

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269

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Peachtree City, GA 30269

Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: STREETWORKS

Report Number: P1457653

Luminaire Tested: GLAN-SB7C-735-U-T2LG-HSS

Issue Date: 05/20/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1457653  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 5/21/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: GLAN-SB7C-735-U-T2LG-HSS  
Description: GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 615mA 7xLight Square PACKAGE 70CRI 3500K FIXTURE w/ TYPE II LOW GLARE WITH HOUSE SIDE SHIELD  
Light Source: (182) 3500K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

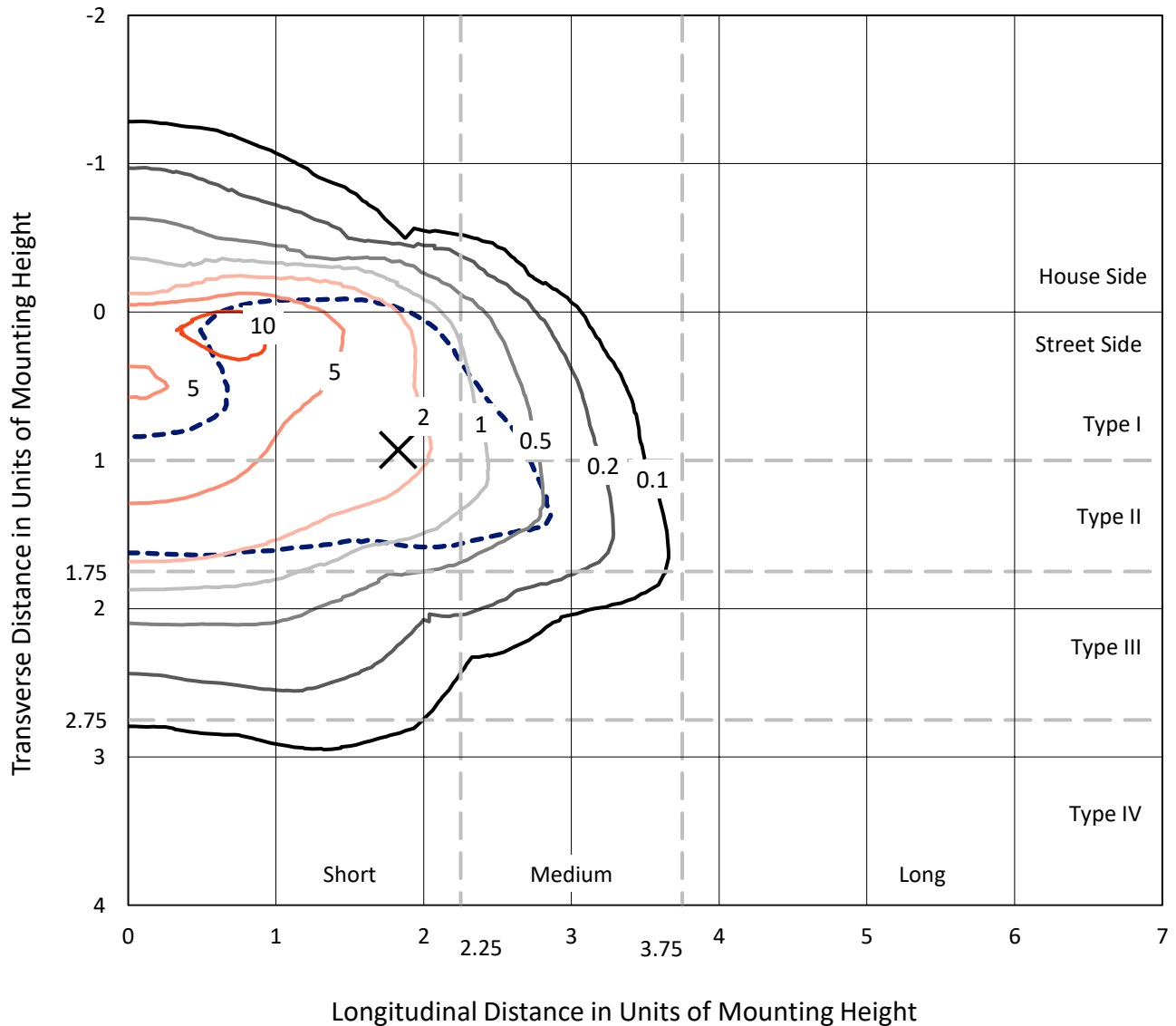
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 38570.5 lumens  
Efficiency: N/A  
Efficacy: 110.0 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1.5' x H: 0')  
IES Classification: Type II - Short  
BUG Rating: B3 - U0 - G4  
  
Input Watts (W): 350.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: 0.97  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT

REPORT NUMBER: P1457653  
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### Iso-Footcandle Lines of Horizontal Illumination

