

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: P323460

Luminaire Tested: **GLEON-SA6D-727-U-SL3-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P323460
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-23)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA6D-727-U-SL3-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(6) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 33156 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G5

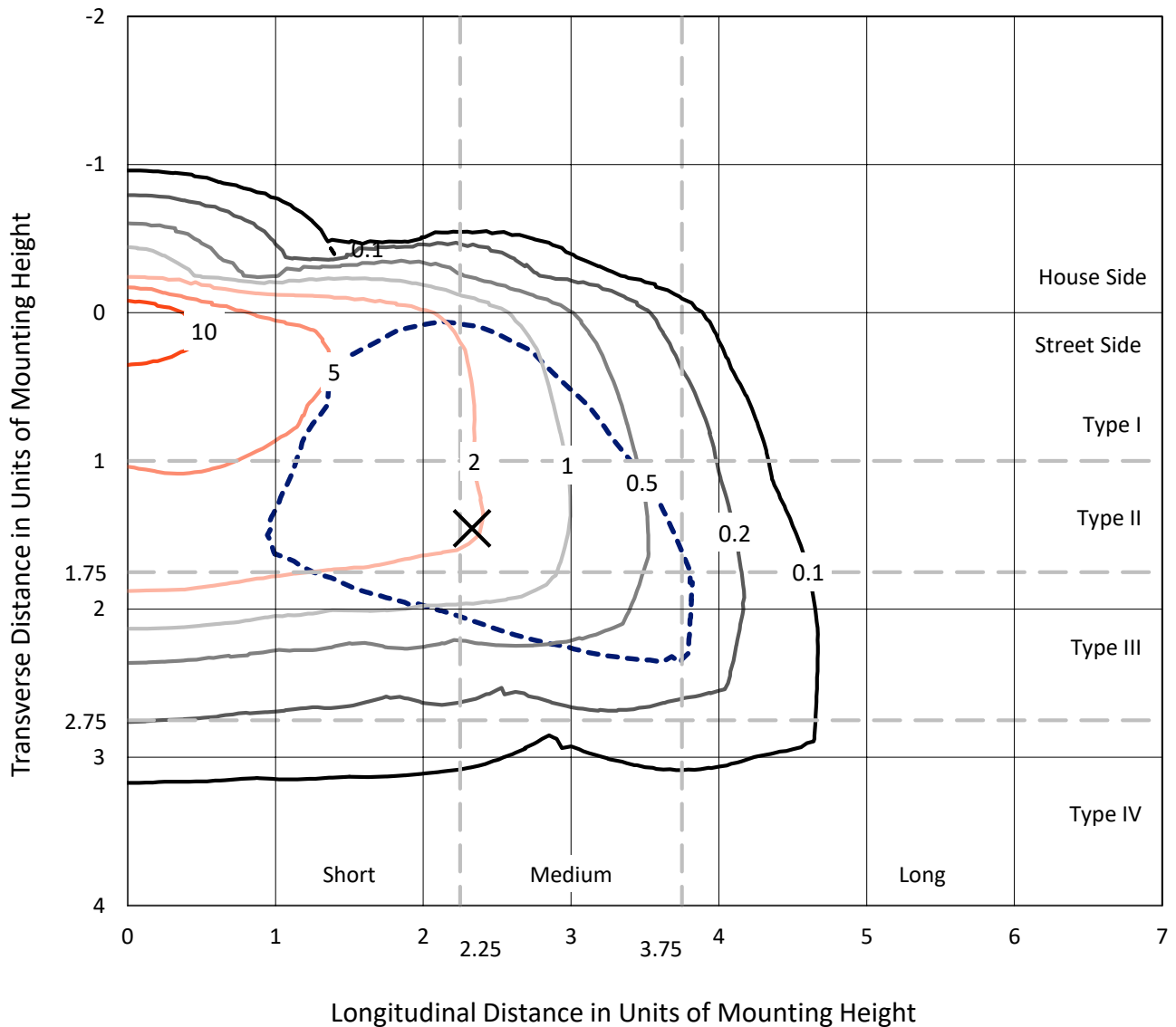
Input Watts (W): 382
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P323460
 CATALOG NUMBER: GLEON-SA6D-727-U-SL3-HSS

