

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: P632226

Luminaire Tested: GWS-SA2C-730-U-T3-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P632226
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-24)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2C-730-U-T3-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (32) 3000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5204.4 lumens
Efficiency: N/A
Efficacy: 82.3 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G0

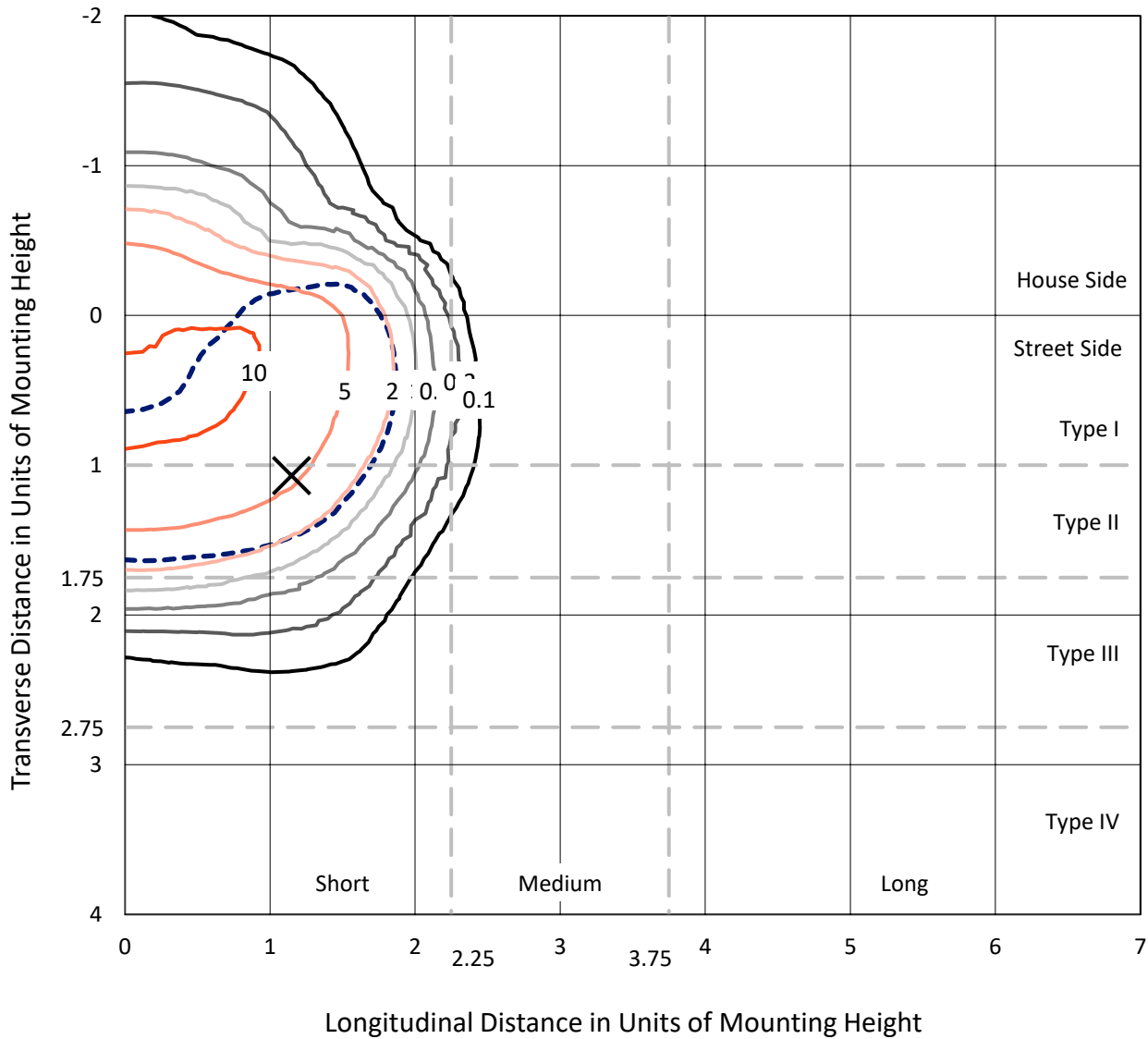
Input Watts (W): 63.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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 CATALOG NUMBER: GWS-SA2C-730-U-T3-W-GRSBK

