

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: P632360

Luminaire Tested: GWS-SA2C-750-U-AFL-W

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P632360
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-45)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA2C-750-U-AFL-W
Description: GALLEON WALL SLIM LUMINAIRE. (2) LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS
Light Source: (32) 5000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9640.8 lumens
Efficiency: N/A
Efficacy: 152.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G1

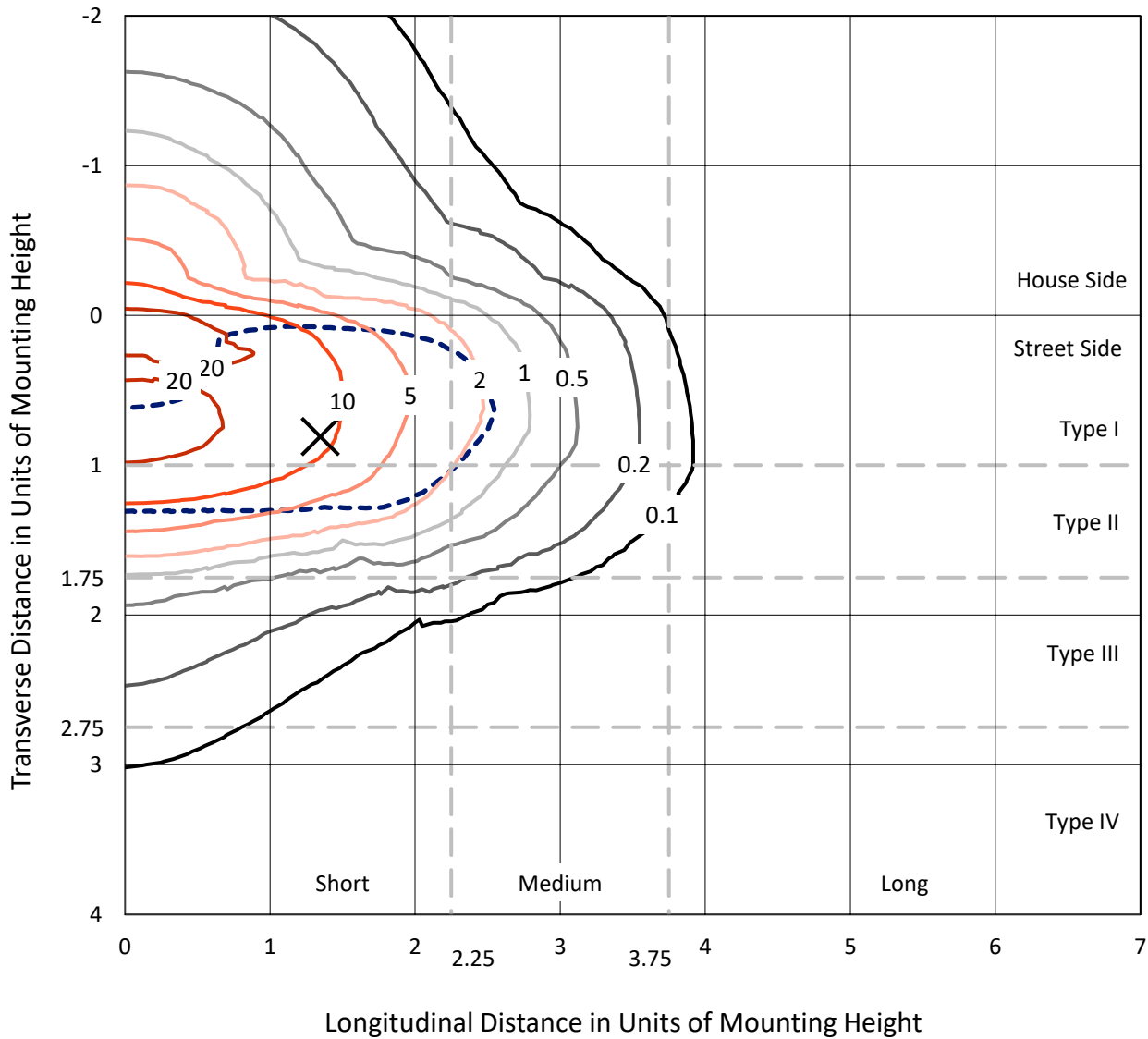
Input Watts (W): 63.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P632360
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Iso-Footcandle Lines of Horizontal Illumination