Iso-Footcandle Lines of Horizontal Illumination

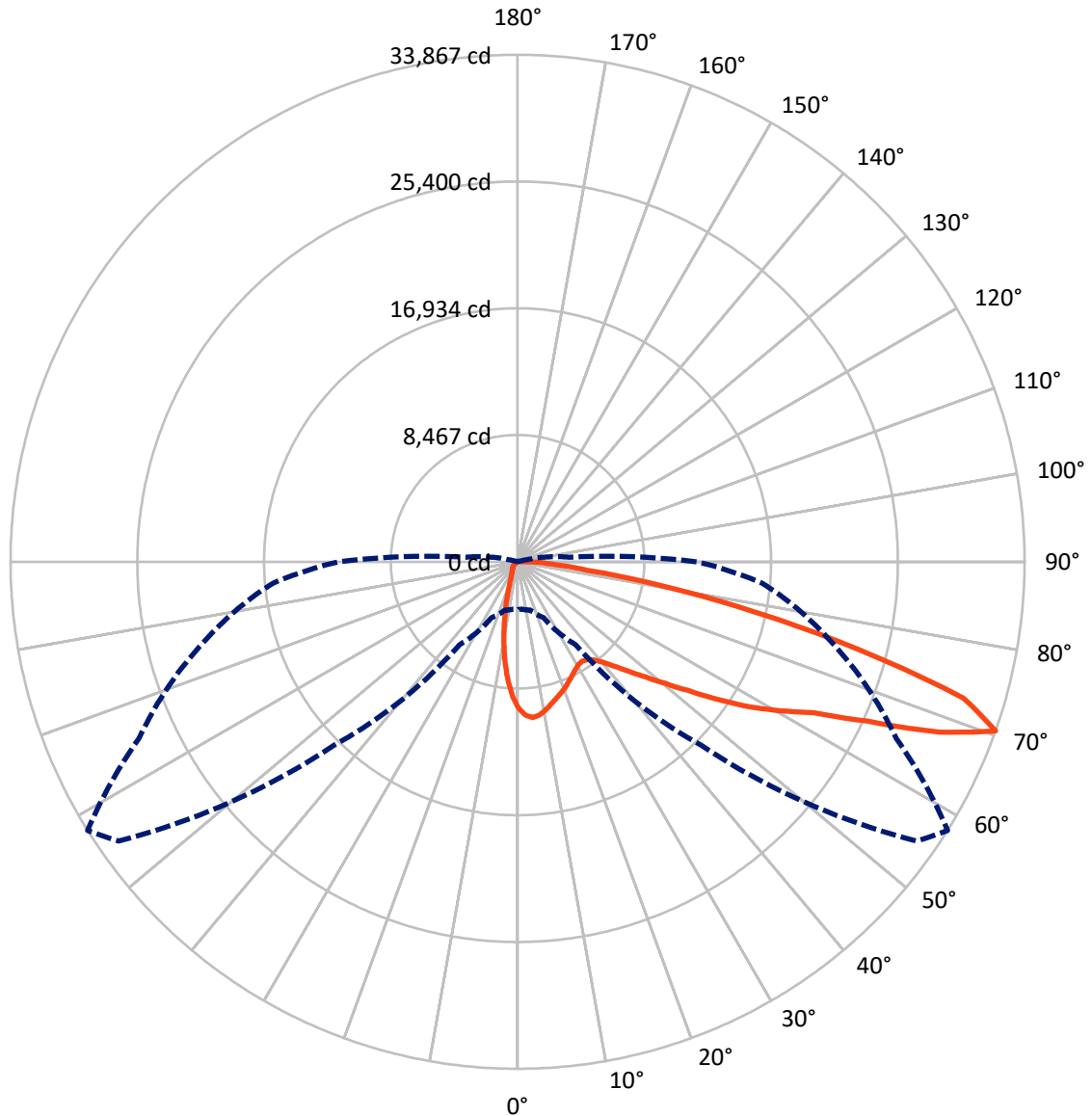
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 15.9 fc
 Type III - Medium - N/A

REPORT NUMBER: P323460
CATALOG NUMBER: GLEON-SA6D-727-U-SL3-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2837.4 | 0.0 | 2837.4 |
| | % Fixture | 8.6 | 0.0 | 8.6 |
| Street Side | Lumens | 30318.6 | 0.0 | 30318.6 |
| | % Fixture | 91.4 | 0.0 | 91.4 |
| Total | Lumens | 33156.0 | 0.0 | 33156.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 800.9 | 2.4 |
| 10°-20° | 1680.9 | 5.1 |
| 20°-30° | 2209.8 | 6.7 |
| 30°-40° | 2926.7 | 8.8 |
| 40°-50° | 4374.5 | 13.2 |
| 50°-60° | 7007.7 | 21.1 |
| 60°-70° | 8833.2 | 26.6 |
| 70°-80° | 4764.6 | 14.4 |
| 80°-90° | 557.7 | 1.7 |
| 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° | 33156.0 | 100.0 |
| 0°-180° | 33156.0 | 100.0 |

Coefficient of Utilization

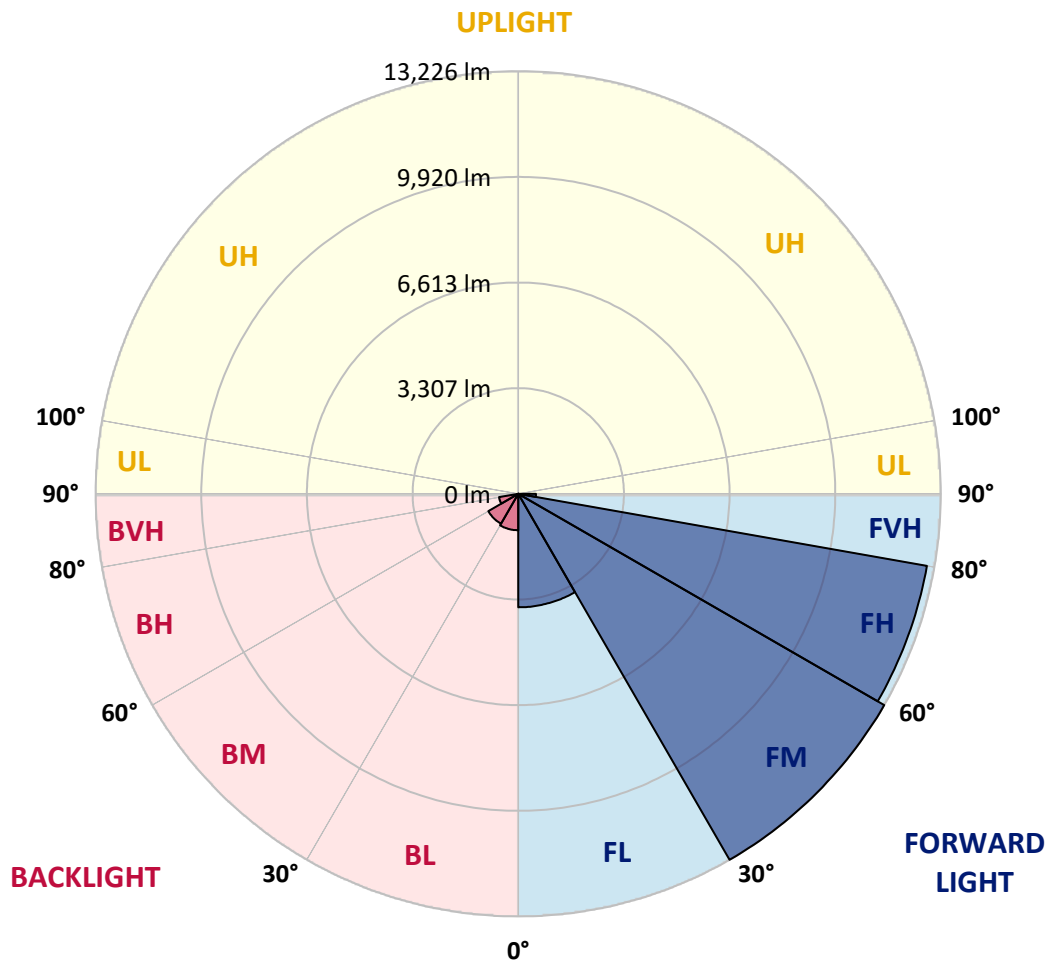


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 3551.7 | 10.7 | | | |
| FM (30°-60°) | 13226.4 | 39.9 | | | |
| FH (60°-80°) | 12987.6 | 39.2 | | | G5 |
| FVH (80°-90°) | 552.9 | 1.7 | | | G4/750 |
| BL (0°-30°) | 1140.0 | 3.4 | B3/2500 | | |
| BM (30°-60°) | 1082.4 | 3.3 | B2/2500 | | |
| BH (60°-80°) | 610.2 | 1.8 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 4.8 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G5
 Type III Medium





