2 | 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° | 29297.0 | 100.0 |
| 0°-180° | 29297.0 | 100.0 |

Coefficient of Utilization

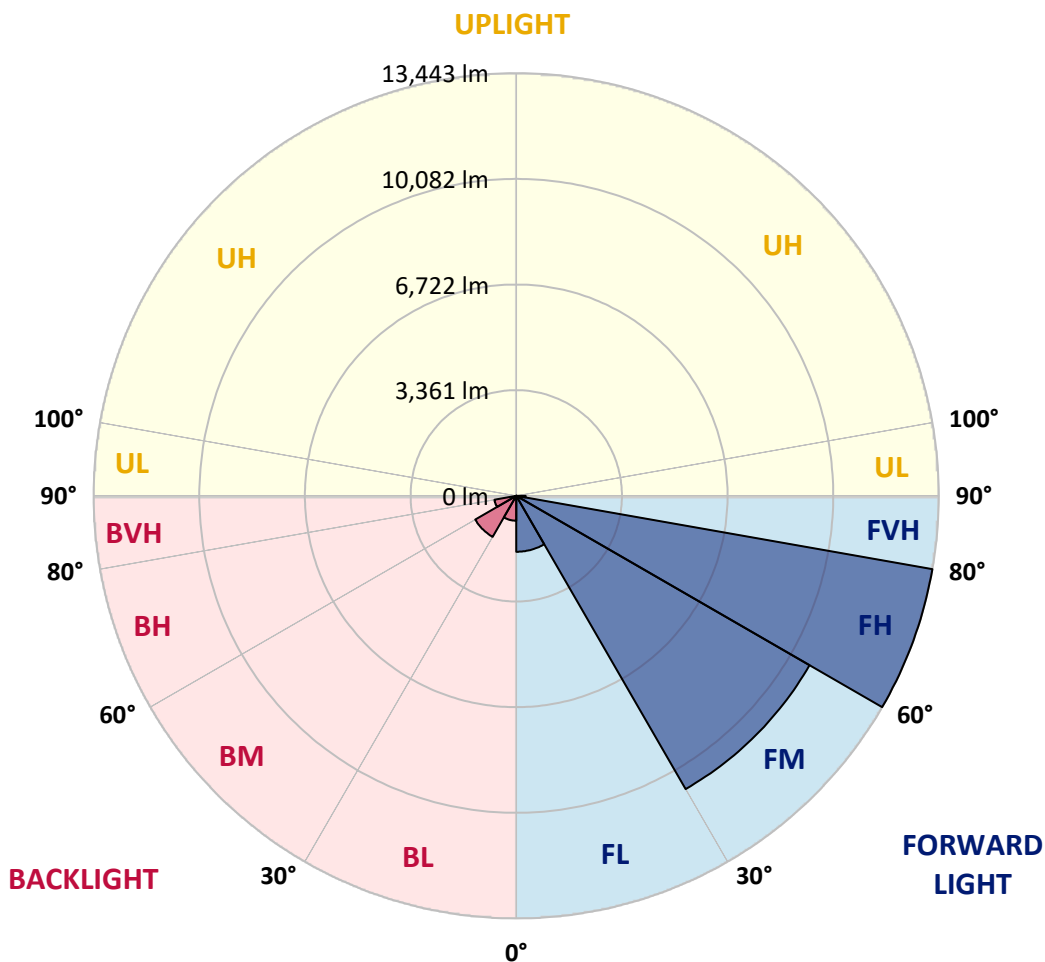


REPORT NUMBER: P322881
 CATALOG NUMBER: GLEON-SA7B-740-U-T4W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1780.1 | 6.1 | | | |
| FM (30°-60°) | 10773.2 | 36.8 | | | |
| FH (60°-80°) | 13443.3 | 45.9 | | | G5 |
| FVH (80°-90°) | 293.7 | 1.0 | | | G3/500 |
| BL (0°-30°) | 792.4 | 2.7 | B2/1000 | | |
| BM (30°-60°) | 1506.7 | 5.1 | B2/2500 | | |
| BH (60°-80°) | 705.0 | 2.4 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 2.5 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G5
 Type IV Short





