

Signify Classified - Internal
Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P382931

Luminaire Tested: **GLEON-SA2D-735-U-T4FT**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P382931
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-16)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA2D-735-U-T4FT
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(2) 70 CRI, 3500K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
FORWARD THROW OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14876.8 lumens
Efficiency: N/A
Efficacy: 115.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G3

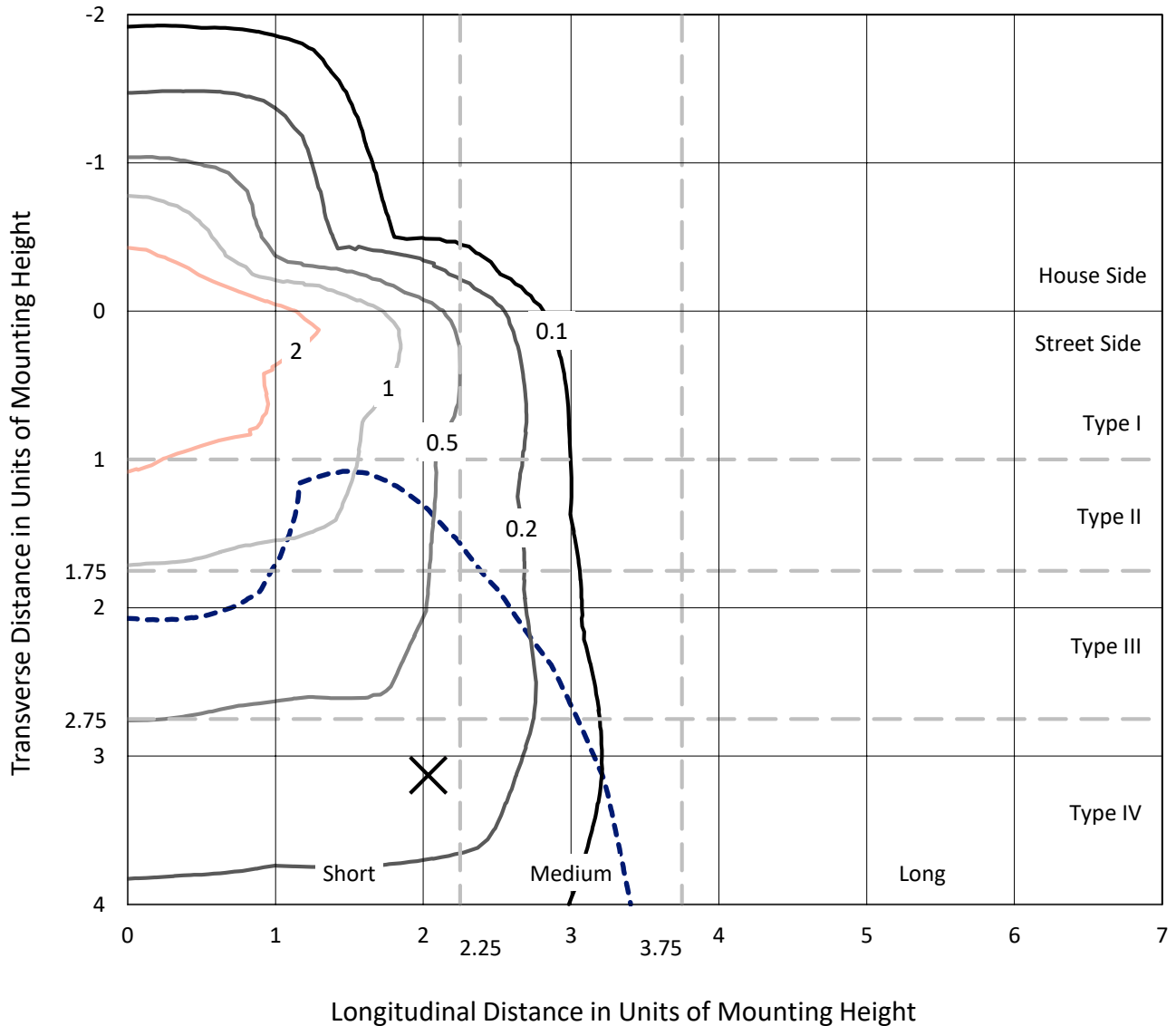
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P382931
 CATALOG NUMBER: GLEON-SA2D-735-U-T4FT

Iso-Footcandle Lines of Horizontal Illumination

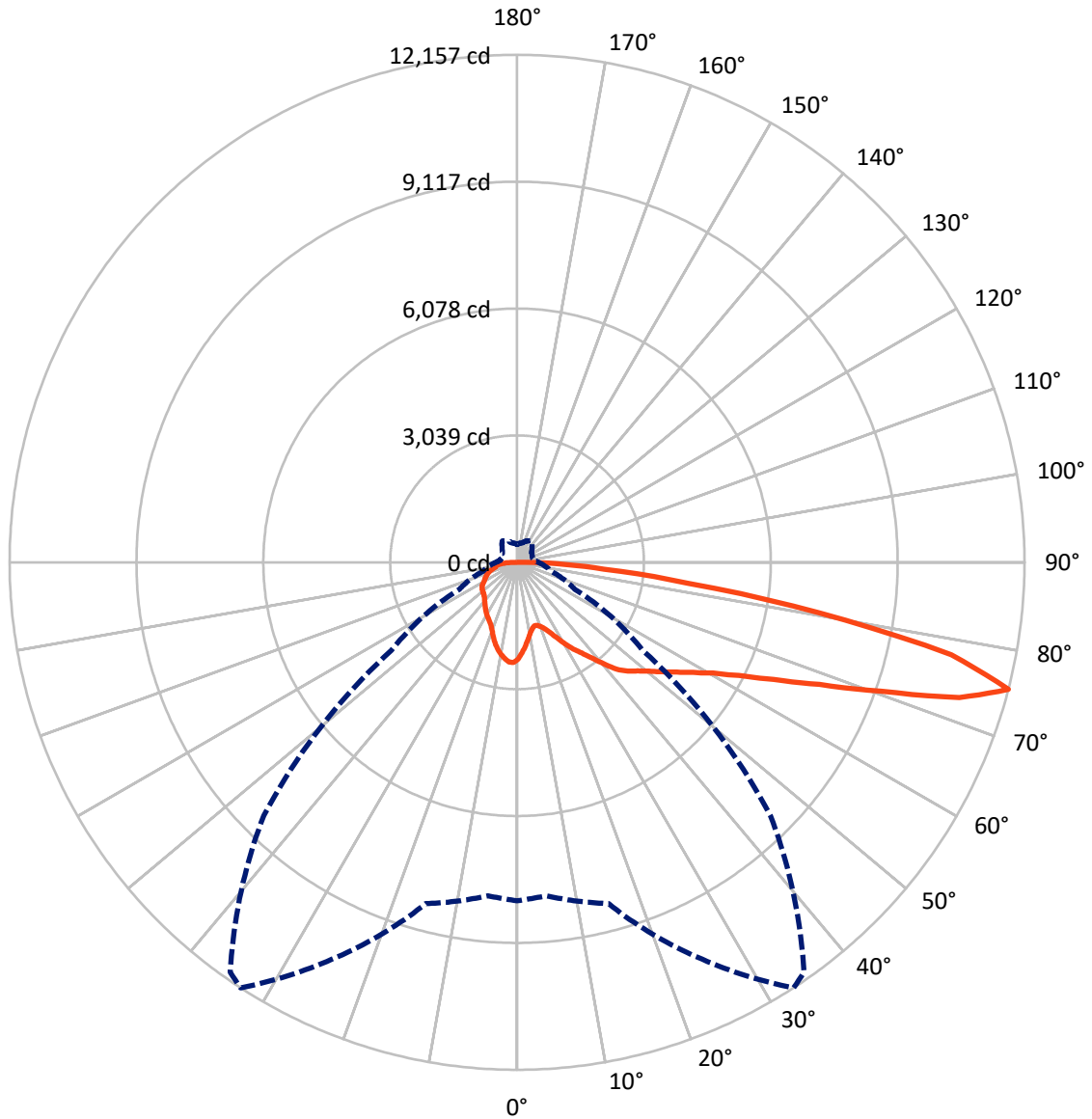
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 3.7 fc
 Type IV - Short - N/A

