

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: P1456310

Luminaire Tested: GLAN-SB4D-940-U-T2LG

Issue Date: 05/20/2026

Test Information

Test Method: LM-79-2024
Report Number: P1456310
Test Lab: INNOVATION CENTER(G1)
Issue Date: 5/22/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: STREETWORKS
Catalog Number: GLAN-SB4D-940-U-T2LG
Description: GALLEON II AREA AND ROADWAY HIGH DENSITY LUMINAIRE 900mA 4xLight Square
PACKAGE 90CRI 4000K FIXTURE w/ TYPE II LOW GLARE
Light Source: (104) 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 28593.1 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B3 - U0 - G3

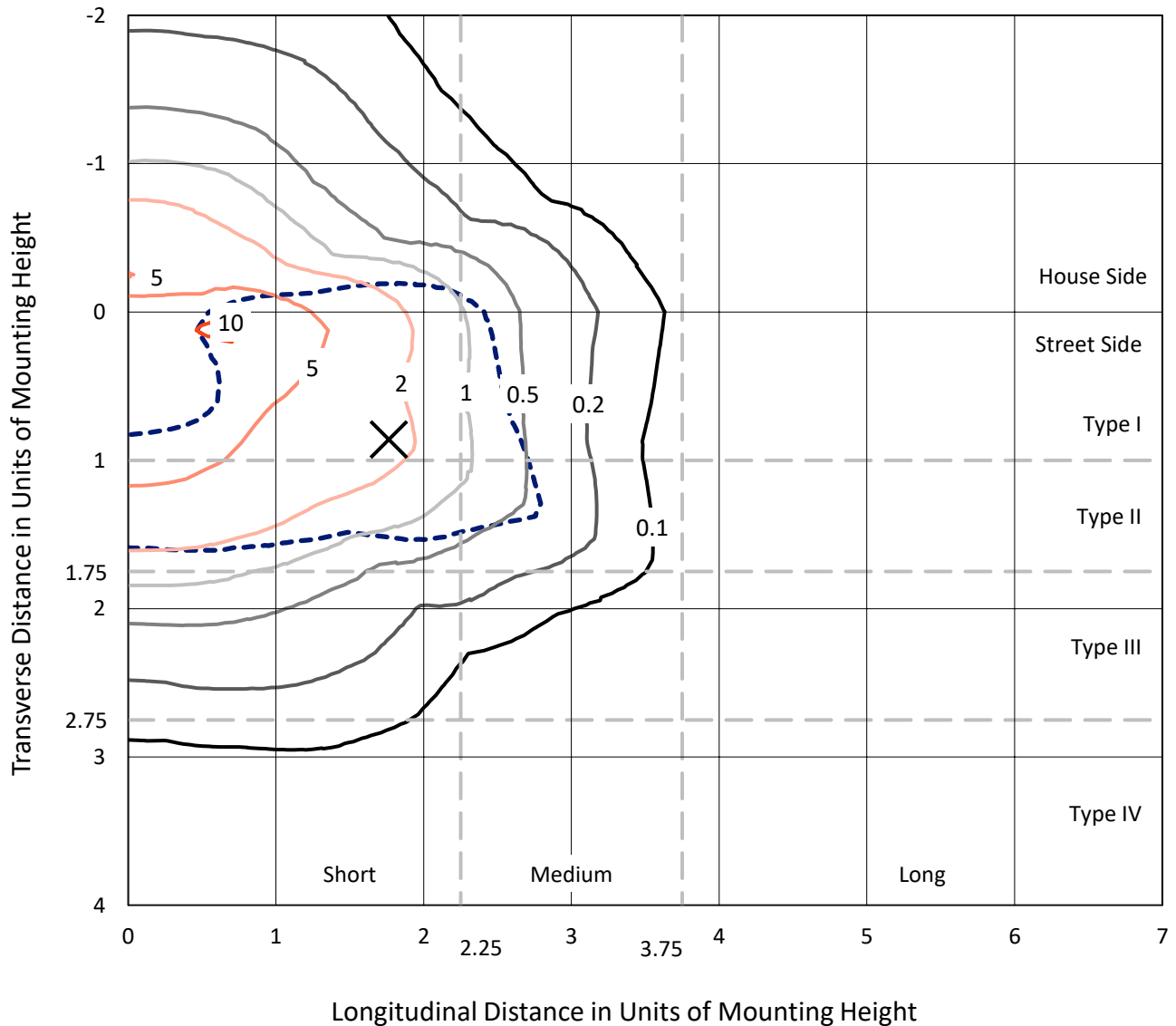
Input Watts (W): 293.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.97
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT

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CATALOG NUMBER: GLAN-SB4D-940-U-T2LG

Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

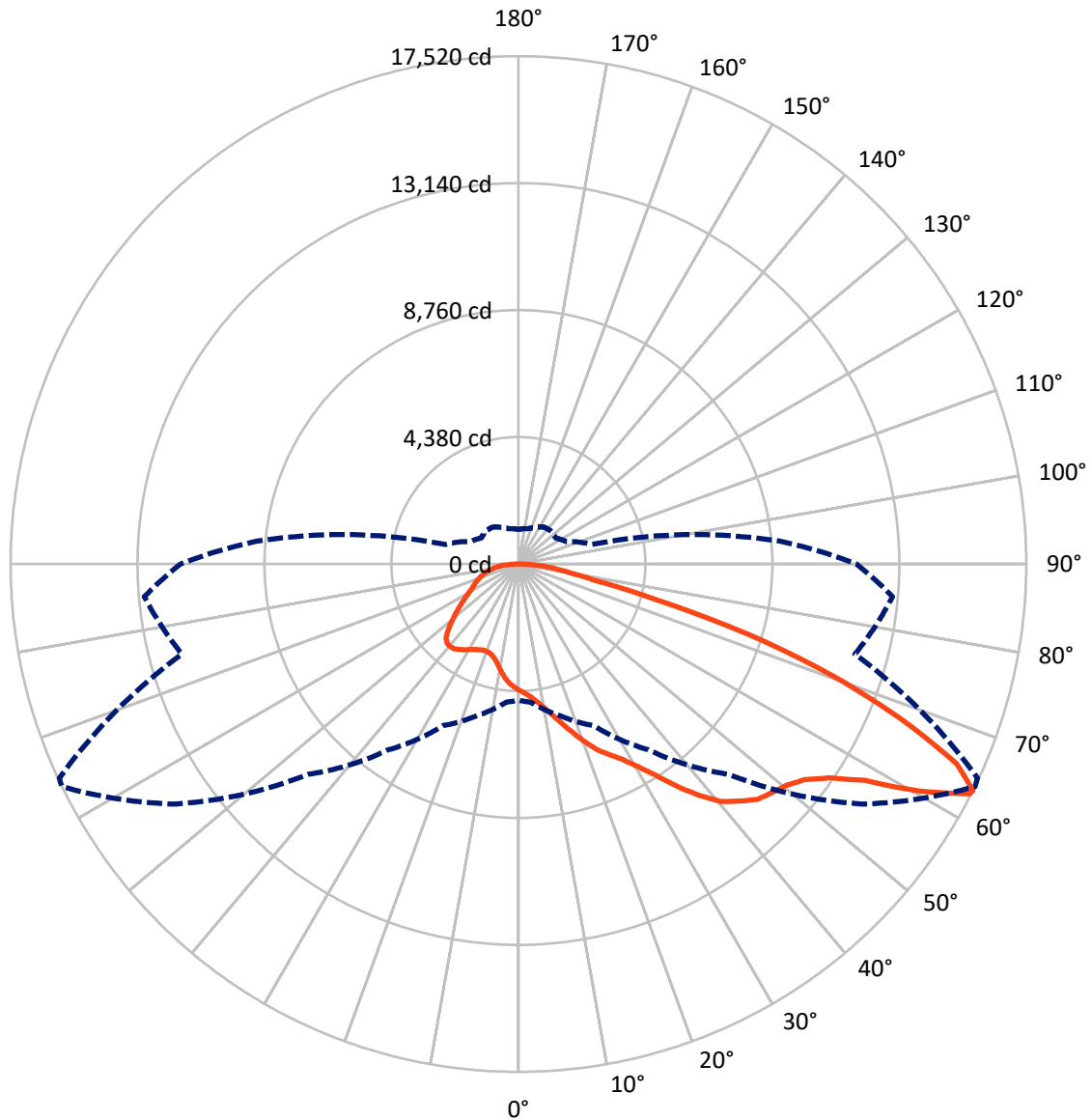


Based on 25 foot mounting height. Maximum calculated value = 10.7 fc
 Type II - Short - N/A

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CATALOG NUMBER: GLAN-SB4D-940-U-T2LG

Luminous Intensity Polar Plot



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

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CATALOG NUMBER: GLAN-SB4D-940-U-T2LG

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 7682.2 | 0.0 | 7682.2 |
| | % Fixture | 26.9 | 0.0 | 26.9 |
| Street Side | Lumens | 20911.0 | 0.0 | 20911.0 |
| | % Fixture | 73.1 | 0.0 | 73.1 |
| Total | Lumens | 28593.1 | 0.0 | 28593.1 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 399.8 | 1.4 |
| 10°-20° | 1230.8 | 4.3 |
| 20°-30° | 2250.7 | 7.9 |
| 30°-40° | 3871.5 | 13.5 |
| 40°-50° | 5709.5 | 20.0 |
| 50°-60° | 6843.2 | 23.9 |
| 60°-70° | 5492.3 | 19.2 |
| 70°-80° | 2207.0 | 7.7 |
| 80°-90° | 588.5 | 2.1 |
| 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° | 28593.1 | 100.0 |
| 0°-180° | 28593.1 | 100.0 |



