

Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P643486

Luminaire Tested: GWS-SA6F-722-U-SLL-W-HSS

Issue Date: 1/10/2023

**Test Information**

Test Method: LM-79-2019  
Report Number: P643486  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-40)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 1/10/2023  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: McGRAW-EDISON  
Catalog Number: GWS-SA6F-722-U-SLL-W-HSS  
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND  
SPILL LIGHT ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: (96) 2200K CCT, 70 CRI LEDS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22196.8 lumens  
Efficiency: N/A  
Efficacy: 59.6 lumens/watt  
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B2 - U0 - G4

Input Watts (W): 372.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 0  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

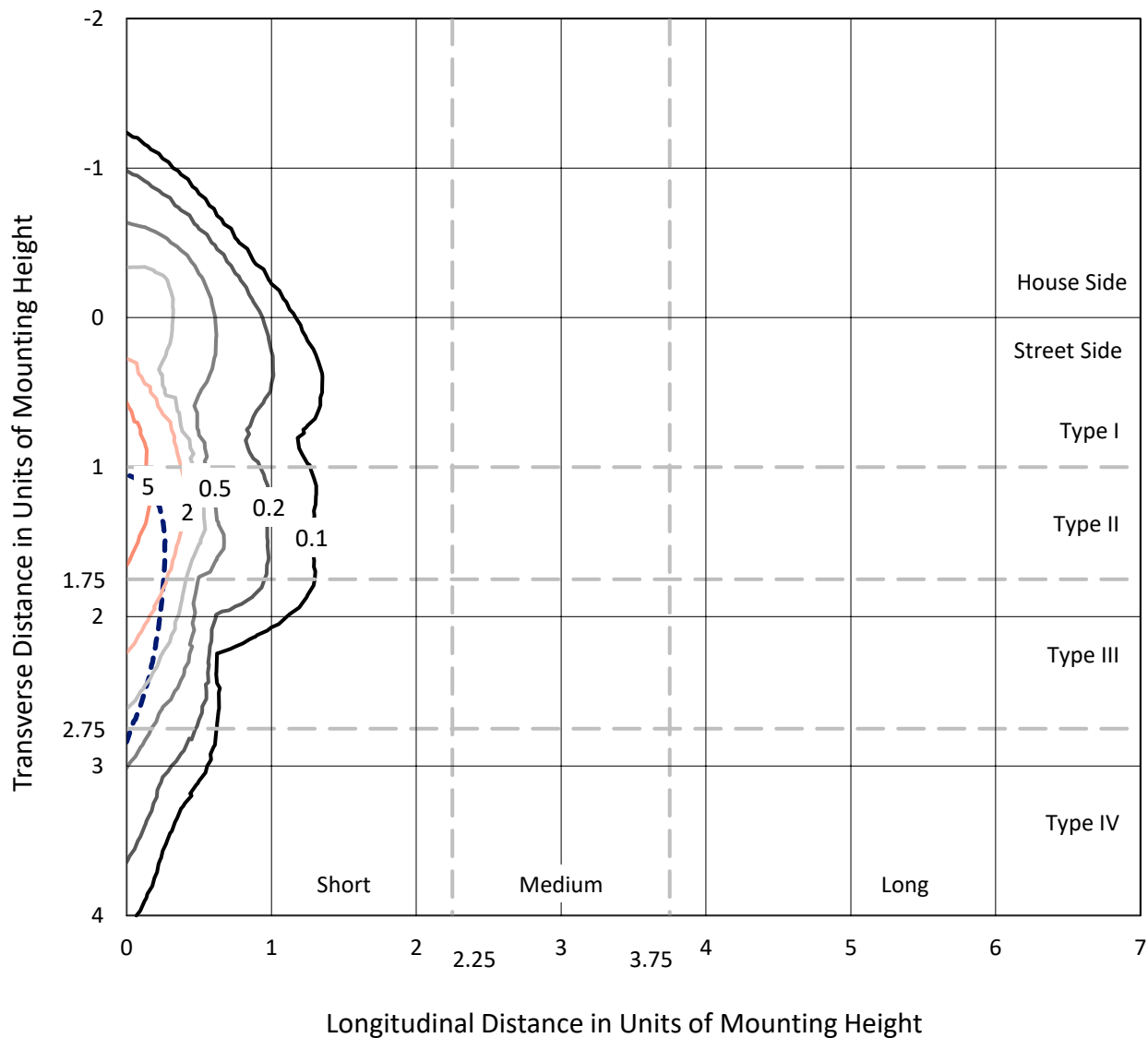


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## Iso-Footcandle Lines of Horizontal Illumination

× Max cd

--- 1/2 Max cd

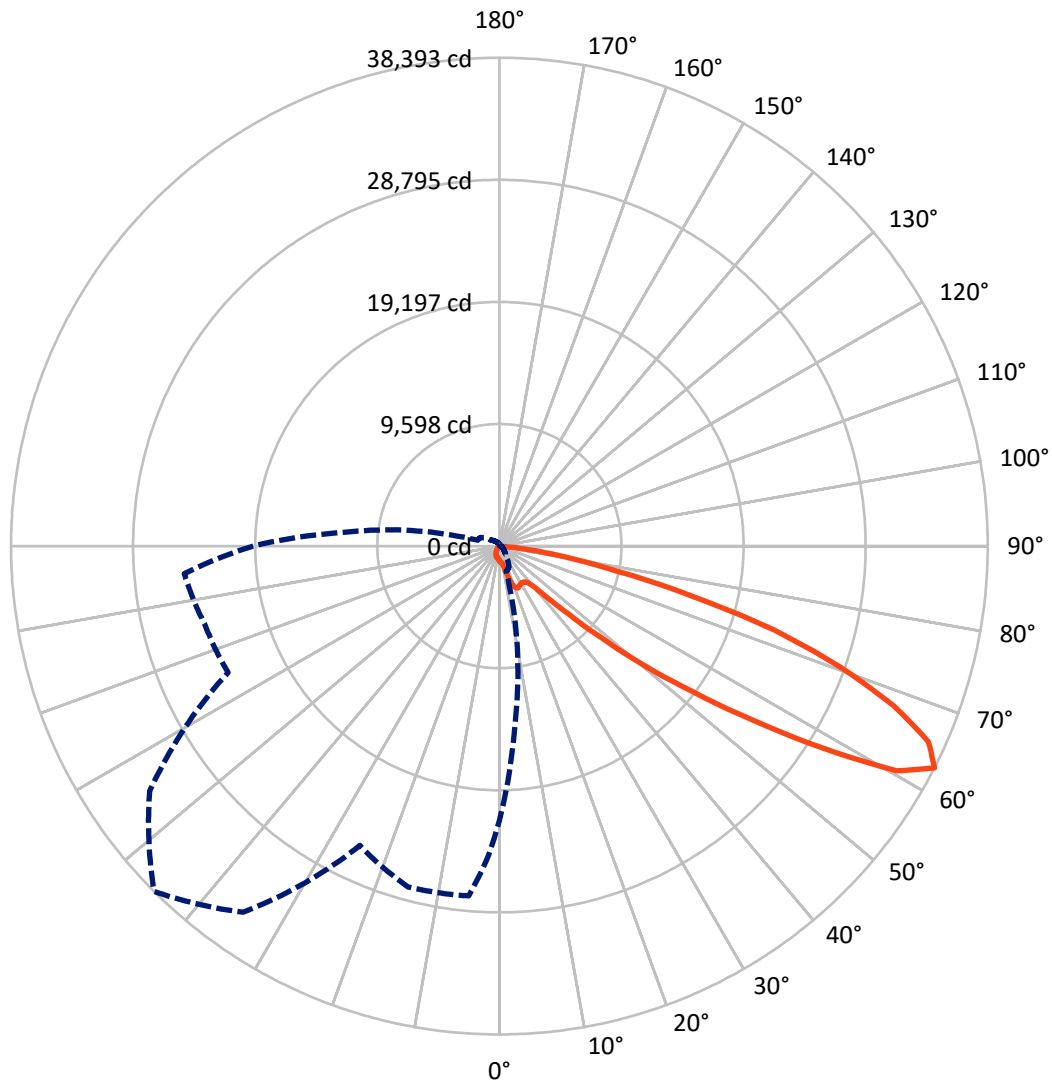


Based on 25 foot mounting height. Maximum calculated value = 6.3 fc  
 Type III - Short - N/A

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## Luminous Intensity Polar Plot



— Vertical Plane Through 315-Deg Lateral    - - - Horizontal Cone Through 62.5-Deg Vertical

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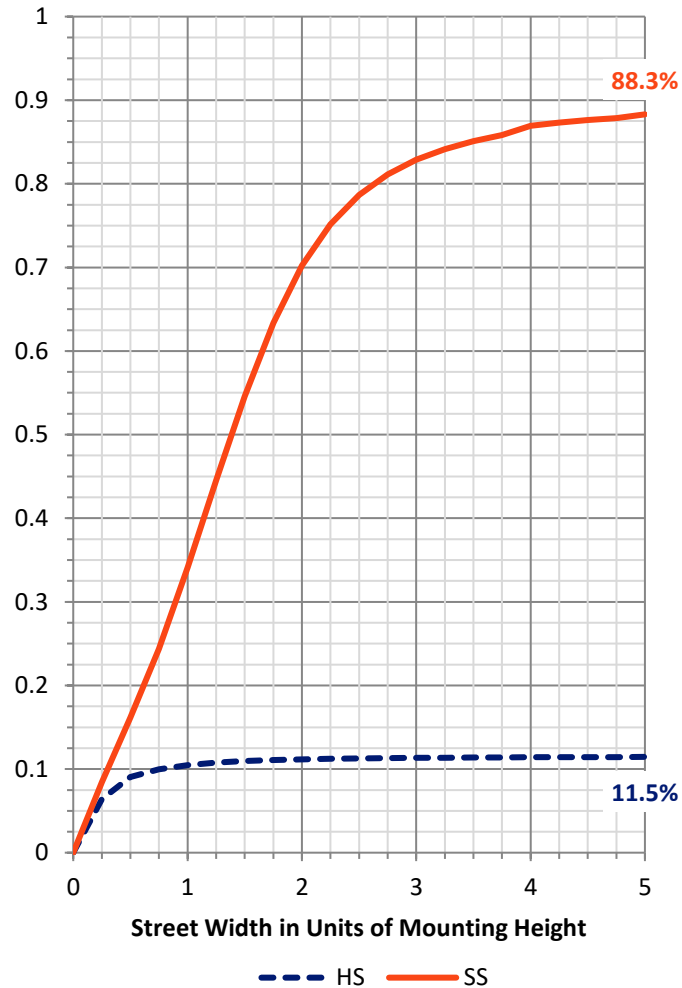
**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2579.0   | 0.0    | 2579.0  |
|                    | % Fixture | 11.6     | 0.0    | 11.6    |
| <b>Street Side</b> | Lumens    | 19617.8  | 0.0    | 19617.8 |
|                    | % Fixture | 88.4     | 0.0    | 88.4    |
| <b>Total</b>       | Lumens    | 22196.8  | 0.0    | 22196.8 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 99.4    | 0.4       |
| 10°-20°   | 340.7   | 1.5       |
| 20°-30°   | 769.7   | 3.5       |
| 30°-40°   | 1326.0  | 6.0       |
| 40°-50°   | 2501.4  | 11.3      |
| 50°-60°   | 5584.9  | 25.2      |
| 60°-70°   | 7469.7  | 33.7      |
| 70°-80°   | 3745.9  | 16.9      |
| 80°-90°   | 359.0   | 1.6       |
| 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°    | 22196.8 | 100.0     |
| 0°-180°   | 22196.8 | 100.0     |

