

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: P643608

Luminaire Tested: GWS-SA6F-730-U-T2R-W-GRSWH

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P643608
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-13)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA6F-730-U-T2R-W-GRSWH
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS W/ FACTORY INSTALLED GLARE SHIELD, WH
Light Source: (96) 3000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 39887.5 lumens
Efficiency: N/A
Efficacy: 107.1 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B4 - U0 - G3

Input Watts (W): 372.6
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

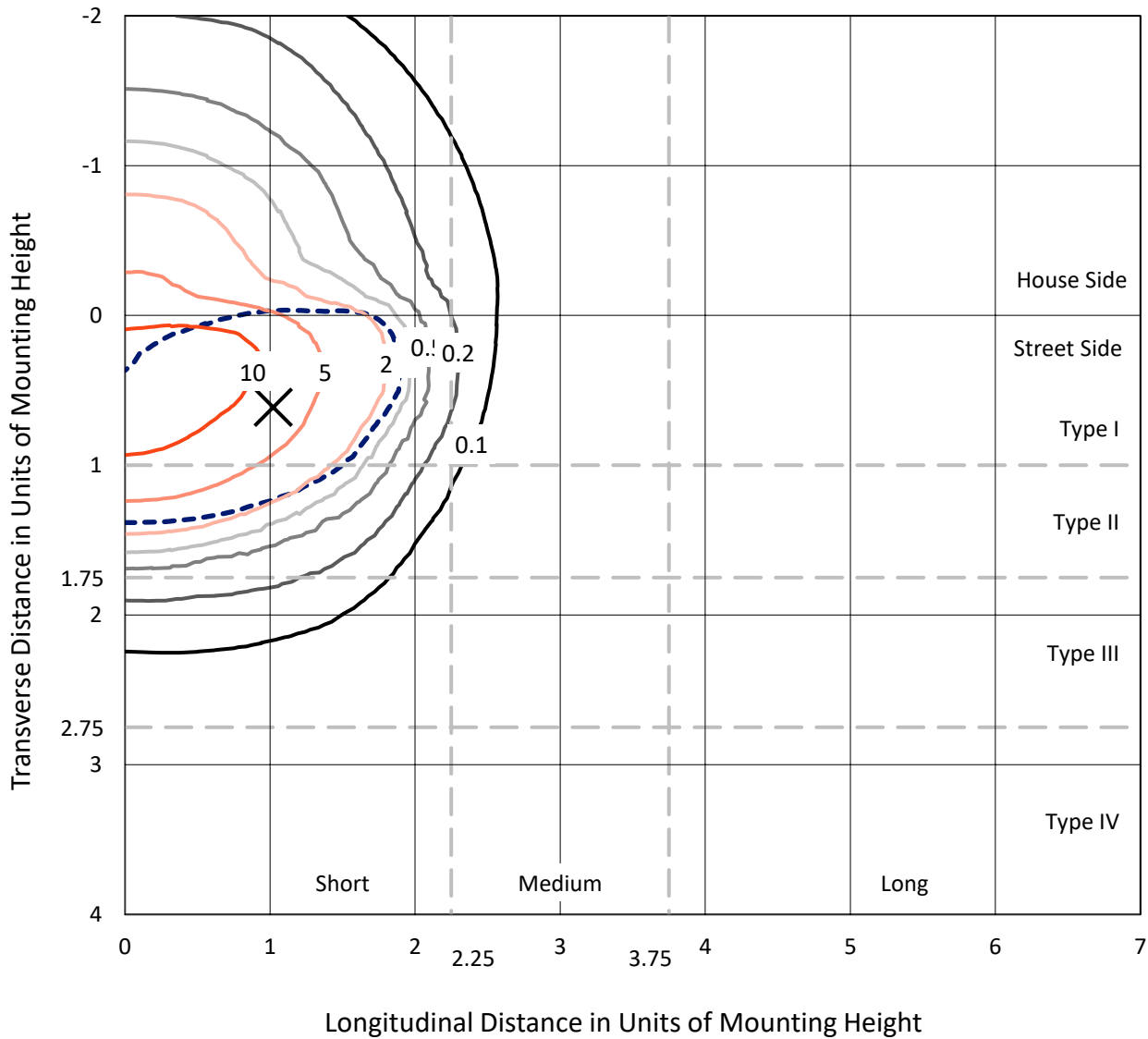


REPORT NUMBER: P643608

CATALOG NUMBER: GWS-SA6F-730-U-T2R-W-GRSWH

Iso-Footcandle Lines of Horizontal Illumination

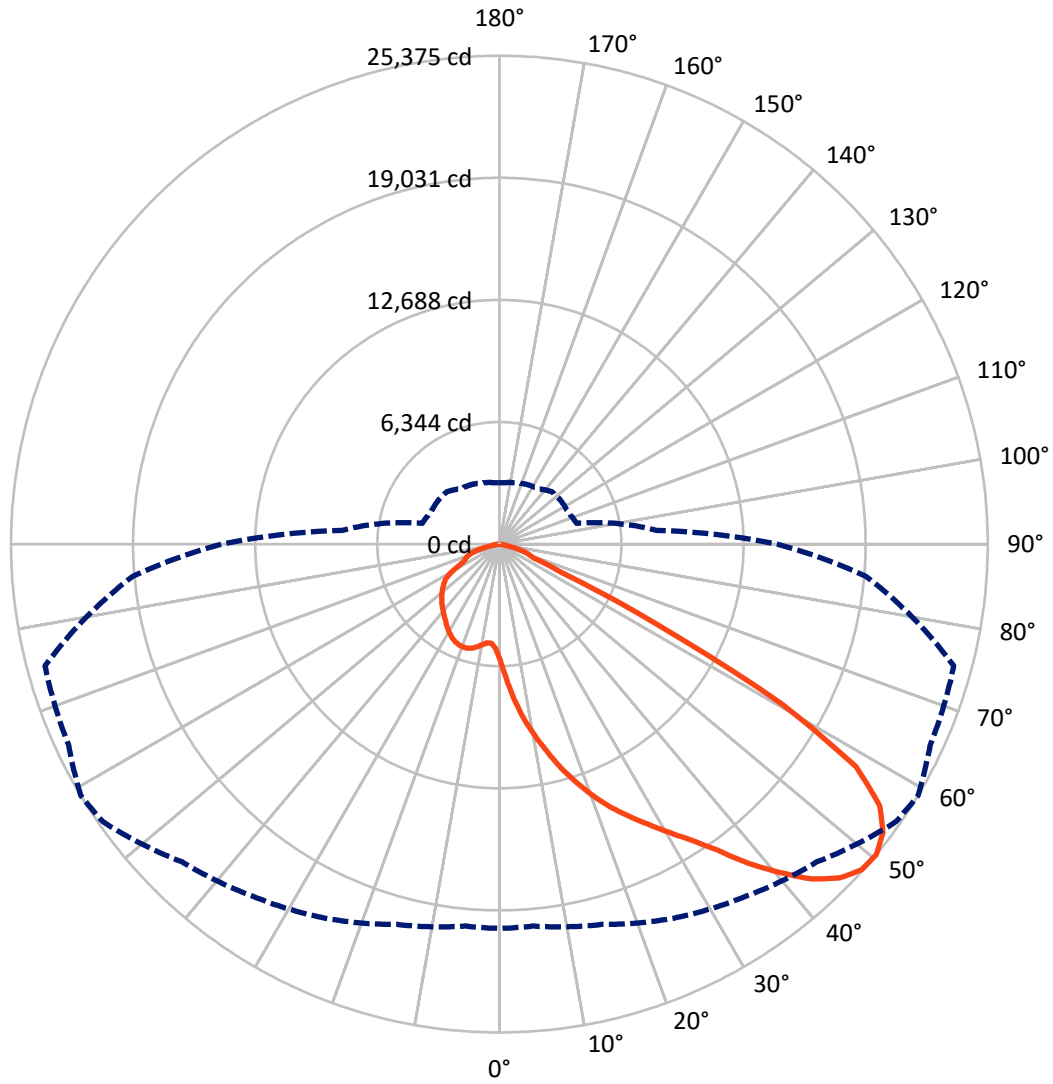
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 13.3 fc
 Type II - Short - N/A

