

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P631899

Luminaire Tested: GWS-SA2B-750-U-T3-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P631899
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-23)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2B-750-U-T3-W
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS
Light Source: (32) 5000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7064.2 lumens
Efficiency: N/A
Efficacy: 152.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type III - Short
BUG Rating: B1 - U0 - G2

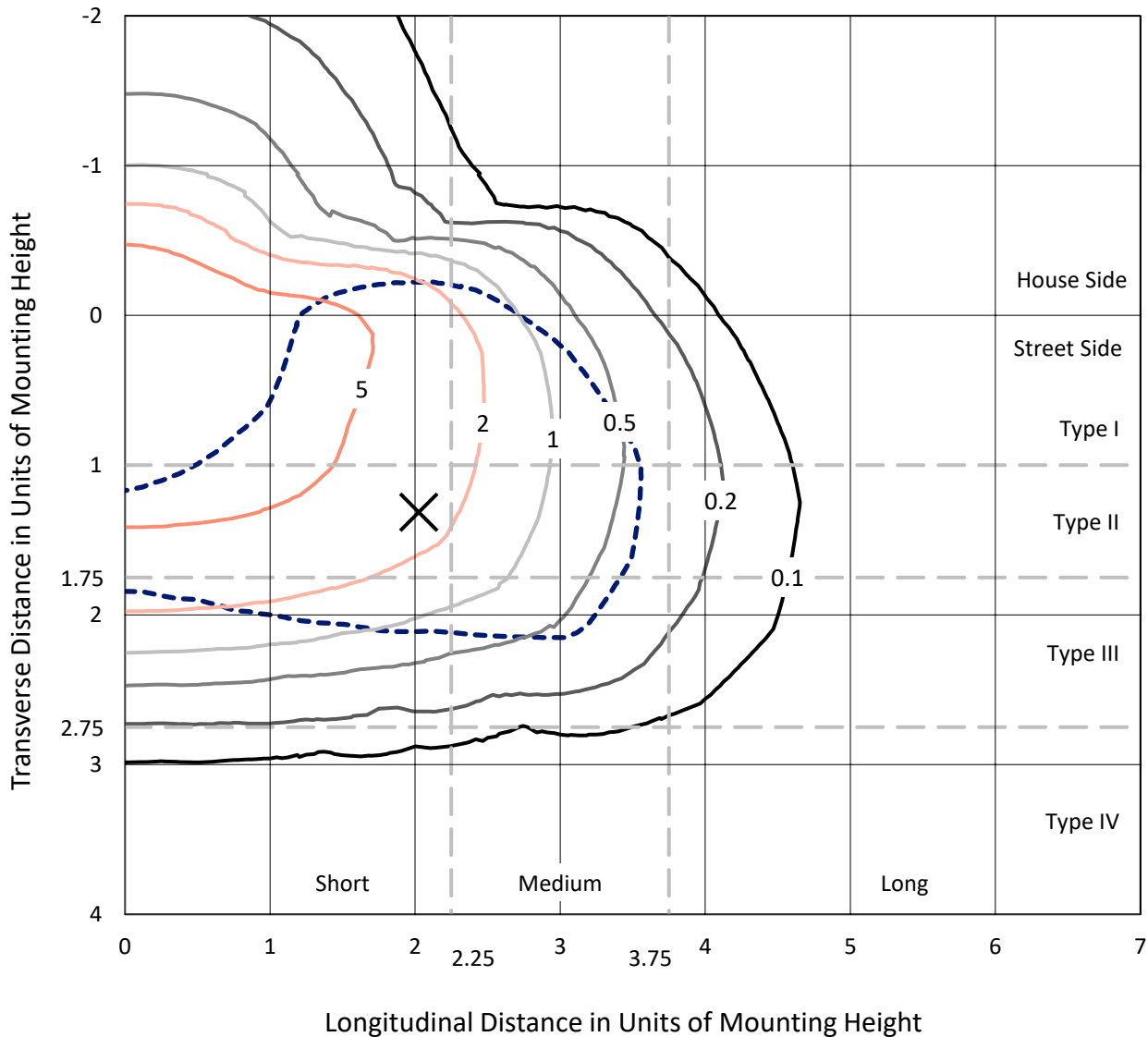
Input Watts (W): 46.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P631899
 CATALOG NUMBER: GWS-SA2B-750-U-T3-W