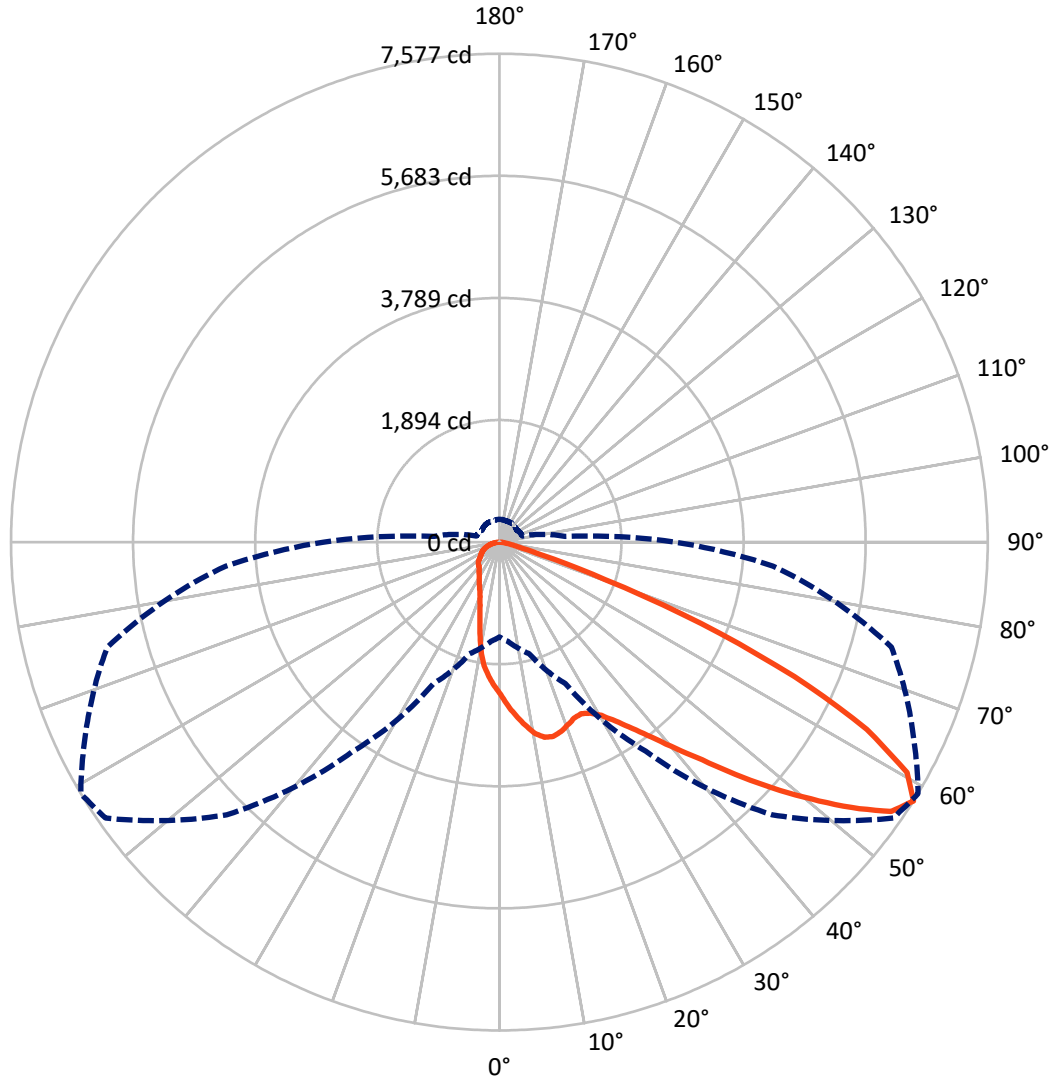
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 29 fc
 Type II - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral - - - Horizontal Cone Through 57.5-Deg Vertical

