

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: P319730

Luminaire Tested: **GLEON-SA6C-750-U-SL3**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P319730  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-22)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GLEON-SA6C-750-U-SL3  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(6) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
SPILL LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 42307 lumens  
Efficiency: N/A  
Efficacy: 127.0 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B3 - U0 - G5

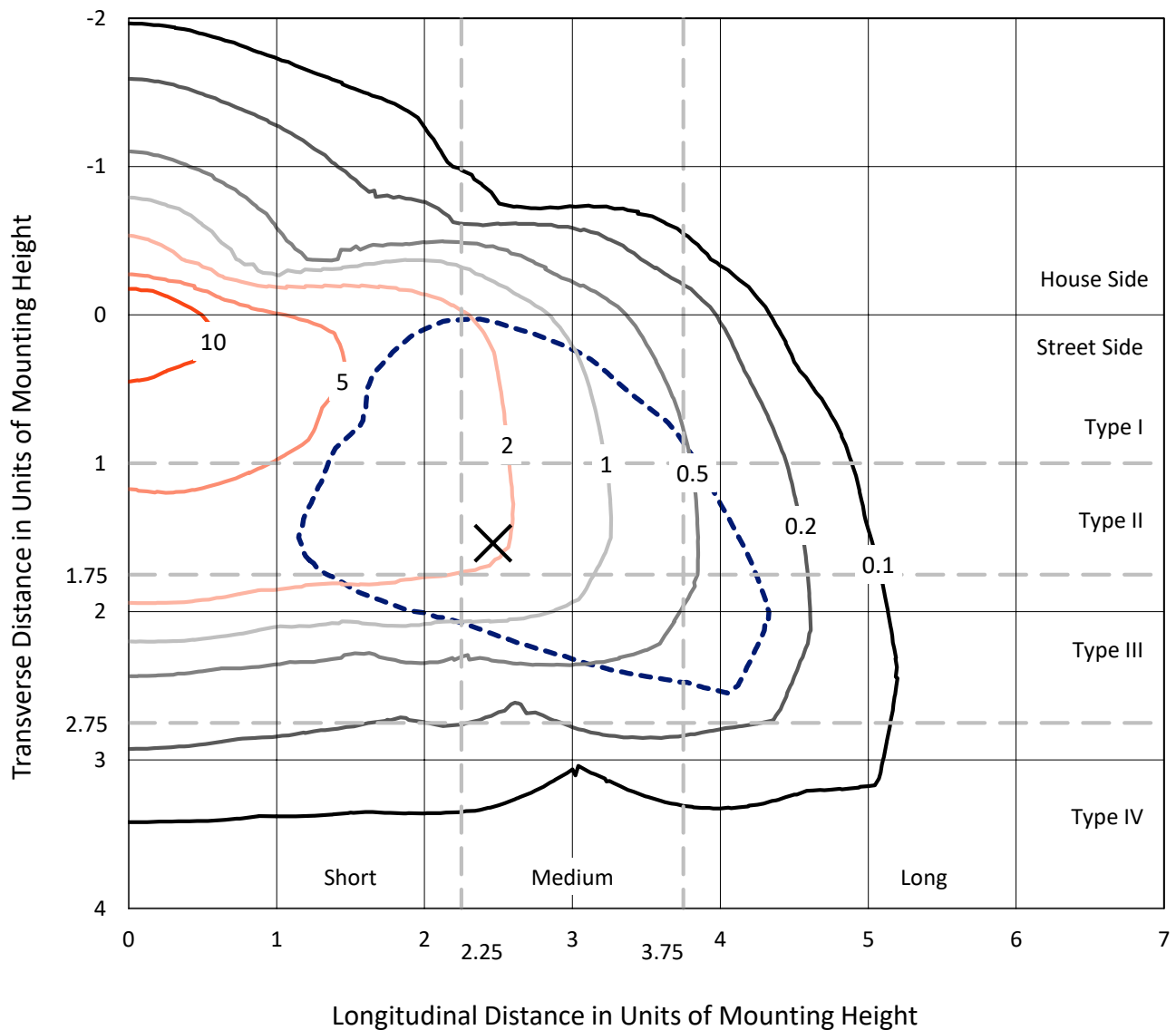
Input Watts (W): 333  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

