

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: P643609

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

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P643609
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-14)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SAGF-730-U-T2R-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (6) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II ROADWAY OPTICS WITH HOUSE SIDE SHIELD
Light Source: (96) 3000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 36550.8 lumens
Efficiency: N/A
Efficacy: 98.1 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G4

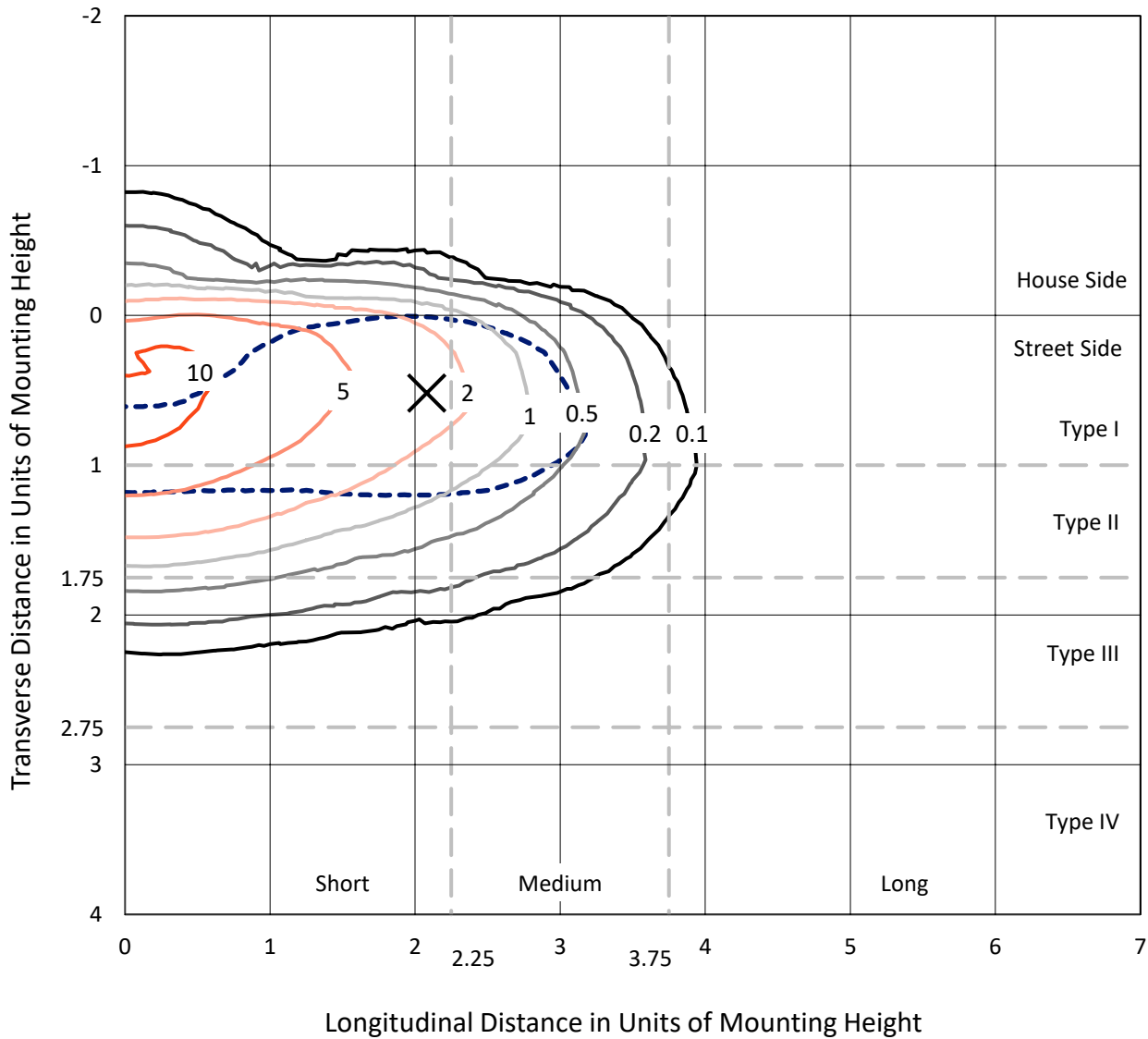
Input Watts (W): 372.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P643609
 CATALOG NUMBER: GWS-SA6F-730-U-T2R-W-HSS