REPORT NUMBER: P322881

CATALOG NUMBER: GLEON-SA7B-740-U-T4W-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 46° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 |
| 2.5° | 3261.0 | 3256.9 | 3237.6 | 3229.4 | 3182.7 | 3155.2 | 3144.2 | 3109.9 | 3060.5 | 3011.0 | 2956.1 |
| 5° | 3631.9 | 3630.5 | 3594.8 | 3560.5 | 3472.5 | 3390.1 | 3375.0 | 3295.3 | 3184.1 | 3079.7 | 2975.3 |
| 7.5° | 4011.0 | 3993.1 | 3957.4 | 3891.5 | 3763.7 | 3631.9 | 3619.5 | 3506.9 | 3348.9 | 3197.8 | 3048.1 |
| 10° | 4332.4 | 4321.4 | 4274.7 | 4174.5 | 4024.7 | 3875.0 | 3859.9 | 3721.2 | 3542.6 | 3357.2 | 3166.2 |
| 12.5° | 4582.4 | 4574.2 | 4512.4 | 4387.4 | 4228.0 | 4072.8 | 4052.2 | 3928.6 | 3737.7 | 3530.2 | 3305.0 |
| 15° | 4734.9 | 4730.8 | 4655.2 | 4522.0 | 4365.4 | 4230.8 | 4212.9 | 4104.4 | 3927.2 | 3710.2 | 3456.1 |
| 17.5° | 4770.6 | 4772.0 | 4693.7 | 4559.1 | 4430.0 | 4333.8 | 4320.1 | 4237.7 | 4089.3 | 3873.6 | 3607.2 |
| 20° | 4691.0 | 4707.4 | 4637.4 | 4520.6 | 4440.9 | 4390.1 | 4379.1 | 4329.7 | 4204.7 | 4001.4 | 3728.0 |
| 22.5° | 4578.3 | 4586.6 | 4538.5 | 4460.2 | 4427.2 | 4436.8 | 4431.3 | 4403.9 | 4298.1 | 4111.3 | 3847.5 |
| 25° | 4509.6 | 4509.6 | 4480.8 | 4414.9 | 4436.8 | 4495.9 | 4497.3 | 4491.8 | 4408.0 | 4245.9 | 3993.1 |
| 27.5° | 4506.9 | 4498.6 | 4465.7 | 4416.2 | 4476.7 | 4567.3 | 4572.8 | 4609.9 | 4557.7 | 4409.4 | 4174.5 |
| 30° | 4616.8 | 4607.2 | 4537.1 | 4472.5 | 4549.5 | 4647.0 | 4660.7 | 4741.8 | 4715.7 | 4586.6 | 4376.4 |
| 32.5° | 4873.6 | 4839.3 | 4684.1 | 4578.3 | 4636.0 | 4752.8 | 4770.6 | 4899.7 | 4941.0 | 4805.0 | 4571.4 |
| 35° | 5225.3 | 5116.8 | 4892.9 | 4778.9 | 4784.4 | 4906.6 | 4923.1 | 5112.7 | 5234.9 | 5005.5 | 4722.5 |
| 37.5° | 5710.2 | 5656.6 | 5292.6 | 4987.7 | 5012.4 | 5197.8 | 5245.9 | 5451.9 | 5417.6 | 5115.4 | 4894.2 |
| 40° | 6773.4 | 6689.6 | 6302.2 | 5572.8 | 5230.8 | 5434.1 | 5449.2 | 5559.1 | 5561.8 | 5364.0 | 5251.4 |
| 42.5° | 8221.2 | 8186.8 | 7778.9 | 6634.6 | 5660.7 | 5592.1 | 5619.5 | 5805.0 | 6012.4 | 5888.8 | 5883.3 |
| 45° | 9824.2 | 9806.4 | 9373.7 | 8044.0 | 6530.2 | 6109.9 | 6144.3 | 6392.9 | 6789.9 | 6817.3 | 6991.8 |