Iso-Footcandle Lines of Horizontal Illumination

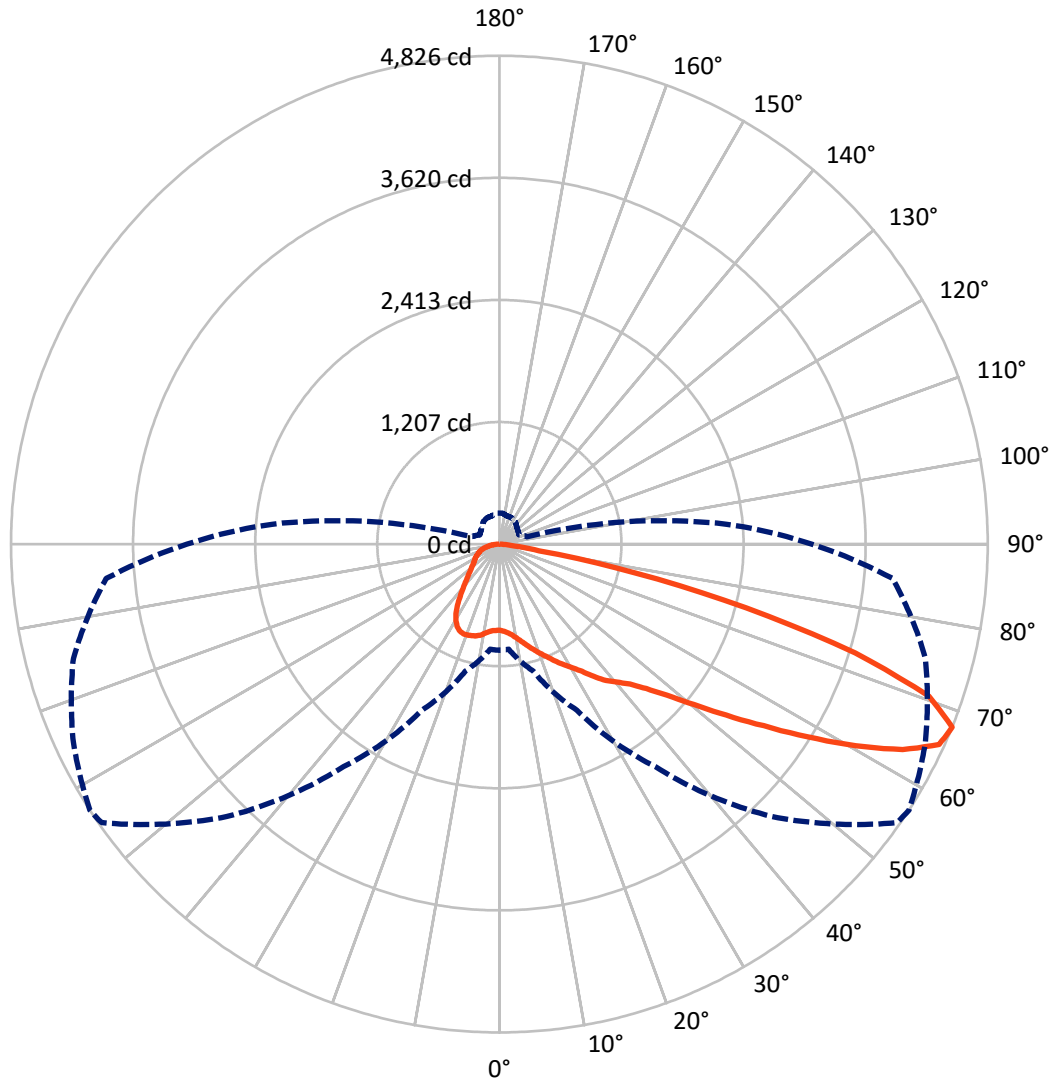
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 10 fc
 Type III - Short - N/A

REPORT NUMBER: P631899
CATALOG NUMBER: GWS-SA2B-750-U-T3-W

Luminous Intensity Polar Plot



— Vertical Plane Through 57-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