Iso-Footcandle Lines of Horizontal Illumination

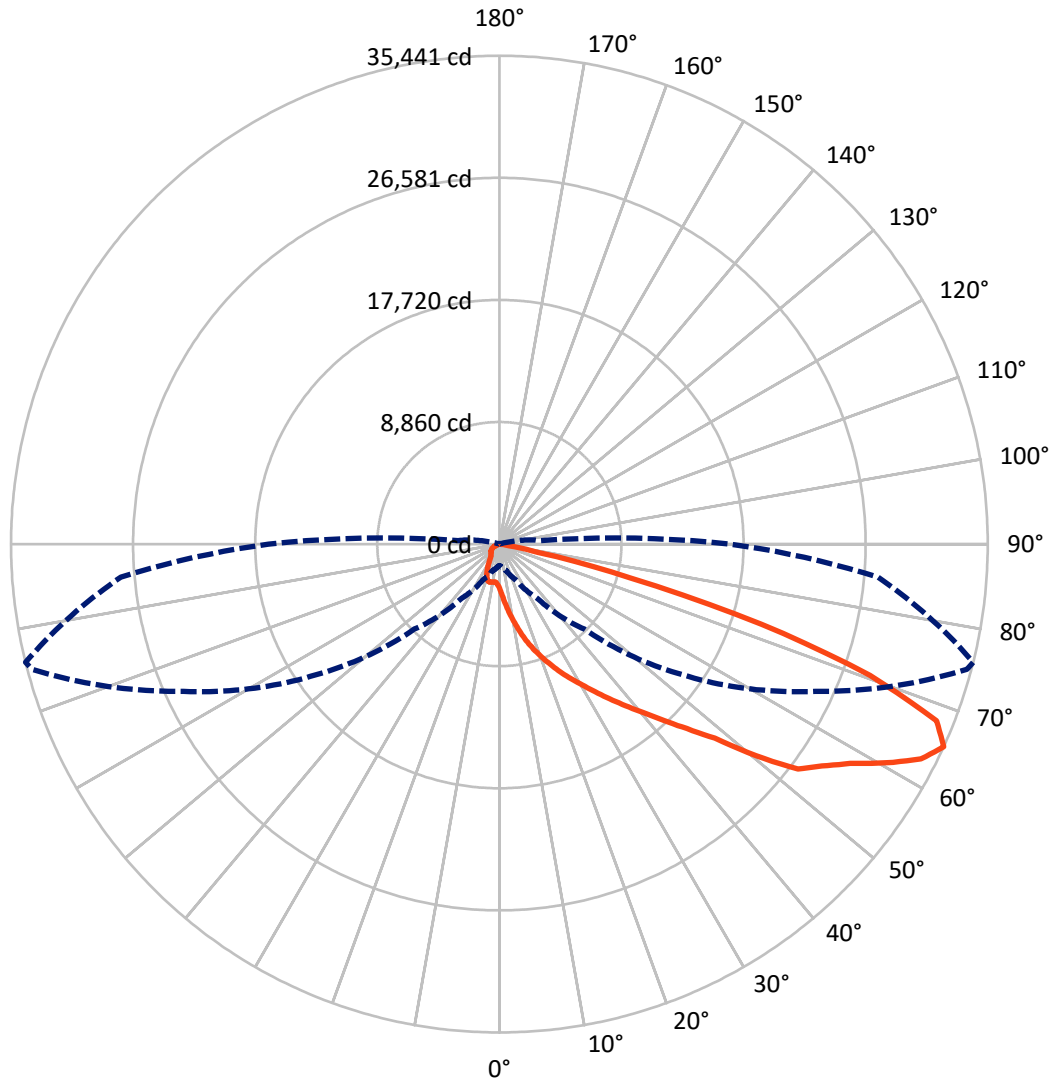
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 12.2 fc
 Type II - Short - N/A

REPORT NUMBER: P643609
CATALOG NUMBER: GWS-SA6F-730-U-T2R-W-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 76-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2021.0 | 0.0 | 2021.0 |
| | % Fixture | 5.5 | 0.0 | 5.5 |
| Street Side | Lumens | 34529.8 | 0.0 | 34529.8 |
| | % Fixture | 94.5 | 0.0 | 94.5 |
| Total | Lumens | 36550.8 | 0.0 | 36550.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 393.7 | 1.1 |
| 10°-20° | 1493.8 | 4.1 |
| 20°-30° | 3047.6 | 8.3 |
| 30°-40° | 5420.3 | 14.8 |
| 40°-50° | 8012.5 | 21.9 |
| 50°-60° | 9173.7 | 25.1 |
| 60°-70° | 6999.1 | 19.1 |
| 70°-80° | 1960.6 | 5.4 |
| 80°-90° | 49.3 | 0.1 |
| 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° | 36550.8 | 100.0 |
| 0°-180° | 36550.8 | 100.0 |