| 47.5° | 11114.1 | 11105.8 | 10857.2 | 9616.8 | 7861.3 | 6987.7 | 6998.7 | 7262.4 | 7960.2 | 8305.0 | 8583.8 |
| 50° | 12289.9 | 12329.7 | 12133.3 | 11318.7 | 9674.5 | 8362.7 | 8336.6 | 8512.4 | 9633.3 | 10197.8 | 10544.0 |
| 52.5° | 13924.5 | 13980.8 | 13430.0 | 12906.6 | 11577.0 | 10068.7 | 10048.1 | 10232.2 | 11644.3 | 12067.4 | 12129.2 |
| 55° | 15368.2 | 15272.0 | 14836.6 | 14685.5 | 13897.0 | 12175.9 | 12170.4 | 12332.5 | 13589.3 | 13769.3 | 13883.3 |
| 57.5° | 16005.6 | 15968.5 | 16178.6 | 16524.8 | 16327.0 | 14666.3 | 14653.9 | 14530.3 | 15329.7 | 15349.0 | 15699.2 |
| 60° | 16408.0 | 16453.4 | 17097.6 | 18164.9 | 18658.0 | 17346.2 | 17266.5 | 16512.4 | 16991.8 | 16949.2 | 17324.2 |
| 62.5° | 16105.8 | 16195.1 | 17354.5 | 19133.3 | 20402.5 | 19685.5 | 19572.9 | 18328.4 | 18412.2 | 18265.2 | 18614.1 |
| 65° | 14501.4 | 14640.2 | 16539.9 | 18950.6 | 21267.9 | 21513.8 | 21399.8 | 19931.4 | 19539.9 | 19298.1 | 19104.5 |
| 67.5° | 11774.8 | 11857.2 | 13840.7 | 17361.3 | 20877.8 | 22604.5 | 22581.1 | 21336.6 | 20391.6 | 19123.7 | 17620.9 |
| 69° | 9730.8 | 9811.8 | 11721.2 | 15688.2 | 20019.3 | 22838.0 | 22883.3 | 21787.2 | 20229.5 | 18063.3 | 15612.7 |
| 70° | 8241.8 | 8328.3 | 10107.2 | 14254.2 | 19023.4 | 22729.5 | 22810.5 | 21744.6 | 19765.2 | 16835.2 | 13850.3 |
| 72.5° | 4322.8 | 4397.0 | 6222.5 | 9820.1 | 15508.3 | 20871.0 | 21116.8 | 19906.7 | 16754.2 | 12226.7 | 8189.6 |
| 75° | 1358.5 | 1401.1 | 2430.0 | 5133.3 | 10618.2 | 16228.1 | 16284.4 | 15615.4 | 11897.0 | 6725.3 | 3410.7 |
| 77.5° | 517.9 | 505.5 | 809.1 | 1891.5 | 5368.2 | 10218.4 | 10563.2 | 9758.3 | 6243.2 | 2377.8 | 787.1 |
| 80° | 278.8 | 280.2 | 420.3 | 783.0 | 2296.7 | 5251.4 | 5542.6 | 4729.4 | 2218.4 | 741.8 | 181.3 |
| 82.5° | 120.9 | 126.4 | 236.3 | 414.8 | 1054.9 | 1936.8 | 2082.4 | 1733.5 | 847.5 | 498.6 | 67.3 |
| 85° | 26.1 | 28.8 | 114.0 | 225.3 | 429.9 | 544.0 | 570.1 | 561.8 | 539.8 | 387.4 | 26.1 |
| 87.5° | 0.0 | 0.0 | 50.8 | 81.0 | 108.5 | 123.6 | 108.5 | 141.5 | 298.1 | 261.0 | 13.7 |
| 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: P322881