REPORT NUMBER: P643608
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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 50-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 9174.9 | 0.0 | 9174.9 |
| | % Fixture | 23.0 | 0.0 | 23.0 |
| Street Side | Lumens | 30712.6 | 0.0 | 30712.6 |
| | % Fixture | 77.0 | 0.0 | 77.0 |
| Total | Lumens | 39887.5 | 0.0 | 39887.5 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 677.9 | 1.7 |
| 10°-20° | 2461.1 | 6.2 |
| 20°-30° | 4660.2 | 11.7 |
| 30°-40° | 7728.2 | 19.4 |
| 40°-50° | 10557.1 | 26.5 |
| 50°-60° | 9583.1 | 24.0 |
| 60°-70° | 3191.3 | 8.0 |
| 70°-80° | 930.8 | 2.3 |
| 80°-90° | 97.8 | 0.2 |
| 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° | 39887.5 | 100.0 |
| 0°-180° | 39887.5 | 100.0 |

Coefficient of Utilization



REPORT NUMBER: P643608

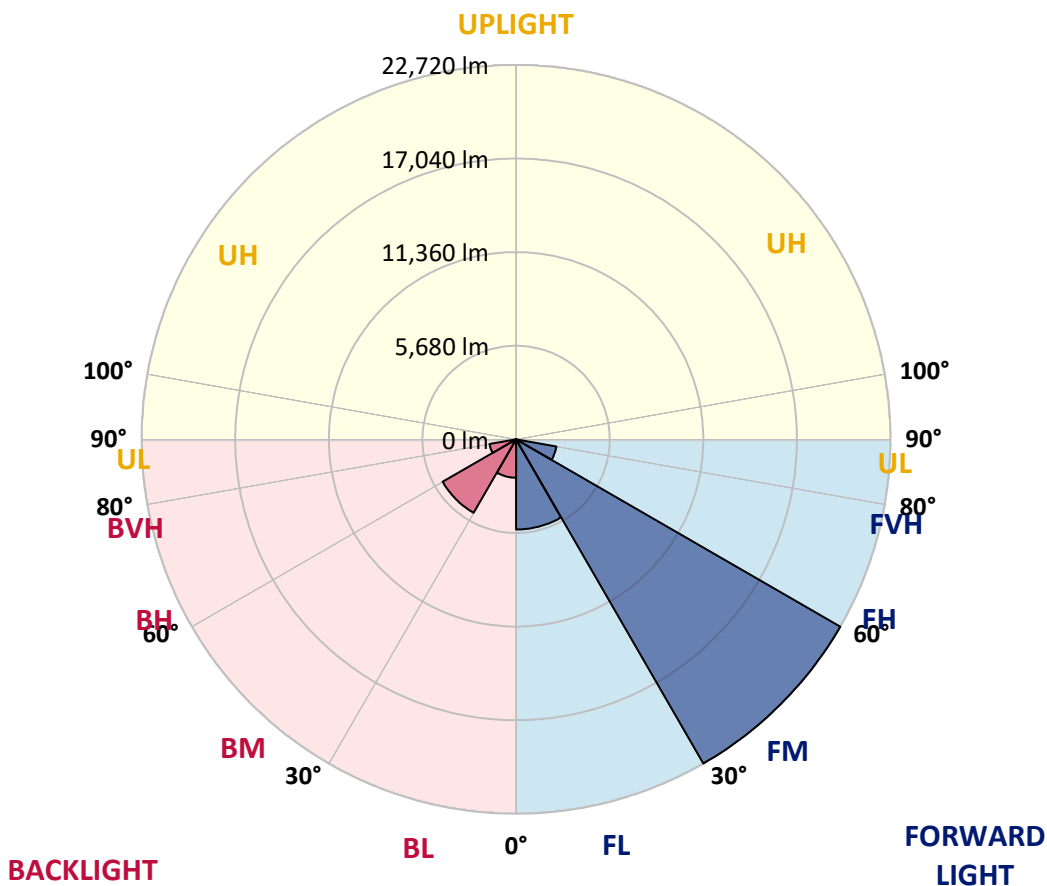
CATALOG NUMBER: GWS-SA6F-730-U-T2R-W-GRSWH