**Coefficient of Utilization**



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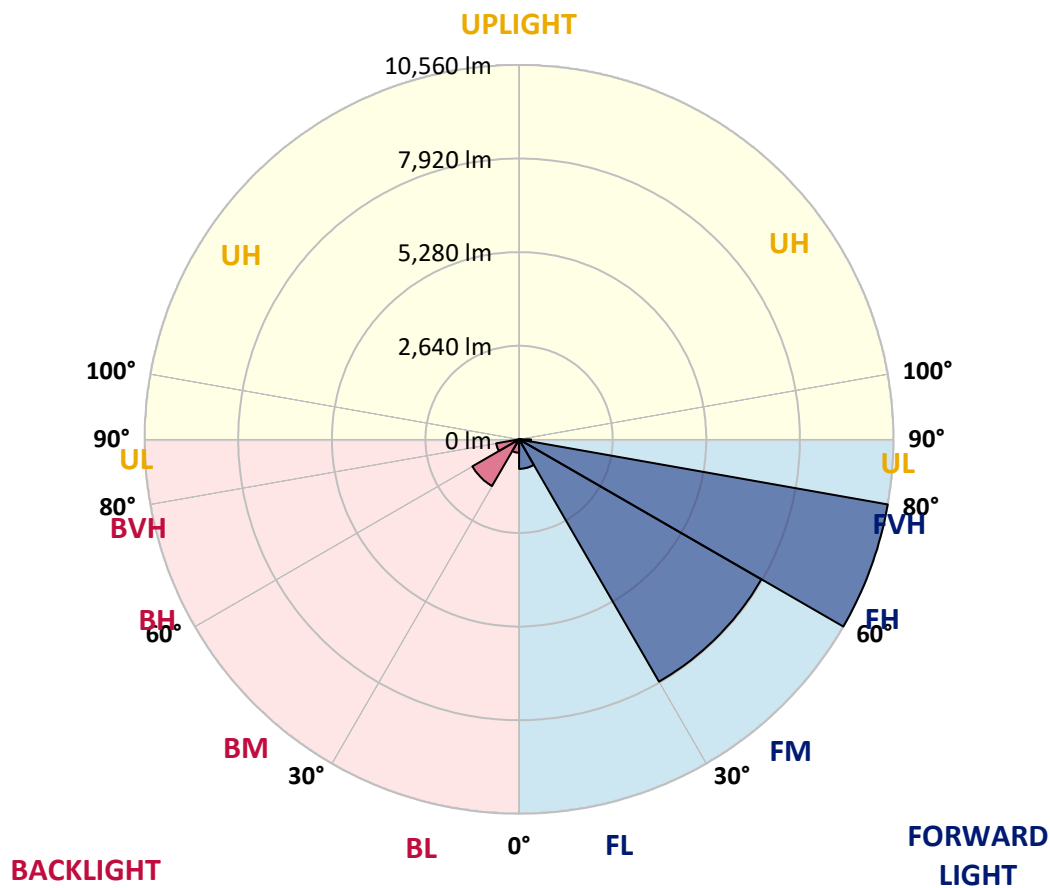
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

| Zone |             | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|---------|-----------|-------------------------|------|----------|
|      |             |         |           | B                       | U    | G        |
| FL   | (0°-30°)    | 831.3   | 3.7       |                         |      |          |
| FM   | (30°-60°)   | 7891.6  | 35.6      |                         |      |          |
| FH   | (60°-80°)   | 10559.7 | 47.6      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 335.2   | 1.5       |                         |      | G3/500   |
| BL   | (0°-30°)    | 378.5   | 1.7       | B1/500                  |      |          |
| BM   | (30°-60°)   | 1520.7  | 6.9       | B2/2500                 |      |          |
| BH   | (60°-80°)   | 655.8   | 3.0       | B2/1000                 |      | G2/1000  |
| BVH  | (80°-90°)   | 23.9    | 0.1       |                         |      | G1/100   |
| UL   | (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |          |
| UH   | (100°-180°) | 0.0     | 0.0       |                         | U0/0 |          |

**BUG Rating: B2-U0-G4**

Type III Short



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 2°      | 5°      | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1151.2  | 1151.2  | 1151.2  | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 |
| 2.5°  | 1138.0  | 1135.4  | 1130.1  | 1114.4 | 1101.2 | 1093.3 | 1077.6 | 1077.6 | 1074.9 | 1069.7 | 1059.2 |
| 5°    | 1101.2  | 1090.7  | 1080.2  | 1051.3 | 1019.7 | 1001.3 | 980.3  | 977.7  | 977.7  | 972.4  | 969.8  |
| 7.5°  | 1043.4  | 1032.9  | 1019.7  | 972.4  | 943.5  | 925.1  | 906.7  | 904.1  | 896.2  | 896.2  | 896.2  |
| 10°   | 1011.9  | 996.1   | 975.1   | 922.5  | 893.6  | 877.8  | 864.7  | 856.8  | 851.5  | 843.7  | 841.0  |
| 12.5° | 1080.2  | 1051.3  | 1006.6  | 912.0  | 872.6  | 851.5  | 835.8  | 830.5  | 814.7  | 804.2  | 796.3  |
| 15°   | 1293.1  | 1222.1  | 1132.8  | 935.6  | 864.7  | 833.1  | 812.1  | 801.6  | 788.5  | 770.1  | 756.9  |
| 17.5° | 1642.6  | 1540.1  | 1390.3  | 1011.9 | 856.8  | 817.4  | 791.1  | 772.7  | 754.3  | 733.3  | 717.5  |
| 20°   | 2126.2  | 1973.8  | 1795.1  | 1151.2 | 856.8  | 799.0  | 767.4  | 743.8  | 717.5  | 693.8  | 675.5  |
| 22.5° | 2741.2  | 2588.8  | 2283.9  | 1387.7 | 867.3  | 775.3  | 738.5  | 707.0  | 675.5  | 654.4  | 633.4  |
| 25°   | 3429.8  | 3214.3  | 2930.5  | 1674.2 | 896.2  | 743.8  | 704.4  | 672.8  | 643.9  | 617.6  | 594.0  |
| 27.5° | 4197.3  | 3963.3  | 3584.9  | 2081.5 | 959.3  | 712.2  | 667.6  | 638.7  | 612.4  | 586.1  | 554.6  |
| 30°   | 4904.2  | 4765.0  | 4378.6  | 2570.4 | 1061.8 | 691.2  | 638.7  | 612.4  | 586.1  | 551.9  | 523.0  |
| 32.5° | 5753.2  | 5506.1  | 5188.1  | 3127.6 | 1198.5 | 670.2  | 615.0  | 578.2  | 557.2  | 525.6  | 494.1  |
| 35°   | 6607.3  | 6397.1  | 5979.2  | 3813.5 | 1350.9 | 649.2  | 586.1  | 551.9  | 533.5  | 496.7  | 462.6  |
| 37.5° | 7487.8  | 7440.5  | 7027.8  | 4573.1 | 1500.7 | 625.5  | 551.9  | 530.9  | 512.5  | 470.5  | 431.0  |
| 40°   | 8355.1  | 8268.4  | 7887.3  | 5440.4 | 1592.7 | 599.2  | 523.0  | 509.9  | 488.8  | 441.5  | 396.9  |
| 42.5° | 9185.6  | 9119.9  | 8749.3  | 6270.9 | 1579.6 | 575.6  | 494.1  | 478.3  | 462.6  | 415.3  | 360.1  |
| 45°   | 10205.4 | 10097.6 | 9629.8  | 6885.9 | 1445.5 | 601.9  | 465.2  | 438.9  | 436.3  | 391.6  | 323.3  |
| 47.5° | 12113.4 | 11758.6 | 10964.9 | 7359.0 | 1311.5 | 670.2  | 433.7  | 402.1  | 420.5  | 368.0  | 286.5  |
| 50°   | 14786.3 | 14368.4 | 13219.9 | 7727.0 | 1308.9 | 759.6  | 428.4  | 368.0  | 407.4  | 349.6  | 254.9  |
| 52.5° | 17472.4 | 16736.5 | 15340.9 | 7924.1 | 1406.1 | 825.3  | 475.7  | 333.8  | 391.6  | 331.2  | 231.3  |
| 55°   | 20045.4 | 18518.4 | 16229.2 | 7272.3 | 1482.3 | 896.2  | 562.4  | 315.4  | 362.7  | 310.1  | 218.1  |
| 57.5° | 22497.5 | 19950.8 | 16615.6 | 5753.2 | 1737.2 | 925.1  | 615.0  | 323.3  | 320.6  | 283.8  | 207.6  |
| 60°   | 22833.9 | 19882.4 | 15835.0 | 3345.7 | 1916.0 | 875.2  | 594.0  | 360.1  | 281.2  | 252.3  | 189.2  |
| 62.5° | 21561.9 | 18560.5 | 14055.7 | 2086.8 | 1779.3 | 856.8  | 528.3  | 410.0  | 254.9  | 223.4  | 165.6  |
| 65°   | 19630.1 | 16486.8 | 11719.2 | 1345.6 | 1348.3 | 951.4  | 462.6  | 402.1  | 239.2  | 197.1  | 141.9  |
| 67.5° | 16610.3 | 13798.1 | 9232.9  | 901.5  | 762.2  | 812.1  | 404.7  | 276.0  | 233.9  | 168.2  | 110.4  |
| 70°   | 12124.0 | 9821.6  | 6010.7  | 601.9  | 454.7  | 649.2  | 339.0  | 197.1  | 220.8  | 139.3  | 78.8   |
| 72.5° | 8862.3  | 6599.4  | 3356.2  | 394.2  | 257.6  | 378.5  | 249.7  | 141.9  | 170.8  | 102.5  | 55.2   |
| 75°   | 6378.7  | 4541.6  | 1916.0  | 252.3  | 170.8  | 207.6  | 162.9  | 97.2   | 110.4  | 81.5   | 49.9   |
| 77.5° | 3069.8  | 2213.0  | 869.9   | 139.3  | 115.6  | 105.1  | 86.7   | 60.4   | 68.3   | 73.6   | 44.7   |
| 80°   | 115.6   | 86.7    | 65.7    | 68.3   | 73.6   | 47.3   | 39.4   | 31.5   | 39.4   | 49.9   | 23.7   |
| 82.5° | 0.0     | 0.0     | 0.0     | 7.9    | 10.5   | 13.1   | 15.8   | 13.1   | 15.8   | 18.4   | 2.6    |
| 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    |

