

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: P324308

Luminaire Tested: **GLEON-SA4A-830-U-SLL-HSS**

Issue Date: 3/3/2020

### Test Information

Test Method: LM-79-08  
Report Number: P324308  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-27)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: McGRAW-EDISON  
Catalog Number: GLEON-SA4A-830-U-SLL-HSS  
Description: GALLEON AREA AND ROADWAY LUMINAIRE  
(4) 80 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

### Summary

Lumens per Lamp: N/A  
Luminaire Lumens: 11074 lumens  
Efficiency: N/A  
Efficacy: 85.8 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium  
BUG Rating: B1 - U0 - G2

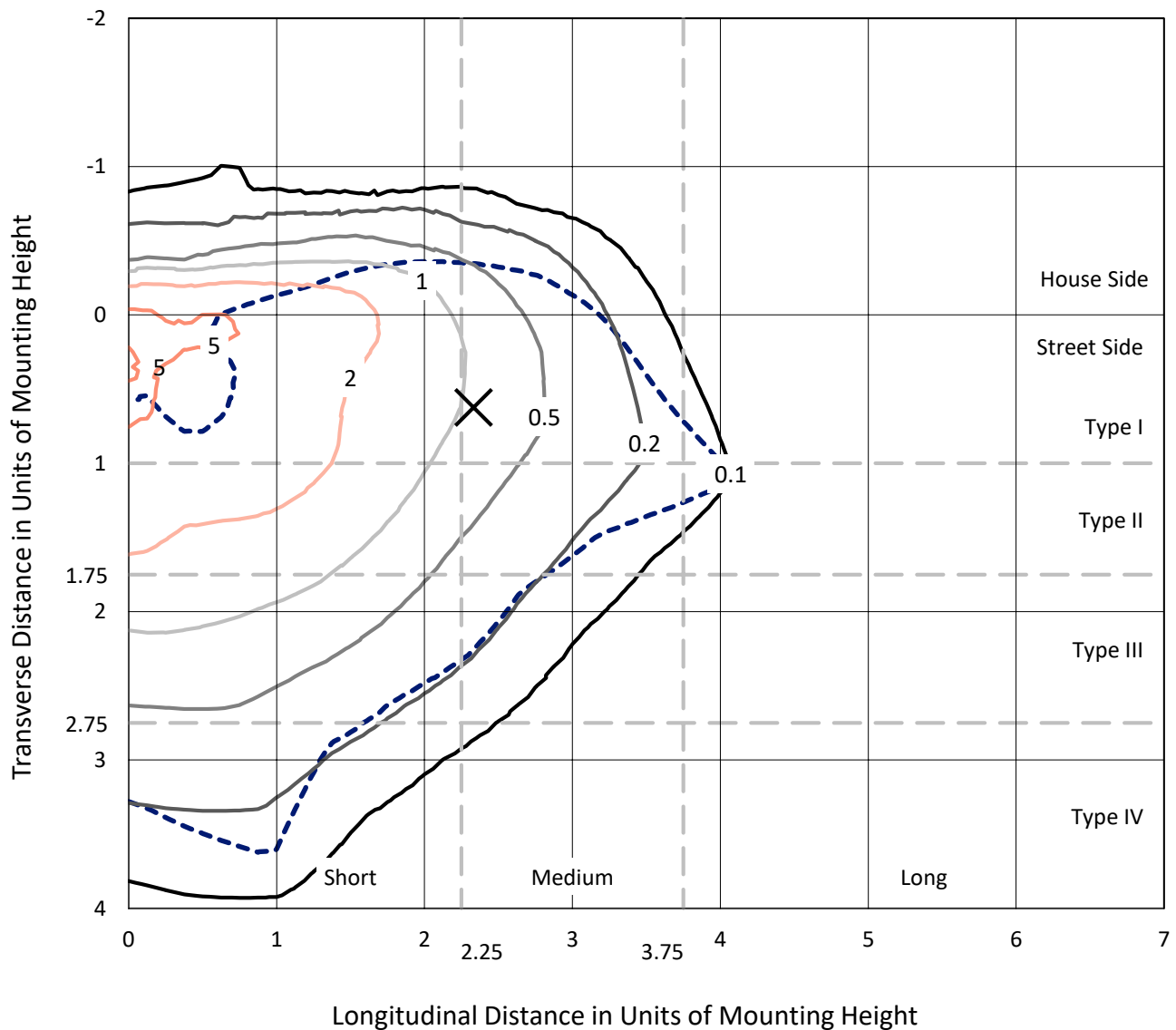
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 24 FT



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## Iso-Footcandle Lines of Horizontal Illumination

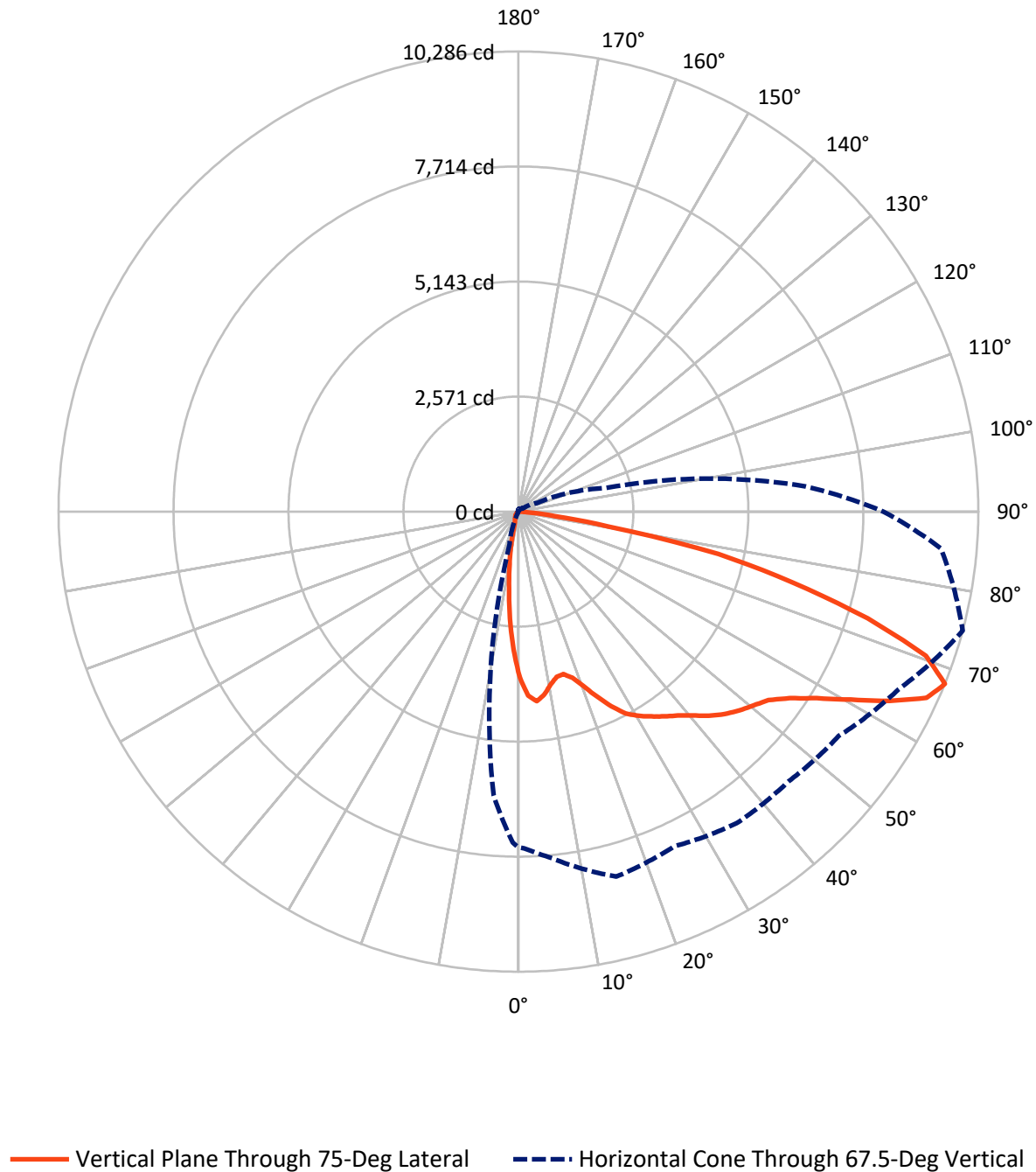
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.7 fc  
 Type III - Medium - N/A