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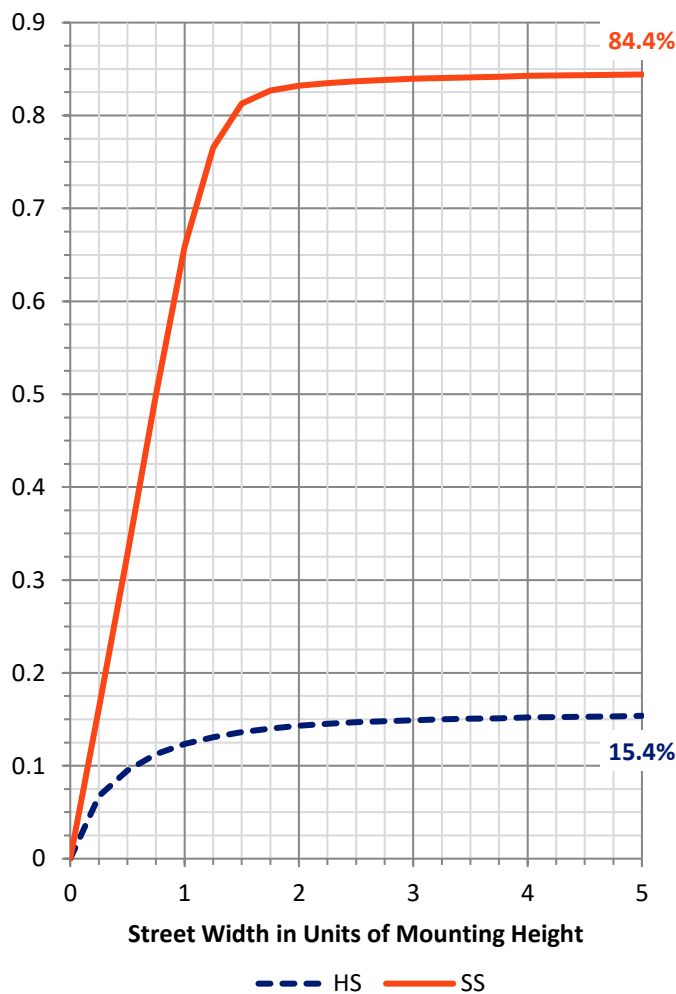
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1496.2 | 0.0 | 1496.2 |
| | % Fixture | 15.5 | 0.0 | 15.5 |
| Street Side | Lumens | 8144.6 | 0.0 | 8144.6 |
| | % Fixture | 84.5 | 0.0 | 84.5 |
| Total | Lumens | 9640.8 | 0.0 | 9640.8 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 219.7 | 2.3 |
| 10°-20° | 556.8 | 5.8 |
| 20°-30° | 902.6 | 9.4 |
| 30°-40° | 1452.0 | 15.1 |
| 40°-50° | 2254.8 | 23.4 |
| 50°-60° | 2428.8 | 25.2 |
| 60°-70° | 1409.6 | 14.6 |
| 70°-80° | 368.0 | 3.8 |
| 80°-90° | 48.5 | 0.5 |
| 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° | 9640.8 | 100.0 |
| 0°-180° | 9640.8 | 100.0 |

