

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: P323812

Luminaire Tested: **GLEON-SA8C-730-U-SL4-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P323812
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-25)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA8C-730-U-SL4-HSS
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(8) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 41898 lumens
Efficiency: N/A
Efficacy: 94.2 lumens/watt
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B3 - U0 - G5

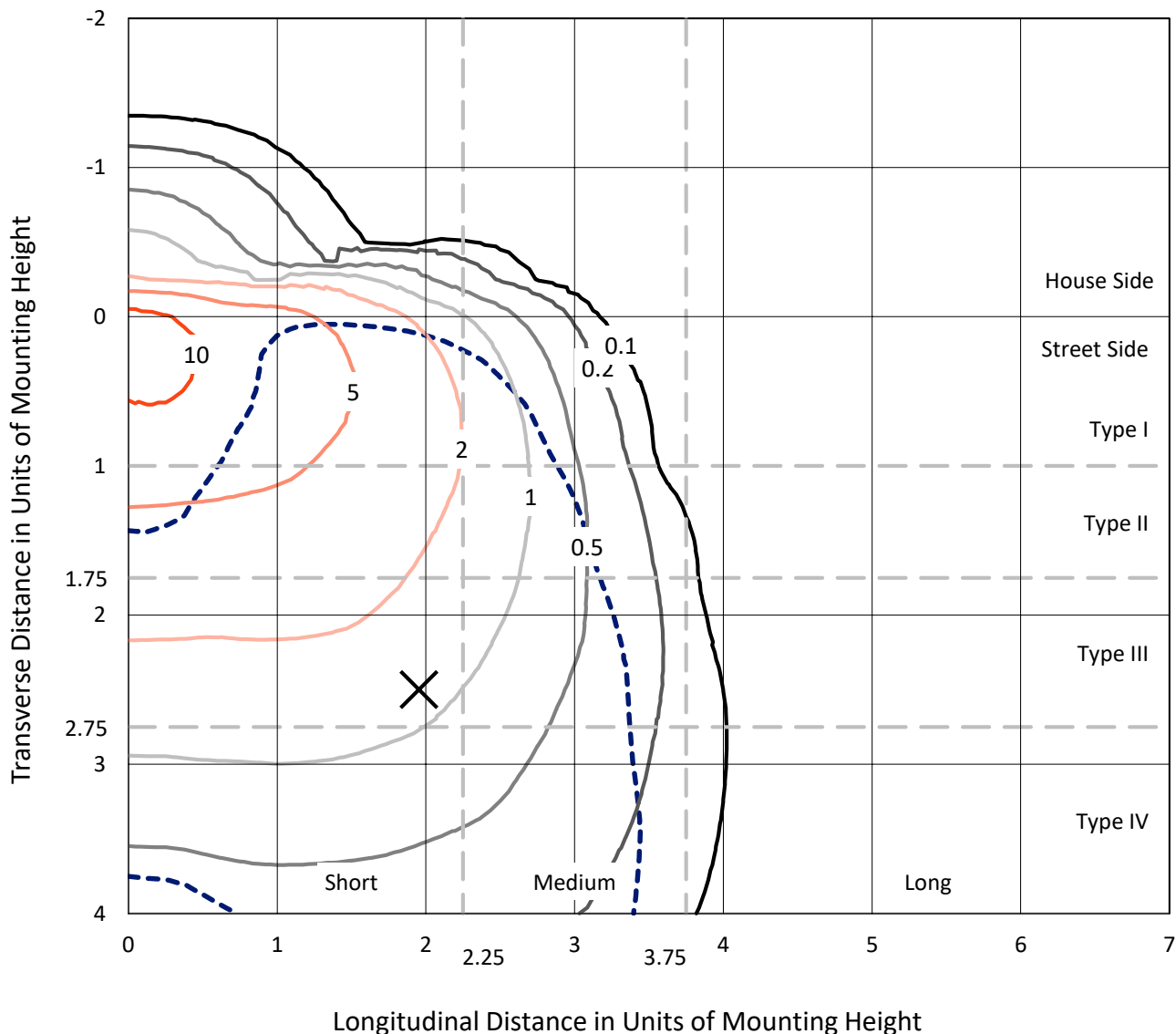
Input Watts (W): 445
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P323812
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Iso-Footcandle Lines of Horizontal Illumination