Iso-Footcandle Lines of Horizontal Illumination

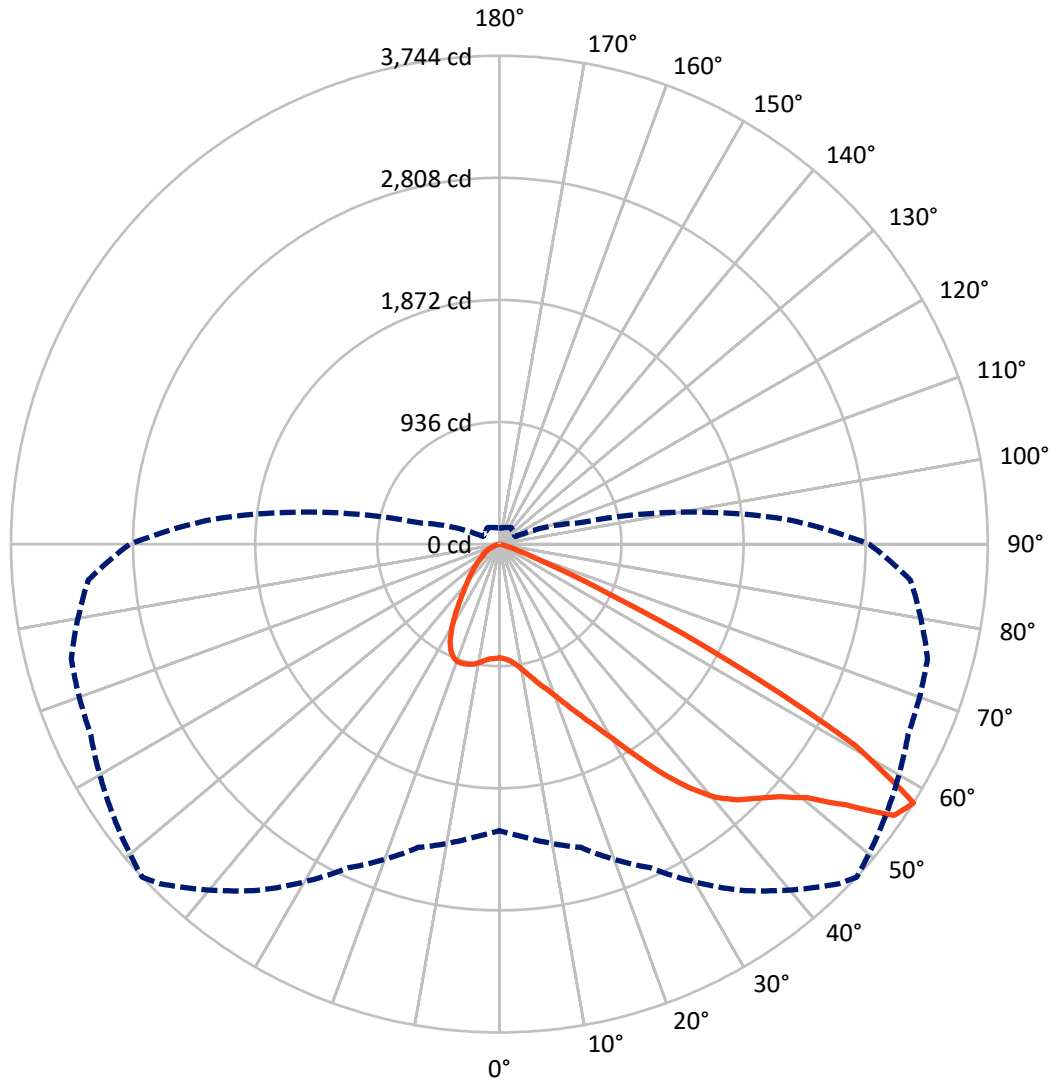
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.3 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 47-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1129.1 | 0.0 | 1129.1 |
| | % Fixture | 21.7 | 0.0 | 21.7 |
| Street Side | Lumens | 4075.3 | 0.0 | 4075.3 |
| | % Fixture | 78.3 | 0.0 | 78.3 |
| Total | Lumens | 5204.4 | 0.0 | 5204.4 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 86.7 | 1.7 |
| 10°-20° | 292.5 | 5.6 |
| 20°-30° | 543.0 | 10.4 |
| 30°-40° | 869.3 | 16.7 |
| 40°-50° | 1270.7 | 24.4 |
| 50°-60° | 1568.3 | 30.1 |
| 60°-70° | 524.0 | 10.1 |
| 70°-80° | 48.8 | 0.9 |
| 80°-90° | 1.0 | 0.0 |
| 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° | 5204.4 | 100.0 |
| 0°-180° | 5204.4 | 100.0 |