REPORT NUMBER: P382931
CATALOG NUMBER: GLEON-SA2D-735-U-T4FT

Luminous Intensity Polar Plot



— Vertical Plane Through 33-Deg Lateral - - - Horizontal Cone Through 75-Deg Vertical

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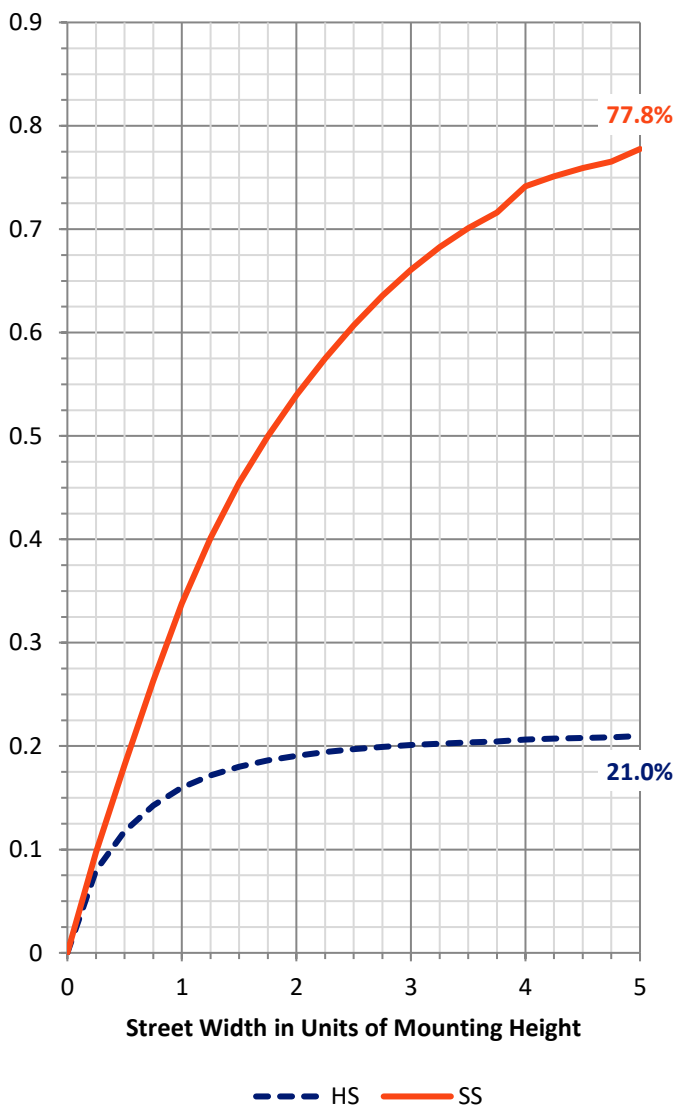
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3194.5 | 0.0 | 3194.5 |
| | % Fixture | 21.5 | 0.0 | 21.5 |
| Street Side | Lumens | 11682.4 | 0.0 | 11682.4 |
| | % Fixture | 78.5 | 0.0 | 78.5 |
| Total | Lumens | 14876.8 | 0.0 | 14876.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 210.3 | 1.4 |
| 10°-20° | 569.6 | 3.8 |
| 20°-30° | 930.2 | 6.3 |
| 30°-40° | 1385.3 | 9.3 |
| 40°-50° | 1986.9 | 13.4 |
| 50°-60° | 2727.7 | 18.3 |
| 60°-70° | 3414.9 | 23.0 |
| 70°-80° | 3089.3 | 20.8 |
| 80°-90° | 562.7 | 3.8 |
| 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° | 14876.8 | 100.0 |
| 0°-180° | 14876.8 | 100.0 |

Coefficient of Utilization

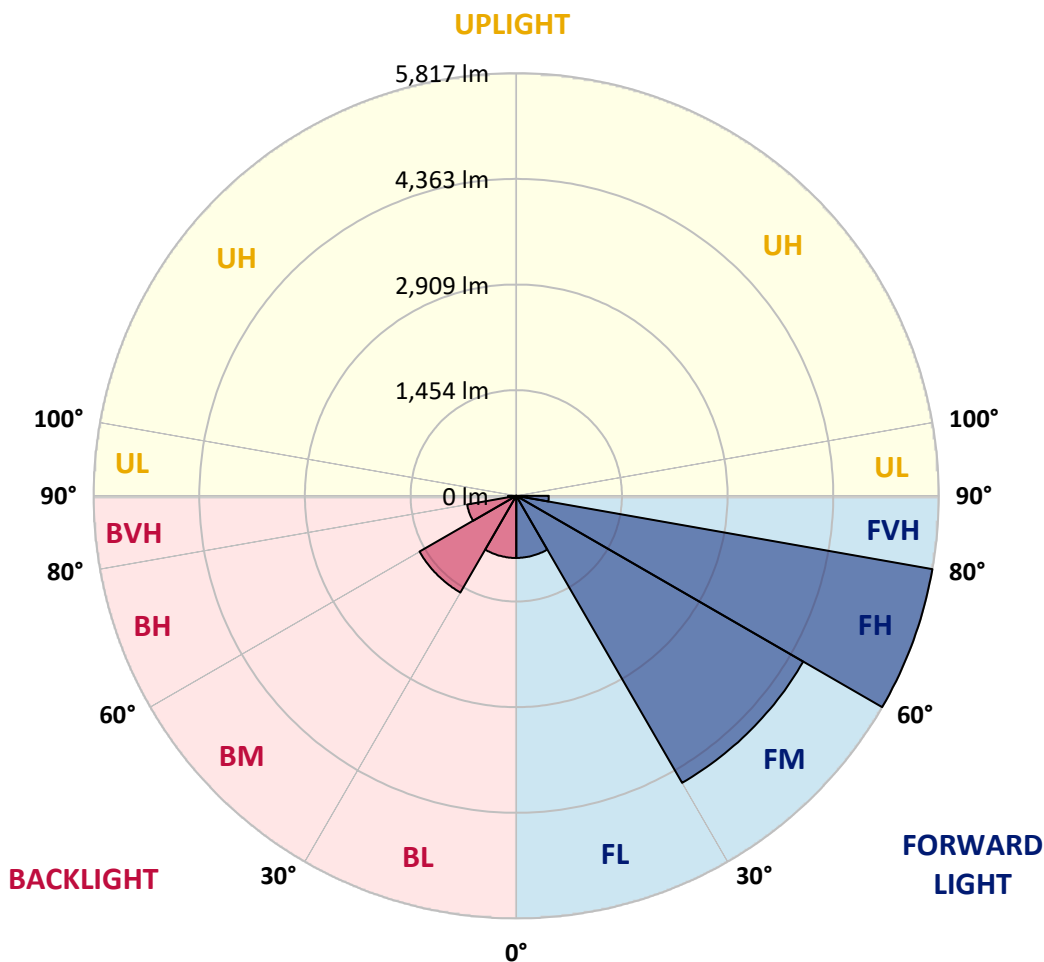


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 CATALOG NUMBER: GLEON-SA2D-735-U-T4FT

