

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: P635336

Luminaire Tested: GWS-SA3D-750-U-SL2-W-HSS

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P635336
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-30)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA3D-750-U-SL2-W-HSS
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: (48) 5000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 14270 lumens
Efficiency: N/A
Efficacy: 118.1 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G2

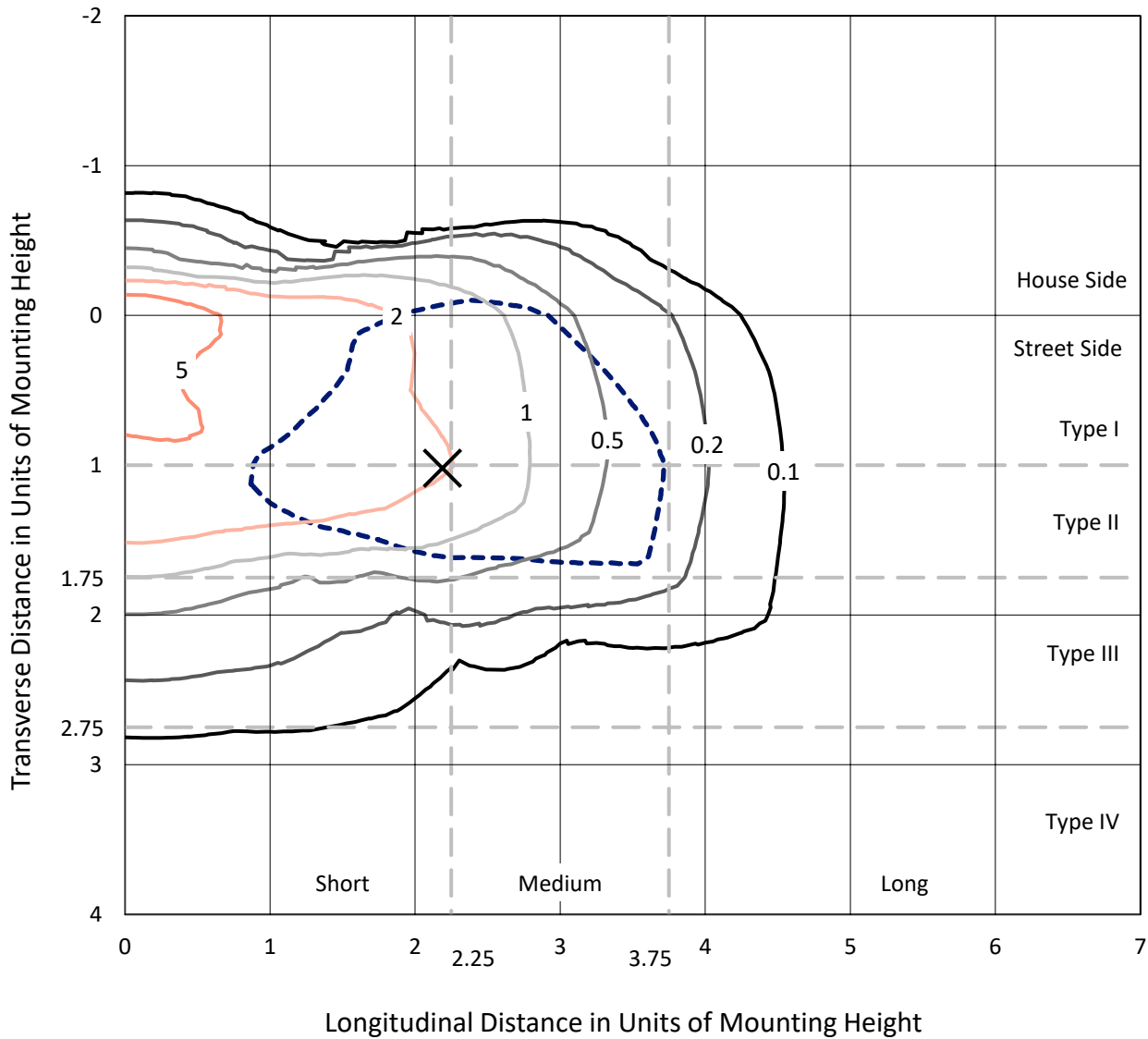
Input Watts (W): 120.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P635336
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Iso-Footcandle Lines of Horizontal Illumination