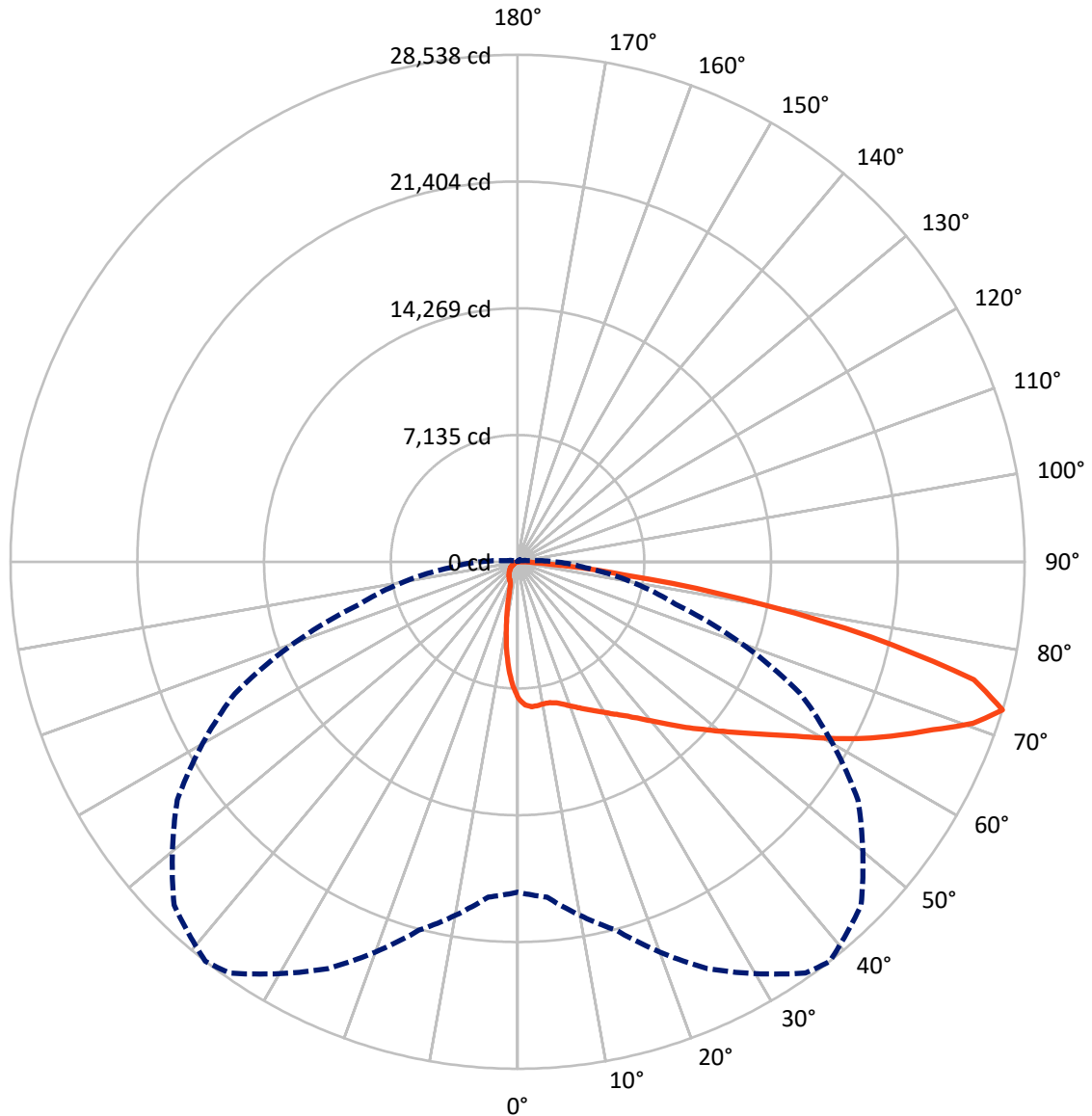
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 13 fc
 Type IV - Short - N/A

REPORT NUMBER: P323812
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Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral - - - Horizontal Cone Through 72.5-Deg Vertical

