

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: P632217

Luminaire Tested: GWS-SA2C-730-U-T1-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P632217
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-10)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2C-730-U-T1-W
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE I OPTICS
Light Source: (32) 3000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8412.6 lumens
Efficiency: N/A
Efficacy: 133.1 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type I - Medium
BUG Rating: B3 - U0 - G3

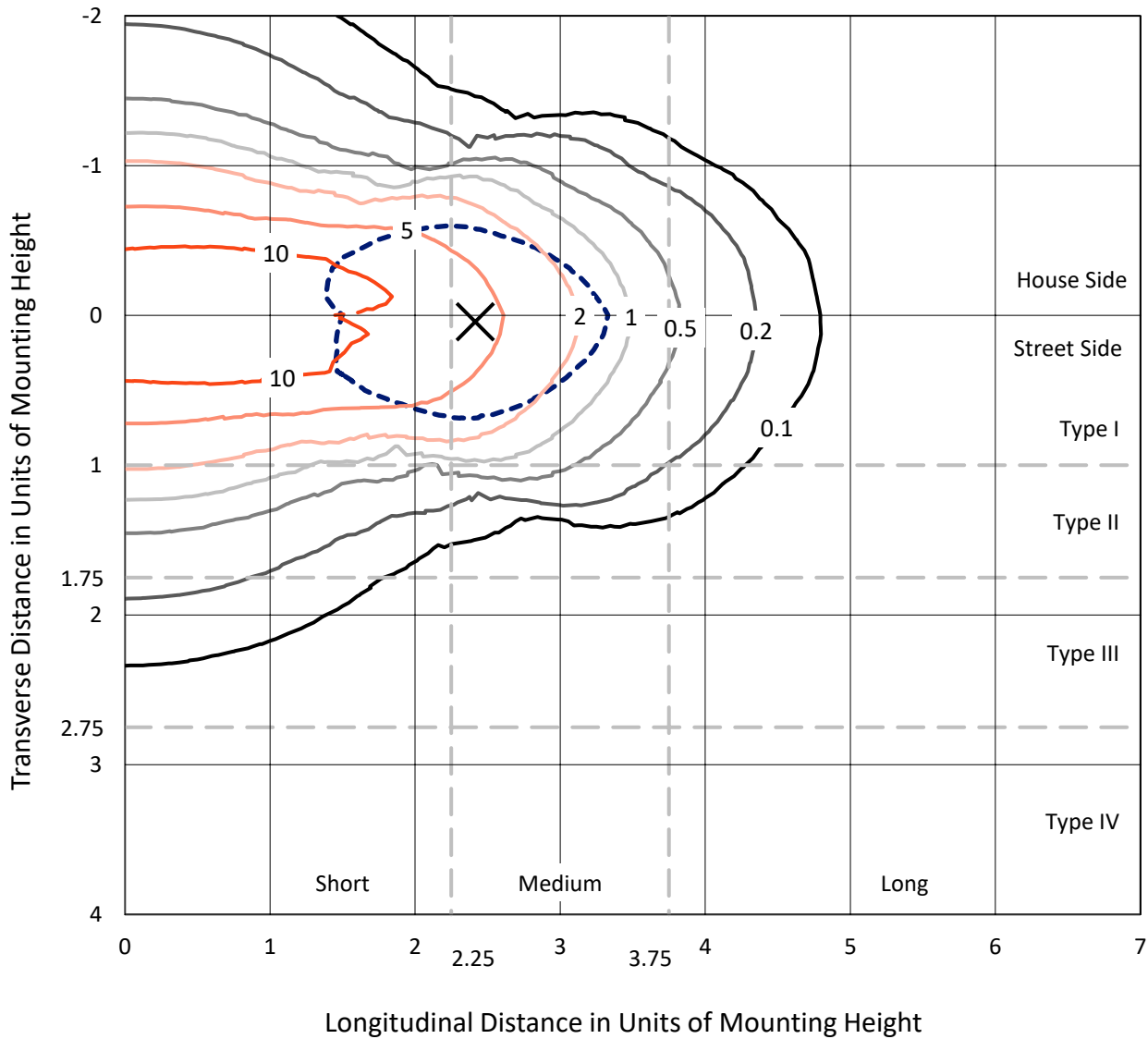
Input Watts (W): 63.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P632217
 CATALOG NUMBER: GWS-SA2C-730-U-T1-W

Iso-Footcandle Lines of Horizontal Illumination

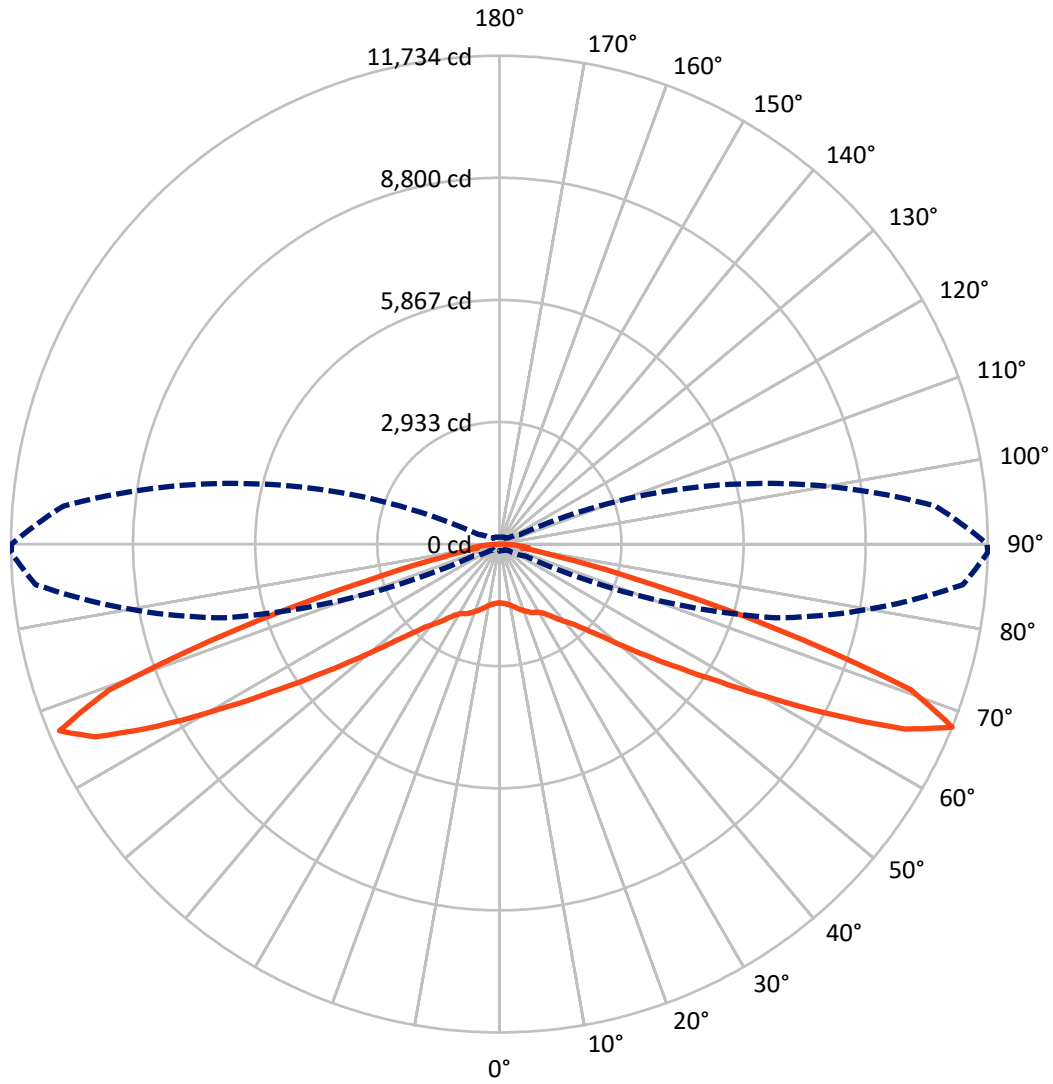
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 15.4 fc
 Type I - Medium - N/A

REPORT NUMBER: P632217
CATALOG NUMBER: GWS-SA2C-730-U-T1-W

Luminous Intensity Polar Plot



— Vertical Plane Through 89-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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CATALOG NUMBER: GWS-SA2C-730-U-T1-W

FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 4169.4 | 0.0 | 4169.4 |
| | % Fixture | 49.6 | 0.0 | 49.6 |
| Street Side | Lumens | 4243.2 | 0.0 | 4243.2 |
| | % Fixture | 50.4 | 0.0 | 50.4 |