Coefficient of Utilization



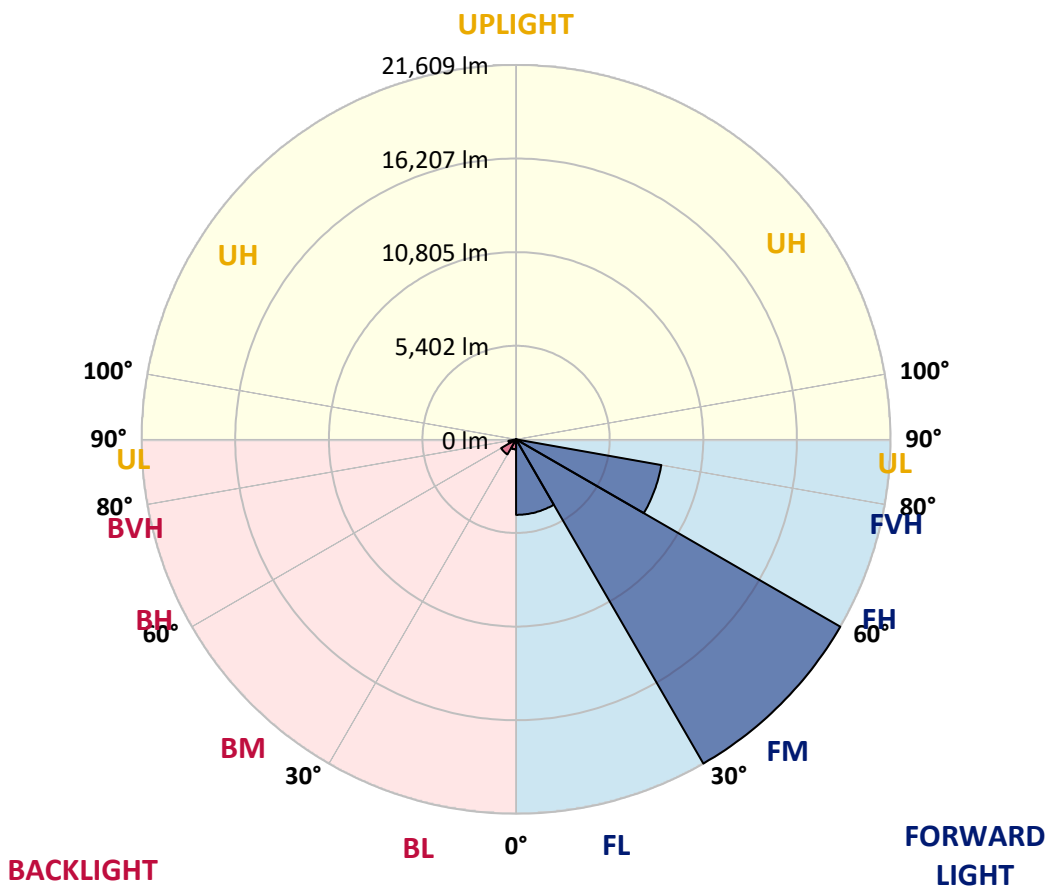
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 4358.4 | 11.9 | | | |
| FM (30°-60°) | 21609.4 | 59.1 | | | |
| FH (60°-80°) | 8515.4 | 23.3 | | | G4/12000 |
| FVH (80°-90°) | 46.5 | 0.1 | | | G1/100 |
| BL (0°-30°) | 576.7 | 1.6 | B2/1000 | | |
| BM (30°-60°) | 997.2 | 2.7 | B1/1000 | | |
| BH (60°-80°) | 444.3 | 1.2 | B1/500 | | G1/500 |
| BVH (80°-90°) | 2.9 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G4
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 76° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 |
| 2.5° | 4987.3 | 5062.1 | 5003.6 | 4906.1 | 4717.7 | 4535.7 | 4301.8 | 3980.1 | 3723.4 | 3690.9 | 3450.5 |
| 5° | 6735.3 | 6728.8 | 6602.1 | 6475.4 | 6277.2 | 5965.3 | 5494.2 | 4896.4 | 4321.3 | 4272.5 | 3733.2 |
| 7.5° | 7775.0 | 7784.8 | 7713.3 | 7615.8 | 7420.9 | 7099.2 | 6608.6 | 5887.3 | 5045.8 | 4948.3 | 4119.8 |
| 10° | 8649.0 | 8645.8 | 8593.8 | 8548.3 | 8372.9 | 8158.4 | 7632.1 | 6839.3 | 5825.6 | 5672.9 | 4552.0 |
| 12.5° | 9305.4 | 9328.1 | 9354.1 | 9399.6 | 9324.8 | 9113.7 | 8616.5 | 7752.3 | 6615.1 | 6446.2 | 5045.8 |
| 15° | 9825.2 | 9831.7 | 9929.2 | 10104.6 | 10166.4 | 10055.9 | 9604.3 | 8636.0 | 7394.9 | 7248.7 | 5614.4 |
| 17.5° | 9981.2 | 9994.2 | 10159.9 | 10481.5 | 10806.4 | 10868.2 | 10527.0 | 9526.3 | 8161.7 | 8005.7 | 6166.7 |
| 20° | 10309.3 | 10338.6 | 10462.0 | 10744.7 | 11154.1 | 11485.5 | 11352.3 | 10426.3 | 8928.5 | 8723.8 | 6732.1 |
