

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

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1121 Highway 74 South  
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: P1456924

Luminaire Tested: GLAN-SB5B-740-U-T4LG

Issue Date: 05/20/2026

**Test Information**

Test Method: LM-79-2024  
Report Number: P1456924  
Test Lab: INNOVATION CENTER(G1)  
Issue Date: 5/21/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: STREETWORKS  
Catalog Number: GLAN-SB5B-740-U-T4LG  
Description: GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 450mA 5xLight Square  
PACKAGE 70CRI 4000K FIXTURE w/ TYPE IV LOW GLARE  
Light Source: (130) 4000K CCT, 70 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

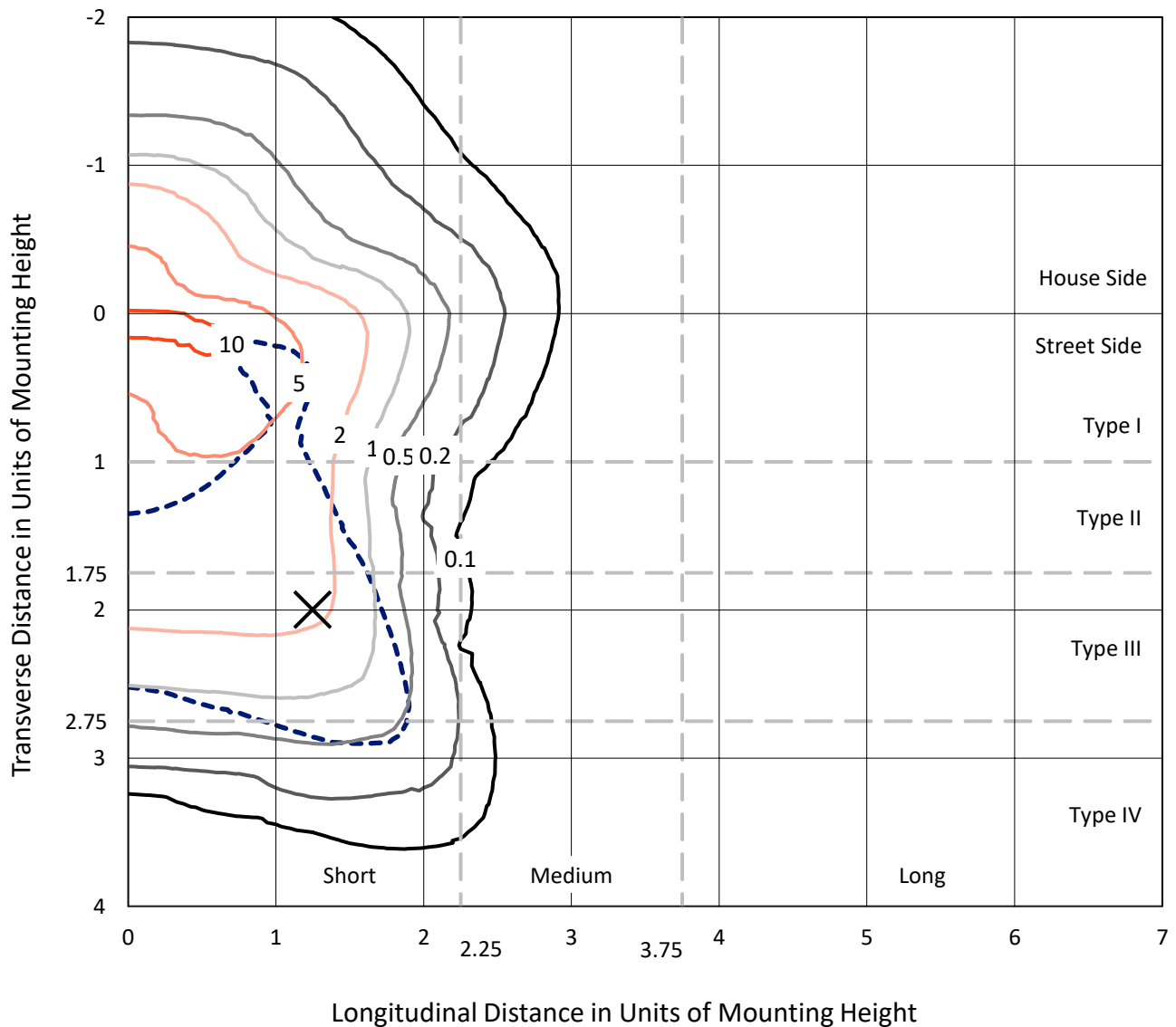
Lumens per Lamp: N/A  
Luminaire Lumens: 29451.6 lumens  
Efficiency: N/A  
Efficacy: 161.2 lumens/watt  
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short  
BUG Rating: B3 - U0 - G3  
  
Input Watts (W): 182.7  
Input Voltage (V): 120  
Input Current (Ain): 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

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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