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CATALOG NUMBER: GLEON-SA6D-727-U-SL3-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 58° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 |
| 2.5° | 10606.2 | 10580.0 | 10570.3 | 10553.8 | 10490.4 | 10428.3 | 10305.6 | 10271.1 | 10193.9 | 10010.6 | 9816.2 |
| 5° | 10614.4 | 10613.1 | 10642.0 | 10635.1 | 10613.1 | 10584.1 | 10495.9 | 10450.4 | 10319.4 | 10057.5 | 9701.8 |
| 7.5° | 10102.9 | 10129.1 | 10193.9 | 10246.3 | 10307.0 | 10385.6 | 10396.6 | 10352.5 | 10245.0 | 9962.3 | 9490.8 |
| 10° | 9416.4 | 9457.7 | 9548.7 | 9652.1 | 9810.7 | 9967.8 | 10108.5 | 10102.9 | 10065.7 | 9787.2 | 9237.1 |
| 12.5° | 8728.4 | 8776.7 | 8881.4 | 9034.5 | 9259.2 | 9515.6 | 9766.6 | 9801.0 | 9863.1 | 9630.1 | 9002.8 |
| 15° | 8125.9 | 8167.3 | 8270.7 | 8458.2 | 8736.7 | 9081.3 | 9449.5 | 9512.9 | 9672.8 | 9507.4 | 8807.0 |
| 17.5° | 7614.4 | 7640.6 | 7716.5 | 7924.6 | 8247.2 | 8665.0 | 9143.4 | 9267.5 | 9506.0 | 9410.9 | 8637.4 |
| 20° | 7257.4 | 7261.5 | 7311.1 | 7457.3 | 7779.9 | 8247.2 | 8826.3 | 9004.1 | 9329.5 | 9328.1 | 8462.3 |
| 22.5° | 7080.9 | 7067.1 | 7076.8 | 7160.9 | 7398.0 | 7848.8 | 8509.2 | 8720.1 | 9171.0 | 9257.8 | 8284.5 |
| 25° | 7047.8 | 7036.8 | 7009.2 | 7020.2 | 7163.6 | 7500.0 | 8189.3 | 8433.4 | 9031.7 | 9215.1 | 8130.1 |
| 27.5° | 7151.2 | 7162.2 | 7115.4 | 7065.7 | 7076.8 | 7273.9 | 7905.3 | 8188.0 | 8918.7 | 9215.1 | 8021.1 |
| 30° | 7359.4 | 7364.9 | 7330.4 | 7265.6 | 7178.8 | 7210.5 | 7708.2 | 7990.8 | 8862.1 | 9278.5 | 7952.2 |
| 32.5° | 7589.6 | 7620.0 | 7615.8 | 7563.4 | 7439.3 | 7311.1 | 7661.3 | 7919.1 | 8858.0 | 9419.1 | 7945.3 |
| 35° | 7875.0 | 7909.5 | 7967.4 | 7956.3 | 7826.8 | 7615.8 | 7821.2 | 8023.9 | 8939.3 | 9650.7 | 8019.8 |
| 37.5° | 8178.3 | 8230.7 | 8354.8 | 8414.1 | 8330.0 | 8091.5 | 8179.7 | 8324.5 | 9157.2 | 10025.7 | 8208.6 |
| 40° | 8472.0 | 8531.3 | 8757.4 | 8990.4 | 8926.9 | 8681.5 | 8722.9 | 8838.7 | 9544.6 | 10564.8 | 8567.1 |
| 42.5° | 8760.1 | 8848.4 | 9180.6 | 9563.9 | 9639.7 | 9443.9 | 9466.0 | 9558.4 | 10119.5 | 11306.5 | 9153.0 |
| 45° | 9104.8 | 9204.1 | 9696.2 | 10169.1 | 10371.8 | 10286.3 | 10380.1 | 10440.7 | 10870.9 | 12286.8 | 9943.0 |
| 47.5° | 9610.8 | 9725.2 | 10329.1 | 10868.1 | 11223.8 | 11279.0 | 11467.8 | 11507.8 | 11820.8 | 13428.3 | 10972.9 |
| 50° | 10597.9 | 10629.6 | 11175.6 | 11665.0 | 12177.9 | 12508.7 | 12723.8 | 12754.1 | 12970.6 | 14676.0 | 12259.2 |
| 52.5° | 11840.1 | 11860.8 | 12169.6 | 12497.7 | 13080.9 | 13756.4 | 14259.7 | 14302.4 | 14347.9 | 15892.0 | 13529.0 |
| 55° | 13074.0 | 13071.2 | 13275.3 | 13468.3 | 14135.6 | 15117.2 | 16209.1 | 16235.3 | 15908.6 | 17046.0 | 14499.6 |
| 57.5° | 13844.7 | 13919.1 | 14229.3 | 14477.5 | 15409.5 | 16668.2 | 18183.4 | 18279.9 | 17547.8 | 17900.7 | 15459.1 |
| 60° | 13599.3 | 13635.1 | 14323.1 | 15241.3 | 16996.3 | 18872.7 | 20181.1 | 20205.9 | 18780.3 | 18754.2 | 16672.3 |
| 62.5° | 11586.4 | 11605.7 | 12686.6 | 14579.5 | 17800.1 | 21732.1 | 22591.0 | 22187.1 | 20197.6 | 19938.4 | 18124.1 |
| 65° | 7941.2 | 8066.6 | 8969.7 | 11309.3 | 16323.5 | 23525.8 | 26321.7 | 25653.1 | 22358.0 | 21645.2 | 19436.6 |
| 67.5° | 4676.5 | 4650.3 | 5097.0 | 6820.3 | 11989.0 | 22334.6 | 31040.9 | 30376.4 | 25304.2 | 22788.2 | 19051.9 |
| 70° | 3194.4 | 3176.5 | 3347.4 | 4129.1 | 6767.9 | 17325.8 | 32525.8 | 33867.2 | 27905.8 | 22018.9 | 16396.6 |
| 72.5° | 2280.3 | 2290.0 | 2542.3 | 3208.2 | 4249.1 | 10094.7 | 27970.6 | 31145.7 | 27091.0 | 19195.3 | 12463.2 |
| 75° | 1548.3 | 1574.4 | 1935.7 | 2631.9 | 3725.2 | 5135.6 | 19848.8 | 23676.0 | 22060.2 | 13950.8 | 7163.6 |
| 77.5° | 832.7 | 861.7 | 1287.7 | 2120.4 | 3368.1 | 3568.0 | 12767.9 | 16294.6 | 13857.1 | 6271.6 | 2076.3 |
| 80° | 347.4 | 364.0 | 602.5 | 1541.4 | 2910.4 | 3133.7 | 7512.4 | 9881.0 | 5904.9 | 1236.7 | 463.2 |
| 82.5° | 150.3 | 158.5 | 250.9 | 919.6 | 2175.6 | 2645.7 | 3977.5 | 4753.7 | 1789.5 | 271.6 | 233.0 |
| 85° | 29.0 | 30.3 | 103.4 | 486.7 | 1388.3 | 1493.1 | 2578.1 | 2527.1 | 803.8 | 117.2 | 169.6 |
| 87.5° | 0.0 | 0.0 | 24.8 | 153.0 | 408.1 | 813.4 | 1573.1 | 1553.8 | 273.0 | 56.5 | 63.4 |
| 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: P323460