Coefficient of Utilization



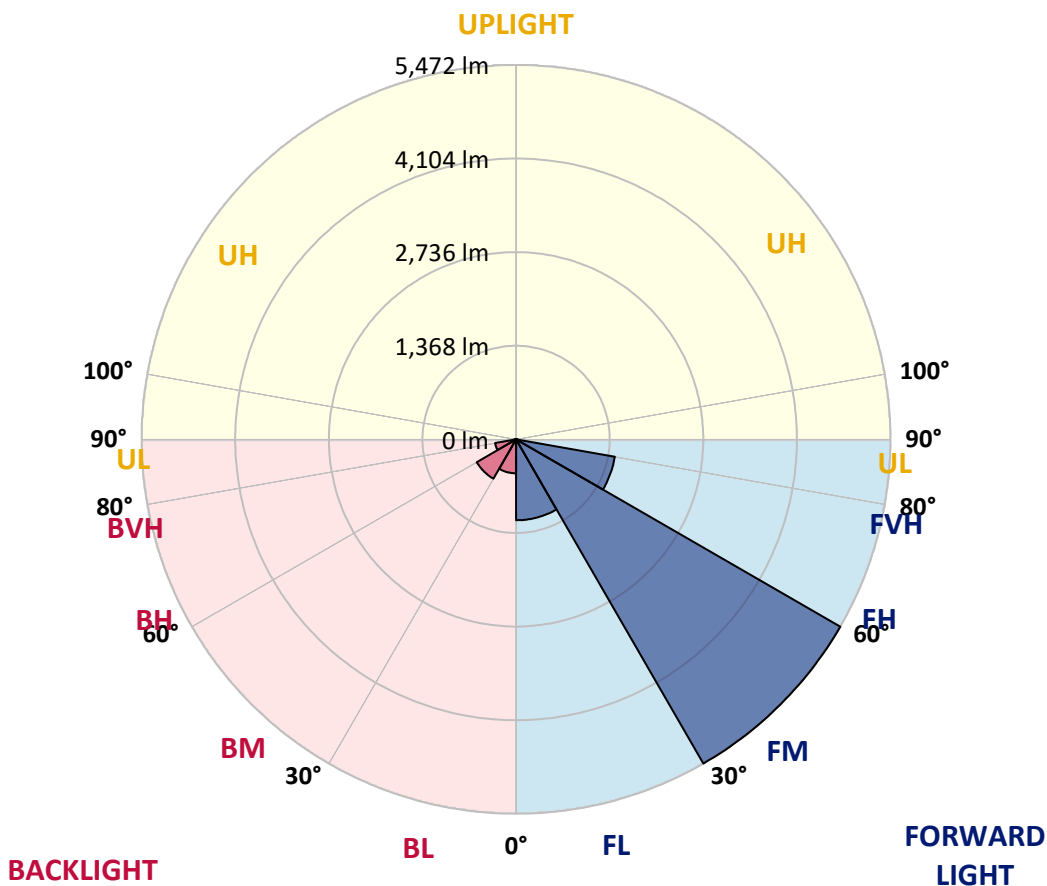
REPORT NUMBER: P632360

CATALOG NUMBER: GWS-SA2C-750-U-AFL-W

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1182.8 | 12.3 | | | |
| FM (30°-60°) | 5472.2 | 56.8 | | | |
| FH (60°-80°) | 1466.3 | 15.2 | | | G1/1800 |
| FVH (80°-90°) | 23.2 | 0.2 | | | G1/100 |
| BL (0°-30°) | 496.4 | 5.1 | B1/500 | | |
| BM (30°-60°) | 663.4 | 6.9 | B1/1000 | | |
| BH (60°-80°) | 311.2 | 3.2 | B1/500 | | G1/500 |
| BVH (80°-90°) | 25.3 | 0.3 | | | G1/100 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G1
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 59° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 |
| 2.5° | 2684.3 | 2661.9 | 2677.5 | 2649.6 | 2638.1 | 2607.6 | 2568.2 | 2541.7 | 2501.0 | 2448.1 | 2401.9 |
| 5° | 2951.0 | 2935.4 | 2938.8 | 2908.9 | 2882.4 | 2831.5 | 2750.8 | 2706.0 | 2636.7 | 2530.2 | 2431.1 |
| 7.5° | 2942.8 | 2961.2 | 2971.3 | 2997.1 | 3004.6 | 2999.8 | 2927.2 | 2864.8 | 2788.8 | 2628.6 | 2479.3 |
| 10° | 2638.1 | 2672.7 | 2703.9 | 2792.2 | 2899.4 | 3035.1 | 3052.1 | 3014.8 | 2938.1 | 2754.2 | 2537.0 |
| 12.5° | 2306.2 | 2332.7 | 2360.5 | 2466.4 | 2630.6 | 2902.1 | 3086.0 | 3109.1 | 3078.6 | 2878.4 | 2602.1 |
| 15° | 2143.3 | 2155.5 | 2182.0 | 2251.9 | 2382.9 | 2684.3 | 3027.0 | 3128.1 | 3183.1 | 3010.0 | 2675.4 |
| 17.5° | 2136.5 | 2142.0 | 2154.9 | 2192.2 | 2283.1 | 2515.9 | 2920.4 | 3090.1 | 3265.2 | 3149.2 | 2760.9 |
| 20° | 2277.0 | 2262.8 | 2254.6 | 2254.0 | 2298.8 | 2459.6 | 2817.3 | 3029.0 | 3303.9 | 3291.7 | 2852.6 |
| 22.5° | 2471.8 | 2476.6 | 2458.9 | 2415.5 | 2410.1 | 2499.6 | 2765.7 | 2967.3 | 3315.4 | 3417.9 | 2937.4 |
| 25° | 2748.1 | 2771.8 | 2719.5 | 2636.7 | 2596.0 | 2615.7 | 2797.6 | 2948.3 | 3314.1 | 3523.1 | 2990.3 |
| 27.5° | 3070.4 | 3088.8 | 3035.8 | 2927.2 | 2843.1 | 2795.6 | 2892.6 | 3004.6 | 3325.6 | 3614.1 | 3022.2 |
| 30° | 3437.6 | 3443.7 | 3371.1 | 3257.1 | 3134.2 | 3032.4 | 3050.8 | 3120.7 | 3384.7 | 3733.5 | 3059.6 |
| 32.5° | 3886.2 | 3912.0 | 3802.1 | 3621.5 | 3449.8 | 3319.5 | 3263.2 | 3308.0 | 3512.3 | 3874.7 | 3117.3 |
| 35° | 4455.7 | 4464.5 | 4324.7 | 4066.1 | 3823.1 | 3642.6 | 3524.5 | 3548.2 | 3706.4 | 4072.2 | 3204.1 |