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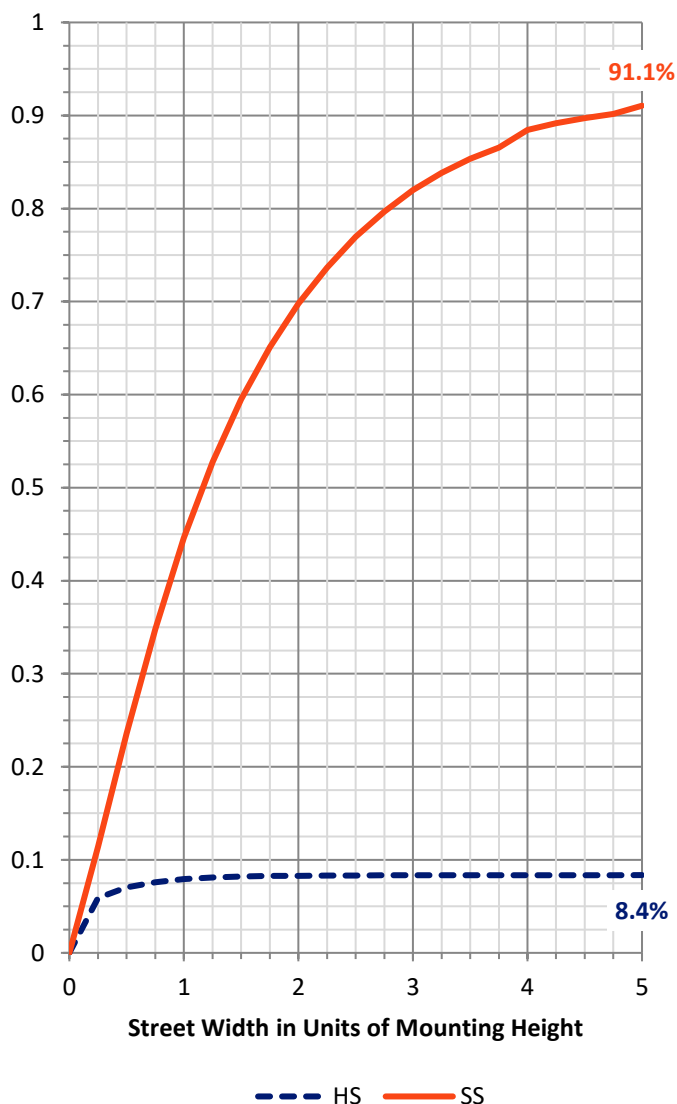
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3525.9 | 0.0 | 3525.9 |
| | % Fixture | 8.4 | 0.0 | 8.4 |
| Street Side | Lumens | 38372.1 | 0.0 | 38372.1 |
| | % Fixture | 91.6 | 0.0 | 91.6 |
| Total | Lumens | 41898.0 | 0.0 | 41898.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 656.6 | 1.6 |
| 10°-20° | 1605.6 | 3.8 |
| 20°-30° | 2553.6 | 6.1 |
| 30°-40° | 3839.1 | 9.2 |
| 40°-50° | 5856.7 | 14.0 |
| 50°-60° | 8277.5 | 19.8 |
| 60°-70° | 10382.8 | 24.8 |
| 70°-80° | 7763.4 | 18.5 |
| 80°-90° | 962.6 | 2.3 |
| 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° | 41898.0 | 100.0 |
| 0°-180° | 41898.0 | 100.0 |