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## Luminous Intensity Polar Plot



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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 1661.8   | 0.0    | 1661.8  |
|                    | % Fixture | 15.0     | 0.0    | 15.0    |
| <b>Street Side</b> | Lumens    | 9412.2   | 0.0    | 9412.2  |
|                    | % Fixture | 85.0     | 0.0    | 85.0    |
| <b>Total</b>       | Lumens    | 11074.0  | 0.0    | 11074.0 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 281.8   | 2.5       |
| 10°-20°   | 554.9   | 5.0       |
| 20°-30°   | 785.0   | 7.1       |
| 30°-40°   | 1154.2  | 10.4      |
| 40°-50°   | 1658.9  | 15.0      |
| 50°-60°   | 2335.4  | 21.1      |
| 60°-70°   | 2727.5  | 24.6      |
| 70°-80°   | 1391.5  | 12.6      |
| 80°-90°   | 184.8   | 1.7       |
| 90°-100°  | 0.0     | 0.0       |
| 100°-110° | 0.0     | 0.0       |
| 110°-120° | 0.0     | 0.0       |
| 120°-130° | 0.0     | 0.0       |
| 130°-140° | 0.0     | 0.0       |
| 140°-150° | 0.0     | 0.0       |
| 150°-160° | 0.0     | 0.0       |
| 160°-170° | 0.0     | 0.0       |
| 170°-180° | 0.0     | 0.0       |
| 0°-90°    | 11074.0 | 100.0     |
| 0°-180°   | 11074.0 | 100.0     |

**Coefficient of Utilization**



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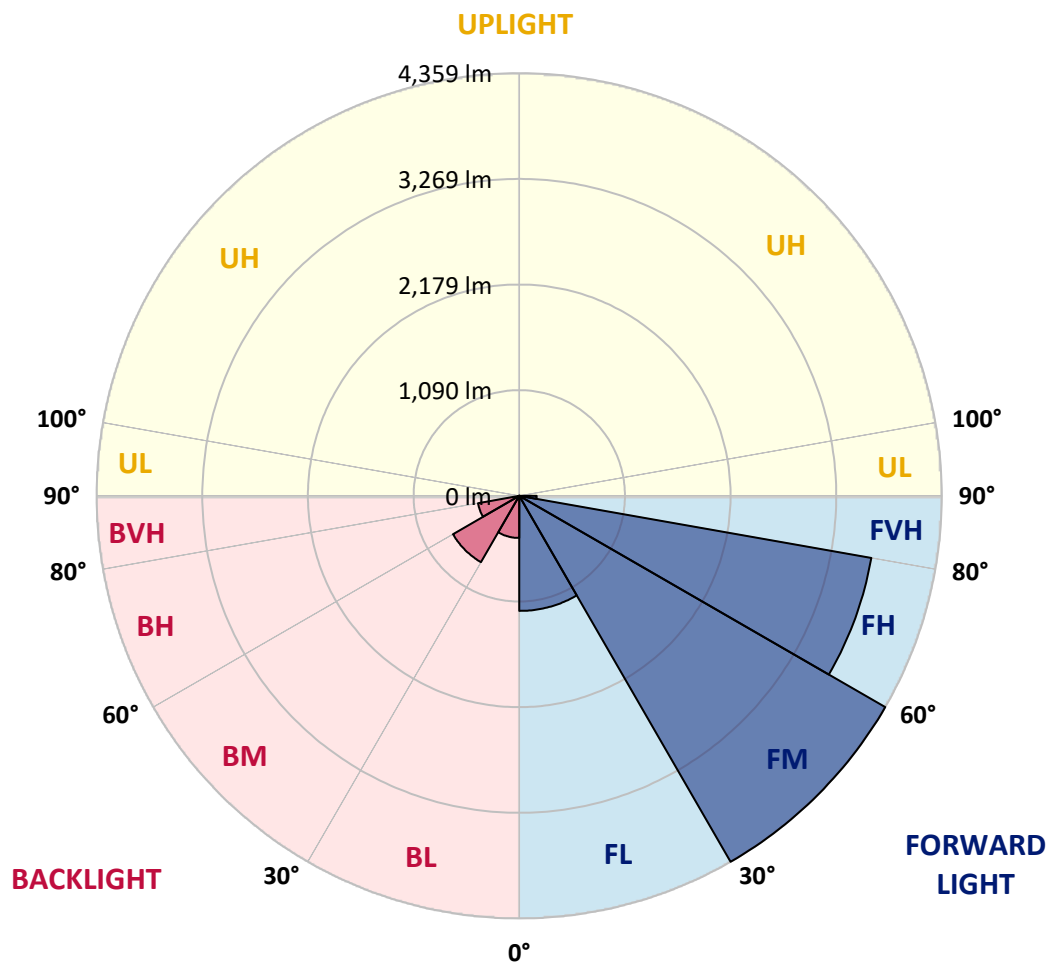
CATALOG NUMBER: GLEON-SA4A-830-U-SLL-HSS

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

| Zone |             | Lumens | % Fixture | Zone Rating/Lumen Limit |      |         |
|------|-------------|--------|-----------|-------------------------|------|---------|
|      |             |        |           | B                       | U    | G       |
| FL   | (0°-30°)    | 1187.1 | 10.7      |                         |      |         |
| FM   | (30°-60°)   | 4358.5 | 39.4      |                         |      |         |
| FH   | (60°-80°)   | 3687.3 | 33.3      |                         |      | G2/5000 |
| FVH  | (80°-90°)   | 179.2  | 1.6       |                         |      | G2/225  |
| BL   | (0°-30°)    | 434.6  | 3.9       | B1/500                  |      |         |
| BM   | (30°-60°)   | 790.0  | 7.1       | B1/1000                 |      |         |
| BH   | (60°-80°)   | 431.6  | 3.9       | B1/500                  |      | G1/500  |
| BVH  | (80°-90°)   | 5.6    | 0.1       |                         |      | G0/10   |
| UL   | (90°-100°)  | 0.0    | 0.0       |                         | U0/0 |         |
| UH   | (100°-180°) | 0.0    | 0.0       |                         | U0/0 |         |