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 854.4 | 5.7 | | | |
| FM (30°-60°) | 4562.4 | 30.7 | | | |
| FH (60°-80°) | 5817.3 | 39.1 | | | G3/7500 |
| FVH (80°-90°) | 448.2 | 3.0 | | | G3/500 |
| BL (0°-30°) | 855.6 | 5.8 | B2/1000 | | |
| BM (30°-60°) | 1537.4 | 10.3 | B2/2500 | | |
| BH (60°-80°) | 686.9 | 4.6 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 114.6 | 0.8 | | | G2/225 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G3
 Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 33° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|---------|---------|---------|--------|--------|--------|--------|--------|
| 0° | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 |
| 2.5° | 2159.3 | 2151.1 | 2166.5 | 2168.5 | 2182.0 | 2187.1 | 2205.6 | 2234.4 | 2258.0 | 2285.3 | 2310.0 |
| 5° | 1963.5 | 1957.9 | 1979.4 | 1994.9 | 2024.2 | 2036.5 | 2080.2 | 2141.3 | 2195.8 | 2257.5 | 2313.5 |
| 7.5° | 1777.5 | 1774.4 | 1798.6 | 1833.6 | 1867.5 | 1884.4 | 1960.0 | 2048.8 | 2139.9 | 2239.5 | 2325.3 |
| 10° | 1620.8 | 1619.8 | 1642.9 | 1677.3 | 1727.2 | 1746.2 | 1843.8 | 1961.0 | 2088.4 | 2225.7 | 2345.4 |
| 12.5° | 1533.0 | 1536.5 | 1547.3 | 1576.1 | 1622.3 | 1641.4 | 1749.8 | 1887.5 | 2045.3 | 2221.0 | 2374.7 |
| 15° | 1554.5 | 1560.2 | 1541.6 | 1540.6 | 1573.5 | 1588.4 | 1690.2 | 1835.1 | 2014.5 | 2228.7 | 2417.3 |
| 17.5° | 1646.5 | 1647.5 | 1598.7 | 1567.9 | 1587.9 | 1595.6 | 1671.7 | 1805.2 | 1996.4 | 2246.1 | 2470.7 |
| 20° | 1776.0 | 1773.4 | 1687.1 | 1635.7 | 1646.5 | 1648.6 | 1697.8 | 1805.8 | 1994.9 | 2276.5 | 2540.1 |
| 22.5° | 1947.6 | 1928.6 | 1812.5 | 1742.6 | 1740.0 | 1737.0 | 1765.2 | 1843.8 | 2017.5 | 2325.9 | 2622.9 |
| 25° | 2171.7 | 2153.7 | 1993.9 | 1898.3 | 1877.7 | 1870.0 | 1874.2 | 1925.0 | 2062.3 | 2378.8 | 2715.4 |
| 27.5° | 2420.9 | 2389.6 | 2235.4 | 2100.3 | 2057.6 | 2046.8 | 2022.1 | 2039.6 | 2111.1 | 2429.7 | 2825.4 |
| 30° | 2629.6 | 2612.6 | 2477.9 | 2317.6 | 2267.3 | 2251.8 | 2187.1 | 2168.1 | 2181.4 | 2499.1 | 2964.1 |
| 32.5° | 2746.2 | 2734.9 | 2653.2 | 2523.7 | 2476.9 | 2455.4 | 2363.9 | 2325.9 | 2294.5 | 2608.5 | 3152.2 |
| 35° | 2887.5 | 2880.3 | 2831.0 | 2737.0 | 2667.6 | 2644.9 | 2574.1 | 2534.5 | 2453.8 | 2759.1 | 3395.2 |
| 37.5° | 3067.4 | 3059.7 | 3060.7 | 2984.7 | 2901.9 | 2880.8 | 2834.0 | 2792.4 | 2660.4 | 2956.9 | 3659.4 |
| 40° | 3270.8 | 3255.9 | 3250.4 | 3246.7 | 3194.3 | 3182.4 | 3157.9 | 3101.3 | 2919.4 | 3193.3 | 3920.0 |
| 42.5° | 3577.1 | 3524.2 | 3411.1 | 3453.8 | 3505.7 | 3499.5 | 3519.6 | 3438.4 | 3207.1 | 3472.8 | 4174.3 |
| 45° | 3872.6 | 3785.8 | 3590.6 | 3599.8 | 3713.3 | 3747.8 | 3897.8 | 3840.3 | 3519.1 | 3779.1 | 4437.4 |
| 47.5° | 4007.2 | 3941.5 | 3775.5 | 3776.0 | 3888.6 | 3960.0 | 4288.8 | 4247.8 | 3846.9 | 4127.0 | 4758.5 |
| 50° | 4157.9 | 4092.1 | 3943.1 | 3999.0 | 4097.2 | 4173.2 | 4666.6 | 4645.5 | 4158.9 | 4507.8 | 5143.4 |
| 52.5° | 4322.3 | 4210.8 | 4116.2 | 4216.5 | 4354.1 | 4442.6 | 5044.8 | 4987.2 | 4445.1 | 4891.2 | 5585.9 |
| 55° | 4324.3 | 4294.1 | 4366.0 | 4439.5 | 4645.5 | 4754.0 | 5441.0 | 5288.9 | 4678.4 | 5267.8 | 5946.2 |
| 57.5° | 4570.5 | 4521.2 | 4673.8 | 4707.7 | 4977.0 | 5099.3 | 5835.1 | 5551.5 | 4915.9 | 5556.7 | 6140.4 |
| 60° | 4896.3 | 4854.2 | 4979.0 | 5068.5 | 5387.0 | 5550.4 | 6256.0 | 5821.3 | 5102.4 | 5774.6 | 6131.2 |
| 62.5° | 5459.0 | 5411.2 | 5409.7 | 5535.1 | 5964.1 | 6154.3 | 6728.3 | 6085.9 | 5176.3 | 5817.7 | 5869.6 |
| 65° | 6282.7 | 6206.7 | 6063.4 | 6123.0 | 6761.2 | 6950.8 | 7256.0 | 6277.6 | 5078.7 | 5586.4 | 5195.9 |
| 67.5° | 7084.4 | 7081.8 | 6905.6 | 7027.9 | 7813.6 | 7965.8 | 7857.3 | 6296.6 | 4774.0 | 4781.2 | 4000.6 |
| 70° | 7883.5 | 7893.7 | 7863.9 | 8289.5 | 9235.5 | 9393.8 | 8497.6 | 6041.3 | 4089.0 | 3452.8 | 2396.8 |
| 72.5° | 8516.6 | 8514.1 | 8664.1 | 9761.2 | 11080.9 | 11045.5 | 9037.2 | 5267.3 | 2935.9 | 1863.8 | 1145.4 |
| 75° | 8106.5 | 8017.1 | 8464.2 | 10490.0 | 12156.5 | 11983.2 | 8578.2 | 3674.3 | 1523.6 | 848.5 | 616.7 |
| 77.5° | 5287.4 | 5372.1 | 6028.4 | 8665.6 | 10633.3 | 10422.6 | 6293.5 | 1714.3 | 717.9 | 556.5 | 447.0 |
| 80° | 1914.7 | 2004.1 | 2822.8 | 4908.6 | 7326.0 | 7291.5 | 3099.3 | 704.5 | 485.6 | 420.3 | 325.8 |
| 82.5° | 658.8 | 691.7 | 1113.6 | 2179.9 | 4136.3 | 4290.4 | 1166.0 | 400.3 | 353.1 | 298.1 | 223.0 |
| 85° | 258.5 | 296.0 | 509.3 | 1048.8 | 2086.4 | 2101.8 | 472.3 | 239.5 | 245.6 | 195.3 | 122.3 |
| 87.5° | 98.2 | 119.2 | 243.6 | 487.2 | 952.8 | 875.2 | 169.1 | 114.1 | 139.7 | 116.2 | 58.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P382931
 CATALOG NUMBER: GLEON-SA2D-735-U-T4FT