| 37.5° | 4992.5 | 5001.3 | 4852.7 | 4612.4 | 4264.9 | 4017.9 | 3846.9 | 3836.0 | 3954.8 | 4351.1 | 3346.0 |
| 40° | 5333.2 | 5358.3 | 5291.8 | 5141.1 | 4809.3 | 4476.0 | 4243.9 | 4206.6 | 4280.6 | 4692.5 | 3543.5 |
| 42.5° | 5516.5 | 5527.3 | 5526.0 | 5545.7 | 5348.1 | 5016.9 | 4691.8 | 4617.2 | 4666.7 | 5061.1 | 3743.0 |
| 45° | 5517.8 | 5545.0 | 5617.6 | 5806.9 | 5815.8 | 5609.4 | 5257.9 | 5141.1 | 5095.7 | 5432.3 | 3951.4 |
| 47.5° | 5270.8 | 5300.0 | 5499.5 | 5872.1 | 6147.0 | 6193.8 | 5935.9 | 5701.8 | 5510.4 | 5752.0 | 4122.4 |
| 50° | 4522.9 | 4596.2 | 4976.2 | 5635.2 | 6212.1 | 6662.1 | 6582.7 | 6265.1 | 5878.9 | 5999.0 | 4229.7 |
| 52.5° | 3873.3 | 3870.6 | 4104.8 | 4966.0 | 5940.0 | 6868.4 | 7208.5 | 6844.7 | 6243.4 | 6155.8 | 4256.8 |
| 55° | 2836.3 | 2851.9 | 3091.5 | 3798.0 | 5213.8 | 6668.9 | 7552.6 | 7378.1 | 6661.4 | 6239.3 | 4245.9 |
| 57.5° | 1470.7 | 1548.1 | 1793.8 | 2423.6 | 3961.6 | 5982.1 | 7460.9 | 7577.0 | 7086.3 | 6298.3 | 4260.2 |
| 60° | 743.2 | 728.2 | 816.5 | 1157.2 | 2295.4 | 4672.2 | 6896.3 | 7266.2 | 7163.0 | 6344.5 | 4269.0 |
| 62.5° | 496.1 | 492.1 | 467.6 | 536.2 | 938.0 | 2767.1 | 5878.9 | 6397.4 | 6630.2 | 6235.9 | 4156.4 |
| 65° | 429.6 | 421.5 | 376.7 | 374.0 | 455.4 | 1147.7 | 4309.1 | 5029.2 | 5479.8 | 5753.3 | 3886.9 |
| 67.5° | 386.9 | 374.6 | 329.2 | 306.8 | 327.1 | 504.3 | 2428.4 | 3373.1 | 4046.4 | 4865.6 | 3296.4 |
| 70° | 345.5 | 339.3 | 293.9 | 261.3 | 259.3 | 307.5 | 894.5 | 1740.9 | 2475.9 | 3319.5 | 2410.1 |
| 72.5° | 309.5 | 298.6 | 259.9 | 228.7 | 213.1 | 217.9 | 388.2 | 670.6 | 1281.4 | 2070.7 | 1441.6 |
| 75° | 268.1 | 259.9 | 226.0 | 194.8 | 175.8 | 159.5 | 236.9 | 310.2 | 584.4 | 984.1 | 680.7 |
| 77.5° | 207.0 | 201.6 | 178.5 | 154.7 | 143.9 | 118.8 | 143.9 | 195.5 | 270.1 | 414.7 | 354.3 |
| 80° | 120.1 | 123.5 | 133.0 | 120.8 | 105.9 | 84.8 | 93.7 | 112.7 | 162.2 | 224.6 | 200.9 |
| 82.5° | 60.4 | 64.5 | 86.2 | 69.9 | 63.1 | 49.5 | 55.7 | 66.5 | 84.8 | 124.2 | 78.7 |
| 85° | 4.8 | 4.8 | 15.6 | 17.6 | 21.7 | 17.6 | 22.4 | 27.1 | 38.7 | 49.5 | 26.5 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 3.4 | 6.1 | 11.5 | 7.5 |
| 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: P632360
 CATALOG NUMBER: GWS-SA2C-750-U-AFL-W