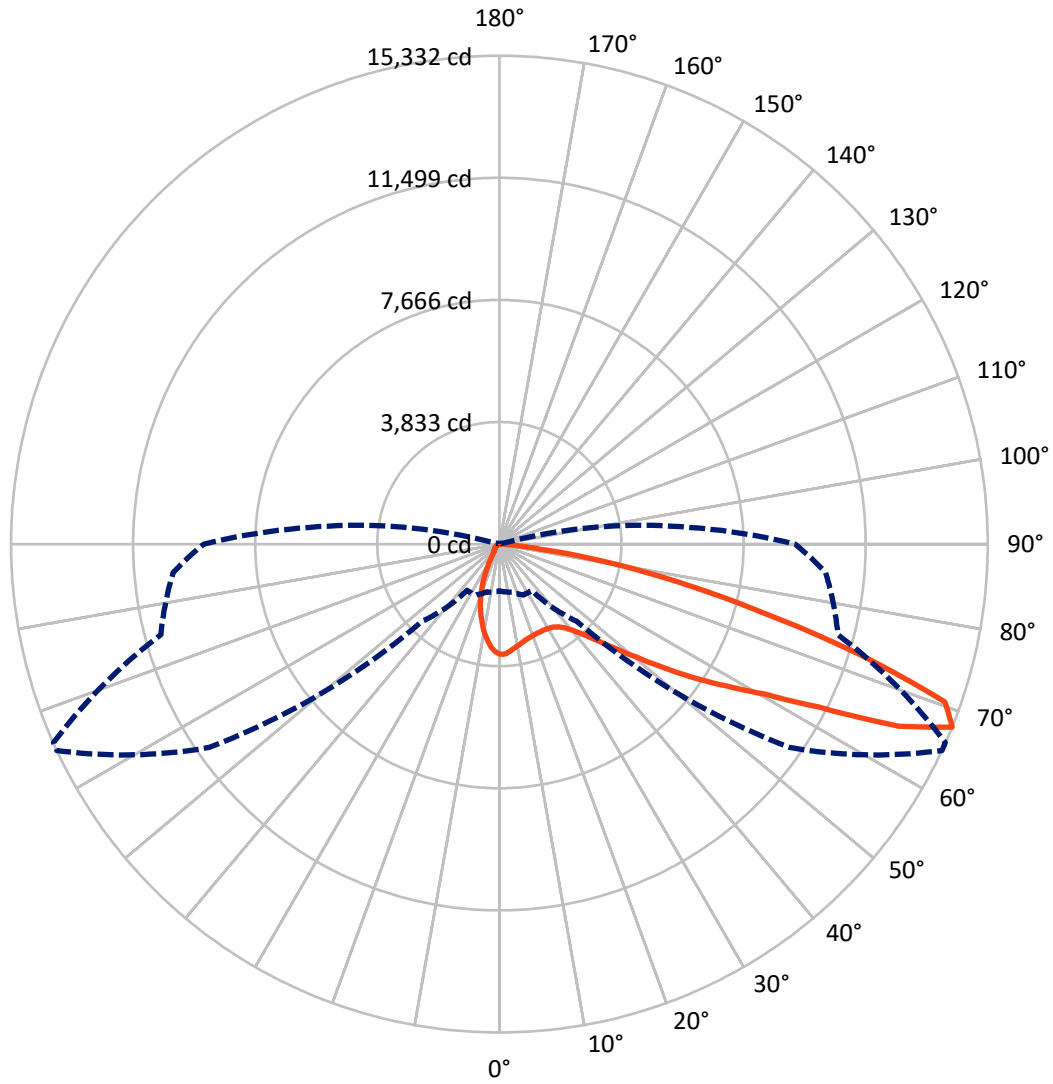
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 8.7 fc
 Type II - Short - N/A