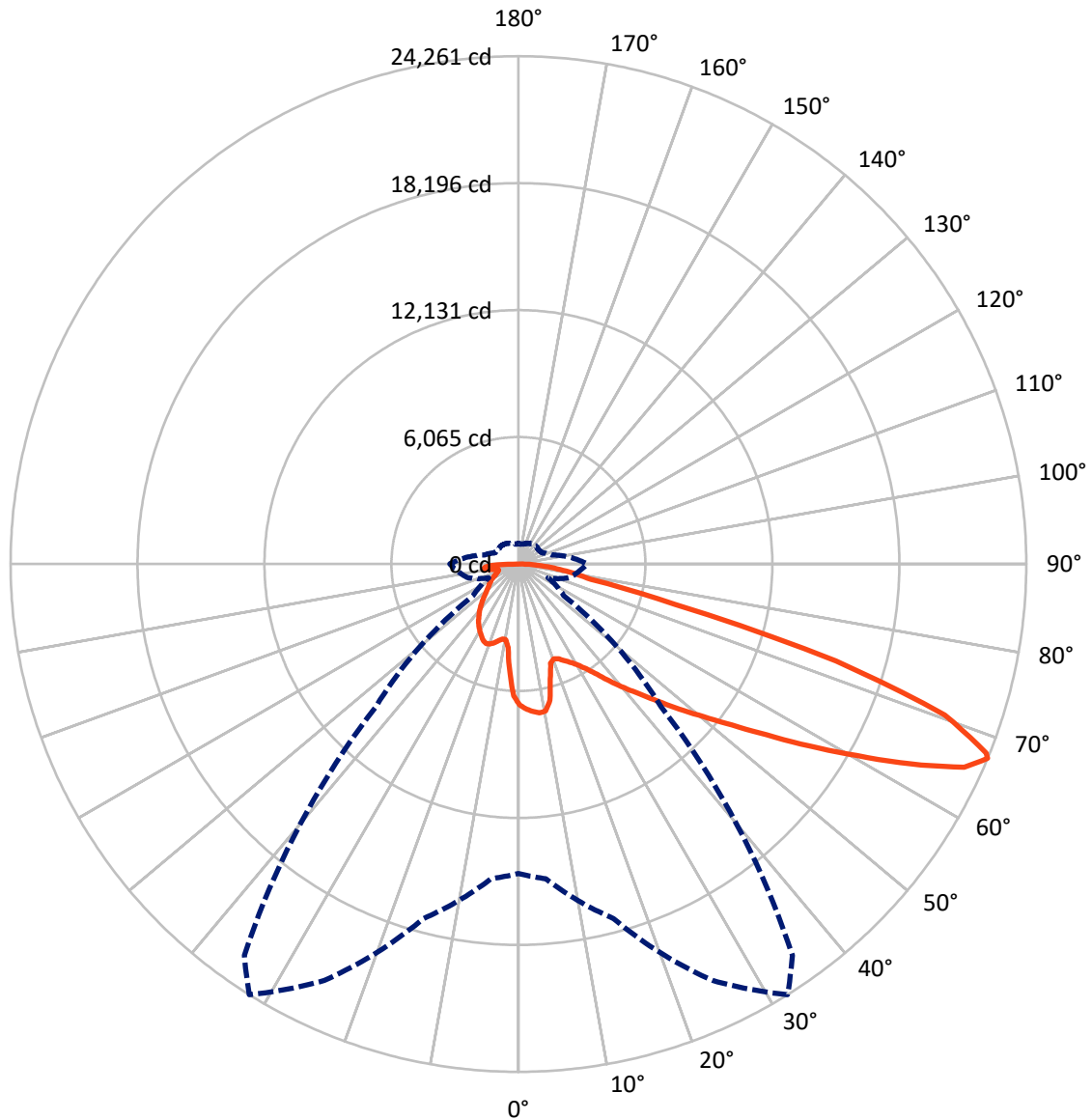


Based on 25 foot mounting height. Maximum calculated value = 11.6 fc  
 Type IV - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 32-Deg Lateral      - - - Horizontal Cone Through 67-Deg Vertical

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**FLUX DISTRIBUTION:**

|                    |           | Downward | Upward | Total   |
|--------------------|-----------|----------|--------|---------|
| <b>House Side</b>  | Lumens    | 6972.6   | 0.0    | 6972.6  |
|                    | % Fixture | 23.7     | 0.0    | 23.7    |
| <b>Street Side</b> | Lumens    | 22479.0  | 0.0    | 22479.0 |
|                    | % Fixture | 76.3     | 0.0    | 76.3    |
| <b>Total</b>       | Lumens    | 29451.6  | 0.0    | 29451.6 |
|                    | % Fixture | 100.0    | 0.0    | 100.0   |

**Coefficient of Utilization**

**ZONAL LUMENS:**

| Zone      | Lumens  | % Fixture |
|-----------|---------|-----------|
| 0°-10°    | 588.0   | 2.0       |
| 10°-20°   | 1561.1  | 5.3       |
| 20°-30°   | 2549.3  | 8.7       |
| 30°-40°   | 3757.5  | 12.8      |
| 40°-50°   | 5181.7  | 17.6      |
| 50°-60°   | 6546.1  | 22.2      |
| 60°-70°   | 6335.4  | 21.5      |
| 70°-80°   | 2261.1  | 7.7       |
| 80°-90°   | 671.4   | 2.3       |
| 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°    | 29451.6 | 100.0     |
| 0°-180°   | 29451.6 | 100.0     |



