

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: P323572

Luminaire Tested: **GLEON-SA8C-750-U-SL3-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P323572
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-23)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA8C-750-U-SL3-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(8) 70 CRI, 5000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 48427 lumens
Efficiency: N/A
Efficacy: 108.8 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B3 - U0 - G5

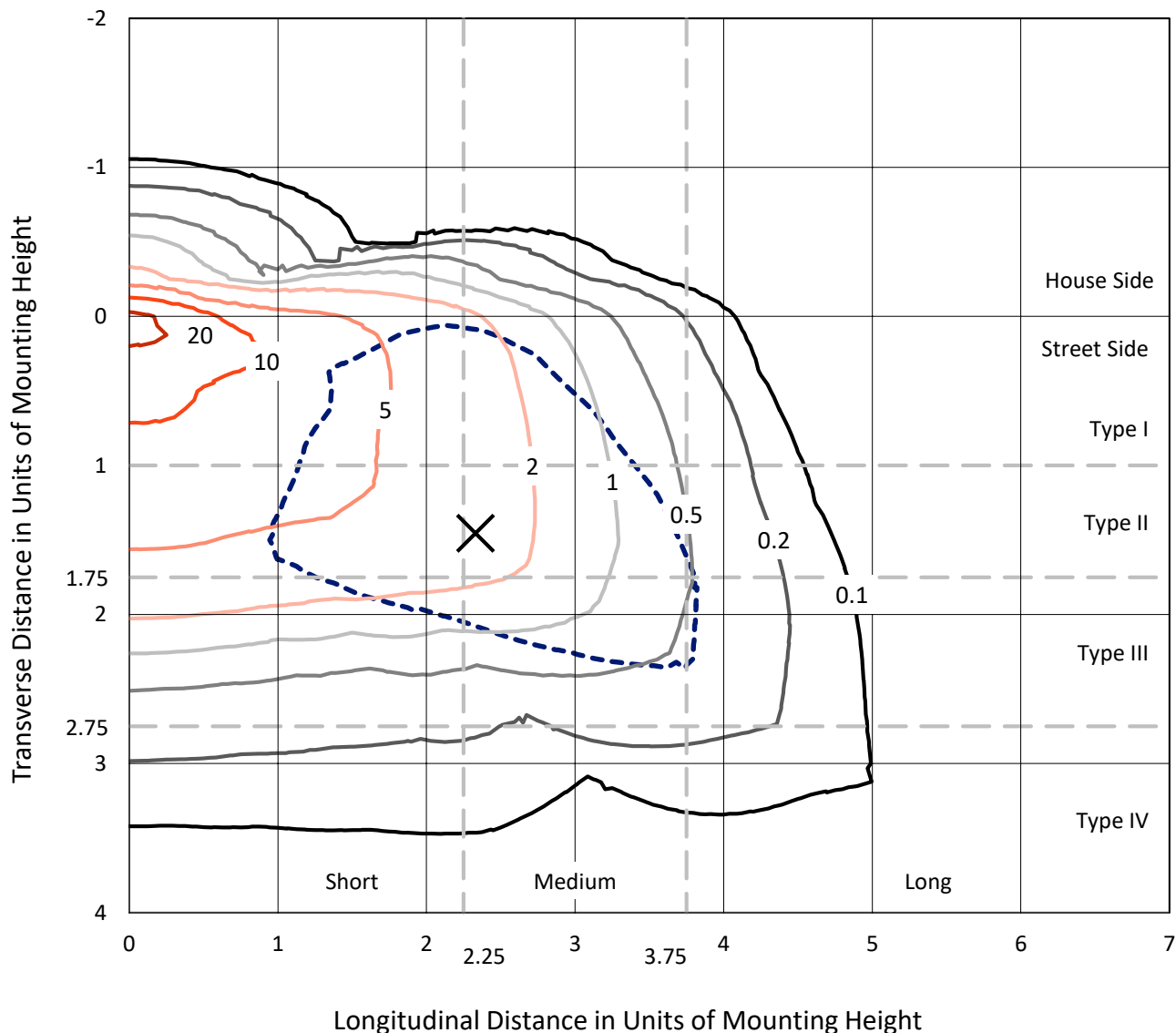
Input Watts (W): 445
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P323572
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Iso-Footcandle Lines of Horizontal Illumination