CATALOG NUMBER: GLEON-SA6D-727-U-SL3-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 | 9794.1 |
| 2.5° | 9716.9 | 9621.8 | 9421.9 | 9175.1 | 8986.2 | 8778.0 | 8612.6 | 8403.0 | 8312.0 | 8316.2 | 8266.6 |
| 5° | 9499.1 | 9303.3 | 8860.8 | 8302.4 | 7872.2 | 7428.3 | 7046.4 | 6665.9 | 6441.2 | 6368.1 | 6299.2 |
| 7.5° | 9187.5 | 8877.3 | 8171.4 | 7311.1 | 6583.2 | 5871.8 | 5252.8 | 4708.2 | 4363.5 | 4195.3 | 4133.3 |
| 10° | 8835.9 | 8400.3 | 7378.7 | 6245.4 | 5205.9 | 4243.6 | 3441.2 | 2743.6 | 2465.1 | 2276.2 | 2227.9 |
| 12.5° | 8527.1 | 7937.0 | 6603.9 | 5152.1 | 3918.2 | 2757.4 | 1992.2 | 1557.9 | 1369.0 | 1294.6 | 1282.2 |
| 15° | 8236.2 | 7504.1 | 5858.0 | 4162.2 | 2713.2 | 1697.2 | 1267.0 | 1119.5 | 1075.4 | 1063.0 | 1063.0 |
| 17.5° | 7961.9 | 7091.9 | 5128.7 | 3187.5 | 1795.0 | 1189.8 | 1049.2 | 1016.1 | 1002.3 | 1000.9 | 1002.3 |
| 20° | 7675.1 | 6679.7 | 4411.8 | 2335.5 | 1253.2 | 1007.8 | 969.2 | 951.3 | 947.2 | 947.2 | 947.2 |
| 22.5° | 7400.7 | 6267.5 | 3714.2 | 1668.2 | 1005.1 | 919.6 | 900.3 | 887.9 | 883.7 | 882.4 | 879.6 |
| 25° | 7137.4 | 5875.9 | 3033.1 | 1178.8 | 882.4 | 842.4 | 825.8 | 809.3 | 796.9 | 790.0 | 785.8 |
| 27.5° | 6921.0 | 5527.1 | 2398.9 | 945.8 | 796.9 | 762.4 | 741.7 | 716.9 | 686.6 | 672.8 | 667.3 |
| 30° | 6748.6 | 5208.6 | 1848.8 | 798.3 | 716.9 | 682.4 | 650.7 | 608.0 | 563.9 | 540.4 | 539.1 |
| 32.5° | 6613.5 | 4895.7 | 1403.5 | 705.9 | 645.2 | 602.5 | 557.0 | 503.2 | 452.2 | 426.0 | 424.6 |
| 35° | 6547.3 | 4619.9 | 1072.6 | 638.3 | 581.8 | 528.0 | 471.5 | 412.2 | 362.6 | 337.8 | 335.0 |
| 37.5° | 6591.5 | 4387.0 | 836.9 | 581.8 | 528.0 | 466.0 | 399.8 | 337.8 | 293.7 | 271.6 | 270.2 |
| 40° | 6752.8 | 4238.1 | 679.7 | 533.5 | 482.5 | 406.7 | 335.0 | 277.1 | 239.9 | 222.0 | 220.6 |
| 42.5° | 7096.1 | 4182.9 | 580.4 | 493.6 | 438.4 | 351.6 | 278.5 | 228.9 | 194.4 | 182.0 | 179.2 |
| 45° | 7669.6 | 4264.2 | 512.9 | 455.0 | 392.9 | 299.2 | 230.2 | 187.5 | 157.2 | 147.5 | 146.1 |
| 47.5° | 8433.4 | 4477.9 | 464.6 | 417.7 | 351.6 | 252.3 | 191.6 | 151.7 | 128.2 | 118.6 | 117.2 |
| 50° | 9417.7 | 4817.1 | 424.6 | 380.5 | 313.0 | 213.7 | 158.5 | 119.9 | 99.3 | 92.4 | 92.4 |
| 52.5° | 10489.0 | 5221.1 | 388.8 | 346.0 | 274.4 | 177.8 | 128.2 | 92.4 | 78.6 | 70.3 | 70.3 |
| 55° | 11374.1 | 5574.0 | 350.2 | 319.9 | 227.5 | 147.5 | 97.9 | 70.3 | 57.9 | 53.8 | 53.8 |
| 57.5° | 12257.8 | 5950.4 | 306.1 | 274.4 | 182.0 | 119.9 | 74.4 | 52.4 | 42.7 | 40.0 | 40.0 |
| 60° | 13403.5 | 6410.9 | 263.3 | 223.3 | 143.4 | 91.0 | 55.1 | 37.2 | 31.7 | 30.3 | 30.3 |
| 62.5° | 14663.6 | 6681.1 | 224.7 | 179.2 | 111.7 | 67.6 | 40.0 | 24.8 | 23.4 | 23.4 | 22.1 |
| 65° | 15434.3 | 6299.2 | 188.9 | 143.4 | 86.9 | 51.0 | 26.2 | 17.9 | 20.7 | 19.3 | 16.5 |
| 67.5° | 14451.3 | 4931.5 | 154.4 | 111.7 | 67.6 | 38.6 | 16.5 | 12.4 | 22.1 | 17.9 | 13.8 |
| 70° | 11965.5 | 3452.2 | 119.9 | 78.6 | 53.8 | 33.1 | 11.0 | 8.3 | 23.4 | 17.9 | 11.0 |
| 72.5° | 8954.5 | 2310.7 | 95.1 | 52.4 | 40.0 | 29.0 | 9.7 | 4.1 | 20.7 | 15.2 | 9.7 |
| 75° | 4892.9 | 930.6 | 75.8 | 33.1 | 24.8 | 20.7 | 6.9 | 2.8 | 13.8 | 11.0 | 6.9 |
| 77.5° | 1287.7 | 245.4 | 55.1 | 22.1 | 13.8 | 8.3 | 4.1 | 1.4 | 6.9 | 5.5 | 2.8 |
| 80° | 328.1 | 95.1 | 35.8 | 15.2 | 9.7 | 4.1 | 0.0 | 0.0 | 1.4 | 0.0 | 0.0 |
| 82.5° | 175.1 | 40.0 | 22.1 | 11.0 | 5.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 132.4 | 26.2 | 12.4 | 6.9 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 51.0 | 8.3 | 4.1 | 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 |

