

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: P320926

Luminaire Tested: **GLEON-SA2C-730-U-AFL**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P320926
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-29)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GLEON-SA2C-730-U-AFL
Description: GALLEON AREA AND ROADWAY LUMINAIRE
(2) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE
FRONTLINE OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 13521 lumens
Efficiency: N/A
Efficacy: 119.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')
IES Classification: Type II - Short
BUG Rating: B2 - U0 - G2

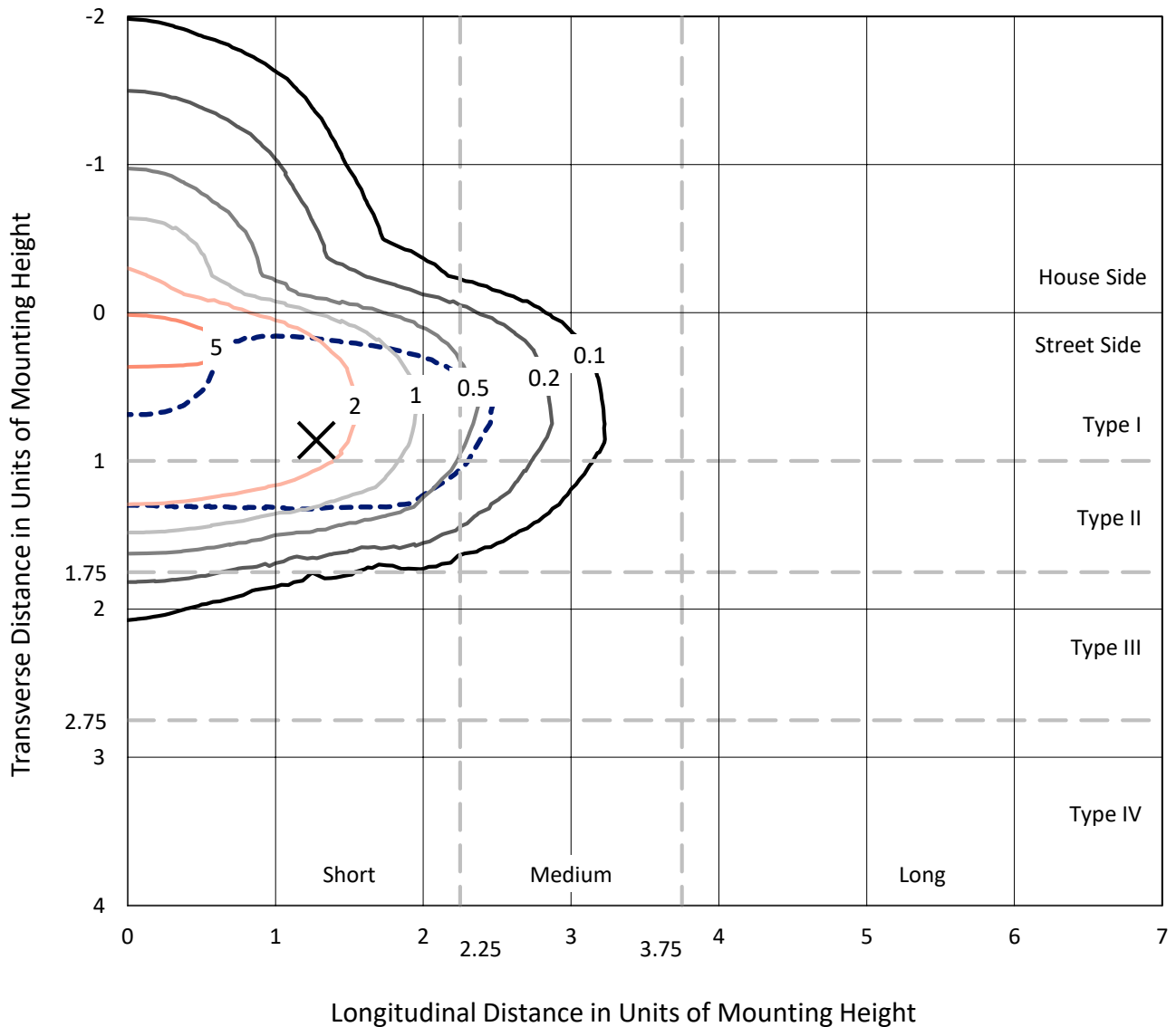
Input Watts (W): 113
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