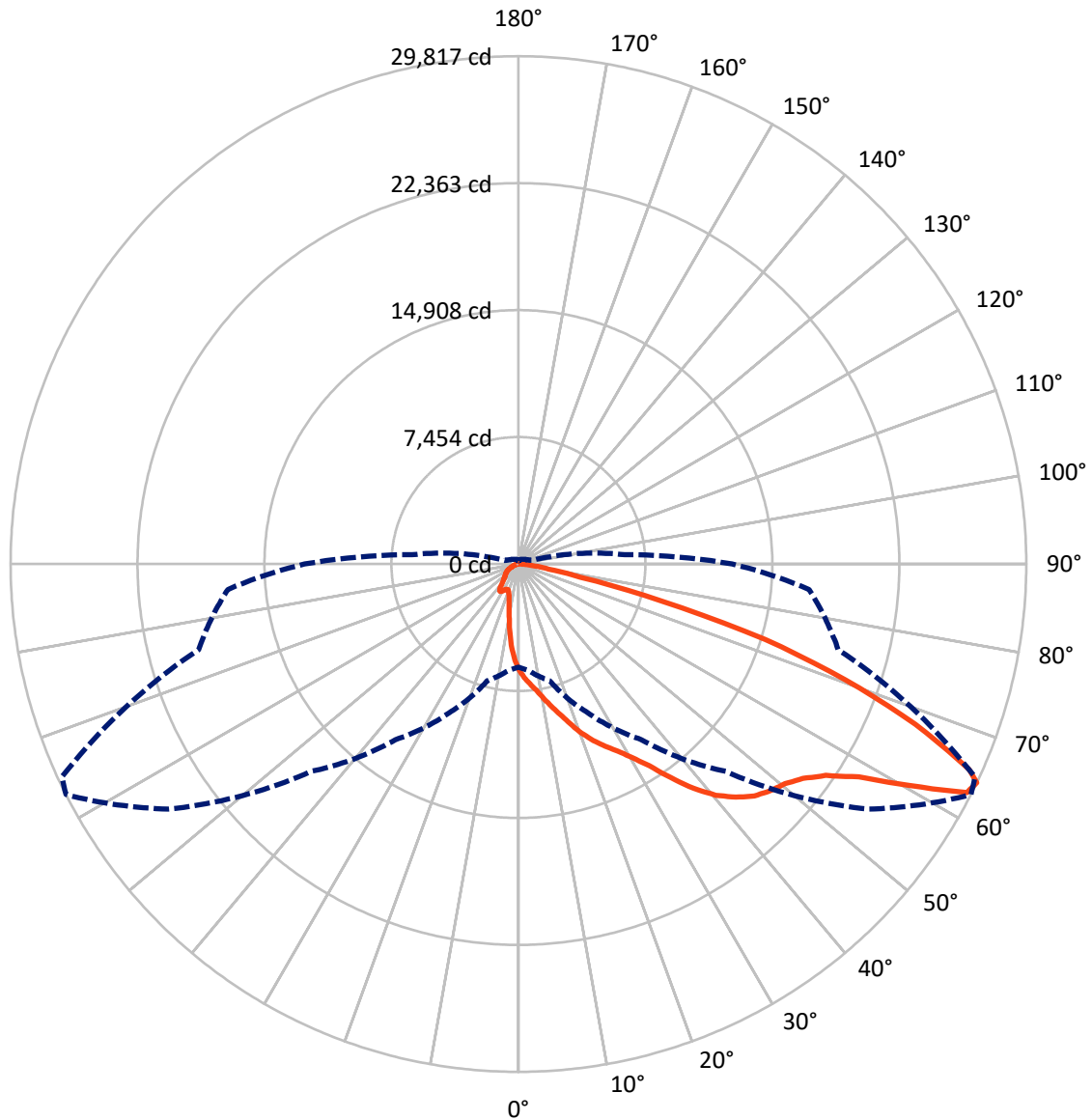
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 12.3 fc  
 Type II - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 63-Deg Lateral      - - - Horizontal Cone Through 64-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 4577.1   | 0.0    | 4577.1  |
|                    | % Fixture | 11.9     | 0.0    | 11.9    |
| <b>Street Side</b> | Lumens    | 33993.5  | 0.0    | 33993.5 |
|                    | % Fixture | 88.1     | 0.0    | 88.1    |
| <b>Total</b>       | Lumens    | 38570.5  | 0.0    | 38570.5 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 525.2   | 1.4       |
| 10°-20°   | 1475.8  | 3.8       |
| 20°-30°   | 2628.4  | 6.8       |
| 30°-40°   | 5020.2  | 13.0      |
| 40°-50°   | 8321.4  | 21.6      |
| 50°-60°   | 10372.6 | 26.9      |
| 60°-70°   | 7734.5  | 20.1      |
| 70°-80°   | 2218.2  | 5.8       |
| 80°-90°   | 274.3   | 0.7       |
| 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°    | 38570.5 | 100.0     |
| 0°-180°   | 38570.5 | 100.0     |