CATALOG NUMBER: GLEON-SA7B-740-U-T4W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 | 2935.4 |
| 2.5° | 2938.2 | 2913.5 | 2870.9 | 2824.2 | 2791.2 | 2756.9 | 2729.4 | 2717.0 | 2703.3 | 2693.7 | 2706.1 |
| 5° | 2932.7 | 2884.6 | 2802.2 | 2722.5 | 2664.8 | 2618.1 | 2579.7 | 2564.6 | 2549.5 | 2538.5 | 2537.1 |
| 7.5° | 2980.8 | 2913.5 | 2787.1 | 2670.3 | 2581.1 | 2517.9 | 2465.7 | 2443.7 | 2425.8 | 2417.6 | 2410.7 |
| 10° | 3072.8 | 2986.3 | 2817.3 | 2664.8 | 2549.5 | 2442.3 | 2329.7 | 2243.1 | 2186.8 | 2160.7 | 2151.1 |
| 12.5° | 3192.3 | 3083.8 | 2875.0 | 2693.7 | 2526.1 | 2320.1 | 2081.1 | 1875.0 | 1741.8 | 1697.8 | 1671.7 |
| 15° | 3332.4 | 3197.8 | 2950.6 | 2730.8 | 2440.9 | 2064.6 | 1659.3 | 1390.1 | 1266.5 | 1241.8 | 1214.3 |
| 17.5° | 3467.0 | 3318.7 | 3041.2 | 2737.6 | 2254.1 | 1649.7 | 1215.7 | 1033.0 | 984.9 | 1001.4 | 1005.5 |
| 20° | 3585.2 | 3438.2 | 3130.5 | 2677.2 | 1914.8 | 1237.6 | 940.9 | 895.6 | 913.5 | 945.1 | 950.6 |
| 22.5° | 3704.7 | 3553.6 | 3212.9 | 2517.9 | 1480.8 | 939.6 | 847.5 | 858.5 | 876.4 | 908.0 | 913.5 |
| 25° | 3850.3 | 3693.7 | 3289.8 | 2225.3 | 1111.3 | 799.5 | 804.9 | 821.4 | 839.3 | 868.1 | 870.9 |
| 27.5° | 4017.9 | 3870.9 | 3340.7 | 1844.8 | 824.2 | 734.9 | 752.7 | 777.5 | 795.3 | 822.8 | 828.3 |
| 30° | 4240.4 | 4104.4 | 3357.2 | 1450.6 | 690.9 | 677.2 | 685.4 | 715.7 | 741.8 | 766.5 | 770.6 |
| 32.5° | 4449.2 | 4335.2 | 3302.2 | 1094.8 | 640.1 | 623.6 | 623.6 | 641.5 | 671.7 | 695.1 | 700.6 |
| 35° | 4641.5 | 4567.3 | 3126.4 | 800.8 | 601.7 | 574.2 | 560.4 | 560.4 | 579.7 | 598.9 | 604.4 |
| 37.5° | 4895.6 | 4892.9 | 2842.0 | 638.7 | 564.6 | 533.0 | 504.1 | 482.1 | 475.3 | 479.4 | 482.1 |
| 40° | 5331.1 | 5335.2 | 2471.2 | 572.8 | 533.0 | 490.4 | 446.4 | 406.6 | 369.5 | 357.1 | 355.8 |
| 42.5° | 6011.0 | 5949.2 | 2082.4 | 541.2 | 505.5 | 446.4 | 380.5 | 326.9 | 269.2 | 251.4 | 250.0 |
| 45° | 7090.7 | 6723.9 | 1670.3 | 512.4 | 476.7 | 397.0 | 314.6 | 241.8 | 195.1 | 181.3 | 181.3 |
| 47.5° | 8663.5 | 7741.8 | 1294.0 | 480.8 | 438.2 | 340.7 | 237.6 | 174.5 | 142.9 | 136.0 | 137.4 |
| 50° | 10289.9 | 8739.0 | 991.8 | 440.9 | 391.5 | 281.6 | 175.8 | 126.4 | 108.5 | 108.5 | 109.9 |
| 52.5° | 11732.2 | 9469.8 | 773.4 | 398.4 | 333.8 | 221.2 | 133.2 | 98.9 | 90.7 | 89.3 | 90.7 |
| 55° | 13082.5 | 9941.0 | 592.0 | 348.9 | 265.1 | 164.8 | 101.6 | 81.0 | 75.5 | 72.8 | 71.4 |
| 57.5° | 14384.7 | 10174.5 | 443.7 | 281.6 | 192.3 | 119.5 | 81.0 | 68.7 | 63.2 | 59.1 | 57.7 |
| 60° | 15251.4 | 9984.9 | 304.9 | 207.4 | 133.2 | 86.5 | 67.3 | 59.1 | 52.2 | 48.1 | 46.7 |
| 62.5° | 15740.4 | 9467.1 | 196.4 | 149.7 | 94.8 | 64.6 | 53.6 | 49.5 | 39.8 | 35.7 | 35.7 |
| 65° | 15542.6 | 8612.7 | 137.4 | 107.1 | 68.7 | 48.1 | 39.8 | 39.8 | 28.8 | 23.4 | 22.0 |
| 67.5° | 13773.4 | 7276.1 | 104.4 | 79.7 | 49.5 | 35.7 | 30.2 | 34.3 | 17.9 | 11.0 | 11.0 |
| 69° | 11850.3 | 6030.2 | 89.3 | 65.9 | 41.2 | 28.8 | 26.1 | 31.6 | 12.4 | 8.2 | 6.9 |
| 70° | 10299.5 | 5201.9 | 81.0 | 57.7 | 34.3 | 24.7 | 23.4 | 30.2 | 12.4 | 6.9 | 5.5 |
| 72.5° | 6162.1 | 2901.1 | 61.8 | 41.2 | 22.0 | 19.2 | 19.2 | 34.3 | 12.4 | 6.9 | 5.5 |
| 75° | 2490.4 | 1022.0 | 45.3 | 28.8 | 16.5 | 16.5 | 23.4 | 44.0 | 11.0 | 5.5 | 4.1 |
| 77.5° | 564.6 | 223.9 | 26.1 | 17.9 | 11.0 | 16.5 | 27.5 | 34.3 | 6.9 | 2.7 | 0.0 |
| 80° | 137.4 | 54.9 | 16.5 | 11.0 | 6.9 | 12.4 | 20.6 | 19.2 | 1.4 | 0.0 | 0.0 |
| 82.5° | 45.3 | 19.2 | 6.9 | 5.5 | 1.4 | 4.1 | 9.6 | 5.5 | 0.0 | 0.0 | 0.0 |
| 85° | 19.2 | 11.0 | 2.7 | 1.4 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 12.4 | 4.1 | 0.0 | 0.0 | 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