REPORT NUMBER: P320926
 CATALOG NUMBER: GLEON-SA2C-730-U-AFL

Iso-Footcandle Lines of Horizontal Illumination

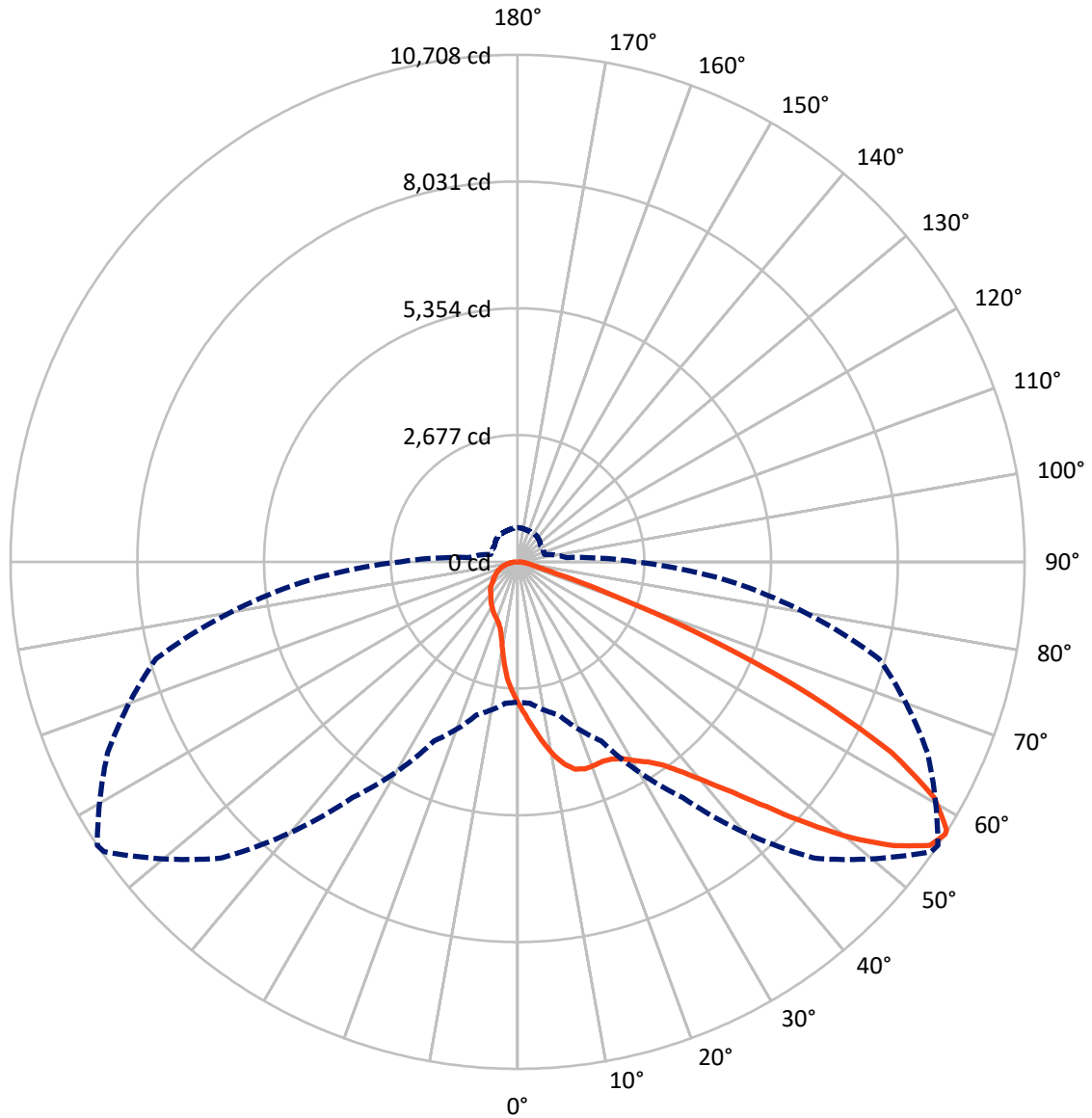
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.6 fc
 Type II - Short - N/A