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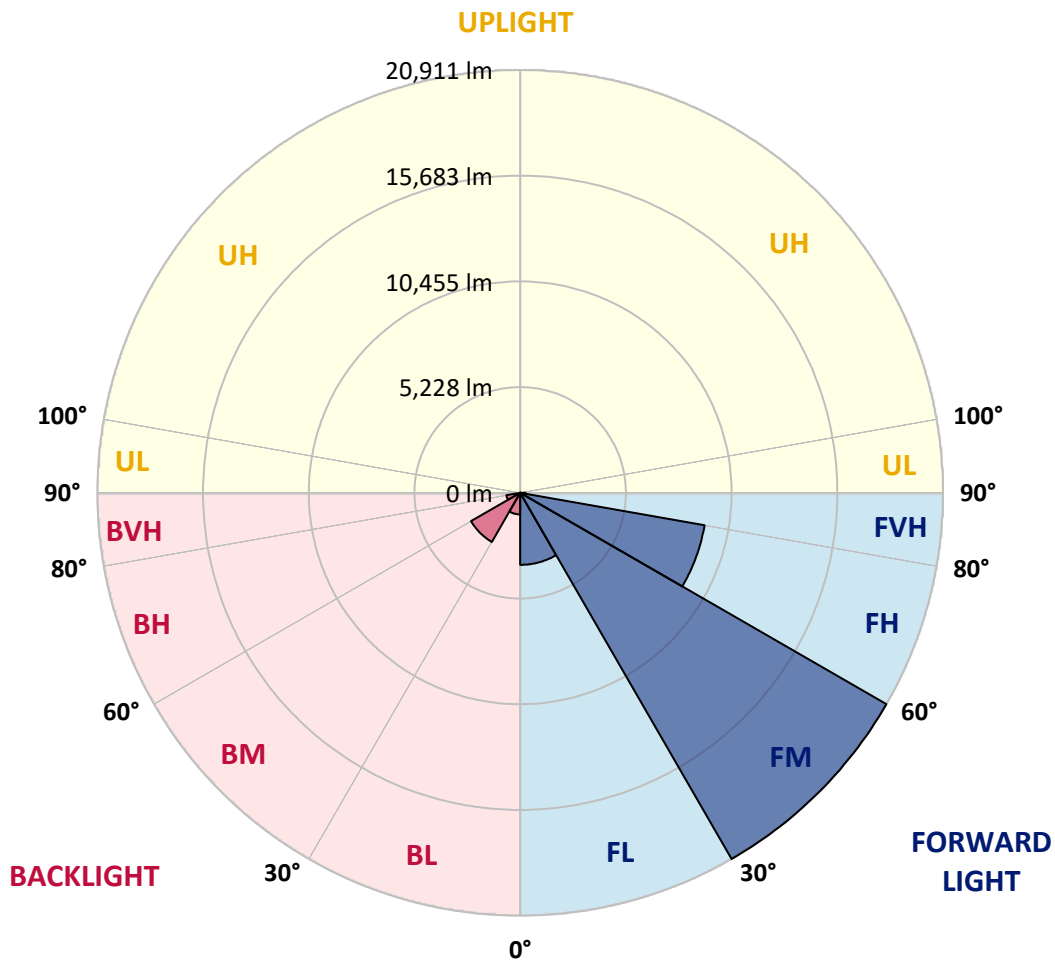
CATALOG NUMBER: GLAN-SB7C-735-U-T2LG-HSS

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

| Zone           | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |          |
|----------------|---------|-----------|-------------------------|------|----------|
|                |         |           | B                       | U    | G        |
| FL (0°-30°)    | 3561.5  | 9.2       |                         |      |          |
| FM (30°-60°)   | 20910.7 | 54.2      |                         |      |          |
| FH (60°-80°)   | 9260.5  | 24.0      |                         |      | G4/12000 |
| FVH (80°-90°)  | 260.8   | 0.7       |                         |      | G3/500   |
| BL (0°-30°)    | 1067.8  | 2.8       | B3/2500                 |      |          |
| BM (30°-60°)   | 2803.5  | 7.3       | B3/5000                 |      |          |
| BH (60°-80°)   | 692.2   | 1.8       | B2/1000                 |      | G2/1000  |
| BVH (80°-90°)  | 13.5    | 0.0       |                         |      | G1/100   |
| UL (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |          |
| UH (100°-180°) | 0.0     | 0.0       |                         | U0/0 |          |

