

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: P324101

Luminaire Tested: **GLEON-SA7D-727-U-SLL-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P324101  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-27)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GLEON-SA7D-727-U-SLL-HSS  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(7) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 34024 lumens  
Efficiency: N/A  
Efficacy: 75.9 lumens/watt  
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B3 - U0 - G4

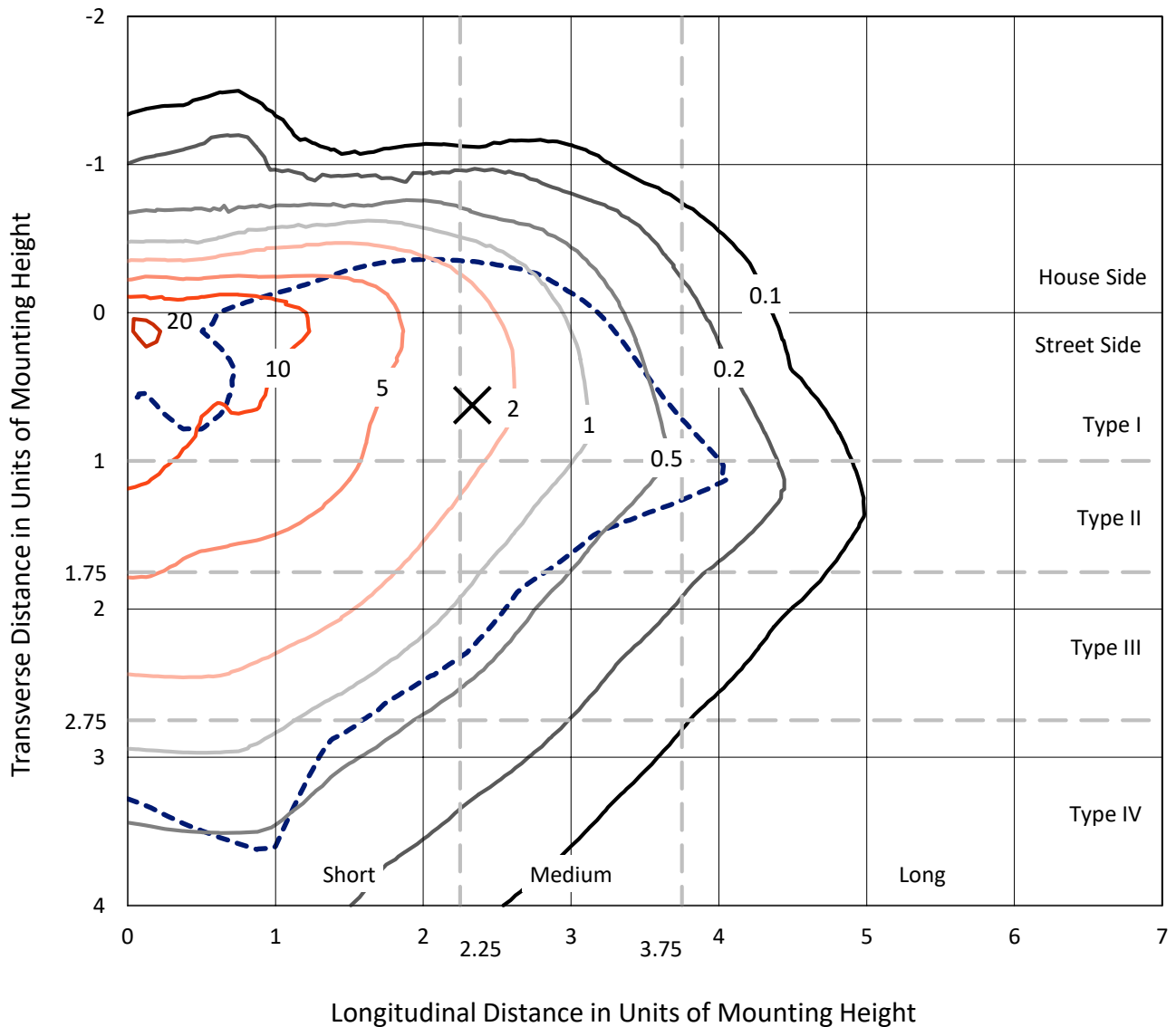
Input Watts (W): 448  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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### Iso-Footcandle Lines of Horizontal Illumination

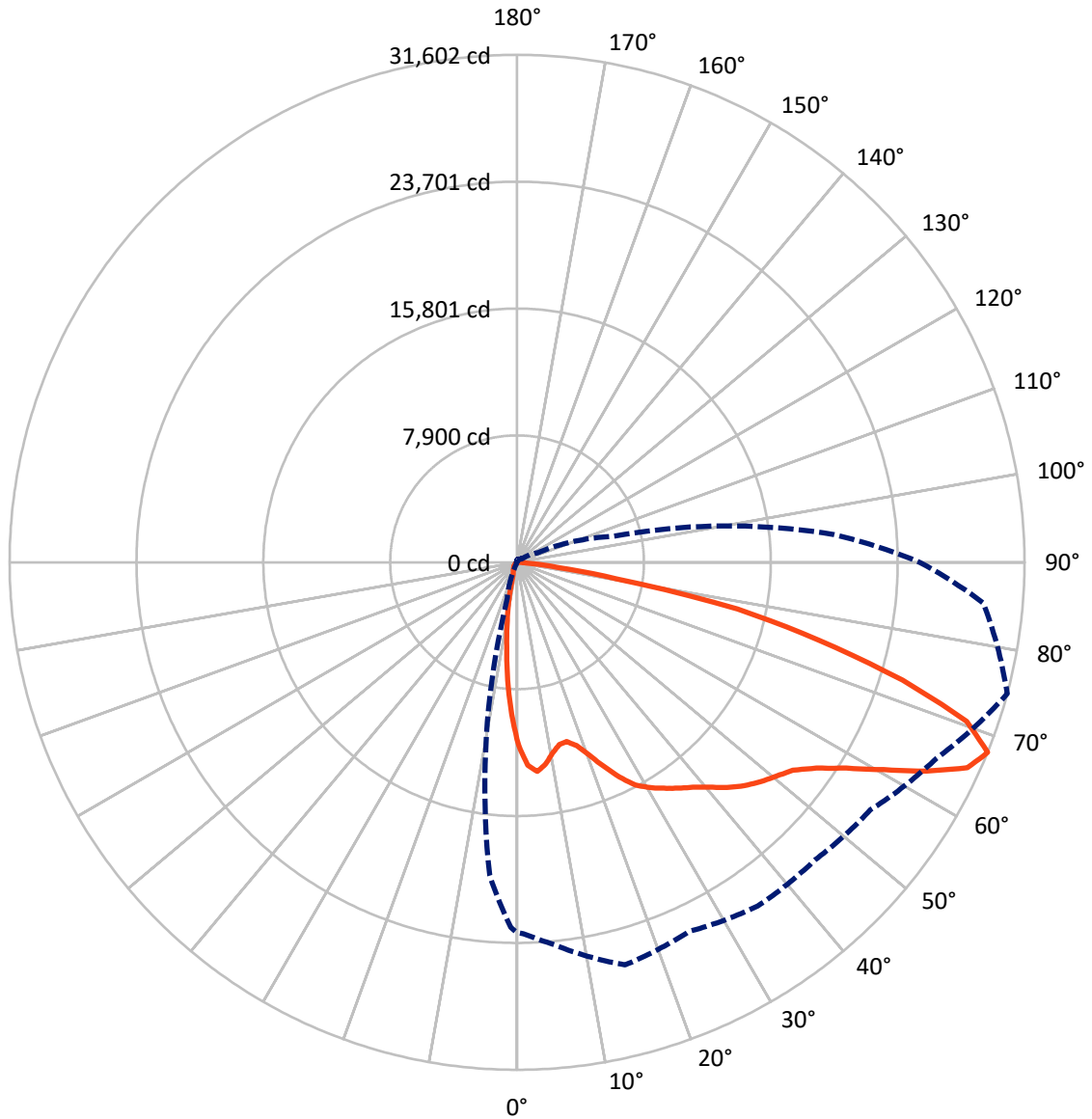
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 23.7 fc  
 Type III - Medium - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral      - - - Horizontal Cone Through 67.5-Deg Vertical