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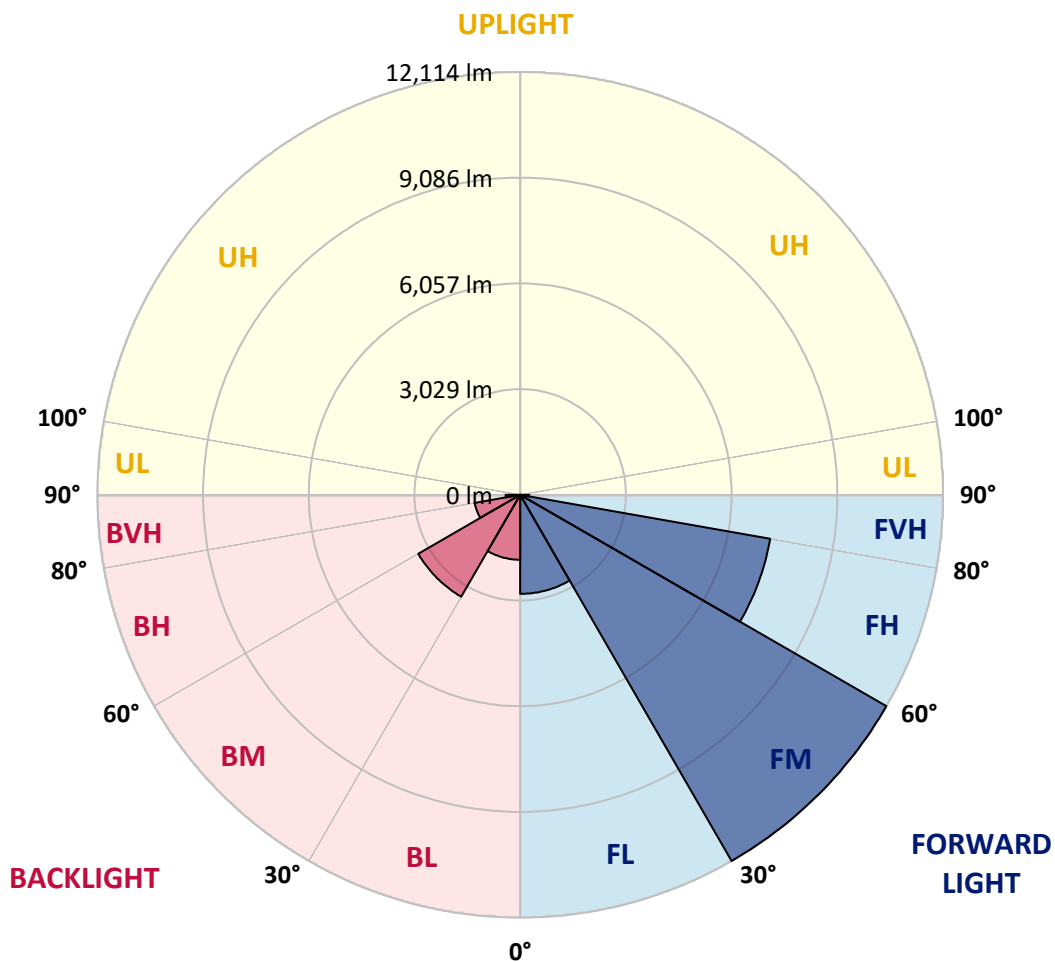
CATALOG NUMBER: GLAN-SB5B-740-U-T4LG

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

| Zone           | Lumens  | % Fixture | Zone Rating/Lumen Limit |      |         |
|----------------|---------|-----------|-------------------------|------|---------|
|                |         |           | B                       | U    | G       |
| FL (0°-30°)    | 2837.7  | 9.6       |                         |      |         |
| FM (30°-60°)   | 12114.4 | 41.1      |                         |      |         |
| FH (60°-80°)   | 7273.9  | 24.7      |                         |      | G3/7500 |
| FVH (80°-90°)  | 253.0   | 0.9       |                         |      | G3/500  |
| BL (0°-30°)    | 1860.6  | 6.3       | B3/2500                 |      |         |
| BM (30°-60°)   | 3370.9  | 11.4      | B3/5000                 |      |         |
| BH (60°-80°)   | 1322.6  | 4.5       | B3/2500                 |      | G3/2500 |
| BVH (80°-90°)  | 418.4   | 1.4       |                         |      | G3/500  |
| UL (90°-100°)  | 0.0     | 0.0       |                         | U0/0 |         |
| UH (100°-180°) | 0.0     | 0.0       |                         | U0/0 |         |