REPORT NUMBER: P631899

CATALOG NUMBER: GWS-SA2B-750-U-T3-W

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1553.1 | 0.0 | 1553.1 |
| | % Fixture | 22.0 | 0.0 | 22.0 |
| Street Side | Lumens | 5511.1 | 0.0 | 5511.1 |
| | % Fixture | 78.0 | 0.0 | 78.0 |
| Total | Lumens | 7064.2 | 0.0 | 7064.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 84.4 | 1.2 |
| 10°-20° | 279.5 | 4.0 |
| 20°-30° | 498.3 | 7.1 |
| 30°-40° | 724.4 | 10.3 |
| 40°-50° | 1048.4 | 14.8 |
| 50°-60° | 1640.8 | 23.2 |
| 60°-70° | 1914.1 | 27.1 |
| 70°-80° | 799.0 | 11.3 |
| 80°-90° | 75.4 | 1.1 |
| 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° | 7064.2 | 100.0 |
| 0°-180° | 7064.2 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P631899

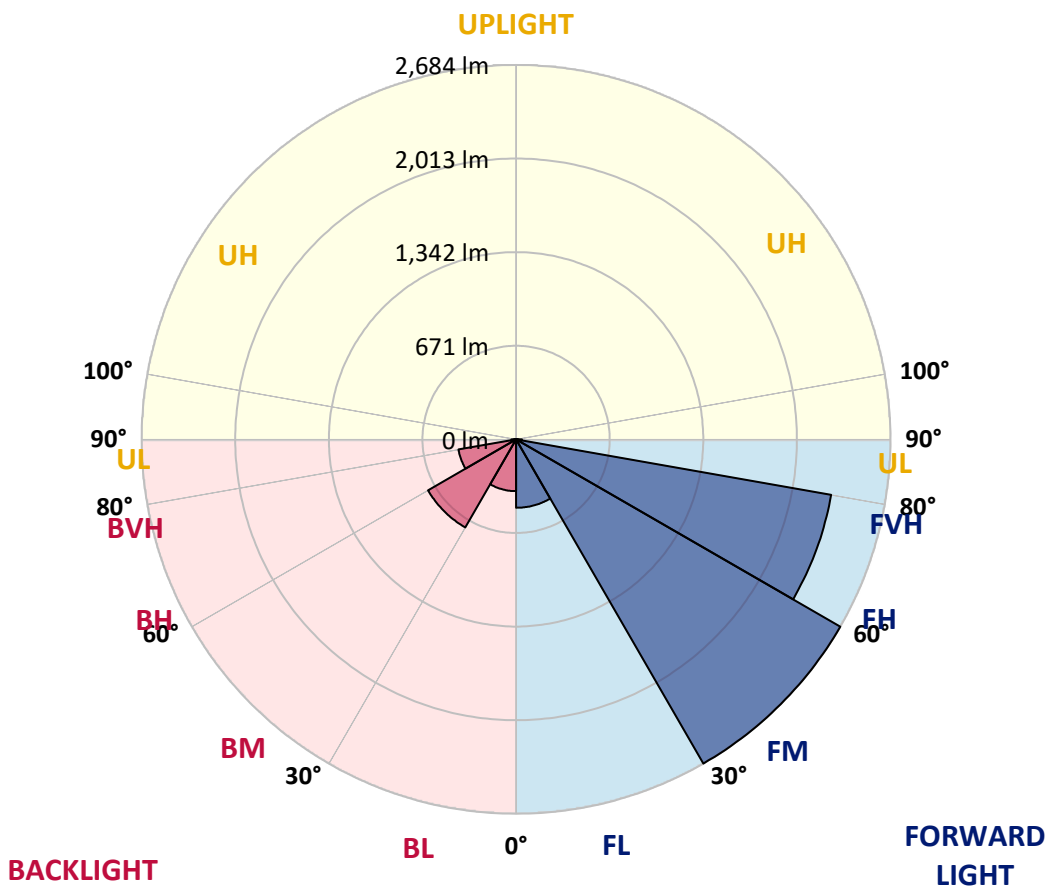
CATALOG NUMBER: GWS-SA2B-750-U-T3-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 490.7 | 6.9 | | | |
| FM (30°-60°) | 2684.5 | 38.0 | | | |
| FH (60°-80°) | 2293.9 | 32.5 | | | G2/5000 |
| FVH (80°-90°) | 42.0 | 0.6 | | | G1/100 |
| BL (0°-30°) | 371.5 | 5.3 | B1/500 | | |
| BM (30°-60°) | 729.1 | 10.3 | B1/1000 | | |
| BH (60°-80°) | 419.2 | 5.9 | B1/500 | | G1/500 |
| BVH (80°-90°) | 33.4 | 0.5 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type III Short