REPORT NUMBER: P1456310

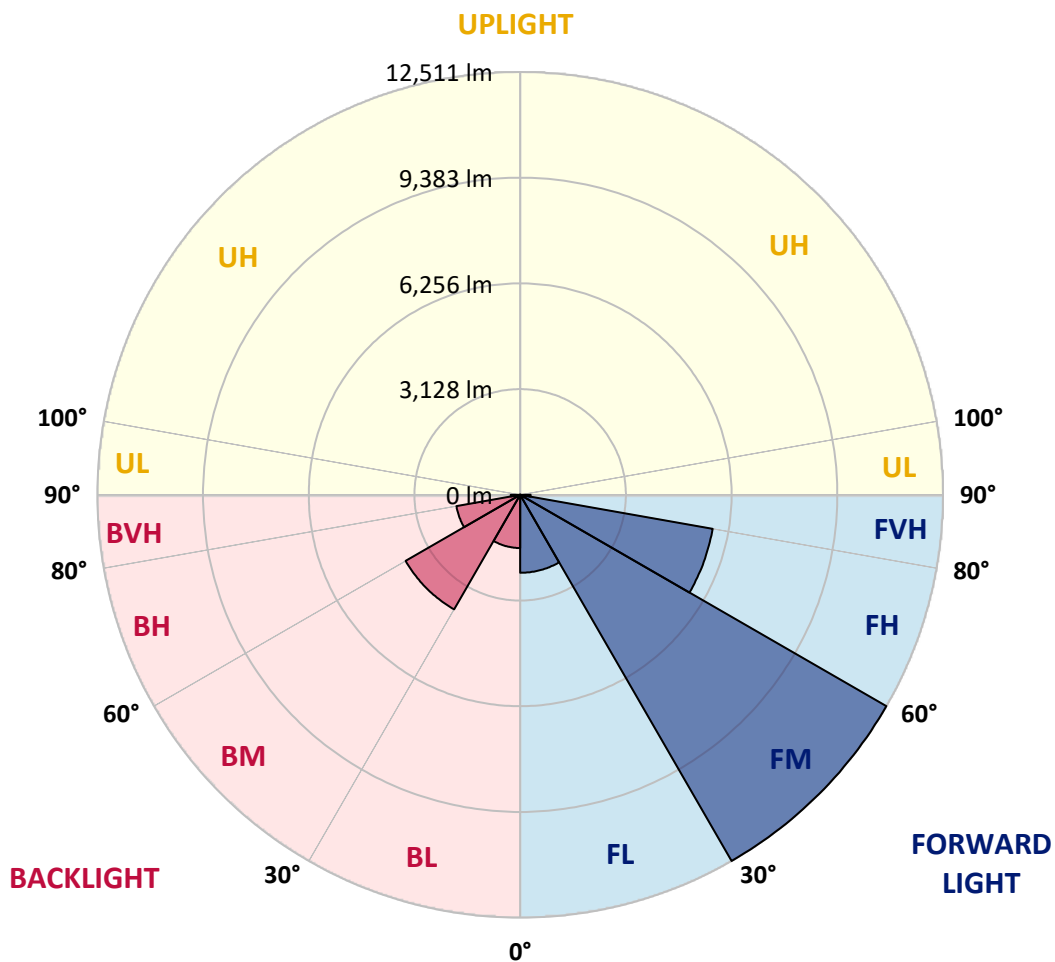
CATALOG NUMBER: GLAN-SB4D-940-U-T2LG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 2306.9 | 8.1 | | | |
| FM (30°-60°) | 12511.0 | 43.8 | | | |
| FH (60°-80°) | 5783.8 | 20.2 | | | G3/7500 |
| FVH (80°-90°) | 309.2 | 1.1 | | | G3/500 |
| BL (0°-30°) | 1574.3 | 5.5 | B3/2500 | | |
| BM (30°-60°) | 3913.1 | 13.7 | B3/5000 | | |
| BH (60°-80°) | 1915.4 | 6.7 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 279.3 | 1.0 | | | 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 II Short





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CATALOG NUMBER: GLAN-SB4D-940-U-T2LG