Coefficient of Utilization

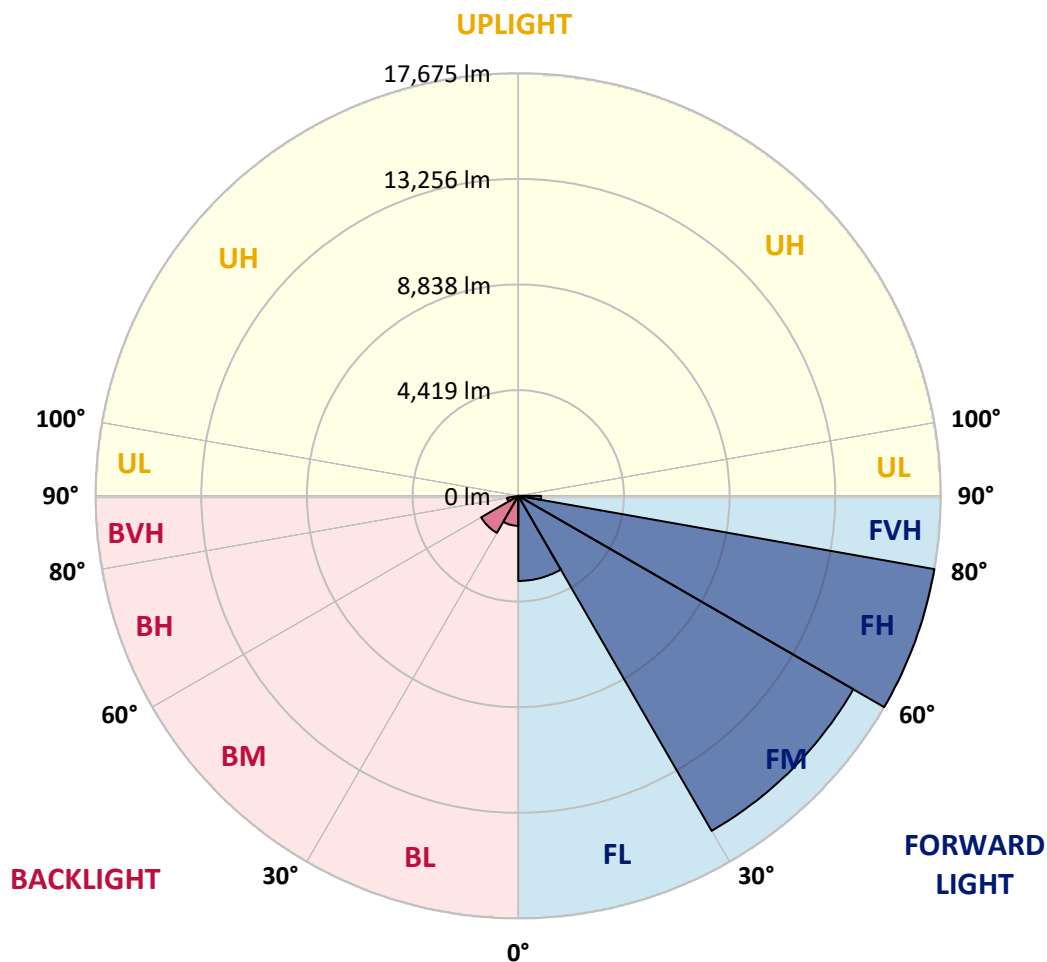


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|---------|-----------|-------------------------|------|--------|
| | | | B | U | G |
| FL (0°-30°) | 3560.3 | 8.5 | | | |
| FM (30°-60°) | 16182.9 | 38.6 | | | |
| FH (60°-80°) | 17675.3 | 42.2 | | | G5 |
| FVH (80°-90°) | 953.7 | 2.3 | | | G5 |
| BL (0°-30°) | 1255.4 | 3.0 | B3/2500 | | |
| BM (30°-60°) | 1790.5 | 4.3 | B2/2500 | | |
| BH (60°-80°) | 471.0 | 1.1 | B1/500 | | G1/500 |
| BVH (80°-90°) | 9.0 | 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 IV Short