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 | 2325.3 |
| 2.5° | 2329.0 | 2339.7 | 2362.3 | 2377.8 | 2394.2 | 2398.8 | 2400.9 | 2405.0 | 2409.1 | 2407.6 | 2408.1 |
| 5° | 2343.3 | 2364.4 | 2400.9 | 2416.2 | 2423.5 | 2415.2 | 2399.3 | 2386.4 | 2377.2 | 2372.1 | 2370.5 |
| 7.5° | 2367.0 | 2396.8 | 2435.8 | 2433.2 | 2416.8 | 2380.3 | 2339.2 | 2308.4 | 2282.7 | 2273.4 | 2268.3 |
| 10° | 2398.3 | 2433.2 | 2460.5 | 2431.2 | 2383.4 | 2320.2 | 2258.5 | 2210.7 | 2172.2 | 2157.3 | 2154.8 |
| 12.5° | 2438.4 | 2473.8 | 2478.9 | 2416.8 | 2337.6 | 2251.4 | 2167.5 | 2104.4 | 2046.8 | 2028.3 | 2024.2 |
| 15° | 2490.3 | 2523.7 | 2491.8 | 2391.7 | 2281.2 | 2165.0 | 2056.6 | 1970.8 | 1910.1 | 1887.5 | 1879.3 |
| 17.5° | 2544.8 | 2576.7 | 2494.4 | 2350.0 | 2207.1 | 2062.7 | 1926.5 | 1838.7 | 1769.3 | 1743.1 | 1740.0 |
| 20° | 2610.0 | 2624.4 | 2483.6 | 2290.4 | 2105.4 | 1930.2 | 1786.8 | 1704.1 | 1667.0 | 1648.6 | 1646.5 |
| 22.5° | 2690.7 | 2675.3 | 2458.9 | 2209.7 | 1976.4 | 1777.0 | 1660.4 | 1621.8 | 1612.6 | 1608.5 | 1610.0 |
| 25° | 2776.0 | 2728.7 | 2422.5 | 2104.4 | 1813.5 | 1623.9 | 1567.9 | 1578.7 | 1591.0 | 1589.4 | 1589.4 |
| 27.5° | 2870.0 | 2783.2 | 2366.4 | 1964.5 | 1633.1 | 1498.5 | 1505.2 | 1544.7 | 1563.2 | 1562.8 | 1562.2 |
| 30° | 2990.8 | 2844.9 | 2295.1 | 1796.6 | 1464.6 | 1410.1 | 1450.7 | 1499.0 | 1524.2 | 1523.2 | 1523.6 |
| 32.5° | 3139.3 | 2912.7 | 2197.9 | 1609.0 | 1342.8 | 1344.9 | 1391.6 | 1439.4 | 1468.7 | 1466.1 | 1466.6 |
| 35° | 3313.0 | 2988.8 | 2066.4 | 1424.0 | 1262.1 | 1292.9 | 1330.0 | 1363.3 | 1391.1 | 1387.4 | 1383.9 |
| 37.5° | 3502.2 | 3063.3 | 1891.6 | 1258.5 | 1196.3 | 1244.6 | 1275.5 | 1281.2 | 1293.9 | 1284.7 | 1278.0 |
| 40° | 3681.9 | 3120.3 | 1666.5 | 1122.8 | 1130.1 | 1203.6 | 1223.6 | 1201.0 | 1177.8 | 1174.8 | 1165.5 |
| 42.5° | 3838.7 | 3139.3 | 1438.9 | 1014.5 | 1060.1 | 1160.3 | 1172.7 | 1125.4 | 1083.8 | 1064.3 | 1056.0 |
| 45° | 4004.2 | 3146.0 | 1226.7 | 923.4 | 992.8 | 1121.8 | 1135.2 | 1071.9 | 1013.3 | 971.2 | 957.4 |
| 47.5° | 4220.6 | 3194.3 | 1061.7 | 856.1 | 941.4 | 1096.2 | 1115.2 | 1029.3 | 953.3 | 893.2 | 880.3 |
| 50° | 4503.7 | 3289.9 | 927.5 | 804.8 | 908.1 | 1079.2 | 1100.7 | 987.7 | 903.9 | 831.5 | 818.6 |
| 52.5° | 4818.2 | 3377.8 | 819.1 | 763.1 | 875.7 | 1049.4 | 1082.3 | 957.9 | 857.7 | 774.4 | 760.5 |
| 55° | 5038.1 | 3310.4 | 731.7 | 720.0 | 833.5 | 1006.7 | 1056.6 | 932.7 | 791.3 | 719.0 | 706.6 |
| 57.5° | 5080.3 | 3080.3 | 665.5 | 675.3 | 782.7 | 953.3 | 1017.0 | 876.7 | 755.4 | 694.7 | 681.9 |
| 60° | 4965.1 | 2759.5 | 616.1 | 634.1 | 728.2 | 885.9 | 943.0 | 837.1 | 721.0 | 669.0 | 658.3 |
| 62.5° | 4675.8 | 2431.2 | 579.7 | 597.1 | 677.3 | 817.6 | 896.7 | 795.4 | 686.0 | 639.8 | 629.0 |
| 65° | 4091.5 | 2041.1 | 544.7 | 564.2 | 630.0 | 758.5 | 855.1 | 757.0 | 651.6 | 616.1 | 605.9 |
| 67.5° | 3088.5 | 1528.8 | 511.8 | 529.3 | 587.9 | 707.1 | 809.9 | 719.0 | 618.2 | 595.6 | 583.2 |
| 70° | 1818.7 | 957.4 | 474.3 | 492.8 | 543.7 | 653.7 | 761.5 | 677.3 | 576.5 | 566.3 | 550.4 |
| 72.5° | 846.4 | 576.1 | 431.7 | 449.7 | 488.2 | 582.2 | 699.4 | 622.8 | 527.3 | 504.6 | 483.0 |
| 75° | 505.2 | 421.4 | 381.3 | 397.2 | 424.5 | 506.2 | 621.2 | 567.3 | 480.5 | 450.7 | 428.0 |
| 77.5° | 377.7 | 322.2 | 325.8 | 342.7 | 364.9 | 443.0 | 550.4 | 523.6 | 444.5 | 421.4 | 406.0 |
| 80° | 271.8 | 244.6 | 265.7 | 284.2 | 307.3 | 402.9 | 527.3 | 484.1 | 401.9 | 371.0 | 356.6 |
| 82.5° | 181.4 | 175.8 | 199.9 | 218.9 | 241.6 | 352.5 | 495.4 | 423.9 | 343.3 | 304.2 | 272.4 |
| 85° | 100.2 | 105.8 | 134.6 | 142.9 | 162.4 | 248.2 | 406.0 | 340.7 | 258.5 | 208.1 | 198.9 |
| 87.5° | 41.6 | 48.8 | 72.5 | 69.9 | 86.4 | 148.0 | 267.3 | 205.6 | 164.4 | 122.8 | 95.6 |
| 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-79-08: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