REPORT NUMBER: P635336
CATALOG NUMBER: GWS-SA3D-750-U-SL2-W-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 65-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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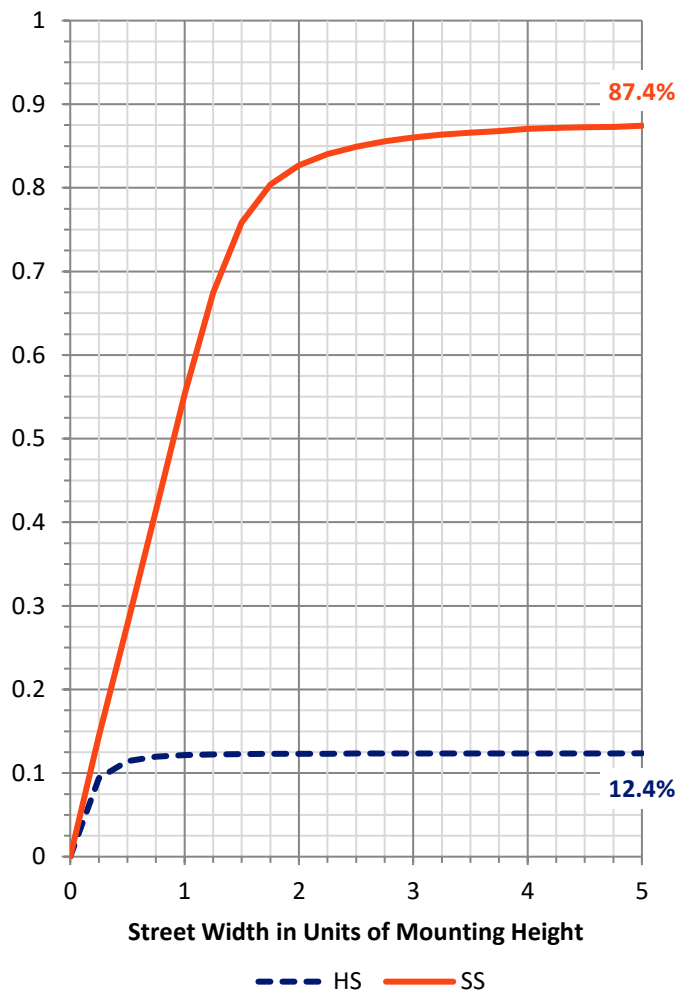
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 1781.9 | 0.0 | 1781.9 |
| | % Fixture | 12.5 | 0.0 | 12.5 |
| Street Side | Lumens | 12488.1 | 0.0 | 12488.1 |
| | % Fixture | 87.5 | 0.0 | 87.5 |
| Total | Lumens | 14270.0 | 0.0 | 14270.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 287.4 | 2.0 |
| 10°-20° | 646.2 | 4.5 |
| 20°-30° | 923.3 | 6.5 |
| 30°-40° | 1343.3 | 9.4 |
| 40°-50° | 2103.9 | 14.7 |
| 50°-60° | 3282.1 | 23.0 |
| 60°-70° | 3605.3 | 25.3 |
| 70°-80° | 1918.7 | 13.4 |
| 80°-90° | 159.7 | 1.1 |
| 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° | 14270.0 | 100.0 |
| 0°-180° | 14270.0 | 100.0 |