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 5469.5 | 13.7 | | | |
| FM (30°-60°) | 22720.4 | 57.0 | | | |
| FH (60°-80°) | 2484.4 | 6.2 | | | G2/5000 |
| FVH (80°-90°) | 38.2 | 0.1 | | | G1/100 |
| BL (0°-30°) | 2329.7 | 5.8 | B3/2500 | | |
| BM (30°-60°) | 5148.0 | 12.9 | B4/8500 | | |
| BH (60°-80°) | 1637.6 | 4.1 | B3/2500 | | G3/2500 |
| BVH (80°-90°) | 59.5 | 0.1 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B4-U0-G3

Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 59° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 |
| 2.5° | 7830.2 | 7888.7 | 7797.7 | 7804.2 | 7576.8 | 7472.8 | 7180.4 | 7008.2 | 6894.5 | 6576.1 | 6286.9 |
| 5° | 9409.3 | 9341.0 | 9269.5 | 9227.3 | 9029.1 | 8749.7 | 8385.8 | 8096.6 | 7830.2 | 7206.4 | 6605.3 |
| 7.5° | 10377.5 | 10341.7 | 10293.0 | 10267.0 | 10072.1 | 9779.6 | 9415.8 | 9168.8 | 8782.2 | 7937.4 | 6992.0 |
| 10° | 11199.5 | 11157.2 | 11128.0 | 11147.5 | 10988.3 | 10799.9 | 10403.5 | 10120.8 | 9685.4 | 8710.7 | 7459.8 |
| 12.5° | 11836.3 | 11859.0 | 11868.8 | 11972.8 | 11904.5 | 11790.8 | 11381.4 | 11082.5 | 10598.4 | 9526.2 | 8008.9 |
| 15° | 12339.9 | 12333.4 | 12447.1 | 12645.3 | 12755.8 | 12684.3 | 12356.1 | 12106.0 | 11514.6 | 10328.7 | 8600.2 |
| 17.5° | 12456.9 | 12463.4 | 12642.1 | 12989.7 | 13350.4 | 13525.8 | 13340.6 | 13041.7 | 12456.9 | 11121.5 | 9214.3 |
| 20° | 12551.1 | 12564.1 | 12749.3 | 13145.7 | 13672.0 | 14162.6 | 14191.9 | 13977.4 | 13473.8 | 11979.3 | 9838.1 |
| 22.5° | 13145.7 | 13174.9 | 13223.6 | 13473.8 | 13948.2 | 14568.8 | 14909.9 | 14864.4 | 14442.0 | 12879.2 | 10510.7 |
| 25° | 14708.5 | 14620.7 | 14383.6 | 14312.1 | 14494.0 | 14997.6 | 15579.2 | 15666.9 | 15459.0 | 13870.2 | 11235.2 |
| 27.5° | 16638.4 | 16544.2 | 16193.3 | 15822.9 | 15429.8 | 15605.2 | 16225.8 | 16488.9 | 16492.2 | 14961.9 | 11963.0 |
| 30° | 18389.6 | 18314.9 | 18029.0 | 17499.4 | 16820.3 | 16566.9 | 17025.0 | 17379.2 | 17590.4 | 16222.5 | 12791.5 |
| 32.5° | 19887.5 | 19819.2 | 19432.6 | 19000.5 | 18337.7 | 17827.6 | 17993.3 | 18334.4 | 18828.3 | 17853.5 | 13821.5 |
| 35° | 21148.1 | 21079.9 | 20709.5 | 20274.1 | 19660.0 | 19354.6 | 19296.1 | 19530.1 | 20170.1 | 19556.0 | 15004.1 |
| 37.5° | 22171.5 | 22103.3 | 21716.7 | 21307.3 | 20839.4 | 20858.9 | 20946.6 | 21060.4 | 21427.5 | 21378.8 | 16268.0 |