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



LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-1-R4

Test Date: 08/20/2019

Luminaire Tested: SA1C-727-U-5WQ

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-1-R4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/28/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: McGRAW-EDISON
 Catalog Number: **SA1C-727-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-1-R3. TO UPDATE THE CATALOG NUMBER.TESTED IN
 SITU. (1) 70 CRI, 2700K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

CCT (K): 2741
 CIE u': 0.2605
 CIE v': 0.5272
 Duv: 0.0005
 CIE x: 0.4573
 CIE y: 0.4113
 CIE z: 0.1313
 Peak Wavelength (nm): 602
 Dominant Wavelength (nm): 583
 Purity: 61.2

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.5 | | |
| R1: | 69.2 | R9: | -16.1 |
| R2: | 79.4 | R10: | 51.4 |
| R3: | 87.8 | R11: | 63.1 |
| R4: | 69.4 | R12: | 42.0 |
| R5: | 66.4 | R13: | 70.2 |
| R6: | 69.8 | R14: | 92.4 |
| R7: | 79.8 | | |
| R8: | 50.1 | | |

Rf: 69.9
 Rg: 98.3



Test Conditions

Stabilization Time: 56M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.3./42%
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-1-R4

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

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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 2700K 4-step quadrangle

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Photopic Flux vs. Wavelength