REPORT NUMBER: P320926
CATALOG NUMBER: GLEON-SA2C-730-U-AFL

Luminous Intensity Polar Plot



— Vertical Plane Through 56-Deg Lateral - - - Horizontal Cone Through 57-Deg Vertical

REPORT NUMBER: P320926
 CATALOG NUMBER: GLEON-SA2C-730-U-AFL

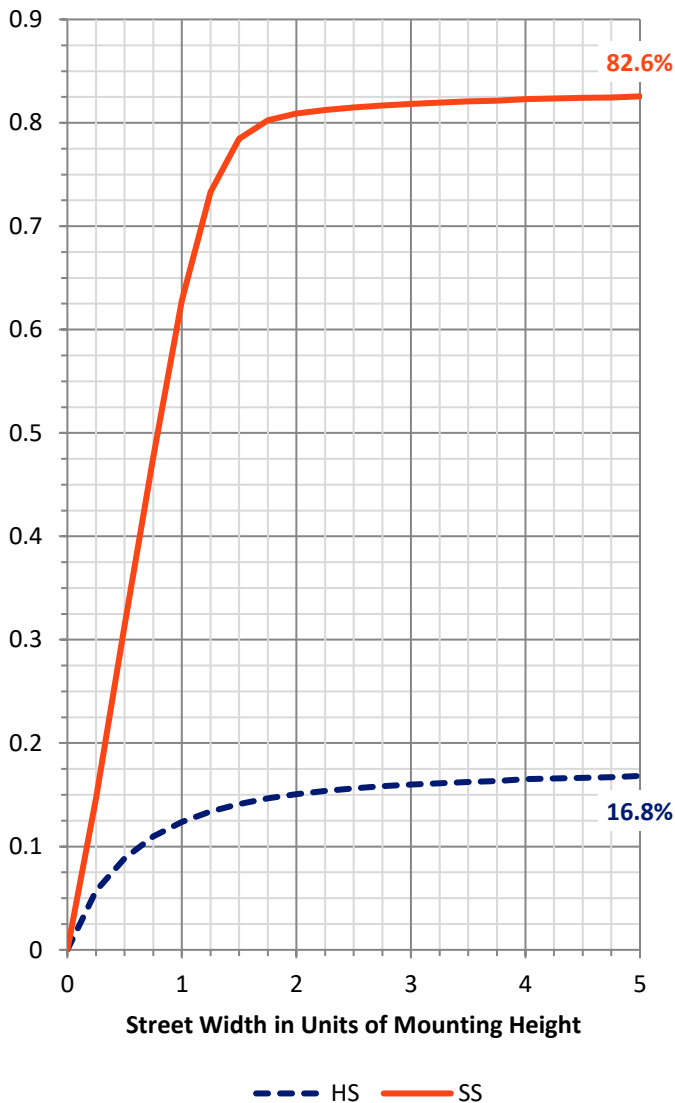
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2330.7 | 0.0 | 2330.7 |
| | % Fixture | 17.2 | 0.0 | 17.2 |
| Street Side | Lumens | 11190.3 | 0.0 | 11190.3 |
| | % Fixture | 82.8 | 0.0 | 82.8 |
| Total | Lumens | 13521.0 | 0.0 | 13521.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 286.5 | 2.1 |
| 10°-20° | 809.9 | 6.0 |
| 20°-30° | 1319.2 | 9.8 |
| 30°-40° | 1972.1 | 14.6 |
| 40°-50° | 2991.3 | 22.1 |
| 50°-60° | 3352.7 | 24.8 |
| 60°-70° | 1980.2 | 14.6 |
| 70°-80° | 648.8 | 4.8 |
| 80°-90° | 160.3 | 1.2 |
| 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° | 13521.0 | 100.0 |
| 0°-180° | 13521.0 | 100.0 |

