

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



Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P322510

Luminaire Tested: **GLEON-SA6A-730-U-T4FT-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P322510
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-17)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA6A-730-U-T4FT-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(6) 70 CRI, 3000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
FORWARD THROW OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 18025 lumens
Efficiency: N/A
Efficacy: 93.4 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B2 - U0 - G4

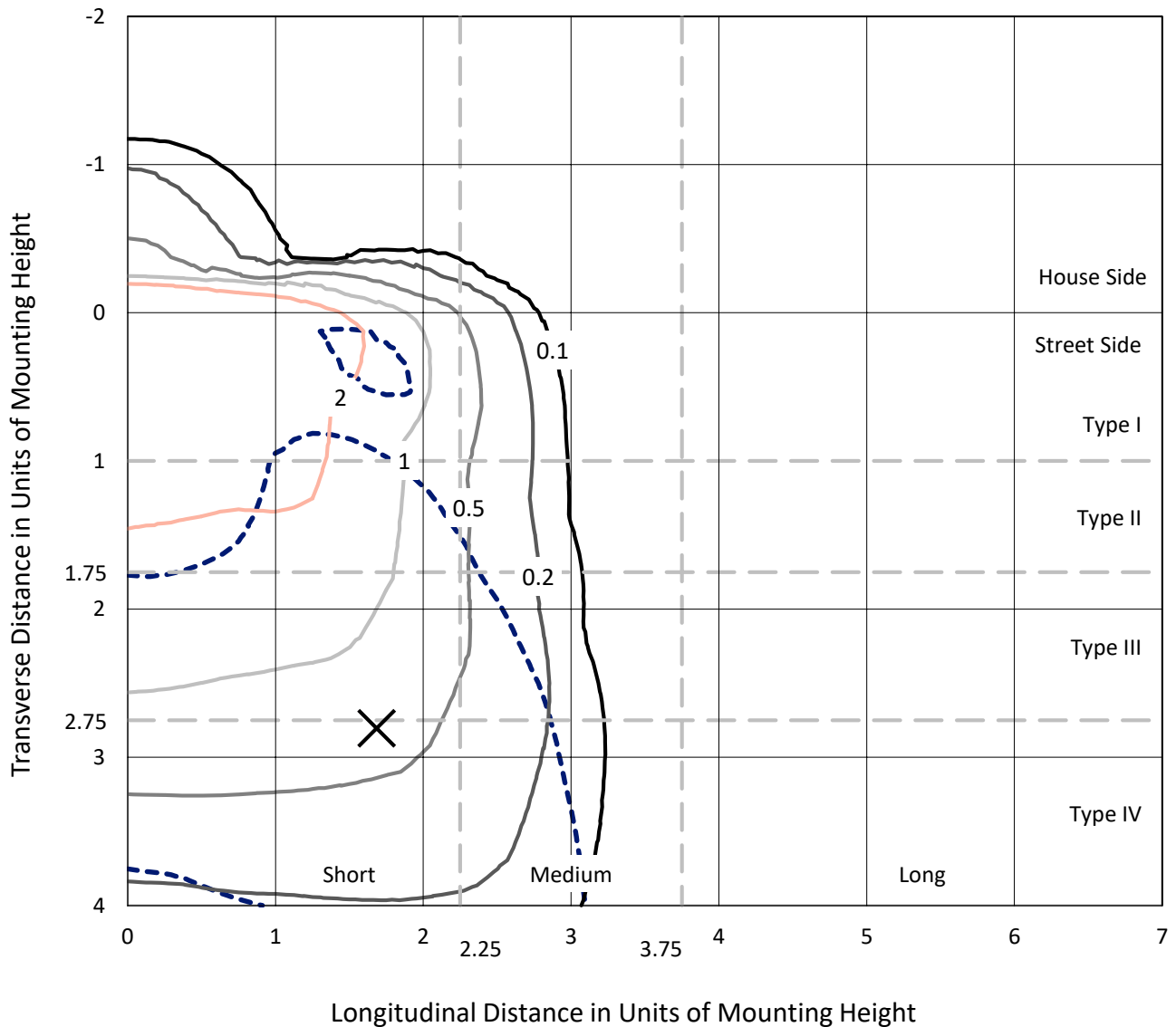
Input Watts (W): 193
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P322510
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Iso-Footcandle Lines of Horizontal Illumination