Coefficient of Utilization



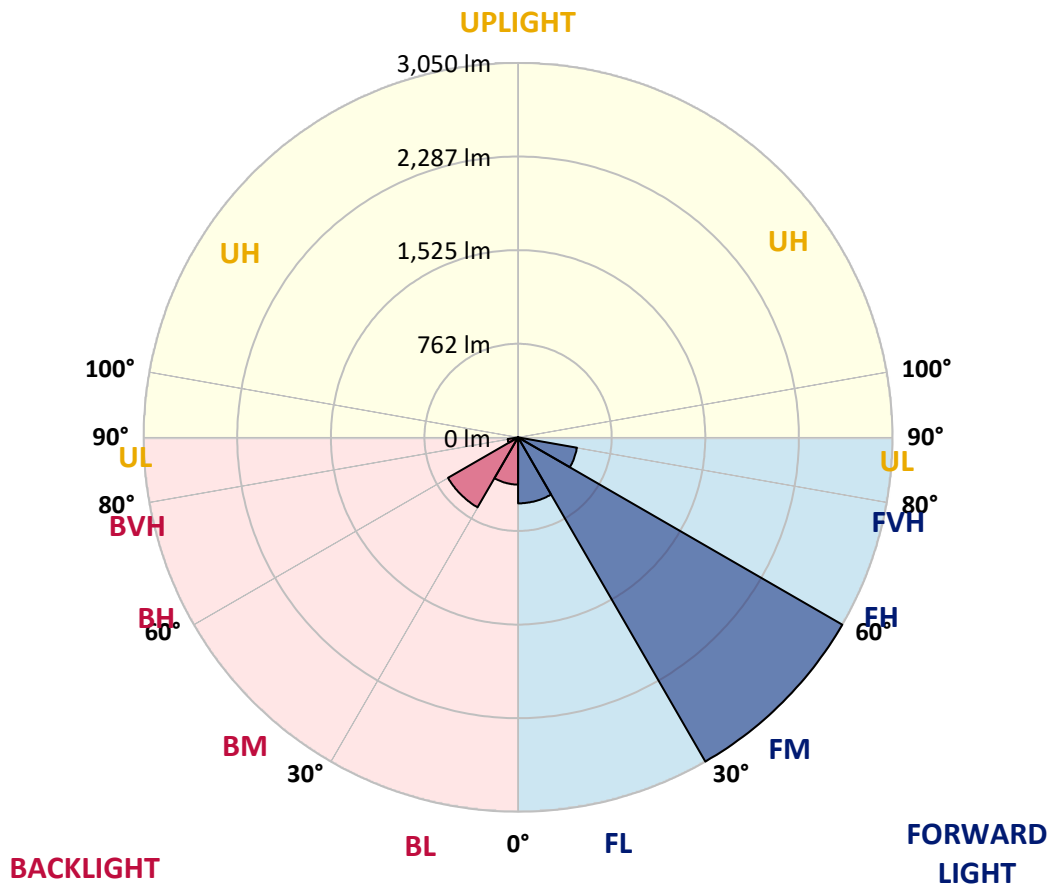
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 537.9 | 10.3 | | | |
| FM (30°-60°) | 3049.7 | 58.6 | | | |
| FH (60°-80°) | 487.0 | 9.4 | | | G0/660 |
| FVH (80°-90°) | 0.7 | 0.0 | | | G0/10 |
| BL (0°-30°) | 384.3 | 7.4 | B1/500 | | |
| BM (30°-60°) | 658.6 | 12.7 | B1/1000 | | |
| BH (60°-80°) | 85.8 | 1.6 | B0/110 | | G0/110 |
| BVH (80°-90°) | 0.3 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G0
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 47° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 |
| 2.5° | 880.3 | 879.7 | 879.1 | 882.7 | 881.5 | 880.9 | 882.1 | 882.1 | 882.1 | 878.5 | 871.2 |
| 5° | 901.4 | 901.4 | 900.8 | 904.5 | 901.4 | 899.6 | 900.2 | 900.2 | 897.8 | 891.2 | 882.1 |
| 7.5° | 934.7 | 933.5 | 932.2 | 935.9 | 932.8 | 932.2 | 933.5 | 929.8 | 925.6 | 914.7 | 902.0 |
| 10° | 982.4 | 982.4 | 980.6 | 984.2 | 981.8 | 980.6 | 980.6 | 978.2 | 970.3 | 953.4 | 934.7 |
| 12.5° | 1048.2 | 1045.2 | 1041.0 | 1038.0 | 1036.8 | 1036.2 | 1036.8 | 1033.1 | 1024.7 | 1002.9 | 977.0 |
| 15° | 1120.1 | 1117.7 | 1111.1 | 1106.2 | 1099.6 | 1098.4 | 1102.0 | 1099.0 | 1090.5 | 1060.9 | 1024.1 |
| 17.5° | 1210.8 | 1213.8 | 1196.9 | 1186.6 | 1167.3 | 1166.1 | 1167.3 | 1172.1 | 1166.1 | 1128.0 | 1074.2 |
| 20° | 1288.1 | 1290.5 | 1277.8 | 1270.6 | 1253.1 | 1245.2 | 1247.6 | 1255.5 | 1248.8 | 1204.1 | 1129.2 |
