

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: P386404

Luminaire Tested: **GPC-SA2A-740-U-T4W-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P386404
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1903-205-19)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: McGRAW-EDISON
Catalog Number: GPC-SA2A-740-U-T4W-HSS
Description: GALLEON PEDESTRIAN LUMINAIRE
(2) 70 CRI, 4000K, 615mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV WIDE OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7049 lumens
Efficiency: N/A
Efficacy: 106.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 0.5' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

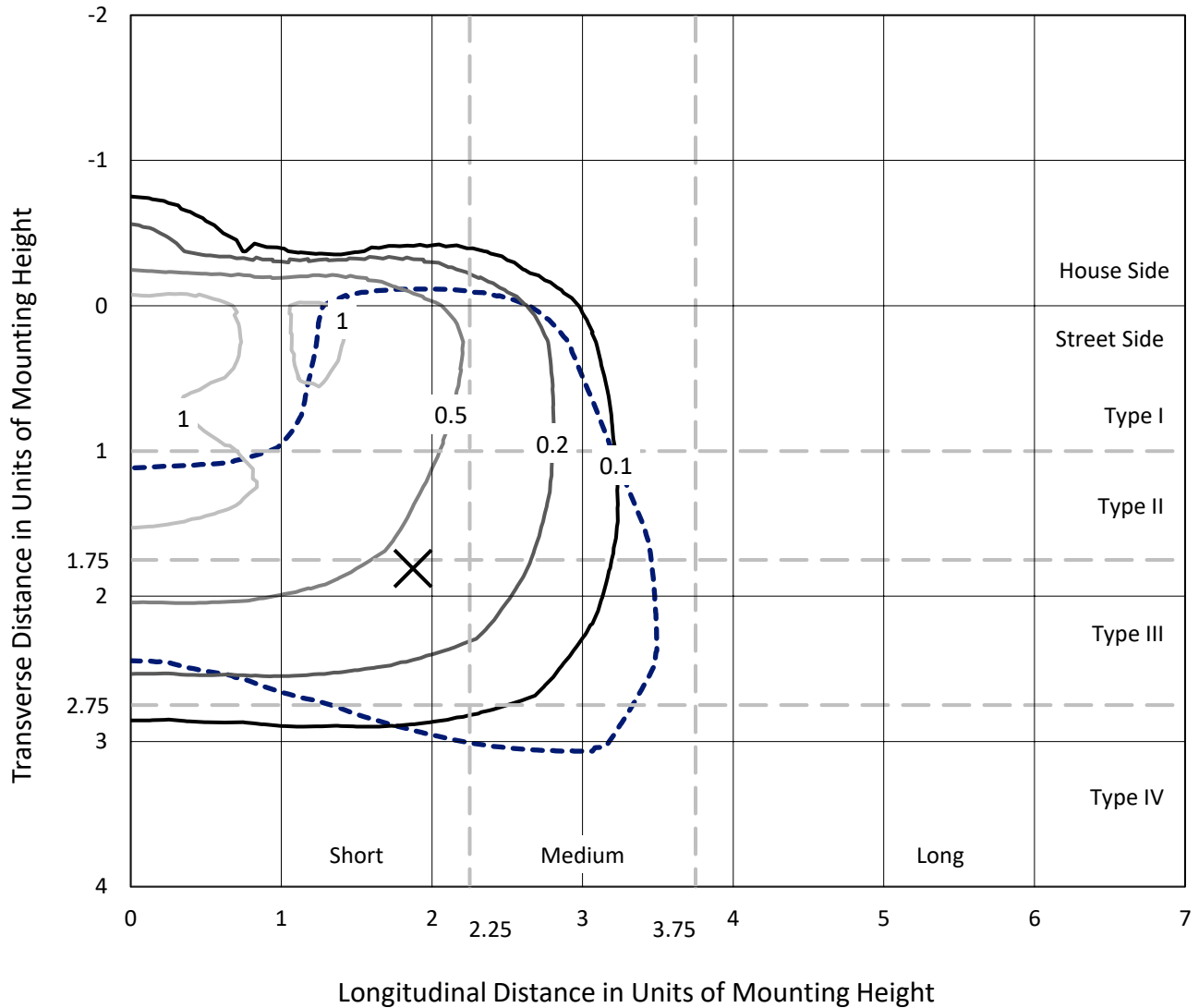
Input Watts (W): 66
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

