

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: P321200

Luminaire Tested: **GLEON-SA6B-727-U-T2R-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P321200
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-SA6B-727-U-T2R-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(6) 70 CRI, 2700K, 800mA 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: 23071 lumens
Efficiency: N/A
Efficacy: 92.7 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type II - Medium
BUG Rating: B1 - U0 - G3

Input Watts (W): 249
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

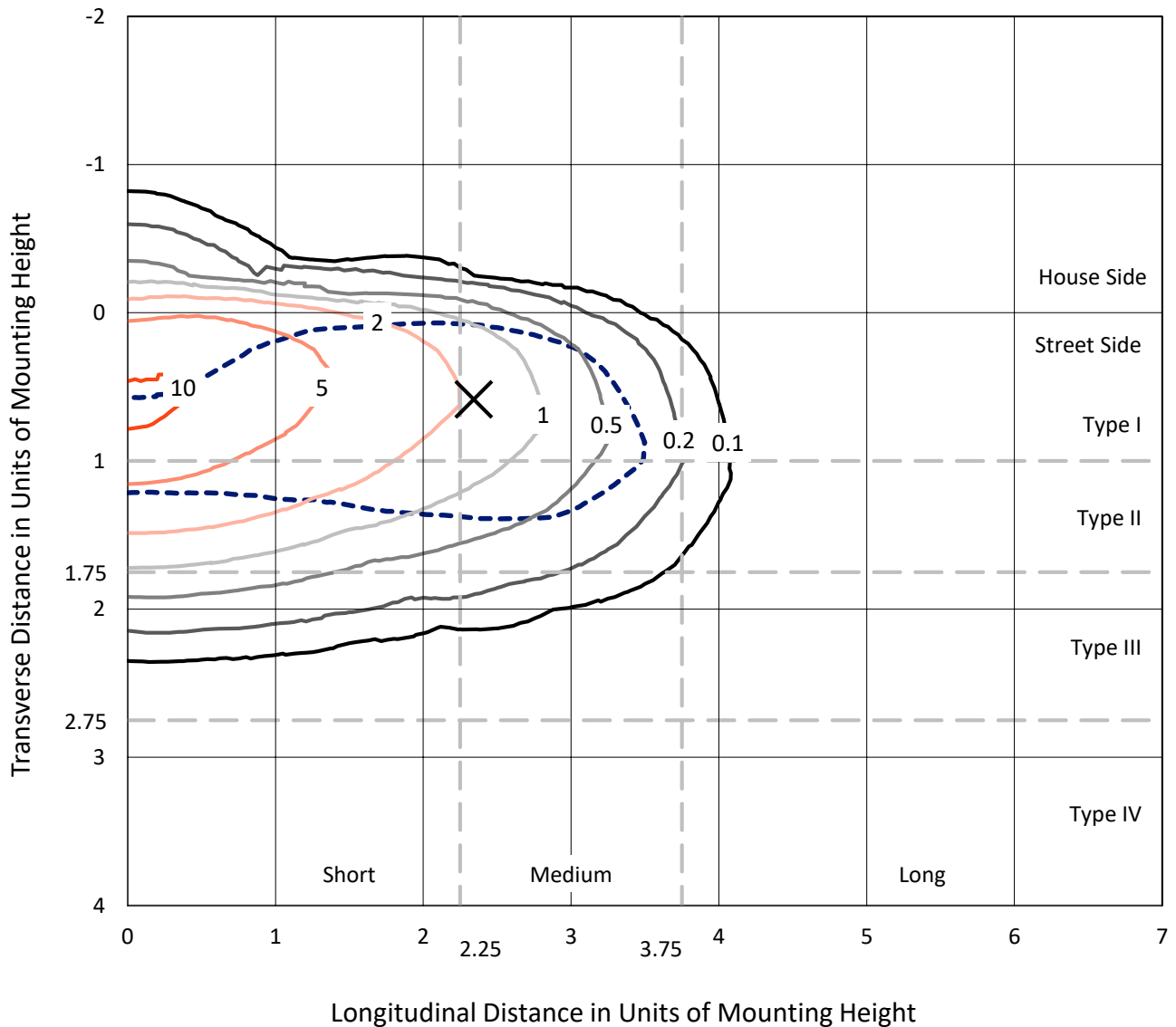




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Iso-Footcandle Lines of Horizontal Illumination