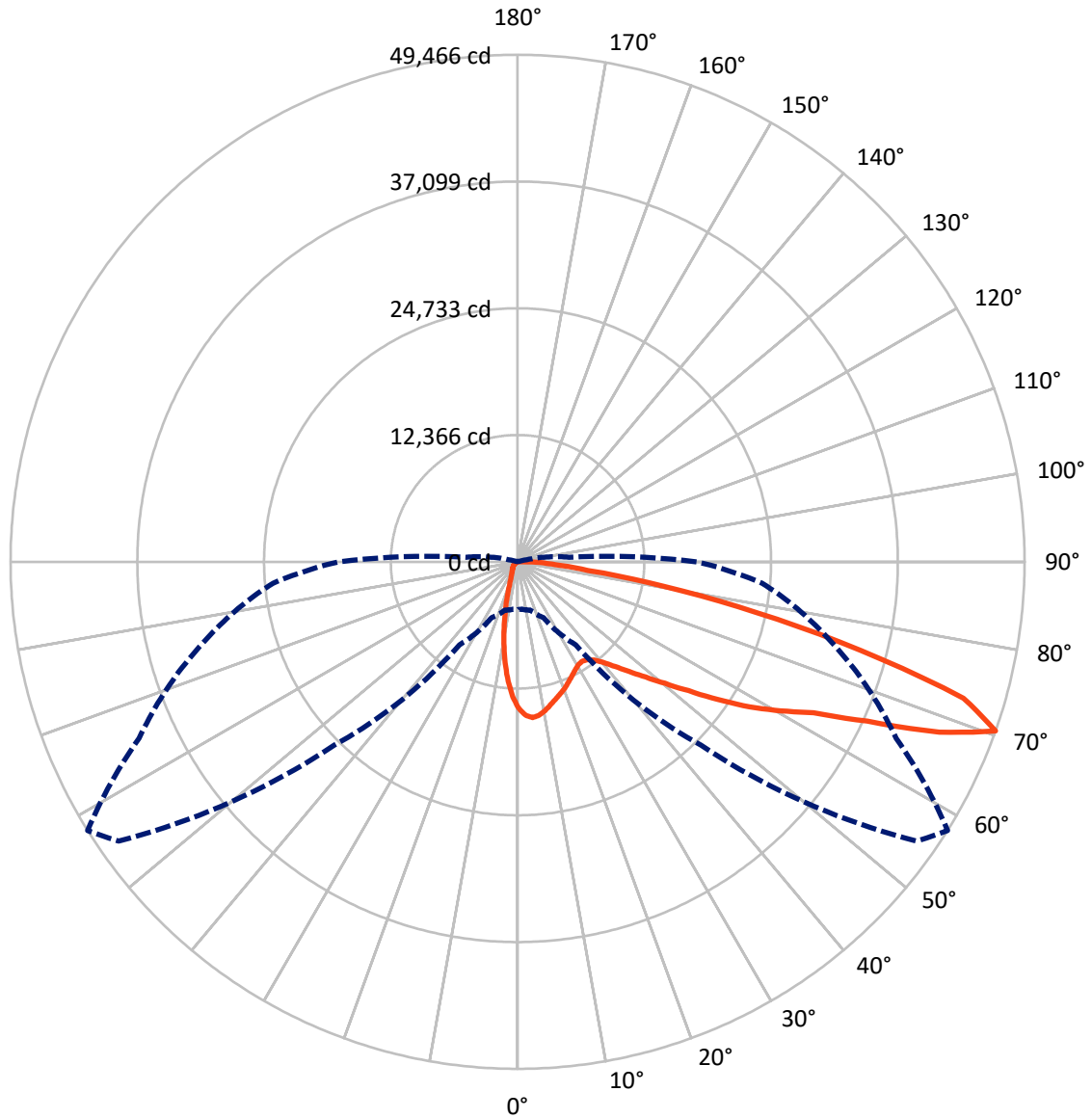
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 23.2 fc
 Type III - Medium - N/A