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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 |
| 2.5°  | 1067.1 | 1061.8 | 1067.1 | 1072.3 | 1077.6 | 1082.8 | 1074.9 | 1080.2 | 1085.5 | 1072.3 | 1077.6 |
| 5°    | 983.0  | 980.3  | 996.1  | 1004.0 | 1014.5 | 1019.7 | 1014.5 | 1014.5 | 1011.9 | 996.1  | 996.1  |
| 7.5°  | 909.4  | 912.0  | 925.1  | 943.5  | 956.7  | 964.6  | 959.3  | 956.7  | 948.8  | 925.1  | 925.1  |
| 10°   | 854.2  | 854.2  | 875.2  | 891.0  | 909.4  | 917.2  | 912.0  | 904.1  | 896.2  | 872.6  | 869.9  |
| 12.5° | 809.5  | 809.5  | 825.3  | 851.5  | 872.6  | 883.1  | 880.5  | 869.9  | 856.8  | 833.1  | 830.5  |
| 15°   | 767.4  | 764.8  | 788.5  | 812.1  | 841.0  | 854.2  | 848.9  | 841.0  | 817.4  | 796.3  | 791.1  |
| 17.5° | 725.4  | 722.8  | 743.8  | 775.3  | 806.9  | 825.3  | 822.6  | 804.2  | 783.2  | 756.9  | 751.7  |
| 20°   | 683.3  | 678.1  | 704.4  | 735.9  | 767.4  | 785.8  | 780.6  | 764.8  | 738.5  | 712.2  | 707.0  |
| 22.5° | 641.3  | 638.7  | 657.1  | 683.3  | 712.2  | 728.0  | 725.4  | 712.2  | 686.0  | 662.3  | 662.3  |
| 25°   | 594.0  | 594.0  | 607.1  | 625.5  | 646.5  | 654.4  | 657.1  | 651.8  | 636.0  | 622.9  | 622.9  |
| 27.5° | 554.6  | 546.7  | 551.9  | 557.2  | 567.7  | 580.8  | 580.8  | 586.1  | 588.7  | 583.5  | 586.1  |
| 30°   | 523.0  | 509.9  | 502.0  | 491.5  | 486.2  | 491.5  | 496.7  | 515.1  | 533.5  | 544.0  | 549.3  |
| 32.5° | 486.2  | 470.5  | 449.4  | 420.5  | 402.1  | 396.9  | 412.6  | 446.8  | 481.0  | 504.6  | 517.8  |
| 35°   | 449.4  | 428.4  | 389.0  | 346.9  | 323.3  | 315.4  | 333.8  | 373.2  | 423.1  | 465.2  | 483.6  |
| 37.5° | 412.6  | 383.7  | 328.5  | 278.6  | 252.3  | 247.1  | 265.4  | 307.5  | 365.3  | 423.1  | 446.8  |
| 40°   | 370.6  | 336.4  | 270.7  | 218.1  | 197.1  | 191.9  | 207.6  | 249.7  | 310.1  | 375.8  | 412.6  |
| 42.5° | 328.5  | 286.5  | 218.1  | 173.5  | 152.4  | 152.4  | 173.5  | 205.0  | 260.2  | 331.2  | 375.8  |
| 45°   | 286.5  | 241.8  | 178.7  | 139.3  | 126.2  | 128.8  | 141.9  | 173.5  | 218.1  | 291.7  | 333.8  |
| 47.5° | 247.1  | 207.6  | 147.2  | 115.6  | 105.1  | 107.8  | 123.5  | 149.8  | 186.6  | 252.3  | 297.0  |
| 50°   | 212.9  | 176.1  | 128.8  | 97.2   | 89.4   | 94.6   | 110.4  | 134.0  | 165.6  | 223.4  | 260.2  |
| 52.5° | 191.9  | 157.7  | 118.3  | 84.1   | 78.8   | 84.1   | 99.9   | 120.9  | 149.8  | 197.1  | 233.9  |
| 55°   | 181.3  | 155.1  | 118.3  | 76.2   | 68.3   | 73.6   | 89.4   | 110.4  | 134.0  | 178.7  | 210.3  |
| 57.5° | 178.7  | 160.3  | 126.2  | 68.3   | 57.8   | 63.1   | 78.8   | 99.9   | 123.5  | 162.9  | 189.2  |
| 60°   | 168.2  | 152.4  | 123.5  | 55.2   | 44.7   | 52.6   | 65.7   | 86.7   | 113.0  | 152.4  | 176.1  |
| 62.5° | 147.2  | 134.0  | 107.8  | 44.7   | 34.2   | 39.4   | 55.2   | 76.2   | 102.5  | 139.3  | 165.6  |
| 65°   | 120.9  | 107.8  | 84.1   | 28.9   | 21.0   | 26.3   | 42.1   | 65.7   | 89.4   | 126.2  | 149.8  |
| 67.5° | 89.4   | 76.2   | 57.8   | 18.4   | 10.5   | 18.4   | 34.2   | 55.2   | 81.5   | 113.0  | 136.7  |
| 70°   | 55.2   | 44.7   | 31.5   | 10.5   | 7.9    | 15.8   | 31.5   | 52.6   | 73.6   | 105.1  | 128.8  |
| 72.5° | 31.5   | 21.0   | 13.1   | 5.3    | 7.9    | 15.8   | 31.5   | 52.6   | 71.0   | 99.9   | 120.9  |
| 75°   | 23.7   | 13.1   | 5.3    | 2.6    | 5.3    | 13.1   | 28.9   | 47.3   | 68.3   | 94.6   | 115.6  |
| 77.5° | 15.8   | 7.9    | 2.6    | 0.0    | 2.6    | 10.5   | 26.3   | 44.7   | 63.1   | 89.4   | 110.4  |
| 80°   | 2.6    | 0.0    | 0.0    | 0.0    | 0.0    | 7.9    | 23.7   | 39.4   | 57.8   | 78.8   | 97.2   |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 2.6    | 18.4   | 34.2   | 49.9   | 65.7   | 78.8   |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 10.5   | 26.3   | 39.4   | 49.9   | 55.2   |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 13.1   | 26.3   | 31.5   | 36.8   |
| 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°    | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2 | 1151.2  | 1151.2  | 1151.2  |
| 2.5°  | 1074.9 | 1090.7 | 1090.7 | 1101.2 | 1114.4 | 1138.0 | 1151.2 | 1169.6 | 1182.7  | 1195.8  | 1201.1  |
| 5°    | 993.5  | 996.1  | 998.7  | 1004.0 | 1019.7 | 1046.0 | 1069.7 | 1098.6 | 1132.8  | 1159.0  | 1174.8  |
| 7.5°  | 925.1  | 925.1  | 925.1  | 933.0  | 948.8  | 967.2  | 990.8  | 1030.3 | 1069.7  | 1101.2  | 1127.5  |
| 10°   | 867.3  | 875.2  | 877.8  | 891.0  | 909.4  | 933.0  | 959.3  | 993.5  | 1038.1  | 1080.2  | 1127.5  |
| 12.5° | 830.5  | 838.4  | 851.5  | 864.7  | 883.1  | 909.4  | 938.3  | 983.0  | 1074.9  | 1161.7  | 1261.5  |
| 15°   | 796.3  | 806.9  | 822.6  | 841.0  | 862.1  | 891.0  | 922.5  | 1014.5 | 1230.0  | 1393.0  | 1550.6  |
| 17.5° | 759.6  | 775.3  | 796.3  | 814.7  | 841.0  | 872.6  | 912.0  | 1090.7 | 1513.9  | 1784.6  | 2052.6  |
| 20°   | 712.2  | 733.3  | 756.9  | 785.8  | 817.4  | 854.2  | 912.0  | 1248.4 | 1923.9  | 2312.8  | 2667.6  |
| 22.5° | 667.6  | 688.6  | 717.5  | 754.3  | 791.1  | 827.9  | 925.1  | 1487.6 | 2452.1  | 2943.6  | 3393.0  |
| 25°   | 630.8  | 657.1  | 686.0  | 717.5  | 759.6  | 801.6  | 956.7  | 1824.0 | 3088.2  | 3721.6  | 4039.6  |
| 27.5° | 596.6  | 628.1  | 657.1  | 683.3  | 720.1  | 767.4  | 1027.6 | 2273.4 | 3839.8  | 4483.7  | 4733.4  |
| 30°   | 562.4  | 599.2  | 628.1  | 654.4  | 691.2  | 741.2  | 1135.4 | 2846.4 | 4675.6  | 5301.1  | 5327.4  |
| 32.5° | 533.5  | 567.7  | 601.9  | 628.1  | 662.3  | 720.1  | 1285.2 | 3516.6 | 5532.4  | 6136.9  | 5889.8  |
| 35°   | 502.0  | 541.4  | 573.0  | 601.9  | 638.7  | 701.7  | 1458.7 | 4239.3 | 6397.1  | 6904.3  | 6449.6  |
| 37.5° | 470.5  | 515.1  | 554.6  | 575.6  | 612.4  | 683.3  | 1584.8 | 4993.6 | 7280.2  | 7653.4  | 6941.1  |
| 40°   | 441.5  | 491.5  | 536.2  | 557.2  | 575.6  | 659.7  | 1603.2 | 5766.3 | 8176.4  | 8391.9  | 7403.7  |
| 42.5° | 410.0  | 465.2  | 504.6  | 533.5  | 549.3  | 643.9  | 1492.8 | 6418.1 | 8928.0  | 9127.8  | 8008.2  |
| 45°   | 375.8  | 441.5  | 473.1  | 494.1  | 525.6  | 654.4  | 1350.9 | 6922.7 | 9787.5  | 10131.8 | 9004.3  |
| 47.5° | 341.7  | 415.3  | 441.5  | 457.3  | 499.4  | 717.5  | 1298.3 | 7259.1 | 11204.1 | 11919.0 | 10683.7 |
| 50°   | 310.1  | 391.6  | 420.5  | 417.9  | 494.1  | 799.0  | 1356.2 | 7514.1 | 13332.9 | 14174.0 | 12986.0 |
| 52.5° | 276.0  | 365.3  | 399.5  | 389.0  | 533.5  | 862.1  | 1471.8 | 7716.4 | 14970.3 | 16817.9 | 16079.4 |
| 55°   | 247.1  | 336.4  | 368.0  | 365.3  | 607.1  | 909.4  | 1561.2 | 6649.4 | 15648.4 | 19275.3 | 19564.4 |
| 57.5° | 226.0  | 304.9  | 331.2  | 375.8  | 654.4  | 909.4  | 1805.6 | 4720.3 | 15661.5 | 21083.5 | 24190.1 |
| 60°   | 207.6  | 276.0  | 294.4  | 412.6  | 636.0  | 862.1  | 1787.2 | 2891.0 | 14434.2 | 20960.0 | 26650.1 |
| 62.5° | 191.9  | 249.7  | 273.3  | 423.1  | 562.4  | 854.2  | 1613.7 | 1792.4 | 12310.6 | 19364.7 | 24865.5 |
| 65°   | 178.7  | 228.7  | 262.8  | 389.0  | 509.9  | 914.6  | 1088.1 | 1287.8 | 9984.6  | 17546.0 | 22818.2 |
| 67.5° | 165.6  | 210.3  | 278.6  | 318.0  | 462.6  | 817.4  | 785.8  | 914.6  | 7837.3  | 15551.1 | 20939.0 |
| 70°   | 155.1  | 199.7  | 294.4  | 260.2  | 404.7  | 638.7  | 557.2  | 693.8  | 6000.2  | 12975.5 | 18292.4 |
| 72.5° | 147.2  | 186.6  | 247.1  | 205.0  | 328.5  | 494.1  | 389.0  | 504.6  | 3921.3  | 10129.1 | 14912.5 |
| 75°   | 139.3  | 170.8  | 181.3  | 165.6  | 244.4  | 323.3  | 294.4  | 339.0  | 2336.5  | 7403.7  | 11314.5 |
| 77.5° | 136.7  | 160.3  | 147.2  | 134.0  | 165.6  | 191.9  | 223.4  | 228.7  | 1140.6  | 3703.2  | 5929.3  |
| 80°   | 120.9  | 144.6  | 126.2  | 110.4  | 113.0  | 126.2  | 165.6  | 152.4  | 260.2   | 940.9   | 1582.2  |
| 82.5° | 94.6   | 113.0  | 105.1  | 92.0   | 92.0   | 92.0   | 110.4  | 102.5  | 84.1    | 423.1   | 714.9   |
| 85°   | 65.7   | 78.8   | 78.8   | 73.6   | 71.0   | 71.0   | 68.3   | 65.7   | 23.7    | 26.3    | 39.4    |
| 87.5° | 44.7   | 55.2   | 57.8   | 55.2   | 47.3   | 42.1   | 36.8   | 31.5   | 10.5    | 0.0     | 5.3     |
| 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: P643486