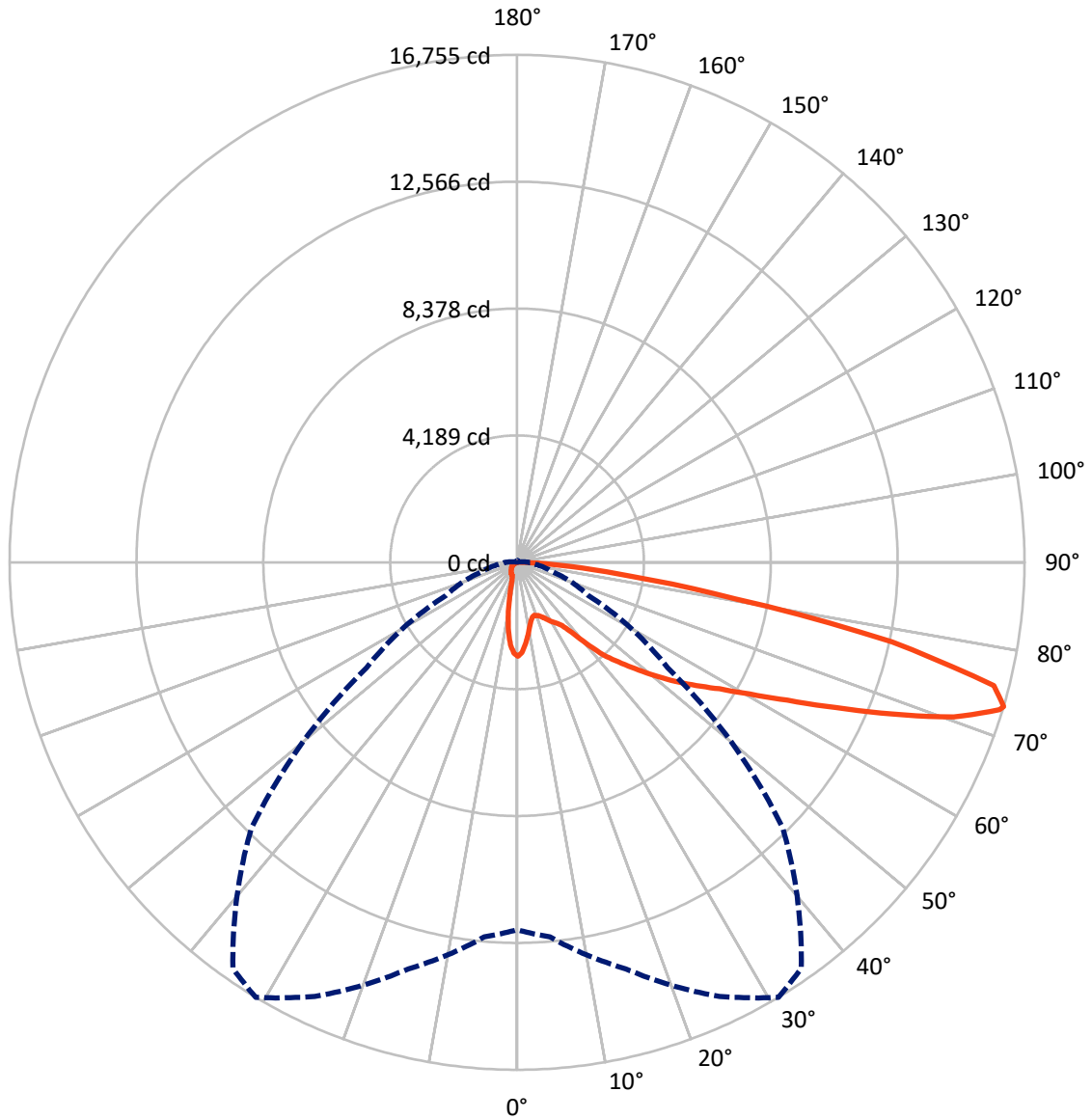
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5 fc
 Type IV - Short - N/A