Photopic Lumens: 6211.7

| 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 | 2044 | 0.0 | 490 | 7179 | 1.0 | 620 | 118034 | 30.7 | 750 | 8362 | 0.0 | 880 | 3128 | 0.0 |
| 365 | 2016 | 0.0 | 495 | 10476 | 1.9 | 625 | 111884 | 24.7 | 755 | 7635 | 0.0 | 885 | 3110 | 0.0 |
| 370 | 2020 | 0.0 | 500 | 15549 | 3.4 | 630 | 106119 | 19.2 | 760 | 6582 | 0.0 | 890 | 2632 | 0.0 |
| 375 | 2137 | 0.0 | 505 | 22477 | 6.3 | 635 | 99706 | 15.0 | 765 | 5777 | 0.0 | 895 | 2709 | 0.0 |
| 380 | 2046 | 0.0 | 510 | 30417 | 10.4 | 640 | 92142 | 11.0 | 770 | 5474 | 0.0 | 900 | 2016 | 0.0 |
| 385 | 1925 | 0.0 | 515 | 39274 | 16.3 | 645 | 84987 | 8.2 | 775 | 4977 | 0.0 | 905 | 1748 | 0.0 |
| 390 | 1893 | 0.0 | 520 | 47282 | 22.9 | 650 | 78016 | 5.7 | 780 | 4723 | 0.0 | 910 | 2046 | 0.0 |
| 395 | 1695 | 0.0 | 525 | 55413 | 29.7 | 655 | 71541 | 4.1 | 785 | 4219 | 0.0 | 915 | 1844 | 0.0 |
| 400 | 1633 | 0.0 | 530 | 62377 | 36.7 | 660 | 64863 | 2.7 | 790 | 3969 | 0.0 | 920 | 2734 | 0.0 |
| 405 | 2065 | 0.0 | 535 | 68520 | 42.5 | 665 | 58485 | 1.9 | 795 | 4122 | 0.0 | 925 | 2307 | 0.0 |
| 410 | 3449 | 0.0 | 540 | 73435 | 47.8 | 670 | 51641 | 1.1 | 800 | 2864 | 0.0 | 930 | 2039 | 0.0 |
| 415 | 7117 | 0.0 | 545 | 78677 | 52.4 | 675 | 46030 | 0.8 | 805 | 3151 | 0.0 | 935 | 1784 | 0.0 |
| 420 | 13992 | 0.0 | 550 | 83331 | 56.6 | 680 | 40590 | 0.5 | 810 | 3022 | 0.0 | 940 | 2464 | 0.0 |
| 425 | 25176 | 0.1 | 555 | 89120 | 60.9 | 685 | 35691 | 0.3 | 815 | 3471 | 0.0 | 945 | 2794 | 0.0 |
| 430 | 38151 | 0.3 | 560 | 94613 | 64.3 | 690 | 31631 | 0.2 | 820 | 2749 | 0.0 | 950 | 3090 | 0.0 |
| 435 | 49673 | 0.6 | 565 | 99818 | 66.4 | 695 | 27437 | 0.1 | 825 | 2729 | 0.0 | 955 | 1866 | 0.0 |
| 440 | 57273 | 0.9 | 570 | 106526 | 69.3 | 700 | 24589 | 0.1 | 830 | 2282 | 0.0 | 960 | 3110 | 0.0 |
| 445 | 54802 | 1.1 | 575 | 111610 | 69.4 | 705 | 21832 | 0.0 | 835 | 3140 | 0.0 | 965 | 3880 | 0.0 |
| 450 | 39184 | 1.0 | 580 | 117163 | 69.6 | 710 | 19500 | 0.0 | 840 | 2365 | 0.0 | 970 | 3243 | 0.0 |
| 455 | 22506 | 0.8 | 585 | 122201 | 67.9 | 715 | 17870 | 0.0 | 845 | 3024 | 0.0 | 975 | 2014 | 0.0 |
| 460 | 13692 | 0.6 | 590 | 125662 | 65.0 | 720 | 15924 | 0.0 | 850 | 2510 | 0.0 | 980 | 1688 | 0.0 |
| 465 | 9446 | 0.5 | 595 | 127415 | 60.4 | 725 | 14268 | 0.0 | 855 | 2739 | 0.0 | 985 | 2827 | 0.0 |
| 470 | 6698 | 0.4 | 600 | 129155 | 55.7 | 730 | 12438 | 0.0 | 860 | 3515 | 0.0 | 990 | 4172 | 0.0 |
| 475 | 5328 | 0.4 | 605 | 128057 | 49.6 | 735 | 11255 | 0.0 | 865 | 3600 | 0.0 | 995 | 3177 | 0.0 |
| 480 | 5081 | 0.5 | 610 | 126031 | 43.3 | 740 | 9951 | 0.0 | 870 | 3609 | 0.0 | 1000 | 3241 | 0.0 |
| 485 | 5579 | 0.7 | 615 | 123059 | 37.1 | 745 | 8870 | 0.0 | 875 | 3208 | 0.0 | | | |

REPORT NUMBER: SP1-1908-441-1-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 6474.3

S/P: 1.04

| 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 | 2044 | 0.0 | 490 | 7179 | 6.0 | 620 | 118034 | 0.1 | 750 | 8362 | 0.0 | 880 | 3128 | 0.0 |
| 365 | 2016 | 0.0 | 495 | 10476 | 8.6 | 625 | 111884 | 0.1 | 755 | 7635 | 0.0 | 885 | 3110 | 0.0 |
| 370 | 2020 | 0.0 | 500 | 15549 | 12.5 | 630 | 106119 | 0.0 | 760 | 6582 | 0.0 | 890 | 2632 | 0.0 |
| 375 | 2137 | 0.0 | 505 | 22477 | 17.3 | 635 | 99706 | 0.0 | 765 | 5777 | 0.0 | 895 | 2709 | 0.0 |
| 380 | 2046 | 0.0 | 510 | 30417 | 21.8 | 640 | 92142 | 0.0 | 770 | 5474 | 0.0 | 900 | 2016 | 0.0 |
| 385 | 1925 | 0.0 | 515 | 39274 | 25.7 | 645 | 84987 | 0.0 | 775 | 4977 | 0.0 | 905 | 1748 | 0.0 |
| 390 | 1893 | 0.0 | 520 | 47282 | 27.5 | 650 | 78016 | 0.0 | 780 | 4723 | 0.0 | 910 | 2046 | 0.0 |
| 395 | 1695 | 0.0 | 525 | 55413 | 28.1 | 655 | 71541 | 0.0 | 785 | 4219 | 0.0 | 915 | 1844 | 0.0 |
| 400 | 1633 | 0.0 | 530 | 62377 | 27.0 | 660 | 64863 | 0.0 | 790 | 3969 | 0.0 | 920 | 2734 | 0.0 |
| 405 | 2065 | 0.0 | 535 | 68520 | 24.7 | 665 | 58485 | 0.0 | 795 | 4122 | 0.0 | 925 | 2307 | 0.0 |
| 410 | 3449 | 0.1 | 540 | 73435 | 21.5 | 670 | 51641 | 0.0 | 800 | 2864 | 0.0 | 930 | 2039 | 0.0 |
| 415 | 7117 | 0.5 | 545 | 78677 | 18.3 | 675 | 46030 | 0.0 | 805 | 3151 | 0.0 | 935 | 1784 | 0.0 |
| 420 | 13992 | 1.6 | 550 | 83331 | 15.0 | 680 | 40590 | 0.0 | 810 | 3022 | 0.0 | 940 | 2464 | 0.0 |
| 425 | 25176 | 3.9 | 555 | 89120 | 12.0 | 685 | 35691 | 0.0 | 815 | 3471 | 0.0 | 945 | 2794 | 0.0 |
| 430 | 38151 | 8.1 | 560 | 94613 | 9.3 | 690 | 31631 | 0.0 | 820 | 2749 | 0.0 | 950 | 3090 | 0.0 |
| 435 | 49673 | 13.3 | 565 | 99818 | 7.0 | 695 | 27437 | 0.0 | 825 | 2729 | 0.0 | 955 | 1866 | 0.0 |
| 440 | 57273 | 19.1 | 570 | 106526 | 5.2 | 700 | 24589 | 0.0 | 830 | 2282 | 0.0 | 960 | 3110 | 0.0 |
| 445 | 54802 | 21.6 | 575 | 111610 | 3.7 | 705 | 21832 | 0.0 | 835 | 3140 | 0.0 | 965 | 3880 | 0.0 |
| 450 | 39184 | 18.1 | 580 | 117163 | 2.6 | 710 | 19500 | 0.0 | 840 | 2365 | 0.0 | 970 | 3243 | 0.0 |
| 455 | 22506 | 11.8 | 585 | 122201 | 1.8 | 715 | 17870 | 0.0 | 845 | 3024 | 0.0 | 975 | 2014 | 0.0 |
| 460 | 13692 | 8.1 | 590 | 125662 | 1.2 | 720 | 15924 | 0.0 | 850 | 2510 | 0.0 | 980 | 1688 | 0.0 |
| 465 | 9446 | 6.2 | 595 | 127415 | 0.8 | 725 | 14268 | 0.0 | 855 | 2739 | 0.0 | 985 | 2827 | 0.0 |
| 470 | 6698 | 4.8 | 600 | 129155 | 0.5 | 730 | 12438 | 0.0 | 860 | 3515 | 0.0 | 990 | 4172 | 0.0 |
| 475 | 5328 | 4.1 | 605 | 128057 | 0.4 | 735 | 11255 | 0.0 | 865 | 3600 | 0.0 | 995 | 3177 | 0.0 |
| 480 | 5081 | 4.1 | 610 | 126031 | 0.2 | 740 | 9951 | 0.0 | 870 | 3609 | 0.0 | 1000 | 3241 | 0.0 |
| 485 | 5579 | 4.6 | 615 | 123059 | 0.1 | 745 | 8870 | 0.0 | 875 | 3208 | 0.0 | | | |