CATALOG NUMBER: GWS-SA6F-722-U-SLL-W-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°    | 295°    | 305°    | 315°    | 325°    | 335°    | 345°    | 355°    | 358°    | 360°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 1151.2  | 1151.2  | 1151.2  | 1151.2  | 1151.2  | 1151.2  | 1151.2  | 1151.2  | 1151.2  | 1151.2  |
| 2.5°  | 1219.5  | 1227.4  | 1227.4  | 1216.9  | 1209.0  | 1188.0  | 1166.9  | 1145.9  | 1140.6  | 1138.0  |
| 5°    | 1219.5  | 1251.0  | 1266.8  | 1264.2  | 1245.8  | 1211.6  | 1166.9  | 1119.6  | 1106.5  | 1101.2  |
| 7.5°  | 1201.1  | 1261.5  | 1308.9  | 1316.7  | 1282.6  | 1222.1  | 1140.6  | 1069.7  | 1051.3  | 1043.4  |
| 10°   | 1243.1  | 1361.4  | 1456.0  | 1469.2  | 1429.7  | 1311.5  | 1180.1  | 1059.2  | 1030.3  | 1011.9  |
| 12.5° | 1469.2  | 1663.7  | 1779.3  | 1834.5  | 1758.3  | 1608.5  | 1390.3  | 1174.8  | 1109.1  | 1080.2  |
| 15°   | 1926.5  | 2202.4  | 2423.2  | 2423.2  | 2352.3  | 2086.8  | 1810.8  | 1461.3  | 1371.9  | 1293.1  |
| 17.5° | 2512.6  | 2859.5  | 3054.0  | 3033.0  | 2925.2  | 2738.6  | 2407.4  | 1905.5  | 1724.1  | 1642.6  |
| 20°   | 3180.1  | 3387.8  | 3432.4  | 3419.3  | 3372.0  | 3264.2  | 3035.6  | 2496.8  | 2252.4  | 2126.2  |
| 22.5° | 3758.3  | 3703.2  | 3637.4  | 3584.9  | 3571.7  | 3603.3  | 3571.7  | 3156.5  | 2964.6  | 2741.2  |
| 25°   | 4150.0  | 3837.2  | 3640.1  | 3545.5  | 3590.1  | 3771.5  | 3968.6  | 3813.5  | 3661.1  | 3429.8  |
| 27.5° | 4362.8  | 3821.4  | 3537.6  | 3440.3  | 3516.6  | 3774.1  | 4202.5  | 4465.3  | 4307.6  | 4197.3  |
| 30°   | 4478.5  | 3808.3  | 3471.9  | 3377.3  | 3492.9  | 3816.2  | 4365.5  | 5075.1  | 5080.3  | 4904.2  |
| 32.5° | 4644.1  | 3892.4  | 3485.0  | 3398.3  | 3553.3  | 3942.3  | 4570.5  | 5695.3  | 5847.8  | 5753.2  |
| 35°   | 4830.7  | 4021.2  | 3545.5  | 3466.6  | 3658.5  | 4110.5  | 4799.1  | 6320.9  | 6638.9  | 6607.3  |
| 37.5° | 5006.7  | 4165.7  | 3687.4  | 3611.2  | 3818.8  | 4255.1  | 5019.9  | 6935.9  | 7377.4  | 7487.8  |
| 40°   | 5190.7  | 4368.1  | 4123.7  | 4197.3  | 4312.9  | 4483.7  | 5217.0  | 7469.4  | 8189.5  | 8355.1  |
| 42.5° | 5624.4  | 5069.8  | 5443.0  | 5582.3  | 5598.1  | 5245.9  | 5648.0  | 8152.7  | 8988.5  | 9185.6  |
| 45°   | 6591.6  | 6318.2  | 7387.9  | 7585.0  | 7482.5  | 6415.5  | 6686.2  | 9138.3  | 10105.5 | 10205.4 |
| 47.5° | 7813.7  | 7939.8  | 10050.3 | 10731.0 | 10116.0 | 7795.3  | 7945.1  | 11212.0 | 12150.2 | 12113.4 |
| 50°   | 9238.2  | 9834.8  | 13072.7 | 14678.6 | 13206.8 | 9587.7  | 9395.9  | 13761.3 | 14899.3 | 14786.3 |
| 52.5° | 10922.9 | 12037.2 | 16704.9 | 18986.2 | 17593.3 | 11603.6 | 11524.7 | 17138.6 | 17832.4 | 17472.4 |
| 55°   | 13043.8 | 14163.4 | 20883.8 | 24071.8 | 22090.1 | 14063.6 | 14334.3 | 21054.6 | 21188.7 | 20045.4 |
| 57.5° | 16208.2 | 16936.2 | 25809.1 | 29903.8 | 26784.1 | 17406.7 | 19369.9 | 26266.4 | 24663.2 | 22497.5 |
| 60°   | 21953.5 | 20502.7 | 30568.8 | 35869.9 | 31777.7 | 22108.5 | 26011.4 | 29354.5 | 25819.6 | 22833.9 |
| 62.5° | 23953.5 | 23530.4 | 33549.2 | 38393.0 | 35136.6 | 25969.4 | 27738.2 | 27604.1 | 24321.5 | 21561.9 |
| 65°   | 20923.2 | 22776.1 | 33015.6 | 37060.5 | 34705.6 | 25333.4 | 24891.8 | 25672.4 | 22634.2 | 19630.1 |
| 67.5° | 19327.9 | 21004.7 | 30994.5 | 33383.6 | 32316.5 | 23175.6 | 22187.4 | 21974.5 | 19002.0 | 16610.3 |
| 70°   | 17719.4 | 19380.5 | 28064.1 | 28361.1 | 27864.3 | 19659.0 | 18360.7 | 16933.6 | 14202.9 | 12124.0 |
| 72.5° | 15785.1 | 16699.7 | 23998.2 | 22589.5 | 22027.1 | 15440.8 | 15167.4 | 12752.1 | 10646.9 | 8862.3  |
| 75°   | 13766.6 | 13501.1 | 18710.3 | 15503.8 | 15924.4 | 12013.6 | 12809.9 | 9364.3  | 7800.5  | 6378.7  |
| 77.5° | 10013.5 | 9816.4  | 12531.3 | 9416.9  | 10428.8 | 7868.9  | 7069.9  | 3737.3  | 3558.6  | 3069.8  |
| 80°   | 5587.6  | 6736.1  | 6767.7  | 5277.5  | 6583.7  | 5130.3  | 1768.8  | 123.5   | 78.8    | 115.6   |
| 82.5° | 2596.7  | 2896.3  | 3669.0  | 2446.9  | 3755.7  | 2541.5  | 365.3   | 0.0     | 0.0     | 0.0     |
| 85°   | 841.0   | 1230.0  | 1030.3  | 360.1   | 909.4   | 859.4   | 60.4    | 0.0     | 0.0     | 0.0     |
| 87.5° | 49.9    | 102.5   | 26.3    | 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     |

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

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-10-R4

Test Date: 10/25/2019

Luminaire Tested: SA1C-722-U-5WQ

Data in this report applies to families of products SA1C-722-U-5WQ.

