

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: P324431

Luminaire Tested: **GLEON-SA7A-730-U-SLR-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P324431  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-28)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GLEON-SA7A-730-U-SLR-HSS  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(7) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22251 lumens  
Efficiency: N/A  
Efficacy: 98.5 lumens/watt  
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')  
IES Classification: Type IV - Medium  
BUG Rating: B2 - U0 - G4

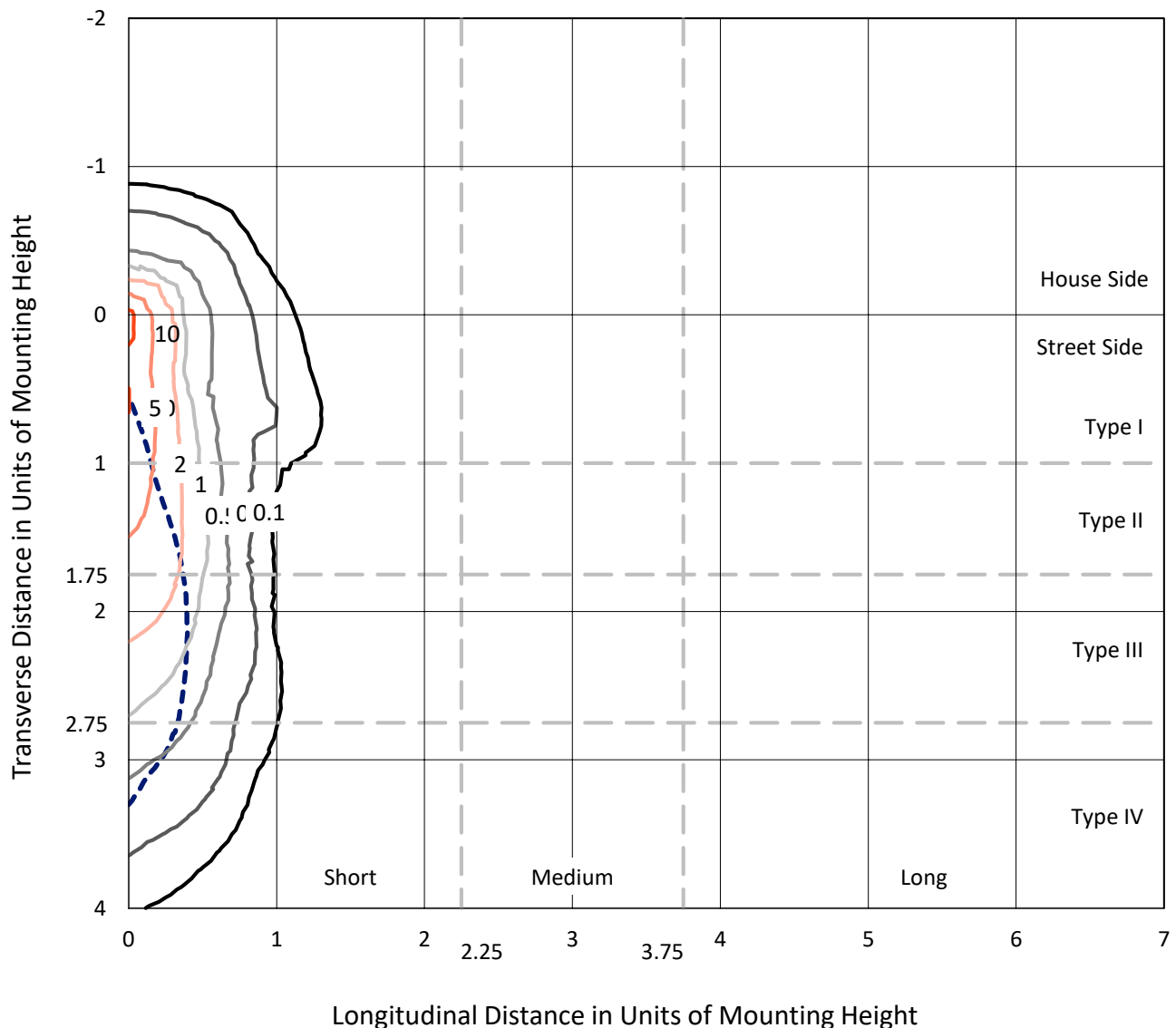
Input Watts (W): 226  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

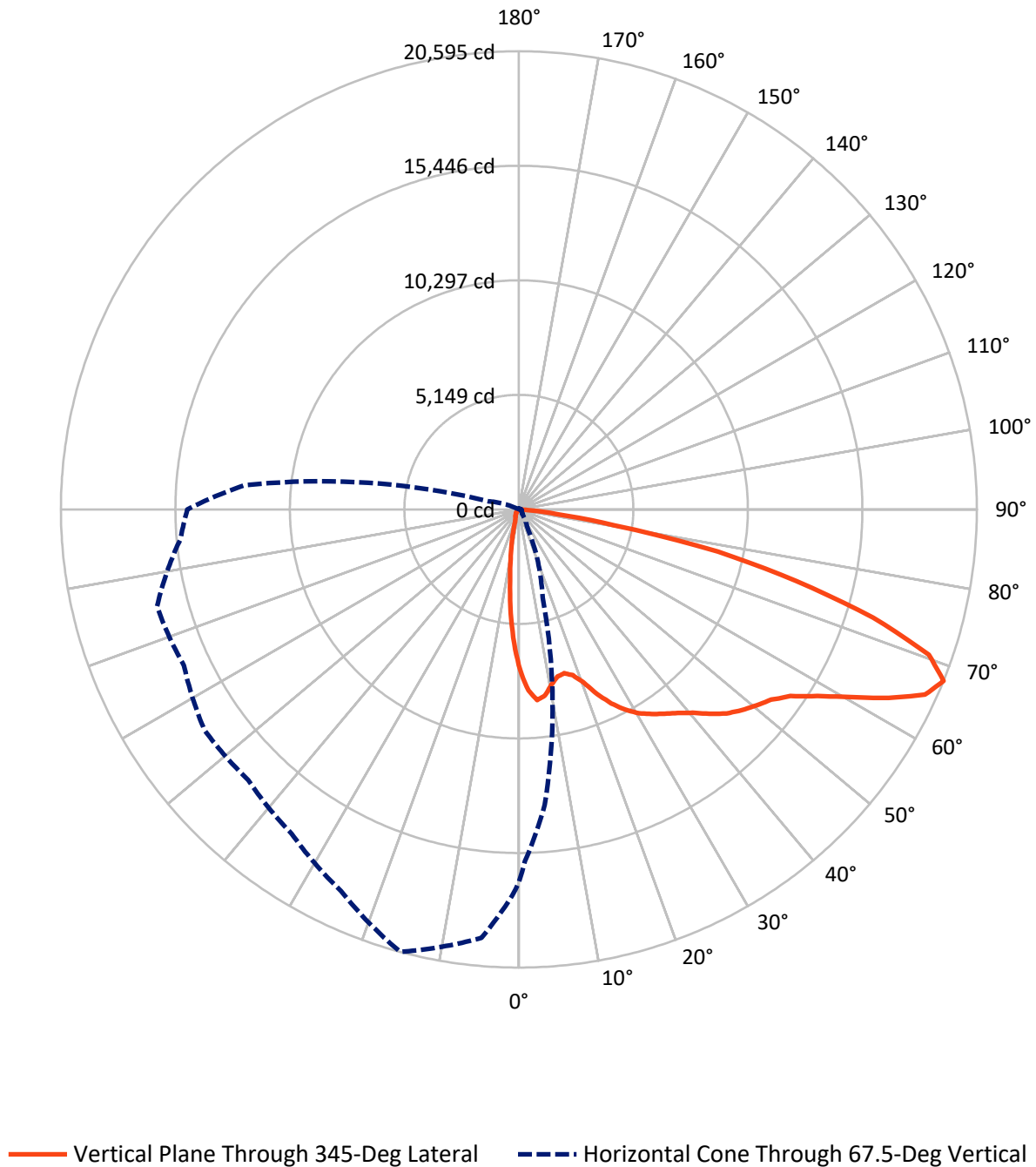
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.6 fc  
 Type IV - Medium - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 2693.1   | 0.0    | 2693.1  |
|                    | % Fixture | 12.1     | 0.0    | 12.1    |
| <b>Street Side</b> | Lumens    | 19557.9  | 0.0    | 19557.9 |
|                    | % Fixture | 87.9     | 0.0    | 87.9    |
| <b>Total</b>       | Lumens    | 22251.0  | 0.0    | 22251.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 556.3   | 2.5       |
| 10°-20°   | 1107.3  | 5.0       |
| 20°-30°   | 1572.4  | 7.1       |
| 30°-40°   | 2322.5  | 10.4      |
| 40°-50°   | 3349.5  | 15.1      |
| 50°-60°   | 4702.0  | 21.1      |
| 60°-70°   | 5481.2  | 24.6      |
| 70°-80°   | 2802.1  | 12.6      |
| 80°-90°   | 357.9   | 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°    | 22251.0 | 100.0     |
| 0°-180°   | 22251.0 | 100.0     |