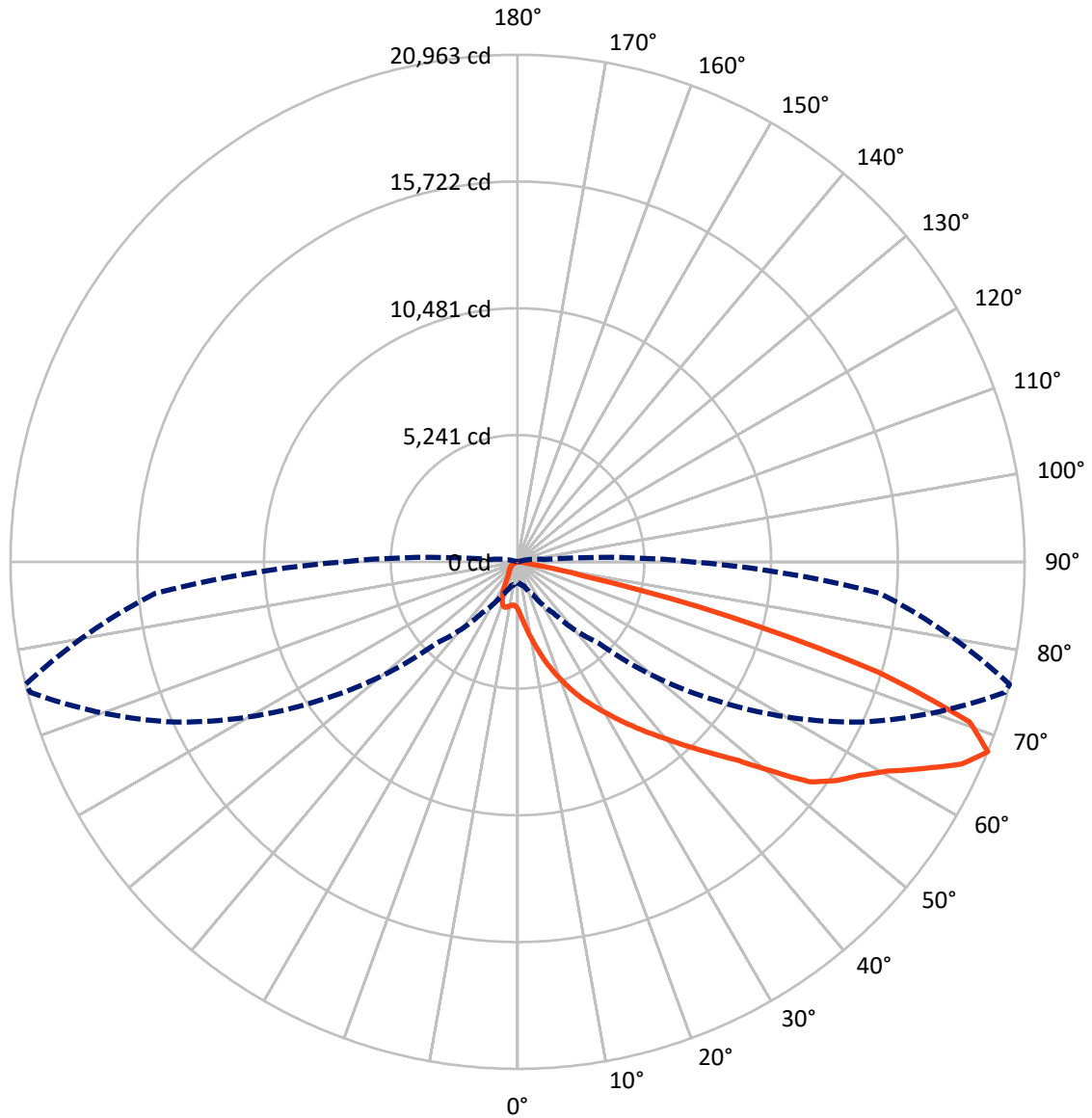
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11 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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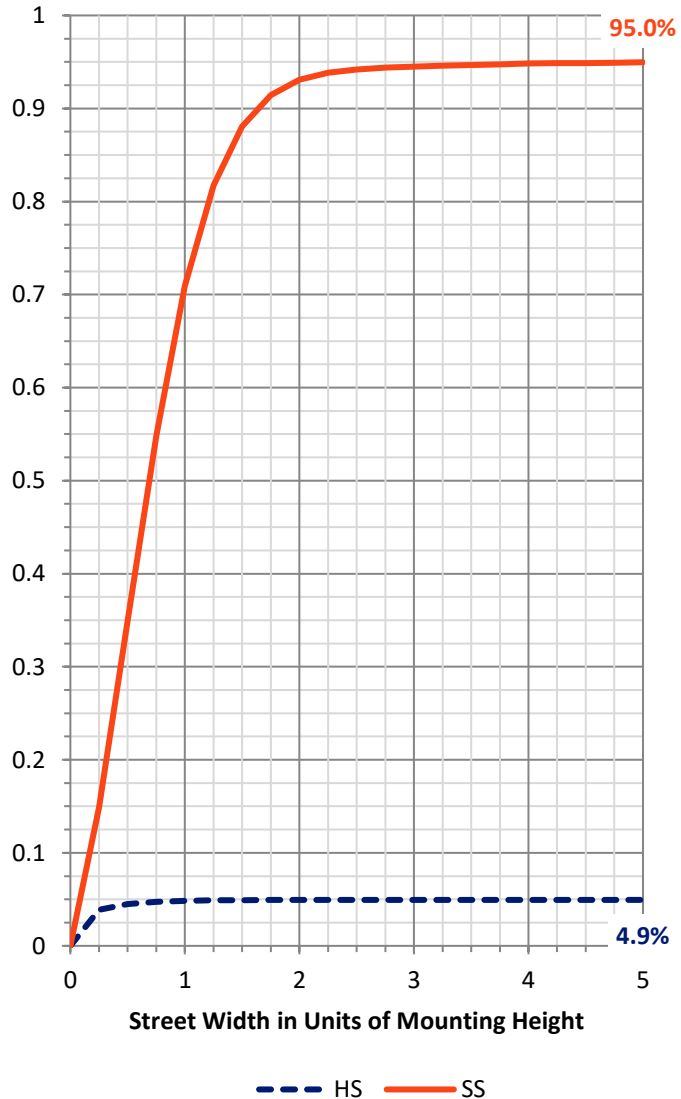
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1145.6 | 0.0 | 1145.6 |
| | % Fixture | 5.0 | 0.0 | 5.0 |
| Street Side | Lumens | 21925.4 | 0.0 | 21925.4 |
| | % Fixture | 95.0 | 0.0 | 95.0 |
| Total | Lumens | 23071.0 | 0.0 | 23071.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 243.4 | 1.1 |
| 10°-20° | 964.7 | 4.2 |
| 20°-30° | 1962.9 | 8.5 |
| 30°-40° | 3406.9 | 14.8 |
| 40°-50° | 4813.6 | 20.9 |
| 50°-60° | 5458.8 | 23.7 |
| 60°-70° | 4527.6 | 19.6 |
| 70°-80° | 1640.0 | 7.1 |
| 80°-90° | 53.2 | 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° | 23071.0 | 100.0 |
| 0°-180° | 23071.0 | 100.0 |