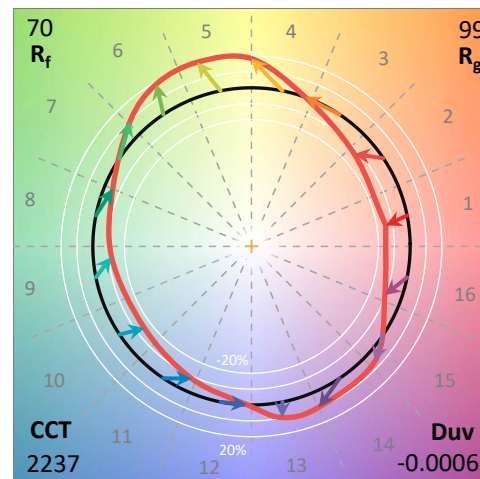
### Test Information

Test Method: LM-79-2008 Report  
 Number: SP1-1908-441-10-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-722-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):                  | 2237    | CRI (Ra): | 72.0 |      |       |
| CIE u':                   | 0.2876  | R1:       | 68.9 | R9:  | -17.4 |
| CIE v':                   | 0.5346  | R2:       | 83.0 | R10: | 61.3  |
| Duv:                      | -0.0006 | R3:       | 95.2 | R11: | 59.8  |
| CIE x:                    | 0.5005  | R4:       | 66.2 | R12: | 50.5  |
| CIE y:                    | 0.4134  | R5:       | 65.9 | R13: | 71.1  |
| CIE z:                    | 0.0860  | R6:       | 76.3 | R14: | 96.9  |
| Peak Wavelength (nm):     | 603     | R7:       | 76.7 |      |       |
| Dominant Wavelength (nm): | 587     | R8:       | 43.8 |      |       |
| Purity:                   | 74.5    |           |      |      |       |
| Rf:                       | 69.8    |           |      |      |       |
| Rg:                       | 99.2    |           |      |      |       |



### Test Conditions

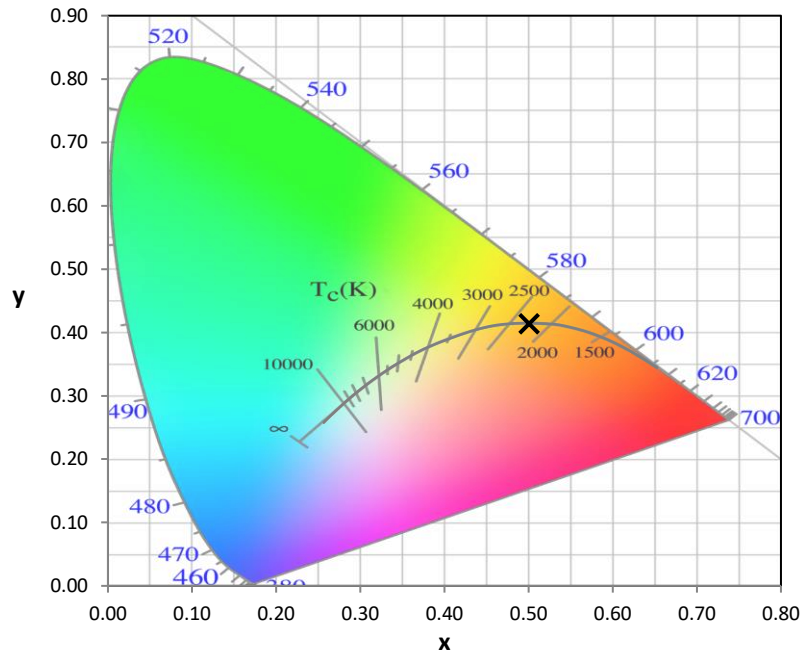
Stabilization Time: 71M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 24.7/41%  
 Sphere Temperature (°C): 25.6

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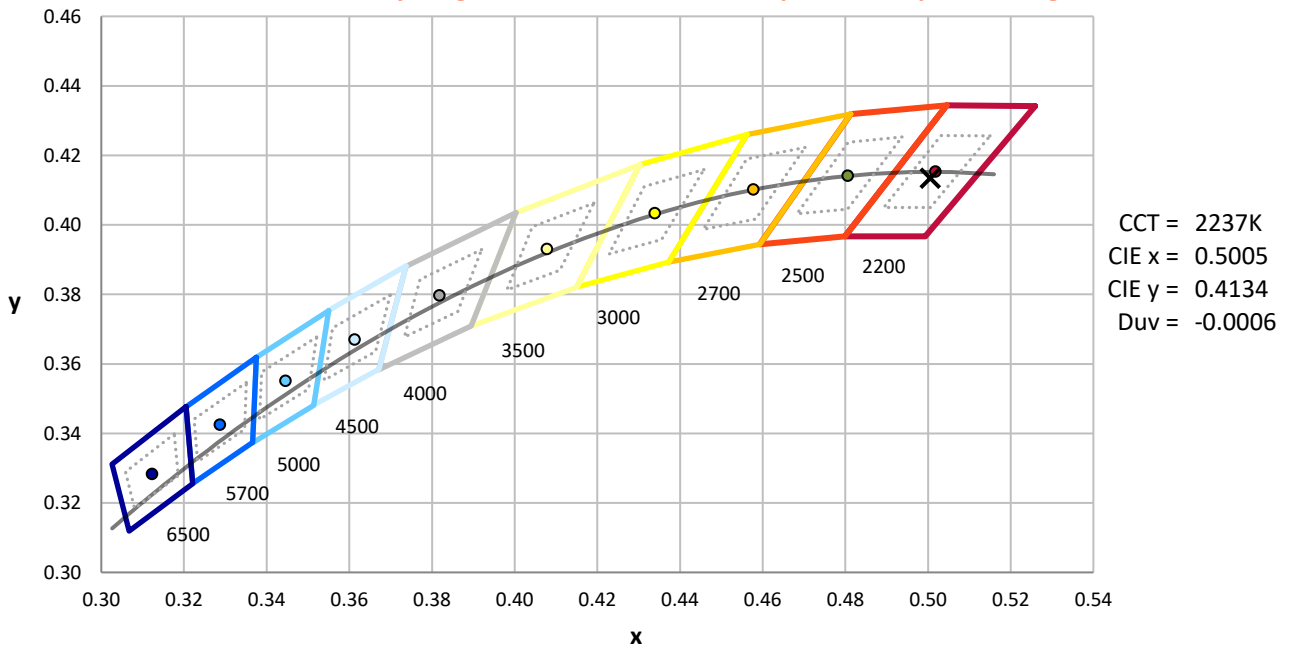
| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| 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            |

REPORT NUMBER: SP1-1908-441-10-R4

CIE 1931 Chromaticity Diagram



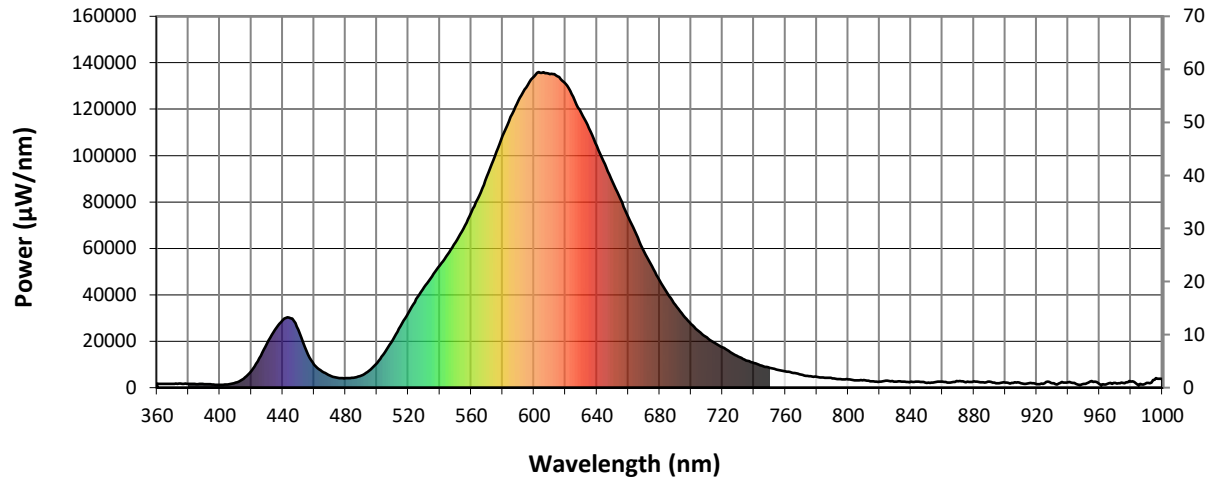
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 2200K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-10-R4