REPORT NUMBER: SP1-1908-441-1-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 2145.7 M/P: 0.35

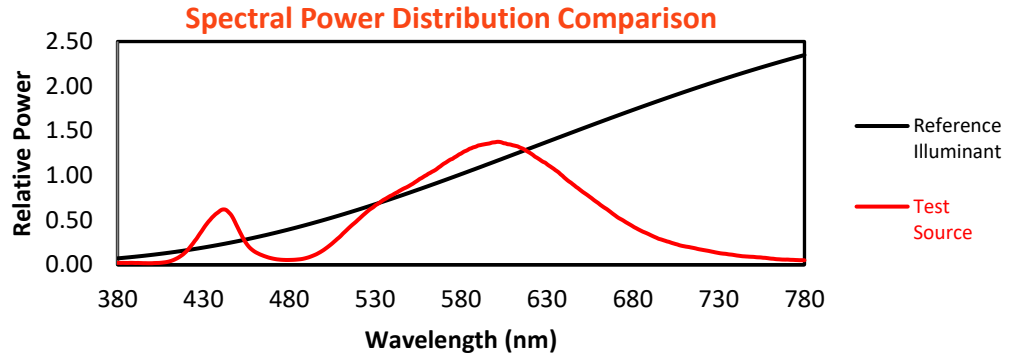
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2044 | 0.0 | 490 | 7179 | 11.1 | 620 | 118034 | 1.5 | 750 | 8362 | 0.0 | 880 | 3128 | 0.0 |
| 365 | 2016 | 0.0 | 495 | 10476 | 16.9 | 625 | 111884 | 0.9 | 755 | 7635 | 0.0 | 885 | 3110 | 0.0 |
| 370 | 2020 | 0.0 | 500 | 15549 | 26.0 | 630 | 106119 | 0.6 | 760 | 6582 | 0.0 | 890 | 2632 | 0.0 |
| 375 | 2137 | 0.0 | 505 | 22477 | 38.2 | 635 | 99706 | 0.4 | 765 | 5777 | 0.0 | 895 | 2709 | 0.0 |
| 380 | 2046 | 0.0 | 510 | 30417 | 51.6 | 640 | 92142 | 0.2 | 770 | 5474 | 0.0 | 900 | 2016 | 0.0 |
| 385 | 1925 | 0.0 | 515 | 39274 | 65.1 | 645 | 84987 | 0.1 | 775 | 4977 | 0.0 | 905 | 1748 | 0.0 |
| 390 | 1893 | 0.0 | 520 | 47282 | 75.2 | 650 | 78016 | 0.1 | 780 | 4723 | 0.0 | 910 | 2046 | 0.0 |
| 395 | 1695 | 0.0 | 525 | 55413 | 82.9 | 655 | 71541 | 0.1 | 785 | 4219 | 0.0 | 915 | 1844 | 0.0 |
| 400 | 1633 | 0.0 | 530 | 62377 | 86.0 | 660 | 64863 | 0.0 | 790 | 3969 | 0.0 | 920 | 2734 | 0.0 |
| 405 | 2065 | 0.1 | 535 | 68520 | 85.4 | 665 | 58485 | 0.0 | 795 | 4122 | 0.0 | 925 | 2307 | 0.0 |
| 410 | 3449 | 0.2 | 540 | 73435 | 81.1 | 670 | 51641 | 0.0 | 800 | 2864 | 0.0 | 930 | 2039 | 0.0 |
| 415 | 7117 | 0.7 | 545 | 78677 | 75.4 | 675 | 46030 | 0.0 | 805 | 3151 | 0.0 | 935 | 1784 | 0.0 |
| 420 | 13992 | 2.3 | 550 | 83331 | 68.1 | 680 | 40590 | 0.0 | 810 | 3022 | 0.0 | 940 | 2464 | 0.0 |
| 425 | 25176 | 6.2 | 555 | 89120 | 60.9 | 685 | 35691 | 0.0 | 815 | 3471 | 0.0 | 945 | 2794 | 0.0 |
| 430 | 38151 | 13.0 | 560 | 94613 | 52.9 | 690 | 31631 | 0.0 | 820 | 2749 | 0.0 | 950 | 3090 | 0.0 |
| 435 | 49673 | 22.2 | 565 | 99818 | 44.8 | 695 | 27437 | 0.0 | 825 | 2729 | 0.0 | 955 | 1866 | 0.0 |
| 440 | 57273 | 32.0 | 570 | 106526 | 37.6 | 700 | 24589 | 0.0 | 830 | 2282 | 0.0 | 960 | 3110 | 0.0 |
| 445 | 54802 | 36.7 | 575 | 111610 | 30.4 | 705 | 21832 | 0.0 | 835 | 3140 | 0.0 | 965 | 3880 | 0.0 |
| 450 | 39184 | 30.4 | 580 | 117163 | 24.1 | 710 | 19500 | 0.0 | 840 | 2365 | 0.0 | 970 | 3243 | 0.0 |
| 455 | 22506 | 19.7 | 585 | 122201 | 18.7 | 715 | 17870 | 0.0 | 845 | 3024 | 0.0 | 975 | 2014 | 0.0 |
| 460 | 13692 | 13.2 | 590 | 125662 | 14.0 | 720 | 15924 | 0.0 | 850 | 2510 | 0.0 | 980 | 1688 | 0.0 |
| 465 | 9446 | 10.0 | 595 | 127415 | 10.2 | 725 | 14268 | 0.0 | 855 | 2739 | 0.0 | 985 | 2827 | 0.0 |
| 470 | 6698 | 7.7 | 600 | 129155 | 7.3 | 730 | 12438 | 0.0 | 860 | 3515 | 0.0 | 990 | 4172 | 0.0 |
| 475 | 5328 | 6.7 | 605 | 128057 | 5.0 | 735 | 11255 | 0.0 | 865 | 3600 | 0.0 | 995 | 3177 | 0.0 |
| 480 | 5081 | 6.9 | 610 | 126031 | 3.4 | 740 | 9951 | 0.0 | 870 | 3609 | 0.0 | 1000 | 3241 | 0.0 |
| 485 | 5579 | 8.1 | 615 | 123059 | 2.3 | 745 | 8870 | 0.0 | 875 | 3208 | 0.0 | | | |