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 64° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 |
| 2.5° | 4534.2 | 4540.7 | 4521.4 | 4515.0 | 4527.8 | 4502.1 | 4495.7 | 4470.0 | 4457.2 | 4431.5 | 4399.4 |
| 5° | 4662.7 | 4669.1 | 4656.3 | 4656.3 | 4669.1 | 4649.8 | 4643.4 | 4617.7 | 4604.9 | 4579.2 | 4515.0 |
| 7.5° | 4656.3 | 4662.7 | 4675.5 | 4726.9 | 4791.1 | 4816.8 | 4836.1 | 4816.8 | 4810.4 | 4771.9 | 4707.6 |
| 10° | 4553.5 | 4559.9 | 4592.0 | 4669.1 | 4829.7 | 4945.3 | 5067.3 | 5067.3 | 5080.1 | 5048.0 | 4932.4 |
| 12.5° | 4412.2 | 4418.6 | 4495.7 | 4617.7 | 4829.7 | 5028.8 | 5279.2 | 5382.0 | 5375.6 | 5356.3 | 5221.4 |
| 15° | 4071.8 | 4071.8 | 4187.4 | 4418.6 | 4759.0 | 5086.6 | 5459.1 | 5735.2 | 5741.7 | 5760.9 | 5600.4 |
| 17.5° | 3782.8 | 3789.2 | 3885.6 | 4091.1 | 4534.2 | 5054.5 | 5651.7 | 6127.0 | 6146.3 | 6255.4 | 6024.2 |
| 20° | 3808.5 | 3808.5 | 3840.6 | 3930.5 | 4290.2 | 4926.0 | 5760.9 | 6544.5 | 6608.7 | 6865.6 | 6576.6 |
| 22.5° | 4007.6 | 4007.6 | 4033.3 | 4026.9 | 4245.2 | 4842.5 | 5831.6 | 6961.9 | 7077.5 | 7610.6 | 7238.1 |
| 25° | 4373.7 | 4367.3 | 4341.6 | 4303.0 | 4431.5 | 4932.4 | 5992.1 | 7283.0 | 7507.8 | 8432.7 | 8002.4 |
| 27.5° | 4823.2 | 4810.4 | 4771.9 | 4707.6 | 4797.6 | 5202.2 | 6268.3 | 7623.4 | 7867.5 | 9331.8 | 8811.6 |
| 30° | 5382.0 | 5343.5 | 5304.9 | 5221.4 | 5317.8 | 5645.3 | 6679.3 | 8105.1 | 8336.3 | 10353.0 | 9787.8 |
| 32.5° | 6043.5 | 6088.5 | 5960.0 | 5844.4 | 5947.2 | 6249.0 | 7289.5 | 8676.7 | 8927.2 | 11419.1 | 10802.5 |
| 35° | 7032.6 | 7167.4 | 7128.9 | 6544.5 | 6640.8 | 6974.8 | 8002.4 | 9415.3 | 9640.1 | 12388.9 | 11843.0 |
| 37.5° | 8008.8 | 7976.7 | 8008.8 | 7520.7 | 7366.5 | 7771.1 | 8766.6 | 10121.8 | 10340.1 | 13178.8 | 12761.4 |
| 40° | 8792.3 | 8888.6 | 8888.6 | 8490.5 | 8291.4 | 8561.1 | 9460.2 | 10770.4 | 10982.4 | 13615.6 | 13422.9 |
| 42.5° | 9646.5 | 9659.3 | 9633.6 | 9286.8 | 9209.8 | 9280.4 | 10070.4 | 11181.5 | 11354.9 | 13840.3 | 13872.5 |
| 45° | 10609.9 | 10603.4 | 10494.3 | 10205.2 | 10089.6 | 10025.4 | 10449.3 | 11579.6 | 11753.1 | 13943.1 | 14116.5 |
| 47.5° | 11406.2 | 11438.4 | 11444.8 | 11136.5 | 10943.8 | 10667.7 | 10776.8 | 11778.7 | 11977.8 | 13827.5 | 14167.9 |
| 50° | 11451.2 | 11502.6 | 11746.6 | 11836.5 | 11798.0 | 11354.9 | 11078.7 | 11990.7 | 12189.8 | 13853.2 | 14354.1 |
| 52.5° | 11168.6 | 11220.0 | 11534.7 | 11907.2 | 12356.8 | 12144.8 | 11554.0 | 12356.8 | 12562.3 | 14103.7 | 14778.0 |
| 55° | 10410.8 | 10494.3 | 10963.1 | 11483.3 | 12286.1 | 12588.0 | 12395.3 | 13018.3 | 13210.9 | 14302.8 | 15272.5 |
| 57.5° | 9062.1 | 9164.8 | 9813.5 | 10642.0 | 11740.2 | 12485.2 | 13615.6 | 14078.0 | 14238.5 | 14444.1 | 15279.0 |
| 60° | 6775.7 | 6859.2 | 7873.9 | 8991.4 | 10642.0 | 11843.0 | 14341.3 | 15895.5 | 15985.4 | 13679.8 | 14411.9 |
| 62.5° | 4990.2 | 5073.7 | 5754.5 | 6557.3 | 8362.0 | 10661.2 | 14482.6 | 17469.0 | 17481.9 | 12299.0 | 13217.4 |
| 63° | 4701.2 | 4784.7 | 5401.3 | 6152.7 | 7822.5 | 10263.0 | 14437.6 | 17520.4 | 17475.4 | 12016.4 | 12954.0 |
| 65° | 3660.8 | 3808.5 | 4450.7 | 5022.3 | 5863.7 | 8169.3 | 13859.6 | 16608.4 | 16672.6 | 11181.5 | 11631.0 |
| 67.5° | 2491.9 | 2601.1 | 3416.7 | 4078.2 | 4431.5 | 5202.2 | 11367.7 | 14212.8 | 14315.6 | 10314.4 | 9280.4 |
| 70° | 1926.7 | 1978.1 | 2453.4 | 3230.5 | 3583.7 | 3307.6 | 7411.5 | 11444.8 | 11444.8 | 8053.7 | 6576.6 |
| 72.5° | 1509.3 | 1528.5 | 1849.7 | 2524.0 | 2883.7 | 2543.3 | 4129.6 | 8323.5 | 8015.2 | 4778.3 | 4386.5 |
| 75° | 1079.0 | 1104.7 | 1393.7 | 1881.8 | 2299.2 | 2003.8 | 2639.6 | 4848.9 | 4662.7 | 2748.8 | 2928.6 |
| 77.5° | 854.2 | 867.0 | 1040.4 | 1387.2 | 1862.5 | 1528.5 | 2010.2 | 2646.0 | 2620.4 | 1933.2 | 1881.8 |
| 80° | 674.4 | 700.0 | 815.6 | 995.5 | 1438.6 | 1194.6 | 1496.4 | 1746.9 | 1695.5 | 1329.4 | 1207.4 |
| 82.5° | 481.7 | 526.6 | 629.4 | 757.8 | 1066.1 | 854.2 | 982.6 | 1233.1 | 1233.1 | 1001.9 | 796.4 |
| 85° | 295.4 | 334.0 | 372.5 | 468.8 | 757.8 | 552.3 | 520.2 | 796.4 | 815.6 | 751.4 | 513.8 |
| 87.5° | 141.3 | 154.1 | 179.8 | 199.1 | 276.2 | 250.5 | 205.5 | 301.9 | 308.3 | 334.0 | 211.9 |
| 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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CATALOG NUMBER: GLAN-SB4D-940-U-T2LG