**BUG Rating: B1-U0-G2**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 1°     | 5°     | 15°    | 25°    | 35°    | 45°    | 55°    | 65°    | 75°     | 85°    |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|--------|
| 0°    | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1  | 3715.1 |
| 2.5°  | 4027.3 | 4033.6 | 4066.1 | 4141.6 | 4224.0 | 4230.3 | 4285.9 | 4228.7 | 4209.3 | 4117.0  | 4021.5 |
| 5°    | 4057.7 | 4081.8 | 4193.6 | 4415.5 | 4608.0 | 4669.9 | 4714.0 | 4601.7 | 4483.7 | 4258.1  | 4017.3 |
| 7.5°  | 3812.7 | 3853.1 | 4028.8 | 4445.4 | 4789.5 | 4941.6 | 4970.5 | 4794.7 | 4505.7 | 4134.3  | 3772.3 |
| 10°   | 3499.0 | 3545.2 | 3757.1 | 4269.1 | 4741.8 | 5002.5 | 5042.3 | 4812.1 | 4396.6 | 3933.9  | 3507.4 |
| 12.5° | 3245.1 | 3299.1 | 3515.8 | 4070.8 | 4577.6 | 4866.1 | 4944.8 | 4753.8 | 4302.2 | 3791.7  | 3326.4 |
| 15°   | 3128.1 | 3190.0 | 3417.7 | 3942.8 | 4395.5 | 4622.7 | 4687.7 | 4605.4 | 4249.7 | 3769.2  | 3284.5 |
| 17.5° | 3195.3 | 3262.4 | 3497.4 | 3953.8 | 4224.5 | 4321.6 | 4374.0 | 4407.6 | 4249.7 | 3905.0  | 3407.2 |
| 20°   | 3470.7 | 3543.1 | 3791.7 | 4065.6 | 4082.9 | 4046.7 | 4102.8 | 4220.8 | 4299.0 | 4163.1  | 3702.0 |
| 22.5° | 3851.5 | 3936.5 | 4217.2 | 4257.0 | 4013.6 | 3876.7 | 3884.1 | 4069.2 | 4388.7 | 4490.5  | 4111.2 |
| 25°   | 4315.8 | 4419.7 | 4705.0 | 4542.4 | 4042.5 | 3775.5 | 3772.8 | 3944.4 | 4476.3 | 4818.3  | 4567.1 |
| 27.5° | 4776.9 | 4891.3 | 5142.0 | 4890.7 | 4161.6 | 3757.1 | 3751.9 | 3906.6 | 4561.8 | 5110.0  | 5064.9 |
| 30°   | 5163.5 | 5274.7 | 5490.9 | 5143.1 | 4290.1 | 3800.1 | 3774.9 | 3947.0 | 4612.7 | 5299.4  | 5427.9 |
| 32.5° | 5478.3 | 5567.5 | 5742.1 | 5316.7 | 4427.5 | 3883.5 | 3829.0 | 4055.1 | 4699.3 | 5459.4  | 5761.6 |
| 35°   | 5824.5 | 5918.4 | 5988.2 | 5482.0 | 4581.8 | 4003.7 | 3925.5 | 4226.6 | 4832.5 | 5622.0  | 6127.2 |
| 37.5° | 6219.5 | 6312.9 | 6304.5 | 5633.0 | 4777.4 | 4202.5 | 4152.6 | 4498.3 | 5039.7 | 5783.1  | 6535.3 |
| 40°   | 6606.1 | 6701.6 | 6633.4 | 5798.3 | 5007.2 | 4530.3 | 4493.6 | 4906.5 | 5317.2 | 5989.2  | 7013.8 |
| 42.5° | 6968.1 | 7071.5 | 6925.6 | 5954.6 | 5281.0 | 4943.7 | 5006.7 | 5432.1 | 5664.5 | 6243.1  | 7426.1 |
| 45°   | 7259.8 | 7365.2 | 7170.6 | 6106.7 | 5569.6 | 5445.2 | 5634.6 | 6014.4 | 6082.1 | 6457.7  | 7704.6 |
| 47.5° | 7471.7 | 7571.4 | 7340.6 | 6258.9 | 5938.9 | 6058.5 | 6388.4 | 6625.0 | 6459.3 | 6643.9  | 7902.4 |
| 50°   | 7607.1 | 7684.7 | 7390.4 | 6449.3 | 6423.6 | 6774.0 | 7173.8 | 7289.2 | 6814.4 | 6811.8  | 8142.7 |
| 52.5° | 7693.1 | 7728.2 | 7427.1 | 6648.1 | 6929.3 | 7553.0 | 7942.8 | 7979.0 | 7180.0 | 6996.4  | 8466.3 |
| 55°   | 7989.5 | 8017.8 | 7687.3 | 6888.9 | 7347.4 | 8235.5 | 8638.4 | 8604.8 | 7593.9 | 7357.9  | 8848.2 |
| 57.5° | 8495.2 | 8525.1 | 8225.0 | 7235.1 | 7685.7 | 8657.3 | 9142.5 | 9202.9 | 8079.2 | 7865.7  | 9257.4 |
| 60°   | 8749.1 | 8804.7 | 8697.7 | 7673.7 | 8013.6 | 8926.9 | 9486.1 | 9678.7 | 8685.6 | 8535.1  | 9654.0 |
| 62.5° | 8518.8 | 8599.6 | 8754.9 | 8160.0 | 8339.4 | 9075.4 | 9593.2 | 9849.2 | 9306.7 | 9315.1  | 9898.5 |
| 65°   | 8059.3 | 8123.8 | 8387.1 | 8426.5 | 8528.2 | 9057.0 | 9328.8 | 9611.0 | 9687.1 | 10031.7 | 9885.4 |
| 67.5° | 7504.2 | 7528.4 | 7751.8 | 8447.5 | 8254.4 | 8505.2 | 8534.5 | 8743.3 | 9386.5 | 10285.6 | 9488.2 |
| 70°   | 6705.3 | 6718.4 | 6913.6 | 7745.0 | 7093.5 | 7148.6 | 7105.0 | 7147.5 | 8069.7 | 9667.1  | 8485.7 |
| 72.5° | 5396.4 | 5429.5 | 5707.0 | 6432.0 | 5167.7 | 5008.8 | 5350.8 | 5331.9 | 6214.8 | 8167.3  | 6302.4 |
| 75°   | 3973.2 | 4030.4 | 4449.6 | 5180.8 | 3627.0 | 3280.8 | 3530.5 | 3597.1 | 4418.1 | 6317.6  | 3941.2 |
| 77.5° | 2781.9 | 2824.4 | 3230.4 | 3808.5 | 2625.0 | 2346.0 | 2255.7 | 2334.9 | 2916.2 | 4570.2  | 1985.6 |
| 80°   | 1602.6 | 1618.4 | 1877.5 | 2199.1 | 1768.9 | 2023.9 | 1833.4 | 1888.0 | 1747.4 | 2033.3  | 854.0  |
| 82.5° | 1048.7 | 1051.3 | 1152.5 | 1308.8 | 1101.6 | 1280.0 | 947.4  | 1211.3 | 1074.9 | 816.8   | 278.0  |
| 85°   | 566.6  | 569.7  | 668.3  | 929.0  | 623.7  | 352.5  | 207.2  | 425.4  | 664.7  | 187.3   | 76.1   |
| 87.5° | 62.4   | 57.2   | 201.4  | 337.8  | 173.1  | 32.0   | 11.0   | 47.7   | 106.5  | 12.1    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0     | 0.0    |