| 40° | 22834.3 | 22762.9 | 22486.7 | 22194.3 | 21898.6 | 22132.5 | 22567.9 | 22431.5 | 22626.4 | 22850.6 | 17431.2 |
| 42.5° | 23130.0 | 23039.0 | 22879.8 | 22814.8 | 22723.9 | 23087.8 | 23926.0 | 23789.6 | 23555.6 | 23831.8 | 18295.4 |
| 45° | 22834.3 | 22756.4 | 22753.1 | 22951.3 | 23162.5 | 23630.4 | 24865.0 | 24754.5 | 24163.2 | 24306.2 | 18812.0 |
| 47.5° | 21927.9 | 21859.6 | 22044.8 | 22564.7 | 23084.5 | 23766.8 | 25284.1 | 25303.6 | 24595.3 | 24504.4 | 19146.7 |
| 50° | 19968.7 | 19923.2 | 20459.3 | 21443.7 | 22340.5 | 23341.2 | 25150.9 | 25375.1 | 24699.3 | 24442.6 | 19104.4 |
| 52.5° | 15985.3 | 16196.5 | 17362.9 | 19007.0 | 20748.5 | 22593.9 | 24657.1 | 24949.5 | 24198.9 | 24036.5 | 18877.0 |
| 55° | 10942.8 | 11040.3 | 12206.7 | 14607.7 | 17369.4 | 20975.9 | 23523.1 | 23974.8 | 23607.6 | 23968.3 | 19114.2 |
| 57.5° | 5666.3 | 5744.3 | 6663.8 | 8795.2 | 11781.1 | 16576.7 | 20374.8 | 21856.4 | 22415.2 | 24312.7 | 19851.7 |
| 60° | 2326.3 | 2391.3 | 2771.4 | 3801.4 | 5942.5 | 9652.9 | 14663.0 | 16859.3 | 18172.0 | 22204.0 | 17629.4 |
| 62.5° | 1689.5 | 1722.0 | 1903.9 | 2267.8 | 3112.6 | 4730.6 | 8298.1 | 9107.1 | 10029.8 | 13915.7 | 11193.0 |
| 65° | 1423.1 | 1458.8 | 1605.0 | 1826.0 | 2271.1 | 2901.4 | 3544.7 | 3564.2 | 3928.1 | 5669.6 | 4149.0 |
| 67.5° | 1192.4 | 1224.9 | 1354.9 | 1543.3 | 1835.7 | 2059.9 | 1903.9 | 1907.2 | 1900.7 | 2056.7 | 1988.4 |
| 70° | 929.2 | 955.2 | 1085.2 | 1286.6 | 1439.3 | 1322.4 | 1488.1 | 1647.3 | 1579.0 | 1640.8 | 1735.0 |
| 72.5° | 679.1 | 708.3 | 822.0 | 974.7 | 935.7 | 942.2 | 1205.4 | 1367.9 | 1328.9 | 1397.1 | 1484.8 |
| 75° | 490.6 | 510.1 | 568.6 | 487.4 | 513.4 | 620.6 | 848.0 | 935.7 | 974.7 | 1033.2 | 1111.2 |
| 77.5° | 159.2 | 159.2 | 178.7 | 224.2 | 279.4 | 344.4 | 432.1 | 467.9 | 526.3 | 591.3 | 646.6 |
| 80° | 81.2 | 84.5 | 100.7 | 123.5 | 156.0 | 198.2 | 253.4 | 269.7 | 298.9 | 334.7 | 357.4 |
| 82.5° | 39.0 | 42.2 | 48.7 | 61.7 | 81.2 | 104.0 | 139.7 | 156.0 | 175.4 | 198.2 | 214.4 |
| 85° | 9.7 | 9.7 | 13.0 | 19.5 | 26.0 | 39.0 | 52.0 | 61.7 | 78.0 | 94.2 | 104.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.2 | 9.7 | 13.0 | 16.2 | 19.5 | 26.0 |
| 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: P643608