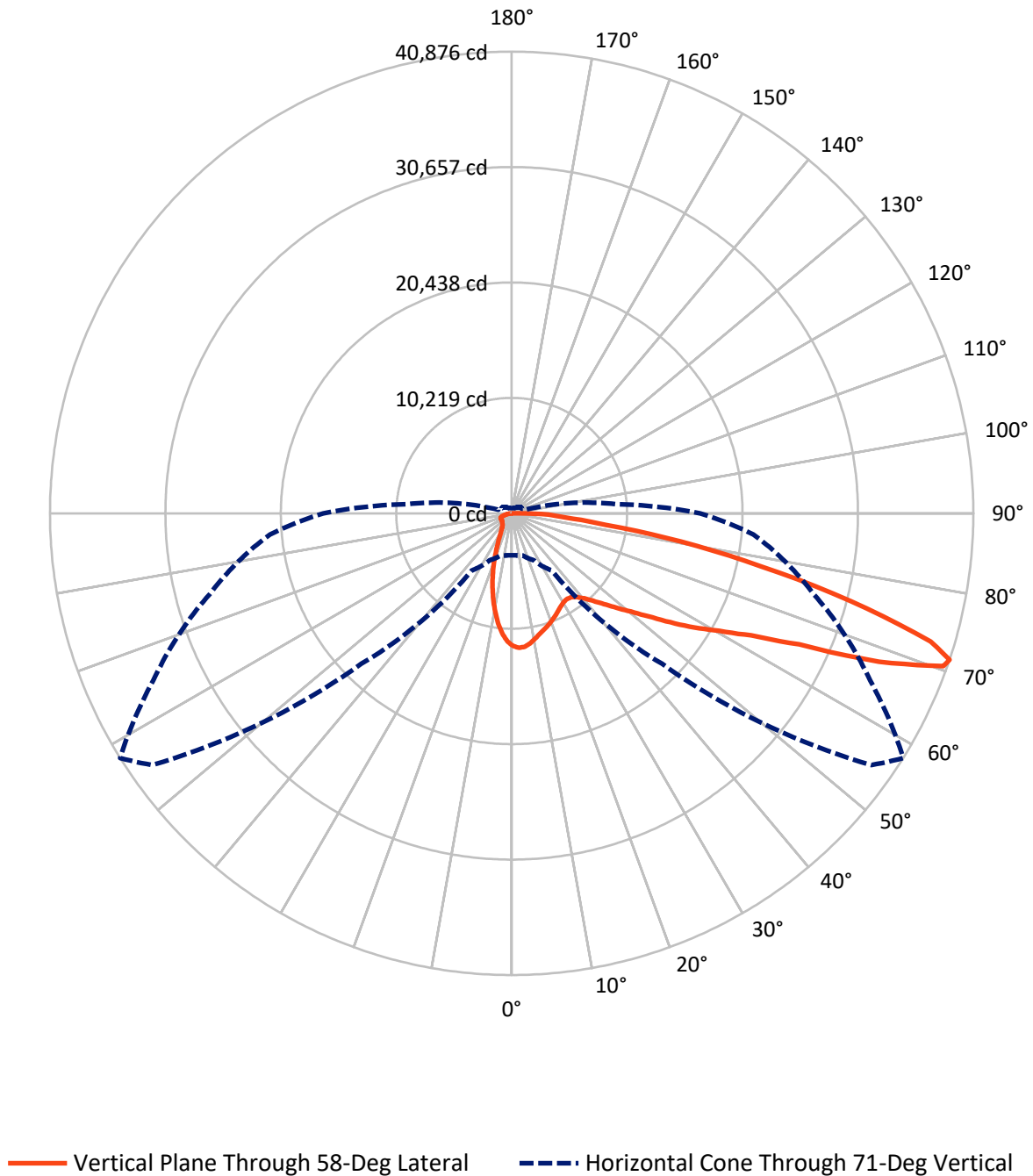
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 18.8 fc  
 Type III - Medium - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 6325.2   | 0.0    | 6325.2  |
|                    | % Fixture | 15.0     | 0.0    | 15.0    |
| <b>Street Side</b> | Lumens    | 35981.8  | 0.0    | 35981.8 |
|                    | % Fixture | 85.0     | 0.0    | 85.0    |
| <b>Total</b>       | Lumens    | 42307.0  | 0.0    | 42307.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 1011.2  | 2.4       |
| 10°-20°   | 2248.6  | 5.3       |
| 20°-30°   | 2857.8  | 6.8       |
| 30°-40°   | 3640.2  | 8.6       |
| 40°-50°   | 5162.0  | 12.2      |
| 50°-60°   | 7988.4  | 18.9      |
| 60°-70°   | 10875.2 | 25.7      |
| 70°-80°   | 7255.0  | 17.1      |
| 80°-90°   | 1268.4  | 3.0       |
| 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°    | 42307.0 | 100.0     |
| 0°-180°   | 42307.0 | 100.0     |

**Coefficient of Utilization**



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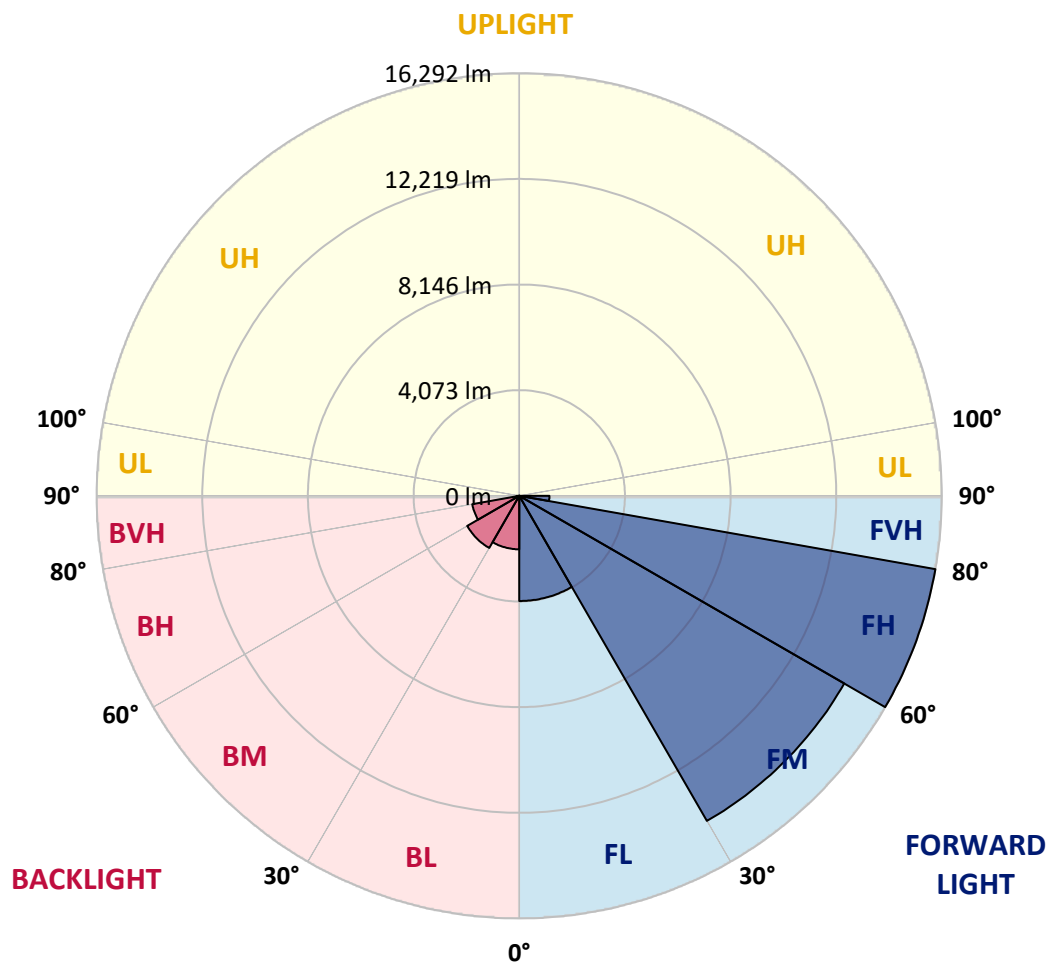
CATALOG NUMBER: GLEON-SA6C-750-U-SL3