| 22.5° | 11342.5 | 11358.8 | 11316.5 | 11352.3 | 11563.5 | 11946.8 | 12028.1 | 11297.0 | 9714.7 | 9497.0 | 7342.9 |
| 25° | 13119.8 | 13126.3 | 12830.6 | 12551.2 | 12392.0 | 12463.5 | 12642.2 | 12099.6 | 10494.5 | 10280.1 | 7911.5 |
| 27.5° | 14965.2 | 14988.0 | 14633.8 | 14159.5 | 13590.9 | 13266.0 | 13214.0 | 12833.8 | 11280.8 | 11043.6 | 8473.6 |
| 30° | 16703.5 | 16703.5 | 16329.9 | 15751.5 | 14991.2 | 14357.7 | 13984.0 | 13574.6 | 12122.3 | 11862.4 | 9048.7 |
| 32.5° | 18266.3 | 18253.3 | 17775.7 | 17148.6 | 16398.1 | 15702.8 | 14916.5 | 14347.9 | 13058.0 | 12768.9 | 9711.5 |
| 35° | 19556.2 | 19523.7 | 18981.1 | 18380.0 | 17577.5 | 17060.9 | 16183.6 | 15179.7 | 14071.7 | 13782.6 | 10393.8 |
| 37.5° | 20530.9 | 20495.2 | 19998.1 | 19361.2 | 18617.2 | 18282.5 | 17548.3 | 16177.1 | 15140.7 | 14877.5 | 11150.8 |
| 40° | 21060.5 | 20989.0 | 20644.6 | 20170.3 | 19546.4 | 19254.0 | 18948.6 | 17415.0 | 16398.1 | 16069.9 | 12044.3 |
| 42.5° | 21216.5 | 21132.0 | 20904.6 | 20683.6 | 20306.7 | 20076.0 | 20404.2 | 18812.1 | 17778.9 | 17496.3 | 13064.5 |
| 45° | 20755.1 | 20706.4 | 20686.9 | 20846.1 | 20914.3 | 20979.3 | 21788.3 | 20358.7 | 19302.8 | 19088.3 | 14347.9 |
| 47.5° | 19643.9 | 19630.9 | 19803.1 | 20465.9 | 21187.2 | 21872.8 | 23292.6 | 22265.9 | 21278.2 | 21047.5 | 16141.4 |
| 50° | 17590.5 | 17723.7 | 18204.6 | 19367.7 | 20810.3 | 22379.6 | 24699.5 | 24910.7 | 24475.3 | 24137.4 | 18480.7 |
| 52.5° | 14380.4 | 14637.1 | 15715.8 | 17483.3 | 19556.2 | 22236.7 | 25349.3 | 27029.1 | 27474.2 | 27123.3 | 20157.3 |