**BUG Rating: B3-U0-G4**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 35°     | 45°     | 55°     | 63°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 6236.4  | 6236.4  | 6236.4  | 6236.4  | 6236.4  | 6236.4  | 6236.4  | 6236.4  | 6236.4  | 6236.4  | 6236.4  |
| 2.5°  | 6988.5  | 6965.3  | 6942.2  | 6907.5  | 6861.2  | 6814.9  | 6757.1  | 6676.1  | 6641.4  | 6525.7  | 6386.8  |
| 5°    | 7347.1  | 7347.1  | 7335.6  | 7312.4  | 7289.3  | 7243.0  | 7173.6  | 7069.5  | 7023.2  | 6861.2  | 6618.2  |
| 7.5°  | 7439.7  | 7451.3  | 7486.0  | 7532.3  | 7601.7  | 7590.1  | 7590.1  | 7474.4  | 7451.3  | 7277.7  | 6953.8  |
| 10°   | 7277.7  | 7289.3  | 7381.9  | 7509.1  | 7717.4  | 7914.1  | 8052.9  | 7983.5  | 7948.8  | 7775.2  | 7370.3  |
| 12.5° | 7046.3  | 7046.3  | 7196.7  | 7393.4  | 7717.4  | 8087.6  | 8492.6  | 8562.0  | 8573.6  | 8376.9  | 7890.9  |
| 15°   | 6444.7  | 6467.8  | 6710.8  | 7104.2  | 7636.4  | 8214.9  | 8897.6  | 9163.7  | 9233.1  | 9105.8  | 8527.3  |
| 17.5° | 5646.3  | 5669.5  | 5912.4  | 6444.7  | 7243.0  | 8214.9  | 9244.7  | 9857.9  | 9950.5  | 9973.6  | 9337.2  |
| 20°   | 5310.8  | 5310.8  | 5449.6  | 5854.6  | 6687.6  | 7995.1  | 9452.9  | 10598.4 | 10806.7 | 11061.2 | 10228.2 |
| 22.5° | 5357.1  | 5357.1  | 5438.0  | 5669.5  | 6340.5  | 7694.3  | 9580.2  | 11257.9 | 11686.0 | 12333.9 | 11373.6 |
| 25°   | 5611.6  | 5611.6  | 5681.0  | 5831.4  | 6375.2  | 7648.0  | 9823.2  | 11848.0 | 12530.6 | 13757.1 | 12681.1 |
| 27.5° | 6016.6  | 6005.0  | 6062.8  | 6213.3  | 6710.8  | 7867.8  | 10228.2 | 12438.1 | 13201.7 | 15353.8 | 14185.2 |
| 30°   | 6606.6  | 6571.9  | 6595.1  | 6768.6  | 7254.6  | 8376.9  | 10818.2 | 13190.2 | 13965.4 | 17100.9 | 15851.3 |
| 32.5° | 7971.9  | 7960.4  | 7624.8  | 7532.3  | 8052.9  | 9198.4  | 11628.2 | 14127.3 | 14995.1 | 18952.2 | 17563.7 |
| 35°   | 10436.4 | 10598.4 | 10124.0 | 8909.1  | 9013.3  | 10297.6 | 12785.2 | 15400.1 | 16198.4 | 20919.1 | 19426.5 |
| 37.5° | 12935.6 | 12935.6 | 12738.9 | 11304.2 | 10575.3 | 11512.5 | 14034.8 | 16707.5 | 17540.6 | 22504.2 | 21219.9 |
| 40°   | 14914.1 | 15018.3 | 14786.9 | 13710.8 | 12762.0 | 12900.9 | 15284.4 | 17853.0 | 18616.6 | 23476.2 | 22492.7 |
| 42.5° | 16383.6 | 16360.4 | 16267.9 | 15562.1 | 15029.8 | 14717.4 | 16418.3 | 18709.2 | 19438.1 | 23973.7 | 23291.0 |
| 45°   | 17968.7 | 17968.7 | 17841.4 | 17262.9 | 16823.2 | 16557.1 | 17262.9 | 19426.5 | 20190.2 | 24274.5 | 23788.6 |
| 47.5° | 19623.2 | 19600.1 | 19472.8 | 18836.5 | 18362.1 | 17968.7 | 18119.1 | 19889.4 | 20653.0 | 24077.8 | 23869.5 |
| 50°   | 20028.2 | 20005.1 | 20294.3 | 20317.5 | 19889.4 | 19137.3 | 18801.7 | 20282.7 | 20953.8 | 24089.4 | 24124.1 |
| 52.5° | 19553.8 | 19692.7 | 20120.8 | 20641.4 | 21127.4 | 20340.6 | 19530.7 | 20907.5 | 21601.8 | 24413.3 | 24760.5 |
| 55°   | 18373.6 | 18431.5 | 19253.0 | 20086.1 | 21219.9 | 21497.6 | 20699.3 | 21902.6 | 22515.8 | 24725.7 | 25327.4 |
| 57.5° | 16175.3 | 16395.1 | 17274.5 | 18720.8 | 20444.7 | 21601.8 | 22735.7 | 23568.7 | 24031.5 | 24853.0 | 25015.0 |
| 60°   | 12206.7 | 12322.4 | 14231.5 | 16105.9 | 18836.5 | 20768.7 | 24633.2 | 26391.9 | 26334.0 | 23418.3 | 22828.2 |
| 62.5° | 7428.1  | 7532.3  | 8897.6  | 11871.1 | 15307.5 | 19033.2 | 25269.6 | 29550.6 | 29238.2 | 21000.1 | 19218.3 |
| 64°   | 6051.3  | 6248.0  | 7092.6  | 9638.1  | 12588.5 | 17216.6 | 25084.4 | 29816.7 | 29573.7 | 19438.1 | 17124.1 |
| 65°   | 5171.9  | 5438.0  | 6305.8  | 8365.3  | 10702.5 | 15261.2 | 24575.3 | 29076.2 | 28914.2 | 18489.4 | 15388.5 |
| 67.5° | 3251.3  | 3378.5  | 4662.8  | 6502.5  | 7370.3  | 9765.3  | 21127.4 | 25142.3 | 25431.5 | 16476.1 | 11350.5 |
| 70°   | 2418.2  | 2476.0  | 3205.0  | 5033.1  | 5750.4  | 5681.0  | 14509.2 | 20363.7 | 20433.2 | 13178.6 | 6849.6  |
| 72.5° | 1758.7  | 1770.3  | 2244.6  | 3725.6  | 4500.8  | 3876.1  | 7648.0  | 15134.0 | 14636.4 | 7717.4  | 3737.2  |
| 75°   | 1168.6  | 1214.9  | 1573.6  | 2626.5  | 3505.8  | 2846.3  | 3482.7  | 8619.9  | 8469.5  | 3771.9  | 2140.5  |
| 77.5° | 856.2   | 867.8   | 1064.5  | 1758.7  | 2753.7  | 2094.2  | 2105.8  | 3714.1  | 3829.8  | 2244.6  | 1353.7  |
| 80°   | 486.0   | 509.1   | 694.2   | 1076.0  | 1793.4  | 1434.7  | 1180.2  | 1793.4  | 2059.5  | 1527.3  | 902.5   |
| 82.5° | 289.3   | 312.4   | 497.5   | 705.8   | 1226.5  | 590.1   | 601.7   | 983.5   | 1226.5  | 1099.2  | 486.0   |
| 85°   | 173.6   | 185.1   | 312.4   | 381.8   | 728.9   | 393.4   | 219.8   | 486.0   | 636.4   | 647.9   | 266.1   |
| 87.5° | 115.7   | 115.7   | 173.6   | 162.0   | 208.3   | 185.1   | 92.6    | 127.3   | 162.0   | 219.8   | 104.1   |
| 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: P1457653