REPORT NUMBER: P323812

CATALOG NUMBER: GLEON-SA8C-730-U-SL4-HSS

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 38° | 45° | 55° | 65° | 75° | 85° |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 0° | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 |
| 2.5° | 8178.2 | 8179.9 | 8160.8 | 8129.5 | 8089.5 | 8068.6 | 8033.8 | 7978.1 | 7918.9 | 7812.8 | 7697.9 |
| 5° | 8345.2 | 8345.2 | 8320.9 | 8279.1 | 8214.7 | 8195.6 | 8129.5 | 8040.7 | 7918.9 | 7746.7 | 7553.5 |
| 7.5° | 8327.8 | 8331.3 | 8298.3 | 8254.8 | 8190.4 | 8173.0 | 8092.9 | 7993.8 | 7842.4 | 7633.6 | 7386.5 |
| 10° | 8237.4 | 8246.1 | 8220.0 | 8199.1 | 8139.9 | 8120.8 | 8046.0 | 7946.8 | 7795.4 | 7572.7 | 7289.0 |
| 12.5° | 8145.1 | 8153.8 | 8162.5 | 8181.7 | 8145.1 | 8138.2 | 8079.0 | 7995.5 | 7851.1 | 7619.6 | 7299.5 |
| 15° | 8086.0 | 8103.4 | 8166.0 | 8240.8 | 8249.5 | 8242.6 | 8204.3 | 8126.0 | 7979.8 | 7739.7 | 7374.3 |
| 17.5° | 8086.0 | 8113.8 | 8244.3 | 8387.0 | 8437.5 | 8442.7 | 8409.6 | 8300.0 | 8126.0 | 7868.5 | 7443.9 |
| 20° | 8153.8 | 8192.1 | 8395.7 | 8597.5 | 8681.1 | 8681.1 | 8616.7 | 8463.6 | 8260.0 | 7985.1 | 7490.9 |
| 22.5° | 8327.8 | 8378.3 | 8634.1 | 8867.3 | 8956.0 | 8936.9 | 8849.9 | 8627.1 | 8399.2 | 8117.3 | 7550.0 |
| 25° | 8670.6 | 8708.9 | 8975.1 | 9210.0 | 9264.0 | 9220.5 | 9110.9 | 8825.5 | 8576.7 | 8296.5 | 7657.9 |
| 27.5° | 9112.6 | 9117.8 | 9392.7 | 9591.1 | 9558.0 | 9528.5 | 9391.0 | 9074.3 | 8832.5 | 8552.3 | 7844.1 |
| 30° | 9598.1 | 9598.1 | 9839.9 | 9991.3 | 9890.4 | 9866.0 | 9728.6 | 9375.3 | 9159.6 | 8900.3 | 8108.6 |
| 32.5° | 10067.9 | 10088.8 | 10285.4 | 10381.1 | 10268.0 | 10243.6 | 10109.6 | 9756.4 | 9594.6 | 9431.0 | 8521.0 |
| 35° | 10522.0 | 10537.7 | 10723.9 | 10776.1 | 10668.2 | 10675.2 | 10579.5 | 10280.2 | 10219.3 | 10198.4 | 9142.2 |
| 37.5° | 10962.3 | 10965.7 | 11155.4 | 11188.5 | 11134.5 | 11193.7 | 11202.4 | 10937.9 | 11051.0 | 11219.8 | 10017.4 |
| 40° | 11364.2 | 11367.7 | 11555.6 | 11640.9 | 11733.1 | 11809.7 | 11877.5 | 11736.6 | 12110.7 | 12502.2 | 11059.7 |
| 42.5° | 11686.1 | 11722.7 | 11961.0 | 12122.9 | 12366.5 | 12512.6 | 12697.1 | 12690.1 | 13372.2 | 13960.4 | 12319.5 |
| 45° | 11969.7 | 12032.4 | 12364.7 | 12648.4 | 13066.0 | 13299.1 | 13588.0 | 13814.2 | 14792.1 | 15583.8 | 13594.9 |
| 47.5° | 12343.9 | 12403.0 | 12782.3 | 13246.9 | 13803.7 | 14110.0 | 14588.5 | 15077.5 | 16352.9 | 17177.7 | 14840.8 |
| 50° | 12871.1 | 12845.0 | 13219.1 | 13885.5 | 14600.7 | 15002.6 | 15684.7 | 16417.3 | 17901.5 | 18566.2 | 15573.4 |
| 52.5° | 13433.1 | 13422.7 | 13699.3 | 14579.8 | 15540.3 | 16010.1 | 16911.5 | 17802.4 | 19382.3 | 19523.3 | 15909.2 |
| 55° | 14129.1 | 14054.3 | 14287.5 | 15371.5 | 16655.7 | 17160.3 | 18221.7 | 19173.5 | 20562.1 | 20062.7 | 16078.0 |
| 57.5° | 14858.2 | 14734.7 | 14957.4 | 16253.7 | 17913.7 | 18510.6 | 19672.9 | 20509.9 | 21346.8 | 20431.6 | 16076.2 |
| 60° | 15611.7 | 15465.5 | 15730.0 | 17356.9 | 19476.3 | 20167.1 | 21245.9 | 21413.0 | 22079.4 | 20617.8 | 15957.9 |
| 62.5° | 16241.5 | 16154.5 | 16547.8 | 18536.7 | 21221.5 | 21900.2 | 22434.4 | 22234.3 | 22697.1 | 20762.2 | 15681.3 |
| 65° | 16908.0 | 16913.2 | 17548.3 | 19913.0 | 23076.4 | 23534.1 | 23579.3 | 23299.2 | 23213.9 | 20732.6 | 14745.1 |
| 67.5° | 17809.3 | 17892.8 | 18952.5 | 21781.8 | 24880.9 | 25234.1 | 25230.6 | 24452.8 | 23591.5 | 19556.3 | 12669.2 |
| 70° | 18762.9 | 18959.5 | 20570.8 | 23920.4 | 26850.6 | 27209.0 | 27024.6 | 25187.1 | 22213.4 | 15813.5 | 8966.4 |
| 72.5° | 18602.8 | 18943.8 | 21470.4 | 25268.9 | 28265.2 | 28538.4 | 27339.5 | 23382.7 | 17557.0 | 9190.9 | 3817.7 |
| 75° | 14351.9 | 14746.9 | 19686.8 | 23932.5 | 26781.0 | 26535.6 | 23490.6 | 18195.6 | 9594.6 | 2564.8 | 859.6 |
| 77.5° | 7581.4 | 7791.9 | 13005.1 | 18232.2 | 20882.2 | 20368.9 | 16547.8 | 10094.0 | 2925.0 | 635.1 | 386.3 |
| 80° | 3970.8 | 4019.5 | 5667.3 | 10344.5 | 12888.5 | 12892.0 | 9806.9 | 4433.6 | 1205.8 | 325.4 | 259.3 |
| 82.5° | 2126.3 | 2168.1 | 2994.6 | 4779.9 | 6753.1 | 6121.5 | 3755.0 | 2439.5 | 701.2 | 184.4 | 248.8 |
| 85° | 511.6 | 520.3 | 1698.3 | 2183.8 | 2655.3 | 1896.6 | 1115.4 | 2048.0 | 189.7 | 107.9 | 201.8 |
| 87.5° | 196.6 | 200.1 | 629.9 | 944.8 | 676.9 | 438.5 | 522.0 | 763.9 | 24.4 | 41.8 | 31.3 |
| 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: P323812