REPORT NUMBER: P322510
CATALOG NUMBER: GLEON-SA6A-730-U-T4FT-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 31-Deg Lateral - - - Horizontal Cone Through 73-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1643.0 | 0.0 | 1643.0 |
| | % Fixture | 9.1 | 0.0 | 9.1 |
| Street Side | Lumens | 16382.0 | 0.0 | 16382.0 |
| | % Fixture | 90.9 | 0.0 | 90.9 |
| Total | Lumens | 18025.0 | 0.0 | 18025.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 257.1 | 1.4 |
| 10°-20° | 558.3 | 3.1 |
| 20°-30° | 836.5 | 4.6 |
| 30°-40° | 1330.9 | 7.4 |
| 40°-50° | 2376.6 | 13.2 |
| 50°-60° | 3687.9 | 20.5 |
| 60°-70° | 4902.5 | 27.2 |
| 70°-80° | 3687.7 | 20.5 |
| 80°-90° | 387.5 | 2.1 |
| 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° | 18025.0 | 100.0 |
| 0°-180° | 18025.0 | 100.0 |

Coefficient of Utilization

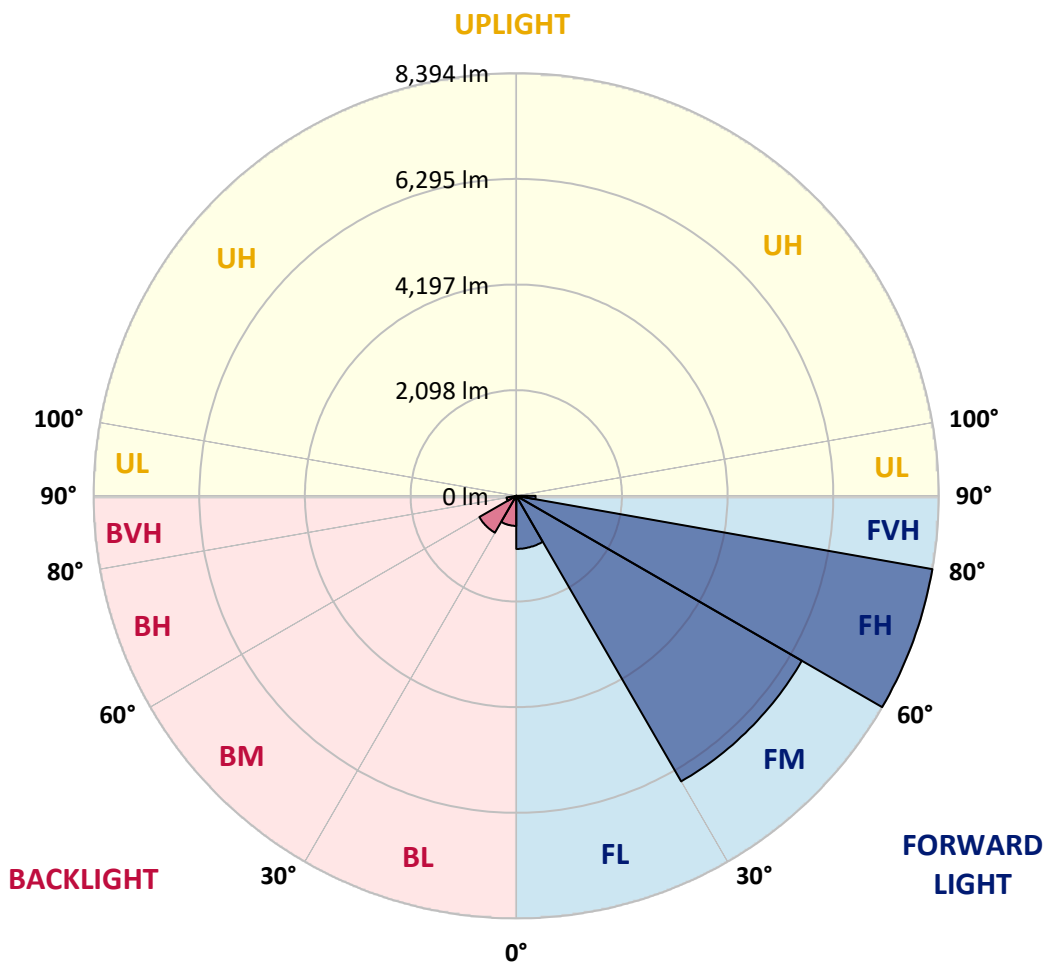


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|----------|
| | | | B | U | G |
| FL (0°-30°) | 1054.5 | 5.9 | | | |
| FM (30°-60°) | 6549.7 | 36.3 | | | |
| FH (60°-80°) | 8393.6 | 46.6 | | | G4/12000 |
| FVH (80°-90°) | 384.2 | 2.1 | | | G3/500 |
| BL (0°-30°) | 597.5 | 3.3 | B2/1000 | | |
| BM (30°-60°) | 845.7 | 4.7 | B1/1000 | | |
| BH (60°-80°) | 196.6 | 1.1 | B1/500 | | G1/500 |
| BVH (80°-90°) | 3.3 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G4
 Type IV Short