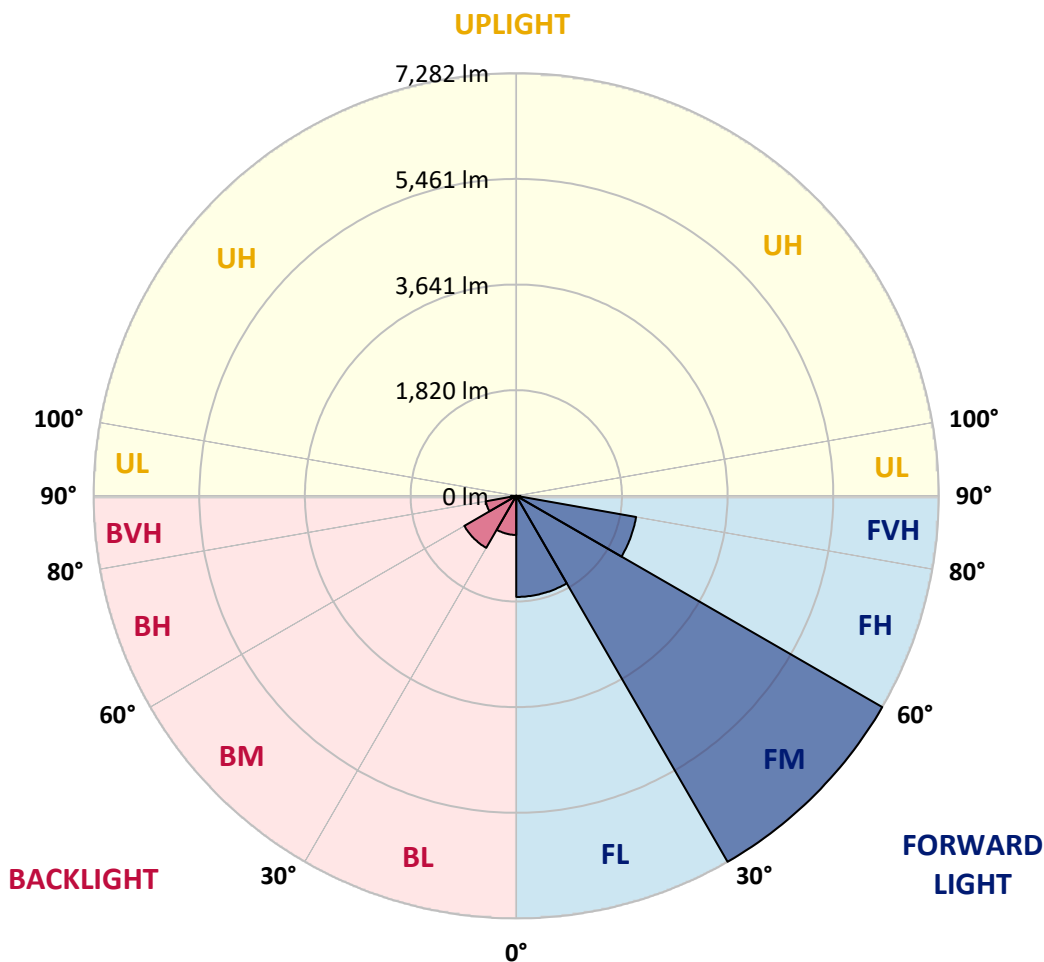


REPORT NUMBER: P320926
 CATALOG NUMBER: GLEON-SA2C-730-U-AFL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 1741.7 | 12.9 | | | |
| FM (30°-60°) | 7281.5 | 53.9 | | | |
| FH (60°-80°) | 2096.5 | 15.5 | | | G2/5000 |
| FVH (80°-90°) | 70.6 | 0.5 | | | G1/100 |
| BL (0°-30°) | 673.9 | 5.0 | B2/1000 | | |
| BM (30°-60°) | 1034.5 | 7.7 | B2/2500 | | |
| BH (60°-80°) | 532.5 | 3.9 | B2/1000 | | G2/1000 |
| BVH (80°-90°) | 89.7 | 0.7 | | | G1/100 |
| 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