**BUG Rating: B3-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

|       | 0°      | 5°      | 15°     | 25°     | 32°     | 35°     | 45°     | 55°     | 65°     | 75°     | 85°     |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0°    | 6729.1  | 6729.1  | 6729.1  | 6729.1  | 6729.1  | 6729.1  | 6729.1  | 6729.1  | 6729.1  | 6729.1  | 6729.1  |
| 2.5°  | 6984.1  | 6964.5  | 6944.9  | 6958.0  | 6931.8  | 6925.3  | 6892.6  | 6879.5  | 6840.3  | 6833.7  | 6761.8  |
| 5°    | 7128.0  | 7088.8  | 7082.2  | 7095.3  | 7069.2  | 7069.2  | 7043.0  | 7023.4  | 6964.5  | 6931.8  | 6827.2  |
| 7.5°  | 7128.0  | 7121.5  | 7134.6  | 7180.3  | 7186.9  | 7186.9  | 7186.9  | 7193.4  | 7134.6  | 7088.8  | 6925.3  |
| 10°   | 6722.6  | 6657.2  | 6801.0  | 7029.9  | 7141.1  | 7206.5  | 7324.2  | 7396.1  | 7350.4  | 7317.7  | 7095.3  |
| 12.5° | 5512.8  | 5519.3  | 5748.2  | 6238.6  | 6683.3  | 6873.0  | 7363.4  | 7625.0  | 7644.6  | 7592.3  | 7311.1  |
| 15°   | 4675.7  | 4708.4  | 4826.1  | 5179.3  | 5689.3  | 5970.5  | 7134.6  | 7827.7  | 7984.7  | 7932.4  | 7572.7  |
| 17.5° | 4420.7  | 4440.3  | 4492.6  | 4695.3  | 4983.1  | 5212.0  | 6513.3  | 7958.5  | 8396.7  | 8331.3  | 7867.0  |
| 20°   | 4381.4  | 4394.5  | 4459.9  | 4629.9  | 4826.1  | 4956.9  | 5879.0  | 7853.9  | 8782.5  | 8756.3  | 8135.1  |
| 22.5° | 4388.0  | 4401.1  | 4486.1  | 4721.5  | 4924.2  | 5035.4  | 5676.3  | 7611.9  | 9187.9  | 9214.1  | 8409.8  |
| 25°   | 4401.1  | 4407.6  | 4538.4  | 4852.3  | 5107.3  | 5244.6  | 5807.0  | 7396.1  | 9528.0  | 9750.3  | 8710.6  |
| 27.5° | 4473.0  | 4492.6  | 4669.2  | 5022.3  | 5323.1  | 5480.1  | 6114.4  | 7468.1  | 9900.7  | 10358.5 | 9070.2  |
| 30°   | 4669.2  | 4682.3  | 4898.1  | 5264.3  | 5591.2  | 5754.7  | 6480.6  | 7755.8  | 10358.5 | 10986.3 | 9423.4  |
| 32.5° | 4976.5  | 4989.6  | 5238.1  | 5617.4  | 5970.5  | 6166.7  | 6958.0  | 8305.1  | 10868.6 | 11646.8 | 9776.5  |
| 35°   | 5401.6  | 5408.1  | 5689.3  | 6094.8  | 6467.5  | 6689.9  | 7513.8  | 8926.4  | 11398.3 | 12209.2 | 10038.1 |
| 37.5° | 5905.1  | 5950.9  | 6238.6  | 6663.7  | 7101.9  | 7304.6  | 8167.8  | 9652.2  | 11869.1 | 12686.6 | 10188.5 |
| 40°   | 6598.3  | 6611.4  | 6892.6  | 7304.6  | 7768.9  | 7965.1  | 8821.7  | 10338.9 | 12385.7 | 12967.8 | 10325.8 |
| 42.5° | 7311.1  | 7422.3  | 7657.7  | 8115.5  | 8462.1  | 8619.0  | 9567.2  | 10966.7 | 12797.7 | 12980.8 | 10267.0 |
| 45°   | 8265.9  | 8350.9  | 8586.3  | 8991.8  | 9338.4  | 9521.5  | 10371.6 | 11542.2 | 13007.0 | 12869.7 | 10136.2 |
| 47.5° | 9358.0  | 9410.3  | 9599.9  | 9966.1  | 10352.0 | 10482.8 | 11208.6 | 11869.1 | 13085.5 | 12791.2 | 10077.3 |
| 50°   | 10646.2 | 10646.2 | 10783.6 | 11097.5 | 11450.6 | 11633.7 | 11980.3 | 12065.3 | 13314.3 | 12653.9 | 10227.7 |
| 52.5° | 11731.8 | 11784.1 | 11967.2 | 12411.9 | 12765.0 | 12974.3 | 12581.9 | 12366.1 | 12850.0 | 11888.7 | 10273.5 |
| 55°   | 12771.6 | 12830.4 | 13242.4 | 13798.3 | 14399.9 | 14628.8 | 13334.0 | 12215.7 | 11287.1 | 10770.5 | 9959.6  |
| 57.5° | 13765.6 | 13889.8 | 14406.4 | 15492.0 | 16401.0 | 16381.4 | 14288.7 | 10868.6 | 9214.1  | 9534.5  | 9273.0  |
| 60°   | 15151.9 | 15282.7 | 16106.7 | 17473.4 | 18585.2 | 18120.9 | 14301.8 | 9044.1  | 7180.3  | 7611.9  | 7984.7  |
| 62.5° | 16309.4 | 16531.8 | 17741.6 | 20017.3 | 21037.5 | 20311.6 | 13118.2 | 6925.3  | 4767.3  | 5310.0  | 6173.3  |
| 65°   | 16204.8 | 16499.1 | 18375.9 | 21887.6 | 23411.3 | 22737.7 | 11385.2 | 4381.4  | 2458.8  | 3629.4  | 4322.6  |
| 67°   | 14779.2 | 15099.6 | 17532.3 | 21953.0 | 24261.4 | 22822.7 | 9613.0  | 2648.5  | 1562.9  | 2517.7  | 3001.6  |
| 67.5° | 13961.8 | 14432.6 | 17113.8 | 21828.7 | 24104.5 | 22463.1 | 8815.2  | 2216.9  | 1471.4  | 2341.1  | 2733.5  |
| 70°   | 8586.3  | 9344.9  | 12843.5 | 19298.0 | 21606.4 | 18801.0 | 4898.1  | 1255.6  | 1196.7  | 1569.5  | 1889.9  |
| 72.5° | 2583.1  | 2812.0  | 4956.9  | 12379.2 | 15858.2 | 13935.6 | 2203.8  | 967.8   | 1072.5  | 1262.1  | 1458.3  |
| 75°   | 1255.6  | 1340.6  | 2046.9  | 5061.5  | 7723.1  | 7683.9  | 1229.4  | 830.5   | 994.0   | 1059.4  | 1150.9  |
| 77.5° | 804.4   | 856.7   | 1275.2  | 2831.6  | 3537.8  | 3152.0  | 889.4   | 725.9   | 882.8   | 869.7   | 856.7   |
| 80°   | 503.5   | 529.7   | 817.4   | 1641.4  | 2609.2  | 2177.6  | 653.9   | 595.1   | 758.6   | 673.6   | 608.2   |
| 82.5° | 327.0   | 359.7   | 523.2   | 1000.5  | 1863.7  | 1621.8  | 431.6   | 425.1   | 627.8   | 536.2   | 470.8   |
| 85°   | 215.8   | 242.0   | 333.5   | 588.6   | 1105.2  | 1157.5  | 281.2   | 294.3   | 483.9   | 405.4   | 359.7   |
| 87.5° | 78.5    | 98.1    | 170.0   | 261.6   | 516.6   | 640.9   | 117.7   | 111.2   | 235.4   | 189.6   | 150.4   |
| 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: P1456924