Coefficient of Utilization

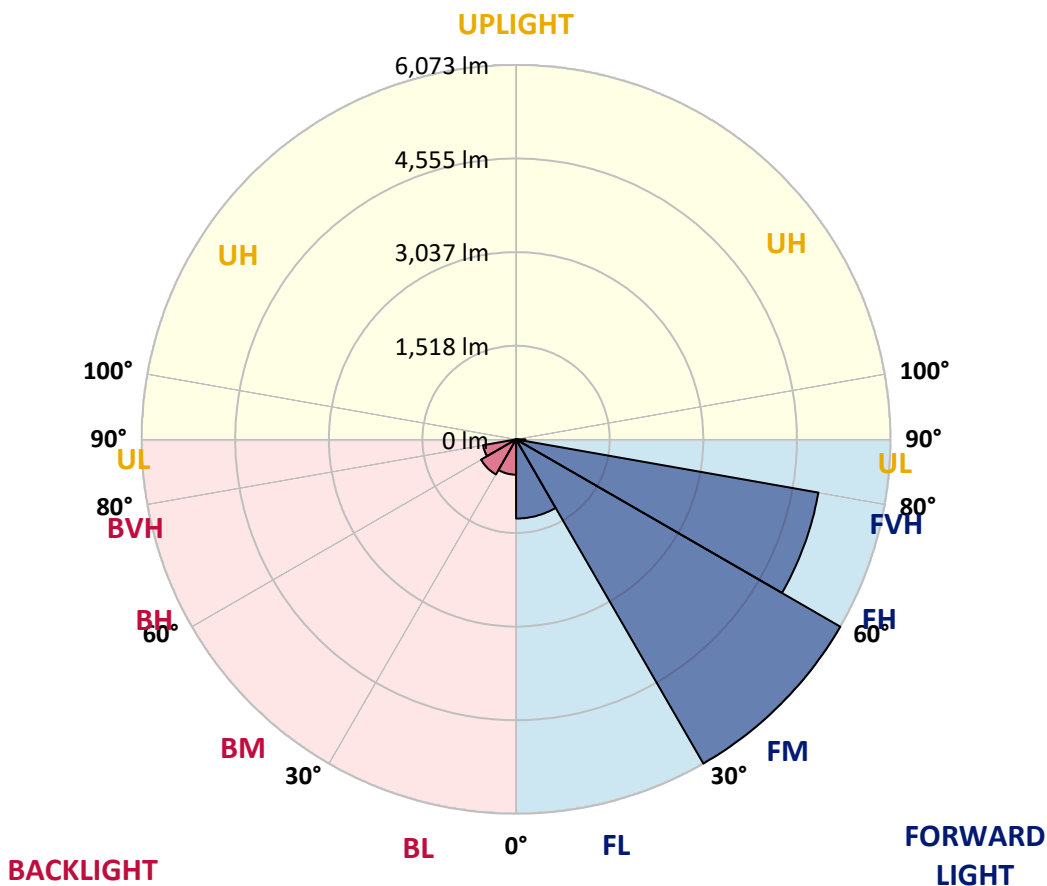


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1284.2 | 9.0 | | | |
| FM (30°-60°) | 6073.0 | 42.6 | | | |
| FH (60°-80°) | 4979.7 | 34.9 | | | G2/5000 |
| FVH (80°-90°) | 151.2 | 1.1 | | | G2/225 |
| BL (0°-30°) | 572.7 | 4.0 | B2/1000 | | |
| BM (30°-60°) | 656.3 | 4.6 | B1/1000 | | |
| BH (60°-80°) | 544.3 | 3.8 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 8.5 | 0.1 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B2-U0-G2
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 66° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| 0° | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 |
| 2.5° | 3340.9 | 3351.2 | 3337.0 | 3371.9 | 3378.3 | 3417.1 | 3439.0 | 3454.5 | 3453.2 | 3472.5 | 3472.5 |
| 5° | 3144.8 | 3155.1 | 3147.4 | 3184.8 | 3214.5 | 3275.1 | 3325.4 | 3383.5 | 3386.1 | 3445.4 | 3467.4 |
| 7.5° | 2978.3 | 2979.6 | 2979.6 | 3026.1 | 3064.8 | 3139.6 | 3214.5 | 3303.5 | 3313.8 | 3405.4 | 3463.5 |
| 10° | 2841.5 | 2845.4 | 2846.7 | 2899.6 | 2942.2 | 3032.5 | 3128.0 | 3235.1 | 3246.7 | 3370.6 | 3460.9 |
| 12.5° | 2747.3 | 2748.6 | 2753.8 | 2809.3 | 2855.7 | 2949.9 | 3046.7 | 3169.3 | 3184.8 | 3330.6 | 3449.3 |
| 15° | 2702.2 | 2699.6 | 2702.2 | 2748.6 | 2795.1 | 2885.4 | 2984.8 | 3116.4 | 3133.2 | 3297.0 | 3450.6 |
| 17.5° | 2699.6 | 2695.7 | 2693.1 | 2728.0 | 2757.6 | 2837.6 | 2938.3 | 3081.5 | 3099.6 | 3281.6 | 3464.8 |
| 20° | 2737.0 | 2734.4 | 2721.5 | 2737.0 | 2743.4 | 2809.3 | 2908.6 | 3054.4 | 3072.5 | 3279.0 | 3495.8 |
| 22.5° | 2835.1 | 2828.6 | 2809.3 | 2795.1 | 2760.2 | 2798.9 | 2888.0 | 3035.1 | 3055.7 | 3285.4 | 3535.8 |
| 25° | 2980.9 | 2978.3 | 2953.8 | 2918.9 | 2829.9 | 2814.4 | 2889.3 | 3035.1 | 3054.4 | 3293.2 | 3578.4 |
| 27.5° | 3200.3 | 3184.8 | 3153.8 | 3093.2 | 2965.4 | 2875.1 | 2915.1 | 3042.8 | 3062.2 | 3303.5 | 3613.2 |
| 30° | 3423.5 | 3422.2 | 3411.9 | 3349.9 | 3160.3 | 2991.2 | 2969.3 | 3063.5 | 3081.5 | 3312.5 | 3645.5 |
| 32.5° | 3654.5 | 3658.4 | 3684.2 | 3636.4 | 3428.7 | 3164.1 | 3067.3 | 3106.1 | 3119.0 | 3330.6 | 3673.8 |
| 35° | 3873.9 | 3881.6 | 3950.0 | 3966.8 | 3755.1 | 3426.1 | 3227.4 | 3191.2 | 3192.5 | 3370.6 | 3711.3 |