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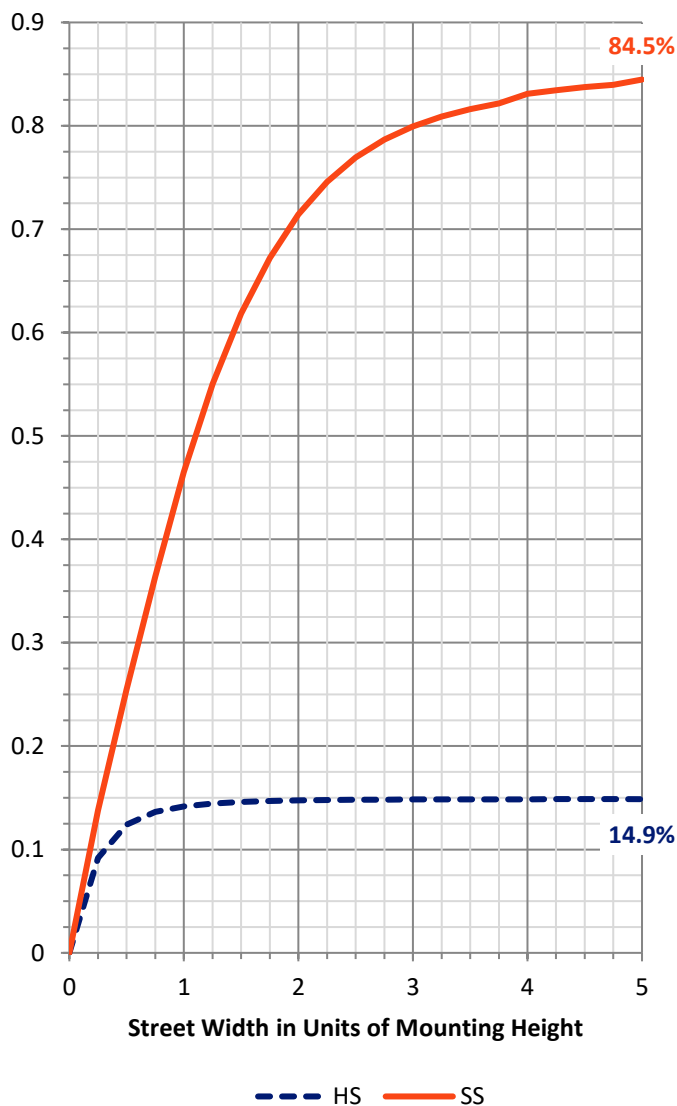
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 5105.7   | 0.0    | 5105.7  |
|                    | % Fixture | 15.0     | 0.0    | 15.0    |
| <b>Street Side</b> | Lumens    | 28918.3  | 0.0    | 28918.3 |
|                    | % Fixture | 85.0     | 0.0    | 85.0    |
| <b>Total</b>       | Lumens    | 34024.0  | 0.0    | 34024.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 865.8   | 2.5       |
| 10°-20°   | 1704.9  | 5.0       |
| 20°-30°   | 2411.9  | 7.1       |
| 30°-40°   | 3546.1  | 10.4      |
| 40°-50°   | 5097.0  | 15.0      |
| 50°-60°   | 7175.2  | 21.1      |
| 60°-70°   | 8380.0  | 24.6      |
| 70°-80°   | 4275.2  | 12.6      |
| 80°-90°   | 567.9   | 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°    | 34024.0 | 100.0     |
| 0°-180°   | 34024.0 | 100.0     |