| 55° | 11284.0 | 11524.5 | 12486.2 | 14728.1 | 17493.0 | 21148.2 | 25378.5 | 27760.1 | 28731.6 | 28406.7 | 21291.2 |
| 57.5° | 8405.4 | 8626.3 | 9500.3 | 11644.7 | 14685.8 | 19007.1 | 24683.2 | 28166.2 | 30222.9 | 30015.0 | 23081.4 |
| 60° | 5494.2 | 5711.9 | 6501.4 | 8376.1 | 11391.3 | 15888.0 | 22971.0 | 28081.8 | 32253.6 | 32234.1 | 25281.1 |
| 62.5° | 3047.6 | 3219.8 | 3791.7 | 5253.8 | 7950.5 | 12304.2 | 20280.7 | 27233.7 | 34219.3 | 34342.7 | 27094.0 |
| 65° | 1559.6 | 1670.0 | 2017.7 | 2888.4 | 4811.9 | 8723.8 | 16742.5 | 25290.8 | 35129.0 | 35440.9 | 27571.7 |
| 67.5° | 1020.2 | 1055.9 | 1140.4 | 1501.1 | 2576.5 | 5487.7 | 12599.9 | 22174.9 | 33848.9 | 34212.8 | 25969.9 |
| 70° | 828.5 | 857.8 | 906.5 | 1000.7 | 1328.9 | 2914.4 | 8275.4 | 17710.7 | 28283.2 | 28530.1 | 20680.4 |
| 72.5° | 607.6 | 646.6 | 740.8 | 802.5 | 958.5 | 1598.5 | 4305.0 | 11625.2 | 19423.0 | 19858.3 | 12996.3 |
| 75° | 448.4 | 471.1 | 549.1 | 633.6 | 783.0 | 1010.5 | 1647.3 | 6111.5 | 10029.9 | 9776.5 | 5458.4 |
| 77.5° | 269.7 | 285.9 | 350.9 | 406.1 | 558.8 | 630.3 | 575.1 | 2258.1 | 3050.9 | 2868.9 | 1319.1 |
| 80° | 133.2 | 149.5 | 230.7 | 305.4 | 357.4 | 253.4 | 240.4 | 630.3 | 679.1 | 679.1 | 331.4 |
| 82.5° | 45.5 | 58.5 | 123.5 | 201.4 | 175.5 | 97.5 | 113.7 | 162.5 | 181.9 | 191.7 | 97.5 |
| 85° | 0.0 | 0.0 | 29.2 | 58.5 | 26.0 | 13.0 | 29.2 | 35.7 | 45.5 | 48.7 | 32.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.2 | 9.7 | 13.0 | 13.0 |
| 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: P643609