**Photopic Flux vs. Wavelength**

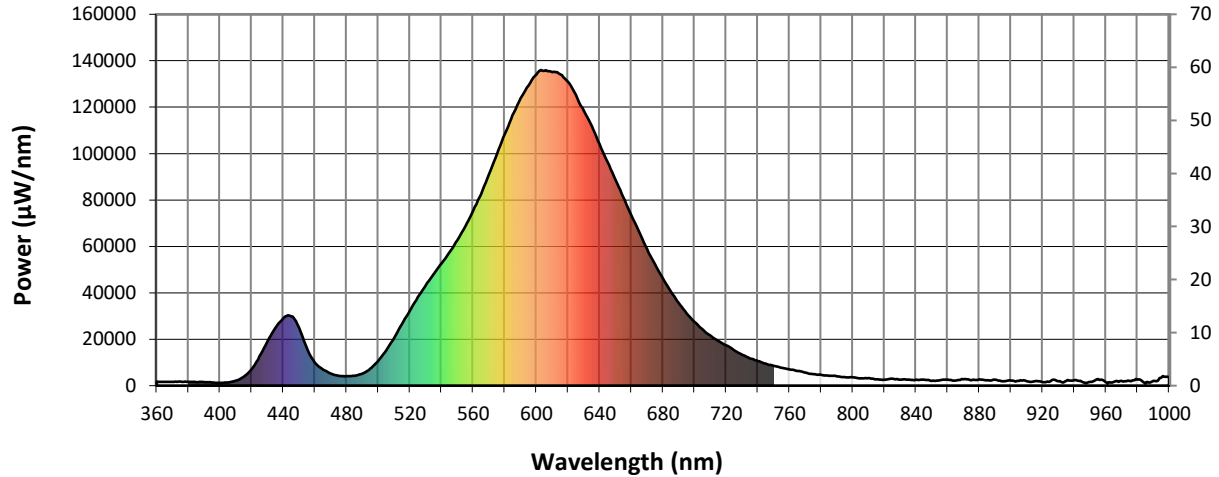


#####

| 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       | 1768             | NR               | 490       | 5206             | NR               | 620       | 130919           | NR               | 750       | 8553             | NR               | 880       | 2713             | NR               |
| 365       | 1569             | NR               | 495       | 7286             | NR               | 625       | 125335           | NR               | 755       | 7696             | NR               | 885       | 2316             | NR               |
| 370       | 1594             | NR               | 500       | 10654            | NR               | 630       | 118388           | NR               | 760       | 6978             | NR               | 890       | 2539             | NR               |
| 375       | 1744             | NR               | 505       | 15189            | NR               | 635       | 111855           | NR               | 765       | 6377             | NR               | 895       | 1933             | NR               |
| 380       | 1659             | NR               | 510       | 20541            | NR               | 640       | 104062           | NR               | 770       | 5600             | NR               | 900       | 2216             | NR               |
| 385       | 1504             | NR               | 515       | 26492            | NR               | 645       | 96365            | NR               | 775       | 5000             | NR               | 905       | 2067             | NR               |
| 390       | 1541             | NR               | 520       | 32294            | NR               | 650       | 88651            | NR               | 780       | 4709             | NR               | 910       | 1959             | NR               |
| 395       | 1355             | NR               | 525       | 38123            | NR               | 655       | 81152            | NR               | 785       | 4305             | NR               | 915       | 1874             | NR               |
| 400       | 1243             | NR               | 530       | 43232            | NR               | 660       | 73523            | NR               | 790       | 4040             | NR               | 920       | 1484             | NR               |
| 405       | 1417             | NR               | 535       | 48012            | NR               | 665       | 66123            | NR               | 795       | 3642             | NR               | 925       | 1914             | NR               |
| 410       | 2147             | NR               | 540       | 52623            | NR               | 670       | 58677            | NR               | 800       | 3594             | NR               | 930       | 1948             | NR               |
| 415       | 3837             | NR               | 545       | 57516            | NR               | 675       | 52349            | NR               | 805       | 3190             | NR               | 935       | 2079             | NR               |
| 420       | 7159             | NR               | 550       | 62613            | NR               | 680       | 46159            | NR               | 810       | 3241             | NR               | 940       | 2263             | NR               |
| 425       | 12599            | NR               | 555       | 68554            | NR               | 685       | 40525            | NR               | 815       | 2732             | NR               | 945       | 1688             | NR               |
| 430       | 19019            | NR               | 560       | 75325            | NR               | 690       | 35615            | NR               | 820       | 2612             | NR               | 950       | 1560             | NR               |
| 435       | 24875            | NR               | 565       | 82533            | NR               | 695       | 31158            | NR               | 825       | 2966             | NR               | 955       | 2826             | NR               |
| 440       | 29103            | NR               | 570       | 90909            | NR               | 700       | 27409            | NR               | 830       | 2574             | NR               | 960       | 1477             | NR               |
| 445       | 29901            | NR               | 575       | 99621            | NR               | 705       | 24204            | NR               | 835       | 2633             | NR               | 965       | 1568             | NR               |
| 450       | 24862            | NR               | 580       | 108484           | NR               | 710       | 21558            | NR               | 840       | 2526             | NR               | 970       | 2030             | NR               |
| 455       | 15942            | NR               | 585       | 116679           | NR               | 715       | 19222            | NR               | 845       | 2631             | NR               | 975       | 1986             | NR               |
| 460       | 9916             | NR               | 590       | 123752           | NR               | 720       | 17310            | NR               | 850       | 2079             | NR               | 980       | 2540             | NR               |
| 465       | 7051             | NR               | 595       | 129324           | NR               | 725       | 15280            | NR               | 855       | 2309             | NR               | 985       | 1139             | NR               |
| 470       | 5227             | NR               | 600       | 134082           | NR               | 730       | 13282            | NR               | 860       | 2528             | NR               | 990       | 2018             | NR               |
| 475       | 4257             | NR               | 605       | 135698           | NR               | 735       | 11753            | NR               | 865       | 2121             | NR               | 995       | 3445             | NR               |
| 480       | 4052             | NR               | 610       | 135144           | NR               | 740       | 10654            | NR               | 870       | 2751             | NR               | 1000      | 3704             | NR               |
| 485       | 4298             | NR               | 615       | 134180           | NR               | 745       | 9451             | NR               | 875       | 2317             | NR               |           |                  |                  |

REPORT NUMBER: SP1-1908-441-10-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 4696.9

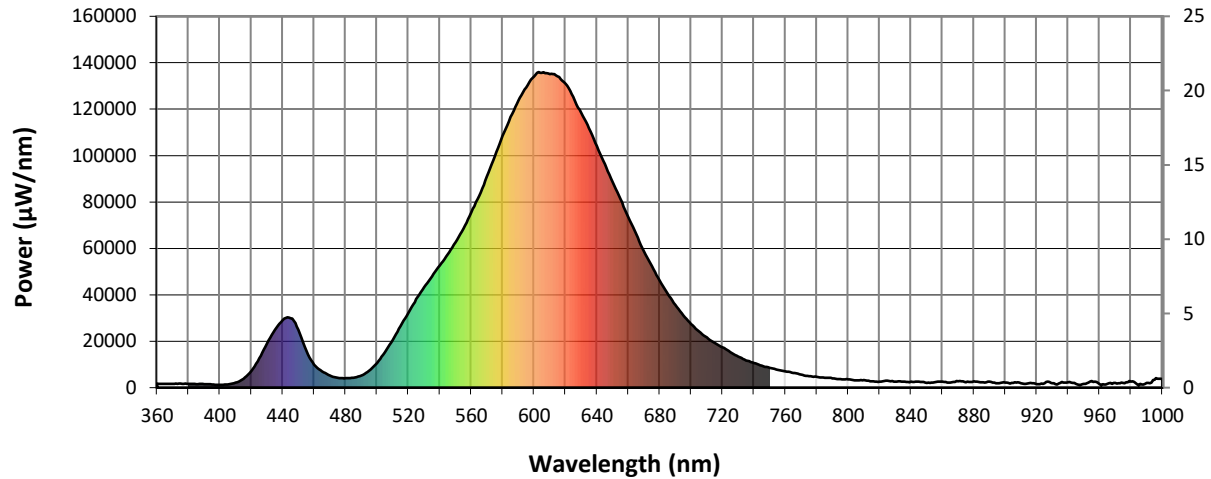
S/P: 0.85

| 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       | 1768             | NR               | 490       | 5206             | NR               | 620       | 130919           | NR               | 750       | 8553             | NR               | 880       | 2713             | NR               |
| 365       | 1569             | NR               | 495       | 7286             | NR               | 625       | 125335           | NR               | 755       | 7696             | NR               | 885       | 2316             | NR               |
| 370       | 1594             | NR               | 500       | 10654            | NR               | 630       | 118388           | NR               | 760       | 6978             | NR               | 890       | 2539             | NR               |
| 375       | 1744             | NR               | 505       | 15189            | NR               | 635       | 111855           | NR               | 765       | 6377             | NR               | 895       | 1933             | NR               |
| 380       | 1659             | NR               | 510       | 20541            | NR               | 640       | 104062           | NR               | 770       | 5600             | NR               | 900       | 2216             | NR               |
| 385       | 1504             | NR               | 515       | 26492            | NR               | 645       | 96365            | NR               | 775       | 5000             | NR               | 905       | 2067             | NR               |
| 390       | 1541             | NR               | 520       | 32294            | NR               | 650       | 88651            | NR               | 780       | 4709             | NR               | 910       | 1959             | NR               |
| 395       | 1355             | NR               | 525       | 38123            | NR               | 655       | 81152            | NR               | 785       | 4305             | NR               | 915       | 1874             | NR               |
| 400       | 1243             | NR               | 530       | 43232            | NR               | 660       | 73523            | NR               | 790       | 4040             | NR               | 920       | 1484             | NR               |
| 405       | 1417             | NR               | 535       | 48012            | NR               | 665       | 66123            | NR               | 795       | 3642             | NR               | 925       | 1914             | NR               |
| 410       | 2147             | NR               | 540       | 52623            | NR               | 670       | 58677            | NR               | 800       | 3594             | NR               | 930       | 1948             | NR               |
| 415       | 3837             | NR               | 545       | 57516            | NR               | 675       | 52349            | NR               | 805       | 3190             | NR               | 935       | 2079             | NR               |
| 420       | 7159             | NR               | 550       | 62613            | NR               | 680       | 46159            | NR               | 810       | 3241             | NR               | 940       | 2263             | NR               |
| 425       | 12599            | NR               | 555       | 68554            | NR               | 685       | 40525            | NR               | 815       | 2732             | NR               | 945       | 1688             | NR               |
| 430       | 19019            | NR               | 560       | 75325            | NR               | 690       | 35615            | NR               | 820       | 2612             | NR               | 950       | 1560             | NR               |
| 435       | 24875            | NR               | 565       | 82533            | NR               | 695       | 31158            | NR               | 825       | 2966             | NR               | 955       | 2826             | NR               |
| 440       | 29103            | NR               | 570       | 90909            | NR               | 700       | 27409            | NR               | 830       | 2574             | NR               | 960       | 1477             | NR               |
| 445       | 29901            | NR               | 575       | 99621            | NR               | 705       | 24204            | NR               | 835       | 2633             | NR               | 965       | 1568             | NR               |
| 450       | 24862            | NR               | 580       | 108484           | NR               | 710       | 21558            | NR               | 840       | 2526             | NR               | 970       | 2030             | NR               |
| 455       | 15942            | NR               | 585       | 116679           | NR               | 715       | 19222            | NR               | 845       | 2631             | NR               | 975       | 1986             | NR               |
| 460       | 9916             | NR               | 590       | 123752           | NR               | 720       | 17310            | NR               | 850       | 2079             | NR               | 980       | 2540             | NR               |
| 465       | 7051             | NR               | 595       | 129324           | NR               | 725       | 15280            | NR               | 855       | 2309             | NR               | 985       | 1139             | NR               |
| 470       | 5227             | NR               | 600       | 134082           | NR               | 730       | 13282            | NR               | 860       | 2528             | NR               | 990       | 2018             | NR               |
| 475       | 4257             | NR               | 605       | 135698           | NR               | 735       | 11753            | NR               | 865       | 2121             | NR               | 995       | 3445             | NR               |
| 480       | 4052             | NR               | 610       | 135144           | NR               | 740       | 10654            | NR               | 870       | 2751             | NR               | 1000      | 3704             | NR               |
| 485       | 4298             | NR               | 615       | 134180           | NR               | 745       | 9451             | NR               | 875       | 2317             | NR               |           |                  |                  |



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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 1470.8 M/P: 0.27**