| 22.5° | 1370.9 | 1373.9 | 1360.6 | 1345.5 | 1337.6 | 1337.6 | 1346.7 | 1357.6 | 1348.5 | 1289.9 | 1192.0 |
| 25° | 1470.0 | 1472.4 | 1461.5 | 1441.6 | 1427.7 | 1445.2 | 1458.5 | 1487.5 | 1472.4 | 1392.6 | 1266.4 |
| 27.5° | 1583.5 | 1584.2 | 1568.4 | 1547.9 | 1540.6 | 1573.3 | 1586.6 | 1631.3 | 1625.2 | 1508.0 | 1344.9 |
| 30° | 1705.0 | 1705.6 | 1702.0 | 1688.1 | 1681.4 | 1724.3 | 1742.4 | 1807.1 | 1802.9 | 1651.2 | 1451.8 |
| 32.5° | 1831.3 | 1831.3 | 1837.9 | 1836.7 | 1844.6 | 1914.6 | 1943.6 | 2017.3 | 2013.1 | 1826.4 | 1584.8 |
| 35° | 1958.1 | 1958.7 | 1970.2 | 1999.2 | 2031.8 | 2124.9 | 2163.0 | 2252.4 | 2242.7 | 2036.1 | 1754.5 |
| 37.5° | 2102.5 | 2096.5 | 2112.2 | 2155.7 | 2228.2 | 2335.7 | 2372.0 | 2457.2 | 2446.3 | 2250.6 | 1976.3 |
| 40° | 2276.5 | 2265.7 | 2265.7 | 2316.4 | 2398.6 | 2522.4 | 2553.2 | 2595.5 | 2558.7 | 2424.0 | 2193.8 |
| 42.5° | 2468.7 | 2458.4 | 2445.1 | 2489.8 | 2558.7 | 2655.4 | 2680.7 | 2669.3 | 2639.0 | 2587.7 | 2441.5 |
| 45° | 2663.2 | 2647.5 | 2656.6 | 2683.8 | 2723.6 | 2769.5 | 2779.2 | 2726.0 | 2712.1 | 2726.6 | 2646.3 |
| 47.5° | 2811.2 | 2800.4 | 2822.7 | 2860.8 | 2893.4 | 2900.0 | 2893.4 | 2819.7 | 2818.5 | 2869.8 | 2788.3 |
| 50° | 2860.8 | 2862.0 | 2923.6 | 3007.0 | 3059.5 | 3065.0 | 3055.9 | 2971.3 | 2959.9 | 2975.0 | 2865.0 |
| 52.5° | 2865.6 | 2870.4 | 2960.5 | 3119.4 | 3262.6 | 3327.8 | 3320.6 | 3229.3 | 3116.9 | 3100.6 | 2981.0 |