REPORT NUMBER: P322510

CATALOG NUMBER: GLEON-SA6A-730-U-T4FT-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 31° | 35° | 45° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|--------|--------|--------|--------|
| 0° | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 |
| 2.5° | 2938.9 | 2951.3 | 2964.5 | 2967.2 | 2989.2 | 2990.1 | 3021.9 | 3045.7 | 3069.5 | 3092.4 | 3100.4 |
| 5° | 2637.3 | 2657.6 | 2681.4 | 2705.2 | 2752.0 | 2770.5 | 2848.1 | 2927.5 | 3003.3 | 3075.7 | 3110.9 |
| 7.5° | 2315.3 | 2338.3 | 2371.8 | 2430.9 | 2482.9 | 2519.1 | 2641.7 | 2782.8 | 2923.9 | 3057.1 | 3133.9 |
| 10° | 2021.6 | 2042.8 | 2078.1 | 2140.7 | 2221.0 | 2270.4 | 2435.3 | 2631.1 | 2838.4 | 3040.4 | 3168.3 |
| 12.5° | 1834.6 | 1846.1 | 1865.5 | 1932.5 | 2004.9 | 2060.4 | 2254.5 | 2497.0 | 2767.8 | 3039.5 | 3223.8 |
| 15° | 1800.2 | 1803.8 | 1787.9 | 1817.9 | 1874.3 | 1928.1 | 2124.8 | 2388.6 | 2714.0 | 3053.6 | 3296.2 |
| 17.5° | 1854.9 | 1853.2 | 1800.2 | 1796.7 | 1841.7 | 1885.8 | 2061.3 | 2313.6 | 2676.1 | 3086.2 | 3389.7 |
| 20° | 1937.8 | 1931.7 | 1839.9 | 1823.2 | 1870.8 | 1912.3 | 2056.9 | 2285.4 | 2662.0 | 3140.9 | 3503.4 |
| 22.5° | 2048.1 | 2037.5 | 1893.7 | 1876.1 | 1927.2 | 1970.5 | 2111.6 | 2312.7 | 2674.3 | 3214.1 | 3635.8 |
| 25° | 2184.8 | 2168.9 | 1986.3 | 1966.9 | 2019.0 | 2062.2 | 2209.5 | 2391.2 | 2711.4 | 3303.2 | 3803.3 |
| 27.5° | 2339.2 | 2316.2 | 2134.5 | 2084.3 | 2143.3 | 2188.3 | 2340.0 | 2511.2 | 2769.6 | 3397.6 | 4008.9 |
| 30° | 2484.7 | 2454.7 | 2290.6 | 2207.7 | 2280.1 | 2330.3 | 2481.2 | 2654.0 | 2863.1 | 3543.1 | 4290.2 |
| 32.5° | 2631.1 | 2597.6 | 2430.0 | 2331.2 | 2396.5 | 2451.2 | 2626.7 | 2850.7 | 3038.6 | 3765.4 | 4664.2 |
| 35° | 2968.1 | 2932.8 | 2727.3 | 2564.1 | 2563.2 | 2594.1 | 2830.5 | 3119.8 | 3270.6 | 4075.0 | 5110.5 |
| 37.5° | 3535.2 | 3514.9 | 3319.1 | 3009.5 | 2926.6 | 2892.2 | 3108.3 | 3440.8 | 3604.0 | 4501.0 | 5614.2 |
| 40° | 4156.2 | 4138.5 | 3918.9 | 3638.4 | 3512.3 | 3427.6 | 3507.0 | 3888.0 | 4075.0 | 5021.4 | 6128.4 |
| 42.5° | 4857.4 | 4773.6 | 4382.0 | 4298.2 | 4185.3 | 4120.9 | 4049.4 | 4439.3 | 4653.6 | 5587.7 | 6638.2 |