MCGRAW, INVUE, LUMARK AND STREETWORKS

DATA VALID FOR LUMINIAIRES UTILIZING SA LIGHT ENGINES

Report Number: SP1-2101-121-2

Luminaire Tested: IFLD-S-SA2A-740-U-T3R-HSS

Test Date: 03/05/2021

Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/05/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

Spectral Parameters

| | | | | | |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K): | 3905 | CRI (Ra): | 71.2 | R9: | -29.7 |
| CIE u': | 0.2273 | R1: | 68.9 | R10: | 46.2 |
| CIE v': | 0.5024 | R2: | 77.0 | R11: | 68.8 |
| Duv: | -0.0008 | R3: | 84.0 | R12: | 45.6 |
| CIE x: | 0.3841 | R4: | 71.6 | R13: | 69.5 |
| CIE y: | 0.3774 | R5: | 68.9 | R14: | 90.7 |
| CIE z: | 0.2385 | R6: | 68.3 | | |
| Peak Wavelength (nm): | 443 | R7: | 78.7 | | |
| Dominant Wavelength (nm): | 579 | R8: | 52.2 | | |
| Purity: | 28.7 | | | | |
| Rf: | 71.7 | | | | |
| Rg: | 96.9 | | | | |



Test Conditions

Stabilization Time: 211M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.8/312%
 Sphere Temperature (°C): 24.1

REPORT NUMBER: SP1-2101-121-2

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | IN0046 | 12/1/2020 | 12/1/2021 |