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|---------|-----------|-------------------------|------|---------|
|      |             |         |           | B                       | U    | G       |
| FL   | (0°-30°)    | 4055.8  | 9.6       |                         |      |         |
| FM   | (30°-60°)   | 14471.0 | 34.2      |                         |      |         |
| FH   | (60°-80°)   | 16291.9 | 38.5      |                         |      | G5      |
| FVH  | (80°-90°)   | 1163.0  | 2.7       |                         |      | G5      |
| BL   | (0°-30°)    | 2061.8  | 4.9       | B3/2500                 |      |         |
| BM   | (30°-60°)   | 2319.6  | 5.5       | B2/2500                 |      |         |
| BH   | (60°-80°)   | 1838.4  | 4.3       | B3/2500                 |      | G3/2500 |
| BVH  | (80°-90°)   | 105.4   | 0.2       |                         |      | G2/225  |
| 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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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 58°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 |
| 2.5°  | 12032.8 | 12016.6 | 12022.5 | 12010.7 | 11982.7 | 11954.7 | 11913.4 | 11920.8 | 11863.3 | 11777.9 | 11671.8 |
| 5°    | 11805.9 | 11800.0 | 11844.2 | 11869.2 | 11889.9 | 11873.7 | 11861.9 | 11876.6 | 11792.6 | 11674.7 | 11490.5 |
| 7.5°  | 11329.9 | 11265.0 | 11321.0 | 11405.0 | 11484.6 | 11545.0 | 11624.6 | 11634.9 | 11581.9 | 11458.1 | 11216.4 |
| 10°   | 10653.4 | 10591.5 | 10674.1 | 10805.2 | 10964.4 | 11108.8 | 11269.4 | 11298.9 | 11309.2 | 11197.2 | 10904.0 |
| 12.5° | 9951.9  | 9904.8  | 9987.3  | 10171.5 | 10435.3 | 10657.9 | 10914.3 | 10958.5 | 11049.9 | 10974.7 | 10615.1 |
| 15°   | 9324.1  | 9306.5  | 9406.7  | 9587.9  | 9891.5  | 10231.9 | 10601.8 | 10682.9 | 10837.6 | 10812.6 | 10389.6 |
| 17.5° | 8781.8  | 8777.4  | 8854.0  | 9044.1  | 9380.1  | 9810.5  | 10290.9 | 10428.0 | 10657.9 | 10687.3 | 10203.9 |
| 20°   | 8378.0  | 8369.2  | 8422.2  | 8562.2  | 8908.6  | 9396.4  | 9954.9  | 10143.5 | 10475.1 | 10578.3 | 10012.4 |
| 22.5° | 8161.4  | 8159.9  | 8161.4  | 8227.7  | 8510.7  | 8964.6  | 9627.7  | 9857.6  | 10296.8 | 10491.3 | 9800.2  |
| 25°   | 8124.5  | 8120.1  | 8087.7  | 8080.3  | 8241.0  | 8603.5  | 9303.5  | 9557.0  | 10127.3 | 10430.9 | 9598.3  |
| 27.5° | 8220.3  | 8226.2  | 8183.5  | 8114.2  | 8146.7  | 8366.2  | 9022.0  | 9293.2  | 9991.7  | 10419.1 | 9458.3  |
| 30°   | 8419.3  | 8416.3  | 8379.5  | 8307.3  | 8243.9  | 8277.8  | 8821.6  | 9092.8  | 9900.4  | 10470.7 | 9362.5  |
| 32.5° | 8638.9  | 8655.1  | 8647.7  | 8607.9  | 8513.6  | 8378.0  | 8761.2  | 9026.5  | 9873.8  | 10594.5 | 9321.2  |
| 35°   | 8902.7  | 8920.3  | 8973.4  | 9004.4  | 8893.8  | 8675.7  | 8890.9  | 9120.8  | 9950.5  | 10827.3 | 9387.5  |
| 37.5° | 9153.2  | 9198.9  | 9347.7  | 9478.9  | 9384.6  | 9141.4  | 9235.7  | 9399.3  | 10187.7 | 11194.3 | 9565.8  |
| 40°   | 9442.0  | 9481.8  | 9725.0  | 10003.5 | 9988.8  | 9736.8  | 9791.3  | 9900.4  | 10606.3 | 11720.4 | 9888.6  |
| 42.5° | 9726.5  | 9806.0  | 10158.3 | 10553.2 | 10666.7 | 10444.2 | 10531.1 | 10588.6 | 11195.8 | 12417.5 | 10451.5 |
| 45°   | 10105.2 | 10190.7 | 10680.0 | 11156.0 | 11421.2 | 11296.0 | 11434.5 | 11456.6 | 11937.0 | 13366.5 | 11269.4 |
| 47.5° | 10678.5 | 10775.7 | 11346.1 | 11845.7 | 12250.9 | 12264.2 | 12492.6 | 12483.8 | 12862.5 | 14452.6 | 12299.6 |
| 50°   | 11571.5 | 11711.6 | 12178.7 | 12645.9 | 13138.1 | 13412.2 | 13717.3 | 13674.5 | 13972.2 | 15609.5 | 13485.9 |
| 52.5° | 12741.7 | 12806.5 | 13152.8 | 13497.7 | 14109.3 | 14723.8 | 15161.5 | 15123.2 | 15230.8 | 16798.8 | 14832.9 |
| 55°   | 13954.5 | 14003.2 | 14146.1 | 14334.8 | 15157.1 | 16159.2 | 17084.7 | 17024.3 | 16751.6 | 18033.8 | 16163.6 |
| 57.5° | 15045.1 | 15143.8 | 15242.6 | 15320.7 | 16212.3 | 17659.4 | 19052.1 | 19056.5 | 18402.2 | 19366.0 | 17538.6 |
| 60°   | 15214.6 | 15301.5 | 15954.4 | 16570.4 | 18017.5 | 19660.7 | 21158.0 | 21113.8 | 20110.2 | 20811.7 | 19071.2 |
| 62.5° | 13449.1 | 13645.1 | 14735.6 | 16374.4 | 19756.5 | 23321.4 | 23844.6 | 23790.1 | 22152.8 | 22593.4 | 20855.9 |
| 65°   | 9638.0  | 9860.6  | 11176.6 | 13639.2 | 18913.6 | 27355.0 | 28693.1 | 27959.2 | 24938.1 | 24784.8 | 22945.6 |
| 67.5° | 5560.3  | 5613.4  | 6183.7  | 8161.4  | 14401.1 | 27565.7 | 36089.6 | 35062.4 | 29263.4 | 27271.0 | 23968.4 |
| 70°   | 4111.6  | 4110.2  | 4245.8  | 5022.4  | 7793.0  | 22497.6 | 39607.4 | 40528.4 | 33817.2 | 28088.9 | 22522.7 |
| 71°   | 3718.2  | 3722.6  | 3874.4  | 4571.4  | 6171.9  | 18831.0 | 38860.2 | 40876.2 | 35016.8 | 27685.1 | 21476.3 |
| 72.5° | 3180.3  | 3195.0  | 3405.7  | 4099.9  | 5191.9  | 12986.3 | 35641.6 | 38789.4 | 35585.6 | 26688.8 | 19839.0 |
| 75°   | 2412.5  | 2446.4  | 2738.1  | 3455.8  | 4745.3  | 6586.0  | 26158.3 | 30974.4 | 31612.5 | 23549.8 | 14741.5 |
| 77.5° | 1721.3  | 1759.6  | 2089.7  | 2906.2  | 4511.0  | 4963.4  | 17518.0 | 22593.4 | 23263.9 | 15092.2 | 6649.4  |
| 80°   | 1087.6  | 1133.3  | 1382.3  | 2312.2  | 4238.4  | 4712.9  | 11008.6 | 15186.6 | 12685.7 | 4829.3  | 1691.8  |
| 82.5° | 638.1   | 673.5   | 857.7   | 1510.5  | 3461.7  | 4539.0  | 6476.9  | 8417.8  | 4936.9  | 1459.0  | 769.3   |
| 85°   | 369.9   | 386.1   | 535.0   | 962.3   | 2514.1  | 4284.1  | 4758.6  | 4705.5  | 2142.8  | 713.3   | 364.0   |
| 87.5° | 172.4   | 191.6   | 316.8   | 502.5   | 1395.6  | 3105.1  | 3760.9  | 3249.5  | 1332.2  | 334.5   | 171.0   |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