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 | 2366.6 |
| 2.5° | 2370.7 | 2336.1 | 2294.7 | 2260.7 | 2208.5 | 2180.7 | 2145.4 | 2101.9 | 2084.3 | 2076.1 | 2071.4 |
| 5° | 2375.4 | 2314.4 | 2226.1 | 2144.7 | 2054.4 | 1983.2 | 1903.8 | 1820.9 | 1773.4 | 1761.9 | 1753.8 |
| 7.5° | 2393.1 | 2307.6 | 2167.1 | 2032.7 | 1865.1 | 1709.6 | 1558.3 | 1408.3 | 1331.6 | 1302.4 | 1299.7 |
| 10° | 2417.5 | 2304.9 | 2107.4 | 1884.1 | 1601.1 | 1355.4 | 1178.2 | 1060.8 | 1011.3 | 995.0 | 989.5 |
| 12.5° | 2448.1 | 2302.8 | 2028.6 | 1677.7 | 1296.3 | 1064.2 | 963.1 | 944.1 | 950.9 | 949.5 | 949.5 |
| 15° | 2486.8 | 2305.5 | 1933.6 | 1444.3 | 1048.6 | 923.7 | 925.7 | 948.1 | 969.2 | 972.6 | 972.6 |
| 17.5° | 2528.8 | 2302.8 | 1795.8 | 1210.1 | 900.0 | 890.5 | 921.7 | 952.9 | 971.9 | 974.6 | 974.6 |
| 20° | 2574.3 | 2289.9 | 1622.1 | 989.5 | 834.8 | 869.4 | 903.3 | 927.8 | 939.3 | 942.0 | 942.0 |
| 22.5° | 2601.5 | 2253.3 | 1433.4 | 837.5 | 793.4 | 836.2 | 858.6 | 883.7 | 885.0 | 863.3 | 862.6 |
| 25° | 2597.4 | 2184.7 | 1218.3 | 739.8 | 749.3 | 786.6 | 815.1 | 797.5 | 775.8 | 763.5 | 761.5 |
| 27.5° | 2571.6 | 2081.6 | 999.0 | 665.8 | 697.0 | 739.1 | 730.3 | 715.3 | 709.9 | 696.3 | 695.0 |
| 30° | 2539.0 | 1954.7 | 802.2 | 608.1 | 642.7 | 681.4 | 667.8 | 666.5 | 661.1 | 646.1 | 646.1 |
| 32.5° | 2507.8 | 1823.7 | 653.6 | 565.4 | 608.1 | 610.8 | 629.8 | 631.2 | 628.5 | 602.7 | 600.0 |
| 35° | 2499.0 | 1692.7 | 553.1 | 531.4 | 574.2 | 572.8 | 600.0 | 599.3 | 552.5 | 516.5 | 515.8 |
| 37.5° | 2525.4 | 1559.7 | 493.4 | 503.6 | 527.3 | 545.0 | 566.7 | 527.3 | 511.7 | 490.0 | 488.7 |
| 40° | 2581.8 | 1436.8 | 462.9 | 487.3 | 497.5 | 523.3 | 489.3 | 492.1 | 488.0 | 471.7 | 469.7 |
| 42.5° | 2656.4 | 1332.3 | 445.9 | 481.9 | 480.5 | 487.3 | 450.0 | 460.8 | 466.9 | 454.7 | 452.7 |
| 45° | 2728.4 | 1241.3 | 437.1 | 461.5 | 468.3 | 428.9 | 421.5 | 431.7 | 441.2 | 436.4 | 434.4 |
| 47.5° | 2781.3 | 1162.6 | 432.3 | 433.7 | 452.7 | 409.3 | 397.0 | 401.8 | 413.3 | 415.4 | 414.7 |
| 50° | 2797.6 | 1095.4 | 426.9 | 410.6 | 406.5 | 389.6 | 380.1 | 378.7 | 392.3 | 401.8 | 403.1 |
| 52.5° | 2766.4 | 1035.7 | 412.6 | 390.3 | 370.6 | 373.3 | 369.9 | 363.1 | 376.7 | 389.6 | 390.9 |
| 55° | 2720.2 | 1001.8 | 390.3 | 370.6 | 347.5 | 358.4 | 359.7 | 353.6 | 362.4 | 371.2 | 371.2 |
| 57.5° | 2723.6 | 1021.4 | 368.5 | 352.2 | 327.1 | 341.4 | 348.9 | 346.1 | 346.1 | 352.9 | 353.6 |
| 60° | 2746.0 | 1049.9 | 354.3 | 329.2 | 306.8 | 321.7 | 338.7 | 336.0 | 329.8 | 338.7 | 338.7 |
| 62.5° | 2681.5 | 1011.9 | 344.8 | 306.8 | 285.1 | 302.7 | 323.1 | 321.7 | 314.9 | 329.2 | 330.5 |
| 65° | 2491.5 | 910.1 | 333.9 | 278.9 | 263.3 | 283.7 | 301.3 | 306.1 | 300.0 | 319.0 | 322.4 |
| 67.5° | 2088.4 | 765.6 | 312.9 | 252.5 | 241.6 | 260.6 | 277.6 | 284.4 | 279.6 | 302.0 | 304.7 |
| 70° | 1556.9 | 619.7 | 279.6 | 223.3 | 215.1 | 232.1 | 247.7 | 250.4 | 251.1 | 277.6 | 280.3 |
| 72.5° | 992.9 | 481.9 | 235.5 | 190.7 | 184.6 | 197.5 | 209.0 | 219.9 | 224.6 | 249.8 | 249.1 |
| 75° | 553.8 | 358.4 | 189.4 | 161.5 | 150.7 | 160.9 | 174.4 | 187.3 | 200.9 | 237.5 | 241.6 |
| 77.5° | 319.0 | 251.8 | 150.0 | 129.6 | 116.7 | 127.6 | 139.1 | 157.5 | 198.2 | 230.1 | 226.0 |
| 80° | 179.9 | 163.6 | 113.3 | 95.0 | 86.9 | 95.0 | 103.8 | 138.5 | 156.1 | 169.7 | 171.7 |
| 82.5° | 84.2 | 91.6 | 77.4 | 58.4 | 58.4 | 63.8 | 71.9 | 107.2 | 118.1 | 96.4 | 84.2 |
| 85° | 30.5 | 41.4 | 38.0 | 29.9 | 26.5 | 25.8 | 44.8 | 61.1 | 38.0 | 33.9 | 29.2 |
| 87.5° | 8.1 | 11.5 | 10.9 | 7.5 | 4.1 | 3.4 | 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: SP1-1908-441-4-R4