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 CATALOG NUMBER: GWS-SA2B-750-U-T3-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 57° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 |
| 2.5° | 863.3 | 862.3 | 861.8 | 864.9 | 863.8 | 863.3 | 863.3 | 862.8 | 861.8 | 857.8 | 852.2 |
| 5° | 887.1 | 885.1 | 883.1 | 885.6 | 883.6 | 881.6 | 881.0 | 880.0 | 876.5 | 870.4 | 861.8 |
| 7.5° | 911.9 | 909.9 | 910.4 | 911.9 | 910.4 | 909.4 | 907.9 | 906.9 | 901.3 | 891.7 | 880.0 |
| 10° | 946.8 | 946.8 | 947.8 | 949.4 | 949.9 | 948.4 | 945.3 | 943.8 | 937.2 | 925.1 | 908.9 |
| 12.5° | 997.4 | 996.4 | 996.4 | 995.4 | 996.9 | 995.4 | 992.4 | 989.8 | 981.8 | 966.1 | 942.8 |
| 15° | 1064.2 | 1060.2 | 1056.6 | 1050.1 | 1048.0 | 1042.5 | 1043.5 | 1042.0 | 1034.4 | 1013.1 | 983.8 |
| 17.5° | 1135.6 | 1135.1 | 1129.5 | 1116.4 | 1103.2 | 1094.1 | 1096.1 | 1095.6 | 1091.6 | 1062.7 | 1025.3 |
| 20° | 1198.3 | 1200.9 | 1195.8 | 1185.7 | 1168.0 | 1150.8 | 1149.8 | 1152.3 | 1147.2 | 1118.4 | 1066.3 |
| 22.5° | 1268.7 | 1266.7 | 1261.6 | 1248.4 | 1235.3 | 1217.1 | 1211.0 | 1209.0 | 1206.9 | 1174.1 | 1108.3 |
| 25° | 1335.5 | 1341.6 | 1335.0 | 1322.8 | 1302.6 | 1282.9 | 1277.8 | 1279.8 | 1274.3 | 1230.7 | 1153.3 |
| 27.5° | 1420.0 | 1422.5 | 1418.5 | 1401.8 | 1384.6 | 1356.7 | 1347.1 | 1347.1 | 1345.1 | 1283.9 | 1188.7 |
| 30° | 1510.1 | 1517.2 | 1510.1 | 1496.4 | 1478.7 | 1438.7 | 1418.0 | 1415.9 | 1409.9 | 1338.5 | 1230.2 |
| 32.5° | 1600.7 | 1605.7 | 1600.7 | 1587.5 | 1567.3 | 1532.3 | 1502.5 | 1497.9 | 1489.8 | 1398.2 | 1272.7 |
| 35° | 1681.1 | 1685.7 | 1684.7 | 1687.7 | 1671.0 | 1627.0 | 1608.8 | 1606.7 | 1585.5 | 1476.2 | 1330.4 |
| 37.5° | 1769.2 | 1774.7 | 1767.2 | 1773.2 | 1766.6 | 1725.1 | 1719.6 | 1709.5 | 1679.1 | 1549.5 | 1391.2 |
| 40° | 1869.4 | 1874.4 | 1862.3 | 1864.8 | 1857.2 | 1834.0 | 1805.6 | 1791.9 | 1746.9 | 1629.0 | 1486.8 |
| 42.5° | 1976.7 | 1988.3 | 1993.9 | 1989.3 | 1971.6 | 1958.4 | 1908.8 | 1891.6 | 1854.2 | 1772.2 | 1644.2 |
| 45° | 2132.0 | 2149.2 | 2157.3 | 2145.7 | 2138.1 | 2119.4 | 2058.6 | 2037.9 | 2018.2 | 1974.1 | 1863.8 |
| 47.5° | 2299.5 | 2315.2 | 2341.0 | 2346.1 | 2352.2 | 2338.0 | 2252.5 | 2232.2 | 2235.8 | 2230.7 | 2134.0 |
| 50° | 2433.1 | 2446.3 | 2504.5 | 2566.7 | 2618.3 | 2622.4 | 2513.1 | 2491.3 | 2510.5 | 2526.7 | 2459.4 |
| 52.5° | 2530.3 | 2541.9 | 2618.8 | 2747.4 | 2864.3 | 2950.8 | 2832.9 | 2808.1 | 2823.8 | 2860.2 | 2829.4 |
| 55° | 2609.2 | 2625.4 | 2705.9 | 2903.2 | 3139.6 | 3276.2 | 3200.8 | 3169.4 | 3162.9 | 3207.9 | 3225.6 |