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CATALOG NUMBER: GLEON-SA6C-750-U-SL3

**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°     | 105°    | 115°    | 125°    | 135°    | 145°    | 155°    | 165°    | 175°    | 180°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 | 11721.9 |
| 2.5°  | 11620.2 | 11595.1 | 11490.5 | 11397.7 | 11300.4 | 11173.6 | 11033.6 | 11016.0 | 10930.5 | 10946.7 | 10917.2 |
| 5°    | 11390.3 | 11326.9 | 11074.9 | 10846.5 | 10576.8 | 10335.1 | 10072.8 | 9951.9  | 9778.0  | 9766.3  | 9722.0  |
| 7.5°  | 11061.6 | 10943.7 | 10553.2 | 10119.9 | 9686.7  | 9274.0  | 8865.8  | 8597.6  | 8323.5  | 8207.1  | 8196.8  |
| 10°   | 10691.7 | 10491.3 | 9916.6  | 9275.5  | 8650.7  | 8047.9  | 7464.3  | 7032.5  | 6643.5  | 6459.3  | 6451.9  |
| 12.5° | 10341.0 | 10044.8 | 9256.4  | 8383.9  | 7529.2  | 6748.1  | 5947.9  | 5380.5  | 4892.7  | 4729.1  | 4659.9  |
| 15°   | 10043.3 | 9626.3  | 8613.8  | 7498.2  | 6460.7  | 5376.1  | 4465.3  | 3868.5  | 3417.5  | 3261.3  | 3231.8  |
| 17.5° | 9754.5  | 9218.0  | 7955.1  | 6603.7  | 5349.6  | 4157.3  | 3245.1  | 2801.5  | 2561.3  | 2497.9  | 2496.5  |
| 20°   | 9467.1  | 8798.0  | 7266.9  | 5688.5  | 4275.2  | 3109.5  | 2495.0  | 2296.0  | 2215.0  | 2207.6  | 2195.8  |
| 22.5° | 9141.4  | 8353.0  | 6543.3  | 4770.4  | 3336.5  | 2444.9  | 2120.7  | 2041.1  | 2030.8  | 2057.3  | 2057.3  |
| 25°   | 8836.3  | 7910.9  | 5809.4  | 3871.4  | 2595.2  | 2039.6  | 1893.7  | 1877.5  | 1905.5  | 1952.7  | 1957.1  |
| 27.5° | 8551.9  | 7485.0  | 5093.1  | 3072.7  | 2079.4  | 1796.4  | 1736.0  | 1755.2  | 1805.3  | 1859.8  | 1861.3  |
| 30°   | 8317.6  | 7082.6  | 4397.5  | 2421.3  | 1756.7  | 1615.2  | 1604.9  | 1643.2  | 1697.7  | 1740.4  | 1750.8  |
| 32.5° | 8136.3  | 6739.3  | 3725.5  | 1946.8  | 1545.9  | 1479.6  | 1488.4  | 1520.9  | 1554.8  | 1578.3  | 1594.6  |
| 35°   | 8052.3  | 6444.5  | 3105.1  | 1641.7  | 1411.8  | 1375.0  | 1386.8  | 1404.4  | 1419.2  | 1436.9  | 1450.1  |
| 37.5° | 8067.1  | 6216.1  | 2551.0  | 1451.6  | 1321.9  | 1302.8  | 1302.8  | 1302.8  | 1302.8  | 1311.6  | 1313.1  |
| 40°   | 8204.1  | 6084.9  | 2100.0  | 1330.8  | 1261.5  | 1240.9  | 1224.7  | 1209.9  | 1198.1  | 1204.0  | 1201.1  |
| 42.5° | 8554.9  | 6073.1  | 1769.9  | 1254.1  | 1212.9  | 1179.0  | 1146.5  | 1125.9  | 1111.2  | 1117.1  | 1120.0  |
| 45°   | 9150.2  | 6220.5  | 1547.4  | 1199.6  | 1167.2  | 1115.6  | 1074.3  | 1052.2  | 1041.9  | 1061.1  | 1064.0  |
| 47.5° | 9921.0  | 6541.8  | 1411.8  | 1159.8  | 1124.4  | 1056.6  | 1012.4  | 991.8   | 994.8   | 1022.8  | 1030.1  |
| 50°   | 10914.3 | 7063.5  | 1347.0  | 1134.8  | 1095.0  | 1006.5  | 960.9   | 943.2   | 952.0   | 991.8   | 1000.6  |
| 52.5° | 12004.8 | 7815.1  | 1354.3  | 1127.4  | 1075.8  | 969.7   | 921.1   | 900.4   | 915.2   | 952.0   | 959.4   |
| 55°   | 13263.4 | 8718.5  | 1476.7  | 1137.7  | 1047.8  | 946.1   | 888.6   | 853.3   | 865.1   | 899.0   | 904.9   |
| 57.5° | 14661.9 | 9753.0  | 1722.8  | 1134.8  | 1012.4  | 924.0   | 854.8   | 801.7   | 810.5   | 831.2   | 837.1   |