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**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 |
| 2.5°  | 3972.7 | 3929.2 | 3820.6 | 3705.7 | 3613.4 | 3526.8 | 3439.7 | 3333.2 | 3250.9 | 3234.1 | 3206.8 |
| 5°    | 3887.7 | 3749.8 | 3522.1 | 3293.4 | 3109.2 | 2876.8 | 2729.4 | 2614.6 | 2502.3 | 2495.5 | 2472.9 |
| 7.5°  | 3590.8 | 3409.3 | 3088.8 | 2772.5 | 2513.3 | 2291.9 | 2068.5 | 1918.9 | 1801.4 | 1760.0 | 1735.3 |
| 10°   | 3305.4 | 3101.4 | 2701.1 | 2340.2 | 2108.8 | 1913.2 | 1755.8 | 1599.5 | 1457.8 | 1360.3 | 1316.2 |
| 12.5° | 3106.1 | 2880.5 | 2439.3 | 2128.3 | 1962.5 | 1776.8 | 1584.8 | 1389.6 | 1226.5 | 1109.0 | 1037.1 |
| 15°   | 3029.0 | 2788.2 | 2351.7 | 2044.3 | 1839.7 | 1604.7 | 1359.2 | 1136.3 | 955.3  | 848.8  | 784.3  |
| 17.5° | 3120.8 | 2840.6 | 2344.9 | 1942.0 | 1656.1 | 1363.9 | 1092.7 | 829.4  | 658.9  | 578.1  | 536.7  |
| 20°   | 3353.7 | 3007.5 | 2342.3 | 1816.7 | 1437.9 | 1078.6 | 740.2  | 545.6  | 442.2  | 397.1  | 377.7  |
| 22.5° | 3683.1 | 3220.5 | 2363.3 | 1692.8 | 1210.8 | 770.6  | 510.9  | 400.8  | 347.8  | 323.7  | 312.7  |
| 25°   | 4107.0 | 3519.5 | 2422.6 | 1580.6 | 997.2  | 574.9  | 398.2  | 335.7  | 298.5  | 279.6  | 271.7  |
| 27.5° | 4558.7 | 3863.6 | 2514.9 | 1483.0 | 823.6  | 458.5  | 341.0  | 287.5  | 260.7  | 247.6  | 240.3  |
| 30°   | 4931.1 | 4262.3 | 2608.3 | 1374.4 | 697.7  | 399.7  | 312.1  | 262.3  | 231.3  | 223.0  | 216.1  |
| 32.5° | 5256.9 | 4563.9 | 2674.4 | 1276.3 | 615.3  | 355.1  | 282.2  | 234.5  | 213.5  | 197.2  | 189.9  |
| 35°   | 5594.2 | 4815.2 | 2672.3 | 1207.6 | 558.7  | 321.6  | 257.0  | 209.8  | 184.7  | 165.8  | 160.0  |
| 37.5° | 5959.3 | 5099.0 | 2626.6 | 1148.8 | 534.0  | 294.8  | 242.9  | 196.7  | 171.5  | 152.7  | 145.3  |
| 40°   | 6386.9 | 5397.0 | 2579.9 | 1093.8 | 527.2  | 273.3  | 232.9  | 186.2  | 159.5  | 141.1  | 133.8  |
| 42.5° | 6803.4 | 5665.6 | 2539.0 | 1052.8 | 497.8  | 272.8  | 224.0  | 178.4  | 150.0  | 132.2  | 123.8  |
| 45°   | 7136.5 | 5915.8 | 2531.1 | 1028.2 | 466.9  | 282.2  | 219.3  | 173.1  | 142.7  | 124.9  | 117.0  |
| 47.5° | 7413.5 | 6187.5 | 2581.5 | 1010.9 | 437.5  | 257.6  | 230.8  | 169.4  | 135.9  | 118.6  | 109.6  |
| 50°   | 7742.9 | 6521.2 | 2700.1 | 982.6  | 406.6  | 231.9  | 264.4  | 170.5  | 130.1  | 112.3  | 102.8  |
| 52.5° | 8202.5 | 6982.8 | 2874.2 | 934.8  | 364.1  | 208.3  | 260.2  | 171.5  | 123.8  | 105.4  | 96.0   |
| 55°   | 8717.6 | 7559.3 | 3061.5 | 855.6  | 304.8  | 177.3  | 223.0  | 164.2  | 111.7  | 98.1   | 89.2   |
| 57.5° | 9259.0 | 8082.3 | 3172.7 | 761.2  | 242.4  | 153.2  | 178.4  | 149.5  | 98.6   | 88.1   | 82.4   |
| 60°   | 9344.0 | 8281.2 | 3121.8 | 645.2  | 192.5  | 133.2  | 132.2  | 152.1  | 88.1   | 77.6   | 73.4   |
| 62.5° | 9132.6 | 8031.5 | 2875.8 | 541.9  | 161.0  | 117.0  | 108.6  | 132.7  | 79.7   | 69.2   | 65.0   |
| 65°   | 8726.0 | 7356.3 | 2477.1 | 488.4  | 149.5  | 100.2  | 90.2   | 93.4   | 69.8   | 60.3   | 56.7   |
| 67.5° | 8160.5 | 6455.1 | 2033.8 | 458.0  | 147.9  | 86.0   | 77.1   | 70.8   | 60.3   | 52.5   | 49.3   |
| 70°   | 7004.3 | 5377.6 | 1622.6 | 441.2  | 143.7  | 72.4   | 65.0   | 57.7   | 50.4   | 44.6   | 42.0   |
| 72.5° | 5155.1 | 3810.6 | 1262.2 | 422.8  | 144.8  | 57.7   | 56.7   | 47.7   | 40.4   | 34.6   | 33.6   |
| 75°   | 2978.6 | 2177.0 | 827.8  | 342.6  | 138.0  | 44.6   | 47.2   | 33.6   | 28.3   | 24.1   | 24.1   |
| 77.5° | 1587.4 | 1327.7 | 315.3  | 142.7  | 50.4   | 28.3   | 26.8   | 19.9   | 17.8   | 14.7   | 14.2   |
| 80°   | 691.9  | 584.4  | 95.0   | 39.9   | 27.8   | 15.2   | 10.0   | 8.9    | 7.9    | 6.3    | 5.8    |
| 82.5° | 245.0  | 211.4  | 31.0   | 19.4   | 12.1   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 55.6   | 39.9   | 0.0    | 4.7    | 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°    | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 |
| 2.5°  | 3151.2 | 3139.7 | 3071.5 | 3074.1 | 3086.2 | 3103.5 | 3062.5 | 3081.4 | 3132.3 | 3181.1 | 3199.5 |
| 5°    | 2436.7 | 2439.3 | 2397.9 | 2423.6 | 2446.7 | 2462.4 | 2396.3 | 2397.4 | 2437.8 | 2492.8 | 2521.7 |
| 7.5°  | 1717.0 | 1712.8 | 1714.9 | 1776.3 | 1819.8 | 1788.3 | 1813.0 | 1727.5 | 1732.7 | 1772.1 | 1742.7 |
| 10°   | 1276.3 | 1218.6 | 1186.1 | 1232.3 | 1280.0 | 1262.7 | 1220.2 | 1192.4 | 1211.8 | 1255.3 | 1252.2 |
| 12.5° | 1003.0 | 920.1  | 871.3  | 838.3  | 877.6  | 845.1  | 844.1  | 819.9  | 793.7  | 798.4  | 868.2  |
| 15°   | 754.4  | 694.0  | 636.3  | 583.3  | 582.3  | 571.3  | 515.1  | 452.2  | 446.9  | 450.1  | 486.3  |
| 17.5° | 518.8  | 498.4  | 474.8  | 429.1  | 417.0  | 370.9  | 316.3  | 291.1  | 278.6  | 284.3  | 296.4  |
| 20°   | 364.6  | 356.7  | 359.3  | 334.7  | 317.4  | 273.3  | 241.3  | 231.3  | 229.2  | 235.0  | 240.8  |
| 22.5° | 302.2  | 288.0  | 286.4  | 275.4  | 258.1  | 226.1  | 208.8  | 203.0  | 200.4  | 205.6  | 209.8  |
| 25°   | 264.4  | 250.2  | 244.5  | 237.6  | 219.3  | 197.2  | 186.8  | 181.5  | 178.9  | 182.0  | 184.7  |
| 27.5° | 232.9  | 219.8  | 214.6  | 209.8  | 192.0  | 176.3  | 167.9  | 163.1  | 161.0  | 162.1  | 164.7  |
| 30°   | 209.3  | 197.8  | 191.0  | 185.2  | 170.0  | 159.0  | 151.6  | 146.9  | 144.8  | 144.8  | 147.4  |
| 32.5° | 184.7  | 178.4  | 172.1  | 164.7  | 150.6  | 143.2  | 135.9  | 130.6  | 128.5  | 129.0  | 131.1  |
| 35°   | 153.7  | 151.6  | 153.2  | 146.4  | 134.3  | 128.0  | 120.7  | 114.9  | 113.3  | 113.8  | 115.9  |
| 37.5° | 136.4  | 127.0  | 132.7  | 129.0  | 122.2  | 113.8  | 104.4  | 99.1   | 96.5   | 98.1   | 99.1   |
| 40°   | 125.4  | 113.8  | 109.6  | 113.3  | 112.3  | 98.6   | 90.2   | 85.0   | 82.9   | 83.4   | 84.5   |
| 42.5° | 115.9  | 102.3  | 92.9   | 92.3   | 98.6   | 86.0   | 77.1   | 72.4   | 69.8   | 69.8   | 70.8   |
| 45°   | 107.0  | 92.3   | 80.8   | 71.9   | 82.9   | 72.9   | 64.5   | 60.3   | 57.2   | 57.2   | 57.7   |
| 47.5° | 100.2  | 83.9   | 70.3   | 58.8   | 62.4   | 59.8   | 53.0   | 48.8   | 45.6   | 45.6   | 46.2   |
| 50°   | 93.9   | 75.5   | 60.9   | 49.3   | 46.7   | 49.3   | 43.0   | 38.3   | 36.2   | 35.7   | 36.7   |
| 52.5° | 87.1   | 67.1   | 51.9   | 42.0   | 36.7   | 37.2   | 33.6   | 30.4   | 27.8   | 27.8   | 28.9   |
| 55°   | 80.3   | 60.3   | 45.1   | 35.7   | 30.4   | 27.8   | 26.8   | 24.7   | 22.6   | 22.6   | 23.6   |
| 57.5° | 73.4   | 53.0   | 38.3   | 29.4   | 24.1   | 22.0   | 22.0   | 20.5   | 18.9   | 18.9   | 19.9   |
| 60°   | 67.1   | 45.6   | 31.5   | 24.1   | 18.9   | 18.4   | 18.9   | 17.3   | 16.3   | 16.3   | 17.3   |
| 62.5° | 59.8   | 38.8   | 25.7   | 19.9   | 15.2   | 14.7   | 16.3   | 15.2   | 14.2   | 14.2   | 15.2   |
| 65°   | 50.9   | 33.0   | 20.5   | 15.2   | 11.5   | 11.5   | 13.6   | 12.6   | 11.5   | 11.5   | 12.6   |
| 67.5° | 43.0   | 27.8   | 15.7   | 11.0   | 8.4    | 8.9    | 11.5   | 10.5   | 10.0   | 10.0   | 11.0   |
| 70°   | 35.7   | 21.5   | 11.0   | 6.8    | 4.7    | 6.8    | 8.9    | 8.9    | 8.9    | 8.9    | 10.0   |
| 72.5° | 26.8   | 14.7   | 6.3    | 2.6    | 2.1    | 4.7    | 7.3    | 8.4    | 7.9    | 7.9    | 9.4    |
| 75°   | 17.3   | 8.4    | 2.1    | 0.0    | 0.0    | 2.6    | 5.8    | 6.8    | 6.8    | 6.3    | 7.9    |
| 77.5° | 10.0   | 2.6    | 0.0    | 0.0    | 0.0    | 0.0    | 3.7    | 3.1    | 2.6    | 2.1    | 3.7    |
| 80°   | 2.6    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 82.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |



REPORT NUMBER: P324308

CATALOG NUMBER: GLEON-SA4A-830-U-SLL-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 285°   | 295°   | 305°   | 315°   | 325°   | 335°   | 345°   | 355°   | 359°   | 360°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 | 3715.1 |
| 2.5°  | 3273.4 | 3335.3 | 3422.4 | 3514.7 | 3656.9 | 3769.7 | 3880.4 | 3975.3 | 4012.1 | 4027.3 |
| 5°    | 2590.9 | 2681.7 | 2809.2 | 2972.8 | 3229.4 | 3460.2 | 3694.2 | 3929.7 | 4032.0 | 4057.7 |
| 7.5°  | 1859.1 | 1975.1 | 2137.2 | 2342.3 | 2642.9 | 2941.9 | 3268.7 | 3614.4 | 3772.8 | 3812.7 |
| 10°   | 1376.0 | 1517.6 | 1703.3 | 1919.5 | 2206.4 | 2513.8 | 2870.0 | 3265.0 | 3446.0 | 3499.0 |
| 12.5° | 976.3  | 1167.7 | 1416.4 | 1679.2 | 1927.9 | 2202.2 | 2562.6 | 2998.0 | 3187.9 | 3245.1 |
| 15°   | 573.4  | 758.6  | 1052.8 | 1404.8 | 1723.3 | 2001.3 | 2367.5 | 2861.1 | 3070.4 | 3128.1 |
| 17.5° | 328.9  | 421.2  | 643.7  | 1036.1 | 1468.3 | 1853.4 | 2306.1 | 2895.2 | 3141.8 | 3195.3 |
| 20°   | 251.3  | 280.7  | 370.9  | 667.3  | 1170.4 | 1708.1 | 2306.1 | 3088.3 | 3392.0 | 3470.7 |
| 22.5° | 219.8  | 241.3  | 278.0  | 398.2  | 861.4  | 1552.3 | 2332.8 | 3367.3 | 3764.4 | 3851.5 |
| 25°   | 195.1  | 214.6  | 246.0  | 299.5  | 587.5  | 1367.1 | 2396.3 | 3709.9 | 4203.0 | 4315.8 |
| 27.5° | 174.7  | 193.0  | 221.4  | 262.3  | 401.8  | 1143.6 | 2481.8 | 4111.7 | 4686.7 | 4776.9 |
| 30°   | 156.3  | 173.6  | 199.3  | 228.2  | 310.0  | 890.2  | 2554.7 | 4490.5 | 5066.5 | 5163.5 |
| 32.5° | 139.0  | 154.8  | 177.8  | 199.3  | 253.9  | 658.4  | 2562.6 | 4790.5 | 5381.8 | 5478.3 |
| 35°   | 122.8  | 136.9  | 157.9  | 174.7  | 210.4  | 519.9  | 2440.4 | 5050.7 | 5697.0 | 5824.5 |
| 37.5° | 107.0  | 120.7  | 139.0  | 151.6  | 185.2  | 423.9  | 2253.6 | 5340.8 | 6101.5 | 6219.5 |
| 40°   | 92.3   | 104.4  | 123.3  | 131.7  | 175.2  | 325.8  | 2050.6 | 5645.1 | 6498.1 | 6606.1 |
| 42.5° | 78.7   | 90.2   | 108.6  | 124.9  | 153.7  | 243.4  | 1831.3 | 5930.5 | 6854.8 | 6968.1 |
| 45°   | 65.6   | 77.6   | 96.0   | 132.2  | 127.5  | 182.0  | 1596.8 | 6119.9 | 7136.5 | 7259.8 |
| 47.5° | 53.0   | 66.6   | 91.8   | 125.9  | 101.8  | 133.8  | 1411.1 | 6299.3 | 7350.0 | 7471.7 |
| 50°   | 42.5   | 56.1   | 103.3  | 112.3  | 83.4   | 102.3  | 1333.5 | 6459.8 | 7490.1 | 7607.1 |
| 52.5° | 34.6   | 47.2   | 97.6   | 86.0   | 69.8   | 84.5   | 1375.5 | 6720.0 | 7619.7 | 7693.1 |
| 55°   | 28.9   | 37.2   | 58.8   | 59.8   | 59.3   | 71.9   | 1427.4 | 7093.5 | 7954.9 | 7989.5 |
| 57.5° | 25.2   | 29.9   | 40.9   | 46.2   | 49.8   | 64.0   | 1428.5 | 7629.6 | 8473.7 | 8495.2 |
| 60°   | 21.5   | 26.2   | 34.1   | 37.2   | 43.0   | 57.2   | 1376.5 | 7816.9 | 8677.7 | 8749.1 |
| 62.5° | 18.9   | 23.1   | 28.3   | 31.0   | 36.2   | 51.4   | 1254.8 | 7545.7 | 8397.6 | 8518.8 |
| 65°   | 16.8   | 21.0   | 23.6   | 26.2   | 32.0   | 46.2   | 1054.4 | 7003.3 | 7932.8 | 8059.3 |
| 67.5° | 14.7   | 18.4   | 21.0   | 23.6   | 28.9   | 40.9   | 776.4  | 6373.2 | 7399.3 | 7504.2 |
| 70°   | 13.1   | 16.3   | 18.9   | 21.0   | 25.2   | 34.6   | 471.1  | 5408.0 | 6661.8 | 6705.3 |
| 72.5° | 12.6   | 14.7   | 17.3   | 18.9   | 22.0   | 30.4   | 238.7  | 3974.3 | 5325.6 | 5396.4 |
| 75°   | 11.0   | 13.1   | 15.7   | 16.8   | 19.4   | 26.2   | 97.0   | 2610.4 | 3859.4 | 3973.2 |
| 77.5° | 8.9    | 12.1   | 14.2   | 15.2   | 16.8   | 21.5   | 49.3   | 1668.2 | 2708.5 | 2781.9 |
| 80°   | 3.1    | 8.9    | 12.1   | 12.6   | 14.2   | 15.7   | 32.5   | 913.3  | 1571.1 | 1602.6 |
| 82.5° | 0.0    | 5.8    | 9.4    | 8.9    | 10.0   | 12.1   | 21.0   | 434.4  | 1037.1 | 1048.7 |
| 85°   | 0.0    | 2.6    | 7.3    | 5.8    | 4.2    | 8.4    | 7.3    | 95.0   | 544.0  | 566.6  |
| 87.5° | 0.0    | 0.0    | 0.5    | 2.6    | 2.1    | 3.1    | 1.0    | 0.5    | 49.3   | 62.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW EDISON