**Coefficient of Utilization**

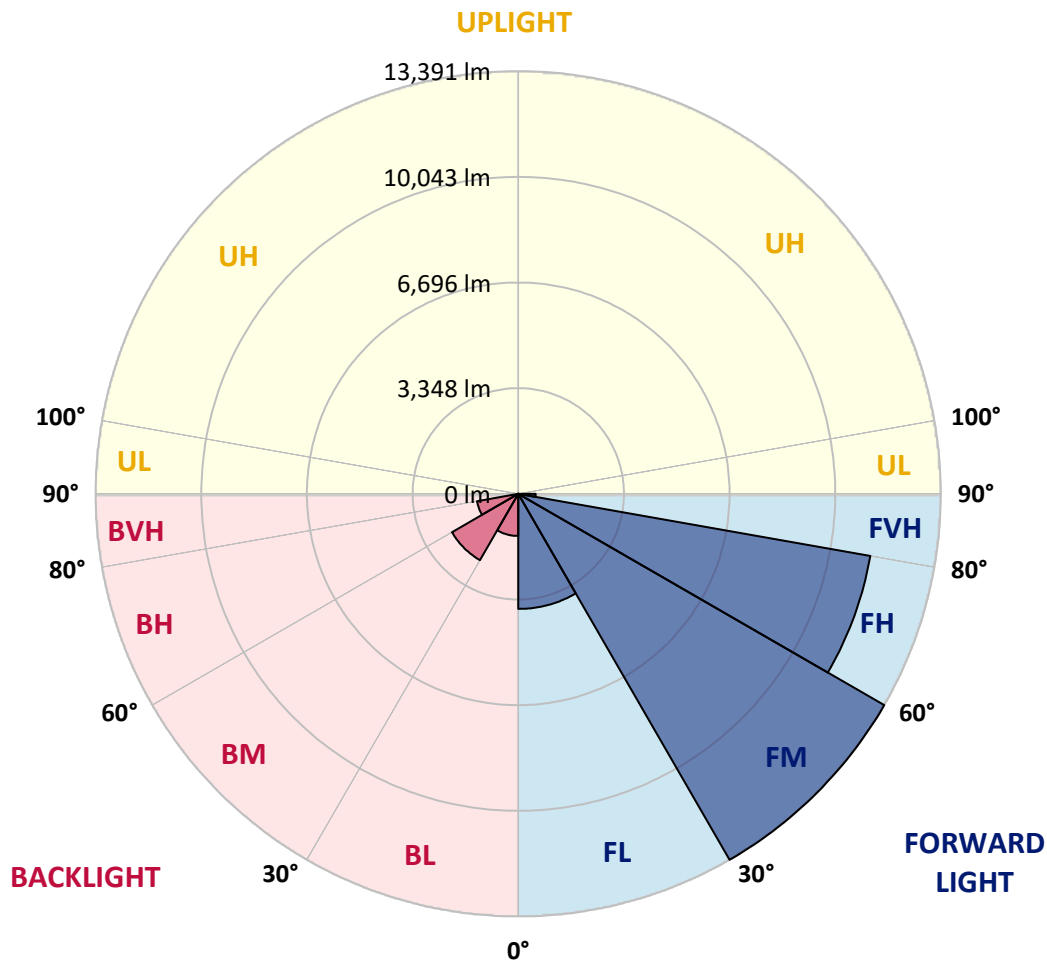


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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone           | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|----------------|---------|-----------|-------------------------|------|----------|
|                |         |           | B                       | U    | G        |
| FL (0°-30°)    | 3647.4  | 10.7      |                         |      |          |
| FM (30°-60°)   | 13391.2 | 39.4      |                         |      |          |
| FH (60°-80°)   | 11329.0 | 33.3      |                         |      | G4/12000 |
| FVH (80°-90°)  | 550.7   | 1.6       |                         |      | G4/750   |
| BL (0°-30°)    | 1335.2  | 3.9       | B3/2500                 |      |          |
| BM (30°-60°)   | 2427.1  | 7.1       | B2/2500                 |      |          |
| BH (60°-80°)   | 1326.2  | 3.9       | B3/2500                 |      | G3/2500  |
| BVH (80°-90°)  | 17.2    | 0.1       |                         |      | G1/100   |
| UL (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |          |
| UH (100°-180°) | 0.0     | 0.0       |                         | U0/0 |          |

**BUG Rating: B3-U0-G4**  
 Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 1°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 |
| 2.5°  | 12373.5 | 12392.8 | 12492.7 | 12724.8 | 12977.9 | 12997.2 | 13168.1 | 12992.4 | 12932.7 | 12649.1 | 12355.7 |
| 5°    | 12466.9 | 12541.1 | 12884.4 | 13566.2 | 14157.7 | 14347.9 | 14483.3 | 14138.3 | 13775.7 | 13082.6 | 12342.8 |
| 7.5°  | 11714.3 | 11838.4 | 12378.3 | 13658.0 | 14715.4 | 15182.8 | 15271.4 | 14731.5 | 13843.4 | 12702.3 | 11590.2 |
| 10°   | 10750.4 | 10892.3 | 11543.4 | 13116.5 | 14568.7 | 15369.7 | 15492.2 | 14784.7 | 13508.1 | 12086.6 | 10776.2 |
| 12.5° | 9970.3  | 10136.3 | 10802.0 | 12507.2 | 14064.2 | 14950.7 | 15192.4 | 14605.8 | 13218.0 | 11649.8 | 10220.2 |
| 15°   | 9610.9  | 9801.1  | 10500.6 | 12114.0 | 13504.9 | 14202.8 | 14402.7 | 14149.6 | 13056.9 | 11580.5 | 10091.2 |
| 17.5° | 9817.2  | 10023.5 | 10745.6 | 12147.8 | 12979.5 | 13277.7 | 13438.8 | 13542.0 | 13056.9 | 11997.9 | 10468.4 |
| 20°   | 10663.4 | 10885.8 | 11649.8 | 12491.1 | 12544.3 | 12433.1 | 12605.6 | 12968.2 | 13208.4 | 12790.9 | 11374.2 |
| 22.5° | 11833.5 | 12094.6 | 12956.9 | 13079.4 | 12331.6 | 11910.9 | 11933.5 | 12502.4 | 13484.0 | 13796.6 | 12631.3 |
| 25°   | 13259.9 | 13579.1 | 14455.9 | 13956.2 | 12420.2 | 11599.8 | 11591.8 | 12118.8 | 13753.1 | 14804.0 | 14032.0 |
| 27.5° | 14676.7 | 15028.0 | 15798.5 | 15026.4 | 12786.1 | 11543.4 | 11527.3 | 12002.8 | 14015.8 | 15700.1 | 15561.5 |
| 30°   | 15864.5 | 16206.2 | 16870.3 | 15801.7 | 13181.0 | 11675.6 | 11598.2 | 12126.9 | 14172.2 | 16282.0 | 16676.9 |
| 32.5° | 16831.6 | 17105.6 | 17642.3 | 16335.2 | 13603.2 | 11931.8 | 11764.2 | 12458.9 | 14438.1 | 16773.6 | 17701.9 |
| 35°   | 17895.3 | 18183.9 | 18398.2 | 16842.9 | 14077.1 | 12300.9 | 12060.8 | 12985.9 | 14847.5 | 17273.2 | 18825.3 |
| 37.5° | 19109.0 | 19395.9 | 19370.1 | 17307.1 | 14678.3 | 12911.8 | 12758.7 | 13820.8 | 15484.2 | 17768.0 | 20079.3 |
| 40°   | 20296.9 | 20590.2 | 20380.7 | 17814.8 | 15384.2 | 13919.1 | 13806.3 | 15074.8 | 16336.8 | 18401.4 | 21549.2 |
| 42.5° | 21409.0 | 21726.5 | 21278.4 | 18295.1 | 16225.6 | 15189.2 | 15382.6 | 16689.8 | 17403.8 | 19181.5 | 22816.0 |
| 45°   | 22305.1 | 22629.1 | 22031.1 | 18762.5 | 17112.0 | 16730.0 | 17311.9 | 18478.8 | 18686.7 | 19840.7 | 23671.9 |
| 47.5° | 22956.3 | 23262.5 | 22553.3 | 19229.9 | 18246.7 | 18614.2 | 19628.0 | 20354.9 | 19845.6 | 20412.9 | 24279.5 |
| 50°   | 23372.1 | 23610.6 | 22706.4 | 19815.0 | 19736.0 | 20812.6 | 22040.8 | 22395.4 | 20936.7 | 20928.7 | 25017.7 |
| 52.5° | 23636.4 | 23744.4 | 22819.3 | 20425.8 | 21289.7 | 23206.1 | 24403.6 | 24514.8 | 22060.1 | 21496.0 | 26012.2 |
| 55°   | 24547.1 | 24634.1 | 23618.7 | 21165.6 | 22574.3 | 25303.0 | 26540.8 | 26437.7 | 23331.8 | 22606.5 | 27185.5 |
| 57.5° | 26100.8 | 26192.7 | 25270.8 | 22229.4 | 23613.9 | 26598.8 | 28089.7 | 28275.1 | 24822.7 | 24166.7 | 28442.7 |
| 60°   | 26880.9 | 27051.7 | 26722.9 | 23576.8 | 24621.2 | 27427.3 | 29145.4 | 29736.9 | 26685.9 | 26223.3 | 29661.2 |
| 62.5° | 26173.3 | 26421.5 | 26898.6 | 25070.9 | 25622.1 | 27883.4 | 29474.2 | 30260.8 | 28594.2 | 28620.0 | 30412.3 |
| 65°   | 24761.4 | 24959.7 | 25768.8 | 25889.7 | 26202.3 | 27827.0 | 28661.9 | 29529.0 | 29762.7 | 30821.6 | 30372.0 |
| 67.5° | 23056.2 | 23130.3 | 23816.9 | 25954.1 | 25361.0 | 26131.4 | 26221.7 | 26863.2 | 28839.2 | 31601.7 | 29151.9 |
| 70°   | 20601.5 | 20641.8 | 21241.4 | 23796.0 | 21794.2 | 21963.4 | 21829.7 | 21960.2 | 24793.7 | 29701.5 | 26071.8 |
| 72.5° | 16580.2 | 16681.7 | 17534.3 | 19761.8 | 15877.4 | 15389.1 | 16439.9 | 16381.9 | 19094.5 | 25093.5 | 19363.7 |
| 75°   | 12207.5 | 12383.1 | 13670.9 | 15917.7 | 11143.7 | 10079.9 | 10847.1 | 11051.8 | 13574.2 | 19410.4 | 12109.1 |
| 77.5° | 8547.2  | 8677.7  | 9925.2  | 11701.4 | 8065.2  | 7207.8  | 6930.6  | 7173.9  | 8959.8  | 14041.6 | 6100.5  |
| 80°   | 4923.9  | 4972.3  | 5768.5  | 6756.5  | 5434.8  | 6218.2  | 5633.1  | 5800.7  | 5368.8  | 6247.2  | 2623.9  |
| 82.5° | 3221.9  | 3230.0  | 3541.0  | 4021.3  | 3384.7  | 3932.7  | 2910.8  | 3721.5  | 3302.5  | 2509.5  | 854.2   |
| 85°   | 1740.7  | 1750.4  | 2053.4  | 2854.4  | 1916.4  | 1083.1  | 636.6   | 1307.1  | 2042.1  | 575.4   | 233.7   |
| 87.5° | 191.8   | 175.7   | 618.9   | 1038.0  | 531.9   | 98.3    | 33.8    | 146.7   | 327.2   | 37.1    | 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     |