CATALOG NUMBER: GLAN-SB7C-735-U-T2LG-HSS

**CANDELA DISTRIBUTION (continued):**

|       | 90°     | 95°     | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 6236.4  | 6236.4  | 6236.4 | 6236.4 | 6236.4 | 6236.4 | 6236.4 | 6236.4 | 6236.4 | 6236.4 | 6236.4 |
| 2.5°  | 6271.1  | 6201.7  | 5993.4 | 5715.7 | 5461.2 | 5264.5 | 5021.5 | 4859.5 | 4709.1 | 4709.1 | 4581.8 |
| 5°    | 6421.5  | 6236.4  | 5727.3 | 5090.9 | 4408.3 | 3760.3 | 3343.8 | 2881.0 | 2730.6 | 2603.3 | 2626.5 |
| 7.5°  | 6676.1  | 6340.5  | 5438.0 | 4292.6 | 3205.0 | 2510.8 | 2047.9 | 1839.7 | 1747.1 | 1689.3 | 1700.8 |
| 10°   | 6988.5  | 6525.7  | 5090.9 | 3482.7 | 2360.3 | 1839.7 | 1619.8 | 1538.9 | 1504.1 | 1492.6 | 1492.6 |
| 12.5° | 7416.6  | 6745.5  | 4743.8 | 2800.0 | 1862.8 | 1585.1 | 1469.4 | 1423.1 | 1388.4 | 1365.3 | 1365.3 |
| 15°   | 7925.7  | 7023.2  | 4338.9 | 2302.5 | 1631.4 | 1457.9 | 1365.3 | 1319.0 | 1272.7 | 1261.2 | 1261.2 |
| 17.5° | 8573.6  | 7312.4  | 3980.2 | 1978.5 | 1515.7 | 1365.3 | 1272.7 | 1214.9 | 1180.2 | 1168.6 | 1168.6 |
| 20°   | 9291.0  | 7671.1  | 3621.5 | 1793.4 | 1434.7 | 1272.7 | 1180.2 | 1133.9 | 1099.2 | 1076.0 | 1087.6 |
| 22.5° | 10205.0 | 8122.4  | 3390.1 | 1700.8 | 1365.3 | 1191.7 | 1099.2 | 1052.9 | 1018.2 | 995.0  | 1006.6 |
| 25°   | 11211.6 | 8689.3  | 3262.8 | 1700.8 | 1319.0 | 1133.9 | 1029.8 | 983.5  | 948.8  | 925.6  | 925.6  |
| 27.5° | 12438.1 | 9325.7  | 3274.4 | 1770.3 | 1307.4 | 1087.6 | 971.9  | 925.6  | 890.9  | 856.2  | 856.2  |
| 30°   | 13791.8 | 10077.7 | 3401.7 | 1897.5 | 1330.6 | 1041.3 | 925.6  | 856.2  | 833.1  | 798.4  | 798.4  |
| 32.5° | 15226.5 | 10945.5 | 3725.6 | 2059.5 | 1307.4 | 983.5  | 856.2  | 798.4  | 763.6  | 740.5  | 740.5  |
| 35°   | 16742.2 | 11929.0 | 4130.6 | 2128.9 | 1191.7 | 902.5  | 798.4  | 740.5  | 717.4  | 705.8  | 694.2  |
| 37.5° | 18188.5 | 12785.2 | 4350.4 | 1990.1 | 1041.3 | 833.1  | 728.9  | 671.1  | 659.5  | 636.4  | 636.4  |
| 40°   | 19310.8 | 13491.0 | 4223.2 | 1700.8 | 960.3  | 763.6  | 671.1  | 613.2  | 590.1  | 566.9  | 566.9  |
| 42.5° | 19970.4 | 13745.5 | 3760.3 | 1446.3 | 902.5  | 694.2  | 613.2  | 555.4  | 532.2  | 520.7  | 520.7  |
| 45°   | 20352.2 | 13710.8 | 3216.5 | 1295.9 | 844.6  | 636.4  | 555.4  | 520.7  | 486.0  | 474.4  | 462.8  |
| 47.5° | 20340.6 | 13352.1 | 2823.2 | 1168.6 | 786.8  | 590.1  | 520.7  | 486.0  | 451.2  | 439.7  | 439.7  |
| 50°   | 20259.6 | 12819.9 | 2383.5 | 1076.0 | 740.5  | 555.4  | 486.0  | 462.8  | 428.1  | 416.5  | 405.0  |
| 52.5° | 20456.3 | 12519.1 | 1990.1 | 1018.2 | 682.6  | 532.2  | 474.4  | 439.7  | 393.4  | 381.8  | 381.8  |
| 55°   | 20699.3 | 12345.5 | 1596.7 | 960.3  | 636.4  | 520.7  | 451.2  | 416.5  | 370.2  | 358.7  | 358.7  |