Report Number: SP1-2408-195-9

Test Date: 08/07/2024

Luminaire Tested: GALN-SB1A-830-U-5WQ

Data in this report applies to families of products including GALN-SB1A-830-U-5WQ.

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2408-195-9  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 08/07/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: MCGRAW EDISON  
 Catalog Number: **GALN-SB1A-830-U-5WQ**  
 Description: GALLEON AREA AND ROADWAY LUMINAIRE. (1) 80 CRI, 3000K, 350MA HIGH DENSITY LIGHTSQUARE WITH 26 LEDS AND TYPE V WIDE OPTICS

### Spectral Parameters

CCT (K): 3050  
 CIE  $u'$ : 0.2476  
 CIE  $v'$ : 0.5251  
 Duv: 0.0034  
 CIE x: 0.4383  
 CIE y: 0.4131  
 CIE z: 0.1487  
 Peak Wavelength (nm): 603  
 Dominant Wavelength (nm): 581  
 Purity: 55.55201  
 R<sub>f</sub>: 81.5  
 R<sub>g</sub>: 99.2

CRI (Ra): 81.0  
 R1: 79.6  
 R2: 85.6  
 R3: 92.0  
 R4: 82.6  
 R5: 78.9  
 R6: 81.7  
 R7: 85.2  
 R8: 62.0  
 R9: 7.1  
 R10: 67.0  
 R11: 82.7  
 R12: 63.2  
 R13: 80.3  
 R14: 95.0  
 R15: 71.7



### Test Conditions

Stabilization Time: 20M  
 Operation Time: 1H 20M  
 Sphere Temperature (°C): 24.2

REPORT NUMBER: SP1-2408-195-9

| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | IN0058                | 6/18/2024        | 12/18/2024           |
| Power Meter                    | INXT2011004           | 2/8/2024         | 2/8/2025             |
| AC Power Source                | IN0063                | 10/24/2023       | 10/24/2024           |
| DC Power Source                | IN0208                | 10/24/2023       | 10/24/2024           |
| Sphere Thermometer             | IN0085                | 10/24/2023       | 10/24/2024           |
| Room Thermometer               | IN0046                | 10/24/2023       | 10/24/2024           |

REPORT NUMBER: SP1-2408-195-9

**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: SP1-2408-195-9

### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 168                                  | NR                             | 620               | 940                                  | NR                             | 750               | 35                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 233                                  | NR                             | 625               | 897                                  | NR                             | 755               | 30                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 300                                  | NR                             | 630               | 847                                  | NR                             | 760               | 26                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 372                                  | NR                             | 635               | 790                                  | NR                             | 765               | 22                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 430                                  | NR                             | 640               | 730                                  | NR                             | 770               | 19                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 483                                  | NR                             | 645               | 668                                  | NR                             | 775               | 16                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 524                                  | NR                             | 650               | 605                                  | NR                             | 780               | 14                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 2                                    | NR                             | 525               | 555                                  | NR                             | 655               | 545                                  | NR                             | 785               | 12                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 4                                    | NR                             | 530               | 581                                  | NR                             | 660               | 485                                  | NR                             | 790               | 10                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 7                                    | NR                             | 535               | 604                                  | NR                             | 665               | 430                                  | NR                             | 795               | 9                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 17                                   | NR                             | 540               | 623                                  | NR                             | 670               | 378                                  | NR                             | 800               | 8                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 34                                   | NR                             | 545               | 645                                  | NR                             | 675               | 331                                  | NR                             | 805               | 7                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 68                                   | NR                             | 550               | 667                                  | NR                             | 680               | 290                                  | NR                             | 810               | 6                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 128                                  | NR                             | 555               | 693                                  | NR                             | 685               | 251                                  | NR                             | 815               | 5                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 214                                  | NR                             | 560               | 719                                  | NR                             | 690               | 218                                  | NR                             | 820               | 4                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 339                                  | NR                             | 565               | 754                                  | NR                             | 695               | 188                                  | NR                             | 825               | 4                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 507                                  | NR                             | 570               | 791                                  | NR                             | 700               | 162                                  | NR                             | 830               | 3                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 573                                  | NR                             | 575               | 830                                  | NR                             | 705               | 139                                  | NR                             | 835               | 3                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 356                                  | NR                             | 580               | 873                                  | NR                             | 710               | 119                                  | NR                             | 840               | 3                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 217                                  | NR                             | 585               | 913                                  | NR                             | 715               | 102                                  | NR                             | 845               | 2                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 168                                  | NR                             | 590               | 948                                  | NR                             | 720               | 88                                   | NR                             | 850               | 2                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 113                                  | NR                             | 595               | 974                                  | NR                             | 725               | 76                                   | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 85                                   | NR                             | 600               | 994                                  | NR                             | 730               | 65                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 85                                   | NR                             | 605               | 998                                  | NR                             | 735               | 55                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 94                                   | NR                             | 610               | 994                                  | NR                             | 740               | 47                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 120                                  | NR                             | 615               | 973                                  | NR                             | 745               | 41                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