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**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°     | 105°    | 115°    | 125°    | 135°    | 145°    | 155°    | 165°    | 175°    | 180°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 |
| 2.5°  | 12205.8 | 12072.1 | 11738.4 | 11385.5 | 11101.8 | 10835.8 | 10568.3 | 10241.1 | 9988.1  | 9936.5  | 9852.7  |
| 5°    | 11944.7 | 11520.8 | 10821.3 | 10118.6 | 9552.9  | 8838.9  | 8386.0  | 8033.0  | 7688.1  | 7667.1  | 7597.8  |
| 7.5°  | 11032.5 | 10474.8 | 9490.0  | 8518.1  | 7721.9  | 7041.8  | 6355.2  | 5895.8  | 5534.8  | 5407.4  | 5331.7  |
| 10°   | 10155.7 | 9528.7  | 8298.9  | 7190.1  | 6479.3  | 5878.1  | 5394.6  | 4914.3  | 4479.1  | 4179.3  | 4043.9  |
| 12.5° | 9543.2  | 8850.2  | 7494.7  | 6538.9  | 6029.6  | 5459.0  | 4869.1  | 4269.5  | 3768.3  | 3407.3  | 3186.4  |
| 15°   | 9306.3  | 8566.5  | 7225.5  | 6281.0  | 5652.4  | 4930.4  | 4176.1  | 3491.1  | 2935.0  | 2607.8  | 2409.6  |
| 17.5° | 9588.3  | 8727.7  | 7204.6  | 5966.7  | 5088.3  | 4190.6  | 3357.3  | 2548.2  | 2024.4  | 1776.2  | 1648.8  |
| 20°   | 10304.0 | 9240.2  | 7196.5  | 5581.5  | 4417.8  | 3313.8  | 2274.2  | 1676.2  | 1358.7  | 1220.1  | 1160.5  |
| 22.5° | 11316.2 | 9894.6  | 7261.0  | 5201.1  | 3719.9  | 2367.7  | 1569.9  | 1231.4  | 1068.6  | 994.5   | 960.6   |
| 25°   | 12618.5 | 10813.3 | 7443.1  | 4856.2  | 3064.0  | 1766.5  | 1223.3  | 1031.5  | 917.1   | 859.1   | 834.9   |
| 27.5° | 14006.2 | 11870.6 | 7726.8  | 4556.4  | 2530.5  | 1408.7  | 1047.6  | 883.2   | 801.0   | 760.7   | 738.2   |
| 30°   | 15150.5 | 13095.5 | 8013.7  | 4222.8  | 2143.6  | 1228.2  | 959.0   | 805.9   | 710.8   | 685.0   | 664.0   |
| 32.5° | 16151.4 | 14022.3 | 8216.7  | 3921.4  | 1890.6  | 1091.2  | 867.1   | 720.5   | 656.0   | 606.0   | 583.5   |
| 35°   | 17187.8 | 14794.3 | 8210.3  | 3710.3  | 1716.5  | 988.0   | 789.8   | 644.7   | 567.3   | 509.3   | 491.6   |
| 37.5° | 18309.6 | 15666.3 | 8070.1  | 3529.8  | 1640.8  | 905.8   | 746.2   | 604.4   | 527.0   | 469.0   | 446.5   |
| 40°   | 19623.2 | 16581.8 | 7926.6  | 3360.5  | 1619.8  | 839.7   | 715.6   | 572.2   | 490.0   | 433.6   | 411.0   |
| 42.5° | 20902.9 | 17407.0 | 7800.9  | 3234.8  | 1529.6  | 838.1   | 688.2   | 548.0   | 461.0   | 406.2   | 380.4   |
| 45°   | 21926.4 | 18175.8 | 7776.7  | 3159.0  | 1434.5  | 867.1   | 673.7   | 531.9   | 438.4   | 383.6   | 359.4   |
| 47.5° | 22777.4 | 19010.7 | 7931.5  | 3105.9  | 1344.2  | 791.4   | 709.2   | 520.6   | 417.4   | 364.3   | 336.9   |
| 50°   | 23789.5 | 20035.8 | 8295.7  | 3018.8  | 1249.1  | 712.4   | 812.3   | 523.8   | 399.7   | 344.9   | 315.9   |
| 52.5° | 25201.4 | 21454.1 | 8830.8  | 2872.2  | 1118.6  | 639.9   | 799.4   | 527.0   | 380.4   | 324.0   | 295.0   |
| 55°   | 26784.2 | 23225.4 | 9406.2  | 2628.8  | 936.4   | 544.8   | 685.0   | 504.5   | 343.3   | 301.4   | 274.0   |
| 57.5° | 28447.5 | 24832.4 | 9747.9  | 2338.7  | 744.6   | 470.6   | 548.0   | 459.4   | 303.0   | 270.8   | 253.0   |
| 60°   | 28708.6 | 25443.2 | 9591.6  | 1982.5  | 591.5   | 409.4   | 406.2   | 467.4   | 270.8   | 238.5   | 225.6   |
| 62.5° | 28059.1 | 24676.0 | 8835.7  | 1664.9  | 494.8   | 359.4   | 333.6   | 407.8   | 245.0   | 212.8   | 199.9   |
| 65°   | 26810.0 | 22601.7 | 7610.7  | 1500.5  | 459.4   | 307.8   | 277.2   | 286.9   | 214.4   | 185.4   | 174.1   |
| 67.5° | 25072.5 | 19832.7 | 6248.8  | 1407.1  | 454.5   | 264.3   | 236.9   | 217.6   | 185.4   | 161.2   | 151.5   |
| 70°   | 21520.2 | 16522.1 | 4985.2  | 1355.5  | 441.6   | 222.4   | 199.9   | 177.3   | 154.7   | 137.0   | 128.9   |
| 72.5° | 15838.7 | 11707.8 | 3877.9  | 1299.1  | 444.8   | 177.3   | 174.1   | 146.7   | 124.1   | 106.4   | 103.2   |
| 75°   | 9151.6  | 6688.8  | 2543.4  | 1052.5  | 423.9   | 137.0   | 145.1   | 103.2   | 87.0    | 74.1    | 74.1    |
| 77.5° | 4877.2  | 4079.4  | 968.7   | 438.4   | 154.7   | 87.0    | 82.2    | 61.2    | 54.8    | 45.1    | 43.5    |
| 80°   | 2125.9  | 1795.5  | 291.7   | 122.5   | 85.4    | 46.7    | 30.6    | 27.4    | 24.2    | 19.3    | 17.7    |
| 82.5° | 752.7   | 649.5   | 95.1    | 59.6    | 37.1    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 85°   | 170.8   | 122.5   | 0.0     | 14.5    | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 87.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |





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**CANDELA DISTRIBUTION (continued):**

|       | 185°    | 195°    | 205°    | 215°    | 225°    | 235°    | 245°    | 255°    | 265°    | 270°    | 275°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 |
| 2.5°  | 9681.8  | 9646.4  | 9436.8  | 9444.9  | 9482.0  | 9535.2  | 9409.4  | 9467.5  | 9623.8  | 9773.7  | 9830.1  |
| 5°    | 7486.6  | 7494.7  | 7367.3  | 7446.3  | 7517.2  | 7565.6  | 7362.5  | 7365.7  | 7489.8  | 7659.1  | 7747.7  |
| 7.5°  | 5275.3  | 5262.4  | 5268.8  | 5457.4  | 5591.2  | 5494.5  | 5570.2  | 5307.5  | 5323.6  | 5444.5  | 5354.3  |
| 10°   | 3921.4  | 3744.1  | 3644.2  | 3786.0  | 3932.7  | 3879.5  | 3748.9  | 3663.5  | 3723.2  | 3856.9  | 3847.3  |
| 12.5° | 3081.7  | 2827.0  | 2677.1  | 2575.6  | 2696.5  | 2596.5  | 2593.3  | 2519.2  | 2438.6  | 2453.1  | 2667.5  |
| 15°   | 2317.7  | 2132.4  | 1955.1  | 1792.3  | 1789.1  | 1755.2  | 1582.7  | 1389.3  | 1373.2  | 1382.9  | 1494.1  |
| 17.5° | 1594.0  | 1531.2  | 1458.6  | 1318.4  | 1281.3  | 1139.5  | 971.9   | 894.5   | 855.8   | 873.6   | 910.6   |
| 20°   | 1120.2  | 1096.0  | 1104.1  | 1028.3  | 975.1   | 839.7   | 741.4   | 710.8   | 704.3   | 722.1   | 739.8   |
| 22.5° | 928.4   | 884.9   | 880.0   | 846.2   | 793.0   | 694.7   | 641.5   | 623.8   | 615.7   | 631.8   | 644.7   |
| 25°   | 812.3   | 768.8   | 751.1   | 730.1   | 673.7   | 606.0   | 573.8   | 557.7   | 549.6   | 559.3   | 567.3   |
| 27.5° | 715.6   | 675.3   | 659.2   | 644.7   | 589.9   | 541.6   | 515.8   | 501.3   | 494.8   | 498.0   | 506.1   |
| 30°   | 643.1   | 607.6   | 586.7   | 569.0   | 522.2   | 488.4   | 465.8   | 451.3   | 444.8   | 444.8   | 452.9   |
| 32.5° | 567.3   | 548.0   | 528.7   | 506.1   | 462.6   | 440.0   | 417.4   | 401.3   | 394.9   | 396.5   | 402.9   |
| 35°   | 472.2   | 465.8   | 470.6   | 449.7   | 412.6   | 393.3   | 370.7   | 353.0   | 348.1   | 349.8   | 356.2   |
| 37.5° | 419.1   | 390.0   | 407.8   | 396.5   | 375.5   | 349.8   | 320.7   | 304.6   | 296.6   | 301.4   | 304.6   |
| 40°   | 385.2   | 349.8   | 336.9   | 348.1   | 344.9   | 303.0   | 277.2   | 261.1   | 254.7   | 256.3   | 259.5   |
| 42.5° | 356.2   | 314.3   | 285.3   | 283.7   | 303.0   | 264.3   | 236.9   | 222.4   | 214.4   | 214.4   | 217.6   |
| 45°   | 328.8   | 283.7   | 248.2   | 220.8   | 254.7   | 224.0   | 198.2   | 185.4   | 175.7   | 175.7   | 177.3   |
| 47.5° | 307.8   | 257.9   | 216.0   | 180.5   | 191.8   | 183.7   | 162.8   | 149.9   | 140.2   | 140.2   | 141.8   |
| 50°   | 288.5   | 232.1   | 187.0   | 151.5   | 143.4   | 151.5   | 132.2   | 117.7   | 111.2   | 109.6   | 112.8   |
| 52.5° | 267.6   | 206.3   | 159.6   | 128.9   | 112.8   | 114.4   | 103.2   | 93.5    | 85.4    | 85.4    | 88.6    |
| 55°   | 246.6   | 185.4   | 138.6   | 109.6   | 93.5    | 85.4    | 82.2    | 75.8    | 69.3    | 69.3    | 72.5    |
| 57.5° | 225.6   | 162.8   | 117.7   | 90.3    | 74.1    | 67.7    | 67.7    | 62.9    | 58.0    | 58.0    | 61.2    |
| 60°   | 206.3   | 140.2   | 96.7    | 74.1    | 58.0    | 56.4    | 58.0    | 53.2    | 50.0    | 50.0    | 53.2    |
| 62.5° | 183.7   | 119.3   | 79.0    | 61.2    | 46.7    | 45.1    | 50.0    | 46.7    | 43.5    | 43.5    | 46.7    |
| 65°   | 156.3   | 101.5   | 62.9    | 46.7    | 35.5    | 35.5    | 41.9    | 38.7    | 35.5    | 35.5    | 38.7    |
| 67.5° | 132.2   | 85.4    | 48.4    | 33.8    | 25.8    | 27.4    | 35.5    | 32.2    | 30.6    | 30.6    | 33.8    |
| 70°   | 109.6   | 66.1    | 33.8    | 21.0    | 14.5    | 21.0    | 27.4    | 27.4    | 27.4    | 27.4    | 30.6    |
| 72.5° | 82.2    | 45.1    | 19.3    | 8.1     | 6.4     | 14.5    | 22.6    | 25.8    | 24.2    | 24.2    | 29.0    |
| 75°   | 53.2    | 25.8    | 6.4     | 0.0     | 0.0     | 8.1     | 17.7    | 21.0    | 21.0    | 19.3    | 24.2    |
| 77.5° | 30.6    | 8.1     | 0.0     | 0.0     | 0.0     | 0.0     | 11.3    | 9.7     | 8.1     | 6.4     | 11.3    |
| 80°   | 8.1     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 82.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 85°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 87.5° | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |
| 90°   | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     | 0.0     |



REPORT NUMBER: P324101

CATALOG NUMBER: GLEON-SA7D-727-U-SLL-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°    | 295°    | 305°    | 315°    | 325°    | 335°    | 345°    | 355°    | 359°    | 360°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 | 11414.5 |
| 2.5°  | 10057.4 | 10247.6 | 10515.1 | 10798.8 | 11235.6 | 11582.1 | 11922.2 | 12213.9 | 12326.7 | 12373.5 |
| 5°    | 7960.5  | 8239.3  | 8631.0  | 9133.8  | 9922.0  | 10631.2 | 11350.0 | 12073.7 | 12388.0 | 12466.9 |
| 7.5°  | 5712.1  | 6068.3  | 6566.3  | 7196.5  | 8120.0  | 9038.7  | 10042.9 | 11105.0 | 11591.8 | 11714.3 |
| 10°   | 4227.6  | 4662.8  | 5233.4  | 5897.4  | 6779.1  | 7723.5  | 8817.9  | 10031.6 | 10587.6 | 10750.4 |
| 12.5° | 2999.5  | 3587.8  | 4351.7  | 5159.2  | 5923.2  | 6766.2  | 7873.4  | 9211.2  | 9794.7  | 9970.3  |
| 15°   | 1761.7  | 2330.6  | 3234.8  | 4316.3  | 5294.6  | 6148.9  | 7273.9  | 8790.5  | 9433.6  | 9610.9  |
| 17.5° | 1010.6  | 1294.2  | 1977.6  | 3183.2  | 4511.3  | 5694.3  | 7085.3  | 8895.3  | 9652.8  | 9817.2  |
| 20°   | 772.0   | 862.3   | 1139.5  | 2050.2  | 3595.8  | 5247.9  | 7085.3  | 9488.4  | 10421.6 | 10663.4 |
| 22.5° | 675.3   | 741.4   | 854.2   | 1223.3  | 2646.5  | 4769.2  | 7167.5  | 10345.9 | 11566.0 | 11833.5 |
| 25°   | 599.6   | 659.2   | 755.9   | 920.3   | 1805.2  | 4200.2  | 7362.5  | 11398.4 | 12913.4 | 13259.9 |
| 27.5° | 536.7   | 593.1   | 680.2   | 805.9   | 1234.6  | 3513.6  | 7625.2  | 12633.0 | 14399.4 | 14676.7 |
| 30°   | 480.3   | 533.5   | 612.5   | 701.1   | 952.5   | 2735.2  | 7849.3  | 13796.6 | 15566.4 | 15864.5 |
| 32.5° | 427.1   | 475.5   | 546.4   | 612.5   | 780.1   | 2022.8  | 7873.4  | 14718.6 | 16535.0 | 16831.6 |
| 35°   | 377.2   | 420.7   | 485.1   | 536.7   | 646.3   | 1597.3  | 7497.9  | 15518.0 | 17503.7 | 17895.3 |
| 37.5° | 328.8   | 370.7   | 427.1   | 465.8   | 569.0   | 1302.3  | 6924.1  | 16409.3 | 18746.4 | 19109.0 |
| 40°   | 283.7   | 320.7   | 378.8   | 404.6   | 538.3   | 1000.9  | 6300.4  | 17344.1 | 19964.8 | 20296.9 |
| 42.5° | 241.8   | 277.2   | 333.6   | 383.6   | 472.2   | 747.9   | 5626.6  | 18220.9 | 21060.8 | 21409.0 |
| 45°   | 201.5   | 238.5   | 295.0   | 406.2   | 391.7   | 559.3   | 4906.2  | 18802.8 | 21926.4 | 22305.1 |
| 47.5° | 162.8   | 204.7   | 282.1   | 386.8   | 312.7   | 411.0   | 4335.6  | 19354.0 | 22582.3 | 22956.3 |
| 50°   | 130.6   | 172.5   | 317.5   | 344.9   | 256.3   | 314.3   | 4097.1  | 19847.2 | 23012.7 | 23372.1 |
| 52.5° | 106.4   | 145.1   | 299.8   | 264.3   | 214.4   | 259.5   | 4226.0  | 20646.6 | 23410.8 | 23636.4 |
| 55°   | 88.6    | 114.4   | 180.5   | 183.7   | 182.1   | 220.8   | 4385.6  | 21794.2 | 24440.7 | 24547.1 |
| 57.5° | 77.4    | 91.9    | 125.7   | 141.8   | 153.1   | 196.6   | 4388.8  | 23441.4 | 26034.7 | 26100.8 |
| 60°   | 66.1    | 80.6    | 104.8   | 114.4   | 132.2   | 175.7   | 4229.3  | 24016.8 | 26661.7 | 26880.9 |
| 62.5° | 58.0    | 70.9    | 87.0    | 95.1    | 111.2   | 158.0   | 3855.3  | 23183.5 | 25801.0 | 26173.3 |
| 65°   | 51.6    | 64.5    | 72.5    | 80.6    | 98.3    | 141.8   | 3239.6  | 21517.0 | 24373.0 | 24761.4 |
| 67.5° | 45.1    | 56.4    | 64.5    | 72.5    | 88.6    | 125.7   | 2385.4  | 19581.2 | 22733.8 | 23056.2 |
| 70°   | 40.3    | 50.0    | 58.0    | 64.5    | 77.4    | 106.4   | 1447.4  | 16615.6 | 20467.7 | 20601.5 |
| 72.5° | 38.7    | 45.1    | 53.2    | 58.0    | 67.7    | 93.5    | 733.3   | 12210.7 | 16362.6 | 16580.2 |
| 75°   | 33.8    | 40.3    | 48.4    | 51.6    | 59.6    | 80.6    | 298.2   | 8020.1  | 11857.7 | 12207.5 |
| 77.5° | 27.4    | 37.1    | 43.5    | 46.7    | 51.6    | 66.1    | 151.5   | 5125.4  | 8321.5  | 8547.2  |
| 80°   | 9.7     | 27.4    | 37.1    | 38.7    | 43.5    | 48.4    | 99.9    | 2806.1  | 4827.2  | 4923.9  |
| 82.5° | 0.0     | 17.7    | 29.0    | 27.4    | 30.6    | 37.1    | 64.5    | 1334.5  | 3186.4  | 3221.9  |
| 85°   | 0.0     | 8.1     | 22.6    | 17.7    | 12.9    | 25.8    | 22.6    | 291.7   | 1671.4  | 1740.7  |
| 87.5° | 0.0     | 0.0     | 1.6     | 8.1     | 6.4     | 9.7     | 3.2     | 1.6     | 151.5   | 191.8   |
| 90°   | 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**