All Brands

Data applicable to all product families using SA light engines

Report Number: SP1-2101-121-7

Luminaire Tested: IFLD-S-SA2A-735-U-T2

Test Date: 03/04/2021

Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-7
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/04/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-735-U-T2**
 Description: STREETWORKS INF FLOOD

PROGRAMMED @ 615mA.

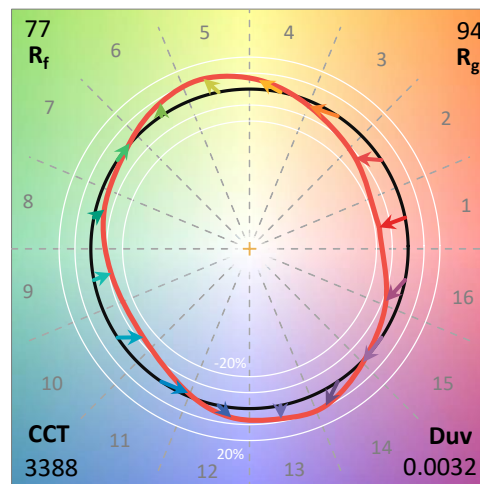
Spectral Parameters

CCT (K): 3388
 CIE u': 0.2371
 CIE v': 0.5177
 Duv: 0.0032
 CIE x: 0.4153
 CIE y: 0.4030
 CIE z: 0.1817
 Peak Wavelength (nm): 590
 Dominant Wavelength (nm): 580
 Purity: 45.7
 Rf: 76.9
 Rg: 94.4

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.1 | | |
| R1: | 68.9 | R9: | -34.6 |
| R2: | 81.1 | R10: | 57.8 |
| R3: | 93.1 | R11: | 68.6 |
| R4: | 71.6 | R12: | 53.9 |
| R5: | 69.4 | R13: | 70.9 |
| R6: | 75.0 | R14: | 96.2 |
| R7: | 79.5 | | |
| R8: | 46.4 | | |

Test Conditions

Stabilization Time: 81M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/30%
 Sphere Temperature (°C): 24.1

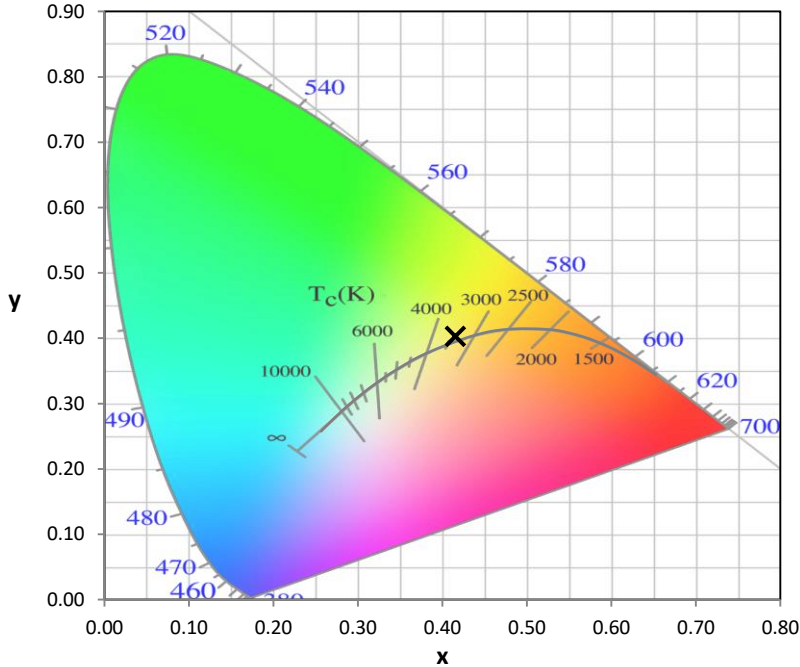


REPORT NUMBER: SP1-2101-121-7

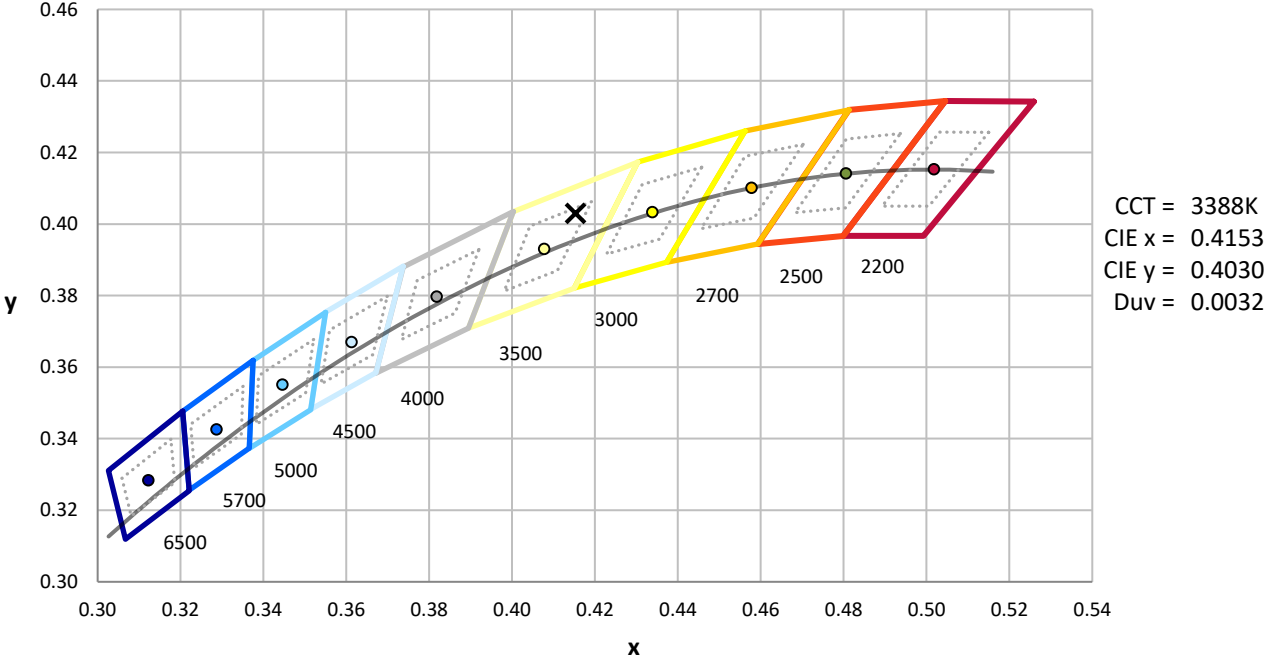
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | IN0046 | 12/1/2020 | 12/1/2021 |