REPORT NUMBER: P320926
 CATALOG NUMBER: GLEON-SA2C-730-U-AFL

CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 56° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|---------|---------|--------|--------|--------|
| 0° | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 |
| 2.5° | 3443.7 | 3475.3 | 3461.3 | 3413.0 | 3375.8 | 3323.3 | 3264.8 | 3247.1 | 3185.3 | 3116.1 | 3032.9 |
| 5° | 3988.7 | 3972.9 | 3950.1 | 3874.9 | 3795.4 | 3702.9 | 3556.1 | 3532.9 | 3395.3 | 3238.7 | 3073.3 |
| 7.5° | 4299.1 | 4297.7 | 4284.2 | 4240.1 | 4167.6 | 4046.8 | 3869.8 | 3842.3 | 3634.6 | 3382.8 | 3126.3 |
| 10° | 4254.0 | 4250.8 | 4273.1 | 4319.1 | 4340.9 | 4315.8 | 4166.7 | 4139.3 | 3884.2 | 3542.2 | 3187.6 |
| 12.5° | 3998.0 | 3999.9 | 4035.6 | 4132.3 | 4263.8 | 4421.8 | 4397.6 | 4384.1 | 4143.0 | 3722.5 | 3262.0 |
| 15° | 3798.7 | 3802.8 | 3831.2 | 3915.3 | 4070.5 | 4357.2 | 4538.0 | 4542.6 | 4393.4 | 3921.3 | 3348.9 |
| 17.5° | 3711.3 | 3720.1 | 3733.1 | 3792.2 | 3934.3 | 4228.5 | 4571.4 | 4596.5 | 4612.8 | 4127.6 | 3432.5 |
| 20° | 3739.2 | 3747.6 | 3751.3 | 3788.9 | 3905.5 | 4150.4 | 4548.2 | 4593.2 | 4781.0 | 4321.9 | 3516.1 |
| 22.5° | 3864.2 | 3869.3 | 3871.6 | 3881.4 | 3972.0 | 4172.7 | 4532.8 | 4580.2 | 4902.7 | 4496.1 | 3579.3 |
| 25° | 4071.4 | 4067.7 | 4052.8 | 4040.3 | 4101.2 | 4261.0 | 4568.2 | 4613.2 | 5001.7 | 4654.1 | 3620.7 |
| 27.5° | 4319.6 | 4314.9 | 4286.1 | 4251.7 | 4286.6 | 4398.6 | 4669.9 | 4705.7 | 5090.4 | 4801.9 | 3641.6 |
| 30° | 4617.4 | 4605.3 | 4551.0 | 4510.1 | 4523.5 | 4604.9 | 4837.7 | 4870.2 | 5227.5 | 4969.6 | 3662.1 |
| 32.5° | 4961.7 | 4948.7 | 4870.2 | 4802.3 | 4802.3 | 4870.2 | 5010.5 | 5037.5 | 5343.7 | 5159.2 | 3695.0 |
| 35° | 5392.9 | 5376.7 | 5274.5 | 5160.6 | 5128.5 | 5162.9 | 5246.1 | 5265.2 | 5552.8 | 5398.1 | 3755.0 |
| 37.5° | 5901.3 | 5879.4 | 5747.0 | 5594.6 | 5524.4 | 5522.6 | 5582.5 | 5621.6 | 5886.9 | 5711.7 | 3856.7 |
| 40° | 6411.0 | 6395.7 | 6280.0 | 6160.1 | 6022.6 | 5978.4 | 6070.9 | 6083.0 | 6323.7 | 6101.1 | 3986.9 |
| 42.5° | 6805.1 | 6802.3 | 6780.9 | 6796.7 | 6655.9 | 6566.7 | 6639.2 | 6648.9 | 6857.1 | 6522.6 | 4125.3 |