Test Date: 10/02/2019

Luminaire Tested: SA1C-750-U-5WQ

Data in this report applies to families of products SA1C-760-U-5WQ .

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-4-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-750-U-5WQ**
 Description: MCGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-4-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. ROADWAY AND AREA LUMINAIRE. (1) 70 CRI, 5000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

CCT (K): 4884
 CIE u': 0.2101
 CIE v': 0.4904
 Duv: 0.0037
 CIE x: 0.3493
 CIE y: 0.3624
 CIE z: 0.2884
 Peak Wavelength (nm): 444
 Dominant Wavelength (nm): 571
 Purity: 13.7
 Rf: 74.9
 Rg: 96.3

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.5 | | |
| R1: | 70.5 | R9: | -28.4 |
| R2: | 77.7 | R10: | 48.6 |
| R3: | 84.6 | R11: | 73.2 |
| R4: | 74.7 | R12: | 50.7 |
| R5: | 71.9 | R13: | 71.2 |
| R6: | 70.7 | R14: | 91.4 |
| R7: | 81.2 | | |
| R8: | 56.9 | | |



Test Conditions

Stabilization Time: 240M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0./44%
 Sphere Temperature (°C): 25.7

REPORT NUMBER: SP1-1908-441-4-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 5000K 4-step quadrangle

REPORT NUMBER: SP1-1908-441-4-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 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

REPORT NUMBER: SP1-1908-441-4-R4

Scotopic Flux vs. Wavelength



Scotopic Lumens: 13493.5 S/P: 1.77

| 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 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