Coefficient of Utilization

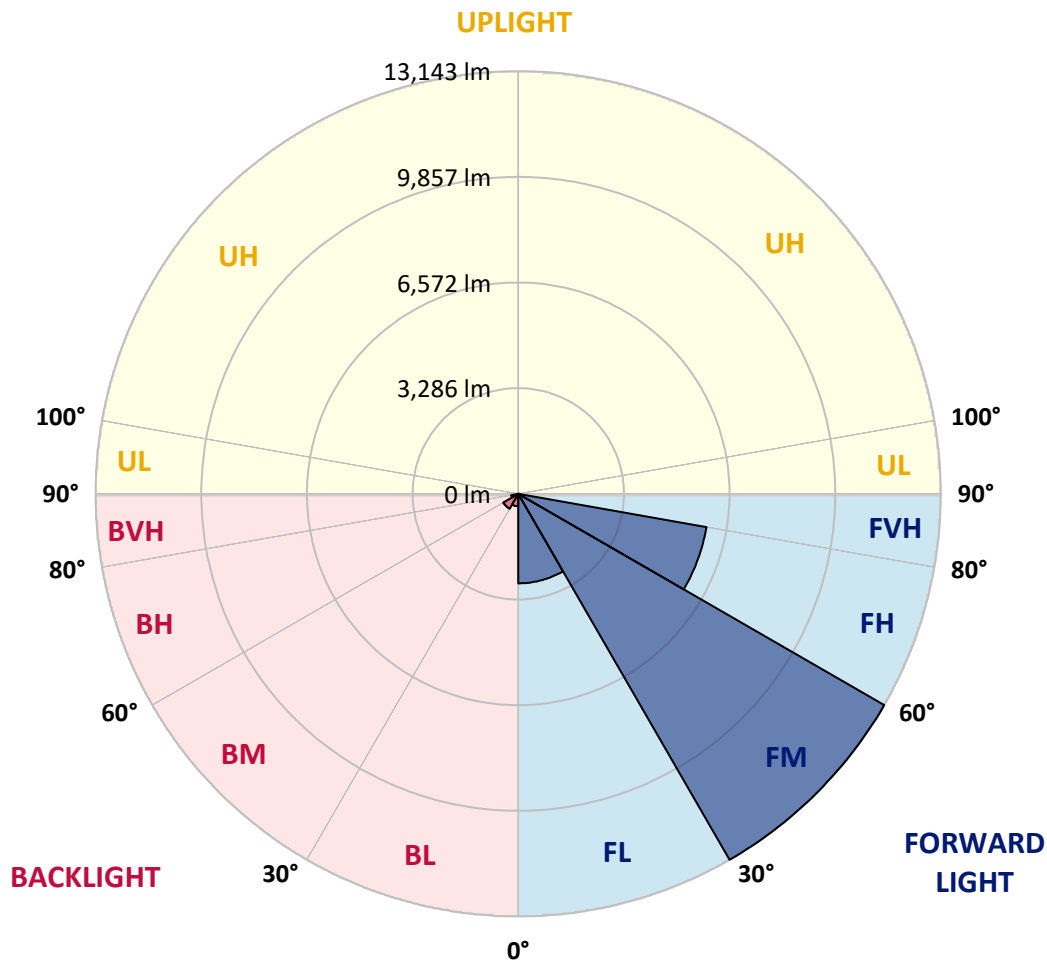


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 2784.6 | 12.1 | | | |
| FM (30°-60°) | 13143.1 | 57.0 | | | |
| FH (60°-80°) | 5946.2 | 25.8 | | | G3/7500 |
| FVH (80°-90°) | 51.5 | 0.2 | | | G1/100 |
| BL (0°-30°) | 386.4 | 1.7 | B1/500 | | |
| BM (30°-60°) | 536.2 | 2.3 | B1/1000 | | |
| BH (60°-80°) | 221.4 | 1.0 | B1/500 | | G1/500 |
| BVH (80°-90°) | 1.7 | 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-G3
 Type II Medium