REPORT NUMBER: P323572
CATALOG NUMBER: GLEON-SA8C-750-U-SL3-HSS

Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral - - - Horizontal Cone Through 70-Deg Vertical

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 CATALOG NUMBER: GLEON-SA8C-750-U-SL3-HSS

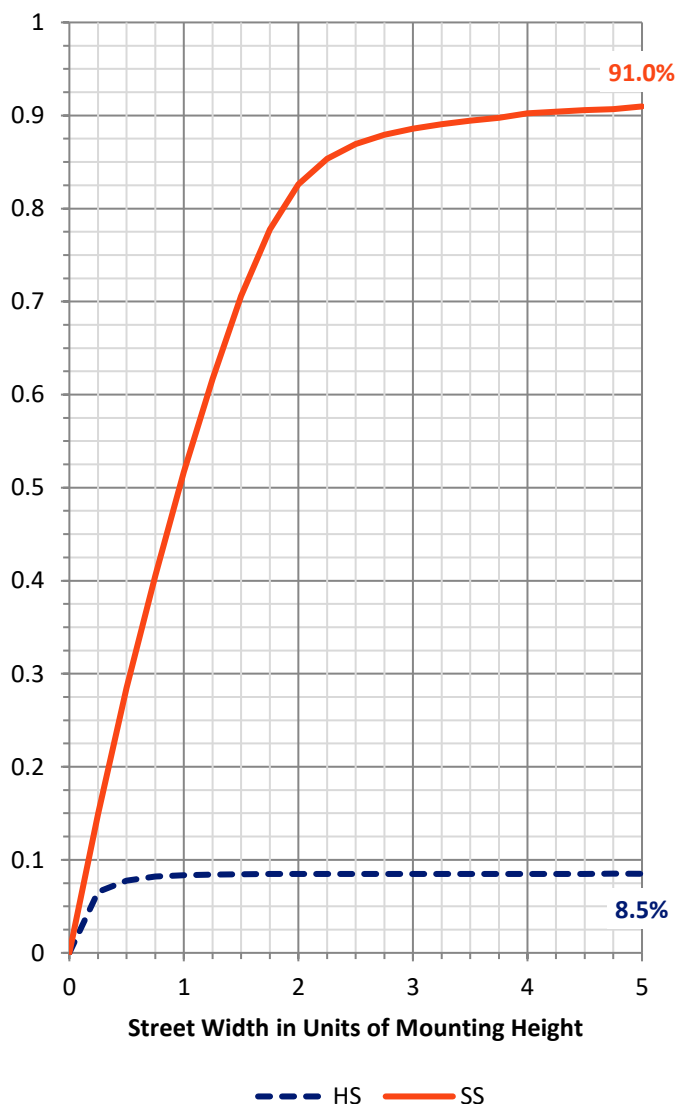
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 4144.3 | 0.0 | 4144.3 |
| | % Fixture | 8.6 | 0.0 | 8.6 |
| Street Side | Lumens | 44282.7 | 0.0 | 44282.7 |
| | % Fixture | 91.4 | 0.0 | 91.4 |
| Total | Lumens | 48427.0 | 0.0 | 48427.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 1169.8 | 2.4 |
| 10°-20° | 2455.1 | 5.1 |
| 20°-30° | 3227.6 | 6.7 |
| 30°-40° | 4274.6 | 8.8 |
| 40°-50° | 6389.3 | 13.2 |
| 50°-60° | 10235.4 | 21.1 |
| 60°-70° | 12901.6 | 26.6 |
| 70°-80° | 6959.0 | 14.4 |
| 80°-90° | 814.6 | 1.7 |
| 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° | 48427.0 | 100.0 |
| 0°-180° | 48427.0 | 100.0 |