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 | 4354.4 |
| 2.5° | 4392.9 | 4380.1 | 4315.9 | 4251.7 | 4181.0 | 4116.8 | 4052.6 | 4001.2 | 3943.4 | 3956.2 | 3962.6 |
| 5° | 4476.4 | 4444.3 | 4303.0 | 4136.0 | 3917.7 | 3712.2 | 3513.1 | 3371.8 | 3281.9 | 3256.2 | 3204.8 |
| 7.5° | 4656.3 | 4579.2 | 4322.3 | 3969.1 | 3564.4 | 3243.3 | 3057.1 | 2973.6 | 2947.9 | 2954.3 | 2941.5 |
| 10° | 4861.8 | 4746.2 | 4348.0 | 3770.0 | 3256.2 | 3037.8 | 3012.1 | 3063.5 | 3089.2 | 3114.9 | 3121.3 |
| 12.5° | 5131.5 | 4945.3 | 4335.1 | 3551.6 | 3108.5 | 3069.9 | 3166.3 | 3262.6 | 3320.4 | 3358.9 | 3352.5 |
| 15° | 5446.2 | 5195.7 | 4296.6 | 3371.8 | 3089.2 | 3191.9 | 3314.0 | 3423.2 | 3493.8 | 3532.3 | 3513.1 |
| 17.5° | 5825.1 | 5491.2 | 4251.7 | 3256.2 | 3147.0 | 3269.0 | 3397.5 | 3506.6 | 3583.7 | 3609.4 | 3590.1 |
| 20° | 6294.0 | 5825.1 | 4174.6 | 3204.8 | 3191.9 | 3301.1 | 3416.7 | 3519.5 | 3583.7 | 3609.4 | 3583.7 |
| 22.5° | 6846.3 | 6223.3 | 4110.4 | 3204.8 | 3211.2 | 3301.1 | 3384.6 | 3461.7 | 3519.5 | 3538.8 | 3506.6 |
| 25° | 7552.8 | 6685.8 | 4084.7 | 3256.2 | 3217.6 | 3269.0 | 3314.0 | 3358.9 | 3391.0 | 3403.9 | 3391.0 |
| 27.5° | 8272.1 | 7218.8 | 4097.5 | 3320.4 | 3211.2 | 3224.1 | 3224.1 | 3230.5 | 3236.9 | 3243.3 | 3236.9 |
| 30° | 9100.6 | 7758.3 | 4148.9 | 3403.9 | 3224.1 | 3159.8 | 3140.6 | 3102.0 | 3069.9 | 3044.2 | 3018.5 |
| 32.5° | 9903.4 | 8272.1 | 4238.8 | 3525.9 | 3211.2 | 3089.2 | 3050.7 | 2954.3 | 2864.4 | 2787.3 | 2787.3 |
| 35° | 10770.4 | 8805.2 | 4399.4 | 3615.8 | 3198.4 | 3025.0 | 2915.8 | 2806.6 | 2710.3 | 2601.1 | 2601.1 |
| 37.5° | 11515.4 | 9261.1 | 4527.8 | 3718.6 | 3185.5 | 2947.9 | 2774.5 | 2652.5 | 2549.7 | 2440.5 | 2427.7 |
| 40° | 12035.6 | 9524.5 | 4604.9 | 3757.1 | 3140.6 | 2845.1 | 2639.6 | 2485.5 | 2337.8 | 2190.0 | 2183.6 |
| 42.5° | 12286.1 | 9511.6 | 4559.9 | 3744.3 | 3057.1 | 2716.7 | 2524.0 | 2318.5 | 2119.4 | 1984.5 | 1971.7 |
| 45° | 12421.0 | 9428.1 | 4386.5 | 3635.1 | 2922.2 | 2581.8 | 2376.3 | 2157.9 | 1958.8 | 1836.8 | 1811.1 |
| 47.5° | 12395.3 | 9222.6 | 4148.9 | 3365.4 | 2742.4 | 2434.1 | 2228.6 | 2003.8 | 1843.2 | 1772.6 | 1772.6 |
| 50° | 12465.9 | 9062.1 | 3879.1 | 3057.1 | 2498.3 | 2260.7 | 2093.7 | 1888.2 | 1791.9 | 1701.9 | 1669.8 |
| 52.5° | 12780.6 | 9196.9 | 3647.9 | 2768.1 | 2267.1 | 2093.7 | 1978.1 | 1804.7 | 1682.7 | 1624.9 | 1605.6 |
| 55° | 13198.1 | 9485.9 | 3429.6 | 2511.2 | 2042.3 | 1946.0 | 1888.2 | 1727.6 | 1586.3 | 1528.5 | 1496.4 |
| 57.5° | 13275.2 | 9685.0 | 3217.6 | 2260.7 | 1856.1 | 1830.4 | 1811.1 | 1592.8 | 1477.2 | 1432.2 | 1406.5 |
| 60° | 12742.1 | 9537.3 | 2941.5 | 2035.9 | 1708.4 | 1721.2 | 1669.8 | 1509.3 | 1374.4 | 1329.4 | 1303.8 |
| 62.5° | 11836.5 | 9152.0 | 2665.3 | 1843.2 | 1592.8 | 1618.5 | 1567.1 | 1406.5 | 1271.6 | 1226.7 | 1213.8 |
| 63° | 11656.7 | 9049.2 | 2601.1 | 1824.0 | 1567.1 | 1599.2 | 1554.2 | 1393.7 | 1258.8 | 1213.8 | 1194.6 |
| 65° | 10584.2 | 8432.7 | 2376.3 | 1721.2 | 1483.6 | 1483.6 | 1490.0 | 1329.4 | 1213.8 | 1194.6 | 1181.7 |
| 67.5° | 8631.7 | 7039.0 | 2132.2 | 1599.2 | 1393.7 | 1412.9 | 1445.0 | 1355.1 | 1310.2 | 1297.3 | 1284.5 |
| 70° | 6525.2 | 5298.5 | 1920.3 | 1483.6 | 1297.3 | 1361.6 | 1579.9 | 1541.4 | 1374.4 | 1258.8 | 1233.1 |
| 72.5° | 4624.2 | 3609.4 | 1734.1 | 1368.0 | 1181.7 | 1342.3 | 1637.7 | 1470.7 | 1239.5 | 1104.7 | 1079.0 |
| 75° | 3095.6 | 2324.9 | 1547.8 | 1246.0 | 1053.3 | 1239.5 | 1547.8 | 1342.3 | 1079.0 | 1046.9 | 1008.3 |
| 77.5° | 1946.0 | 1657.0 | 1361.6 | 1104.7 | 912.0 | 1104.7 | 1406.5 | 1194.6 | 931.3 | 944.1 | 886.3 |
| 80° | 1188.1 | 1181.7 | 1143.2 | 937.7 | 732.2 | 879.9 | 1181.7 | 1008.3 | 745.0 | 745.0 | 661.5 |
| 82.5° | 706.5 | 854.2 | 969.8 | 777.1 | 533.1 | 629.4 | 854.2 | 757.8 | 623.0 | 603.7 | 565.2 |
| 85° | 475.3 | 578.0 | 770.7 | 597.3 | 340.4 | 385.3 | 590.9 | 635.8 | 571.6 | 500.9 | 468.8 |
| 87.5° | 173.4 | 231.2 | 353.2 | 244.1 | 147.7 | 231.2 | 443.1 | 462.4 | 346.8 | 269.7 | 244.1 |
| 90° | 0.0 | 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: SP1-2407-184-16