| Total | Lumens | 8412.6 | 0.0 | 8412.6 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 141.6 | 1.7 |
| 10°-20° | 461.2 | 5.5 |
| 20°-30° | 779.6 | 9.3 |
| 30°-40° | 1069.9 | 12.7 |
| 40°-50° | 1364.4 | 16.2 |
| 50°-60° | 1711.8 | 20.3 |
| 60°-70° | 2064.6 | 24.5 |
| 70°-80° | 746.9 | 8.9 |
| 80°-90° | 72.6 | 0.9 |
| 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° | 8412.6 | 100.0 |
| 0°-180° | 8412.6 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P632217

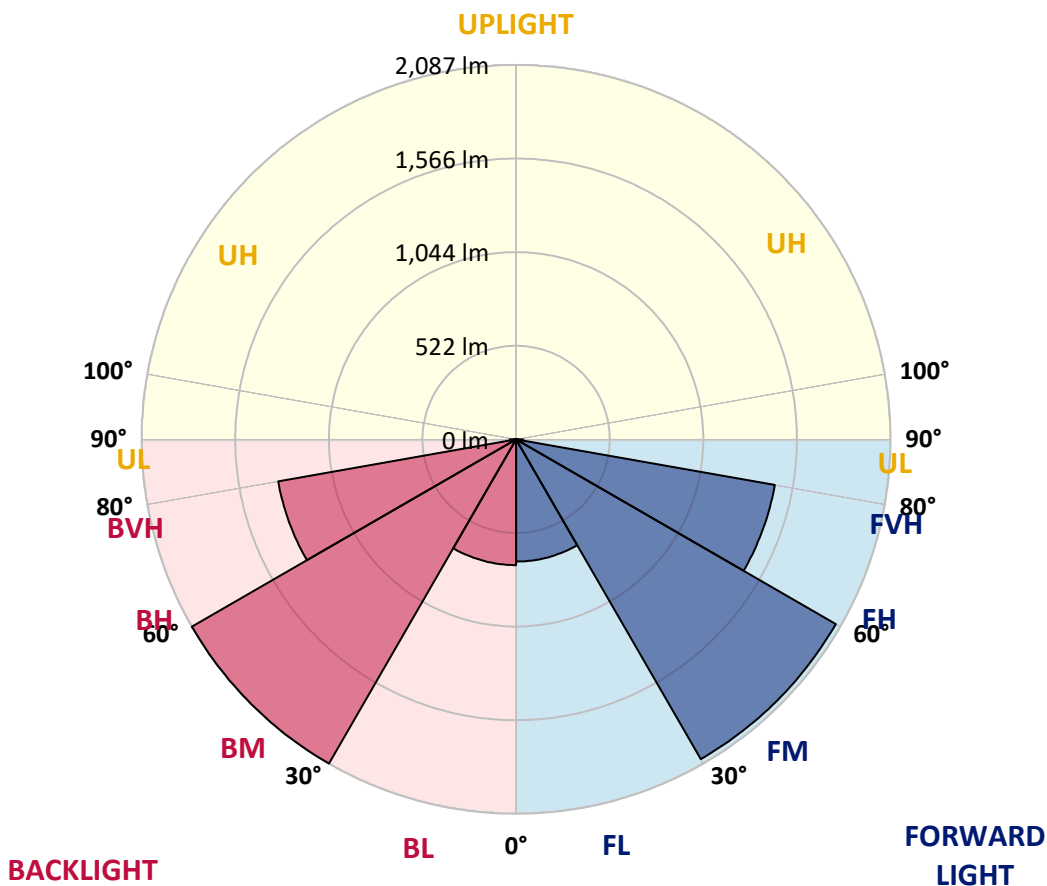
CATALOG NUMBER: GWS-SA2C-730-U-T1-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 681.4 | 8.1 | | | |
| FM (30°-60°) | 2058.7 | 24.5 | | | |
| FH (60°-80°) | 1464.8 | 17.4 | | | G1/1800 |
| FVH (80°-90°) | 38.3 | 0.5 | | | G1/100 |
| BL (0°-30°) | 701.1 | 8.3 | B2/1000 | | |
| BM (30°-60°) | 2087.3 | 24.8 | B2/2500 | | |
| BH (60°-80°) | 1346.7 | 16.0 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 34.3 | 0.4 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G3

Type I Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 89° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| 0° | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 |
| 2.5° | 1416.2 | 1415.0 | 1412.0 | 1421.0 | 1419.2 | 1419.8 | 1423.5 | 1421.0 | 1416.8 | 1409.6 | 1419.8 |
| 5° | 1456.1 | 1455.5 | 1448.8 | 1454.3 | 1448.2 | 1444.0 | 1443.4 | 1437.4 | 1432.5 | 1424.7 | 1435.6 |
| 7.5° | 1494.8 | 1494.2 | 1488.7 | 1498.4 | 1493.6 | 1488.7 | 1483.3 | 1471.2 | 1459.7 | 1448.2 | 1460.3 |