REPORT NUMBER: SP1-2408-195-9

### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.27

| λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) | λ (nm) | Power W <sup>^</sup> /nm | Lumens (Φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360    | 0                        | NR            | 490    | 168                      | NR            | 620    | 940                      | NR            | 750    | 35                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 233                      | NR            | 625    | 897                      | NR            | 755    | 30                       | NR            | 885    | 1                        | NR            |
| 370    | 0                        | NR            | 500    | 300                      | NR            | 630    | 847                      | NR            | 760    | 26                       | NR            | 890    | 1                        | NR            |
| 375    | 0                        | NR            | 505    | 372                      | NR            | 635    | 790                      | NR            | 765    | 22                       | NR            | 895    | 1                        | NR            |
| 380    | 0                        | NR            | 510    | 430                      | NR            | 640    | 730                      | NR            | 770    | 19                       | NR            | 900    | 1                        | NR            |
| 385    | 0                        | NR            | 515    | 483                      | NR            | 645    | 668                      | NR            | 775    | 16                       | NR            | 905    | 1                        | NR            |
| 390    | 0                        | NR            | 520    | 524                      | NR            | 650    | 605                      | NR            | 780    | 14                       | NR            | 910    | 0                        | NR            |
| 395    | 2                        | NR            | 525    | 555                      | NR            | 655    | 545                      | NR            | 785    | 12                       | NR            | 915    | 0                        | NR            |
| 400    | 4                        | NR            | 530    | 581                      | NR            | 660    | 485                      | NR            | 790    | 10                       | NR            | 920    | 0                        | NR            |
| 405    | 7                        | NR            | 535    | 604                      | NR            | 665    | 430                      | NR            | 795    | 9                        | NR            | 925    | 0                        | NR            |
| 410    | 17                       | NR            | 540    | 623                      | NR            | 670    | 378                      | NR            | 800    | 8                        | NR            | 930    | 0                        | NR            |
| 415    | 34                       | NR            | 545    | 645                      | NR            | 675    | 331                      | NR            | 805    | 7                        | NR            | 935    | 0                        | NR            |
| 420    | 68                       | NR            | 550    | 667                      | NR            | 680    | 290                      | NR            | 810    | 6                        | NR            | 940    | 0                        | NR            |
| 425    | 128                      | NR            | 555    | 693                      | NR            | 685    | 251                      | NR            | 815    | 5                        | NR            | 945    | 0                        | NR            |
| 430    | 214                      | NR            | 560    | 719                      | NR            | 690    | 218                      | NR            | 820    | 4                        | NR            | 950    | 0                        | NR            |
| 435    | 339                      | NR            | 565    | 754                      | NR            | 695    | 188                      | NR            | 825    | 4                        | NR            | 955    | 0                        | NR            |
| 440    | 507                      | NR            | 570    | 791                      | NR            | 700    | 162                      | NR            | 830    | 3                        | NR            | 960    | 0                        | NR            |
| 445    | 573                      | NR            | 575    | 830                      | NR            | 705    | 139                      | NR            | 835    | 3                        | NR            | 965    | 0                        | NR            |
| 450    | 356                      | NR            | 580    | 873                      | NR            | 710    | 119                      | NR            | 840    | 3                        | NR            | 970    | 0                        | NR            |
| 455    | 217                      | NR            | 585    | 913                      | NR            | 715    | 102                      | NR            | 845    | 2                        | NR            | 975    | 0                        | NR            |
| 460    | 168                      | NR            | 590    | 948                      | NR            | 720    | 88                       | NR            | 850    | 2                        | NR            | 980    | 0                        | NR            |
| 465    | 113                      | NR            | 595    | 974                      | NR            | 725    | 76                       | NR            | 855    | 2                        | NR            | 985    | 0                        | NR            |
| 470    | 85                       | NR            | 600    | 994                      | NR            | 730    | 65                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 85                       | NR            | 605    | 998                      | NR            | 735    | 55                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 94                       | NR            | 610    | 994                      | NR            | 740    | 47                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 120                      | NR            | 615    | 973                      | NR            | 745    | 41                       | NR            | 875    | 1                        | NR            |        |                          |               |

REPORT NUMBER: SP1-2408-195-9

### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.32**

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 168                                  | NR                             | 620               | 940                                  | NR                             | 750               | 35                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 233                                  | NR                             | 625               | 897                                  | NR                             | 755               | 30                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 300                                  | NR                             | 630               | 847                                  | NR                             | 760               | 26                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 372                                  | NR                             | 635               | 790                                  | NR                             | 765               | 22                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 430                                  | NR                             | 640               | 730                                  | NR                             | 770               | 19                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 483                                  | NR                             | 645               | 668                                  | NR                             | 775               | 16                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 524                                  | NR                             | 650               | 605                                  | NR                             | 780               | 14                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 2                                    | NR                             | 525               | 555                                  | NR                             | 655               | 545                                  | NR                             | 785               | 12                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 4                                    | NR                             | 530               | 581                                  | NR                             | 660               | 485                                  | NR                             | 790               | 10                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 7                                    | NR                             | 535               | 604                                  | NR                             | 665               | 430                                  | NR                             | 795               | 9                                    | NR                             | 925               | 0                                    | NR                             |
| 410               | 17                                   | NR                             | 540               | 623                                  | NR                             | 670               | 378                                  | NR                             | 800               | 8                                    | NR                             | 930               | 0                                    | NR                             |
| 415               | 34                                   | NR                             | 545               | 645                                  | NR                             | 675               | 331                                  | NR                             | 805               | 7                                    | NR                             | 935               | 0                                    | NR                             |
| 420               | 68                                   | NR                             | 550               | 667                                  | NR                             | 680               | 290                                  | NR                             | 810               | 6                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 128                                  | NR                             | 555               | 693                                  | NR                             | 685               | 251                                  | NR                             | 815               | 5                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 214                                  | NR                             | 560               | 719                                  | NR                             | 690               | 218                                  | NR                             | 820               | 4                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 339                                  | NR                             | 565               | 754                                  | NR                             | 695               | 188                                  | NR                             | 825               | 4                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 507                                  | NR                             | 570               | 791                                  | NR                             | 700               | 162                                  | NR                             | 830               | 3                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 573                                  | NR                             | 575               | 830                                  | NR                             | 705               | 139                                  | NR                             | 835               | 3                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 356                                  | NR                             | 580               | 873                                  | NR                             | 710               | 119                                  | NR                             | 840               | 3                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 217                                  | NR                             | 585               | 913                                  | NR                             | 715               | 102                                  | NR                             | 845               | 2                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 168                                  | NR                             | 590               | 948                                  | NR                             | 720               | 88                                   | NR                             | 850               | 2                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 113                                  | NR                             | 595               | 974                                  | NR                             | 725               | 76                                   | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 85                                   | NR                             | 600               | 994                                  | NR                             | 730               | 65                                   | NR                             | 860               | 1                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 85                                   | NR                             | 605               | 998                                  | NR                             | 735               | 55                                   | NR                             | 865               | 1                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 94                                   | NR                             | 610               | 994                                  | NR                             | 740               | 47                                   | NR                             | 870               | 1                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 120                                  | NR                             | 615               | 973                                  | NR                             | 745               | 41                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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TM-30-18