Coefficient of Utilization

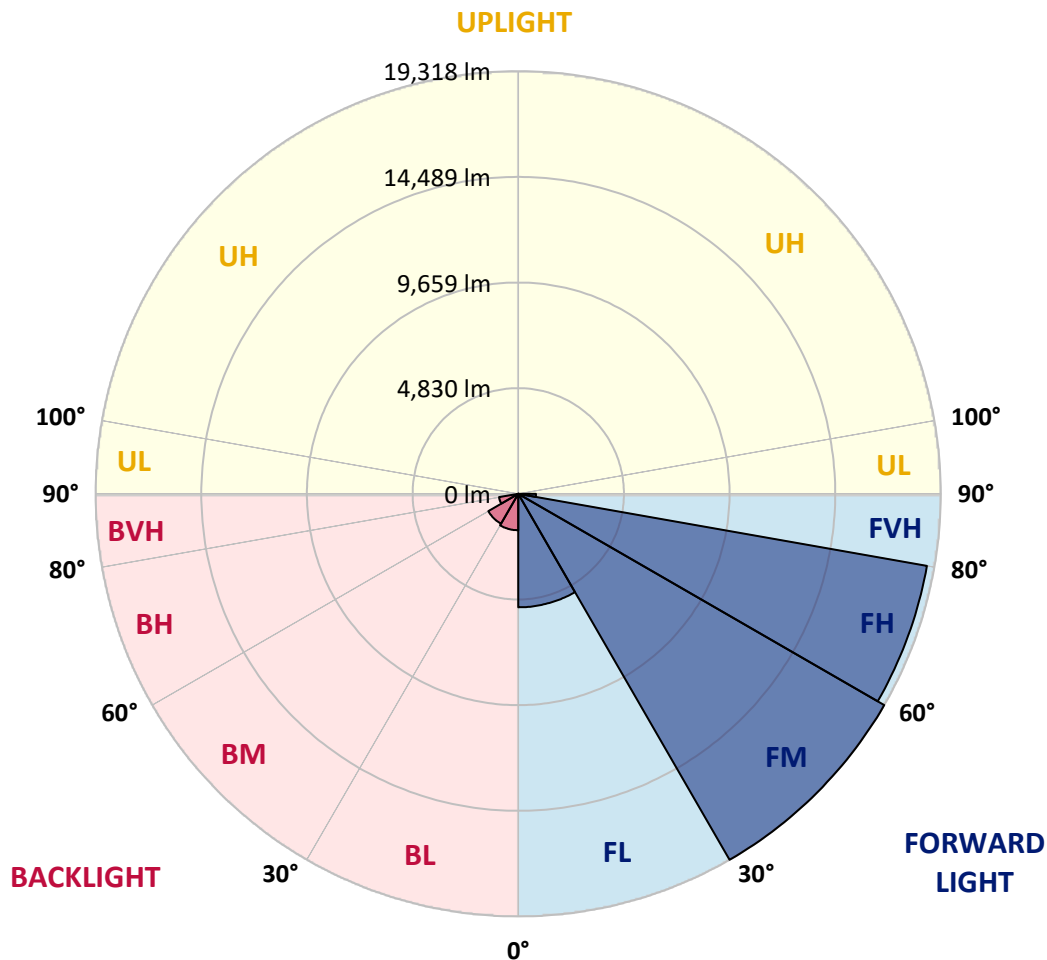


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 5187.5 | 10.7 | | | |
| FM (30°-60°) | 19318.3 | 39.9 | | | |
| FH (60°-80°) | 18969.4 | 39.2 | | | G5 |
| FVH (80°-90°) | 807.5 | 1.7 | | | G5 |
| BL (0°-30°) | 1665.0 | 3.4 | B3/2500 | | |
| BM (30°-60°) | 1581.0 | 3.3 | B2/2500 | | |
| BH (60°-80°) | 891.2 | 1.8 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 7.0 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B3-U0-G5
 Type III Medium