REPORT NUMBER: SP1-1908-441-4-R4

Melanopic Flux vs. Wavelength



Melanopic Lumens: 5378.9 M/P: 0.71

| 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 | 2945 | NR | 490 | 37941 | NR | 620 | 88803 | NR | 750 | 3908 | NR | 880 | 2997 | NR |
| 365 | 2596 | NR | 495 | 48525 | NR | 625 | 80578 | NR | 755 | 3988 | NR | 885 | 2927 | NR |
| 370 | 2732 | NR | 500 | 60609 | NR | 630 | 73127 | NR | 760 | 3335 | NR | 890 | 2649 | NR |
| 375 | 2894 | NR | 505 | 72036 | NR | 635 | 66244 | NR | 765 | 3438 | NR | 895 | 2828 | NR |
| 380 | 2822 | NR | 510 | 82168 | NR | 640 | 59440 | NR | 770 | 3427 | NR | 900 | 1407 | NR |
| 385 | 2394 | NR | 515 | 90898 | NR | 645 | 52864 | NR | 775 | 2759 | NR | 905 | 2224 | NR |
| 390 | 2370 | NR | 520 | 97142 | NR | 650 | 47085 | NR | 780 | 2340 | NR | 910 | 2905 | NR |
| 395 | 2267 | NR | 525 | 103255 | NR | 655 | 41789 | NR | 785 | 2412 | NR | 915 | 3350 | NR |
| 400 | 2262 | NR | 530 | 106697 | NR | 660 | 37064 | NR | 790 | 1999 | NR | 920 | 3114 | NR |
| 405 | 3000 | NR | 535 | 110081 | NR | 665 | 32299 | NR | 795 | 2054 | NR | 925 | 2834 | NR |
| 410 | 5324 | NR | 540 | 112494 | NR | 670 | 28142 | NR | 800 | 2331 | NR | 930 | 2271 | NR |
| 415 | 10725 | NR | 545 | 115513 | NR | 675 | 24505 | NR | 805 | 2648 | NR | 935 | 2228 | NR |
| 420 | 22128 | NR | 550 | 117203 | NR | 680 | 21162 | NR | 810 | 2485 | NR | 940 | 2833 | NR |
| 425 | 44095 | NR | 555 | 119753 | NR | 685 | 18400 | NR | 815 | 2409 | NR | 945 | 2941 | NR |
| 430 | 77002 | NR | 560 | 122602 | NR | 690 | 16065 | NR | 820 | 2221 | NR | 950 | 2323 | NR |
| 435 | 119881 | NR | 565 | 124314 | NR | 695 | 13860 | NR | 825 | 1562 | NR | 955 | 1667 | NR |
| 440 | 164454 | NR | 570 | 126775 | NR | 700 | 12177 | NR | 830 | 2249 | NR | 960 | 749 | NR |
| 445 | 179997 | NR | 575 | 127511 | NR | 705 | 10757 | NR | 835 | 2573 | NR | 965 | 2669 | NR |
| 450 | 142822 | NR | 580 | 127577 | NR | 710 | 9601 | NR | 840 | 2764 | NR | 970 | 3968 | NR |
| 455 | 90008 | NR | 585 | 126153 | NR | 715 | 8944 | NR | 845 | 3109 | NR | 975 | 3886 | NR |
| 460 | 60557 | NR | 590 | 123678 | NR | 720 | 7947 | NR | 850 | 2963 | NR | 980 | 2788 | NR |
| 465 | 43305 | NR | 595 | 119774 | NR | 725 | 7062 | NR | 855 | 2336 | NR | 985 | 3496 | NR |
| 470 | 31089 | NR | 600 | 115733 | NR | 730 | 6004 | NR | 860 | 2118 | NR | 990 | 2913 | NR |
| 475 | 26278 | NR | 605 | 109231 | NR | 735 | 5594 | NR | 865 | 3144 | NR | 995 | 4659 | NR |
| 480 | 27060 | NR | 610 | 102408 | NR | 740 | 5165 | NR | 870 | 3069 | NR | 1000 | 1308 | NR |
| 485 | 30698 | NR | 615 | 96015 | NR | 745 | 4687 | NR | 875 | 3311 | NR | | | |

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TM-30-18

Summary

$R_f = 74.9$
 $R_g = 96.3$
 CIE $R_a = 73.5$
 $R_g = -28.4$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 61 | CES51 = 90 | CES76 = 52 |
| CES02 = 60 | CES27 = 84 | CES52 = 91 | CES77 = 71 |
| CES03 = 30 | CES28 = 81 | CES53 = 79 | CES78 = 54 |
| CES04 = 69 | CES29 = 58 | CES54 = 83 | CES79 = 80 |
| CES05 = 46 | CES30 = 67 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 63 | CES56 = 73 | CES81 = 77 |
| CES07 = 39 | CES32 = 59 | CES57 = 72 | CES82 = 90 |
| CES08 = 38 | CES33 = 69 | CES58 = 73 | CES83 = 86 |
| CES09 = 29 | CES34 = 69 | CES59 = 88 | CES84 = 88 |
| CES10 = 73 | CES35 = 83 | CES60 = 93 | CES85 = 84 |
| CES11 = 56 | CES36 = 95 | CES61 = 88 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 85 | CES87 = 78 |
| CES13 = 41 | CES38 = 76 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 93 | CES64 = 74 | CES89 = 75 |
| CES15 = 70 | CES40 = 86 | CES65 = 67 | CES90 = 77 |
| CES16 = 46 | CES41 = 87 | CES66 = 69 | CES91 = 89 |
| CES17 = 49 | CES42 = 78 | CES67 = 67 | CES92 = 66 |
| CES18 = 55 | CES43 = 75 | CES68 = 73 | CES93 = 80 |
| CES19 = 71 | CES44 = 99 | CES69 = 81 | CES94 = 57 |
| CES20 = 64 | CES45 = 83 | CES70 = 63 | CES95 = 71 |
| CES21 = 85 | CES46 = 81 | CES71 = 60 | CES96 = 78 |
| CES22 = 77 | CES47 = 80 | CES72 = 86 | CES97 = 85 |
| CES23 = 91 | CES48 = 72 | CES73 = 53 | CES98 = 75 |
| CES24 = 90 | CES49 = 81 | CES74 = 96 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 58 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)