### Summary

$R_f = 81.5$   
 $R_g = 99.2$   
 $CIE R_a = 81.0$   
 $R_9 = 7.1$



### Color Vector Graphics

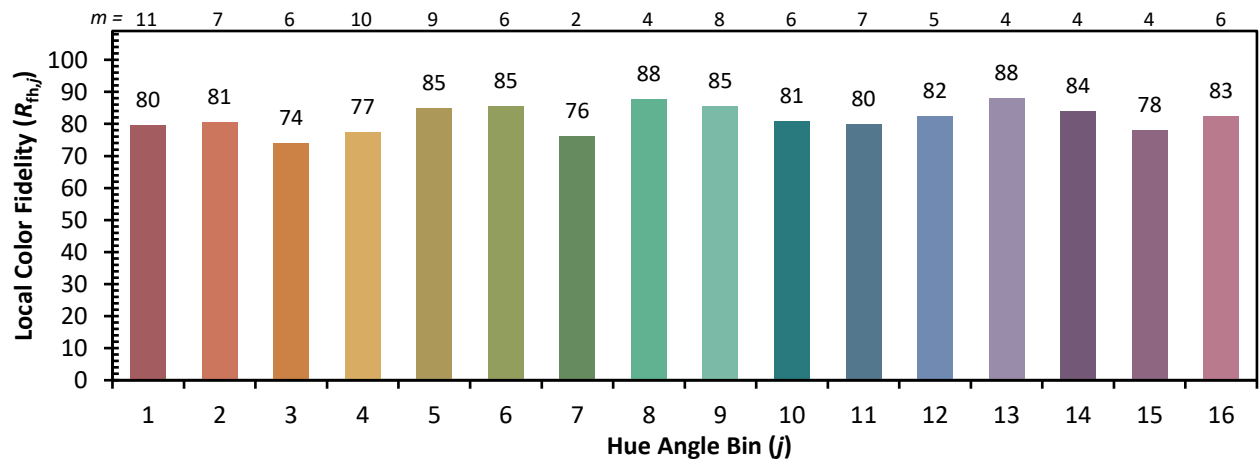
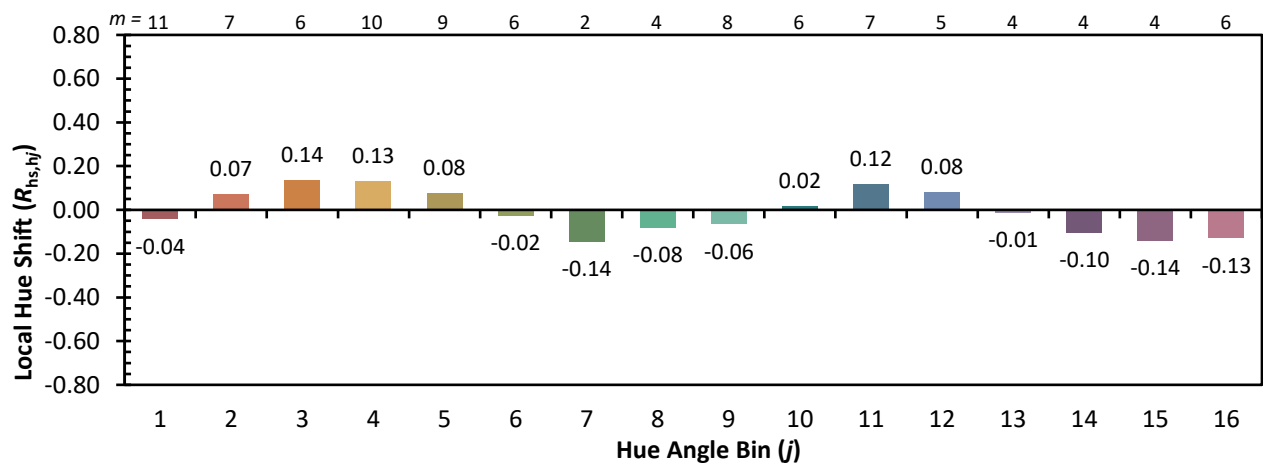
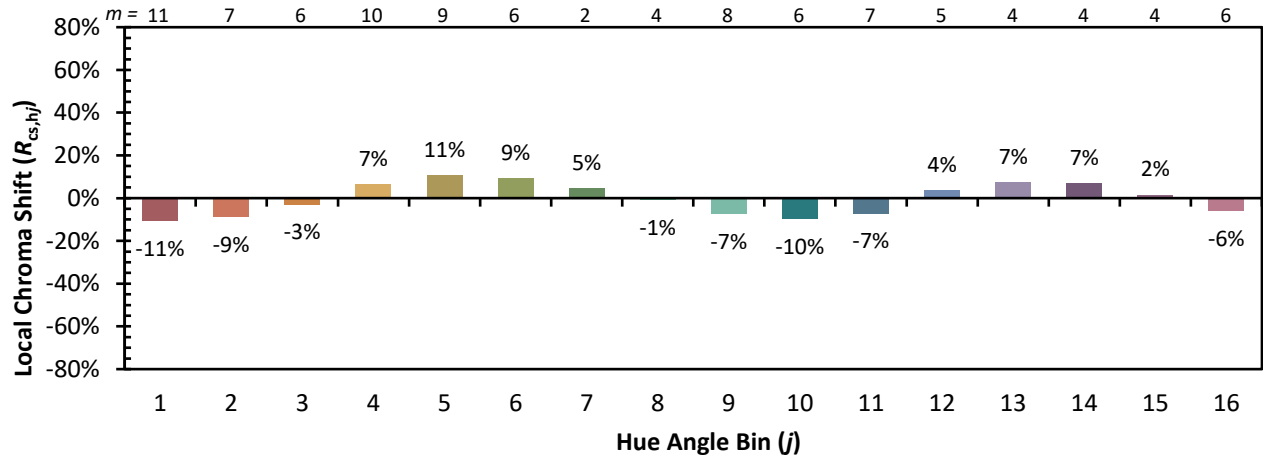


**Individual Sample Fidelity Index ( $R_{f,i}$ )**

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 74 | CES51 = 89 | CES76 = 70 |
| CES02 = 63 | CES27 = 88 | CES52 = 92 | CES77 = 86 |
| CES03 = 31 | CES28 = 89 | CES53 = 81 | CES78 = 72 |
| CES04 = 70 | CES29 = 67 | CES54 = 87 | CES79 = 90 |
| CES05 = 50 | CES30 = 68 | CES55 = 85 | CES80 = 88 |
| CES06 = 51 | CES31 = 71 | CES56 = 78 | CES81 = 78 |
| CES07 = 42 | CES32 = 70 | CES57 = 76 | CES82 = 95 |
| CES08 = 41 | CES33 = 71 | CES58 = 78 | CES83 = 90 |
| CES09 = 29 | CES34 = 82 | CES59 = 92 | CES84 = 94 |
| CES10 = 76 | CES35 = 90 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 93 | CES61 = 93 | CES86 = 72 |
| CES12 = 65 | CES37 = 87 | CES62 = 83 | CES87 = 85 |
| CES13 = 43 | CES38 = 75 | CES63 = 77 | CES88 = 83 |
| CES14 = 74 | CES39 = 94 | CES64 = 83 | CES89 = 75 |
| CES15 = 71 | CES40 = 89 | CES65 = 77 | CES90 = 81 |
| CES16 = 47 | CES41 = 85 | CES66 = 80 | CES91 = 96 |
| CES17 = 50 | CES42 = 86 | CES67 = 79 | CES92 = 73 |
| CES18 = 56 | CES43 = 81 | CES68 = 84 | CES93 = 84 |
| CES19 = 72 | CES44 = 99 | CES69 = 91 | CES94 = 64 |
| CES20 = 66 | CES45 = 87 | CES70 = 78 | CES95 = 80 |
| CES21 = 87 | CES46 = 82 | CES71 = 76 | CES96 = 84 |
| CES22 = 79 | CES47 = 77 | CES72 = 92 | CES97 = 87 |
| CES23 = 92 | CES48 = 71 | CES73 = 71 | CES98 = 81 |
| CES24 = 91 | CES49 = 81 | CES74 = 93 | CES99 = 74 |
| CES25 = 72 | CES50 = 89 | CES75 = 74 |            |



Color Rendition by Hue-Angle Bin



**Measure Comparisons**



(END OF REPORT)