| 37.5° | 4084.2 | 4110.0 | 4219.7 | 4301.0 | 4161.6 | 3743.5 | 3458.3 | 3335.8 | 3325.4 | 3450.6 | 3768.0 |
| 40° | 4322.9 | 4372.0 | 4510.0 | 4648.1 | 4604.2 | 4162.9 | 3773.2 | 3557.7 | 3535.8 | 3597.7 | 3870.0 |
| 42.5° | 4587.5 | 4640.4 | 4823.6 | 5017.2 | 5037.8 | 4670.1 | 4166.8 | 3881.6 | 3844.2 | 3845.5 | 4061.0 |
| 45° | 4871.4 | 4942.3 | 5155.3 | 5434.0 | 5559.2 | 5235.3 | 4652.0 | 4319.1 | 4281.6 | 4226.1 | 4368.1 |
| 47.5° | 5244.3 | 5306.2 | 5511.4 | 5832.7 | 6072.7 | 5841.8 | 5288.2 | 4881.7 | 4813.3 | 4732.0 | 4845.6 |
| 50° | 5565.6 | 5619.8 | 5796.6 | 6199.2 | 6698.6 | 6623.8 | 6009.5 | 5585.0 | 5519.2 | 5381.1 | 5475.3 |
| 52.5° | 5636.6 | 5679.2 | 5841.8 | 6294.7 | 7177.4 | 7610.9 | 6893.5 | 6435.4 | 6388.9 | 6133.4 | 6169.5 |
| 55° | 5317.8 | 5382.4 | 5528.2 | 6031.5 | 7302.5 | 8576.2 | 8040.6 | 7394.1 | 7297.4 | 6889.6 | 6954.1 |
| 57.5° | 4512.6 | 4627.5 | 4764.3 | 5418.5 | 6963.1 | 9089.8 | 9643.4 | 8409.7 | 8322.0 | 7617.4 | 7618.7 |
| 60° | 3307.4 | 3400.3 | 3491.9 | 4090.7 | 6157.9 | 9054.9 | 11097.7 | 9550.4 | 9390.4 | 8212.3 | 8190.3 |
| 62.5° | 2405.4 | 2453.1 | 2451.8 | 2664.7 | 4228.7 | 8458.7 | 11861.6 | 11269.3 | 10896.4 | 8848.5 | 8723.3 |
| 65° | 1891.8 | 1890.5 | 1946.0 | 2015.6 | 2361.5 | 6529.6 | 11955.8 | 13779.2 | 13376.6 | 9701.4 | 9440.8 |
| 67.5° | 1472.4 | 1500.8 | 1556.3 | 1761.4 | 1774.3 | 3417.1 | 11127.3 | 15331.6 | 15323.8 | 11003.5 | 10280.8 |
| 70° | 1135.6 | 1174.3 | 1253.0 | 1552.4 | 1638.8 | 1912.4 | 8325.8 | 14839.9 | 14965.1 | 11585.5 | 9685.9 |
| 72.5° | 729.1 | 726.5 | 842.6 | 1254.3 | 1574.3 | 1593.7 | 4604.2 | 11788.0 | 11930.0 | 10493.8 | 7831.6 |
| 75° | 407.8 | 410.4 | 476.2 | 767.8 | 1467.2 | 1499.5 | 2280.2 | 8405.8 | 8518.1 | 8181.3 | 6017.3 |
| 77.5° | 160.0 | 165.2 | 223.2 | 403.9 | 967.8 | 1339.5 | 1354.9 | 5732.1 | 5748.9 | 5070.1 | 3690.6 |
| 80° | 64.5 | 68.4 | 113.6 | 250.3 | 589.7 | 902.0 | 967.8 | 3377.0 | 3308.7 | 1962.7 | 1073.6 |
| 82.5° | 19.4 | 20.6 | 45.2 | 141.9 | 308.4 | 641.3 | 653.0 | 1295.6 | 1223.3 | 422.0 | 273.6 |
| 85° | 1.3 | 1.3 | 10.3 | 43.9 | 109.7 | 161.3 | 434.9 | 422.0 | 374.2 | 105.8 | 121.3 |
| 87.5° | 0.0 | 0.0 | 1.3 | 1.3 | 2.6 | 5.2 | 46.5 | 77.4 | 78.7 | 19.4 | 54.2 |
| 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: P635336