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CATALOG NUMBER: GLEON-SA8C-750-U-SL3-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 58° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 |
| 2.5° | 15491.2 | 15452.9 | 15438.8 | 15414.6 | 15322.0 | 15231.4 | 15052.2 | 15001.8 | 14889.1 | 14621.3 | 14337.3 |
| 5° | 15503.2 | 15501.2 | 15543.5 | 15533.4 | 15501.2 | 15458.9 | 15330.1 | 15263.6 | 15072.3 | 14689.7 | 14170.2 |
| 7.5° | 14756.2 | 14794.4 | 14889.1 | 14965.6 | 15054.2 | 15169.0 | 15185.1 | 15120.6 | 14963.6 | 14550.8 | 13862.1 |
| 10° | 13753.4 | 13813.8 | 13946.7 | 14097.7 | 14329.3 | 14558.8 | 14764.2 | 14756.2 | 14701.8 | 14295.0 | 13491.6 |
| 12.5° | 12748.5 | 12819.0 | 12972.1 | 13195.6 | 13523.8 | 13898.3 | 14264.8 | 14315.2 | 14405.8 | 14065.5 | 13149.3 |
| 15° | 11868.6 | 11929.0 | 12080.0 | 12353.9 | 12760.6 | 13264.0 | 13801.7 | 13894.3 | 14127.9 | 13886.3 | 12863.3 |
| 17.5° | 11121.5 | 11159.8 | 11270.5 | 11574.6 | 12045.8 | 12655.9 | 13354.7 | 13535.9 | 13884.2 | 13745.3 | 12615.6 |
| 20° | 10600.0 | 10606.0 | 10678.5 | 10891.9 | 11363.1 | 12045.8 | 12891.5 | 13151.3 | 13626.5 | 13624.5 | 12359.9 |
| 22.5° | 10342.2 | 10322.1 | 10336.2 | 10459.0 | 10805.3 | 11463.8 | 12428.4 | 12736.5 | 13394.9 | 13521.8 | 12100.1 |
| 25° | 10293.9 | 10277.8 | 10237.5 | 10253.6 | 10463.0 | 10954.4 | 11961.2 | 12317.6 | 13191.5 | 13459.4 | 11874.6 |
| 27.5° | 10444.9 | 10461.0 | 10392.5 | 10320.1 | 10336.2 | 10624.1 | 11546.4 | 11959.2 | 13026.4 | 13459.4 | 11715.5 |
| 30° | 10749.0 | 10757.0 | 10706.7 | 10612.0 | 10485.2 | 10531.5 | 11258.4 | 11671.2 | 12943.9 | 13552.0 | 11614.8 |
| 32.5° | 11085.2 | 11129.6 | 11123.5 | 11047.0 | 10865.8 | 10678.5 | 11190.0 | 11566.5 | 12937.8 | 13757.4 | 11604.8 |
| 35° | 11502.1 | 11552.4 | 11637.0 | 11620.9 | 11431.6 | 11123.5 | 11423.5 | 11719.6 | 13056.6 | 14095.7 | 11713.5 |
| 37.5° | 11945.1 | 12021.6 | 12202.8 | 12289.4 | 12166.6 | 11818.2 | 11947.1 | 12158.5 | 13374.8 | 14643.4 | 11989.4 |
| 40° | 12374.0 | 12460.6 | 12790.8 | 13131.1 | 13038.5 | 12680.1 | 12740.5 | 12909.6 | 13940.6 | 15430.7 | 12512.9 |
| 42.5° | 12794.9 | 12923.7 | 13409.0 | 13968.8 | 14079.6 | 13793.6 | 13825.9 | 13960.8 | 14780.3 | 16514.1 | 13368.8 |