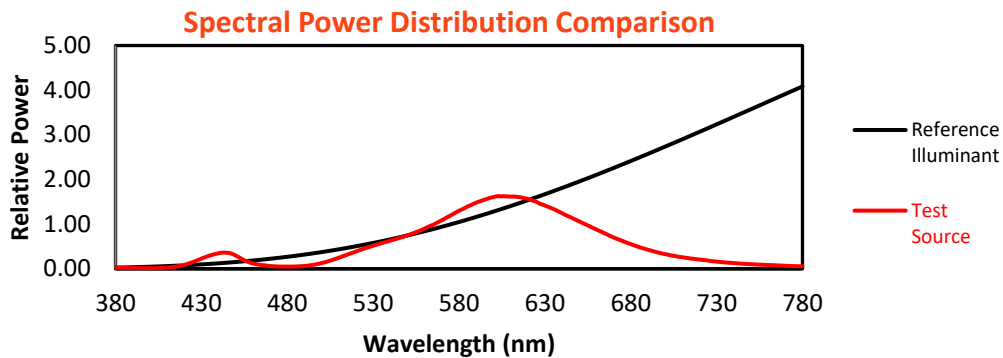
| λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) | λ<br>(nm) | Power<br>(μW/nm) | Lumens<br>(φ/nm) |
|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|-----------|------------------|------------------|
| 360       | 1768             | NR               | 490       | 5206             | NR               | 620       | 130919           | NR               | 750       | 8553             | NR               | 880       | 2713             | NR               |
| 365       | 1569             | NR               | 495       | 7286             | NR               | 625       | 125335           | NR               | 755       | 7696             | NR               | 885       | 2316             | NR               |
| 370       | 1594             | NR               | 500       | 10654            | NR               | 630       | 118388           | NR               | 760       | 6978             | NR               | 890       | 2539             | NR               |
| 375       | 1744             | NR               | 505       | 15189            | NR               | 635       | 111855           | NR               | 765       | 6377             | NR               | 895       | 1933             | NR               |
| 380       | 1659             | NR               | 510       | 20541            | NR               | 640       | 104062           | NR               | 770       | 5600             | NR               | 900       | 2216             | NR               |
| 385       | 1504             | NR               | 515       | 26492            | NR               | 645       | 96365            | NR               | 775       | 5000             | NR               | 905       | 2067             | NR               |
| 390       | 1541             | NR               | 520       | 32294            | NR               | 650       | 88651            | NR               | 780       | 4709             | NR               | 910       | 1959             | NR               |
| 395       | 1355             | NR               | 525       | 38123            | NR               | 655       | 81152            | NR               | 785       | 4305             | NR               | 915       | 1874             | NR               |
| 400       | 1243             | NR               | 530       | 43232            | NR               | 660       | 73523            | NR               | 790       | 4040             | NR               | 920       | 1484             | NR               |
| 405       | 1417             | NR               | 535       | 48012            | NR               | 665       | 66123            | NR               | 795       | 3642             | NR               | 925       | 1914             | NR               |
| 410       | 2147             | NR               | 540       | 52623            | NR               | 670       | 58677            | NR               | 800       | 3594             | NR               | 930       | 1948             | NR               |
| 415       | 3837             | NR               | 545       | 57516            | NR               | 675       | 52349            | NR               | 805       | 3190             | NR               | 935       | 2079             | NR               |
| 420       | 7159             | NR               | 550       | 62613            | NR               | 680       | 46159            | NR               | 810       | 3241             | NR               | 940       | 2263             | NR               |
| 425       | 12599            | NR               | 555       | 68554            | NR               | 685       | 40525            | NR               | 815       | 2732             | NR               | 945       | 1688             | NR               |
| 430       | 19019            | NR               | 560       | 75325            | NR               | 690       | 35615            | NR               | 820       | 2612             | NR               | 950       | 1560             | NR               |
| 435       | 24875            | NR               | 565       | 82533            | NR               | 695       | 31158            | NR               | 825       | 2966             | NR               | 955       | 2826             | NR               |
| 440       | 29103            | NR               | 570       | 90909            | NR               | 700       | 27409            | NR               | 830       | 2574             | NR               | 960       | 1477             | NR               |
| 445       | 29901            | NR               | 575       | 99621            | NR               | 705       | 24204            | NR               | 835       | 2633             | NR               | 965       | 1568             | NR               |
| 450       | 24862            | NR               | 580       | 108484           | NR               | 710       | 21558            | NR               | 840       | 2526             | NR               | 970       | 2030             | NR               |
| 455       | 15942            | NR               | 585       | 116679           | NR               | 715       | 19222            | NR               | 845       | 2631             | NR               | 975       | 1986             | NR               |
| 460       | 9916             | NR               | 590       | 123752           | NR               | 720       | 17310            | NR               | 850       | 2079             | NR               | 980       | 2540             | NR               |
| 465       | 7051             | NR               | 595       | 129324           | NR               | 725       | 15280            | NR               | 855       | 2309             | NR               | 985       | 1139             | NR               |
| 470       | 5227             | NR               | 600       | 134082           | NR               | 730       | 13282            | NR               | 860       | 2528             | NR               | 990       | 2018             | NR               |
| 475       | 4257             | NR               | 605       | 135698           | NR               | 735       | 11753            | NR               | 865       | 2121             | NR               | 995       | 3445             | NR               |
| 480       | 4052             | NR               | 610       | 135144           | NR               | 740       | 10654            | NR               | 870       | 2751             | NR               | 1000      | 3704             | NR               |
| 485       | 4298             | NR               | 615       | 134180           | NR               | 745       | 9451             | NR               | 875       | 2317             | NR               |           |                  |                  |

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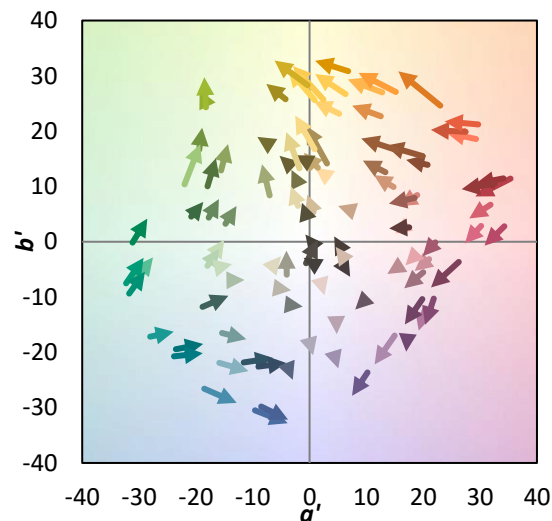
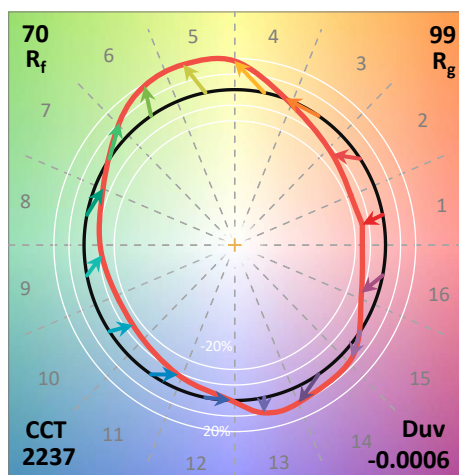
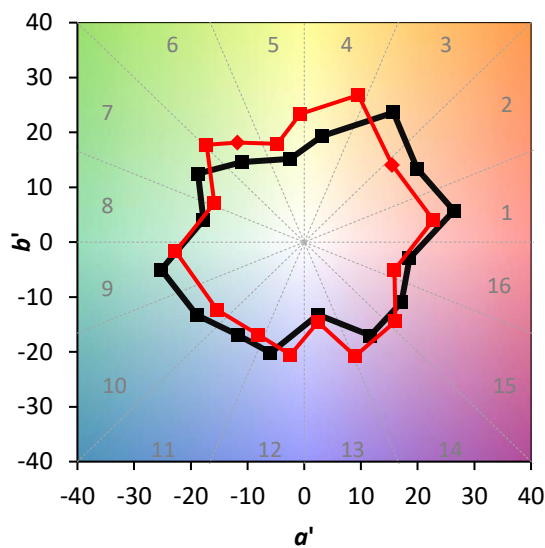
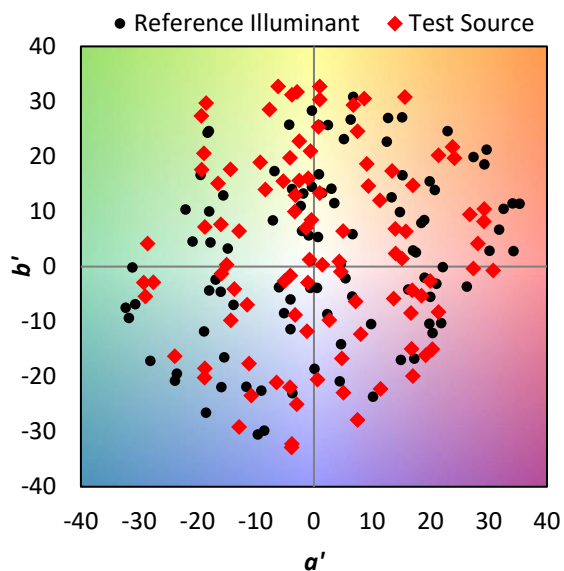
**TM-30-18**

### Summary

$R_f = 69.8$   
 $R_g = 99.2$   
 CIE  $R_a = 72.0$   
 $R_g = -17.4$



### Color Vector Graphics

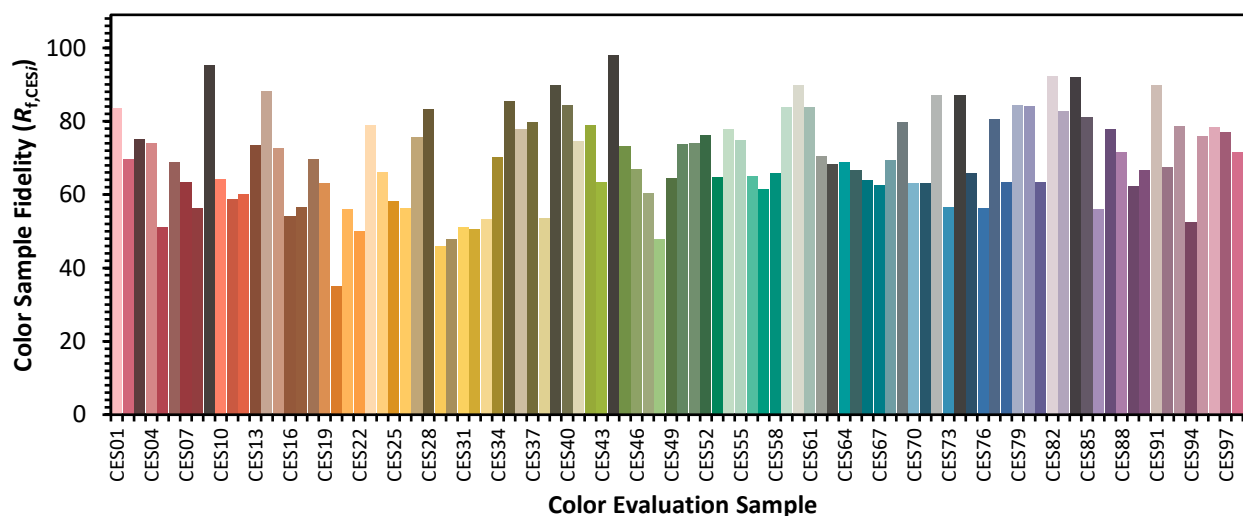


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**Individual Sample Fidelity Index ( $R_{f,i}$ )**