| 10° | 1524.4 | 1523.8 | 1522.6 | 1536.4 | 1537.7 | 1539.5 | 1537.1 | 1516.5 | 1496.6 | 1482.7 | 1494.8 |
| 12.5° | 1541.3 | 1543.1 | 1546.1 | 1571.5 | 1584.2 | 1596.3 | 1599.3 | 1582.4 | 1549.1 | 1529.2 | 1543.7 |
| 15° | 1529.8 | 1533.4 | 1548.5 | 1594.5 | 1629.5 | 1656.7 | 1668.2 | 1654.3 | 1611.4 | 1578.1 | 1594.5 |
| 17.5° | 1474.8 | 1477.8 | 1507.4 | 1577.5 | 1654.9 | 1717.7 | 1736.4 | 1728.0 | 1680.2 | 1639.8 | 1655.5 |
| 20° | 1398.7 | 1405.3 | 1437.4 | 1535.2 | 1650.6 | 1760.0 | 1810.1 | 1807.1 | 1755.2 | 1692.9 | 1711.7 |
| 22.5° | 1329.8 | 1337.7 | 1371.5 | 1479.7 | 1622.2 | 1770.9 | 1884.5 | 1892.3 | 1823.4 | 1746.1 | 1761.2 |
| 25° | 1252.5 | 1259.7 | 1303.2 | 1413.8 | 1573.3 | 1762.4 | 1947.9 | 1983.5 | 1900.8 | 1807.1 | 1821.0 |
| 27.5° | 1173.3 | 1178.8 | 1221.7 | 1339.5 | 1509.3 | 1746.7 | 1998.0 | 2083.8 | 1976.9 | 1849.4 | 1859.1 |
| 30° | 1103.9 | 1111.1 | 1150.4 | 1265.2 | 1439.2 | 1715.3 | 2039.1 | 2190.8 | 2064.5 | 1897.2 | 1905.0 |
| 32.5° | 1036.8 | 1042.8 | 1085.7 | 1192.1 | 1364.9 | 1667.0 | 2076.0 | 2316.5 | 2194.4 | 1986.0 | 1986.0 |
| 35° | 952.2 | 963.1 | 1011.4 | 1122.0 | 1294.8 | 1602.9 | 2102.6 | 2462.7 | 2372.0 | 2117.1 | 2117.7 |
| 37.5° | 874.3 | 880.3 | 931.1 | 1042.8 | 1221.1 | 1530.4 | 2105.0 | 2614.3 | 2596.8 | 2283.8 | 2285.0 |
| 40° | 785.4 | 793.3 | 847.7 | 958.2 | 1136.5 | 1454.3 | 2082.0 | 2755.7 | 2832.4 | 2455.4 | 2448.8 |