Test Date: 10/11/2024

Luminaire Tested: GSS-SB1A-940-U-5WQ

Data in this report applies to families of products including GSS-SB1A-940-U-5WQ

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2407-184-16
 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-940-U-5WQ**
 Description: GALLEON II SITE SLIM 1SQ 350MA 5WQ HIGH DENSITY LIGHTSQUARE WITH 90 CRI 4000K CCT 26 LEDS

Spectral Parameters

CCT (K): 3856
 CIE u': 0.2261
 CIE v': 0.5084
 Duv: 0.0032
 CIE x: 0.3896
 CIE y: 0.3894
 CIE z: 0.2211
 Peak Wavelength (nm): 614
 Dominant Wavelength (nm): 578
 Purity: 33.77304
 Rf: 91.8
 Rg: 98.4

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 92.1 | | |
| R1: | 91.8 | R9: | 60.7 |
| R2: | 94.1 | R10: | 85.2 |
| R3: | 95.3 | R11: | 92.4 |
| R4: | 92.8 | R12: | 74.5 |
| R5: | 91.0 | R13: | 92.3 |
| R6: | 91.6 | R14: | 97.0 |
| R7: | 95.0 | R15: | 88.5 |
| R8: | 85.2 | | |



Test Conditions

Stabilization Time: 23M
 Operation Time: 1H 23M
 Sphere Temperature (°C): 25.2

REPORT NUMBER: SP1-2407-184-16

| 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: SP1-2407-184-16

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 [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) |
|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|-------------------|-----------------------------|-------------------------|
| 360 | 0 | NR | 490 | 492 | NR | 620 | 993 | NR | 750 | 73 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 539 | NR | 625 | 978 | NR | 755 | 62 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 583 | NR | 630 | 962 | NR | 760 | 54 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 623 | NR | 635 | 933 | NR | 765 | 46 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 661 | NR | 640 | 898 | NR | 770 | 39 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 698 | NR | 645 | 855 | NR | 775 | 34 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 733 | NR | 650 | 810 | NR | 780 | 29 | NR | 910 | 1 | NR |
| 395 | 1 | NR | 525 | 764 | NR | 655 | 759 | NR | 785 | 25 | NR | 915 | 1 | NR |
| 400 | 3 | NR | 530 | 794 | NR | 660 | 704 | NR | 790 | 21 | NR | 920 | 1 | NR |
| 405 | 6 | NR | 535 | 820 | NR | 665 | 651 | NR | 795 | 18 | NR | 925 | 1 | NR |
| 410 | 12 | NR | 540 | 837 | NR | 670 | 592 | NR | 800 | 16 | NR | 930 | 1 | NR |
| 415 | 22 | NR | 545 | 853 | NR | 675 | 538 | NR | 805 | 13 | NR | 935 | 0 | NR |
| 420 | 42 | NR | 550 | 864 | NR | 680 | 486 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 79 | NR | 555 | 872 | NR | 685 | 435 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 147 | NR | 560 | 876 | NR | 690 | 389 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 278 | NR | 565 | 883 | NR | 695 | 344 | NR | 825 | 7 | NR | 955 | 0 | NR |
| 440 | 515 | NR | 570 | 891 | NR | 700 | 303 | NR | 830 | 6 | NR | 960 | 0 | NR |
| 445 | 832 | NR | 575 | 900 | NR | 705 | 266 | NR | 835 | 5 | NR | 965 | 0 | NR |
| 450 | 874 | NR | 580 | 914 | NR | 710 | 233 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 659 | NR | 585 | 927 | NR | 715 | 203 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 567 | NR | 590 | 944 | NR | 720 | 178 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 485 | NR | 595 | 961 | NR | 725 | 154 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 401 | NR | 600 | 975 | NR | 730 | 133 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 393 | NR | 605 | 988 | NR | 735 | 115 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 417 | NR | 610 | 996 | NR | 740 | 98 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 448 | NR | 615 | 998 | NR | 745 | 85 | NR | 875 | 2 | NR | | | |

REPORT NUMBER: SP1-2407-184-16

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.72

| λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) | λ (nm) | Power W [^] /nm | Lumens (ϕ /nm) |
|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|----------------|--------------------------|----------------------|
| 360 | 0 | NR | 490 | 492 | NR | 620 | 993 | NR | 750 | 73 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 539 | NR | 625 | 978 | NR | 755 | 62 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 583 | NR | 630 | 962 | NR | 760 | 54 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 623 | NR | 635 | 933 | NR | 765 | 46 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 661 | NR | 640 | 898 | NR | 770 | 39 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 698 | NR | 645 | 855 | NR | 775 | 34 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 733 | NR | 650 | 810 | NR | 780 | 29 | NR | 910 | 1 | NR |
| 395 | 1 | NR | 525 | 764 | NR | 655 | 759 | NR | 785 | 25 | NR | 915 | 1 | NR |
| 400 | 3 | NR | 530 | 794 | NR | 660 | 704 | NR | 790 | 21 | NR | 920 | 1 | NR |
| 405 | 6 | NR | 535 | 820 | NR | 665 | 651 | NR | 795 | 18 | NR | 925 | 1 | NR |
| 410 | 12 | NR | 540 | 837 | NR | 670 | 592 | NR | 800 | 16 | NR | 930 | 1 | NR |
| 415 | 22 | NR | 545 | 853 | NR | 675 | 538 | NR | 805 | 13 | NR | 935 | 0 | NR |
| 420 | 42 | NR | 550 | 864 | NR | 680 | 486 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 79 | NR | 555 | 872 | NR | 685 | 435 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 147 | NR | 560 | 876 | NR | 690 | 389 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 278 | NR | 565 | 883 | NR | 695 | 344 | NR | 825 | 7 | NR | 955 | 0 | NR |
| 440 | 515 | NR | 570 | 891 | NR | 700 | 303 | NR | 830 | 6 | NR | 960 | 0 | NR |
| 445 | 832 | NR | 575 | 900 | NR | 705 | 266 | NR | 835 | 5 | NR | 965 | 0 | NR |
| 450 | 874 | NR | 580 | 914 | NR | 710 | 233 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 659 | NR | 585 | 927 | NR | 715 | 203 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 567 | NR | 590 | 944 | NR | 720 | 178 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 485 | NR | 595 | 961 | NR | 725 | 154 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 401 | NR | 600 | 975 | NR | 730 | 133 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 393 | NR | 605 | 988 | NR | 735 | 115 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 417 | NR | 610 | 996 | NR | 740 | 98 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 448 | NR | 615 | 998 | NR | 745 | 85 | NR | 875 | 2 | NR | | | |