| 57.5° | 2650.7 | 2655.8 | 2768.6 | 3025.2 | 3341.5 | 3595.5 | 3628.4 | 3593.0 | 3530.3 | 3555.1 | 3647.2 |
| 60° | 2556.1 | 2564.7 | 2719.0 | 3056.6 | 3500.9 | 3912.3 | 4077.3 | 4048.0 | 3914.4 | 3928.0 | 4029.7 |
| 62.5° | 2294.5 | 2306.6 | 2492.3 | 2907.3 | 3514.1 | 4123.9 | 4491.8 | 4473.0 | 4293.9 | 4220.0 | 4250.4 |
| 65° | 1840.5 | 1844.6 | 2036.9 | 2537.9 | 3252.4 | 4150.2 | 4780.7 | 4776.2 | 4559.1 | 4386.0 | 4255.9 |
| 67.5° | 1049.6 | 1042.5 | 1299.6 | 1810.2 | 2684.1 | 3808.1 | 4799.4 | 4826.3 | 4645.1 | 4358.7 | 3901.7 |
| 70° | 454.9 | 456.0 | 574.4 | 893.2 | 1737.3 | 3077.8 | 4457.9 | 4503.9 | 4396.1 | 3903.7 | 3104.2 |
| 72.5° | 210.5 | 213.6 | 264.7 | 386.6 | 741.9 | 1909.4 | 3635.0 | 3676.5 | 3583.9 | 3124.4 | 2258.5 |
| 75° | 148.8 | 151.3 | 176.6 | 221.7 | 341.1 | 743.9 | 2431.6 | 2518.6 | 2563.7 | 2337.0 | 1488.3 |
| 77.5° | 112.9 | 116.4 | 129.0 | 153.8 | 210.5 | 263.7 | 1163.4 | 1370.9 | 1633.0 | 1453.9 | 766.7 |
| 80° | 71.9 | 71.9 | 85.5 | 102.7 | 128.5 | 137.1 | 336.0 | 398.3 | 799.1 | 599.2 | 301.1 |
| 82.5° | 48.6 | 50.1 | 58.2 | 65.3 | 73.9 | 77.9 | 144.2 | 153.8 | 230.8 | 203.9 | 124.0 |
| 85° | 25.8 | 26.8 | 30.4 | 29.9 | 35.4 | 30.9 | 60.7 | 60.2 | 84.5 | 92.6 | 47.1 |
| 87.5° | 0.0 | 0.0 | 0.5 | 0.5 | 1.0 | 1.5 | 6.6 | 7.1 | 17.7 | 28.3 | 15.7 |
| 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: P631899
 CATALOG NUMBER: GWS-SA2B-750-U-T3-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 | 851.2 |
| 2.5° | 855.2 | 849.2 | 852.2 | 851.2 | 854.2 | 854.2 | 848.7 | 847.1 | 847.6 | 841.6 | 839.5 |
| 5° | 862.8 | 855.7 | 857.3 | 855.2 | 858.3 | 860.8 | 858.3 | 858.3 | 861.3 | 856.8 | 854.2 |
| 7.5° | 880.0 | 871.9 | 871.9 | 869.4 | 872.9 | 875.0 | 872.9 | 876.0 | 881.6 | 877.0 | 874.5 |
| 10° | 907.4 | 897.7 | 898.3 | 895.2 | 896.7 | 895.7 | 887.6 | 885.1 | 886.6 | 882.6 | 880.5 |
| 12.5° | 942.8 | 929.6 | 929.6 | 923.6 | 920.0 | 909.4 | 892.7 | 886.6 | 887.6 | 884.1 | 882.6 |
| 15° | 976.7 | 964.5 | 962.0 | 949.9 | 933.7 | 913.9 | 898.8 | 894.7 | 895.7 | 892.2 | 889.6 |
| 17.5° | 1016.7 | 1001.0 | 991.9 | 969.6 | 939.7 | 919.5 | 904.3 | 894.7 | 886.6 | 878.5 | 876.5 |
| 20° | 1053.6 | 1033.9 | 1017.2 | 982.8 | 946.3 | 918.5 | 890.2 | 866.4 | 846.6 | 836.0 | 833.5 |
| 22.5° | 1091.6 | 1066.3 | 1036.9 | 991.9 | 945.8 | 900.3 | 848.2 | 812.2 | 782.9 | 767.2 | 770.2 |
| 25° | 1127.5 | 1095.6 | 1055.6 | 1000.5 | 929.6 | 859.8 | 788.9 | 735.3 | 701.9 | 689.8 | 686.2 |