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CATALOG NUMBER: GLEON-SA6B-727-U-T2R-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 |
| 2.5° | 2921.5 | 2855.8 | 2870.9 | 2828.5 | 2751.7 | 2594.0 | 2459.5 | 2332.1 | 2183.5 | 2178.5 | 2056.2 |
| 5° | 3939.5 | 3883.9 | 3876.8 | 3790.8 | 3651.3 | 3383.5 | 3122.6 | 2825.4 | 2493.9 | 2469.6 | 2209.8 |
| 7.5° | 4863.4 | 4818.9 | 4802.8 | 4700.7 | 4440.9 | 4180.0 | 3840.4 | 3403.7 | 2885.1 | 2840.6 | 2417.0 |
| 10° | 5573.1 | 5551.8 | 5555.9 | 5483.1 | 5260.7 | 5018.1 | 4572.3 | 4015.3 | 3328.9 | 3260.1 | 2665.7 |
| 12.5° | 6110.8 | 6115.9 | 6152.3 | 6107.8 | 5983.5 | 5803.5 | 5327.4 | 4667.3 | 3820.2 | 3726.2 | 2949.8 |
| 15° | 6506.1 | 6531.4 | 6598.1 | 6653.7 | 6644.6 | 6488.9 | 6052.2 | 5329.4 | 4341.8 | 4237.7 | 3266.2 |
| 17.5° | 6761.9 | 6790.2 | 6887.2 | 7010.5 | 7123.8 | 7087.4 | 6751.8 | 5968.3 | 4869.5 | 4749.2 | 3604.8 |
| 20° | 6986.3 | 7019.6 | 7123.8 | 7286.5 | 7497.8 | 7543.3 | 7322.9 | 6588.0 | 5396.1 | 5249.6 | 3954.6 |
| 22.5° | 7472.5 | 7471.5 | 7535.2 | 7630.2 | 7831.4 | 7948.7 | 7809.1 | 7163.2 | 5916.8 | 5764.1 | 4311.5 |
| 25° | 8352.0 | 8318.6 | 8296.4 | 8221.6 | 8266.1 | 8338.9 | 8261.0 | 7701.0 | 6440.4 | 6285.7 | 4673.4 |
| 27.5° | 9397.3 | 9417.5 | 9237.5 | 9036.4 | 8880.7 | 8805.9 | 8678.5 | 8199.4 | 6943.8 | 6774.0 | 5027.2 |
| 30° | 10500.1 | 10506.2 | 10293.9 | 10037.2 | 9694.5 | 9410.4 | 9190.0 | 8675.5 | 7461.4 | 7276.4 | 5370.9 |
| 32.5° | 11494.9 | 11455.4 | 11245.2 | 10895.4 | 10462.7 | 10143.3 | 9685.4 | 9207.2 | 8009.3 | 7830.4 | 5753.0 |
| 35° | 12283.4 | 12236.9 | 11981.1 | 11662.7 | 11213.8 | 10892.4 | 10341.4 | 9737.9 | 8585.5 | 8410.6 | 6136.1 |
| 37.5° | 12859.6 | 12805.0 | 12542.2 | 12214.6 | 11827.4 | 11640.4 | 11102.6 | 10315.2 | 9214.3 | 9026.3 | 6539.5 |
| 40° | 13059.7 | 13012.2 | 12847.4 | 12607.9 | 12296.5 | 12254.0 | 11910.3 | 10979.3 | 9898.7 | 9698.5 | 6996.4 |
| 42.5° | 12940.4 | 12893.9 | 12835.3 | 12754.4 | 12625.0 | 12665.5 | 12672.6 | 11736.5 | 10658.9 | 10461.7 | 7500.8 |