**Coefficient of Utilization**



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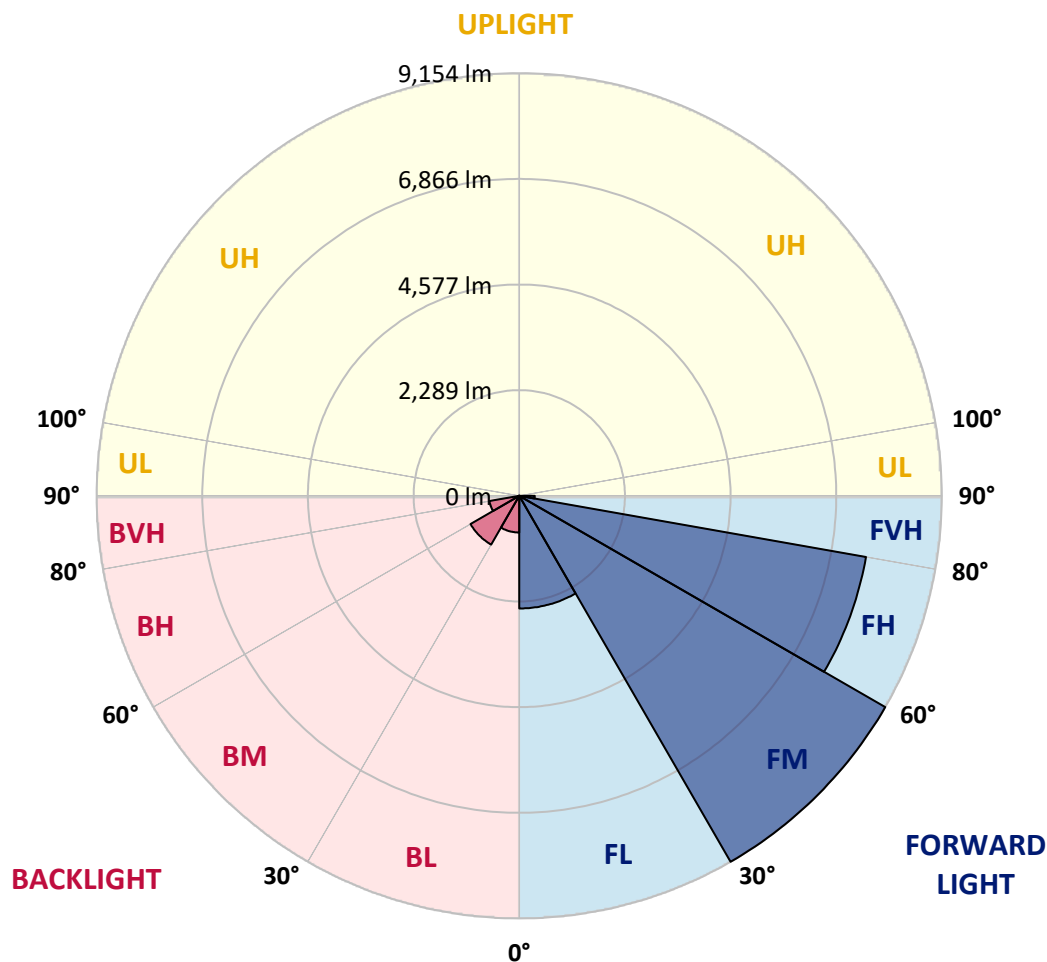
CATALOG NUMBER: GLEON-SA7A-730-U-SLR-HSS

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |          |
|------|-------------|--------|-----------|-------------------------|------|----------|
|      |             |        |           | B                       | U    | G        |
| FL   | (0°-30°)    | 2440.5 | 11.0      |                         |      |          |
| FM   | (30°-60°)   | 9154.4 | 41.1      |                         |      |          |
| FH   | (60°-80°)   | 7626.9 | 34.3      |                         |      | G4/12000 |
| FVH  | (80°-90°)   | 336.1  | 1.5       |                         |      | G3/500   |
| BL   | (0°-30°)    | 795.4  | 3.6       | B2/1000                 |      |          |
| BM   | (30°-60°)   | 1219.5 | 5.5       | B2/2500                 |      |          |
| BH   | (60°-80°)   | 656.4  | 2.9       | B2/1000                 |      | G2/1000  |
| BVH  | (80°-90°)   | 21.7   | 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 IV Medium