CATALOG NUMBER: GLEON-SA8C-730-U-SL4-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|---------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 | 7704.9 |
| 2.5° | 7628.3 | 7583.1 | 7471.7 | 7330.8 | 7205.5 | 7115.0 | 6979.3 | 6890.6 | 6831.4 | 6829.7 | 6807.0 |
| 5° | 7435.2 | 7343.0 | 7102.8 | 6817.5 | 6558.2 | 6325.1 | 6050.1 | 5832.6 | 5670.8 | 5644.7 | 5589.0 |
| 7.5° | 7228.1 | 7076.7 | 6707.9 | 6262.4 | 5827.4 | 5385.4 | 4872.1 | 4553.7 | 4280.5 | 4150.0 | 4136.1 |
| 10° | 7101.1 | 6888.8 | 6365.1 | 5721.3 | 5039.2 | 4320.5 | 3648.9 | 3184.3 | 2848.4 | 2752.7 | 2681.4 |
| 12.5° | 7075.0 | 6794.9 | 6100.6 | 5213.2 | 4238.7 | 3288.7 | 2545.7 | 2051.5 | 1783.5 | 1698.3 | 1675.7 |
| 15° | 7101.1 | 6751.4 | 5877.9 | 4710.3 | 3427.9 | 2333.4 | 1708.7 | 1421.6 | 1320.7 | 1296.3 | 1294.6 |
| 17.5° | 7116.8 | 6699.2 | 5625.6 | 4151.7 | 2641.4 | 1667.0 | 1308.5 | 1225.0 | 1209.3 | 1207.6 | 1211.1 |
| 20° | 7115.0 | 6619.1 | 5324.5 | 3528.8 | 1964.5 | 1310.3 | 1183.2 | 1165.8 | 1162.3 | 1164.1 | 1162.3 |
| 22.5° | 7102.8 | 6525.2 | 4993.9 | 2886.7 | 1484.3 | 1171.0 | 1129.3 | 1118.8 | 1117.1 | 1117.1 | 1117.1 |
| 25° | 7125.5 | 6450.3 | 4630.3 | 2272.5 | 1223.2 | 1106.7 | 1080.6 | 1071.9 | 1070.1 | 1070.1 | 1066.6 |
| 27.5° | 7207.3 | 6408.6 | 4231.8 | 1748.7 | 1104.9 | 1049.2 | 1028.4 | 1026.6 | 1021.4 | 1019.7 | 1023.1 |
| 30° | 7339.5 | 6408.6 | 3795.0 | 1360.7 | 1033.6 | 990.1 | 974.4 | 970.9 | 969.2 | 967.5 | 969.2 |
| 32.5° | 7572.7 | 6457.3 | 3318.3 | 1131.0 | 965.7 | 924.0 | 913.5 | 918.7 | 913.5 | 913.5 | 913.5 |
| 35° | 7993.8 | 6603.5 | 2818.9 | 986.6 | 894.4 | 859.6 | 849.1 | 856.1 | 852.6 | 852.6 | 850.9 |
| 37.5° | 8608.0 | 6874.9 | 2316.0 | 899.6 | 831.7 | 795.2 | 781.3 | 791.7 | 788.2 | 788.2 | 786.5 |
| 40° | 9356.2 | 7269.9 | 1837.5 | 833.5 | 770.8 | 732.6 | 720.4 | 725.6 | 716.9 | 716.9 | 720.4 |
| 42.5° | 10280.2 | 7771.0 | 1419.9 | 769.1 | 709.9 | 673.4 | 666.4 | 661.2 | 645.6 | 636.9 | 638.6 |
| 45° | 11306.8 | 8293.0 | 1106.7 | 706.5 | 652.5 | 622.9 | 612.5 | 598.6 | 572.5 | 555.1 | 556.8 |
| 47.5° | 12223.8 | 8695.0 | 899.6 | 645.6 | 600.3 | 577.7 | 562.0 | 535.9 | 497.7 | 476.8 | 478.5 |
| 50° | 12705.8 | 8755.9 | 765.6 | 584.7 | 551.6 | 529.0 | 506.4 | 466.3 | 421.1 | 398.5 | 396.7 |
| 52.5° | 12829.3 | 8470.5 | 666.4 | 529.0 | 502.9 | 476.8 | 447.2 | 393.2 | 342.8 | 318.4 | 314.9 |
| 55° | 12874.6 | 8035.5 | 577.7 | 476.8 | 450.7 | 421.1 | 382.8 | 321.9 | 274.9 | 250.6 | 248.8 |
| 57.5° | 12724.9 | 7386.5 | 508.1 | 429.8 | 398.5 | 361.9 | 314.9 | 257.5 | 212.3 | 193.1 | 193.1 |
| 60° | 12392.6 | 6507.8 | 454.2 | 379.3 | 344.5 | 302.8 | 254.0 | 200.1 | 158.3 | 142.7 | 142.7 |
| 62.5° | 11729.6 | 5369.8 | 403.7 | 327.1 | 294.1 | 250.6 | 205.3 | 151.4 | 111.4 | 102.7 | 104.4 |
| 65° | 10478.5 | 4073.4 | 353.2 | 280.1 | 250.6 | 207.1 | 160.1 | 107.9 | 74.8 | 74.8 | 78.3 |
| 67.5° | 8545.3 | 2829.3 | 301.0 | 238.4 | 215.8 | 168.8 | 121.8 | 74.8 | 52.2 | 59.2 | 66.1 |
| 70° | 5656.9 | 1586.9 | 257.5 | 196.6 | 184.4 | 134.0 | 90.5 | 50.5 | 41.8 | 55.7 | 67.9 |
| 72.5° | 2135.0 | 617.7 | 215.8 | 158.3 | 160.1 | 102.7 | 64.4 | 38.3 | 38.3 | 60.9 | 80.0 |
| 75° | 595.1 | 302.8 | 154.9 | 116.6 | 125.3 | 74.8 | 47.0 | 33.1 | 36.5 | 69.6 | 94.0 |
| 77.5° | 349.7 | 222.7 | 100.9 | 67.9 | 85.3 | 52.2 | 31.3 | 26.1 | 31.3 | 59.2 | 90.5 |
| 80° | 281.9 | 118.3 | 59.2 | 34.8 | 47.0 | 29.6 | 20.9 | 15.7 | 8.7 | 22.6 | 47.0 |
| 82.5° | 281.9 | 71.3 | 27.8 | 24.4 | 24.4 | 15.7 | 10.4 | 7.0 | 1.7 | 0.0 | 12.2 |
| 85° | 189.7 | 29.6 | 17.4 | 15.7 | 12.2 | 5.2 | 3.5 | 1.7 | 0.0 | 0.0 | 0.0 |
| 87.5° | 31.3 | 12.2 | 7.0 | 3.5 | 1.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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