| 57.5° | 19993.5 | 11686.0 | 1319.0 | 867.8  | 578.5  | 497.5  | 428.1  | 405.0  | 358.7  | 324.0  | 324.0  |
| 60°   | 17772.0 | 9661.2  | 1087.6 | 763.6  | 532.2  | 462.8  | 405.0  | 370.2  | 324.0  | 277.7  | 277.7  |
| 62.5° | 14451.3 | 7370.3  | 902.5  | 647.9  | 497.5  | 428.1  | 370.2  | 335.5  | 277.7  | 219.8  | 219.8  |
| 64°   | 12553.8 | 6259.5  | 809.9  | 566.9  | 474.4  | 393.4  | 335.5  | 300.8  | 243.0  | 185.1  | 173.6  |
| 65°   | 11257.9 | 5530.6  | 752.1  | 532.2  | 462.8  | 370.2  | 324.0  | 289.3  | 219.8  | 173.6  | 162.0  |
| 67.5° | 7925.7  | 3714.1  | 601.7  | 439.7  | 405.0  | 312.4  | 277.7  | 243.0  | 196.7  | 150.4  | 138.8  |
| 70°   | 4616.6  | 2105.8  | 474.4  | 370.2  | 312.4  | 243.0  | 231.4  | 219.8  | 173.6  | 115.7  | 115.7  |
| 72.5° | 2510.8  | 1052.9  | 358.7  | 300.8  | 243.0  | 173.6  | 196.7  | 173.6  | 138.8  | 92.6   | 81.0   |
| 75°   | 1538.9  | 647.9   | 266.1  | 219.8  | 162.0  | 127.3  | 150.4  | 127.3  | 81.0   | 57.9   | 46.3   |
| 77.5° | 1029.8  | 416.5   | 196.7  | 150.4  | 104.1  | 81.0   | 104.1  | 69.4   | 34.7   | 11.6   | 11.6   |
| 80°   | 636.4   | 289.3   | 127.3  | 92.6   | 57.9   | 34.7   | 23.1   | 11.6   | 11.6   | 0.0    | 0.0    |
| 82.5° | 277.7   | 185.1   | 69.4   | 46.3   | 23.1   | 11.6   | 11.6   | 0.0    | 0.0    | 0.0    | 0.0    |
| 85°   | 150.4   | 57.9    | 23.1   | 11.6   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 46.3    | 23.1    | 11.6   | 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    |

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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

Report Prepared for

Cooper Lighting Solutions

McGraw-Edison

Report Number: SP1-2407-184-5

Test Date: 10/10/2024

Luminaire Tested: GSS-SB1A-735-U-5WQ

Data in this report applies to families of products including GSS-SB1A-735-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-5  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry: 4π  
 Issue Date: 10/15/2024  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: McGraw-Edison  
 Catalog Number: **GSS-SB1A-735-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 3500K CCT 26 LEDS

**Spectral Parameters**

CCT (K): 3369  
 CIE u': 0.2386  
 CIE v': 0.5156  
 Duv: 0.0013  
 CIE x: 0.4143  
 CIE y: 0.3980  
 CIE z: 0.1877  
 Peak Wavelength (nm): 590  
 Dominant Wavelength (nm): 580  
 Purity: 43.80166  
 Rf: 71.4  
 Rg: 96

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 70.1 |      |       |
| R1:       | 66.6 | R9:  | -40.2 |
| R2:       | 77.6 | R10: | 49.1  |
| R3:       | 88.5 | R11: | 66.3  |
| R4:       | 69.5 | R12: | 45.7  |
| R5:       | 66.4 | R13: | 68.0  |
| R6:       | 69.6 | R14: | 93.4  |
| R7:       | 77.5 | R15: | 57.6  |
| R8:       | 44.9 |      |       |