| 42.5° | 695.4 | 706.9 | 758.9 | 867.0 | 1045.2 | 1361.2 | 2021.0 | 2890.4 | 3131.5 | 2654.2 | 2637.9 |
| 45° | 608.4 | 615.7 | 667.6 | 769.7 | 940.7 | 1250.1 | 1923.1 | 3019.7 | 3486.8 | 2956.3 | 2932.7 |
| 47.5° | 510.5 | 513.6 | 567.3 | 665.2 | 832.6 | 1126.2 | 1783.0 | 3135.1 | 3877.1 | 3356.3 | 3315.8 |
| 50° | 423.5 | 427.8 | 470.1 | 554.0 | 700.3 | 979.4 | 1608.3 | 3202.8 | 4374.3 | 3901.8 | 3831.8 |
| 52.5° | 342.6 | 346.8 | 380.6 | 447.7 | 578.8 | 812.0 | 1392.0 | 3187.1 | 4878.8 | 4579.1 | 4477.0 |
| 55° | 276.7 | 279.7 | 302.7 | 355.3 | 455.6 | 645.9 | 1136.5 | 3046.3 | 5438.9 | 5463.7 | 5243.7 |
| 57.5° | 233.8 | 235.0 | 250.7 | 282.8 | 355.9 | 497.9 | 877.3 | 2714.0 | 6026.2 | 6592.3 | 6231.0 |
| 60° | 209.0 | 209.7 | 216.9 | 236.8 | 280.9 | 380.0 | 642.9 | 2184.7 | 6634.6 | 8004.3 | 7508.8 |
| 62.5° | 193.3 | 193.3 | 199.4 | 210.9 | 233.2 | 292.4 | 472.5 | 1569.1 | 7071.4 | 9540.7 | 9048.3 |
| 65° | 178.2 | 178.2 | 182.5 | 192.1 | 204.2 | 238.7 | 354.7 | 1012.0 | 7285.9 | 10825.2 | 10715.9 |
| 67.5° | 158.9 | 159.5 | 162.5 | 172.8 | 183.7 | 199.4 | 268.9 | 684.5 | 6840.6 | 11180.5 | 11733.9 |
| 70° | 140.8 | 141.4 | 145.6 | 152.3 | 161.3 | 172.2 | 210.3 | 471.9 | 4979.1 | 9311.7 | 10491.7 |
| 72.5° | 120.8 | 123.3 | 126.3 | 133.5 | 139.0 | 146.8 | 171.6 | 305.7 | 2897.1 | 5989.9 | 6935.5 |
| 75° | 99.1 | 102.1 | 105.7 | 113.0 | 116.6 | 119.6 | 141.4 | 218.1 | 1393.9 | 3035.4 | 3456.6 |