| 45° | 13298.3 | 13443.3 | 14162.1 | 14852.8 | 15148.8 | 15024.0 | 15160.9 | 15249.5 | 15877.8 | 17945.8 | 14522.6 |
| 47.5° | 14037.3 | 14204.4 | 15086.4 | 15873.8 | 16393.3 | 16473.8 | 16749.7 | 16808.1 | 17265.2 | 19613.1 | 16026.8 |
| 50° | 15479.1 | 15525.4 | 16322.8 | 17037.7 | 17786.7 | 18270.0 | 18584.2 | 18628.5 | 18944.6 | 21435.5 | 17905.5 |
| 52.5° | 17293.4 | 17323.6 | 17774.7 | 18253.9 | 19105.7 | 20092.4 | 20827.4 | 20889.8 | 20956.3 | 23211.6 | 19760.1 |
| 55° | 19095.6 | 19091.6 | 19389.6 | 19671.5 | 20646.2 | 22079.9 | 23674.7 | 23713.0 | 23235.7 | 24897.0 | 21177.8 |
| 57.5° | 20221.3 | 20330.0 | 20783.1 | 21145.5 | 22506.8 | 24345.3 | 26558.3 | 26699.2 | 25630.0 | 26145.5 | 22579.3 |
| 60° | 19862.8 | 19915.2 | 20920.0 | 22261.1 | 24824.5 | 27565.1 | 29476.1 | 29512.3 | 27430.2 | 27391.9 | 24351.3 |
| 62.5° | 16922.9 | 16951.1 | 18529.8 | 21294.6 | 25998.5 | 31741.5 | 32996.0 | 32406.0 | 29500.3 | 29121.7 | 26471.7 |
| 65° | 11598.7 | 11782.0 | 13100.9 | 16518.1 | 23841.8 | 34361.3 | 38445.0 | 37468.3 | 32655.7 | 31614.6 | 28388.7 |
| 67.5° | 6830.4 | 6792.1 | 7444.5 | 9961.6 | 17510.9 | 32621.4 | 45337.8 | 44367.2 | 36958.9 | 33283.9 | 27826.9 |
| 70° | 4665.7 | 4639.5 | 4889.2 | 6030.9 | 9885.1 | 25305.8 | 47506.5 | 49465.8 | 40758.7 | 32160.3 | 23948.6 |
| 72.5° | 3330.6 | 3344.7 | 3713.2 | 4685.8 | 6206.1 | 14744.1 | 40853.3 | 45490.8 | 39568.6 | 28036.3 | 18203.6 |
| 75° | 2261.4 | 2299.6 | 2827.2 | 3844.1 | 5440.9 | 7500.9 | 28990.8 | 34580.7 | 32220.7 | 20376.3 | 10463.0 |
| 77.5° | 1216.3 | 1258.5 | 1880.8 | 3097.0 | 4919.4 | 5211.4 | 18648.6 | 23799.6 | 20239.4 | 9160.2 | 3032.6 |
| 80° | 507.4 | 531.6 | 880.0 | 2251.3 | 4250.9 | 4577.1 | 10972.5 | 14432.0 | 8624.5 | 1806.3 | 676.6 |
| 82.5° | 219.5 | 231.6 | 366.5 | 1343.1 | 3177.6 | 3864.2 | 5809.4 | 6943.1 | 2613.7 | 396.7 | 340.3 |
| 85° | 42.3 | 44.3 | 151.0 | 710.8 | 2027.8 | 2180.8 | 3765.6 | 3691.1 | 1174.0 | 171.2 | 247.7 |
| 87.5° | 0.0 | 0.0 | 36.2 | 223.5 | 596.0 | 1188.1 | 2297.6 | 2269.4 | 398.7 | 82.6 | 92.6 |
| 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: P323572