CATALOG NUMBER: GWS-SA3D-750-U-SL2-W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 | 3460.9 |
| 2.5° | 3472.5 | 3426.1 | 3422.2 | 3386.1 | 3349.9 | 3304.8 | 3251.9 | 3213.2 | 3186.1 | 3138.3 | 3129.3 |
| 5° | 3467.4 | 3405.4 | 3347.4 | 3244.1 | 3129.3 | 3005.4 | 2897.0 | 2796.4 | 2733.1 | 2690.5 | 2672.5 |
| 7.5° | 3457.1 | 3378.3 | 3244.1 | 3049.3 | 2857.0 | 2640.2 | 2471.2 | 2316.3 | 2210.5 | 2148.6 | 2121.5 |
| 10° | 3449.3 | 3343.5 | 3125.4 | 2829.9 | 2531.8 | 2232.4 | 1975.6 | 1745.9 | 1618.2 | 1517.5 | 1500.8 |
| 12.5° | 3433.8 | 3293.2 | 2973.1 | 2573.1 | 2188.6 | 1791.1 | 1463.3 | 1182.0 | 987.2 | 899.4 | 868.5 |
| 15° | 3418.3 | 3240.3 | 2820.9 | 2302.1 | 1814.3 | 1324.0 | 926.5 | 655.5 | 521.3 | 480.0 | 477.5 |
| 17.5° | 3415.8 | 3192.5 | 2655.7 | 2045.3 | 1422.1 | 867.2 | 527.8 | 424.6 | 396.2 | 385.8 | 385.8 |
| 20° | 3423.5 | 3152.5 | 2493.1 | 1749.8 | 1036.2 | 527.8 | 393.6 | 367.8 | 351.0 | 342.0 | 342.0 |
| 22.5° | 3431.2 | 3111.2 | 2337.0 | 1451.7 | 687.8 | 385.8 | 347.1 | 325.2 | 305.8 | 295.5 | 290.3 |
| 25° | 3436.4 | 3066.1 | 2164.0 | 1152.4 | 449.1 | 335.5 | 304.5 | 276.2 | 252.9 | 240.0 | 240.0 |
| 27.5° | 3435.1 | 3011.9 | 1989.8 | 859.4 | 348.4 | 298.1 | 260.7 | 231.0 | 207.8 | 193.6 | 194.9 |
| 30° | 3424.8 | 2952.5 | 1809.2 | 600.0 | 304.5 | 260.7 | 223.2 | 192.3 | 169.0 | 157.4 | 156.1 |
| 32.5° | 3417.1 | 2889.3 | 1600.1 | 422.0 | 273.6 | 228.4 | 189.7 | 160.0 | 140.7 | 131.6 | 130.3 |
| 35° | 3408.0 | 2827.3 | 1401.4 | 321.3 | 246.5 | 197.4 | 160.0 | 135.5 | 120.0 | 112.3 | 112.3 |
| 37.5° | 3410.6 | 2762.8 | 1185.9 | 276.2 | 219.4 | 171.6 | 136.8 | 116.1 | 103.2 | 95.5 | 94.2 |
| 40° | 3450.6 | 2724.1 | 974.3 | 250.3 | 194.9 | 148.4 | 118.7 | 100.7 | 87.7 | 80.0 | 78.7 |
| 42.5° | 3550.0 | 2725.4 | 771.7 | 231.0 | 172.9 | 126.5 | 103.2 | 86.5 | 74.8 | 65.8 | 64.5 |