| 45° | 12467.3 | 12425.9 | 12486.6 | 12604.8 | 12765.6 | 12965.7 | 13368.1 | 12550.2 | 11508.0 | 11297.7 | 8084.1 |
| 47.5° | 11770.8 | 11740.5 | 11908.3 | 12203.5 | 12673.6 | 13225.5 | 14003.9 | 13405.5 | 12461.3 | 12266.2 | 8812.0 |
| 50° | 10780.2 | 10775.1 | 11110.7 | 11649.5 | 12372.3 | 13350.9 | 14661.0 | 14377.9 | 13785.5 | 13580.3 | 9823.9 |
| 52.5° | 9237.5 | 9247.6 | 9907.8 | 10770.1 | 11843.6 | 13265.9 | 15083.5 | 15627.4 | 15326.1 | 15112.9 | 10700.3 |
| 55° | 7768.7 | 7829.4 | 8297.4 | 9540.8 | 11032.9 | 12950.6 | 15229.1 | 16210.7 | 16176.3 | 15974.1 | 11187.6 |
| 57.5° | 6330.2 | 6440.4 | 6891.3 | 8052.8 | 9849.1 | 12223.7 | 15149.2 | 16463.4 | 16809.1 | 16654.5 | 11830.5 |
| 60° | 4771.4 | 4822.0 | 5341.6 | 6427.3 | 8329.8 | 10897.4 | 14570.0 | 16600.9 | 17674.5 | 17567.3 | 12763.5 |
| 62.5° | 3035.7 | 3162.1 | 3623.0 | 4670.3 | 6485.9 | 9055.6 | 13593.5 | 16598.9 | 18757.1 | 18815.8 | 13967.5 |
| 65° | 1599.2 | 1746.8 | 1991.5 | 2894.2 | 4457.0 | 6998.4 | 12124.7 | 16443.2 | 20085.4 | 20167.3 | 14908.7 |
| 67.5° | 862.3 | 904.7 | 1034.1 | 1502.2 | 2584.9 | 4741.1 | 9966.4 | 15674.9 | 20854.7 | 20962.9 | 15040.1 |
| 70° | 630.8 | 654.0 | 702.6 | 831.0 | 1301.0 | 2753.7 | 7272.4 | 13933.1 | 19863.0 | 19822.6 | 13363.0 |
| 72.5° | 484.2 | 520.6 | 557.0 | 608.6 | 748.1 | 1469.8 | 4527.8 | 10910.6 | 15848.8 | 15581.9 | 9988.6 |
| 75° | 382.1 | 388.2 | 439.7 | 486.2 | 561.0 | 837.0 | 2010.7 | 6354.5 | 9673.2 | 9041.4 | 5179.8 |
| 77.5° | 305.3 | 309.3 | 339.7 | 380.1 | 450.9 | 549.9 | 622.7 | 2499.9 | 3088.3 | 2755.7 | 1124.1 |
| 80° | 180.9 | 191.1 | 252.7 | 293.2 | 374.0 | 346.7 | 227.5 | 542.8 | 482.2 | 436.7 | 189.0 |
| 82.5° | 101.1 | 109.2 | 142.5 | 231.5 | 260.8 | 165.8 | 113.2 | 146.6 | 113.2 | 110.2 | 53.6 |
| 85° | 0.0 | 5.1 | 92.0 | 143.5 | 106.1 | 36.4 | 47.5 | 48.5 | 33.4 | 31.3 | 21.2 |
| 87.5° | 0.0 | 0.0 | 28.3 | 27.3 | 4.0 | 6.1 | 11.1 | 16.2 | 13.1 | 13.1 | 11.1 |
| 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: P321200