| 45° | 5494.2 | 5353.1 | 4845.0 | 4718.0 | 4692.4 | 4708.3 | 4748.0 | 5180.2 | 5304.6 | 6260.7 | 7146.3 |
| 47.5° | 5873.5 | 5762.3 | 5372.5 | 5250.8 | 5243.7 | 5348.7 | 5648.6 | 6017.2 | 5952.9 | 6847.2 | 7593.4 |
| 50° | 6234.2 | 6133.7 | 5810.0 | 5840.0 | 5872.6 | 6015.5 | 6670.8 | 6878.1 | 6544.7 | 7379.1 | 8003.6 |
| 52.5° | 6526.2 | 6372.7 | 6203.4 | 6371.8 | 6532.4 | 6762.6 | 7725.8 | 7650.8 | 6964.6 | 7802.5 | 8354.6 |
| 55° | 6694.7 | 6625.0 | 6707.0 | 6876.4 | 7178.0 | 7552.0 | 8721.6 | 8293.8 | 7271.5 | 8188.8 | 8588.4 |
| 57.5° | 7312.1 | 7175.4 | 7338.5 | 7485.0 | 7878.3 | 8401.4 | 9574.5 | 8772.7 | 7492.9 | 8427.9 | 8642.2 |
| 60° | 8059.2 | 7948.9 | 8045.0 | 8288.5 | 8819.5 | 9434.3 | 10371.9 | 9163.5 | 7608.4 | 8581.3 | 8502.8 |
| 62.5° | 9248.1 | 9102.6 | 9042.6 | 9315.2 | 10019.0 | 10690.3 | 10976.9 | 9434.3 | 7582.9 | 8513.4 | 8024.8 |
| 65° | 10841.1 | 10690.3 | 10422.1 | 10669.1 | 11564.4 | 12038.0 | 11653.5 | 9491.6 | 7406.5 | 7963.9 | 6816.4 |
| 67.5° | 12472.9 | 12363.5 | 12134.2 | 12550.5 | 13358.4 | 13511.0 | 12368.8 | 9352.2 | 6838.4 | 6457.4 | 4815.9 |
| 70° | 13550.7 | 13504.0 | 13653.0 | 14573.9 | 15294.5 | 15250.4 | 13025.0 | 8603.4 | 5330.1 | 3970.9 | 2382.4 |
| 72.5° | 12773.6 | 12997.7 | 14098.5 | 15768.2 | 16648.4 | 16288.6 | 12688.1 | 6606.4 | 3046.6 | 1527.7 | 688.9 |
| 73° | 12129.8 | 12416.4 | 13898.2 | 15813.1 | 16755.2 | 16360.9 | 12405.0 | 6064.0 | 2596.7 | 1205.7 | 522.2 |
| 75° | 8438.4 | 8790.4 | 11506.2 | 14727.4 | 16255.9 | 15588.2 | 10340.1 | 3711.6 | 1203.1 | 534.5 | 210.8 |
| 77.5° | 4097.1 | 4357.3 | 6335.7 | 10640.9 | 12642.2 | 12179.2 | 6437.1 | 1383.0 | 543.3 | 334.3 | 97.0 |
| 80° | 1529.5 | 1700.6 | 2750.2 | 5415.7 | 7305.9 | 7497.3 | 2831.3 | 523.0 | 361.6 | 269.0 | 49.4 |
| 82.5° | 400.4 | 446.3 | 1014.3 | 2415.0 | 3744.2 | 3918.9 | 892.6 | 263.7 | 264.6 | 221.4 | 30.0 |
| 85° | 127.9 | 146.4 | 316.7 | 1084.0 | 1764.1 | 1548.9 | 232.9 | 127.9 | 192.3 | 164.9 | 16.8 |
| 87.5° | 15.9 | 20.3 | 100.6 | 254.9 | 389.0 | 216.1 | 36.2 | 37.9 | 82.0 | 91.7 | 9.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