REPORT NUMBER: SP1-2101-121-7

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

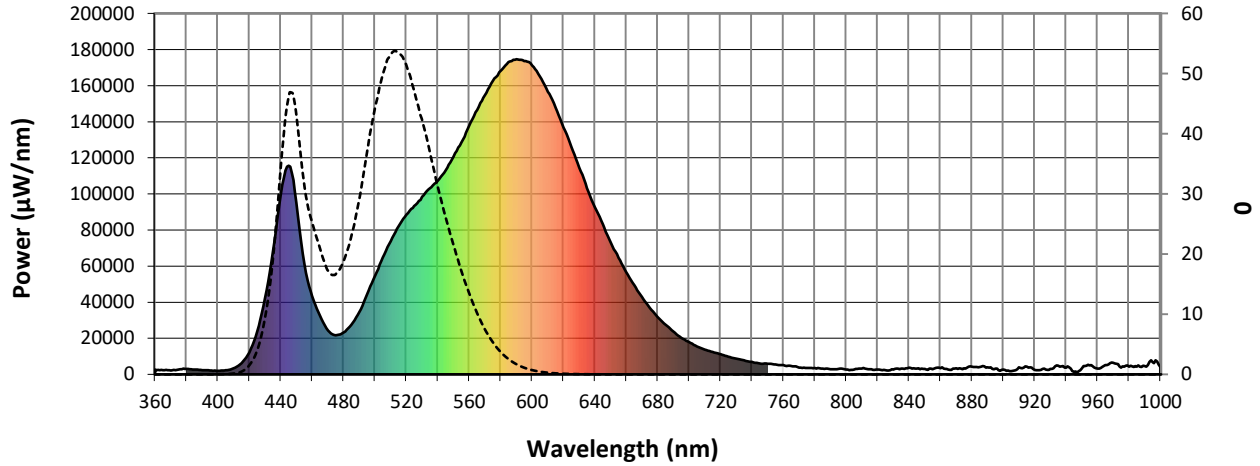


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| λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 4.9 | 620 | 136720 | 35.6 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 8.0 | 625 | 126308 | 27.9 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 12.1 | 630 | 114625 | 20.7 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 18.1 | 635 | 103216 | 15.5 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 25.4 | 640 | 92605 | 11.1 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 33.9 | 645 | 83234 | 8.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 43.0 | 650 | 73263 | 5.4 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 50.1 | 655 | 64627 | 3.7 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 57.9 | 660 | 56614 | 2.4 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 64.0 | 665 | 49537 | 1.6 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.0 | 540 | 107316 | 69.9 | 670 | 42866 | 0.9 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.0 | 545 | 113101 | 75.3 | 675 | 36708 | 0.6 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 0.0 | 550 | 120690 | 82.0 | 680 | 31814 | 0.4 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 0.1 | 555 | 128583 | 87.8 | 685 | 27485 | 0.2 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 0.3 | 560 | 137796 | 93.6 | 690 | 23698 | 0.1 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 0.8 | 565 | 146577 | 97.5 | 695 | 20309 | 0.1 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 1.6 | 570 | 154581 | 100.5 | 700 | 17890 | 0.1 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 2.4 | 575 | 162633 | 101.2 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 2.5 | 580 | 168101 | 99.9 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 2.1 | 585 | 173145 | 96.2 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 1.8 | 590 | 174675 | 90.3 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 1.7 | 595 | 173724 | 82.3 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 1.5 | 600 | 171241 | 73.8 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 1.7 | 605 | 165134 | 64.0 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 2.2 | 610 | 156652 | 53.8 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 3.3 | 615 | 147879 | 44.6 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: 12126

S/P: 1.36

| λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 53.2 | 620 | 136720 | 1.7 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 71.7 | 625 | 126308 | 1.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 91.4 | 630 | 114625 | 0.6 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 110.0 | 635 | 103216 | 0.4 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 125.1 | 640 | 92605 | 0.2 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 135.7 | 645 | 83234 | 0.1 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 140.8 | 650 | 73263 | 0.1 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 139.6 | 655 | 64627 | 0.1 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 135.7 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.1 | 535 | 103269 | 128.7 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.2 | 540 | 107316 | 118.6 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.6 | 545 | 113101 | 108.4 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 2.0 | 550 | 120690 | 98.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 5.9 | 555 | 128583 | 87.9 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 14.3 | 560 | 137796 | 77.0 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 30.5 | 565 | 146577 | 65.8 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 55.5 | 570 | 154581 | 54.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 77.4 | 575 | 162633 | 44.3 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 73.6 | 580 | 168101 | 34.6 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 53.7 | 585 | 173145 | 26.5 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 41.9 | 590 | 174675 | 19.5 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 34.3 | 595 | 173724 | 13.9 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 27.9 | 600 | 171241 | 9.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 27.1 | 605 | 165134 | 6.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 31.3 | 610 | 156652 | 4.2 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 40.0 | 615 | 147879 | 2.7 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Melanopic Flux vs. Wavelength