CATALOG NUMBER: GLEON-SA8C-750-U-SL3-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 | 14305.1 |
| 2.5° | 14192.3 | 14053.4 | 13761.4 | 13401.0 | 13125.1 | 12821.0 | 12579.4 | 12273.3 | 12140.4 | 12146.5 | 12074.0 |
| 5° | 13874.2 | 13588.2 | 12941.9 | 12126.3 | 11498.1 | 10849.7 | 10291.9 | 9736.1 | 9407.9 | 9301.1 | 9200.5 |
| 7.5° | 13419.1 | 12966.0 | 11935.0 | 10678.5 | 9615.3 | 8576.2 | 7672.1 | 6876.7 | 6373.3 | 6127.6 | 6037.0 |
| 10° | 12905.6 | 12269.3 | 10777.2 | 9121.9 | 7603.6 | 6198.1 | 5026.1 | 4007.2 | 3600.4 | 3324.6 | 3254.1 |
| 12.5° | 12454.5 | 11592.7 | 9645.5 | 7525.1 | 5722.8 | 4027.3 | 2909.8 | 2275.4 | 1999.6 | 1890.8 | 1872.7 |
| 15° | 12029.7 | 10960.4 | 8556.1 | 6079.3 | 3962.9 | 2478.8 | 1850.6 | 1635.1 | 1570.7 | 1552.5 | 1552.5 |
| 17.5° | 11628.9 | 10358.3 | 7490.8 | 4655.6 | 2621.8 | 1737.8 | 1532.4 | 1484.1 | 1463.9 | 1461.9 | 1463.9 |
| 20° | 11210.1 | 9756.2 | 6443.7 | 3411.2 | 1830.4 | 1472.0 | 1415.6 | 1389.4 | 1383.4 | 1383.4 | 1383.4 |
| 22.5° | 10809.4 | 9154.1 | 5424.8 | 2436.5 | 1468.0 | 1343.1 | 1314.9 | 1296.8 | 1290.8 | 1288.7 | 1284.7 |
| 25° | 10424.8 | 8582.3 | 4430.1 | 1721.7 | 1288.7 | 1230.4 | 1206.2 | 1182.0 | 1163.9 | 1153.8 | 1147.8 |
| 27.5° | 10108.6 | 8072.8 | 3503.8 | 1381.4 | 1163.9 | 1113.6 | 1083.4 | 1047.1 | 1002.8 | 982.7 | 974.6 |
| 30° | 9856.9 | 7607.6 | 2700.3 | 1165.9 | 1047.1 | 996.8 | 950.5 | 888.0 | 823.6 | 789.4 | 787.3 |
| 32.5° | 9659.6 | 7150.5 | 2049.9 | 1031.0 | 942.4 | 880.0 | 813.5 | 735.0 | 660.5 | 622.2 | 620.2 |
| 35° | 9562.9 | 6747.8 | 1566.6 | 932.3 | 849.8 | 771.2 | 688.7 | 602.1 | 529.6 | 493.3 | 489.3 |
| 37.5° | 9627.4 | 6407.5 | 1222.3 | 849.8 | 771.2 | 680.6 | 584.0 | 493.3 | 428.9 | 396.7 | 394.7 |
| 40° | 9863.0 | 6190.0 | 992.7 | 779.3 | 704.8 | 594.0 | 489.3 | 404.7 | 350.4 | 324.2 | 322.2 |
| 42.5° | 10364.4 | 6109.5 | 847.8 | 720.9 | 640.3 | 513.5 | 406.8 | 334.3 | 283.9 | 265.8 | 261.8 |
| 45° | 11202.0 | 6228.3 | 749.1 | 664.5 | 573.9 | 437.0 | 336.3 | 273.9 | 229.6 | 215.5 | 213.4 |
| 47.5° | 12317.6 | 6540.4 | 678.6 | 610.1 | 513.5 | 368.5 | 279.9 | 221.5 | 187.3 | 173.2 | 171.2 |
| 50° | 13755.4 | 7035.8 | 620.2 | 555.8 | 457.1 | 312.1 | 231.6 | 175.2 | 145.0 | 134.9 | 134.9 |
| 52.5° | 15320.0 | 7625.8 | 567.9 | 505.4 | 400.7 | 259.8 | 187.3 | 134.9 | 114.8 | 102.7 | 102.7 |
| 55° | 16612.8 | 8141.3 | 511.5 | 467.2 | 332.3 | 215.5 | 143.0 | 102.7 | 84.6 | 78.5 | 78.5 |
| 57.5° | 17903.5 | 8691.0 | 447.0 | 400.7 | 265.8 | 175.2 | 108.7 | 76.5 | 62.4 | 58.4 | 58.4 |
| 60° | 19576.9 | 9363.6 | 384.6 | 326.2 | 209.4 | 132.9 | 80.5 | 54.4 | 46.3 | 44.3 | 44.3 |
| 62.5° | 21417.4 | 9758.2 | 328.2 | 261.8 | 163.1 | 98.7 | 58.4 | 36.2 | 34.2 | 34.2 | 32.2 |
| 65° | 22543.0 | 9200.5 | 275.9 | 209.4 | 126.9 | 74.5 | 38.3 | 26.2 | 30.2 | 28.2 | 24.2 |
| 67.5° | 21107.3 | 7202.9 | 225.5 | 163.1 | 98.7 | 56.4 | 24.2 | 18.1 | 32.2 | 26.2 | 20.1 |
| 70° | 17476.6 | 5042.2 | 175.2 | 114.8 | 78.5 | 48.3 | 16.1 | 12.1 | 34.2 | 26.2 | 16.1 |
| 72.5° | 13078.8 | 3374.9 | 138.9 | 76.5 | 58.4 | 42.3 | 14.1 | 6.0 | 30.2 | 22.2 | 14.1 |
| 75° | 7146.5 | 1359.2 | 110.8 | 48.3 | 36.2 | 30.2 | 10.1 | 4.0 | 20.1 | 16.1 | 10.1 |
| 77.5° | 1880.8 | 358.4 | 80.5 | 32.2 | 20.1 | 12.1 | 6.0 | 2.0 | 10.1 | 8.1 | 4.0 |
| 80° | 479.3 | 138.9 | 52.4 | 22.2 | 14.1 | 6.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| 82.5° | 255.7 | 58.4 | 32.2 | 16.1 | 8.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 193.3 | 38.3 | 18.1 | 10.1 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 74.5 | 12.1 | 6.0 | 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: SP1-1908-441-4-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 .