| 77.5° | 76.7 | 79.8 | 84.0 | 90.6 | 93.0 | 96.7 | 108.1 | 157.7 | 667.6 | 1345.5 | 1450.7 |
| 80° | 51.4 | 52.6 | 56.2 | 64.0 | 68.3 | 70.7 | 79.8 | 107.5 | 290.0 | 540.1 | 535.3 |
| 82.5° | 31.4 | 32.0 | 33.2 | 38.1 | 39.9 | 42.3 | 52.0 | 65.9 | 138.4 | 613.9 | 703.9 |
| 85° | 11.5 | 10.9 | 10.3 | 13.3 | 15.7 | 18.1 | 24.2 | 33.2 | 60.4 | 421.7 | 471.9 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.6 | 1.2 | 1.2 | 2.4 | 4.8 | 14.5 | 157.7 | 108.1 |
| 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: P632217
 CATALOG NUMBER: GWS-SA2C-730-U-T1-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 | 1412.0 |
| 2.5° | 1416.8 | 1410.2 | 1418.6 | 1424.7 | 1438.0 | 1442.8 | 1444.0 | 1439.8 | 1439.8 | 1432.5 | 1433.7 |
| 5° | 1433.1 | 1428.9 | 1442.8 | 1453.1 | 1472.4 | 1479.7 | 1484.5 | 1481.5 | 1483.3 | 1478.4 | 1479.7 |
| 7.5° | 1457.9 | 1454.3 | 1478.4 | 1498.4 | 1518.3 | 1526.8 | 1531.0 | 1528.6 | 1529.2 | 1523.2 | 1525.0 |
| 10° | 1492.3 | 1493.6 | 1522.6 | 1548.5 | 1575.1 | 1583.6 | 1585.4 | 1578.1 | 1572.1 | 1561.2 | 1561.8 |
| 12.5° | 1539.5 | 1545.5 | 1586.6 | 1615.6 | 1642.8 | 1654.9 | 1641.6 | 1615.0 | 1590.2 | 1571.5 | 1569.1 |
| 15° | 1590.8 | 1601.7 | 1660.9 | 1697.8 | 1727.4 | 1721.3 | 1682.1 | 1622.2 | 1573.3 | 1545.5 | 1540.1 |
| 17.5° | 1652.5 | 1668.8 | 1743.1 | 1787.2 | 1812.6 | 1773.9 | 1691.7 | 1602.3 | 1534.0 | 1496.6 | 1489.3 |