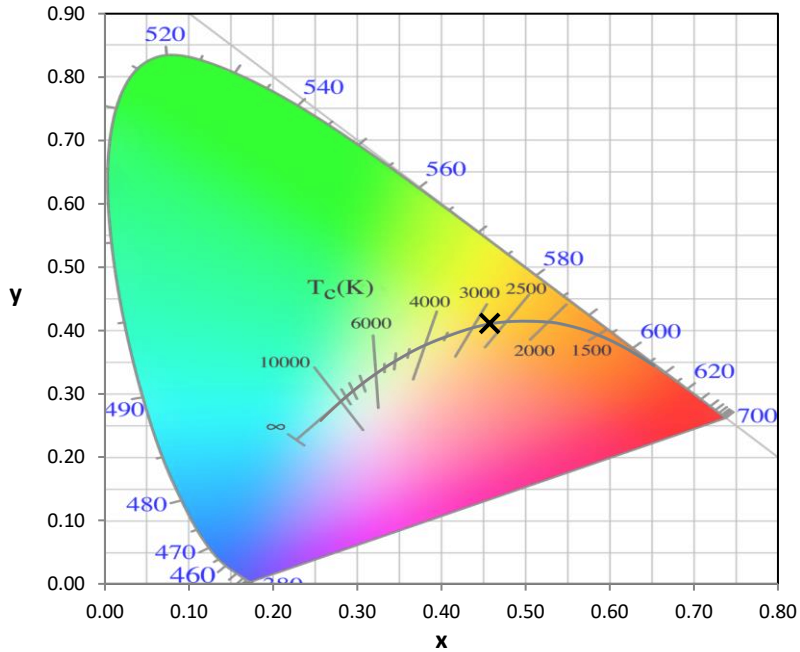
Stabilization Time: 56M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.3./42%  
 Sphere Temperature (°C): 25.7

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            |

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

CIE 1931 Chromaticity Diagram



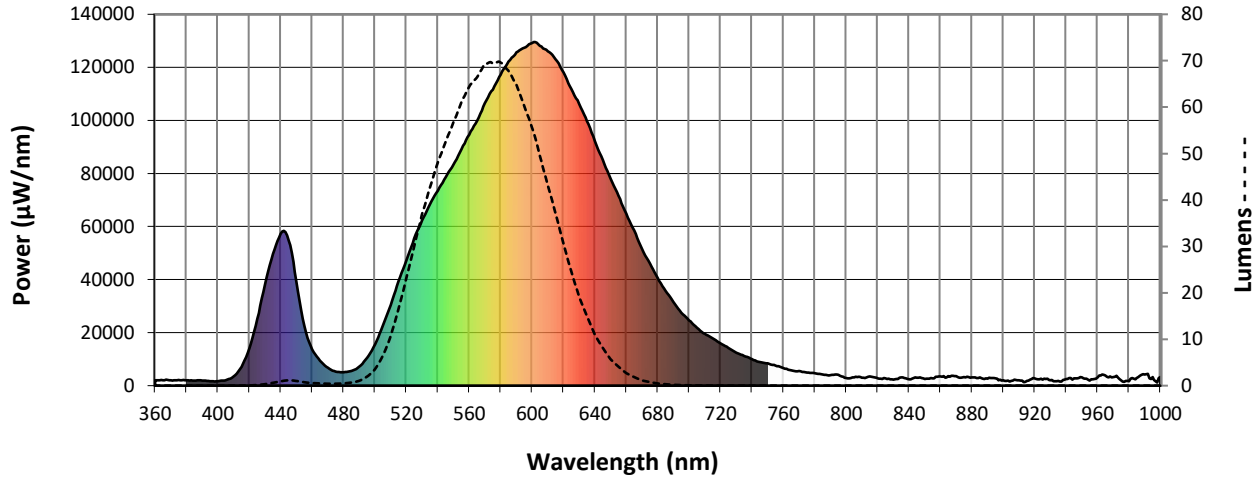
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2700K 4-step quadrangle