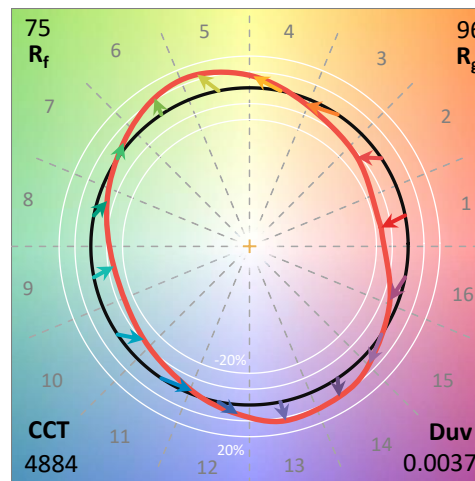
Test Information

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 | CRI (Ra): | 73.5 | R9: | -28.4 |
| CIE u': | 0.2101 | R1: | 70.5 | R10: | 48.6 |
| CIE v': | 0.4904 | R2: | 77.7 | R11: | 73.2 |
| Duv: | 0.0037 | R3: | 84.6 | R12: | 50.7 |
| CIE x: | 0.3493 | R4: | 74.7 | R13: | 71.2 |
| CIE y: | 0.3624 | R5: | 71.9 | R14: | 91.4 |
| CIE z: | 0.2884 | R6: | 70.7 | | |
| Peak Wavelength (nm): | 444 | R7: | 81.2 | | |
| Dominant Wavelength (nm): | 571 | R8: | 56.9 | | |
| Purity: | 13.7 | | | | |
| Rf: | 74.9 | | | | |
| Rg: | 96.3 | | | | |



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 |

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

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 ($\mu\text{W}/\text{nm}$) | 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 | 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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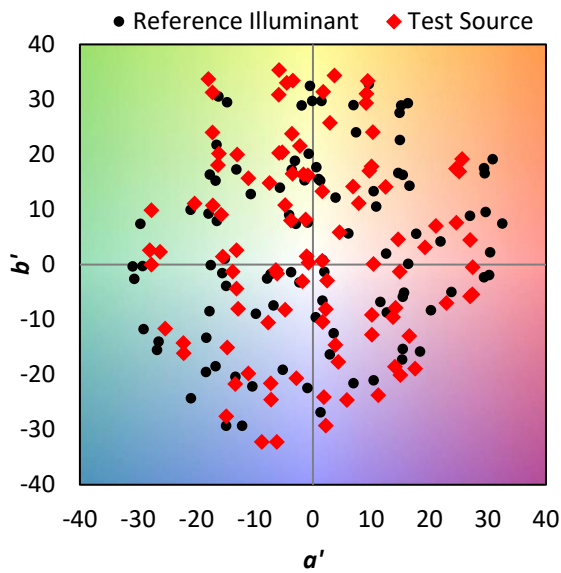
TM-30-18

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)