| 45° | 7013.2 | 7017.9 | 7121.5 | 7351.1 | 7403.1 | 7338.0 | 7373.8 | 7376.6 | 7466.8 | 6947.7 | 4252.2 |
| 47.5° | 6846.4 | 6870.6 | 7132.7 | 7646.1 | 8072.2 | 8288.3 | 8228.8 | 8263.2 | 8057.8 | 7313.0 | 4351.6 |
| 50° | 6196.4 | 6226.1 | 6672.2 | 7514.6 | 8384.5 | 9207.9 | 9176.7 | 9168.8 | 8534.6 | 7580.6 | 4405.5 |
| 52.5° | 5391.1 | 5414.3 | 5782.3 | 6831.1 | 8155.4 | 9716.2 | 10002.0 | 9961.1 | 8958.3 | 7780.9 | 4415.7 |
| 55° | 4164.8 | 4201.1 | 4553.8 | 5466.8 | 7228.8 | 9522.0 | 10608.8 | 10572.1 | 9344.5 | 7885.9 | 4403.7 |
| 57° | 2960.9 | 2999.0 | 3349.3 | 4172.3 | 6081.1 | 8849.6 | 10669.3 | 10708.3 | 9553.1 | 7903.5 | 4417.1 |
| 57.5° | 2642.1 | 2681.1 | 3028.2 | 3827.5 | 5723.3 | 8606.6 | 10617.2 | 10682.3 | 9590.8 | 7900.8 | 4424.6 |
| 60° | 1330.3 | 1345.2 | 1566.4 | 2136.5 | 3617.9 | 6957.9 | 9938.3 | 10106.1 | 9624.7 | 7764.1 | 4456.6 |
| 62.5° | 827.1 | 816.4 | 809.5 | 984.2 | 1760.2 | 4614.2 | 8537.4 | 8860.3 | 8975.5 | 7433.3 | 4379.0 |
| 65° | 727.2 | 707.2 | 630.6 | 616.6 | 777.4 | 2241.1 | 6429.2 | 6831.1 | 7588.5 | 6911.9 | 4194.1 |
| 67.5° | 683.1 | 663.5 | 577.1 | 525.1 | 525.5 | 888.4 | 3991.5 | 4444.1 | 5911.5 | 6030.5 | 3757.8 |
| 70° | 637.5 | 619.9 | 539.0 | 477.7 | 447.5 | 492.1 | 1836.4 | 2179.8 | 3853.5 | 4740.1 | 3140.7 |
| 72.5° | 579.0 | 566.9 | 490.2 | 427.0 | 395.0 | 368.5 | 703.0 | 830.4 | 2230.9 | 3183.4 | 2181.2 |
| 75° | 517.6 | 506.5 | 441.0 | 380.6 | 341.5 | 290.0 | 395.9 | 426.6 | 1133.3 | 1628.7 | 1073.8 |
| 77.5° | 450.3 | 443.8 | 392.2 | 336.4 | 305.3 | 240.2 | 280.2 | 295.1 | 486.0 | 698.4 | 538.6 |
| 80° | 358.3 | 370.8 | 342.9 | 299.7 | 270.9 | 192.4 | 198.4 | 208.2 | 283.0 | 341.1 | 305.8 |
| 82.5° | 233.3 | 255.1 | 268.6 | 243.5 | 223.0 | 151.5 | 142.7 | 146.8 | 184.5 | 208.2 | 132.9 |
| 85° | 97.1 | 109.2 | 176.6 | 159.4 | 148.2 | 110.6 | 95.7 | 97.6 | 114.3 | 118.5 | 54.4 |
| 87.5° | 43.2 | 46.0 | 77.6 | 73.0 | 62.7 | 38.1 | 40.9 | 44.6 | 60.9 | 57.6 | 20.9 |
| 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: P320926
 CATALOG NUMBER: GLEON-SA2C-730-U-AFL