| 55° | 2749.0 | 2777.4 | 2903.1 | 3135.1 | 3439.6 | 3648.0 | 3672.2 | 3497.6 | 3330.8 | 3316.9 | 3230.5 |
| 57.5° | 2197.4 | 2255.4 | 2407.0 | 2737.5 | 3242.0 | 3681.2 | 3744.1 | 3618.4 | 3457.1 | 3397.9 | 3163.5 |
| 60° | 1313.5 | 1385.4 | 1531.0 | 1936.4 | 2467.5 | 3025.7 | 3133.9 | 3151.4 | 3077.1 | 2906.1 | 2427.0 |
| 62.5° | 563.7 | 557.7 | 737.1 | 1047.6 | 1467.5 | 1923.1 | 1972.0 | 2048.2 | 2112.8 | 1934.0 | 1473.0 |
| 65° | 193.3 | 210.3 | 292.4 | 472.5 | 734.7 | 893.0 | 936.5 | 1004.7 | 1096.6 | 905.1 | 539.5 |
| 67.5° | 119.6 | 126.9 | 168.6 | 279.1 | 396.3 | 390.3 | 371.0 | 360.1 | 350.4 | 239.9 | 148.0 |
| 70° | 87.0 | 93.0 | 118.4 | 192.1 | 266.4 | 187.3 | 162.5 | 131.7 | 146.2 | 134.7 | 105.1 |
| 72.5° | 58.6 | 63.4 | 81.6 | 116.6 | 136.5 | 91.2 | 84.6 | 96.1 | 116.0 | 110.6 | 85.8 |
| 75° | 35.0 | 38.1 | 46.5 | 56.8 | 55.6 | 47.1 | 47.7 | 67.7 | 88.8 | 82.8 | 61.0 |
| 77.5° | 24.2 | 25.4 | 30.8 | 36.9 | 27.2 | 14.5 | 13.3 | 18.7 | 30.2 | 30.2 | 20.5 |
| 80° | 6.0 | 7.9 | 7.9 | 4.8 | 4.2 | 3.6 | 3.6 | 5.4 | 8.5 | 6.0 | 3.0 |
| 82.5° | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 1.2 | 1.2 | 1.2 | 1.2 |
| 85° | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 1.2 | 1.2 | 1.2 |
| 87.5° | 0.0 | 0.0 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 | 1.2 | 1.2 |
| 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: GWS-SA2C-730-U-T3-W-GRSBK