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 1°      | 5°      | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°    | 85°    |
|-------|---------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 7248.2  | 7248.2  | 7248.2  | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 |
| 2.5°  | 7936.6  | 7875.4  | 7808.0  | 7587.7 | 7383.2 | 7149.1 | 6958.3 | 6825.5 | 6659.0 | 6442.9 | 6388.0 |
| 5°    | 7879.6  | 7814.3  | 7602.4  | 7112.2 | 6683.2 | 6265.8 | 5863.1 | 5627.0 | 5333.9 | 5036.6 | 4962.9 |
| 7.5°  | 7307.3  | 7238.7  | 6933.0  | 6261.6 | 5683.9 | 5080.9 | 4558.1 | 4234.5 | 3903.5 | 3631.5 | 3487.1 |
| 10°   | 6711.7  | 6636.8  | 6293.2  | 5478.3 | 4766.8 | 4221.8 | 3838.1 | 3529.2 | 3216.2 | 2925.2 | 2693.3 |
| 12.5° | 6301.6  | 6203.6  | 5830.4  | 4907.0 | 4287.2 | 3917.2 | 3558.8 | 3188.8 | 2765.0 | 2453.0 | 2197.9 |
| 15°   | 6129.8  | 6018.0  | 5623.8  | 4686.7 | 4117.4 | 3683.1 | 3216.2 | 2761.8 | 2265.3 | 1908.0 | 1674.0 |
| 17.5° | 6262.6  | 6117.1  | 5694.4  | 4671.9 | 3904.5 | 3313.1 | 2722.8 | 2189.4 | 1650.8 | 1289.2 | 1122.7 |
| 20°   | 6713.8  | 6523.0  | 5986.4  | 4667.7 | 3646.2 | 2873.6 | 2125.1 | 1522.2 | 1087.9 | 874.9  | 787.4  |
| 22.5° | 7424.3  | 7172.3  | 6406.0  | 4701.4 | 3379.6 | 2411.9 | 1534.8 | 1034.1 | 817.0  | 706.3  | 654.6  |
| 25°   | 8282.3  | 7990.3  | 7010.0  | 4820.6 | 3145.5 | 1962.8 | 1115.3 | 817.0  | 689.4  | 608.2  | 565.0  |
| 27.5° | 9098.2  | 8861.0  | 7773.2  | 4992.4 | 2964.2 | 1600.2 | 905.5  | 692.6  | 589.3  | 535.5  | 500.7  |
| 30°   | 9913.1  | 9614.8  | 8556.4  | 5196.9 | 2746.0 | 1354.6 | 795.9  | 631.4  | 528.1  | 471.2  | 449.1  |
| 32.5° | 10505.5 | 10257.8 | 9169.9  | 5344.5 | 2513.1 | 1194.3 | 711.5  | 577.7  | 493.3  | 435.4  | 402.7  |
| 35°   | 11202.3 | 10921.9 | 9695.9  | 5377.1 | 2363.4 | 1093.1 | 639.9  | 519.7  | 428.0  | 376.3  | 341.5  |
| 37.5° | 11954.9 | 11606.0 | 10303.1 | 5305.5 | 2246.4 | 1043.6 | 586.1  | 493.3  | 399.5  | 346.8  | 309.9  |
| 40°   | 12787.7 | 12393.4 | 10886.0 | 5202.1 | 2131.5 | 1026.7 | 545.0  | 473.3  | 377.4  | 323.6  | 285.7  |
| 42.5° | 13664.7 | 13199.9 | 11391.0 | 5093.6 | 2058.7 | 968.7  | 540.8  | 453.3  | 360.5  | 302.5  | 264.6  |
| 45°   | 14401.6 | 13930.4 | 11909.6 | 5057.7 | 2007.1 | 905.5  | 558.7  | 439.6  | 348.9  | 285.7  | 248.8  |
| 47.5° | 14988.7 | 14542.8 | 12440.9 | 5137.8 | 1977.6 | 847.5  | 509.1  | 457.5  | 342.6  | 270.9  | 235.1  |
| 50°   | 15689.7 | 15184.8 | 13189.3 | 5377.1 | 1934.3 | 789.5  | 460.7  | 523.9  | 342.6  | 261.4  | 223.5  |
| 52.5° | 16568.9 | 16069.2 | 14024.2 | 5748.2 | 1847.9 | 709.4  | 414.3  | 525.0  | 345.8  | 248.8  | 208.7  |
| 55°   | 17674.7 | 17312.0 | 15216.4 | 6155.1 | 1709.8 | 591.4  | 358.4  | 451.2  | 333.1  | 225.6  | 195.0  |
| 57.5° | 18735.1 | 18438.9 | 16303.2 | 6433.4 | 1525.3 | 461.7  | 312.0  | 363.7  | 304.6  | 198.2  | 173.9  |
| 59°   | 19025.0 | 18701.4 | 16701.7 | 6446.0 | 1387.2 | 402.7  | 288.8  | 300.4  | 298.3  | 185.5  | 161.3  |
| 60°   | 19025.0 | 18681.4 | 16816.6 | 6378.6 | 1287.1 | 370.0  | 274.1  | 267.7  | 311.0  | 177.1  | 153.9  |
| 62.5° | 18680.3 | 18197.5 | 16443.4 | 5922.1 | 1049.9 | 315.2  | 239.3  | 221.4  | 279.3  | 159.2  | 136.0  |
| 65°   | 17963.5 | 17260.4 | 15172.1 | 5096.7 | 936.1  | 288.8  | 206.6  | 181.3  | 194.0  | 140.2  | 119.1  |
| 67.5° | 16768.1 | 15815.2 | 13339.0 | 4117.4 | 890.7  | 281.5  | 178.1  | 153.9  | 146.5  | 120.2  | 104.4  |
| 70°   | 14663.0 | 13605.7 | 11113.7 | 3237.2 | 851.7  | 278.3  | 149.7  | 129.7  | 118.1  | 101.2  | 88.5   |
| 72.5° | 10672.0 | 9569.4  | 7890.2  | 2531.0 | 828.5  | 284.6  | 120.2  | 108.6  | 97.0   | 79.1   | 68.5   |
| 75°   | 6104.5  | 5382.4  | 4434.7  | 1671.9 | 706.3  | 272.0  | 92.8   | 90.7   | 69.6   | 56.9   | 47.4   |
| 77.5° | 3154.0  | 3058.0  | 2657.5  | 642.0  | 338.4  | 119.1  | 61.1   | 52.7   | 41.1   | 34.8   | 28.5   |
| 80°   | 1360.9  | 1346.1  | 1164.8  | 185.5  | 89.6   | 66.4   | 34.8   | 22.1   | 19.0   | 14.8   | 11.6   |
| 82.5° | 470.1   | 470.1   | 414.3   | 62.2   | 40.1   | 32.7   | 4.2    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 94.9    | 106.5   | 74.8    | 0.0    | 13.7   | 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°    | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 |
| 2.5°  | 6321.6 | 6194.1 | 6185.7 | 6105.5 | 6005.4 | 5960.1 | 5933.7 | 5980.1 | 6037.0 | 6043.3 | 6128.7 |
| 5°    | 4907.0 | 4773.1 | 4829.0 | 4686.7 | 4715.1 | 4686.7 | 4640.3 | 4648.7 | 4674.0 | 4595.0 | 4693.0 |
| 7.5°  | 3446.0 | 3344.8 | 3409.1 | 3371.1 | 3421.7 | 3441.7 | 3413.3 | 3371.1 | 3246.7 | 3232.0 | 3317.4 |
| 10°   | 2597.4 | 2482.5 | 2414.0 | 2342.3 | 2358.1 | 2390.8 | 2380.2 | 2349.7 | 2270.6 | 2274.8 | 2357.0 |
| 12.5° | 2087.2 | 1958.6 | 1822.6 | 1646.6 | 1603.3 | 1627.6 | 1603.3 | 1585.4 | 1509.5 | 1515.8 | 1588.6 |
| 15°   | 1583.3 | 1477.9 | 1335.6 | 1194.3 | 1117.4 | 1124.8 | 1057.3 | 1009.9 | 962.4  | 905.5  | 949.8  |
| 17.5° | 1068.9 | 1004.6 | 962.4  | 920.3  | 828.5  | 807.5  | 722.1  | 630.4  | 594.5  | 568.2  | 587.2  |
| 20°   | 756.9  | 722.1  | 705.2  | 703.1  | 650.4  | 624.0  | 540.8  | 483.8  | 465.9  | 460.7  | 472.3  |
| 22.5° | 632.5  | 607.2  | 582.9  | 569.2  | 542.9  | 512.3  | 449.1  | 420.6  | 407.9  | 401.6  | 410.1  |
| 25°   | 550.3  | 531.3  | 506.0  | 482.8  | 472.3  | 439.6  | 394.2  | 373.2  | 364.7  | 358.4  | 362.6  |
| 27.5° | 489.1  | 472.3  | 442.7  | 428.0  | 419.5  | 391.1  | 352.1  | 335.2  | 327.8  | 325.7  | 324.7  |
| 30°   | 440.6  | 424.8  | 397.4  | 380.5  | 365.8  | 340.5  | 317.3  | 300.4  | 293.0  | 290.9  | 288.8  |
| 32.5° | 392.1  | 379.5  | 361.6  | 344.7  | 328.9  | 305.7  | 285.7  | 272.0  | 260.4  | 258.3  | 257.2  |
| 35°   | 331.0  | 318.3  | 308.9  | 307.8  | 293.0  | 270.9  | 256.2  | 238.2  | 228.7  | 225.6  | 226.6  |
| 37.5° | 294.1  | 277.2  | 256.2  | 263.5  | 259.3  | 243.5  | 223.5  | 205.6  | 196.1  | 194.0  | 194.0  |
| 40°   | 270.9  | 253.0  | 228.7  | 216.1  | 228.7  | 225.6  | 194.0  | 176.0  | 166.6  | 165.5  | 163.4  |
| 42.5° | 248.8  | 230.9  | 203.4  | 182.4  | 188.7  | 198.2  | 167.6  | 150.7  | 141.3  | 139.1  | 136.0  |
| 45°   | 233.0  | 214.0  | 183.4  | 159.2  | 146.5  | 166.6  | 143.4  | 122.3  | 117.0  | 112.8  | 110.7  |
| 47.5° | 218.2  | 200.3  | 165.5  | 138.1  | 117.0  | 120.2  | 114.9  | 100.1  | 93.8   | 89.6   | 88.5   |
| 50°   | 205.6  | 186.6  | 149.7  | 118.1  | 97.0   | 88.5   | 92.8   | 79.1   | 73.8   | 69.6   | 67.5   |
| 52.5° | 190.8  | 172.9  | 132.8  | 102.3  | 81.2   | 69.6   | 70.6   | 62.2   | 56.9   | 53.8   | 52.7   |
| 55°   | 179.2  | 161.3  | 119.1  | 89.6   | 71.7   | 56.9   | 50.6   | 48.5   | 45.3   | 43.2   | 42.2   |
| 57.5° | 163.4  | 146.5  | 105.4  | 75.9   | 61.1   | 46.4   | 39.0   | 39.0   | 37.9   | 35.8   | 34.8   |
| 59°   | 153.9  | 139.1  | 97.0   | 68.5   | 55.9   | 40.1   | 34.8   | 35.8   | 34.8   | 32.7   | 31.6   |
| 60°   | 146.5  | 132.8  | 90.7   | 63.2   | 52.7   | 36.9   | 31.6   | 33.7   | 32.7   | 30.6   | 29.5   |
| 62.5° | 129.7  | 120.2  | 78.0   | 52.7   | 46.4   | 29.5   | 26.4   | 28.5   | 28.5   | 27.4   | 26.4   |
| 65°   | 113.8  | 103.3  | 66.4   | 44.3   | 43.2   | 25.3   | 21.1   | 25.3   | 26.4   | 24.2   | 22.1   |
| 67.5° | 99.1   | 88.5   | 58.0   | 35.8   | 40.1   | 20.0   | 15.8   | 21.1   | 28.5   | 22.1   | 20.0   |
| 70°   | 84.3   | 73.8   | 45.3   | 28.5   | 42.2   | 13.7   | 12.6   | 19.0   | 33.7   | 24.2   | 19.0   |
| 72.5° | 65.4   | 56.9   | 31.6   | 21.1   | 45.3   | 9.5    | 9.5    | 15.8   | 37.9   | 26.4   | 17.9   |
| 75°   | 45.3   | 36.9   | 19.0   | 12.6   | 36.9   | 6.3    | 6.3    | 14.8   | 35.8   | 24.2   | 16.9   |
| 77.5° | 26.4   | 20.0   | 6.3    | 1.1    | 19.0   | 0.0    | 1.1    | 10.5   | 25.3   | 14.8   | 7.4    |
| 80°   | 9.5    | 4.2    | 0.0    | 0.0    | 11.6   | 0.0    | 0.0    | 0.0    | 2.1    | 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    |