| 60°   | 16117.9 | 11002.7 | 2104.5  | 1143.6  | 996.2   | 897.5   | 809.1   | 742.7   | 739.8   | 757.5   | 760.4   |
| 62.5° | 17865.8 | 12448.4 | 2540.7  | 1149.5  | 1006.5  | 863.6   | 748.6   | 683.8   | 675.0   | 679.4   | 682.3   |
| 65°   | 19666.6 | 13494.7 | 2377.1  | 1125.9  | 1039.0  | 835.6   | 695.6   | 626.3   | 610.1   | 607.2   | 608.6   |
| 67.5° | 19722.6 | 12373.2 | 1666.8  | 1078.8  | 1052.2  | 820.9   | 655.8   | 577.7   | 551.2   | 540.9   | 539.4   |
| 70°   | 17687.4 | 10052.2 | 1298.3  | 1028.6  | 999.2   | 797.3   | 619.0   | 537.9   | 498.1   | 481.9   | 480.4   |
| 71°   | 16694.2 | 9253.4  | 1230.5  | 1003.6  | 959.4   | 773.7   | 602.7   | 520.2   | 479.0   | 461.3   | 458.3   |
| 72.5° | 15136.4 | 8295.5  | 1148.0  | 963.8   | 882.8   | 713.3   | 571.8   | 495.2   | 452.4   | 431.8   | 427.4   |
| 75°   | 10862.7 | 5424.7  | 985.9   | 859.2   | 731.0   | 568.9   | 501.1   | 445.1   | 408.2   | 383.2   | 380.2   |
| 77.5° | 4185.3  | 2159.0  | 745.7   | 714.7   | 560.0   | 445.1   | 412.6   | 384.6   | 358.1   | 333.1   | 331.6   |
| 80°   | 1293.9  | 965.3   | 543.8   | 537.9   | 405.3   | 331.6   | 321.3   | 313.9   | 303.6   | 277.1   | 271.2   |
| 82.5° | 691.2   | 554.1   | 374.3   | 347.8   | 265.3   | 221.1   | 232.8   | 235.8   | 237.3   | 209.3   | 206.3   |
| 85°   | 330.1   | 293.3   | 210.7   | 197.5   | 154.7   | 123.8   | 142.9   | 154.7   | 156.2   | 128.2   | 119.4   |
| 87.5° | 157.7   | 153.3   | 98.7    | 75.2    | 57.5    | 41.3    | 50.1    | 61.9    | 67.8    | 48.6    | 42.7    |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |

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

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-4-R4

Test Date: 10/02/2019

Luminaire Tested: SA1C-750-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

### Test Information

Test Method: LM-79-2008  
 Report Number: SP1-1908-441-4-R4  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 10/28/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW-EDISON  
 Catalog Number: **SA1C-750-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.\*\*\*TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 4884   | CRI (Ra): | 73.5 |      |       |
| CIE u':                   | 0.2101 | R1:       | 70.5 | R9:  | -28.4 |
| CIE v':                   | 0.4904 | R2:       | 77.7 | R10: | 48.6  |
| Duv:                      | 0.0037 | R3:       | 84.6 | R11: | 73.2  |
| CIE x:                    | 0.3493 | R4:       | 74.7 | R12: | 50.7  |
| CIE y:                    | 0.3624 | R5:       | 71.9 | R13: | 71.2  |
| CIE z:                    | 0.2884 | R6:       | 70.7 | R14: | 91.4  |
| Peak Wavelength (nm):     | 444    | R7:       | 81.2 |      |       |
| Dominant Wavelength (nm): | 571    | R8:       | 56.9 |      |       |
| Purity:                   | 13.7   |           |      |      |       |
| Rf:                       | 74.9   |           |      |      |       |
| Rg:                       | 96.3   |           |      |      |       |