LM-79-2008: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

Report Number: SP1-1908-441-2-R4

Test Date: 10/03/2019

Luminaire Tested: SA1C-730-U-5WQ

Data in this report applies to families of products SA1C-730-U-5WQ .

Test Information

Test Method: LM-79-2008
 Report Number: SP1-1908-441-2-R4
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 10/28/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: McGRAW-EDISON
 Catalog Number: **SA1C-730-U-5WQ**
 Description: McGRAW EDISON ROADWAY AND AREA LUMINAIRE

THIS IS A REVISION OF SP1-1908-441-2-R3. TO UPDATE THE CATALOG INFORMATION.TESTED IN SITU. (1) 70 CRI, 3000K, 1050MA LIGHTSQUARE WITH 16 LEDS AND TYPE V WIDE OPTICS.

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|-------|
| CCT (K): | 2993 | CRI (Ra): | 71.8 | R9: | -38.3 |
| CIE u': | 0.2508 | R1: | 67.5 | R10: | 62.5 |
| CIE v': | 0.5215 | R2: | 82.9 | R11: | 63.7 |
| Duv: | 0.0000 | R3: | 94.7 | R12: | 57.8 |
| CIE x: | 0.4374 | R4: | 67.7 | R13: | 70.4 |
| CIE y: | 0.4043 | R5: | 67.9 | R14: | 97.3 |
| CIE z: | 0.1583 | R6: | 77.6 | | |
| Peak Wavelength (nm): | 593 | R7: | 76.0 | | |
| Dominant Wavelength (nm): | 582 | R8: | 40.5 | | |
| Purity: | 53 | | | | |
| Rf: | 75.7 | | | | |
| Rg: | 93.9 | | | | |



Test Conditions

Stabilization Time: 53M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0./44%
 Sphere Temperature (°C): 25.7

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

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/28/2019 | 12/28/2019 |
| Power Meter | IN0071 | 12/5/2018 | 12/5/2019 |
| AC Power Source | IN0063 | 12/5/2018 | 12/5/2019 |
| DC Power Source | IN0208 | 12/5/2018 | 12/5/2019 |
| Sphere Thermometer | IN0085 | 12/5/2018 | 12/5/2019 |
| Room Thermometer | IN0046 | 12/5/2018 | 12/5/2019 |

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CIE 1931 Chromaticity Diagram



CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 3000K 4-step quadrangle

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

Photopic Flux vs. Wavelength



#####

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

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

Scotopic Flux vs. Wavelength



Scotopic Lumens: 8494.8

S/P: 1.23

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

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

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3101.5 M/P: 0.45

| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 2397 | NR | 490 | 24908 | NR | 620 | 118784 | NR | 750 | 5037 | NR | 880 | 2677 | NR |
| 365 | 2084 | NR | 495 | 30998 | NR | 625 | 108951 | NR | 755 | 4413 | NR | 885 | 2940 | NR |
| 370 | 2143 | NR | 500 | 37103 | NR | 630 | 99573 | NR | 760 | 4189 | NR | 890 | 3116 | NR |
| 375 | 2413 | NR | 505 | 42987 | NR | 635 | 90444 | NR | 765 | 3677 | NR | 895 | 3345 | NR |
| 380 | 2172 | NR | 510 | 48702 | NR | 640 | 80749 | NR | 770 | 3366 | NR | 900 | 2312 | NR |
| 385 | 1997 | NR | 515 | 53741 | NR | 645 | 71664 | NR | 775 | 3211 | NR | 905 | 2829 | NR |
| 390 | 1830 | NR | 520 | 57283 | NR | 650 | 63936 | NR | 780 | 2682 | NR | 910 | 2783 | NR |
| 395 | 1861 | NR | 525 | 61876 | NR | 655 | 56611 | NR | 785 | 2804 | NR | 915 | 2662 | NR |
| 400 | 1717 | NR | 530 | 65398 | NR | 660 | 49763 | NR | 790 | 2581 | NR | 920 | 3047 | NR |
| 405 | 1761 | NR | 535 | 69597 | NR | 665 | 42891 | NR | 795 | 2711 | NR | 925 | 2256 | NR |
| 410 | 2680 | NR | 540 | 74214 | NR | 670 | 36939 | NR | 800 | 2609 | NR | 930 | 2976 | NR |
| 415 | 4374 | NR | 545 | 79911 | NR | 675 | 31946 | NR | 805 | 2581 | NR | 935 | 3503 | NR |
| 420 | 8071 | NR | 550 | 86153 | NR | 680 | 27385 | NR | 810 | 2404 | NR | 940 | 4226 | NR |
| 425 | 15169 | NR | 555 | 93952 | NR | 685 | 23504 | NR | 815 | 2556 | NR | 945 | 2930 | NR |
| 430 | 26038 | NR | 560 | 102904 | NR | 690 | 20210 | NR | 820 | 2742 | NR | 950 | 2115 | NR |
| 435 | 41316 | NR | 565 | 112009 | NR | 695 | 17459 | NR | 825 | 2014 | NR | 955 | 2634 | NR |
| 440 | 59674 | NR | 570 | 121662 | NR | 700 | 15207 | NR | 830 | 2488 | NR | 960 | 4200 | NR |
| 445 | 72751 | NR | 575 | 130476 | NR | 705 | 13322 | NR | 835 | 2625 | NR | 965 | 1982 | NR |
| 450 | 65091 | NR | 580 | 137926 | NR | 710 | 11676 | NR | 840 | 2754 | NR | 970 | 3613 | NR |
| 455 | 44894 | NR | 585 | 143406 | NR | 715 | 10626 | NR | 845 | 2708 | NR | 975 | 4034 | NR |
| 460 | 32712 | NR | 590 | 147039 | NR | 720 | 9416 | NR | 850 | 2608 | NR | 980 | 3922 | NR |
| 465 | 25296 | NR | 595 | 147365 | NR | 725 | 8333 | NR | 855 | 2605 | NR | 985 | 1909 | NR |
| 470 | 19318 | NR | 600 | 145800 | NR | 730 | 7134 | NR | 860 | 1765 | NR | 990 | 3617 | NR |
| 475 | 17265 | NR | 605 | 141363 | NR | 735 | 6437 | NR | 865 | 2581 | NR | 995 | 4767 | NR |
| 480 | 18260 | NR | 610 | 134199 | NR | 740 | 5834 | NR | 870 | 3016 | NR | 1000 | 2528 | NR |
| 485 | 20845 | NR | 615 | 127683 | NR | 745 | 5500 | NR | 875 | 3952 | NR | | | |

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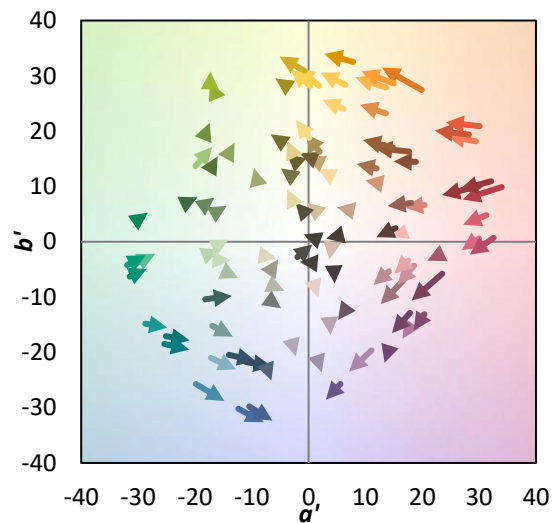
TM-30-18

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)