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**CANDELA DISTRIBUTION (continued):**

|       | 185°   | 195°   | 205°   | 215°   | 225°   | 235°   | 245°   | 255°   | 265°    | 270°    | 275°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|---------|
| 0°    | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2 | 7248.2  | 7248.2  | 7248.2  |
| 2.5°  | 6150.9 | 6293.2 | 6420.7 | 6613.6 | 6842.4 | 7105.9 | 7332.6 | 7576.1 | 7804.8  | 7899.7  | 7965.0  |
| 5°    | 4713.0 | 4889.1 | 5094.6 | 5378.2 | 5755.6 | 6220.4 | 6655.8 | 7148.1 | 7677.3  | 7941.8  | 8190.6  |
| 7.5°  | 3332.1 | 3511.3 | 3766.4 | 4067.9 | 4524.3 | 5077.8 | 5647.0 | 6326.9 | 7043.7  | 7462.2  | 7874.4  |
| 10°   | 2396.0 | 2616.4 | 2854.6 | 3266.8 | 3730.6 | 4255.5 | 4841.6 | 5600.6 | 6399.6  | 6863.5  | 7360.0  |
| 12.5° | 1630.7 | 1881.6 | 2242.1 | 2703.9 | 3248.8 | 3763.3 | 4272.4 | 4996.6 | 5924.2  | 6383.8  | 6916.2  |
| 15°   | 978.2  | 1117.4 | 1499.0 | 2033.4 | 2701.7 | 3342.7 | 3900.3 | 4626.6 | 5615.4  | 6178.3  | 6731.7  |
| 17.5° | 603.0  | 667.3  | 874.9  | 1313.5 | 2015.5 | 2826.1 | 3590.4 | 4501.2 | 5659.6  | 6344.8  | 6937.3  |
| 20°   | 480.7  | 506.0  | 572.4  | 775.8  | 1335.6 | 2256.9 | 3241.5 | 4475.9 | 6021.2  | 6864.5  | 7500.2  |
| 22.5° | 417.4  | 441.7  | 486.0  | 564.0  | 840.1  | 1689.8 | 2910.5 | 4499.0 | 6539.8  | 7643.5  | 8385.6  |
| 25°   | 367.9  | 389.0  | 431.1  | 495.4  | 615.6  | 1190.1 | 2556.3 | 4602.3 | 7215.5  | 8610.2  | 9398.7  |
| 27.5° | 328.9  | 346.8  | 385.8  | 444.8  | 528.1  | 830.7  | 2154.6 | 4727.8 | 8016.7  | 9598.9  | 10376.9 |
| 30°   | 293.0  | 308.9  | 343.6  | 398.5  | 458.5  | 638.8  | 1714.0 | 4813.2 | 8818.9  | 10376.9 | 11075.8 |
| 32.5° | 262.5  | 274.1  | 305.7  | 352.1  | 398.5  | 509.1  | 1302.9 | 4799.5 | 9414.5  | 11024.1 | 11578.6 |
| 35°   | 230.9  | 242.5  | 269.9  | 309.9  | 346.8  | 420.6  | 1024.6 | 4543.3 | 9933.1  | 11695.6 | 12154.2 |
| 37.5° | 196.1  | 210.8  | 237.2  | 273.0  | 298.3  | 370.0  | 828.5  | 4234.5 | 10459.1 | 12463.0 | 12796.1 |
| 40°   | 166.6  | 181.3  | 204.5  | 243.5  | 259.3  | 351.0  | 636.7  | 3858.1 | 11050.5 | 13321.1 | 13500.3 |
| 42.5° | 138.1  | 151.8  | 176.0  | 209.8  | 244.6  | 302.5  | 471.2  | 3428.0 | 11618.7 | 14054.8 | 14142.3 |
| 45°   | 111.7  | 125.4  | 150.7  | 184.5  | 261.4  | 250.9  | 364.7  | 2967.4 | 12077.2 | 14665.1 | 14693.6 |
| 47.5° | 88.5   | 101.2  | 127.6  | 173.9  | 243.5  | 200.3  | 260.4  | 2605.8 | 12462.0 | 15141.6 | 15066.7 |
| 50°   | 68.5   | 79.1   | 106.5  | 199.2  | 212.9  | 165.5  | 197.1  | 2485.6 | 12806.7 | 15436.7 | 15242.8 |
| 52.5° | 53.8   | 63.2   | 87.5   | 186.6  | 165.5  | 137.0  | 165.5  | 2598.4 | 13278.9 | 15681.3 | 15341.9 |
| 55°   | 43.2   | 52.7   | 68.5   | 106.5  | 112.8  | 116.0  | 141.3  | 2703.9 | 14093.8 | 16254.7 | 15926.9 |
| 57.5° | 35.8   | 45.3   | 55.9   | 74.8   | 85.4   | 98.0   | 125.4  | 2715.4 | 15054.1 | 17207.7 | 16897.8 |
| 59°   | 32.7   | 41.1   | 50.6   | 66.4   | 74.8   | 89.6   | 118.1  | 2652.2 | 15392.5 | 17554.5 | 17399.5 |
| 60°   | 30.6   | 39.0   | 47.4   | 61.1   | 69.6   | 84.3   | 113.8  | 2592.1 | 15407.2 | 17541.8 | 17613.5 |
| 62.5° | 26.4   | 34.8   | 42.2   | 51.7   | 59.0   | 71.7   | 102.3  | 2369.7 | 14783.2 | 16967.3 | 17484.9 |
| 65°   | 23.2   | 30.6   | 37.9   | 44.3   | 50.6   | 64.3   | 92.8   | 1963.9 | 13717.4 | 16040.7 | 16604.7 |
| 67.5° | 21.1   | 26.4   | 34.8   | 39.0   | 45.3   | 56.9   | 82.2   | 1399.9 | 12386.1 | 14907.6 | 15273.3 |
| 70°   | 19.0   | 25.3   | 31.6   | 35.8   | 41.1   | 49.5   | 70.6   | 804.3  | 10459.1 | 13248.3 | 13508.7 |
| 72.5° | 17.9   | 24.2   | 28.5   | 33.7   | 36.9   | 44.3   | 64.3   | 378.4  | 7658.3  | 10613.0 | 11292.9 |
| 75°   | 15.8   | 22.1   | 26.4   | 31.6   | 34.8   | 40.1   | 54.8   | 181.3  | 5093.6  | 7680.4  | 8453.1  |
| 77.5° | 9.5    | 17.9   | 24.2   | 28.5   | 30.6   | 34.8   | 45.3   | 104.4  | 3250.9  | 5316.0  | 6261.6  |
| 80°   | 0.0    | 6.3    | 17.9   | 24.2   | 26.4   | 29.5   | 34.8   | 82.2   | 1739.3  | 3037.0  | 3645.2  |
| 82.5° | 0.0    | 0.0    | 12.6   | 19.0   | 17.9   | 20.0   | 26.4   | 51.7   | 784.3   | 1984.9  | 2236.9  |
| 85°   | 0.0    | 0.0    | 4.2    | 14.8   | 12.6   | 9.5    | 17.9   | 17.9   | 171.8   | 1004.6  | 1253.4  |
| 87.5° | 0.0    | 0.0    | 0.0    | 1.1    | 6.3    | 4.2    | 7.4    | 2.1    | 1.1     | 74.8    | 303.6   |
| 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: P324431