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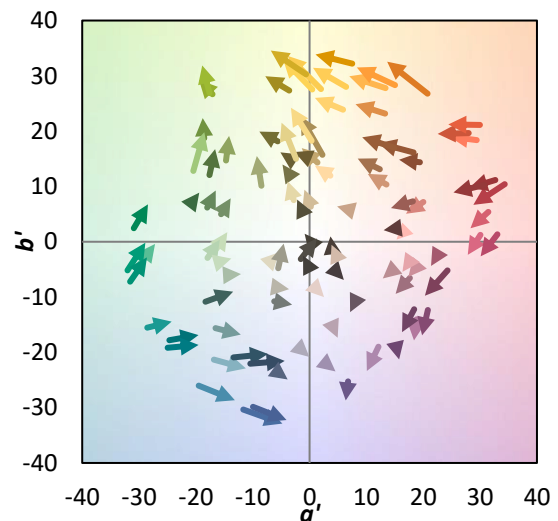
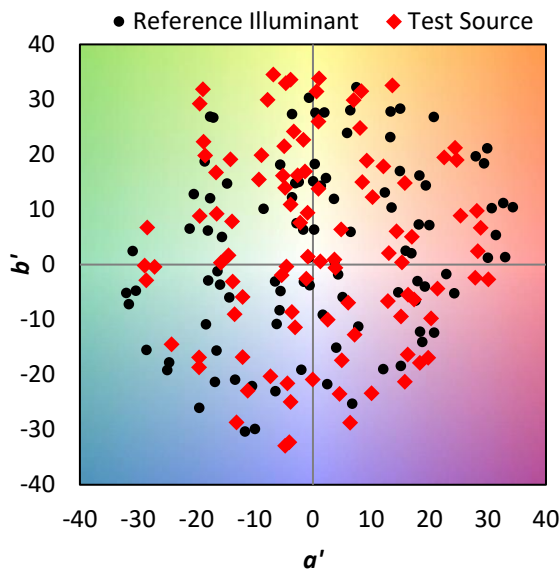
TM-30-18

Summary

$R_f = 69.9$
 $R_g = 98.3$
 CIE $R_a = 71.5$
 $R_9 = -16.1$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 54 | CES51 = 77 | CES76 = 48 |
| CES02 = 63 | CES27 = 74 | CES52 = 80 | CES77 = 75 |
| CES03 = 31 | CES28 = 80 | CES53 = 66 | CES78 = 56 |
| CES04 = 71 | CES29 = 44 | CES54 = 77 | CES79 = 81 |
| CES05 = 50 | CES30 = 46 | CES55 = 74 | CES80 = 80 |
| CES06 = 52 | CES31 = 50 | CES56 = 63 | CES81 = 73 |
| CES07 = 42 | CES32 = 49 | CES57 = 60 | CES82 = 91 |
| CES08 = 41 | CES33 = 53 | CES58 = 63 | CES83 = 84 |
| CES09 = 29 | CES34 = 66 | CES59 = 85 | CES84 = 90 |
| CES10 = 77 | CES35 = 82 | CES60 = 89 | CES85 = 87 |
| CES11 = 60 | CES36 = 78 | CES61 = 85 | CES86 = 65 |
| CES12 = 66 | CES37 = 75 | CES62 = 69 | CES87 = 78 |
| CES13 = 43 | CES38 = 53 | CES63 = 68 | CES88 = 73 |
| CES14 = 74 | CES39 = 91 | CES64 = 68 | CES89 = 68 |
| CES15 = 71 | CES40 = 85 | CES65 = 65 | CES90 = 68 |
| CES16 = 48 | CES41 = 76 | CES66 = 62 | CES91 = 91 |
| CES17 = 50 | CES42 = 76 | CES67 = 60 | CES92 = 71 |
| CES18 = 57 | CES43 = 65 | CES68 = 68 | CES93 = 82 |
| CES19 = 73 | CES44 = 98 | CES69 = 77 | CES94 = 57 |
| CES20 = 67 | CES45 = 75 | CES70 = 60 | CES95 = 78 |
| CES21 = 88 | CES46 = 70 | CES71 = 57 | CES96 = 80 |
| CES22 = 80 | CES47 = 63 | CES72 = 86 | CES97 = 79 |
| CES23 = 92 | CES48 = 51 | CES73 = 52 | CES98 = 71 |
| CES24 = 91 | CES49 = 68 | CES74 = 90 | CES99 = 64 |
| CES25 = 73 | CES50 = 77 | CES75 = 58 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)