CATALOG NUMBER: GLAN-SB5B-740-U-T4LG

**CANDELA DISTRIBUTION (continued):**

|       | 90°    | 95°    | 105°   | 115°   | 125°   | 135°   | 145°   | 155°   | 165°   | 175°   | 180°   |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0°    | 6729.1 | 6729.1 | 6729.1 | 6729.1 | 6729.1 | 6729.1 | 6729.1 | 6729.1 | 6729.1 | 6729.1 | 6729.1 |
| 2.5°  | 6748.7 | 6729.1 | 6637.6 | 6559.1 | 6500.2 | 6421.8 | 6336.7 | 6238.6 | 6173.3 | 6186.3 | 6166.7 |
| 5°    | 6781.4 | 6729.1 | 6552.5 | 6284.4 | 6022.8 | 5695.9 | 5277.3 | 5028.8 | 4839.2 | 4741.1 | 4767.3 |
| 7.5°  | 6853.4 | 6761.8 | 6389.1 | 5846.3 | 5166.2 | 4499.2 | 4087.2 | 3851.7 | 3740.6 | 3694.8 | 3688.3 |
| 10°   | 6977.6 | 6820.7 | 6179.8 | 5166.2 | 4276.8 | 3825.6 | 3675.2 | 3609.8 | 3596.7 | 3596.7 | 3590.2 |
| 12.5° | 7128.0 | 6879.5 | 5826.7 | 4505.7 | 3851.7 | 3688.3 | 3662.1 | 3668.6 | 3688.3 | 3707.9 | 3675.2 |
| 15°   | 7311.1 | 6905.7 | 5388.5 | 4106.8 | 3766.7 | 3727.5 | 3766.7 | 3812.5 | 3845.2 | 3871.4 | 3838.7 |
| 17.5° | 7494.2 | 6879.5 | 4976.5 | 3917.1 | 3779.8 | 3832.1 | 3910.6 | 3982.5 | 4002.2 | 4041.4 | 4015.2 |
| 20°   | 7625.0 | 6788.0 | 4623.4 | 3845.2 | 3812.5 | 3930.2 | 4028.3 | 4106.8 | 4146.0 | 4172.2 | 4146.0 |
| 22.5° | 7723.1 | 6670.3 | 4368.4 | 3773.3 | 3812.5 | 3956.4 | 4074.1 | 4165.6 | 4211.4 | 4237.6 | 4204.9 |
| 25°   | 7808.1 | 6506.8 | 4172.2 | 3668.6 | 3734.0 | 3871.4 | 4002.2 | 4093.7 | 4159.1 | 4198.3 | 4178.7 |
| 27.5° | 7912.8 | 6376.0 | 3989.1 | 3511.7 | 3570.5 | 3701.3 | 3838.7 | 3949.8 | 4074.1 | 4139.5 | 4126.4 |
| 30°   | 8030.5 | 6310.6 | 3812.5 | 3341.7 | 3380.9 | 3511.7 | 3675.2 | 3825.6 | 3995.6 | 4080.6 | 4080.6 |
| 32.5° | 8167.8 | 6264.8 | 3649.0 | 3178.2 | 3210.9 | 3354.7 | 3511.7 | 3649.0 | 3832.1 | 3969.5 | 3962.9 |
| 35°   | 8226.6 | 6212.5 | 3518.2 | 3027.8 | 3093.2 | 3210.9 | 3335.1 | 3426.7 | 3616.3 | 3779.8 | 3792.9 |
| 37.5° | 8285.5 | 6192.9 | 3452.8 | 2910.1 | 2962.4 | 3053.9 | 3119.3 | 3165.1 | 3341.7 | 3511.7 | 3518.2 |
| 40°   | 8357.4 | 6284.4 | 3498.6 | 2831.6 | 2785.8 | 2877.4 | 2910.1 | 2936.2 | 3027.8 | 3138.9 | 3138.9 |
| 42.5° | 8311.7 | 6349.8 | 3603.2 | 2759.7 | 2570.0 | 2674.6 | 2687.7 | 2681.2 | 2687.7 | 2694.3 | 2687.7 |
| 45°   | 8193.9 | 6284.4 | 3603.2 | 2648.5 | 2341.1 | 2452.3 | 2445.8 | 2413.1 | 2360.7 | 2223.4 | 2203.8 |
| 47.5° | 8167.8 | 6245.2 | 3465.9 | 2465.4 | 2112.2 | 2203.8 | 2216.9 | 2151.5 | 2001.1 | 1857.2 | 1811.4 |
| 50°   | 8279.0 | 6317.1 | 3250.1 | 2243.0 | 1916.1 | 1994.5 | 2027.2 | 1916.1 | 1746.0 | 1595.6 | 1569.5 |
| 52.5° | 8442.4 | 6408.7 | 2936.2 | 2001.1 | 1752.6 | 1831.0 | 1870.3 | 1746.0 | 1569.5 | 1451.8 | 1438.7 |
| 55°   | 8422.8 | 6408.7 | 2583.1 | 1778.7 | 1628.3 | 1687.2 | 1752.6 | 1621.8 | 1484.5 | 1419.1 | 1412.5 |
| 57.5° | 7997.8 | 6166.7 | 2321.5 | 1621.8 | 1510.6 | 1562.9 | 1647.9 | 1523.7 | 1392.9 | 1406.0 | 1425.6 |
| 60°   | 7167.3 | 5538.9 | 2125.3 | 1517.2 | 1406.0 | 1458.3 | 1549.9 | 1406.0 | 1236.0 | 1190.2 | 1190.2 |
| 62.5° | 5905.1 | 4564.5 | 1968.4 | 1412.5 | 1307.9 | 1373.3 | 1419.1 | 1229.4 | 1118.2 | 1065.9 | 1065.9 |
| 65°   | 4427.2 | 3531.3 | 1804.9 | 1327.5 | 1222.9 | 1294.8 | 1242.5 | 1150.9 | 1039.8 | 1000.5 | 1007.1 |
| 67°   | 3282.8 | 2740.0 | 1667.6 | 1255.6 | 1170.6 | 1203.3 | 1164.0 | 1098.6 | 987.5  | 954.8  | 987.5  |
| 67.5° | 2949.3 | 2602.7 | 1634.9 | 1236.0 | 1157.5 | 1183.6 | 1144.4 | 1092.1 | 974.4  | 941.7  | 974.4  |
| 70°   | 2027.2 | 2001.1 | 1458.3 | 1144.4 | 1085.6 | 1059.4 | 1079.0 | 1013.6 | 915.5  | 902.4  | 935.1  |
| 72.5° | 1543.3 | 1595.6 | 1307.9 | 1065.9 | 1007.1 | 974.4  | 1020.2 | 954.8  | 856.7  | 876.3  | 909.0  |
| 75°   | 1209.8 | 1288.3 | 1170.6 | 954.8  | 915.5  | 922.1  | 1013.6 | 987.5  | 909.0  | 928.6  | 935.1  |
| 77.5° | 895.9  | 1039.8 | 1000.5 | 830.5  | 797.8  | 889.4  | 1144.4 | 1222.9 | 1085.6 | 1052.9 | 1007.1 |
| 80°   | 653.9  | 745.5  | 843.6  | 686.6  | 667.0  | 856.7  | 1412.5 | 1562.9 | 1340.6 | 1209.8 | 1177.1 |
| 82.5° | 483.9  | 523.2  | 693.2  | 549.3  | 483.9  | 765.1  | 1569.5 | 1837.6 | 1595.6 | 1347.1 | 1307.9 |
| 85°   | 346.6  | 405.4  | 549.3  | 405.4  | 320.4  | 627.8  | 1536.8 | 1798.4 | 1582.6 | 1275.2 | 1242.5 |
| 87.5° | 124.2  | 176.6  | 235.4  | 183.1  | 163.5  | 431.6  | 1268.7 | 1294.8 | 987.5  | 451.2  | 457.8  |
| 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: SP1-2407-184-1