REPORT NUMBER: SP1-2407-184-16

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.52

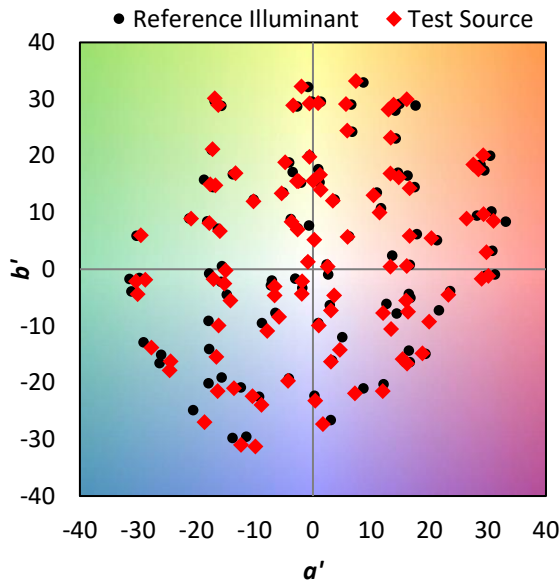
| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 492 | NR | 620 | 993 | NR | 750 | 73 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 539 | NR | 625 | 978 | NR | 755 | 62 | NR | 885 | 1 | NR |
| 370 | 0 | NR | 500 | 583 | NR | 630 | 962 | NR | 760 | 54 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 623 | NR | 635 | 933 | NR | 765 | 46 | NR | 895 | 1 | NR |
| 380 | 0 | NR | 510 | 661 | NR | 640 | 898 | NR | 770 | 39 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 698 | NR | 645 | 855 | NR | 775 | 34 | NR | 905 | 1 | NR |
| 390 | 0 | NR | 520 | 733 | NR | 650 | 810 | NR | 780 | 29 | NR | 910 | 1 | NR |
| 395 | 1 | NR | 525 | 764 | NR | 655 | 759 | NR | 785 | 25 | NR | 915 | 1 | NR |
| 400 | 3 | NR | 530 | 794 | NR | 660 | 704 | NR | 790 | 21 | NR | 920 | 1 | NR |
| 405 | 6 | NR | 535 | 820 | NR | 665 | 651 | NR | 795 | 18 | NR | 925 | 1 | NR |
| 410 | 12 | NR | 540 | 837 | NR | 670 | 592 | NR | 800 | 16 | NR | 930 | 1 | NR |
| 415 | 22 | NR | 545 | 853 | NR | 675 | 538 | NR | 805 | 13 | NR | 935 | 0 | NR |
| 420 | 42 | NR | 550 | 864 | NR | 680 | 486 | NR | 810 | 12 | NR | 940 | 0 | NR |
| 425 | 79 | NR | 555 | 872 | NR | 685 | 435 | NR | 815 | 10 | NR | 945 | 0 | NR |
| 430 | 147 | NR | 560 | 876 | NR | 690 | 389 | NR | 820 | 9 | NR | 950 | 0 | NR |
| 435 | 278 | NR | 565 | 883 | NR | 695 | 344 | NR | 825 | 7 | NR | 955 | 0 | NR |
| 440 | 515 | NR | 570 | 891 | NR | 700 | 303 | NR | 830 | 6 | NR | 960 | 0 | NR |
| 445 | 832 | NR | 575 | 900 | NR | 705 | 266 | NR | 835 | 5 | NR | 965 | 0 | NR |
| 450 | 874 | NR | 580 | 914 | NR | 710 | 233 | NR | 840 | 5 | NR | 970 | 0 | NR |
| 455 | 659 | NR | 585 | 927 | NR | 715 | 203 | NR | 845 | 4 | NR | 975 | 0 | NR |
| 460 | 567 | NR | 590 | 944 | NR | 720 | 178 | NR | 850 | 4 | NR | 980 | 0 | NR |
| 465 | 485 | NR | 595 | 961 | NR | 725 | 154 | NR | 855 | 3 | NR | 985 | 0 | NR |
| 470 | 401 | NR | 600 | 975 | NR | 730 | 133 | NR | 860 | 3 | NR | 990 | 0 | NR |
| 475 | 393 | NR | 605 | 988 | NR | 735 | 115 | NR | 865 | 2 | NR | 995 | 1 | NR |
| 480 | 417 | NR | 610 | 996 | NR | 740 | 98 | NR | 870 | 2 | NR | 1000 | 0 | NR |
| 485 | 448 | NR | 615 | 998 | NR | 745 | 85 | NR | 875 | 2 | NR | | | |