REPORT NUMBER: SP1-2101-121-2

CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



CCT = 3905K
 CIE x = 0.3841
 CIE y = 0.3774
 Duv = -0.0008

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

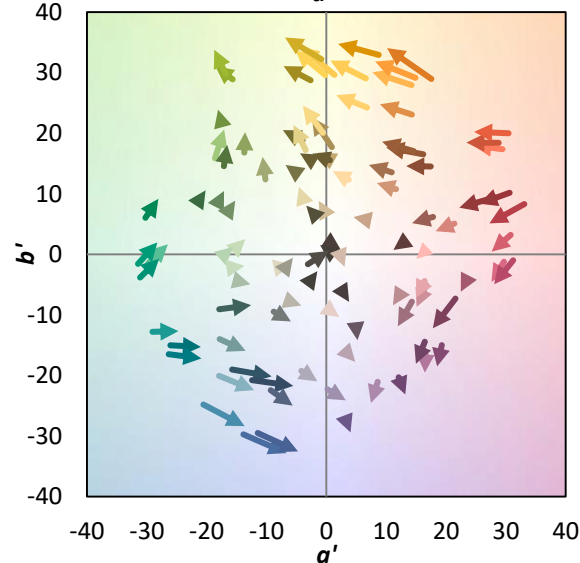
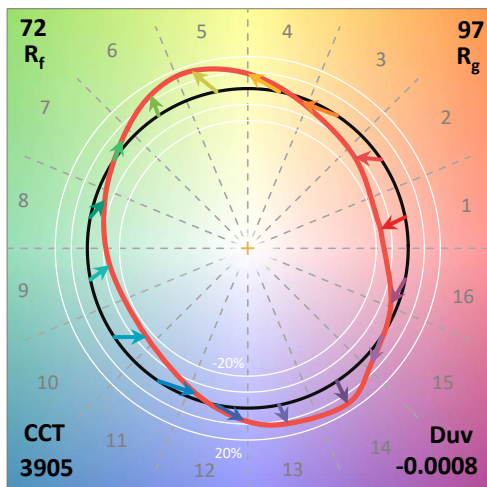
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 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 $R_a = 71.2$
 $R_g = -29.7$

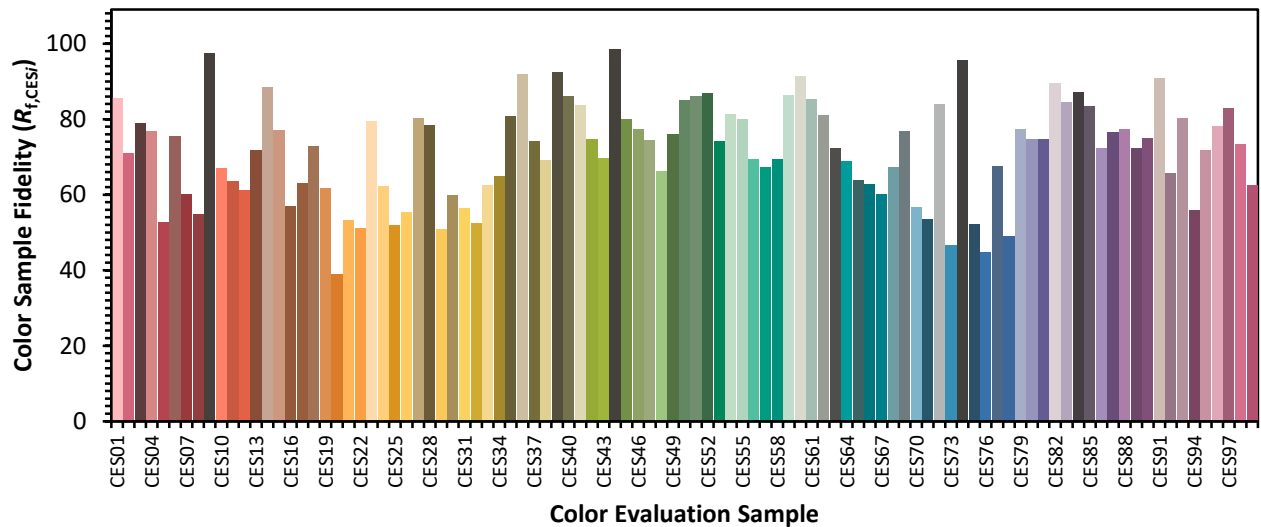


Color Vector Graphics



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)