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 | 871.2 |
| 2.5° | 875.5 | 868.2 | 873.0 | 871.8 | 875.5 | 876.7 | 871.2 | 870.0 | 870.6 | 863.4 | 861.0 |
| 5° | 883.9 | 875.5 | 877.9 | 875.5 | 879.7 | 883.3 | 881.5 | 883.9 | 886.9 | 881.5 | 879.1 |
| 7.5° | 902.0 | 893.6 | 893.0 | 889.3 | 895.4 | 897.8 | 897.2 | 903.8 | 909.9 | 906.3 | 902.6 |
| 10° | 933.5 | 922.0 | 920.8 | 917.7 | 919.6 | 921.4 | 914.7 | 915.9 | 921.4 | 917.1 | 915.3 |
| 12.5° | 972.1 | 958.2 | 955.2 | 948.0 | 948.0 | 938.9 | 924.4 | 921.4 | 925.6 | 922.6 | 919.6 |
| 15° | 1013.8 | 995.1 | 990.2 | 977.6 | 965.5 | 948.6 | 933.5 | 929.8 | 932.8 | 929.2 | 926.8 |
| 17.5° | 1060.3 | 1039.2 | 1023.5 | 1001.1 | 974.5 | 954.6 | 937.7 | 929.8 | 925.0 | 917.7 | 917.1 |
| 20° | 1106.2 | 1078.5 | 1051.9 | 1016.2 | 981.2 | 951.0 | 923.2 | 902.6 | 885.1 | 874.2 | 870.0 |
| 22.5° | 1159.4 | 1118.3 | 1075.4 | 1025.3 | 975.1 | 929.2 | 880.3 | 845.2 | 815.0 | 804.8 | 799.9 |
| 25° | 1216.2 | 1163.0 | 1099.0 | 1033.7 | 954.6 | 880.9 | 814.4 | 762.5 | 722.6 | 709.3 | 703.9 |
| 27.5° | 1279.0 | 1205.9 | 1123.2 | 1031.9 | 912.3 | 812.0 | 723.8 | 659.2 | 619.9 | 607.8 | 612.0 |
| 30° | 1358.8 | 1261.5 | 1153.4 | 1013.2 | 848.9 | 715.3 | 612.0 | 557.7 | 528.1 | 516.6 | 517.2 |
| 32.5° | 1465.1 | 1341.3 | 1197.5 | 973.3 | 767.3 | 605.4 | 514.8 | 474.9 | 454.9 | 439.8 | 438.6 |
| 35° | 1617.4 | 1462.7 | 1238.6 | 909.3 | 668.2 | 507.5 | 441.7 | 410.2 | 382.4 | 364.9 | 367.9 |
| 37.5° | 1799.8 | 1615.6 | 1260.9 | 822.9 | 557.1 | 431.4 | 386.7 | 354.7 | 323.2 | 297.3 | 300.3 |
| 40° | 2016.1 | 1815.5 | 1259.1 | 709.3 | 455.5 | 379.4 | 340.8 | 303.3 | 264.0 | 240.5 | 242.9 |
| 42.5° | 2257.2 | 2004.7 | 1219.8 | 589.1 | 377.6 | 337.1 | 296.7 | 249.5 | 211.5 | 197.0 | 197.6 |
| 45° | 2466.2 | 2158.1 | 1151.0 | 464.6 | 317.8 | 296.0 | 250.7 | 202.4 | 185.5 | 175.2 | 174.6 |
| 47.5° | 2620.9 | 2270.5 | 1052.5 | 365.5 | 269.5 | 258.6 | 206.0 | 181.3 | 168.0 | 159.5 | 158.3 |
| 50° | 2707.3 | 2309.8 | 943.7 | 286.4 | 227.8 | 219.3 | 184.3 | 164.3 | 155.3 | 149.8 | 148.6 |
| 52.5° | 2823.3 | 2356.9 | 865.8 | 226.0 | 190.9 | 179.4 | 169.8 | 152.9 | 146.8 | 142.6 | 140.8 |
| 55° | 3007.0 | 2448.1 | 798.1 | 179.4 | 158.9 | 156.5 | 160.1 | 146.2 | 142.6 | 135.9 | 133.5 |
| 57.5° | 2834.2 | 2199.2 | 619.9 | 139.0 | 134.1 | 143.2 | 154.7 | 139.6 | 130.5 | 124.5 | 122.0 |
| 60° | 1994.4 | 1462.1 | 311.8 | 111.8 | 119.6 | 134.1 | 145.6 | 126.3 | 117.2 | 118.4 | 117.2 |
| 62.5° | 1099.6 | 731.7 | 140.2 | 93.6 | 103.9 | 118.4 | 124.5 | 109.4 | 103.3 | 113.6 | 115.4 |
| 65° | 359.5 | 248.9 | 81.0 | 72.5 | 82.2 | 96.7 | 107.5 | 103.9 | 102.7 | 114.8 | 118.4 |
| 67.5° | 110.6 | 82.2 | 55.0 | 52.0 | 56.8 | 71.3 | 90.6 | 112.4 | 120.8 | 124.5 | 126.3 |
| 70° | 82.8 | 64.6 | 47.1 | 44.1 | 46.5 | 54.4 | 76.7 | 93.6 | 88.2 | 88.8 | 87.6 |
| 72.5° | 66.5 | 51.4 | 40.5 | 38.7 | 38.7 | 37.5 | 40.5 | 50.8 | 57.4 | 60.4 | 60.4 |
| 75° | 46.5 | 36.3 | 30.8 | 28.4 | 22.4 | 18.1 | 16.3 | 16.3 | 14.5 | 13.9 | 13.3 |
| 77.5° | 15.7 | 13.3 | 12.1 | 9.7 | 6.6 | 5.4 | 4.8 | 4.2 | 3.0 | 1.8 | 1.2 |
| 80° | 2.4 | 1.8 | 1.2 | 1.2 | 1.2 | 0.6 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 |
| 82.5° | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 1.2 | 1.2 | 1.2 | 1.2 | 0.6 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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: SP1-1908-441-2-R4