Summary

$R_f = 91.8$
 $R_g = 98.4$
 $CIE R_a = 92.1$
 $R_9 = 60.7$



Color Vector Graphics

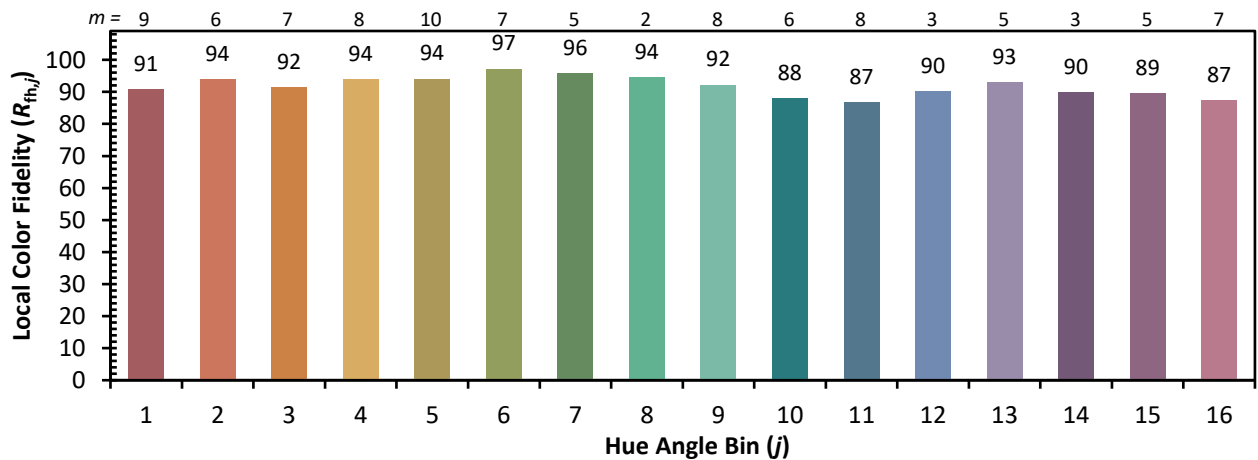


Individual Sample Fidelity Index ($R_{f,i}$)

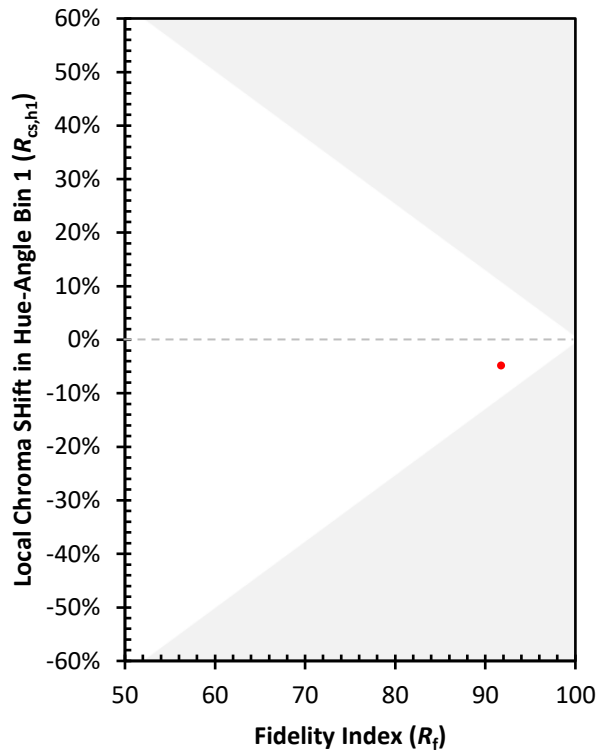
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 94 | CES51 = 96 | CES76 = 87 |
| CES02 = 62 | CES27 = 91 | CES52 = 98 | CES77 = 90 |
| CES03 = 31 | CES28 = 96 | CES53 = 95 | CES78 = 84 |
| CES04 = 69 | CES29 = 96 | CES54 = 94 | CES79 = 96 |
| CES05 = 49 | CES30 = 93 | CES55 = 92 | CES80 = 94 |
| CES06 = 50 | CES31 = 97 | CES56 = 93 | CES81 = 89 |
| CES07 = 42 | CES32 = 92 | CES57 = 92 | CES82 = 97 |
| CES08 = 41 | CES33 = 99 | CES58 = 92 | CES83 = 98 |
| CES09 = 29 | CES34 = 94 | CES59 = 96 | CES84 = 94 |
| CES10 = 74 | CES35 = 96 | CES60 = 93 | CES85 = 85 |
| CES11 = 57 | CES36 = 82 | CES61 = 92 | CES86 = 88 |
| CES12 = 63 | CES37 = 95 | CES62 = 87 | CES87 = 92 |
| CES13 = 43 | CES38 = 88 | CES63 = 92 | CES88 = 96 |
| CES14 = 74 | CES39 = 99 | CES64 = 89 | CES89 = 87 |
| CES15 = 71 | CES40 = 98 | CES65 = 88 | CES90 = 96 |
| CES16 = 47 | CES41 = 97 | CES66 = 87 | CES91 = 74 |
| CES17 = 49 | CES42 = 96 | CES67 = 86 | CES92 = 80 |
| CES18 = 56 | CES43 = 96 | CES68 = 88 | CES93 = 88 |
| CES19 = 71 | CES44 = 99 | CES69 = 89 | CES94 = 82 |
| CES20 = 66 | CES45 = 98 | CES70 = 86 | CES95 = 83 |
| CES21 = 85 | CES46 = 97 | CES71 = 81 | CES96 = 92 |
| CES22 = 78 | CES47 = 97 | CES72 = 94 | CES97 = 95 |
| CES23 = 91 | CES48 = 91 | CES73 = 81 | CES98 = 94 |
| CES24 = 90 | CES49 = 96 | CES74 = 93 | CES99 = 91 |
| CES25 = 71 | CES50 = 97 | CES75 = 83 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)