**Test Conditions**

Stabilization Time: 21M  
 Operation Time: 1H 21M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-5

| 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           |

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CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 3500K 4-step quadrangle

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**Photopic Flux vs. Wavelength**



**Photopic Lumens: NR**

| 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    | 119                      | NR            | 620    | 778                      | NR            | 750    | 19                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 173                      | NR            | 625    | 711                      | NR            | 755    | 16                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 239                      | NR            | 630    | 648                      | NR            | 760    | 14                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 313                      | NR            | 635    | 582                      | NR            | 765    | 12                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 383                      | NR            | 640    | 520                      | NR            | 770    | 11                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 448                      | NR            | 645    | 460                      | NR            | 775    | 9                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 500                      | NR            | 650    | 406                      | NR            | 780    | 8                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 539                      | NR            | 655    | 355                      | NR            | 785    | 7                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 575                      | NR            | 660    | 309                      | NR            | 790    | 6                        | NR            | 920    | 0                        | NR            |
| 405    | 11                       | NR            | 535    | 606                      | NR            | 665    | 269                      | NR            | 795    | 5                        | NR            | 925    | 0                        | NR            |
| 410    | 22                       | NR            | 540    | 633                      | NR            | 670    | 231                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 45                       | NR            | 545    | 666                      | NR            | 675    | 199                      | NR            | 805    | 4                        | NR            | 935    | 0                        | NR            |
| 420    | 96                       | NR            | 550    | 701                      | NR            | 680    | 171                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 193                      | NR            | 555    | 743                      | NR            | 685    | 147                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 341                      | NR            | 560    | 788                      | NR            | 690    | 126                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 547                      | NR            | 565    | 837                      | NR            | 695    | 107                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 799                      | NR            | 570    | 887                      | NR            | 700    | 92                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 831                      | NR            | 575    | 931                      | NR            | 705    | 78                       | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 461                      | NR            | 580    | 967                      | NR            | 710    | 67                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 256                      | NR            | 585    | 990                      | NR            | 715    | 57                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 176                      | NR            | 590    | 1000                     | NR            | 720    | 49                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 107                      | NR            | 595    | 994                      | NR            | 725    | 42                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 74                       | NR            | 600    | 973                      | NR            | 730    | 36                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 67                       | NR            | 605    | 938                      | NR            | 735    | 31                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 68                       | NR            | 610    | 892                      | NR            | 740    | 26                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 84                       | NR            | 615    | 838                      | NR            | 745    | 22                       | NR            | 875    | 1                        | NR            |        |                          |               |

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.29**

| 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    | 119                      | NR            | 620    | 778                      | NR            | 750    | 19                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 173                      | NR            | 625    | 711                      | NR            | 755    | 16                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 239                      | NR            | 630    | 648                      | NR            | 760    | 14                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 313                      | NR            | 635    | 582                      | NR            | 765    | 12                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 383                      | NR            | 640    | 520                      | NR            | 770    | 11                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 448                      | NR            | 645    | 460                      | NR            | 775    | 9                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 500                      | NR            | 650    | 406                      | NR            | 780    | 8                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 539                      | NR            | 655    | 355                      | NR            | 785    | 7                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 575                      | NR            | 660    | 309                      | NR            | 790    | 6                        | NR            | 920    | 0                        | NR            |
| 405    | 11                       | NR            | 535    | 606                      | NR            | 665    | 269                      | NR            | 795    | 5                        | NR            | 925    | 0                        | NR            |
| 410    | 22                       | NR            | 540    | 633                      | NR            | 670    | 231                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 45                       | NR            | 545    | 666                      | NR            | 675    | 199                      | NR            | 805    | 4                        | NR            | 935    | 0                        | NR            |
| 420    | 96                       | NR            | 550    | 701                      | NR            | 680    | 171                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 193                      | NR            | 555    | 743                      | NR            | 685    | 147                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 341                      | NR            | 560    | 788                      | NR            | 690    | 126                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 547                      | NR            | 565    | 837                      | NR            | 695    | 107                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 799                      | NR            | 570    | 887                      | NR            | 700    | 92                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 831                      | NR            | 575    | 931                      | NR            | 705    | 78                       | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 461                      | NR            | 580    | 967                      | NR            | 710    | 67                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 256                      | NR            | 585    | 990                      | NR            | 715    | 57                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 176                      | NR            | 590    | 1000                     | NR            | 720    | 49                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 107                      | NR            | 595    | 994                      | NR            | 725    | 42                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 74                       | NR            | 600    | 973                      | NR            | 730    | 36                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 67                       | NR            | 605    | 938                      | NR            | 735    | 31                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 68                       | NR            | 610    | 892                      | NR            | 740    | 26                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 84                       | NR            | 615    | 838                      | NR            | 745    | 22                       | NR            | 875    | 1                        | NR            |        |                          |               |