Test Date: 10/09/2024

Luminaire Tested: GSS-SB1A-740-U-5WQ

Data in this report applies to families of products including GSS-SB1A-740-U-5WQ

**Test Information**

Test Method: LM-79-2019  
 Report Number: SP1-2407-184-1  
 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-740-U-5WQ**  
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 70 CRI 4000K CCT 26 LEDS

**Spectral Parameters**

CCT (K): 3949  
 CIE u': 0.2248  
 CIE v': 0.5053  
 Duv: 0.0022  
 CIE x: 0.3844  
 CIE y: 0.3840  
 CIE z: 0.2316  
 Peak Wavelength (nm): 440  
 Dominant Wavelength (nm): 578  
 Purity: 30.60026  
 Rf: 71.8  
 Rg: 96.5

|           |      |      |       |
|-----------|------|------|-------|
| CRI (Ra): | 70.7 |      |       |
| R1:       | 68.0 | R9:  | -36.7 |
| R2:       | 76.0 | R10: | 45.1  |
| R3:       | 84.3 | R11: | 70.7  |
| R4:       | 72.0 | R12: | 47.1  |
| R5:       | 68.6 | R13: | 68.5  |
| R6:       | 68.3 | R14: | 91.1  |
| R7:       | 77.9 | R15: | 58.7  |
| R8:       | 50.3 |      |       |



**Test Conditions**

Stabilization Time: 34M  
 Operation Time: 1H 34M  
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-1