### Test Conditions

Stabilization Time: 240M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.0./44%  
 Sphere Temperature (°C): 25.7

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| 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 5000K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



#####

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 2945             | NR               | 490       | 37941            | NR               | 620       | 88803            | NR               | 750       | 3908             | NR               | 880       | 2997             | NR               |
| 365       | 2596             | NR               | 495       | 48525            | NR               | 625       | 80578            | NR               | 755       | 3988             | NR               | 885       | 2927             | NR               |
| 370       | 2732             | NR               | 500       | 60609            | NR               | 630       | 73127            | NR               | 760       | 3335             | NR               | 890       | 2649             | NR               |
| 375       | 2894             | NR               | 505       | 72036            | NR               | 635       | 66244            | NR               | 765       | 3438             | NR               | 895       | 2828             | NR               |
| 380       | 2822             | NR               | 510       | 82168            | NR               | 640       | 59440            | NR               | 770       | 3427             | NR               | 900       | 1407             | NR               |
| 385       | 2394             | NR               | 515       | 90898            | NR               | 645       | 52864            | NR               | 775       | 2759             | NR               | 905       | 2224             | NR               |
| 390       | 2370             | NR               | 520       | 97142            | NR               | 650       | 47085            | NR               | 780       | 2340             | NR               | 910       | 2905             | NR               |
| 395       | 2267             | NR               | 525       | 103255           | NR               | 655       | 41789            | NR               | 785       | 2412             | NR               | 915       | 3350             | NR               |
| 400       | 2262             | NR               | 530       | 106697           | NR               | 660       | 37064            | NR               | 790       | 1999             | NR               | 920       | 3114             | NR               |
| 405       | 3000             | NR               | 535       | 110081           | NR               | 665       | 32299            | NR               | 795       | 2054             | NR               | 925       | 2834             | NR               |
| 410       | 5324             | NR               | 540       | 112494           | NR               | 670       | 28142            | NR               | 800       | 2331             | NR               | 930       | 2271             | NR               |
| 415       | 10725            | NR               | 545       | 115513           | NR               | 675       | 24505            | NR               | 805       | 2648             | NR               | 935       | 2228             | NR               |
| 420       | 22128            | NR               | 550       | 117203           | NR               | 680       | 21162            | NR               | 810       | 2485             | NR               | 940       | 2833             | NR               |
| 425       | 44095            | NR               | 555       | 119753           | NR               | 685       | 18400            | NR               | 815       | 2409             | NR               | 945       | 2941             | NR               |
| 430       | 77002            | NR               | 560       | 122602           | NR               | 690       | 16065            | NR               | 820       | 2221             | NR               | 950       | 2323             | NR               |
| 435       | 119881           | NR               | 565       | 124314           | NR               | 695       | 13860            | NR               | 825       | 1562             | NR               | 955       | 1667             | NR               |
| 440       | 164454           | NR               | 570       | 126775           | NR               | 700       | 12177            | NR               | 830       | 2249             | NR               | 960       | 749              | NR               |
| 445       | 179997           | NR               | 575       | 127511           | NR               | 705       | 10757            | NR               | 835       | 2573             | NR               | 965       | 2669             | NR               |
| 450       | 142822           | NR               | 580       | 127577           | NR               | 710       | 9601             | NR               | 840       | 2764             | NR               | 970       | 3968             | NR               |
| 455       | 90008            | NR               | 585       | 126153           | NR               | 715       | 8944             | NR               | 845       | 3109             | NR               | 975       | 3886             | NR               |
| 460       | 60557            | NR               | 590       | 123678           | NR               | 720       | 7947             | NR               | 850       | 2963             | NR               | 980       | 2788             | NR               |
| 465       | 43305            | NR               | 595       | 119774           | NR               | 725       | 7062             | NR               | 855       | 2336             | NR               | 985       | 3496             | NR               |
| 470       | 31089            | NR               | 600       | 115733           | NR               | 730       | 6004             | NR               | 860       | 2118             | NR               | 990       | 2913             | NR               |
| 475       | 26278            | NR               | 605       | 109231           | NR               | 735       | 5594             | NR               | 865       | 3144             | NR               | 995       | 4659             | NR               |
| 480       | 27060            | NR               | 610       | 102408           | NR               | 740       | 5165             | NR               | 870       | 3069             | NR               | 1000      | 1308             | NR               |
| 485       | 30698            | NR               | 615       | 96015            | NR               | 745       | 4687             | NR               | 875       | 3311             | NR               |           |                  |                  |

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Scotopic Flux vs. Wavelength