CATALOG NUMBER: GLEON-SA6B-727-U-T2R-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 | 1957.1 |
| 2.5° | 1995.5 | 1940.9 | 1837.8 | 1736.7 | 1651.8 | 1582.0 | 1519.4 | 1494.1 | 1473.9 | 1470.8 | 1454.7 |
| 5° | 2084.5 | 1974.3 | 1777.2 | 1615.4 | 1507.2 | 1430.4 | 1364.7 | 1324.3 | 1292.9 | 1280.8 | 1269.7 |
| 7.5° | 2218.9 | 2052.1 | 1769.1 | 1583.1 | 1453.7 | 1324.3 | 1203.0 | 1071.5 | 989.7 | 958.3 | 940.1 |
| 10° | 2382.7 | 2155.2 | 1799.4 | 1574.0 | 1347.5 | 1074.6 | 873.4 | 706.6 | 638.9 | 616.6 | 610.6 |
| 12.5° | 2573.7 | 2283.6 | 1852.0 | 1517.4 | 1121.1 | 763.2 | 602.5 | 545.9 | 530.7 | 523.6 | 523.6 |
| 15° | 2793.1 | 2424.1 | 1889.4 | 1353.6 | 828.9 | 577.2 | 521.6 | 495.3 | 479.2 | 470.1 | 471.1 |
| 17.5° | 3017.5 | 2561.6 | 1871.2 | 1116.0 | 611.6 | 513.5 | 472.1 | 443.8 | 421.5 | 412.4 | 410.4 |
| 20° | 3244.0 | 2689.0 | 1770.1 | 831.0 | 517.6 | 466.0 | 419.5 | 388.2 | 365.9 | 356.8 | 354.8 |
| 22.5° | 3478.5 | 2797.1 | 1592.2 | 609.6 | 465.0 | 413.5 | 368.0 | 336.6 | 315.4 | 307.3 | 303.3 |
| 25° | 3706.9 | 2885.1 | 1343.5 | 493.3 | 415.5 | 363.9 | 320.5 | 291.1 | 271.9 | 263.8 | 262.8 |
| 27.5° | 3920.2 | 2940.7 | 1055.4 | 435.7 | 372.0 | 319.4 | 280.0 | 253.7 | 237.6 | 231.5 | 230.5 |
| 30° | 4112.3 | 2945.7 | 780.4 | 393.2 | 333.6 | 281.0 | 244.6 | 221.4 | 207.2 | 201.2 | 199.1 |
| 32.5° | 4306.4 | 2903.3 | 568.1 | 354.8 | 298.2 | 247.7 | 212.3 | 194.1 | 184.0 | 178.9 | 178.9 |
| 35° | 4489.4 | 2805.2 | 442.8 | 321.5 | 263.8 | 215.3 | 187.0 | 173.9 | 167.8 | 162.8 | 162.8 |
| 37.5° | 4668.3 | 2664.7 | 376.1 | 292.1 | 231.5 | 188.0 | 164.8 | 156.7 | 151.6 | 146.6 | 146.6 |
| 40° | 4850.3 | 2487.8 | 341.7 | 264.9 | 205.2 | 166.8 | 146.6 | 139.5 | 134.4 | 130.4 | 129.4 |
| 42.5° | 5073.7 | 2283.6 | 319.4 | 239.6 | 182.0 | 147.6 | 129.4 | 121.3 | 117.3 | 113.2 | 111.2 |
| 45° | 5332.5 | 2107.7 | 301.2 | 214.3 | 162.8 | 131.4 | 112.2 | 104.1 | 98.1 | 93.0 | 92.0 |
| 47.5° | 5705.5 | 1980.3 | 277.0 | 187.0 | 144.6 | 114.2 | 97.0 | 87.9 | 78.8 | 73.8 | 72.8 |
| 50° | 6181.6 | 1875.2 | 245.6 | 162.8 | 126.4 | 97.0 | 80.9 | 69.8 | 61.7 | 56.6 | 56.6 |
| 52.5° | 6418.2 | 1737.7 | 217.3 | 141.5 | 106.1 | 81.9 | 65.7 | 52.6 | 48.5 | 43.5 | 43.5 |
| 55° | 6513.2 | 1632.6 | 189.0 | 120.3 | 87.9 | 67.7 | 51.6 | 40.4 | 37.4 | 34.4 | 33.4 |
| 57.5° | 6780.1 | 1602.3 | 164.8 | 102.1 | 72.8 | 53.6 | 39.4 | 30.3 | 28.3 | 24.3 | 24.3 |
| 60° | 7209.7 | 1617.4 | 142.5 | 86.9 | 58.6 | 41.4 | 29.3 | 23.3 | 21.2 | 17.2 | 17.2 |
| 62.5° | 7673.7 | 1598.2 | 120.3 | 74.8 | 45.5 | 30.3 | 20.2 | 17.2 | 17.2 | 10.1 | 9.1 |
| 65° | 7762.6 | 1423.3 | 103.1 | 61.7 | 35.4 | 22.2 | 13.1 | 11.1 | 15.2 | 2.0 | 0.0 |
| 67.5° | 7204.6 | 1103.9 | 89.0 | 47.5 | 26.3 | 17.2 | 10.1 | 5.1 | 13.1 | 0.0 | 0.0 |
| 70° | 5761.1 | 701.6 | 71.8 | 34.4 | 20.2 | 14.2 | 8.1 | 2.0 | 10.1 | 0.0 | 0.0 |
| 72.5° | 4073.9 | 407.4 | 56.6 | 24.3 | 17.2 | 11.1 | 6.1 | 0.0 | 6.1 | 0.0 | 0.0 |
| 75° | 2060.2 | 217.3 | 35.4 | 18.2 | 13.1 | 8.1 | 4.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| 77.5° | 445.8 | 101.1 | 22.2 | 13.1 | 9.1 | 5.1 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 97.0 | 44.5 | 14.2 | 8.1 | 5.1 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 35.4 | 23.3 | 7.1 | 4.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 19.2 | 12.1 | 4.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 10.1 | 4.0 | 1.0 | 1.0 | 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