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.36

| 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    | 119                      | NR            | 620    | 778                      | NR            | 750    | 19                       | NR            | 880    | 1                        | NR            |
| 365    | 0                        | NR            | 495    | 173                      | NR            | 625    | 711                      | NR            | 755    | 16                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 239                      | NR            | 630    | 648                      | NR            | 760    | 14                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 313                      | NR            | 635    | 582                      | NR            | 765    | 12                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 383                      | NR            | 640    | 520                      | NR            | 770    | 11                       | NR            | 900    | 0                        | NR            |
| 385    | 0                        | NR            | 515    | 448                      | NR            | 645    | 460                      | NR            | 775    | 9                        | NR            | 905    | 0                        | NR            |
| 390    | 2                        | NR            | 520    | 500                      | NR            | 650    | 406                      | NR            | 780    | 8                        | NR            | 910    | 0                        | NR            |
| 395    | 4                        | NR            | 525    | 539                      | NR            | 655    | 355                      | NR            | 785    | 7                        | NR            | 915    | 0                        | NR            |
| 400    | 6                        | NR            | 530    | 575                      | NR            | 660    | 309                      | NR            | 790    | 6                        | NR            | 920    | 0                        | NR            |
| 405    | 11                       | NR            | 535    | 606                      | NR            | 665    | 269                      | NR            | 795    | 5                        | NR            | 925    | 0                        | NR            |
| 410    | 22                       | NR            | 540    | 633                      | NR            | 670    | 231                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 45                       | NR            | 545    | 666                      | NR            | 675    | 199                      | NR            | 805    | 4                        | NR            | 935    | 0                        | NR            |
| 420    | 96                       | NR            | 550    | 701                      | NR            | 680    | 171                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 193                      | NR            | 555    | 743                      | NR            | 685    | 147                      | NR            | 815    | 3                        | NR            | 945    | 0                        | NR            |
| 430    | 341                      | NR            | 560    | 788                      | NR            | 690    | 126                      | NR            | 820    | 3                        | NR            | 950    | 0                        | NR            |
| 435    | 547                      | NR            | 565    | 837                      | NR            | 695    | 107                      | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 799                      | NR            | 570    | 887                      | NR            | 700    | 92                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 831                      | NR            | 575    | 931                      | NR            | 705    | 78                       | NR            | 835    | 2                        | NR            | 965    | 0                        | NR            |
| 450    | 461                      | NR            | 580    | 967                      | NR            | 710    | 67                       | NR            | 840    | 2                        | NR            | 970    | 0                        | NR            |
| 455    | 256                      | NR            | 585    | 990                      | NR            | 715    | 57                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 176                      | NR            | 590    | 1000                     | NR            | 720    | 49                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 107                      | NR            | 595    | 994                      | NR            | 725    | 42                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 74                       | NR            | 600    | 973                      | NR            | 730    | 36                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 67                       | NR            | 605    | 938                      | NR            | 735    | 31                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 68                       | NR            | 610    | 892                      | NR            | 740    | 26                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 84                       | NR            | 615    | 838                      | NR            | 745    | 22                       | NR            | 875    | 1                        | NR            |        |                          |               |

**Summary**

$R_f = 71.4$   
 $R_g = 96$   
 $CIE R_a = 70.1$   
 $R_9 = -40.2$



**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 57 | CES51 = 84 | CES76 = 50 |
| CES02 = 62 | CES27 = 80 | CES52 = 86 | CES77 = 74 |
| CES03 = 31 | CES28 = 81 | CES53 = 72 | CES78 = 54 |
| CES04 = 70 | CES29 = 50 | CES54 = 79 | CES79 = 81 |
| CES05 = 48 | CES30 = 55 | CES55 = 78 | CES80 = 79 |
| CES06 = 51 | CES31 = 56 | CES56 = 67 | CES81 = 74 |
| CES07 = 40 | CES32 = 54 | CES57 = 65 | CES82 = 91 |
| CES08 = 39 | CES33 = 60 | CES58 = 68 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 85 | CES84 = 89 |
| CES10 = 75 | CES35 = 83 | CES60 = 91 | CES85 = 83 |
| CES11 = 58 | CES36 = 88 | CES61 = 85 | CES86 = 66 |
| CES12 = 64 | CES37 = 78 | CES62 = 78 | CES87 = 77 |
| CES13 = 43 | CES38 = 64 | CES63 = 71 | CES88 = 75 |
| CES14 = 74 | CES39 = 92 | CES64 = 70 | CES89 = 68 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 72 |
| CES16 = 47 | CES41 = 81 | CES66 = 65 | CES91 = 95 |
| CES17 = 50 | CES42 = 79 | CES67 = 63 | CES92 = 62 |
| CES18 = 56 | CES43 = 71 | CES68 = 69 | CES93 = 78 |
| CES19 = 72 | CES44 = 98 | CES69 = 80 | CES94 = 51 |
| CES20 = 65 | CES45 = 80 | CES70 = 60 | CES95 = 70 |
| CES21 = 87 | CES46 = 75 | CES71 = 58 | CES96 = 76 |
| CES22 = 79 | CES47 = 71 | CES72 = 85 | CES97 = 82 |
| CES23 = 92 | CES48 = 61 | CES73 = 51 | CES98 = 72 |
| CES24 = 91 | CES49 = 74 | CES74 = 94 | CES99 = 60 |
| CES25 = 72 | CES50 = 83 | CES75 = 57 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)