| 45° | 3748.7 | 2779.6 | 592.3 | 210.3 | 149.7 | 109.7 | 89.0 | 73.6 | 61.9 | 54.2 | 52.9 |
| 47.5° | 4073.9 | 2940.9 | 449.1 | 192.3 | 130.3 | 95.5 | 76.1 | 61.9 | 51.6 | 45.2 | 43.9 |
| 50° | 4591.3 | 3232.5 | 353.6 | 170.3 | 109.7 | 82.6 | 64.5 | 51.6 | 42.6 | 36.1 | 34.8 |
| 52.5° | 5213.3 | 3670.0 | 303.3 | 151.0 | 94.2 | 72.3 | 55.5 | 42.6 | 34.8 | 29.7 | 28.4 |
| 55° | 5928.2 | 4192.6 | 280.0 | 131.6 | 80.0 | 61.9 | 45.2 | 34.8 | 28.4 | 24.5 | 21.9 |
| 57.5° | 6583.8 | 4663.6 | 278.7 | 112.3 | 68.4 | 52.9 | 37.4 | 29.7 | 24.5 | 19.4 | 18.1 |
| 60° | 7222.5 | 5057.2 | 262.0 | 92.9 | 59.4 | 43.9 | 32.3 | 24.5 | 20.6 | 16.8 | 15.5 |
| 62.5° | 7801.9 | 5377.2 | 219.4 | 74.8 | 50.3 | 36.1 | 27.1 | 21.9 | 18.1 | 14.2 | 14.2 |
| 65° | 8529.7 | 5785.0 | 167.8 | 60.7 | 41.3 | 29.7 | 23.2 | 19.4 | 16.8 | 12.9 | 12.9 |
| 67.5° | 9282.0 | 6000.5 | 120.0 | 50.3 | 33.6 | 25.8 | 20.6 | 18.1 | 14.2 | 11.6 | 11.6 |
| 70° | 8407.1 | 5070.1 | 86.5 | 41.3 | 28.4 | 21.9 | 18.1 | 16.8 | 14.2 | 11.6 | 10.3 |
| 72.5° | 6565.7 | 3655.8 | 64.5 | 32.3 | 24.5 | 20.6 | 16.8 | 15.5 | 12.9 | 10.3 | 10.3 |
| 75° | 4868.8 | 2131.8 | 49.0 | 25.8 | 19.4 | 16.8 | 16.8 | 15.5 | 12.9 | 10.3 | 9.0 |
| 77.5° | 2646.7 | 743.3 | 37.4 | 20.6 | 15.5 | 12.9 | 14.2 | 14.2 | 11.6 | 9.0 | 7.7 |
| 80° | 700.7 | 203.9 | 25.8 | 15.5 | 12.9 | 10.3 | 10.3 | 12.9 | 10.3 | 7.7 | 7.7 |
| 82.5° | 203.9 | 59.4 | 18.1 | 12.9 | 10.3 | 9.0 | 9.0 | 9.0 | 7.7 | 6.5 | 5.2 |
| 85° | 99.4 | 21.9 | 12.9 | 10.3 | 9.0 | 7.7 | 6.5 | 6.5 | 5.2 | 3.9 | 3.9 |
| 87.5° | 43.9 | 9.0 | 10.3 | 9.0 | 9.0 | 6.5 | 5.2 | 3.9 | 3.9 | 2.6 | 1.3 |
| 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

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Photopic Flux vs. Wavelength



#####

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 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)