REPORT NUMBER: P322510

CATALOG NUMBER: GLEON-SA6A-730-U-T4FT-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 | 3101.2 |
| 2.5° | 3108.3 | 3103.9 | 3104.8 | 3081.8 | 3066.8 | 3036.8 | 3006.0 | 2991.9 | 2976.9 | 2970.7 | 2976.9 |
| 5° | 3124.2 | 3116.2 | 3093.3 | 3022.7 | 2947.8 | 2850.7 | 2759.9 | 2691.1 | 2604.7 | 2580.8 | 2605.5 |
| 7.5° | 3148.9 | 3133.0 | 3066.0 | 2922.2 | 2755.5 | 2570.3 | 2362.1 | 2210.4 | 2086.0 | 2005.7 | 2034.9 |
| 10° | 3185.0 | 3155.0 | 3020.1 | 2775.8 | 2477.6 | 2149.5 | 1854.0 | 1623.8 | 1460.7 | 1393.6 | 1391.0 |
| 12.5° | 3245.9 | 3189.4 | 2963.6 | 2585.2 | 2138.1 | 1700.6 | 1313.4 | 1063.7 | 931.4 | 845.9 | 844.1 |
| 15° | 3312.9 | 3230.0 | 2892.2 | 2356.8 | 1742.9 | 1218.1 | 845.9 | 656.2 | 570.7 | 543.3 | 539.8 |
| 17.5° | 3395.0 | 3276.8 | 2799.6 | 2075.4 | 1329.2 | 807.1 | 552.2 | 497.5 | 493.9 | 491.3 | 491.3 |
| 20° | 3498.2 | 3332.3 | 2680.5 | 1753.5 | 942.9 | 538.9 | 469.2 | 472.8 | 474.5 | 471.0 | 471.9 |
| 22.5° | 3618.1 | 3388.8 | 2538.5 | 1407.7 | 637.7 | 450.7 | 449.0 | 453.4 | 455.1 | 453.4 | 454.2 |
| 25° | 3757.5 | 3454.1 | 2365.6 | 1045.2 | 460.4 | 427.8 | 432.2 | 438.4 | 442.8 | 442.8 | 442.8 |
| 27.5° | 3930.4 | 3533.4 | 2157.5 | 729.4 | 397.8 | 404.0 | 416.3 | 427.8 | 434.0 | 435.7 | 435.7 |
| 30° | 4155.3 | 3632.2 | 1907.8 | 500.1 | 361.6 | 372.2 | 395.2 | 417.2 | 428.7 | 430.4 | 431.3 |
| 32.5° | 4439.3 | 3743.4 | 1618.5 | 369.6 | 330.8 | 338.7 | 363.4 | 400.4 | 422.5 | 426.0 | 426.0 |
| 35° | 4764.8 | 3872.1 | 1307.2 | 321.9 | 308.7 | 311.4 | 330.8 | 373.1 | 411.9 | 421.6 | 422.5 |
| 37.5° | 5121.1 | 3999.2 | 994.1 | 300.8 | 290.2 | 290.2 | 304.3 | 340.5 | 386.3 | 416.3 | 419.8 |
| 40° | 5453.6 | 4075.9 | 696.8 | 284.0 | 273.4 | 273.4 | 285.8 | 312.2 | 355.5 | 400.4 | 410.1 |
| 42.5° | 5760.6 | 4102.3 | 485.1 | 268.1 | 257.6 | 260.2 | 270.8 | 292.0 | 324.6 | 369.6 | 378.4 |
| 45° | 6076.3 | 4097.9 | 353.7 | 249.6 | 241.7 | 249.6 | 257.6 | 273.4 | 297.2 | 322.8 | 324.6 |