CATALOG NUMBER: GLEON-SA7A-730-U-SLR-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°    | 295°    | 305°    | 315°    | 325°    | 335°    | 345°    | 355°    | 359°    | 360°    |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 7248.2  | 7248.2  | 7248.2  | 7248.2  | 7248.2  | 7248.2  | 7248.2  | 7248.2  | 7248.2  | 7248.2  |
| 2.5°  | 8193.8  | 8271.8  | 8403.6  | 8465.7  | 8435.2  | 8305.5  | 8150.6  | 7992.4  | 7899.7  | 7936.6  |
| 5°    | 8697.7  | 9099.3  | 9331.2  | 9408.1  | 9279.5  | 8988.6  | 8608.1  | 8106.3  | 7928.1  | 7879.6  |
| 7.5°  | 8697.7  | 9453.5  | 9932.0  | 10016.4 | 9729.7  | 9159.4  | 8445.7  | 7662.5  | 7402.1  | 7307.3  |
| 10°   | 8392.0  | 9420.8  | 10088.1 | 10221.9 | 9821.4  | 8968.6  | 8012.5  | 7118.6  | 6809.7  | 6711.7  |
| 12.5° | 8047.3  | 9155.1  | 9858.3  | 10042.7 | 9713.8  | 8778.8  | 7712.0  | 6750.7  | 6387.0  | 6301.6  |
| 15°   | 7835.4  | 8828.4  | 9410.2  | 9544.1  | 9405.0  | 8668.1  | 7640.4  | 6640.0  | 6212.0  | 6129.8  |
| 17.5° | 7911.3  | 8575.4  | 8785.1  | 8863.2  | 8957.0  | 8629.1  | 7835.4  | 6882.4  | 6340.6  | 6262.6  |
| 20°   | 8196.9  | 8308.7  | 8200.1  | 8298.1  | 8551.1  | 8667.1  | 8300.2  | 7468.5  | 6818.1  | 6713.8  |
| 22.5° | 8681.8  | 8170.6  | 7865.9  | 7904.9  | 8212.8  | 8792.5  | 9010.7  | 8305.5  | 7555.0  | 7424.3  |
| 25°   | 9246.9  | 8282.3  | 7680.4  | 7645.6  | 7961.9  | 8958.0  | 9660.1  | 9216.3  | 8426.7  | 8282.3  |
| 27.5° | 9957.3  | 8533.2  | 7642.5  | 7607.7  | 7874.4  | 9113.0  | 10199.8 | 10116.5 | 9344.9  | 9098.2  |
| 30°   | 10505.5 | 8779.9  | 7755.3  | 7675.1  | 7961.9  | 9220.5  | 10633.0 | 10880.8 | 10076.5 | 9913.1  |
| 32.5° | 10898.7 | 9070.8  | 7938.7  | 7822.7  | 8208.5  | 9406.0  | 10967.2 | 11580.7 | 10753.2 | 10505.5 |
| 35°   | 11198.1 | 9387.1  | 8234.9  | 8044.1  | 8548.0  | 9687.5  | 11280.3 | 12326.0 | 11473.2 | 11202.3 |
| 37.5° | 11478.5 | 9830.8  | 8697.7  | 8470.0  | 9080.3  | 10140.8 | 11611.3 | 13171.4 | 12278.5 | 11954.9 |
| 40°   | 11869.5 | 10333.7 | 9411.3  | 9208.9  | 9975.3  | 10758.5 | 12024.5 | 14052.7 | 13194.6 | 12787.7 |
| 42.5° | 12260.6 | 10873.4 | 10141.8 | 10196.6 | 11091.6 | 11509.0 | 12557.9 | 14984.5 | 14099.0 | 13664.7 |
| 45°   | 12618.0 | 11430.0 | 11182.2 | 11435.2 | 12127.8 | 12332.3 | 13088.1 | 15523.2 | 14821.1 | 14401.6 |
| 47.5° | 12936.3 | 12125.7 | 12216.4 | 12889.9 | 13306.3 | 13077.6 | 13484.5 | 15988.0 | 15358.7 | 14988.7 |
| 50°   | 13306.3 | 13025.9 | 13579.3 | 14532.3 | 14663.0 | 13752.2 | 13845.0 | 16538.3 | 15987.0 | 15689.7 |
| 52.5° | 13711.1 | 13974.6 | 15088.9 | 15929.0 | 15886.8 | 14484.8 | 14207.6 | 17155.0 | 16848.2 | 16568.9 |
| 55°   | 14170.7 | 14741.0 | 16418.1 | 17236.1 | 17200.3 | 15302.9 | 14808.5 | 17917.1 | 17927.6 | 17674.7 |
| 57.5° | 14852.7 | 15400.9 | 17320.5 | 18293.4 | 18353.5 | 16247.4 | 15826.8 | 18771.0 | 18903.8 | 18735.1 |
| 59°   | 15341.9 | 15828.9 | 17677.8 | 18735.1 | 18979.7 | 16977.9 | 16571.0 | 19266.4 | 19178.9 | 19025.0 |
| 60°   | 15704.5 | 16100.8 | 17854.9 | 18966.0 | 19343.3 | 17473.3 | 17120.2 | 19557.3 | 19211.6 | 19025.0 |
| 62.5° | 16601.5 | 16693.3 | 18174.3 | 19227.4 | 19761.8 | 18573.8 | 18665.5 | 20052.8 | 18984.9 | 18680.3 |
| 65°   | 17020.0 | 17067.5 | 18170.1 | 18759.4 | 19357.1 | 19430.8 | 20067.5 | 20067.5 | 18431.5 | 17963.5 |
| 67.5° | 16845.1 | 16616.3 | 17268.8 | 17207.7 | 17804.3 | 18921.7 | 20594.6 | 19331.8 | 17373.2 | 16768.1 |
| 70°   | 15422.0 | 14541.8 | 14251.9 | 14278.2 | 14734.7 | 16458.2 | 19551.0 | 17166.6 | 15370.3 | 14663.0 |
| 72.5° | 12832.0 | 10720.5 | 10004.8 | 10821.7 | 10940.9 | 12648.5 | 16661.6 | 12927.9 | 11335.1 | 10672.0 |
| 75°   | 10321.0 | 7557.1  | 6393.3  | 7255.6  | 7458.0  | 9256.3  | 12888.9 | 8051.5  | 6621.0  | 6104.5  |
| 77.5° | 7414.8  | 5424.6  | 4587.6  | 4527.5  | 4788.9  | 5870.5  | 9145.7  | 4052.1  | 3379.6  | 3154.0  |
| 80°   | 4212.3  | 3570.4  | 3844.4  | 3627.3  | 3759.0  | 3670.5  | 4345.1  | 1777.3  | 1455.8  | 1360.9  |
| 82.5° | 2542.6  | 2110.4  | 2285.4  | 1902.7  | 2407.6  | 2096.7  | 1674.0  | 569.2   | 494.4   | 470.1   |
| 85°   | 1653.9  | 1153.2  | 600.9   | 402.7   | 829.6   | 1339.8  | 374.2   | 155.0   | 119.1   | 94.9    |
| 87.5° | 570.3   | 294.1   | 29.5    | 12.6    | 88.5    | 249.8   | 13.7    | 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: SP1-1908-441-2-R4