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 | 2999.0 |
| 2.5° | 3001.8 | 2962.7 | 2895.8 | 2821.9 | 2761.5 | 2713.2 | 2664.4 | 2631.0 | 2591.9 | 2571.0 | 2560.3 |
| 5° | 3004.1 | 2927.4 | 2786.6 | 2642.1 | 2512.9 | 2394.9 | 2282.5 | 2196.0 | 2115.2 | 2071.5 | 2059.4 |
| 7.5° | 3013.8 | 2898.6 | 2670.9 | 2433.0 | 2203.5 | 1993.9 | 1832.2 | 1730.9 | 1657.9 | 1625.4 | 1616.1 |
| 10° | 3021.7 | 2864.7 | 2527.8 | 2175.6 | 1863.3 | 1651.0 | 1525.5 | 1468.8 | 1443.7 | 1439.5 | 1435.4 |
| 12.5° | 3040.3 | 2829.8 | 2377.2 | 1907.0 | 1598.9 | 1452.1 | 1408.4 | 1404.7 | 1411.7 | 1421.9 | 1421.9 |
| 15° | 3069.6 | 2795.4 | 2205.3 | 1676.5 | 1430.7 | 1379.1 | 1388.0 | 1408.4 | 1427.5 | 1443.3 | 1445.6 |
| 17.5° | 3091.0 | 2753.2 | 2020.4 | 1492.1 | 1341.0 | 1355.0 | 1386.6 | 1415.4 | 1434.9 | 1450.2 | 1451.6 |
| 20° | 3106.3 | 2687.6 | 1822.9 | 1351.3 | 1289.5 | 1332.7 | 1372.2 | 1397.7 | 1411.2 | 1426.5 | 1428.9 |
| 22.5° | 3098.4 | 2599.8 | 1647.7 | 1250.4 | 1247.6 | 1300.1 | 1337.8 | 1368.4 | 1358.2 | 1343.4 | 1353.1 |
| 25° | 3060.3 | 2479.0 | 1467.4 | 1175.1 | 1203.5 | 1256.5 | 1302.9 | 1282.5 | 1248.1 | 1241.6 | 1245.3 |
| 27.5° | 2992.5 | 2324.7 | 1300.6 | 1105.4 | 1152.4 | 1216.0 | 1213.2 | 1192.8 | 1180.7 | 1172.4 | 1177.5 |
| 30° | 2919.5 | 2157.5 | 1154.7 | 1044.6 | 1095.7 | 1148.2 | 1137.5 | 1137.0 | 1125.0 | 1111.5 | 1118.0 |
| 32.5° | 2847.5 | 1989.2 | 1039.0 | 994.4 | 1052.9 | 1059.9 | 1083.1 | 1090.1 | 1066.4 | 1038.1 | 1036.2 |
| 35° | 2784.8 | 1830.3 | 951.2 | 948.9 | 1001.4 | 1002.3 | 1036.2 | 1026.5 | 967.4 | 938.2 | 938.2 |
| 37.5° | 2737.8 | 1671.9 | 884.3 | 908.0 | 933.5 | 957.7 | 974.9 | 934.4 | 924.7 | 908.4 | 908.0 |
| 40° | 2717.4 | 1532.5 | 842.4 | 876.8 | 885.7 | 916.3 | 872.2 | 888.0 | 892.6 | 884.3 | 884.3 |
| 42.5° | 2696.0 | 1411.2 | 806.2 | 853.1 | 851.7 | 847.6 | 825.3 | 845.7 | 864.3 | 864.7 | 863.4 |
| 45° | 2674.6 | 1306.6 | 774.1 | 802.5 | 822.0 | 776.9 | 781.1 | 802.9 | 829.0 | 838.3 | 838.3 |
| 47.5° | 2650.9 | 1223.9 | 744.9 | 749.0 | 779.2 | 749.0 | 745.8 | 762.5 | 793.2 | 808.1 | 811.3 |
| 50° | 2598.9 | 1149.6 | 711.4 | 702.1 | 710.5 | 720.7 | 723.5 | 731.4 | 765.3 | 789.0 | 794.6 |
| 52.5° | 2526.9 | 1083.1 | 668.7 | 658.9 | 658.9 | 697.5 | 710.5 | 712.8 | 741.6 | 770.0 | 775.5 |
| 55° | 2466.9 | 1040.9 | 624.5 | 622.7 | 620.8 | 672.8 | 695.1 | 698.9 | 718.8 | 741.1 | 743.9 |
| 57° | 2471.1 | 1037.6 | 590.6 | 592.5 | 592.0 | 647.7 | 680.7 | 688.6 | 698.9 | 717.9 | 721.2 |
| 57.5° | 2473.4 | 1039.9 | 583.2 | 584.1 | 583.6 | 640.8 | 676.6 | 685.4 | 693.3 | 713.3 | 716.5 |
| 60° | 2508.3 | 1046.0 | 553.0 | 542.7 | 545.1 | 603.6 | 652.9 | 664.0 | 669.1 | 695.6 | 699.8 |
| 62.5° | 2456.7 | 1019.0 | 528.8 | 504.2 | 504.2 | 564.6 | 619.9 | 637.5 | 645.4 | 681.2 | 688.2 |
| 65° | 2307.1 | 943.3 | 500.4 | 460.5 | 465.1 | 525.5 | 580.4 | 609.2 | 621.3 | 665.9 | 673.3 |
| 67.5° | 2076.1 | 855.5 | 470.2 | 421.5 | 426.1 | 484.6 | 539.5 | 570.6 | 589.7 | 649.1 | 655.2 |
| 70° | 1775.5 | 748.1 | 429.4 | 380.1 | 385.7 | 440.0 | 491.2 | 526.5 | 554.8 | 633.3 | 635.2 |
| 72.5° | 1309.0 | 613.4 | 372.2 | 334.6 | 340.6 | 388.0 | 442.4 | 483.3 | 521.4 | 593.8 | 592.9 |
| 75° | 778.3 | 479.5 | 309.0 | 288.6 | 292.7 | 336.9 | 398.2 | 447.9 | 505.1 | 578.5 | 587.3 |
| 77.5° | 472.1 | 361.0 | 251.9 | 241.6 | 246.7 | 291.8 | 366.6 | 419.6 | 498.1 | 545.5 | 542.7 |
| 80° | 285.3 | 257.9 | 201.2 | 194.7 | 199.8 | 249.5 | 339.2 | 398.2 | 435.4 | 466.1 | 466.1 |
| 82.5° | 149.2 | 157.5 | 147.8 | 142.7 | 149.6 | 202.6 | 308.5 | 347.6 | 384.7 | 330.4 | 308.5 |
| 85° | 60.9 | 82.2 | 89.7 | 89.2 | 93.4 | 140.3 | 266.3 | 297.4 | 248.1 | 235.6 | 241.2 |
| 87.5° | 20.4 | 34.9 | 43.7 | 37.6 | 39.5 | 88.3 | 184.5 | 143.6 | 170.5 | 119.0 | 112.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