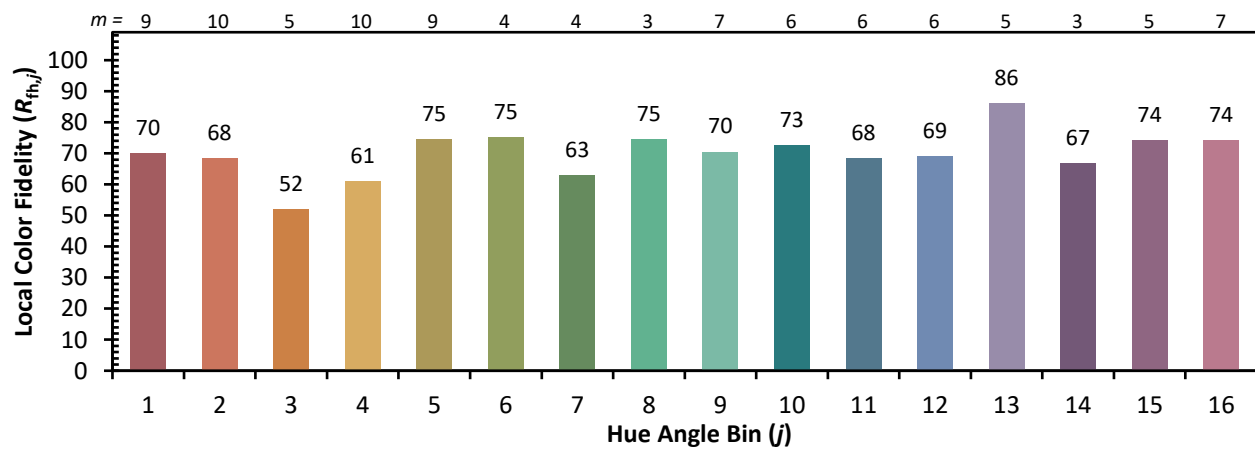
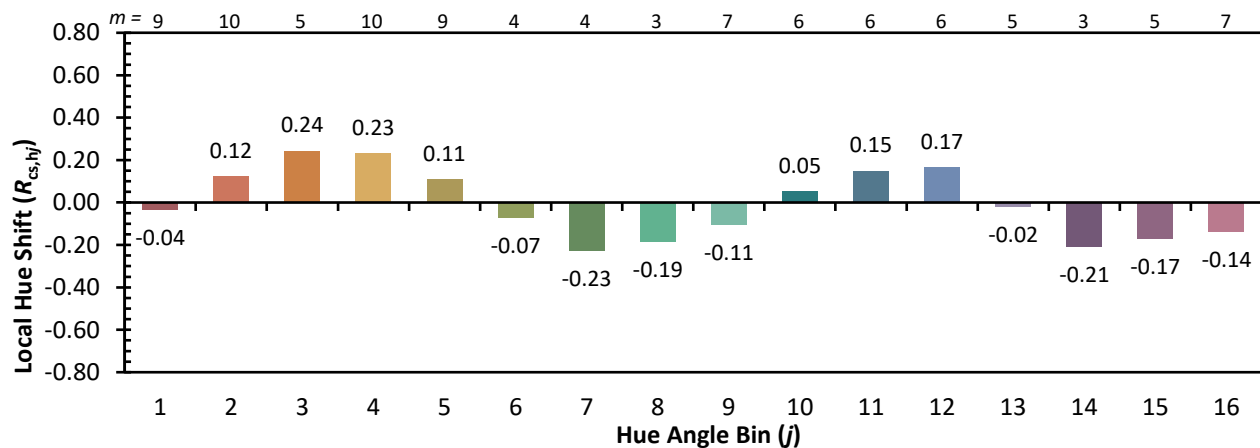
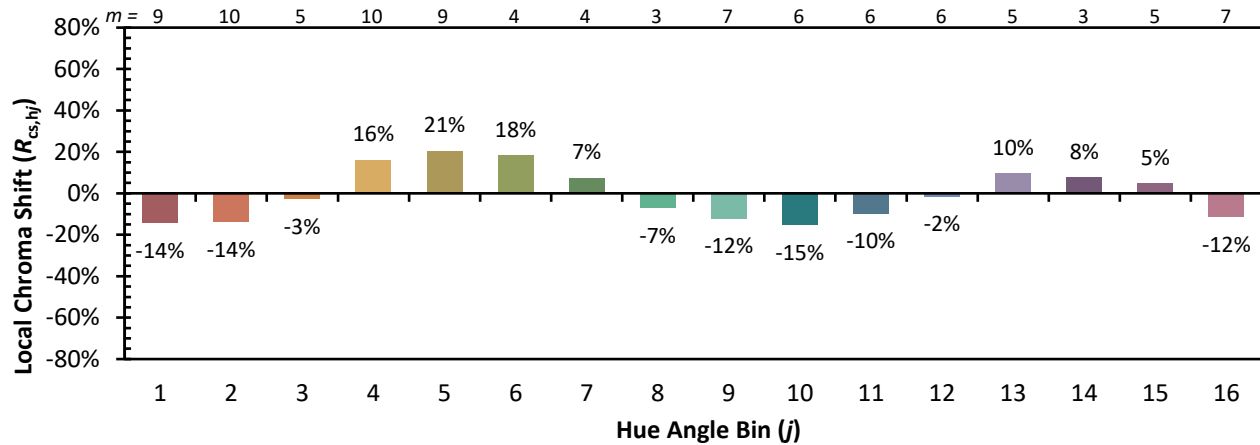
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|------------|------------|------------|------------|
| CES01 = 87 | CES26 = 56 | CES51 = 74 | CES76 = 56 |
| CES02 = 65 | CES27 = 76 | CES52 = 76 | CES77 = 81 |
| CES03 = 32 | CES28 = 83 | CES53 = 65 | CES78 = 63 |
| CES04 = 72 | CES29 = 46 | CES54 = 78 | CES79 = 84 |
| CES05 = 52 | CES30 = 48 | CES55 = 75 | CES80 = 84 |
| CES06 = 52 | CES31 = 51 | CES56 = 65 | CES81 = 63 |
| CES07 = 44 | CES32 = 51 | CES57 = 62 | CES82 = 92 |
| CES08 = 42 | CES33 = 53 | CES58 = 66 | CES83 = 83 |
| CES09 = 29 | CES34 = 70 | CES59 = 84 | CES84 = 92 |
| CES10 = 78 | CES35 = 85 | CES60 = 90 | CES85 = 81 |
| CES11 = 61 | CES36 = 78 | CES61 = 84 | CES86 = 56 |
| CES12 = 68 | CES37 = 80 | CES62 = 70 | CES87 = 78 |
| CES13 = 45 | CES38 = 53 | CES63 = 68 | CES88 = 72 |
| CES14 = 75 | CES39 = 90 | CES64 = 69 | CES89 = 62 |
| CES15 = 72 | CES40 = 84 | CES65 = 67 | CES90 = 67 |
| CES16 = 49 | CES41 = 75 | CES66 = 64 | CES91 = 90 |
| CES17 = 51 | CES42 = 79 | CES67 = 63 | CES92 = 67 |
| CES18 = 57 | CES43 = 64 | CES68 = 69 | CES93 = 79 |
| CES19 = 74 | CES44 = 98 | CES69 = 80 | CES94 = 52 |
| CES20 = 68 | CES45 = 73 | CES70 = 63 | CES95 = 76 |
| CES21 = 89 | CES46 = 67 | CES71 = 63 | CES96 = 78 |
| CES22 = 81 | CES47 = 60 | CES72 = 87 | CES97 = 77 |
| CES23 = 92 | CES48 = 48 | CES73 = 56 | CES98 = 71 |
| CES24 = 92 | CES49 = 64 | CES74 = 87 | CES99 = 65 |
| CES25 = 74 | CES50 = 74 | CES75 = 66 |            |



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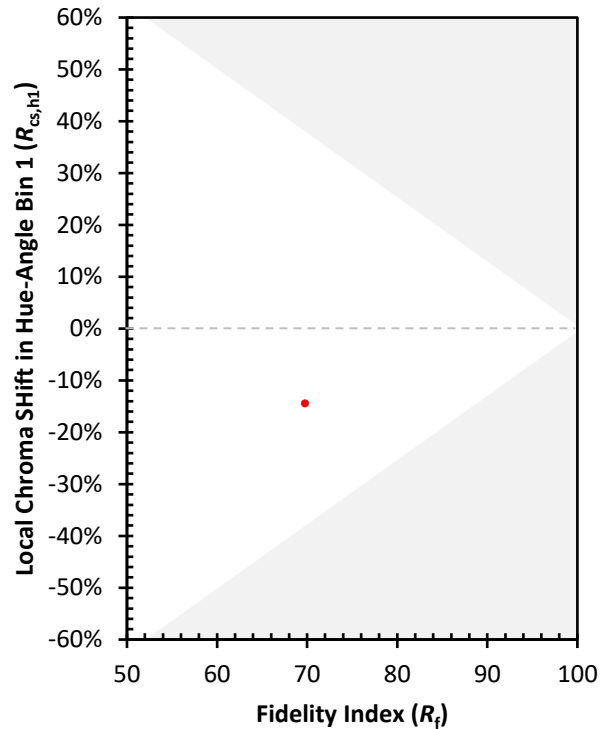
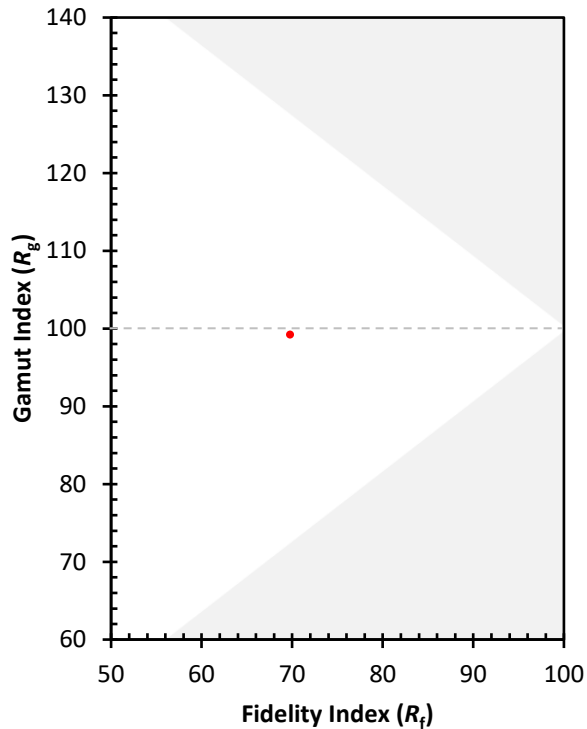
Color Rendition by Hue-Angle Bin



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**Measure Comparisons**



(END OF REPORT)