CATALOG NUMBER: GWS-SA6F-730-U-T2R-W-GRSWH

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 | 6043.2 |
| 2.5° | 6157.0 | 5975.0 | 5741.1 | 5542.9 | 5360.9 | 5221.2 | 5101.0 | 5042.5 | 4987.3 | 4948.3 | 4961.3 |
| 5° | 6325.9 | 6014.0 | 5578.6 | 5276.5 | 5091.3 | 4997.0 | 4932.1 | 4899.6 | 4893.1 | 4867.1 | 4857.3 |
| 7.5° | 6572.8 | 6127.7 | 5546.1 | 5240.7 | 5117.3 | 5068.5 | 5032.8 | 5013.3 | 5023.0 | 4997.0 | 4987.3 |
| 10° | 6878.2 | 6316.2 | 5627.4 | 5357.7 | 5250.5 | 5214.7 | 5175.7 | 5149.7 | 5136.8 | 5097.8 | 5091.3 |
| 12.5° | 7258.4 | 6550.1 | 5773.6 | 5507.1 | 5399.9 | 5338.2 | 5286.2 | 5240.7 | 5211.5 | 5162.7 | 5149.7 |
| 15° | 7667.8 | 6810.0 | 5945.8 | 5653.4 | 5526.6 | 5435.7 | 5351.2 | 5283.0 | 5231.0 | 5166.0 | 5156.2 |
| 17.5° | 8112.9 | 7082.9 | 6088.7 | 5754.1 | 5591.6 | 5471.4 | 5347.9 | 5247.2 | 5175.7 | 5091.3 | 5081.5 |
| 20° | 8577.5 | 7359.1 | 6195.9 | 5802.8 | 5594.9 | 5432.4 | 5266.7 | 5133.5 | 5042.5 | 4958.1 | 4951.6 |
| 22.5° | 9058.4 | 7612.5 | 6260.9 | 5789.8 | 5542.9 | 5341.4 | 5143.3 | 4993.8 | 4886.6 | 4785.9 | 4779.4 |
| 25° | 9542.5 | 7856.2 | 6277.2 | 5737.8 | 5438.9 | 5205.0 | 5006.8 | 4831.3 | 4711.1 | 4597.4 | 4584.4 |
| 27.5° | 10033.1 | 8060.9 | 6238.2 | 5633.9 | 5299.2 | 5045.8 | 4847.6 | 4675.4 | 4551.9 | 4438.2 | 4418.7 |
| 30° | 10556.2 | 8236.3 | 6153.7 | 5497.4 | 5136.8 | 4876.8 | 4681.9 | 4551.9 | 4435.0 | 4321.2 | 4301.7 |
| 32.5° | 11115.0 | 8389.1 | 6033.5 | 5331.7 | 4948.3 | 4707.9 | 4564.9 | 4448.0 | 4331.0 | 4230.3 | 4210.8 |
| 35° | 11781.1 | 8489.8 | 5854.8 | 5117.3 | 4772.9 | 4584.4 | 4486.9 | 4350.5 | 4207.5 | 4097.1 | 4087.3 |
| 37.5° | 12469.9 | 8567.8 | 5640.4 | 4912.6 | 4620.2 | 4512.9 | 4431.7 | 4246.5 | 4067.8 | 3934.6 | 3918.4 |
| 40° | 13135.9 | 8632.7 | 5373.9 | 4720.9 | 4480.4 | 4460.9 | 4350.5 | 4119.8 | 3811.1 | 3661.7 | 3648.7 |
| 42.5° | 13756.5 | 8652.2 | 5094.5 | 4516.2 | 4353.7 | 4344.0 | 4220.5 | 3863.1 | 3625.9 | 3531.7 | 3518.7 |
| 45° | 14182.1 | 8636.0 | 4805.3 | 4324.5 | 4227.0 | 4175.0 | 4045.1 | 3677.9 | 3531.7 | 3447.2 | 3431.0 |
| 47.5° | 14497.3 | 8551.5 | 4480.4 | 4123.0 | 4084.1 | 4012.6 | 3733.2 | 3561.0 | 3424.5 | 3340.0 | 3323.8 |
| 50° | 14442.0 | 8200.6 | 4152.3 | 3928.1 | 3911.9 | 3850.1 | 3505.7 | 3414.8 | 3294.5 | 3203.6 | 3190.6 |
| 52.5° | 14156.1 | 7534.6 | 3817.6 | 3713.7 | 3746.2 | 3625.9 | 3343.3 | 3239.3 | 3135.3 | 3031.4 | 3008.6 |
| 55° | 14227.6 | 7053.7 | 3564.2 | 3505.7 | 3564.2 | 3291.3 | 3161.3 | 3050.9 | 2953.4 | 2852.7 | 2833.2 |
| 57.5° | 14539.5 | 6579.3 | 3294.5 | 3281.5 | 3343.3 | 3034.6 | 2927.4 | 2787.7 | 2648.0 | 2566.8 | 2566.8 |