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



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

Report Prepared for

Cooper Lighting Solutions

McGRAW-EDISON

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

Test Date: 10/03/2019

Luminaire Tested: SA1C-730-U-5WQ

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

Test Information

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

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

Spectral Parameters

CCT (K): 2993
 CIE u': 0.2508
 CIE v': 0.5215
 Duv: 0.0000
 CIE x: 0.4374
 CIE y: 0.4043
 CIE z: 0.1583
 Peak Wavelength (nm): 593
 Dominant Wavelength (nm): 582
 Purity: 53

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 71.8 | | |
| R1: | 67.5 | R9: | -38.3 |
| R2: | 82.9 | R10: | 62.5 |
| R3: | 94.7 | R11: | 63.7 |
| R4: | 67.7 | R12: | 57.8 |
| R5: | 67.9 | R13: | 70.4 |
| R6: | 77.6 | R14: | 97.3 |
| R7: | 76.0 | | |
| R8: | 40.5 | | |

Rf: 75.7
 Rg: 93.9



Test Conditions

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

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

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

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

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 | | | |

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

TM-30-18

Summary

$R_f = 75.7$
 $R_g = 93.9$
 CIE $R_a = 71.8$
 $R_9 = -38.3$



Color Vector Graphics



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

TM-30-18

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 | |



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

TM-30-18

Color Rendition by Hue-Angle Bin



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

TM-30-18

Measure Comparisons



(END OF REPORT)