Scotopic Lumens: 13493.5

S/P: 1.77

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(Φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 2945             | NR               | 490       | 37941            | NR               | 620       | 88803            | NR               | 750       | 3908             | NR               | 880       | 2997             | NR               |
| 365       | 2596             | NR               | 495       | 48525            | NR               | 625       | 80578            | NR               | 755       | 3988             | NR               | 885       | 2927             | NR               |
| 370       | 2732             | NR               | 500       | 60609            | NR               | 630       | 73127            | NR               | 760       | 3335             | NR               | 890       | 2649             | NR               |
| 375       | 2894             | NR               | 505       | 72036            | NR               | 635       | 66244            | NR               | 765       | 3438             | NR               | 895       | 2828             | NR               |
| 380       | 2822             | NR               | 510       | 82168            | NR               | 640       | 59440            | NR               | 770       | 3427             | NR               | 900       | 1407             | NR               |
| 385       | 2394             | NR               | 515       | 90898            | NR               | 645       | 52864            | NR               | 775       | 2759             | NR               | 905       | 2224             | NR               |
| 390       | 2370             | NR               | 520       | 97142            | NR               | 650       | 47085            | NR               | 780       | 2340             | NR               | 910       | 2905             | NR               |
| 395       | 2267             | NR               | 525       | 103255           | NR               | 655       | 41789            | NR               | 785       | 2412             | NR               | 915       | 3350             | NR               |
| 400       | 2262             | NR               | 530       | 106697           | NR               | 660       | 37064            | NR               | 790       | 1999             | NR               | 920       | 3114             | NR               |
| 405       | 3000             | NR               | 535       | 110081           | NR               | 665       | 32299            | NR               | 795       | 2054             | NR               | 925       | 2834             | NR               |
| 410       | 5324             | NR               | 540       | 112494           | NR               | 670       | 28142            | NR               | 800       | 2331             | NR               | 930       | 2271             | NR               |
| 415       | 10725            | NR               | 545       | 115513           | NR               | 675       | 24505            | NR               | 805       | 2648             | NR               | 935       | 2228             | NR               |
| 420       | 22128            | NR               | 550       | 117203           | NR               | 680       | 21162            | NR               | 810       | 2485             | NR               | 940       | 2833             | NR               |
| 425       | 44095            | NR               | 555       | 119753           | NR               | 685       | 18400            | NR               | 815       | 2409             | NR               | 945       | 2941             | NR               |
| 430       | 77002            | NR               | 560       | 122602           | NR               | 690       | 16065            | NR               | 820       | 2221             | NR               | 950       | 2323             | NR               |
| 435       | 119881           | NR               | 565       | 124314           | NR               | 695       | 13860            | NR               | 825       | 1562             | NR               | 955       | 1667             | NR               |
| 440       | 164454           | NR               | 570       | 126775           | NR               | 700       | 12177            | NR               | 830       | 2249             | NR               | 960       | 749              | NR               |
| 445       | 179997           | NR               | 575       | 127511           | NR               | 705       | 10757            | NR               | 835       | 2573             | NR               | 965       | 2669             | NR               |
| 450       | 142822           | NR               | 580       | 127577           | NR               | 710       | 9601             | NR               | 840       | 2764             | NR               | 970       | 3968             | NR               |
| 455       | 90008            | NR               | 585       | 126153           | NR               | 715       | 8944             | NR               | 845       | 3109             | NR               | 975       | 3886             | NR               |
| 460       | 60557            | NR               | 590       | 123678           | NR               | 720       | 7947             | NR               | 850       | 2963             | NR               | 980       | 2788             | NR               |
| 465       | 43305            | NR               | 595       | 119774           | NR               | 725       | 7062             | NR               | 855       | 2336             | NR               | 985       | 3496             | NR               |
| 470       | 31089            | NR               | 600       | 115733           | NR               | 730       | 6004             | NR               | 860       | 2118             | NR               | 990       | 2913             | NR               |
| 475       | 26278            | NR               | 605       | 109231           | NR               | 735       | 5594             | NR               | 865       | 3144             | NR               | 995       | 4659             | NR               |
| 480       | 27060            | NR               | 610       | 102408           | NR               | 740       | 5165             | NR               | 870       | 3069             | NR               | 1000      | 1308             | NR               |
| 485       | 30698            | NR               | 615       | 96015            | NR               | 745       | 4687             | NR               | 875       | 3311             | NR               |           |                  |                  |