| 20° | 1710.5 | 1736.4 | 1830.1 | 1887.5 | 1890.5 | 1803.5 | 1687.5 | 1561.8 | 1476.0 | 1430.1 | 1420.4 |
| 22.5° | 1763.6 | 1796.9 | 1921.3 | 1994.4 | 1955.2 | 1816.8 | 1661.5 | 1504.4 | 1405.9 | 1352.2 | 1343.7 |
| 25° | 1821.6 | 1868.8 | 2027.7 | 2095.9 | 2019.8 | 1811.4 | 1607.1 | 1433.1 | 1321.4 | 1266.4 | 1260.3 |
| 27.5° | 1861.5 | 1920.7 | 2134.6 | 2199.8 | 2073.0 | 1780.5 | 1537.1 | 1355.2 | 1244.0 | 1192.1 | 1183.6 |
| 30° | 1907.4 | 1982.9 | 2252.4 | 2312.8 | 2105.6 | 1735.2 | 1462.1 | 1282.7 | 1172.1 | 1115.9 | 1109.9 |
| 32.5° | 1990.8 | 2085.7 | 2398.6 | 2432.5 | 2115.9 | 1679.0 | 1390.2 | 1212.6 | 1097.2 | 1041.0 | 1032.6 |
| 35° | 2124.9 | 2236.1 | 2604.0 | 2566.0 | 2108.0 | 1617.4 | 1322.0 | 1130.4 | 1020.5 | 967.9 | 959.5 |
| 37.5° | 2294.1 | 2432.5 | 2833.0 | 2686.2 | 2086.3 | 1549.7 | 1241.0 | 1061.6 | 951.6 | 898.4 | 893.6 |
| 40° | 2451.8 | 2622.2 | 3089.8 | 2790.1 | 2042.2 | 1466.4 | 1163.1 | 989.7 | 877.3 | 821.1 | 810.2 |
| 42.5° | 2649.4 | 2875.9 | 3387.1 | 2880.2 | 1969.7 | 1366.7 | 1075.5 | 900.8 | 784.2 | 733.5 | 720.2 |
| 45° | 2949.6 | 3231.2 | 3732.7 | 2966.6 | 1861.5 | 1244.0 | 965.5 | 792.7 | 682.1 | 630.2 | 619.9 |
| 47.5° | 3324.2 | 3675.3 | 4107.3 | 3017.9 | 1697.2 | 1114.7 | 841.0 | 678.5 | 567.9 | 509.3 | 504.5 |
| 50° | 3850.5 | 4321.2 | 4509.1 | 3008.9 | 1513.5 | 961.3 | 700.9 | 542.6 | 450.1 | 407.8 | 401.2 |
| 52.5° | 4491.5 | 5132.0 | 4943.5 | 2900.1 | 1318.3 | 786.7 | 546.2 | 426.0 | 357.1 | 326.9 | 321.4 |