Test Date: 10/03/2019

Luminaire Tested: SA1C-730-U-5WQ

Data in this report applies to families of products SA1C-730-U-5WQ .

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-2-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-730-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-2-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. (1) 70 CRI, 3000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 2993 | CRI (Ra): | 71.8 | R9: | -38.3 |
| CIE u': | 0.2508 | R1: | 67.5 | R10: | 62.5 |
| CIE v': | 0.5215 | R2: | 82.9 | R11: | 63.7 |
| Duv: | 0.0000 | R3: | 94.7 | R12: | 57.8 |
| CIE x: | 0.4374 | R4: | 67.7 | R13: | 70.4 |
| CIE y: | 0.4043 | R5: | 67.9 | R14: | 97.3 |
| CIE z: | 0.1583 | R6: | 77.6 | | |
| Peak Wavelength (nm): | 593 | R7: | 76.0 | | |
| Dominant Wavelength (nm): | 582 | R8: | 40.5 | | |
| Purity: | 53 | | | | |
| Rf: | 75.7 | | | | |
| Rg: | 93.9 | | | | |



Test Conditions

Stabilization Time: 53M
 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 3000K 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

REPORT NUMBER: SP1-1908-441-2-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 8494.8

S/P: 1.23

| 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

REPORT NUMBER: SP1-1908-441-2-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3101.5 M/P: 0.45

| 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 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

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Summary

$R_f = 75.7$
 $R_g = 93.9$
 CIE $R_a = 71.8$
 $R_9 = -38.3$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 67 | CES51 = 87 | CES76 = 63 |
| CES02 = 63 | CES27 = 88 | CES52 = 86 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 78 | CES78 = 67 |
| CES04 = 71 | CES29 = 66 | CES54 = 84 | CES79 = 87 |
| CES05 = 49 | CES30 = 73 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 70 | CES56 = 75 | CES81 = 71 |
| CES07 = 41 | CES32 = 65 | CES57 = 74 | CES82 = 94 |
| CES08 = 40 | CES33 = 73 | CES58 = 76 | CES83 = 90 |
| CES09 = 29 | CES34 = 79 | CES59 = 85 | CES84 = 89 |
| CES10 = 76 | CES35 = 89 | CES60 = 93 | CES85 = 77 |
| CES11 = 59 | CES36 = 97 | CES61 = 84 | CES86 = 61 |
| CES12 = 65 | CES37 = 87 | CES62 = 91 | CES87 = 78 |
| CES13 = 43 | CES38 = 81 | CES63 = 77 | CES88 = 77 |
| CES14 = 74 | CES39 = 95 | CES64 = 72 | CES89 = 67 |
| CES15 = 71 | CES40 = 92 | CES65 = 68 | CES90 = 76 |
| CES16 = 47 | CES41 = 88 | CES66 = 69 | CES91 = 89 |
| CES17 = 50 | CES42 = 89 | CES67 = 67 | CES92 = 58 |
| CES18 = 56 | CES43 = 79 | CES68 = 72 | CES93 = 74 |
| CES19 = 73 | CES44 = 99 | CES69 = 81 | CES94 = 49 |
| CES20 = 66 | CES45 = 85 | CES70 = 66 | CES95 = 68 |
| CES21 = 87 | CES46 = 80 | CES71 = 67 | CES96 = 76 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 82 |
| CES23 = 92 | CES48 = 69 | CES73 = 59 | CES98 = 75 |
| CES24 = 91 | CES49 = 80 | CES74 = 95 | CES99 = 62 |
| CES25 = 73 | CES50 = 87 | CES75 = 69 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)