| 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 4000K 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    | 139                      | NR            | 620    | 607                      | NR            | 750    | 15                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 198                      | NR            | 625    | 554                      | NR            | 755    | 13                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 267                      | NR            | 630    | 504                      | NR            | 760    | 11                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 343                      | NR            | 635    | 452                      | NR            | 765    | 10                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 410                      | NR            | 640    | 403                      | NR            | 770    | 8                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 470                      | NR            | 645    | 357                      | NR            | 775    | 7                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 516                      | NR            | 650    | 314                      | NR            | 780    | 6                        | NR            | 910    | 0                        | NR            |
| 395    | 7                        | NR            | 525    | 550                      | NR            | 655    | 275                      | NR            | 785    | 5                        | NR            | 915    | 0                        | NR            |
| 400    | 10                       | NR            | 530    | 578                      | NR            | 660    | 240                      | NR            | 790    | 5                        | NR            | 920    | 0                        | NR            |
| 405    | 17                       | NR            | 535    | 601                      | NR            | 665    | 208                      | NR            | 795    | 4                        | NR            | 925    | 0                        | NR            |
| 410    | 35                       | NR            | 540    | 620                      | NR            | 670    | 179                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 70                       | NR            | 545    | 641                      | NR            | 675    | 155                      | NR            | 805    | 3                        | NR            | 935    | 0                        | NR            |
| 420    | 147                      | NR            | 550    | 664                      | NR            | 680    | 133                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 285                      | NR            | 555    | 689                      | NR            | 685    | 114                      | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 487                      | NR            | 560    | 715                      | NR            | 690    | 98                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 787                      | NR            | 565    | 743                      | NR            | 695    | 84                       | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 1000                     | NR            | 570    | 771                      | NR            | 700    | 72                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 783                      | NR            | 575    | 794                      | NR            | 705    | 61                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 417                      | NR            | 580    | 811                      | NR            | 710    | 52                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 261                      | NR            | 585    | 817                      | NR            | 715    | 45                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 167                      | NR            | 590    | 815                      | NR            | 720    | 39                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 104                      | NR            | 595    | 801                      | NR            | 725    | 33                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 79                       | NR            | 600    | 777                      | NR            | 730    | 28                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 73                       | NR            | 605    | 744                      | NR            | 735    | 24                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 704                      | NR            | 740    | 21                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 98                       | NR            | 615    | 657                      | NR            | 745    | 18                       | NR            | 875    | 1                        | NR            |        |                          |               |

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**Scotopic Flux vs. Wavelength**



**Scotopic Lumens: NR**

**S/P: 1.47**

| 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    | 139                      | NR            | 620    | 607                      | NR            | 750    | 15                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 198                      | NR            | 625    | 554                      | NR            | 755    | 13                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 267                      | NR            | 630    | 504                      | NR            | 760    | 11                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 343                      | NR            | 635    | 452                      | NR            | 765    | 10                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 410                      | NR            | 640    | 403                      | NR            | 770    | 8                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 470                      | NR            | 645    | 357                      | NR            | 775    | 7                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 516                      | NR            | 650    | 314                      | NR            | 780    | 6                        | NR            | 910    | 0                        | NR            |
| 395    | 7                        | NR            | 525    | 550                      | NR            | 655    | 275                      | NR            | 785    | 5                        | NR            | 915    | 0                        | NR            |
| 400    | 10                       | NR            | 530    | 578                      | NR            | 660    | 240                      | NR            | 790    | 5                        | NR            | 920    | 0                        | NR            |
| 405    | 17                       | NR            | 535    | 601                      | NR            | 665    | 208                      | NR            | 795    | 4                        | NR            | 925    | 0                        | NR            |
| 410    | 35                       | NR            | 540    | 620                      | NR            | 670    | 179                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 70                       | NR            | 545    | 641                      | NR            | 675    | 155                      | NR            | 805    | 3                        | NR            | 935    | 0                        | NR            |
| 420    | 147                      | NR            | 550    | 664                      | NR            | 680    | 133                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 285                      | NR            | 555    | 689                      | NR            | 685    | 114                      | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 487                      | NR            | 560    | 715                      | NR            | 690    | 98                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 787                      | NR            | 565    | 743                      | NR            | 695    | 84                       | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 1000                     | NR            | 570    | 771                      | NR            | 700    | 72                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 783                      | NR            | 575    | 794                      | NR            | 705    | 61                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 417                      | NR            | 580    | 811                      | NR            | 710    | 52                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 261                      | NR            | 585    | 817                      | NR            | 715    | 45                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 167                      | NR            | 590    | 815                      | NR            | 720    | 39                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 104                      | NR            | 595    | 801                      | NR            | 725    | 33                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 79                       | NR            | 600    | 777                      | NR            | 730    | 28                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 73                       | NR            | 605    | 744                      | NR            | 735    | 24                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 704                      | NR            | 740    | 21                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 98                       | NR            | 615    | 657                      | NR            | 745    | 18                       | NR            | 875    | 1                        | NR            |        |                          |               |

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Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 2.78