Test Date: 10/03/2019

Luminaire Tested: SA1C-730-U-5WQ

Data in this report applies to families of products SA1C-730-U-5WQ .

### Test Information

Test Method: LM-79-2008  
 Report Number: SP1-1908-441-2-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-730-U-5WQ**  
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

\*\*\*THIS IS A REVISION OF SP1-1908-441-2-R3. TO UPDATE THE CATALOG INFORMATION.\*\*\*TESTED IN SITU. (1) 70 CRI, 3000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

### Spectral Parameters

|                           |        |           |      |      |       |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K):                  | 2993   | CRI (Ra): | 71.8 |      |       |
| CIE u':                   | 0.2508 | R1:       | 67.5 | R9:  | -38.3 |
| CIE v':                   | 0.5215 | R2:       | 82.9 | R10: | 62.5  |
| Duv:                      | 0.0000 | R3:       | 94.7 | R11: | 63.7  |
| CIE x:                    | 0.4374 | R4:       | 67.7 | R12: | 57.8  |
| CIE y:                    | 0.4043 | R5:       | 67.9 | R13: | 70.4  |
| CIE z:                    | 0.1583 | R6:       | 77.6 | R14: | 97.3  |
| Peak Wavelength (nm):     | 593    | R7:       | 76.0 |      |       |
| Dominant Wavelength (nm): | 582    | R8:       | 40.5 |      |       |
| Purity:                   | 53     |           |      |      |       |
| Rf:                       | 75.7   |           |      |      |       |
| Rg:                       | 93.9   |           |      |      |       |



### Test Conditions

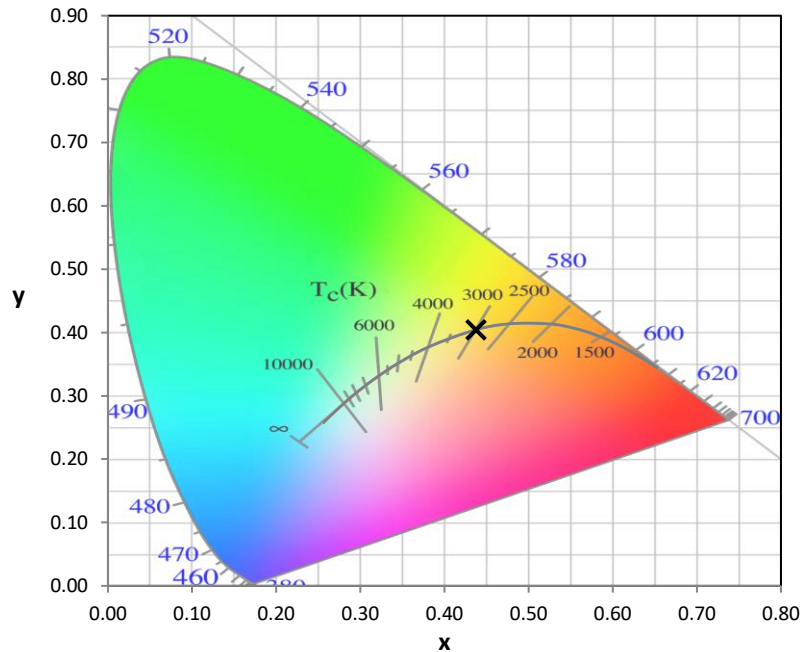
Stabilization Time: 53M  
 Operation Time: 12H  
 Room Temperature (°C) / RH%: 25.0./44%  
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-2-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: SP1-1908-441-2-R4

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 3000K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-2-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       | 2397             | NR               | 490       | 24908            | NR               | 620       | 118784           | NR               | 750       | 5037             | NR               | 880       | 2677             | NR               |
| 365       | 2084             | NR               | 495       | 30998            | NR               | 625       | 108951           | NR               | 755       | 4413             | NR               | 885       | 2940             | NR               |
| 370       | 2143             | NR               | 500       | 37103            | NR               | 630       | 99573            | NR               | 760       | 4189             | NR               | 890       | 3116             | NR               |
| 375       | 2413             | NR               | 505       | 42987            | NR               | 635       | 90444            | NR               | 765       | 3677             | NR               | 895       | 3345             | NR               |
| 380       | 2172             | NR               | 510       | 48702            | NR               | 640       | 80749            | NR               | 770       | 3366             | NR               | 900       | 2312             | NR               |
| 385       | 1997             | NR               | 515       | 53741            | NR               | 645       | 71664            | NR               | 775       | 3211             | NR               | 905       | 2829             | NR               |
| 390       | 1830             | NR               | 520       | 57283            | NR               | 650       | 63936            | NR               | 780       | 2682             | NR               | 910       | 2783             | NR               |
| 395       | 1861             | NR               | 525       | 61876            | NR               | 655       | 56611            | NR               | 785       | 2804             | NR               | 915       | 2662             | NR               |
| 400       | 1717             | NR               | 530       | 65398            | NR               | 660       | 49763            | NR               | 790       | 2581             | NR               | 920       | 3047             | NR               |
| 405       | 1761             | NR               | 535       | 69597            | NR               | 665       | 42891            | NR               | 795       | 2711             | NR               | 925       | 2256             | NR               |
| 410       | 2680             | NR               | 540       | 74214            | NR               | 670       | 36939            | NR               | 800       | 2609             | NR               | 930       | 2976             | NR               |
| 415       | 4374             | NR               | 545       | 79911            | NR               | 675       | 31946            | NR               | 805       | 2581             | NR               | 935       | 3503             | NR               |
| 420       | 8071             | NR               | 550       | 86153            | NR               | 680       | 27385            | NR               | 810       | 2404             | NR               | 940       | 4226             | NR               |
| 425       | 15169            | NR               | 555       | 93952            | NR               | 685       | 23504            | NR               | 815       | 2556             | NR               | 945       | 2930             | NR               |
| 430       | 26038            | NR               | 560       | 102904           | NR               | 690       | 20210            | NR               | 820       | 2742             | NR               | 950       | 2115             | NR               |
| 435       | 41316            | NR               | 565       | 112009           | NR               | 695       | 17459            | NR               | 825       | 2014             | NR               | 955       | 2634             | NR               |
| 440       | 59674            | NR               | 570       | 121662           | NR               | 700       | 15207            | NR               | 830       | 2488             | NR               | 960       | 4200             | NR               |
| 445       | 72751            | NR               | 575       | 130476           | NR               | 705       | 13322            | NR               | 835       | 2625             | NR               | 965       | 1982             | NR               |
| 450       | 65091            | NR               | 580       | 137926           | NR               | 710       | 11676            | NR               | 840       | 2754             | NR               | 970       | 3613             | NR               |
| 455       | 44894            | NR               | 585       | 143406           | NR               | 715       | 10626            | NR               | 845       | 2708             | NR               | 975       | 4034             | NR               |
| 460       | 32712            | NR               | 590       | 147039           | NR               | 720       | 9416             | NR               | 850       | 2608             | NR               | 980       | 3922             | NR               |
| 465       | 25296            | NR               | 595       | 147365           | NR               | 725       | 8333             | NR               | 855       | 2605             | NR               | 985       | 1909             | NR               |
| 470       | 19318            | NR               | 600       | 145800           | NR               | 730       | 7134             | NR               | 860       | 1765             | NR               | 990       | 3617             | NR               |
| 475       | 17265            | NR               | 605       | 141363           | NR               | 735       | 6437             | NR               | 865       | 2581             | NR               | 995       | 4767             | NR               |
| 480       | 18260            | NR               | 610       | 134199           | NR               | 740       | 5834             | NR               | 870       | 3016             | NR               | 1000      | 2528             | NR               |
| 485       | 20845            | NR               | 615       | 127683           | NR               | 745       | 5500             | NR               | 875       | 3952             | NR               |           |                  |                  |