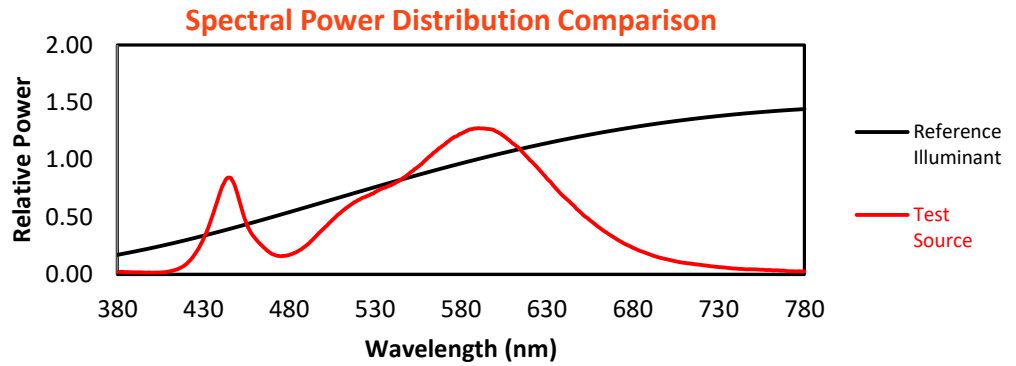


Melanopic Lumens: 4490.7 M/P: 0.5

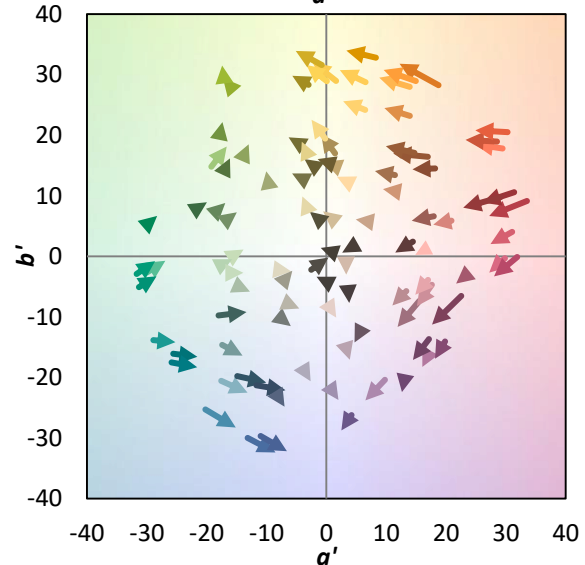
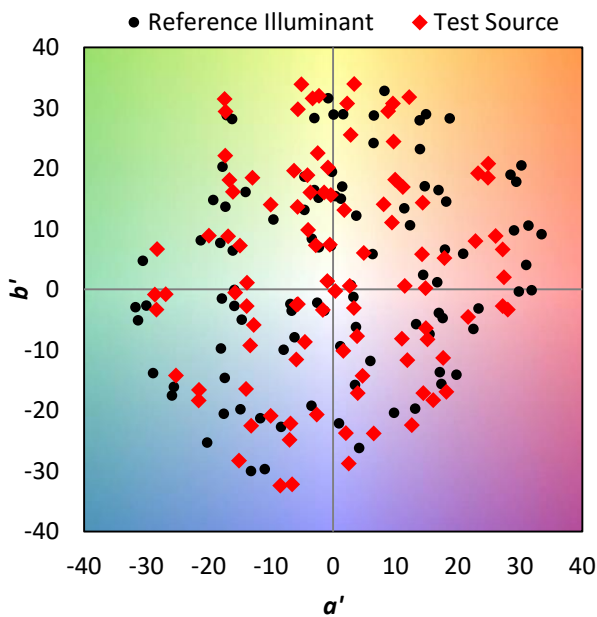
| λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) | λ (nm) | Power (µW/nm) | Lumens (Φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2672 | 0.0 | 490 | 34553 | 28.8 | 620 | 136720 | 0.1 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 36.6 | 625 | 126308 | 0.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 43.9 | 630 | 114625 | 0.0 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 49.6 | 635 | 103216 | 0.0 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 53.0 | 640 | 92605 | 0.0 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 53.5 | 645 | 83234 | 0.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 51.6 | 650 | 73263 | 0.0 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 47.3 | 655 | 64627 | 0.0 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 42.5 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 37.2 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.1 | 540 | 107316 | 31.4 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.4 | 545 | 113101 | 26.3 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 1.4 | 550 | 120690 | 21.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 3.7 | 555 | 128583 | 17.3 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 8.9 | 560 | 137796 | 13.6 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 18.2 | 565 | 146577 | 10.3 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 33.2 | 570 | 154581 | 7.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 45.6 | 575 | 162633 | 5.4 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 43.8 | 580 | 168101 | 3.8 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 32.2 | 585 | 173145 | 2.6 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 25.6 | 590 | 174675 | 1.7 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 21.2 | 595 | 173724 | 1.1 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 17.4 | 600 | 171241 | 0.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 16.6 | 605 | 165134 | 0.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 18.6 | 610 | 156652 | 0.3 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 22.7 | 615 | 147879 | 0.2 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

Summary

$R_f = 76.9$
 $R_g = 94.4$
 $CIE R_a = 73.1$
 $R_g = -34.6$



Color Vector Graphics

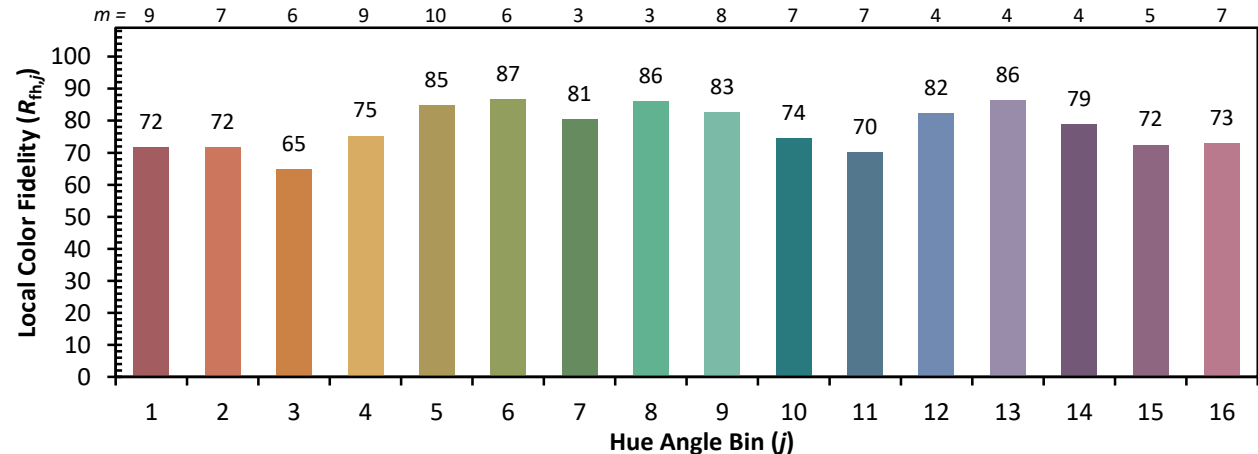
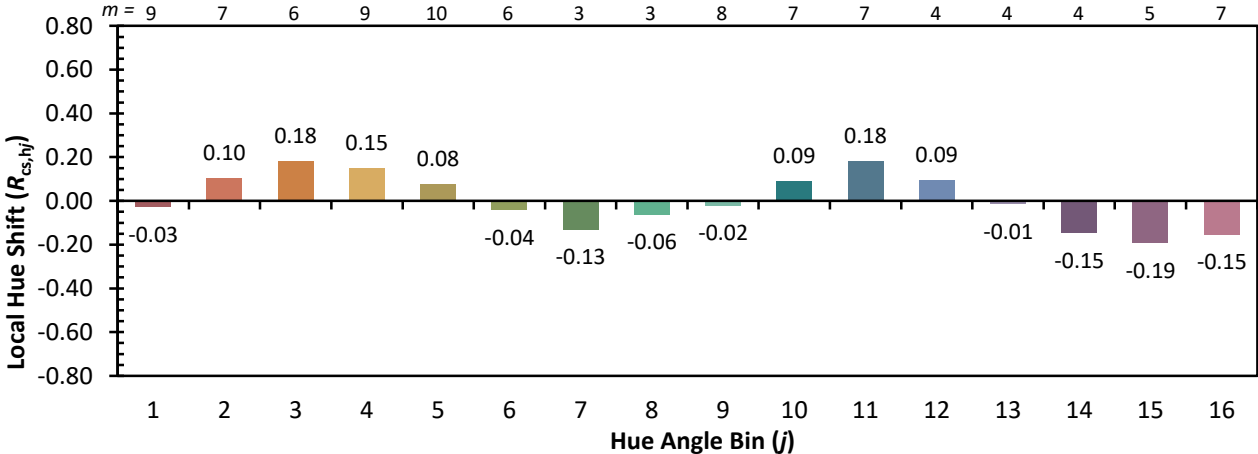
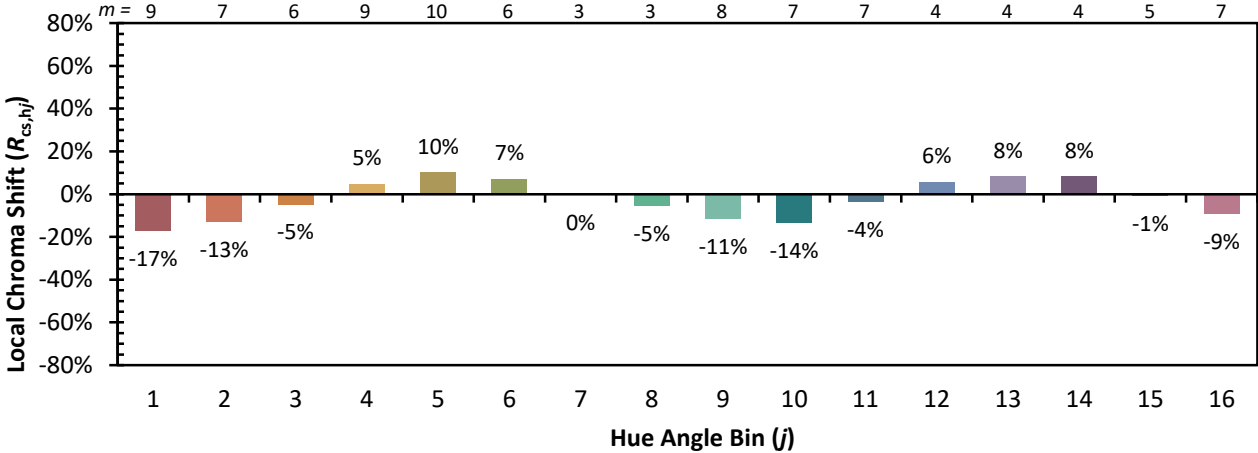