| 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    | 139                      | NR            | 620    | 607                      | NR            | 750    | 15                       | NR            | 880    | 0                        | NR            |
| 365    | 0                        | NR            | 495    | 198                      | NR            | 625    | 554                      | NR            | 755    | 13                       | NR            | 885    | 0                        | NR            |
| 370    | 0                        | NR            | 500    | 267                      | NR            | 630    | 504                      | NR            | 760    | 11                       | NR            | 890    | 0                        | NR            |
| 375    | 0                        | NR            | 505    | 343                      | NR            | 635    | 452                      | NR            | 765    | 10                       | NR            | 895    | 0                        | NR            |
| 380    | 0                        | NR            | 510    | 410                      | NR            | 640    | 403                      | NR            | 770    | 8                        | NR            | 900    | 0                        | NR            |
| 385    | 2                        | NR            | 515    | 470                      | NR            | 645    | 357                      | NR            | 775    | 7                        | NR            | 905    | 0                        | NR            |
| 390    | 4                        | NR            | 520    | 516                      | NR            | 650    | 314                      | NR            | 780    | 6                        | NR            | 910    | 0                        | NR            |
| 395    | 7                        | NR            | 525    | 550                      | NR            | 655    | 275                      | NR            | 785    | 5                        | NR            | 915    | 0                        | NR            |
| 400    | 10                       | NR            | 530    | 578                      | NR            | 660    | 240                      | NR            | 790    | 5                        | NR            | 920    | 0                        | NR            |
| 405    | 17                       | NR            | 535    | 601                      | NR            | 665    | 208                      | NR            | 795    | 4                        | NR            | 925    | 0                        | NR            |
| 410    | 35                       | NR            | 540    | 620                      | NR            | 670    | 179                      | NR            | 800    | 4                        | NR            | 930    | 0                        | NR            |
| 415    | 70                       | NR            | 545    | 641                      | NR            | 675    | 155                      | NR            | 805    | 3                        | NR            | 935    | 0                        | NR            |
| 420    | 147                      | NR            | 550    | 664                      | NR            | 680    | 133                      | NR            | 810    | 3                        | NR            | 940    | 0                        | NR            |
| 425    | 285                      | NR            | 555    | 689                      | NR            | 685    | 114                      | NR            | 815    | 2                        | NR            | 945    | 0                        | NR            |
| 430    | 487                      | NR            | 560    | 715                      | NR            | 690    | 98                       | NR            | 820    | 2                        | NR            | 950    | 0                        | NR            |
| 435    | 787                      | NR            | 565    | 743                      | NR            | 695    | 84                       | NR            | 825    | 2                        | NR            | 955    | 0                        | NR            |
| 440    | 1000                     | NR            | 570    | 771                      | NR            | 700    | 72                       | NR            | 830    | 2                        | NR            | 960    | 0                        | NR            |
| 445    | 783                      | NR            | 575    | 794                      | NR            | 705    | 61                       | NR            | 835    | 1                        | NR            | 965    | 0                        | NR            |
| 450    | 417                      | NR            | 580    | 811                      | NR            | 710    | 52                       | NR            | 840    | 1                        | NR            | 970    | 0                        | NR            |
| 455    | 261                      | NR            | 585    | 817                      | NR            | 715    | 45                       | NR            | 845    | 1                        | NR            | 975    | 0                        | NR            |
| 460    | 167                      | NR            | 590    | 815                      | NR            | 720    | 39                       | NR            | 850    | 1                        | NR            | 980    | 0                        | NR            |
| 465    | 104                      | NR            | 595    | 801                      | NR            | 725    | 33                       | NR            | 855    | 1                        | NR            | 985    | 0                        | NR            |
| 470    | 79                       | NR            | 600    | 777                      | NR            | 730    | 28                       | NR            | 860    | 1                        | NR            | 990    | 0                        | NR            |
| 475    | 73                       | NR            | 605    | 744                      | NR            | 735    | 24                       | NR            | 865    | 1                        | NR            | 995    | 0                        | NR            |
| 480    | 76                       | NR            | 610    | 704                      | NR            | 740    | 21                       | NR            | 870    | 1                        | NR            | 1000   | 0                        | NR            |
| 485    | 98                       | NR            | 615    | 657                      | NR            | 745    | 18                       | NR            | 875    | 1                        | NR            |        |                          |               |

**Summary**

$R_f = 71.8$   
 $R_g = 96.5$   
 $CIE R_a = 70.7$   
 $R_9 = -36.7$



**Color Vector Graphics**



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 56 | CES51 = 86 | CES76 = 48 |
| CES02 = 61 | CES27 = 79 | CES52 = 88 | CES77 = 71 |
| CES03 = 30 | CES28 = 80 | CES53 = 73 | CES78 = 52 |
| CES04 = 70 | CES29 = 49 | CES54 = 79 | CES79 = 79 |
| CES05 = 47 | CES30 = 53 | CES55 = 77 | CES80 = 77 |
| CES06 = 50 | CES31 = 55 | CES56 = 67 | CES81 = 75 |
| CES07 = 40 | CES32 = 53 | CES57 = 64 | CES82 = 90 |
| CES08 = 39 | CES33 = 59 | CES58 = 67 | CES83 = 84 |
| CES09 = 29 | CES34 = 67 | CES59 = 87 | CES84 = 89 |
| CES10 = 74 | CES35 = 82 | CES60 = 91 | CES85 = 86 |
| CES11 = 57 | CES36 = 86 | CES61 = 87 | CES86 = 71 |
| CES12 = 63 | CES37 = 76 | CES62 = 76 | CES87 = 78 |
| CES13 = 42 | CES38 = 62 | CES63 = 73 | CES88 = 76 |
| CES14 = 74 | CES39 = 91 | CES64 = 71 | CES89 = 72 |
| CES15 = 71 | CES40 = 84 | CES65 = 64 | CES90 = 72 |
| CES16 = 46 | CES41 = 81 | CES66 = 67 | CES91 = 97 |
| CES17 = 49 | CES42 = 76 | CES67 = 65 | CES92 = 66 |
| CES18 = 56 | CES43 = 71 | CES68 = 72 | CES93 = 81 |
| CES19 = 72 | CES44 = 98 | CES69 = 82 | CES94 = 55 |
| CES20 = 65 | CES45 = 80 | CES70 = 61 | CES95 = 73 |
| CES21 = 86 | CES46 = 76 | CES71 = 59 | CES96 = 78 |
| CES22 = 78 | CES47 = 71 | CES72 = 86 | CES97 = 83 |
| CES23 = 92 | CES48 = 61 | CES73 = 52 | CES98 = 72 |
| CES24 = 91 | CES49 = 76 | CES74 = 93 | CES99 = 60 |
| CES25 = 72 | CES50 = 84 | CES75 = 56 |            |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)