REPORT NUMBER: SP1-1908-441-2-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 8494.8

S/P: 1.23

| 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       | 2397             | NR               | 490       | 24908            | NR               | 620       | 118784           | NR               | 750       | 5037             | NR               | 880       | 2677             | NR               |
| 365       | 2084             | NR               | 495       | 30998            | NR               | 625       | 108951           | NR               | 755       | 4413             | NR               | 885       | 2940             | NR               |
| 370       | 2143             | NR               | 500       | 37103            | NR               | 630       | 99573            | NR               | 760       | 4189             | NR               | 890       | 3116             | NR               |
| 375       | 2413             | NR               | 505       | 42987            | NR               | 635       | 90444            | NR               | 765       | 3677             | NR               | 895       | 3345             | NR               |
| 380       | 2172             | NR               | 510       | 48702            | NR               | 640       | 80749            | NR               | 770       | 3366             | NR               | 900       | 2312             | NR               |
| 385       | 1997             | NR               | 515       | 53741            | NR               | 645       | 71664            | NR               | 775       | 3211             | NR               | 905       | 2829             | NR               |
| 390       | 1830             | NR               | 520       | 57283            | NR               | 650       | 63936            | NR               | 780       | 2682             | NR               | 910       | 2783             | NR               |
| 395       | 1861             | NR               | 525       | 61876            | NR               | 655       | 56611            | NR               | 785       | 2804             | NR               | 915       | 2662             | NR               |
| 400       | 1717             | NR               | 530       | 65398            | NR               | 660       | 49763            | NR               | 790       | 2581             | NR               | 920       | 3047             | NR               |
| 405       | 1761             | NR               | 535       | 69597            | NR               | 665       | 42891            | NR               | 795       | 2711             | NR               | 925       | 2256             | NR               |
| 410       | 2680             | NR               | 540       | 74214            | NR               | 670       | 36939            | NR               | 800       | 2609             | NR               | 930       | 2976             | NR               |
| 415       | 4374             | NR               | 545       | 79911            | NR               | 675       | 31946            | NR               | 805       | 2581             | NR               | 935       | 3503             | NR               |
| 420       | 8071             | NR               | 550       | 86153            | NR               | 680       | 27385            | NR               | 810       | 2404             | NR               | 940       | 4226             | NR               |
| 425       | 15169            | NR               | 555       | 93952            | NR               | 685       | 23504            | NR               | 815       | 2556             | NR               | 945       | 2930             | NR               |
| 430       | 26038            | NR               | 560       | 102904           | NR               | 690       | 20210            | NR               | 820       | 2742             | NR               | 950       | 2115             | NR               |
| 435       | 41316            | NR               | 565       | 112009           | NR               | 695       | 17459            | NR               | 825       | 2014             | NR               | 955       | 2634             | NR               |
| 440       | 59674            | NR               | 570       | 121662           | NR               | 700       | 15207            | NR               | 830       | 2488             | NR               | 960       | 4200             | NR               |
| 445       | 72751            | NR               | 575       | 130476           | NR               | 705       | 13322            | NR               | 835       | 2625             | NR               | 965       | 1982             | NR               |
| 450       | 65091            | NR               | 580       | 137926           | NR               | 710       | 11676            | NR               | 840       | 2754             | NR               | 970       | 3613             | NR               |
| 455       | 44894            | NR               | 585       | 143406           | NR               | 715       | 10626            | NR               | 845       | 2708             | NR               | 975       | 4034             | NR               |
| 460       | 32712            | NR               | 590       | 147039           | NR               | 720       | 9416             | NR               | 850       | 2608             | NR               | 980       | 3922             | NR               |
| 465       | 25296            | NR               | 595       | 147365           | NR               | 725       | 8333             | NR               | 855       | 2605             | NR               | 985       | 1909             | NR               |
| 470       | 19318            | NR               | 600       | 145800           | NR               | 730       | 7134             | NR               | 860       | 1765             | NR               | 990       | 3617             | NR               |
| 475       | 17265            | NR               | 605       | 141363           | NR               | 735       | 6437             | NR               | 865       | 2581             | NR               | 995       | 4767             | NR               |
| 480       | 18260            | NR               | 610       | 134199           | NR               | 740       | 5834             | NR               | 870       | 3016             | NR               | 1000      | 2528             | NR               |
| 485       | 20845            | NR               | 615       | 127683           | NR               | 745       | 5500             | NR               | 875       | 3952             | NR               |           |                  |                  |

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**Melanopic Flux vs. Wavelength**