| 47.5° | 6314.5 | 4060.9 | 280.5 | 232.0 | 226.7 | 237.3 | 244.3 | 254.9 | 268.1 | 266.4 | 266.4 |
| 50° | 6537.7 | 3970.9 | 225.8 | 208.2 | 211.7 | 224.0 | 227.6 | 231.1 | 232.0 | 215.2 | 213.5 |
| 52.5° | 6707.0 | 3830.7 | 180.8 | 182.6 | 196.7 | 209.0 | 205.5 | 200.2 | 191.4 | 171.1 | 167.6 |
| 55° | 6763.5 | 3560.8 | 142.0 | 150.8 | 174.6 | 190.5 | 177.3 | 165.8 | 149.1 | 132.3 | 128.8 |
| 57.5° | 6661.1 | 3212.4 | 115.5 | 117.3 | 147.3 | 160.5 | 145.5 | 132.3 | 113.8 | 99.7 | 97.0 |
| 60° | 6444.2 | 2825.2 | 95.3 | 88.2 | 113.8 | 125.2 | 115.5 | 102.3 | 85.6 | 75.0 | 74.1 |
| 62.5° | 6013.7 | 2412.4 | 78.5 | 68.8 | 86.4 | 96.1 | 90.0 | 80.3 | 66.2 | 59.1 | 58.2 |
| 65° | 5108.8 | 1929.9 | 63.5 | 55.6 | 67.0 | 75.0 | 69.7 | 62.6 | 52.0 | 46.7 | 45.9 |
| 67.5° | 3566.1 | 1304.5 | 52.0 | 45.9 | 52.9 | 59.1 | 54.7 | 51.2 | 41.5 | 40.6 | 41.5 |
| 70° | 1720.0 | 628.9 | 43.2 | 37.0 | 41.5 | 45.9 | 44.1 | 41.5 | 39.7 | 45.9 | 52.9 |
| 72.5° | 493.1 | 210.8 | 34.4 | 30.9 | 33.5 | 36.2 | 37.9 | 37.0 | 43.2 | 55.6 | 64.4 |
| 73° | 379.3 | 170.2 | 32.6 | 29.1 | 31.8 | 35.3 | 37.0 | 36.2 | 44.1 | 56.5 | 64.4 |
| 75° | 162.3 | 82.0 | 24.7 | 23.8 | 26.5 | 30.9 | 32.6 | 32.6 | 44.1 | 57.3 | 61.7 |
| 77.5° | 73.2 | 44.1 | 15.9 | 18.5 | 22.9 | 24.7 | 27.3 | 27.3 | 35.3 | 44.1 | 44.1 |
| 80° | 41.5 | 23.8 | 12.3 | 14.1 | 16.8 | 16.8 | 16.8 | 15.0 | 15.9 | 17.6 | 19.4 |
| 82.5° | 26.5 | 15.9 | 9.7 | 11.5 | 10.6 | 8.8 | 7.1 | 7.1 | 6.2 | 7.1 | 8.8 |
| 85° | 15.0 | 8.8 | 8.8 | 7.1 | 4.4 | 3.5 | 4.4 | 3.5 | 0.9 | 0.0 | 0.9 |
| 87.5° | 8.8 | 5.3 | 2.6 | 0.0 | 0.0 | 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
 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 |

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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 ($\mu\text{W}/\text{nm}$) | 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 | | | |

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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)