| 27.5° | 1157.4 | 1117.9 | 1072.8 | 996.4 | 896.2 | 801.6 | 708.0 | 648.3 | 615.9 | 602.2 | 598.7 |
| 30° | 1190.8 | 1146.2 | 1097.6 | 977.7 | 843.6 | 720.1 | 616.4 | 567.8 | 544.5 | 531.4 | 531.9 |
| 32.5° | 1229.2 | 1182.7 | 1132.6 | 941.8 | 776.3 | 632.1 | 541.0 | 507.6 | 488.9 | 475.7 | 473.7 |
| 35° | 1280.8 | 1234.8 | 1155.8 | 887.6 | 690.8 | 551.1 | 489.4 | 462.0 | 438.8 | 421.5 | 418.0 |
| 37.5° | 1344.6 | 1313.2 | 1158.4 | 815.3 | 599.2 | 495.4 | 452.4 | 423.1 | 394.7 | 372.0 | 369.4 |
| 40° | 1453.9 | 1418.0 | 1137.6 | 724.7 | 521.2 | 459.5 | 421.5 | 387.6 | 354.7 | 329.4 | 325.9 |
| 42.5° | 1609.8 | 1535.9 | 1093.1 | 622.5 | 462.5 | 431.2 | 392.2 | 349.2 | 315.8 | 298.1 | 295.5 |
| 45° | 1808.1 | 1667.5 | 1026.3 | 526.3 | 419.0 | 403.3 | 361.3 | 316.3 | 298.6 | 285.9 | 283.4 |
| 47.5° | 2051.0 | 1820.8 | 949.4 | 451.4 | 385.1 | 378.0 | 329.9 | 305.2 | 289.5 | 278.8 | 276.3 |
| 50° | 2341.5 | 2016.1 | 886.1 | 392.7 | 354.7 | 348.7 | 319.8 | 298.6 | 285.9 | 277.3 | 275.3 |
| 52.5° | 2673.0 | 2233.2 | 855.2 | 350.7 | 328.4 | 322.4 | 316.3 | 297.1 | 286.4 | 279.8 | 277.3 |
| 55° | 3017.1 | 2462.0 | 826.4 | 318.3 | 306.2 | 309.7 | 316.8 | 302.1 | 294.0 | 285.4 | 282.9 |
| 57.5° | 3349.6 | 2676.5 | 755.5 | 293.0 | 290.0 | 303.6 | 319.3 | 307.2 | 297.6 | 289.0 | 285.9 |
| 60° | 3578.8 | 2793.9 | 635.6 | 272.8 | 277.8 | 296.0 | 312.7 | 299.6 | 287.4 | 283.9 | 282.4 |
| 62.5° | 3640.6 | 2779.8 | 493.4 | 252.0 | 263.1 | 279.3 | 295.5 | 286.9 | 274.3 | 279.8 | 280.4 |
| 65° | 3496.3 | 2628.0 | 370.4 | 231.8 | 243.9 | 257.6 | 277.8 | 274.3 | 269.7 | 284.9 | 285.4 |
| 67.5° | 3088.0 | 2255.0 | 282.4 | 214.1 | 224.2 | 240.9 | 272.3 | 286.9 | 287.9 | 307.2 | 305.2 |
| 70° | 2336.5 | 1684.7 | 221.1 | 197.4 | 209.0 | 240.9 | 290.0 | 296.5 | 284.4 | 302.1 | 298.1 |
| 72.5° | 1615.3 | 1111.8 | 188.3 | 182.7 | 190.3 | 229.7 | 289.5 | 289.5 | 276.3 | 276.3 | 268.7 |
| 75° | 1003.5 | 653.8 | 164.0 | 164.0 | 164.0 | 200.9 | 281.4 | 266.7 | 243.4 | 232.8 | 226.7 |
| 77.5° | 495.4 | 317.8 | 137.6 | 142.7 | 137.1 | 168.0 | 229.7 | 218.1 | 203.9 | 192.8 | 188.8 |
| 80° | 211.5 | 158.9 | 111.3 | 116.9 | 110.3 | 126.5 | 182.2 | 179.7 | 166.0 | 151.3 | 146.8 |
| 82.5° | 97.2 | 82.0 | 89.1 | 91.6 | 80.5 | 95.1 | 133.1 | 133.1 | 125.5 | 105.3 | 97.7 |
| 85° | 41.5 | 43.5 | 61.7 | 61.7 | 50.6 | 53.6 | 71.4 | 67.8 | 60.7 | 49.6 | 45.5 |
| 87.5° | 14.2 | 21.3 | 31.4 | 27.3 | 10.6 | 4.6 | 2.5 | 1.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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



LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-4-R4

Test Date: 10/02/2019

Luminaire Tested: SA1C-750-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-4-R4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/28/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: McGRAW-EDISON
 Catalog Number: **SA1C-750-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 4884 | CRI (Ra): | 73.5 | R9: | -28.4 |
| CIE u': | 0.2101 | R1: | 70.5 | R10: | 48.6 |
| CIE v': | 0.4904 | R2: | 77.7 | R11: | 73.2 |
| Duv: | 0.0037 | R3: | 84.6 | R12: | 50.7 |
| CIE x: | 0.3493 | R4: | 74.7 | R13: | 71.2 |
| CIE y: | 0.3624 | R5: | 71.9 | R14: | 91.4 |
| CIE z: | 0.2884 | R6: | 70.7 | | |
| Peak Wavelength (nm): | 444 | R7: | 81.2 | | |
| Dominant Wavelength (nm): | 571 | R8: | 56.9 | | |
| Purity: | 13.7 | | | | |
| Rf: | 74.9 | | | | |
| Rg: | 96.3 | | | | |



Test Conditions

Stabilization Time: 240M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0./44%
 Sphere Temperature (°C): 25.7

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| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

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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 5000K 4-step quadrangle

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Photopic Flux vs. Wavelength



#####

| 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 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

REPORT NUMBER: SP1-1908-441-4-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 13493.5 S/P: 1.77

| 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 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

REPORT NUMBER: SP1-1908-441-4-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 5378.9 M/P: 0.71

| 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 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

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TM-30-18

Summary

$R_f = 74.9$
 $R_g = 96.3$
 CIE $R_a = 73.5$
 $R_g = -28.4$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 61 | CES51 = 90 | CES76 = 52 |
| CES02 = 60 | CES27 = 84 | CES52 = 91 | CES77 = 71 |
| CES03 = 30 | CES28 = 81 | CES53 = 79 | CES78 = 54 |
| CES04 = 69 | CES29 = 58 | CES54 = 83 | CES79 = 80 |
| CES05 = 46 | CES30 = 67 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 63 | CES56 = 73 | CES81 = 77 |
| CES07 = 39 | CES32 = 59 | CES57 = 72 | CES82 = 90 |
| CES08 = 38 | CES33 = 69 | CES58 = 73 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 88 | CES84 = 88 |
| CES10 = 73 | CES35 = 83 | CES60 = 93 | CES85 = 84 |
| CES11 = 56 | CES36 = 95 | CES61 = 88 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 85 | CES87 = 78 |
| CES13 = 41 | CES38 = 76 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 93 | CES64 = 74 | CES89 = 75 |
| CES15 = 70 | CES40 = 86 | CES65 = 67 | CES90 = 77 |
| CES16 = 46 | CES41 = 87 | CES66 = 69 | CES91 = 89 |
| CES17 = 49 | CES42 = 78 | CES67 = 67 | CES92 = 66 |
| CES18 = 55 | CES43 = 75 | CES68 = 73 | CES93 = 80 |
| CES19 = 71 | CES44 = 99 | CES69 = 81 | CES94 = 57 |
| CES20 = 64 | CES45 = 83 | CES70 = 63 | CES95 = 71 |
| CES21 = 85 | CES46 = 81 | CES71 = 60 | CES96 = 78 |
| CES22 = 77 | CES47 = 80 | CES72 = 86 | CES97 = 85 |
| CES23 = 91 | CES48 = 72 | CES73 = 53 | CES98 = 75 |
| CES24 = 90 | CES49 = 81 | CES74 = 96 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 58 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)