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

**Photopic Flux vs. Wavelength**



**Photopic Lumens: 6211.7**

| $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) |
|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|
| 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           |        |               |               |



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Melanopic Flux vs. Wavelength



Melanopic Lumens: 2145.7 M/P: 0.35

| $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) | $\lambda$ (nm) | Power ( $\mu\text{W}/\text{nm}$ ) | Lumens ( $\phi/\text{nm}$ ) |
|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|----------------|-----------------------------------|-----------------------------|
| 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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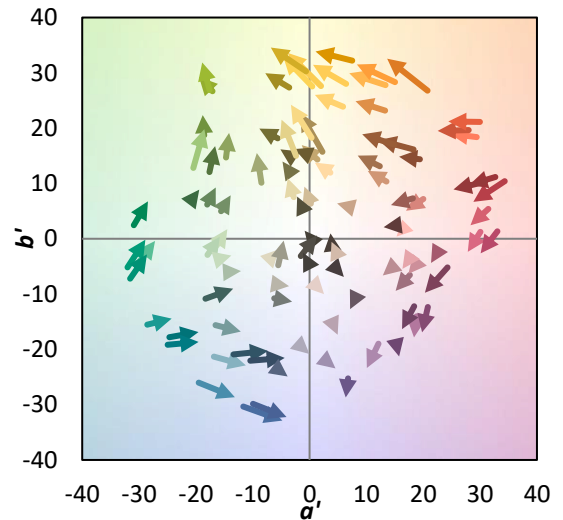
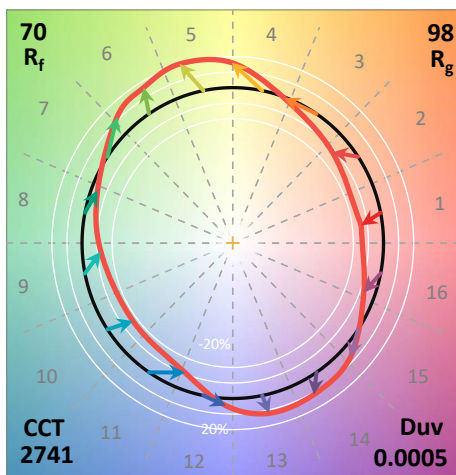
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**Summary**

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



**Color Vector Graphics**



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

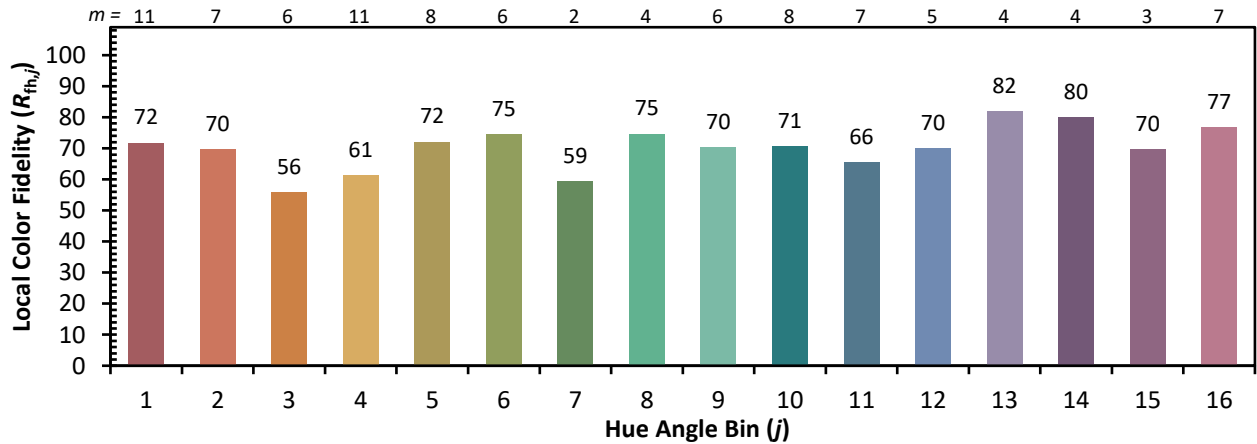
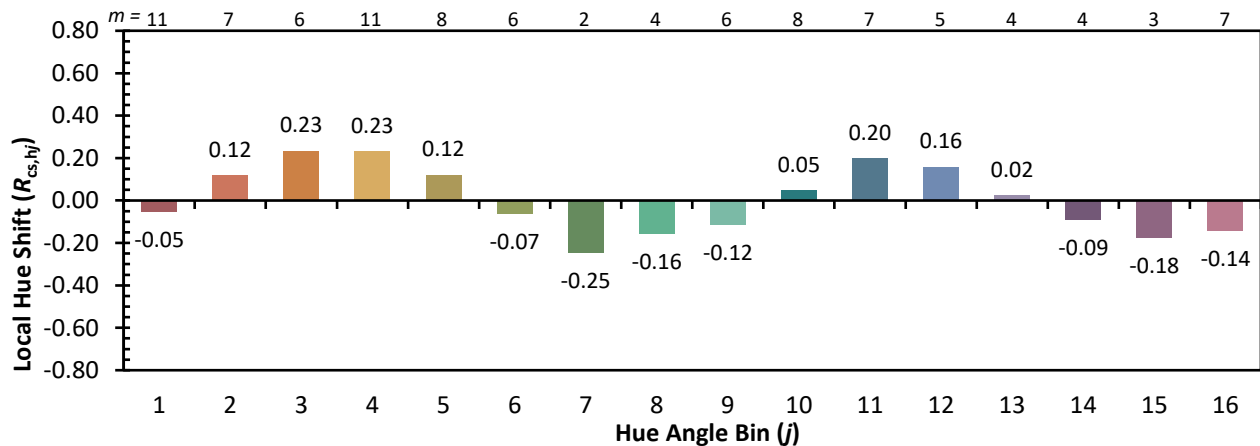
|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 54 | CES51 = 77 | CES76 = 48 |
| CES02 = 63 | CES27 = 74 | CES52 = 80 | CES77 = 75 |
| CES03 = 31 | CES28 = 80 | CES53 = 66 | CES78 = 56 |
| CES04 = 71 | CES29 = 44 | CES54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