| 55° | 5295.7 | 6102.9 | 5400.8 | 2666.9 | 1071.8 | 602.4 | 429.0 | 335.9 | 288.8 | 270.7 | 268.3 |
| 57.5° | 6291.4 | 7360.2 | 5841.3 | 2274.2 | 806.0 | 459.8 | 330.5 | 277.3 | 255.0 | 244.1 | 243.5 |
| 60° | 7605.5 | 8694.9 | 6223.7 | 1767.2 | 577.0 | 351.6 | 273.1 | 247.7 | 230.2 | 222.9 | 222.3 |
| 62.5° | 9167.9 | 9906.9 | 6461.8 | 1203.5 | 433.8 | 280.3 | 240.5 | 224.8 | 214.5 | 210.3 | 209.7 |
| 65° | 10773.9 | 10673.0 | 6348.2 | 788.5 | 329.3 | 238.1 | 215.7 | 207.2 | 198.2 | 193.9 | 193.9 |
| 67.5° | 11722.5 | 10511.1 | 5476.4 | 547.4 | 261.0 | 209.0 | 194.5 | 186.7 | 171.6 | 168.0 | 168.0 |
| 70° | 10383.0 | 8517.2 | 3589.5 | 400.6 | 211.5 | 183.1 | 169.2 | 158.3 | 152.3 | 148.6 | 148.0 |
| 72.5° | 6867.2 | 5542.2 | 1908.6 | 277.9 | 176.4 | 155.9 | 143.2 | 139.0 | 131.7 | 128.1 | 127.5 |
| 75° | 3417.9 | 2911.0 | 978.2 | 200.6 | 146.8 | 125.1 | 119.6 | 117.8 | 111.8 | 106.9 | 105.7 |
| 77.5° | 1424.7 | 1296.0 | 456.2 | 145.6 | 111.8 | 100.9 | 96.1 | 96.1 | 89.4 | 84.0 | 81.6 |
| 80° | 537.1 | 478.5 | 215.7 | 99.7 | 82.8 | 74.9 | 71.9 | 69.5 | 64.0 | 57.4 | 53.8 |
| 82.5° | 718.4 | 469.5 | 105.7 | 62.2 | 54.4 | 48.3 | 44.1 | 42.3 | 39.3 | 36.3 | 33.8 |
| 85° | 465.2 | 333.5 | 47.7 | 32.0 | 27.2 | 20.5 | 18.1 | 16.9 | 15.1 | 13.3 | 12.1 |
| 87.5° | 94.9 | 111.8 | 14.5 | 6.0 | 3.6 | 1.8 | 1.8 | 0.6 | 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)