Individual Sample Fidelity Index ($R_{f,i}$)

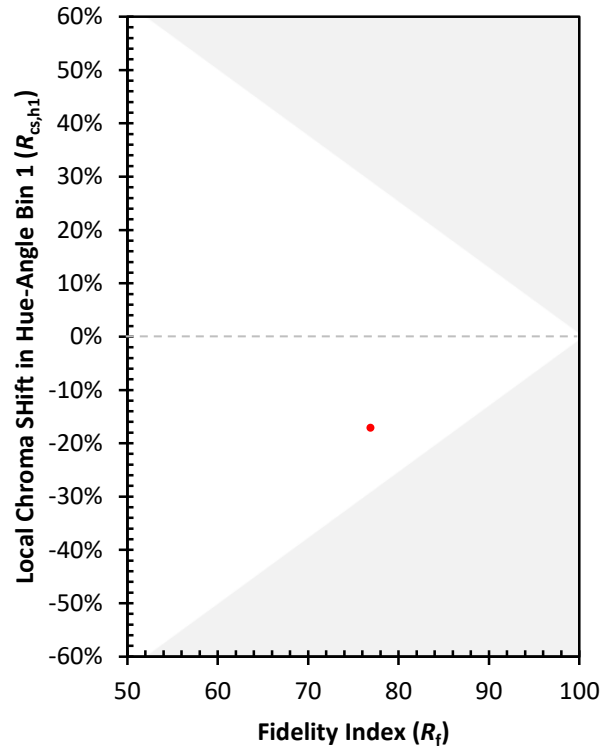
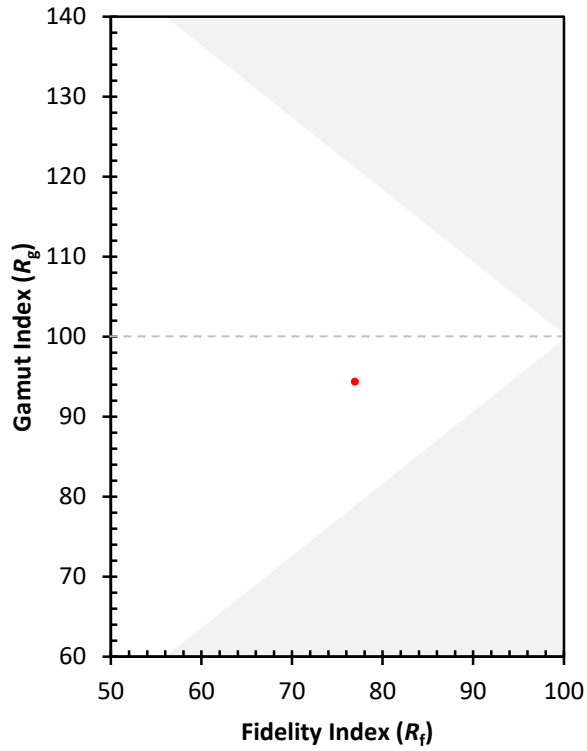
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 63 |
| CES02 = 62 | CES27 = 88 | CES52 = 89 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 80 | CES78 = 65 |
| CES04 = 70 | CES29 = 67 | CES54 = 84 | CES79 = 87 |
| CES05 = 48 | CES30 = 74 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 71 | CES56 = 75 | CES81 = 75 |
| CES07 = 40 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 39 | CES33 = 74 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 78 | CES59 = 87 | CES84 = 89 |
| CES10 = 75 | CES35 = 89 | CES60 = 93 | CES85 = 80 |
| CES11 = 58 | CES36 = 98 | CES61 = 86 | CES86 = 66 |
| CES12 = 64 | CES37 = 86 | CES62 = 89 | CES87 = 79 |
| CES13 = 43 | CES38 = 82 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 74 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 68 | CES90 = 77 |
| CES16 = 47 | CES41 = 89 | CES66 = 71 | CES91 = 88 |
| CES17 = 50 | CES42 = 88 | CES67 = 69 | CES92 = 60 |
| CES18 = 56 | CES43 = 82 | CES68 = 74 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 82 | CES94 = 52 |
| CES20 = 65 | CES45 = 87 | CES70 = 67 | CES95 = 69 |
| CES21 = 86 | CES46 = 82 | CES71 = 66 | CES96 = 78 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 72 | CES73 = 59 | CES98 = 76 |
| CES24 = 91 | CES49 = 82 | CES74 = 97 | CES99 = 63 |
| CES25 = 72 | CES50 = 88 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)