| 60° | 12209.9 | 4795.6 | 2820.2 | 2852.7 | 2992.4 | 2826.7 | 2732.5 | 2589.5 | 2436.8 | 2365.3 | 2365.3 |
| 62.5° | 7219.4 | 3008.6 | 2339.3 | 2303.6 | 2391.3 | 2495.3 | 2547.3 | 2430.3 | 2248.3 | 2154.1 | 2157.4 |
| 65° | 3180.8 | 2189.9 | 2063.1 | 2033.9 | 2007.9 | 2079.4 | 2222.4 | 2232.1 | 2040.4 | 1929.9 | 1933.2 |
| 67.5° | 1959.2 | 1981.9 | 1929.9 | 1907.2 | 1884.5 | 1871.5 | 1858.5 | 1865.0 | 1813.0 | 1712.3 | 1709.0 |
| 70° | 1767.5 | 1829.2 | 1793.5 | 1774.0 | 1744.7 | 1722.0 | 1644.0 | 1517.3 | 1429.6 | 1403.6 | 1432.8 |
| 72.5° | 1520.6 | 1605.0 | 1585.5 | 1575.8 | 1540.1 | 1484.8 | 1380.8 | 1257.4 | 1153.4 | 1088.4 | 1101.4 |
| 75° | 1146.9 | 1215.1 | 1224.9 | 1228.1 | 1189.2 | 1137.2 | 1029.9 | 926.0 | 835.0 | 766.8 | 783.0 |
| 77.5° | 659.6 | 698.5 | 708.3 | 718.0 | 688.8 | 669.3 | 597.8 | 523.1 | 474.4 | 402.9 | 422.4 |
| 80° | 367.1 | 383.4 | 383.4 | 386.6 | 370.4 | 347.6 | 298.9 | 256.7 | 233.9 | 201.4 | 204.7 |
| 82.5° | 220.9 | 227.4 | 230.7 | 233.9 | 224.2 | 201.4 | 165.7 | 136.5 | 123.5 | 107.2 | 104.0 |
| 85° | 107.2 | 113.7 | 113.7 | 117.0 | 100.7 | 87.7 | 68.2 | 52.0 | 45.5 | 32.5 | 35.7 |
| 87.5° | 26.0 | 29.2 | 29.2 | 26.0 | 22.7 | 16.2 | 9.7 | 3.2 | 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
 CIE u': 0.2508
 CIE v': 0.5215
 Duv: 0.0000
 CIE x: 0.4374
 CIE y: 0.4043
 CIE z: 0.1583
 Peak Wavelength (nm): 593
 Dominant Wavelength (nm): 582
 Purity: 53

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.8 | | |
| R1: | 67.5 | R9: | -38.3 |
| R2: | 82.9 | R10: | 62.5 |
| R3: | 94.7 | R11: | 63.7 |
| R4: | 67.7 | R12: | 57.8 |
| R5: | 67.9 | R13: | 70.4 |
| R6: | 77.6 | R14: | 97.3 |
| R7: | 76.0 | | |
| R8: | 40.5 | | |

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

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

| 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 |

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

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

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

Photopic Flux vs. Wavelength



#####

| 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 | 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 | | | |

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

TM-30-18

Summary

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



Color Vector Graphics



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

TM-30-18

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 | |



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

TM-30-18

Color Rendition by Hue-Angle Bin



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

TM-30-18

Measure Comparisons



(END OF REPORT)