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



Color Vector Graphics



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

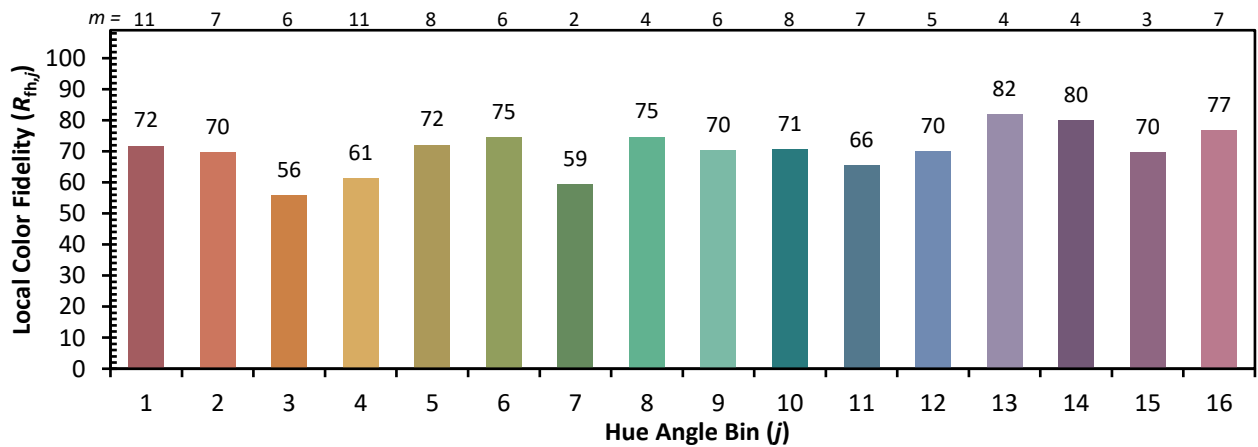
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 54 | CES51 = 77 | CES76 = 48 |
| CES02 = 63 | CES27 = 74 | CES52 = 80 | CES77 = 75 |
| CES03 = 31 | CES28 = 80 | CES53 = 66 | CES78 = 56 |
| CES04 = 71 | CES29 = 44 | CES54 = 77 | CES79 = 81 |
| CES05 = 50 | CES30 = 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)