**Melanopic Lumens: 3101.5**

**M/P: 0.45**

| 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       | 2397             | NR               | 490       | 24908            | NR               | 620       | 118784           | NR               | 750       | 5037             | NR               | 880       | 2677             | NR               |
| 365       | 2084             | NR               | 495       | 30998            | NR               | 625       | 108951           | NR               | 755       | 4413             | NR               | 885       | 2940             | NR               |
| 370       | 2143             | NR               | 500       | 37103            | NR               | 630       | 99573            | NR               | 760       | 4189             | NR               | 890       | 3116             | NR               |
| 375       | 2413             | NR               | 505       | 42987            | NR               | 635       | 90444            | NR               | 765       | 3677             | NR               | 895       | 3345             | NR               |
| 380       | 2172             | NR               | 510       | 48702            | NR               | 640       | 80749            | NR               | 770       | 3366             | NR               | 900       | 2312             | NR               |
| 385       | 1997             | NR               | 515       | 53741            | NR               | 645       | 71664            | NR               | 775       | 3211             | NR               | 905       | 2829             | NR               |
| 390       | 1830             | NR               | 520       | 57283            | NR               | 650       | 63936            | NR               | 780       | 2682             | NR               | 910       | 2783             | NR               |
| 395       | 1861             | NR               | 525       | 61876            | NR               | 655       | 56611            | NR               | 785       | 2804             | NR               | 915       | 2662             | NR               |
| 400       | 1717             | NR               | 530       | 65398            | NR               | 660       | 49763            | NR               | 790       | 2581             | NR               | 920       | 3047             | NR               |
| 405       | 1761             | NR               | 535       | 69597            | NR               | 665       | 42891            | NR               | 795       | 2711             | NR               | 925       | 2256             | NR               |
| 410       | 2680             | NR               | 540       | 74214            | NR               | 670       | 36939            | NR               | 800       | 2609             | NR               | 930       | 2976             | NR               |
| 415       | 4374             | NR               | 545       | 79911            | NR               | 675       | 31946            | NR               | 805       | 2581             | NR               | 935       | 3503             | NR               |
| 420       | 8071             | NR               | 550       | 86153            | NR               | 680       | 27385            | NR               | 810       | 2404             | NR               | 940       | 4226             | NR               |
| 425       | 15169            | NR               | 555       | 93952            | NR               | 685       | 23504            | NR               | 815       | 2556             | NR               | 945       | 2930             | NR               |
| 430       | 26038            | NR               | 560       | 102904           | NR               | 690       | 20210            | NR               | 820       | 2742             | NR               | 950       | 2115             | NR               |
| 435       | 41316            | NR               | 565       | 112009           | NR               | 695       | 17459            | NR               | 825       | 2014             | NR               | 955       | 2634             | NR               |
| 440       | 59674            | NR               | 570       | 121662           | NR               | 700       | 15207            | NR               | 830       | 2488             | NR               | 960       | 4200             | NR               |
| 445       | 72751            | NR               | 575       | 130476           | NR               | 705       | 13322            | NR               | 835       | 2625             | NR               | 965       | 1982             | NR               |
| 450       | 65091            | NR               | 580       | 137926           | NR               | 710       | 11676            | NR               | 840       | 2754             | NR               | 970       | 3613             | NR               |
| 455       | 44894            | NR               | 585       | 143406           | NR               | 715       | 10626            | NR               | 845       | 2708             | NR               | 975       | 4034             | NR               |
| 460       | 32712            | NR               | 590       | 147039           | NR               | 720       | 9416             | NR               | 850       | 2608             | NR               | 980       | 3922             | NR               |
| 465       | 25296            | NR               | 595       | 147365           | NR               | 725       | 8333             | NR               | 855       | 2605             | NR               | 985       | 1909             | NR               |
| 470       | 19318            | NR               | 600       | 145800           | NR               | 730       | 7134             | NR               | 860       | 1765             | NR               | 990       | 3617             | NR               |
| 475       | 17265            | NR               | 605       | 141363           | NR               | 735       | 6437             | NR               | 865       | 2581             | NR               | 995       | 4767             | NR               |
| 480       | 18260            | NR               | 610       | 134199           | NR               | 740       | 5834             | NR               | 870       | 3016             | NR               | 1000      | 2528             | NR               |
| 485       | 20845            | NR               | 615       | 127683           | NR               | 745       | 5500             | NR               | 875       | 3952             | NR               |           |                  |                  |

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**Summary**

$R_f = 75.7$   
 $R_g = 93.9$   
 CIE  $R_a = 71.8$   
 $R_g = -38.3$



**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 67 | CES51 = 87 | CES76 = 63 |
| CES02 = 63 | CES27 = 88 | CES52 = 86 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 67 |
| CES04 = 71 | CES29 = 66 | CES54 = 84 | CES79 = 87 |
| CES05 = 49 | CES30 = 73 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 70 | CES56 = 75 | CES81 = 71 |
| CES07 = 41 | CES32 = 65 | CES57 = 74 | CES82 = 94 |
| CES08 = 40 | CES33 = 73 | CES58 = 76 | CES83 = 90 |
| CES09 = 29 | CES34 = 79 | CES59 = 85 | CES84 = 89 |
| CES10 = 76 | CES35 = 89 | CES60 = 93 | CES85 = 77 |
| CES11 = 59 | CES36 = 97 | CES61 = 84 | CES86 = 61 |
| CES12 = 65 | CES37 = 87 | CES62 = 91 | CES87 = 78 |
| CES13 = 43 | CES38 = 81 | CES63 = 77 | CES88 = 77 |
| CES14 = 74 | CES39 = 95 | CES64 = 72 | CES89 = 67 |
| CES15 = 71 | CES40 = 92 | CES65 = 68 | CES90 = 76 |
| CES16 = 47 | CES41 = 88 | CES66 = 69 | CES91 = 89 |
| CES17 = 50 | CES42 = 89 | CES67 = 67 | CES92 = 58 |
| CES18 = 56 | CES43 = 79 | CES68 = 72 | CES93 = 74 |
| CES19 = 73 | CES44 = 99 | CES69 = 81 | CES94 = 49 |
| CES20 = 66 | CES45 = 85 | CES70 = 66 | CES95 = 68 |
| CES21 = 87 | CES46 = 80 | CES71 = 67 | CES96 = 76 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 69 | CES73 = 59 | CES98 = 75 |
| CES24 = 91 | CES49 = 80 | CES74 = 95 | CES99 = 62 |
| CES25 = 73 | CES50 = 87 | CES75 = 69 |            |



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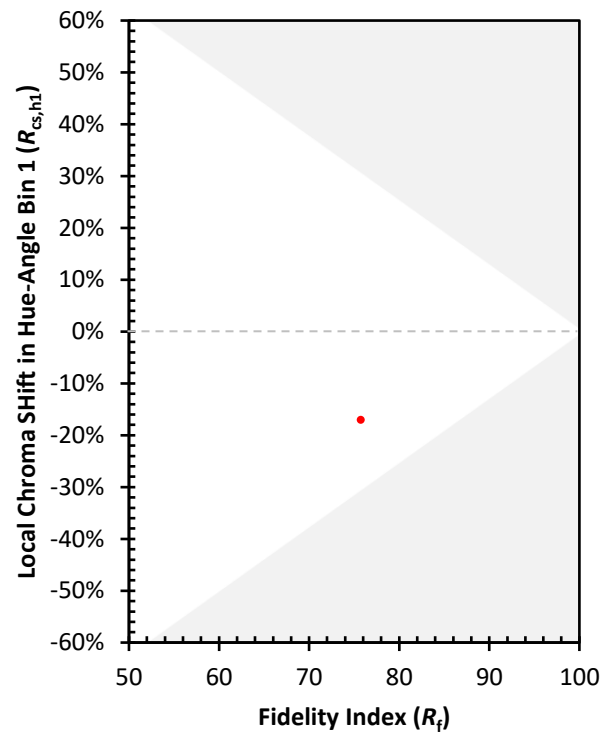
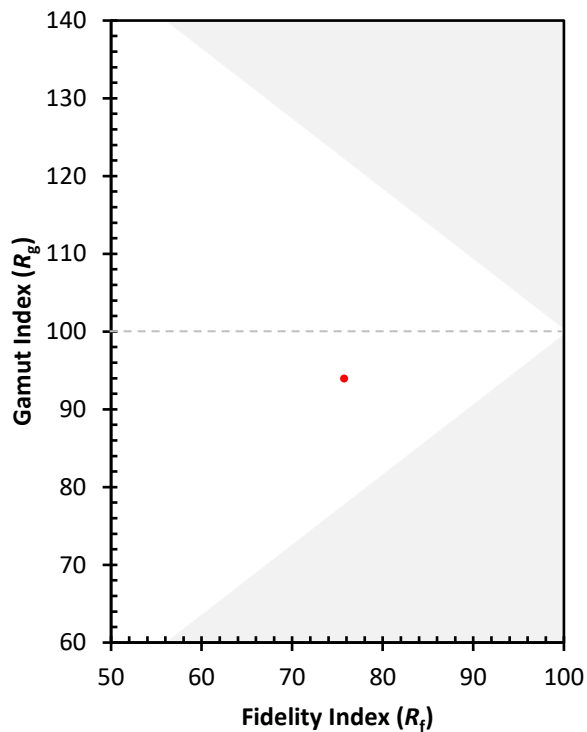
**Color Rendition by Hue-Angle Bin**



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**Measure Comparisons**



(END OF REPORT)