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 5378.9**

**M/P: 0.71**

| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 2945             | NR               | 490       | 37941            | NR               | 620       | 88803            | NR               | 750       | 3908             | NR               | 880       | 2997             | NR               |
| 365       | 2596             | NR               | 495       | 48525            | NR               | 625       | 80578            | NR               | 755       | 3988             | NR               | 885       | 2927             | NR               |
| 370       | 2732             | NR               | 500       | 60609            | NR               | 630       | 73127            | NR               | 760       | 3335             | NR               | 890       | 2649             | NR               |
| 375       | 2894             | NR               | 505       | 72036            | NR               | 635       | 66244            | NR               | 765       | 3438             | NR               | 895       | 2828             | NR               |
| 380       | 2822             | NR               | 510       | 82168            | NR               | 640       | 59440            | NR               | 770       | 3427             | NR               | 900       | 1407             | NR               |
| 385       | 2394             | NR               | 515       | 90898            | NR               | 645       | 52864            | NR               | 775       | 2759             | NR               | 905       | 2224             | NR               |
| 390       | 2370             | NR               | 520       | 97142            | NR               | 650       | 47085            | NR               | 780       | 2340             | NR               | 910       | 2905             | NR               |
| 395       | 2267             | NR               | 525       | 103255           | NR               | 655       | 41789            | NR               | 785       | 2412             | NR               | 915       | 3350             | NR               |
| 400       | 2262             | NR               | 530       | 106697           | NR               | 660       | 37064            | NR               | 790       | 1999             | NR               | 920       | 3114             | NR               |
| 405       | 3000             | NR               | 535       | 110081           | NR               | 665       | 32299            | NR               | 795       | 2054             | NR               | 925       | 2834             | NR               |
| 410       | 5324             | NR               | 540       | 112494           | NR               | 670       | 28142            | NR               | 800       | 2331             | NR               | 930       | 2271             | NR               |
| 415       | 10725            | NR               | 545       | 115513           | NR               | 675       | 24505            | NR               | 805       | 2648             | NR               | 935       | 2228             | NR               |
| 420       | 22128            | NR               | 550       | 117203           | NR               | 680       | 21162            | NR               | 810       | 2485             | NR               | 940       | 2833             | NR               |
| 425       | 44095            | NR               | 555       | 119753           | NR               | 685       | 18400            | NR               | 815       | 2409             | NR               | 945       | 2941             | NR               |
| 430       | 77002            | NR               | 560       | 122602           | NR               | 690       | 16065            | NR               | 820       | 2221             | NR               | 950       | 2323             | NR               |
| 435       | 119881           | NR               | 565       | 124314           | NR               | 695       | 13860            | NR               | 825       | 1562             | NR               | 955       | 1667             | NR               |
| 440       | 164454           | NR               | 570       | 126775           | NR               | 700       | 12177            | NR               | 830       | 2249             | NR               | 960       | 749              | NR               |
| 445       | 179997           | NR               | 575       | 127511           | NR               | 705       | 10757            | NR               | 835       | 2573             | NR               | 965       | 2669             | NR               |
| 450       | 142822           | NR               | 580       | 127577           | NR               | 710       | 9601             | NR               | 840       | 2764             | NR               | 970       | 3968             | NR               |
| 455       | 90008            | NR               | 585       | 126153           | NR               | 715       | 8944             | NR               | 845       | 3109             | NR               | 975       | 3886             | NR               |
| 460       | 60557            | NR               | 590       | 123678           | NR               | 720       | 7947             | NR               | 850       | 2963             | NR               | 980       | 2788             | NR               |
| 465       | 43305            | NR               | 595       | 119774           | NR               | 725       | 7062             | NR               | 855       | 2336             | NR               | 985       | 3496             | NR               |
| 470       | 31089            | NR               | 600       | 115733           | NR               | 730       | 6004             | NR               | 860       | 2118             | NR               | 990       | 2913             | NR               |
| 475       | 26278            | NR               | 605       | 109231           | NR               | 735       | 5594             | NR               | 865       | 3144             | NR               | 995       | 4659             | NR               |
| 480       | 27060            | NR               | 610       | 102408           | NR               | 740       | 5165             | NR               | 870       | 3069             | NR               | 1000      | 1308             | NR               |
| 485       | 30698            | NR               | 615       | 96015            | NR               | 745       | 4687             | NR               | 875       | 3311             | NR               |           |                  |                  |

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**Summary**

$R_f = 74.9$   
 $R_g = 96.3$   
 CIE  $R_a = 73.5$   
 $R_g = -28.4$

**Spectral Power Distribution Comparison**



**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 61 | CES51 = 90 | CES76 = 52 |
| CES02 = 60 | CES27 = 84 | CES52 = 91 | CES77 = 71 |
| CES03 = 30 | CES28 = 81 | CES53 = 79 | CES78 = 54 |
| CES04 = 69 | CES29 = 58 | CES54 = 83 | CES79 = 80 |
| CES05 = 46 | CES30 = 67 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 63 | CES56 = 73 | CES81 = 77 |
| CES07 = 39 | CES32 = 59 | CES57 = 72 | CES82 = 90 |
| CES08 = 38 | CES33 = 69 | CES58 = 73 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 88 | CES84 = 88 |
| CES10 = 73 | CES35 = 83 | CES60 = 93 | CES85 = 84 |
| CES11 = 56 | CES36 = 95 | CES61 = 88 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 85 | CES87 = 78 |
| CES13 = 41 | CES38 = 76 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 93 | CES64 = 74 | CES89 = 75 |
| CES15 = 70 | CES40 = 86 | CES65 = 67 | CES90 = 77 |
| CES16 = 46 | CES41 = 87 | CES66 = 69 | CES91 = 89 |
| CES17 = 49 | CES42 = 78 | CES67 = 67 | CES92 = 66 |
| CES18 = 55 | CES43 = 75 | CES68 = 73 | CES93 = 80 |
| CES19 = 71 | CES44 = 99 | CES69 = 81 | CES94 = 57 |
| CES20 = 64 | CES45 = 83 | CES70 = 63 | CES95 = 71 |
| CES21 = 85 | CES46 = 81 | CES71 = 60 | CES96 = 78 |
| CES22 = 77 | CES47 = 80 | CES72 = 86 | CES97 = 85 |
| CES23 = 91 | CES48 = 72 | CES73 = 53 | CES98 = 75 |
| CES24 = 90 | CES49 = 81 | CES74 = 96 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 58 |            |



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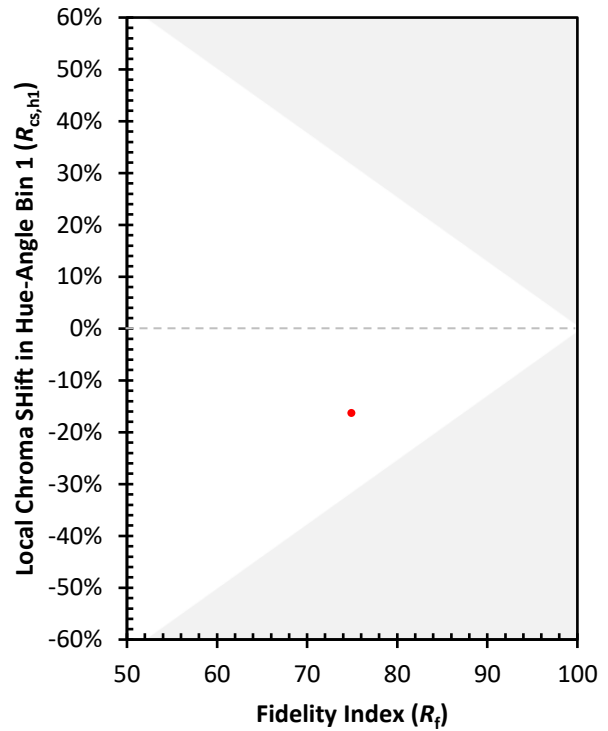
Color Rendition by Hue-Angle Bin



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**Measure Comparisons**



(END OF REPORT)