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

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 | 3236.1 |
| 2.5° | 3320.6 | 3167.8 | 2937.2 | 2729.2 | 2570.0 | 2420.6 | 2306.8 | 2215.9 | 2199.6 | 2147.6 | 2154.1 |
| 5° | 3470.0 | 3193.8 | 2768.2 | 2440.1 | 2209.4 | 2053.4 | 1923.5 | 1826.0 | 1783.7 | 1741.5 | 1709.0 |
| 7.5° | 3700.7 | 3301.1 | 2703.2 | 2303.6 | 2033.9 | 1793.5 | 1592.0 | 1429.6 | 1351.6 | 1302.9 | 1270.4 |
| 10° | 3983.4 | 3450.5 | 2706.5 | 2222.4 | 1822.7 | 1455.6 | 1179.4 | 1000.7 | 916.2 | 890.2 | 887.0 |
| 12.5° | 4321.3 | 3639.0 | 2732.5 | 2089.2 | 1517.3 | 1081.9 | 874.0 | 792.8 | 766.8 | 744.0 | 744.0 |
| 15° | 4678.7 | 3850.2 | 2732.5 | 1845.5 | 1156.7 | 844.8 | 757.0 | 705.0 | 672.6 | 659.6 | 653.1 |
| 17.5° | 5055.6 | 4048.3 | 2667.5 | 1510.8 | 887.0 | 744.0 | 672.6 | 623.8 | 597.8 | 578.3 | 571.8 |
| 20° | 5458.4 | 4236.8 | 2505.0 | 1156.7 | 760.3 | 666.1 | 597.8 | 549.1 | 523.1 | 503.6 | 503.6 |
| 22.5° | 5867.8 | 4412.2 | 2241.9 | 890.2 | 672.6 | 591.3 | 526.4 | 480.9 | 454.9 | 435.4 | 435.4 |
| 25° | 6248.0 | 4529.2 | 1904.0 | 734.3 | 607.6 | 526.4 | 467.9 | 422.4 | 393.1 | 380.1 | 373.6 |
| 27.5° | 6602.1 | 4603.9 | 1530.3 | 646.6 | 545.8 | 471.1 | 409.4 | 367.1 | 344.4 | 334.7 | 328.2 |
| 30° | 6969.3 | 4623.4 | 1169.7 | 588.1 | 493.9 | 415.9 | 357.4 | 324.9 | 305.4 | 292.4 | 292.4 |
| 32.5° | 7326.7 | 4600.7 | 893.5 | 539.3 | 448.4 | 367.1 | 318.4 | 289.2 | 272.9 | 263.2 | 259.9 |
| 35° | 7690.6 | 4496.7 | 724.5 | 497.1 | 402.9 | 321.7 | 282.7 | 259.9 | 250.2 | 237.2 | 237.2 |
| 37.5° | 8086.9 | 4357.0 | 630.3 | 454.9 | 357.4 | 289.2 | 253.4 | 237.2 | 224.2 | 214.4 | 211.2 |
| 40° | 8580.8 | 4194.6 | 578.3 | 419.1 | 315.2 | 259.9 | 227.4 | 211.2 | 201.4 | 191.7 | 188.4 |
| 42.5° | 9165.6 | 4035.4 | 552.3 | 380.1 | 282.7 | 230.7 | 204.7 | 185.2 | 175.5 | 162.5 | 159.2 |
| 45° | 9994.2 | 3999.6 | 523.1 | 337.9 | 253.4 | 207.9 | 178.7 | 159.2 | 146.2 | 136.5 | 133.2 |
| 47.5° | 11326.3 | 4100.3 | 474.4 | 292.4 | 224.2 | 181.9 | 152.7 | 136.5 | 120.2 | 110.5 | 104.0 |
| 50° | 12648.7 | 4074.3 | 425.6 | 253.4 | 198.2 | 156.0 | 130.0 | 113.7 | 97.5 | 87.7 | 84.5 |
| 52.5° | 13369.9 | 3950.9 | 380.1 | 224.2 | 172.2 | 133.2 | 110.5 | 91.0 | 81.2 | 71.5 | 68.2 |
| 55° | 14023.0 | 3902.1 | 334.7 | 194.9 | 146.2 | 117.0 | 91.0 | 74.7 | 68.2 | 58.5 | 55.2 |
| 57.5° | 15303.1 | 4015.9 | 295.7 | 169.0 | 126.7 | 100.7 | 78.0 | 61.7 | 55.2 | 45.5 | 42.2 |
| 60° | 16641.8 | 4028.9 | 253.4 | 146.2 | 110.5 | 84.5 | 61.7 | 48.7 | 42.2 | 32.5 | 29.2 |
| 62.5° | 17340.3 | 3700.7 | 207.9 | 123.5 | 91.0 | 71.5 | 52.0 | 39.0 | 32.5 | 19.5 | 19.5 |
| 65° | 16755.5 | 2992.4 | 175.5 | 100.7 | 71.5 | 55.2 | 39.0 | 29.2 | 19.5 | 9.7 | 3.2 |
| 67.5° | 14828.8 | 2128.1 | 146.2 | 81.2 | 52.0 | 39.0 | 29.2 | 19.5 | 3.2 | 0.0 | 0.0 |
| 70° | 10858.4 | 1215.2 | 113.7 | 58.5 | 39.0 | 26.0 | 19.5 | 9.7 | 0.0 | 0.0 | 0.0 |
| 72.5° | 6673.6 | 649.8 | 84.5 | 39.0 | 29.2 | 19.5 | 16.2 | 6.5 | 0.0 | 0.0 | 0.0 |
| 75° | 2531.0 | 311.9 | 52.0 | 26.0 | 22.7 | 16.2 | 9.7 | 3.2 | 0.0 | 0.0 | 0.0 |
| 77.5° | 685.6 | 152.7 | 29.2 | 19.5 | 16.2 | 9.7 | 6.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80° | 178.7 | 71.5 | 19.5 | 13.0 | 9.7 | 6.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 82.5° | 61.7 | 32.5 | 9.7 | 9.7 | 6.5 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 26.0 | 13.0 | 6.5 | 6.5 | 3.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 9.7 | 3.2 | 3.2 | 3.2 | 3.2 | 0.0 | 0.0 | 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

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 |

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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

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

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)