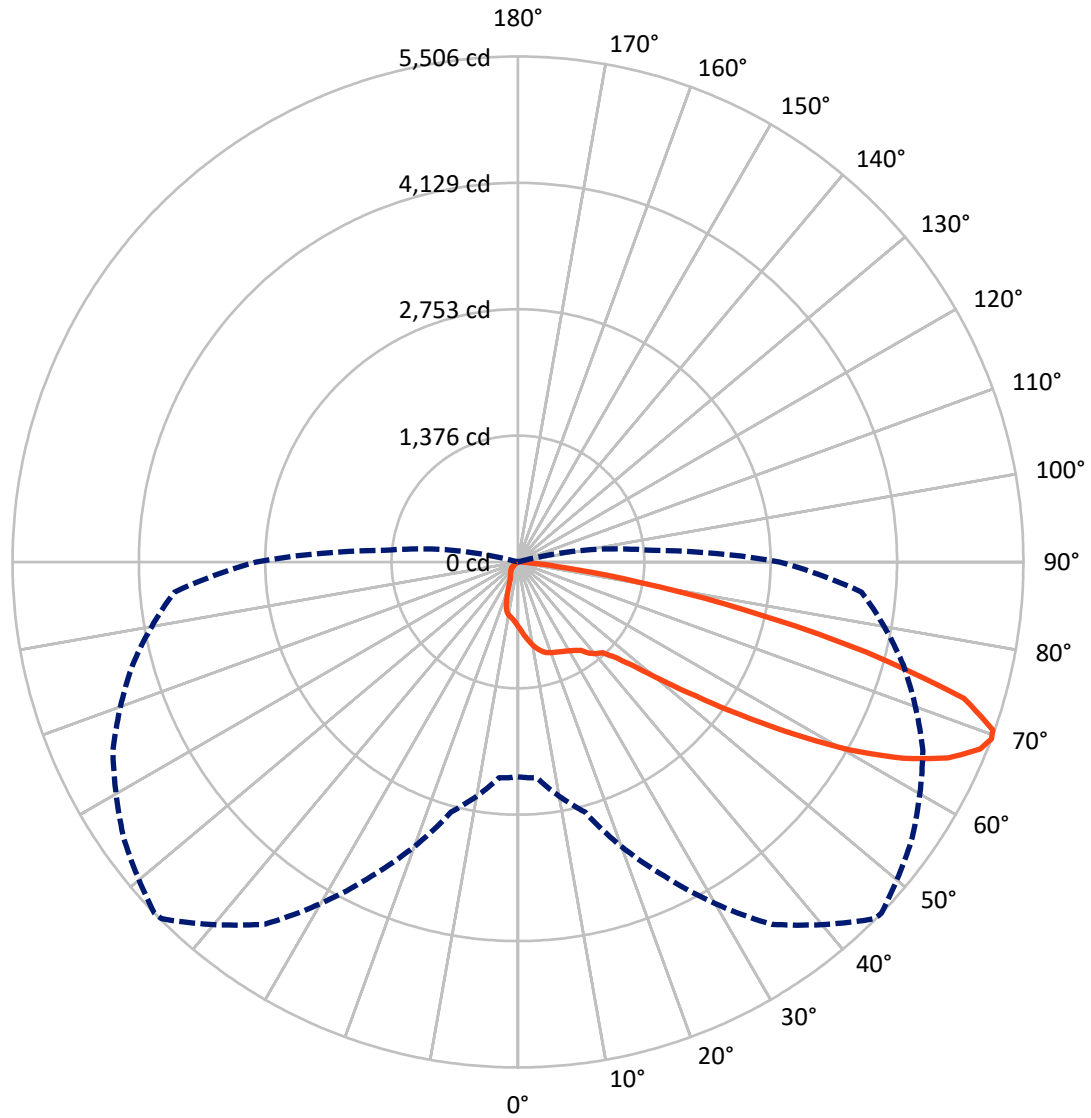
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.6 fc
 Type IV - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 46-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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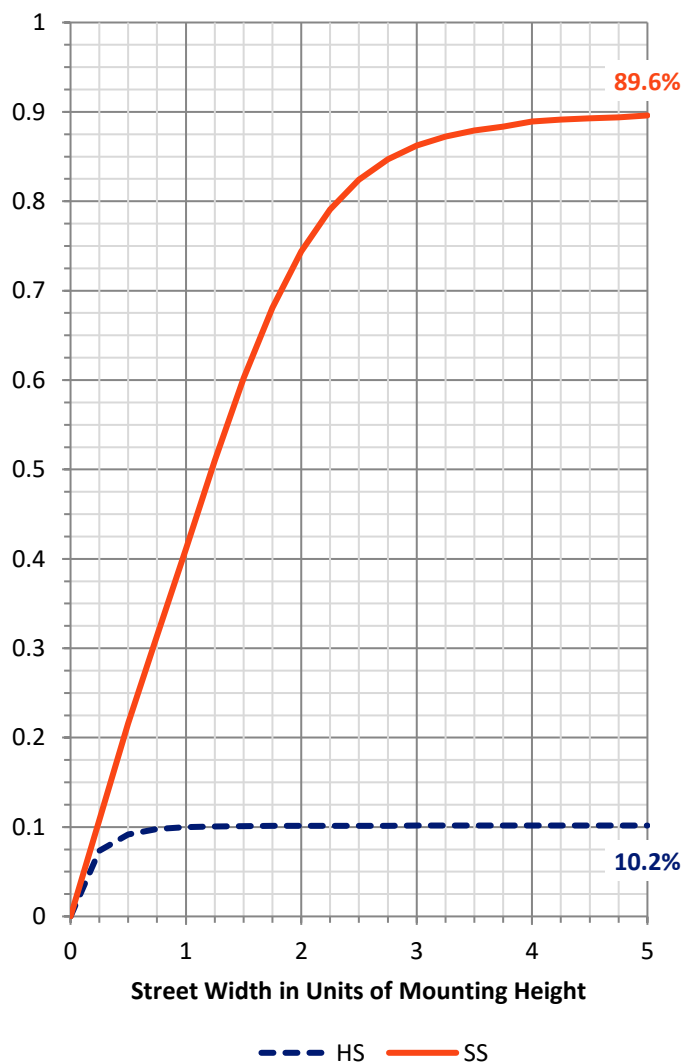
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 723.4 | 0.0 | 723.4 |
| | % Fixture | 10.3 | 0.0 | 10.3 |
| Street Side | Lumens | 6325.6 | 0.0 | 6325.6 |
| | % Fixture | 89.7 | 0.0 | 89.7 |
| Total | Lumens | 7049.0 | 0.0 | 7049.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 70.3 | 1.0 |
| 10°-20° | 213.3 | 3.0 |
| 20°-30° | 335.4 | 4.8 |
| 30°-40° | 481.0 | 6.8 |
| 40°-50° | 831.3 | 11.8 |
| 50°-60° | 1642.3 | 23.3 |
| 60°-70° | 2295.3 | 32.6 |
| 70°-80° | 1108.9 | 15.7 |
| 80°-90° | 71.3 | 1.0 |
| 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° | 7049.0 | 100.0 |
| 0°-180° | 7049.0 | 100.0 |

Coefficient of Utilization



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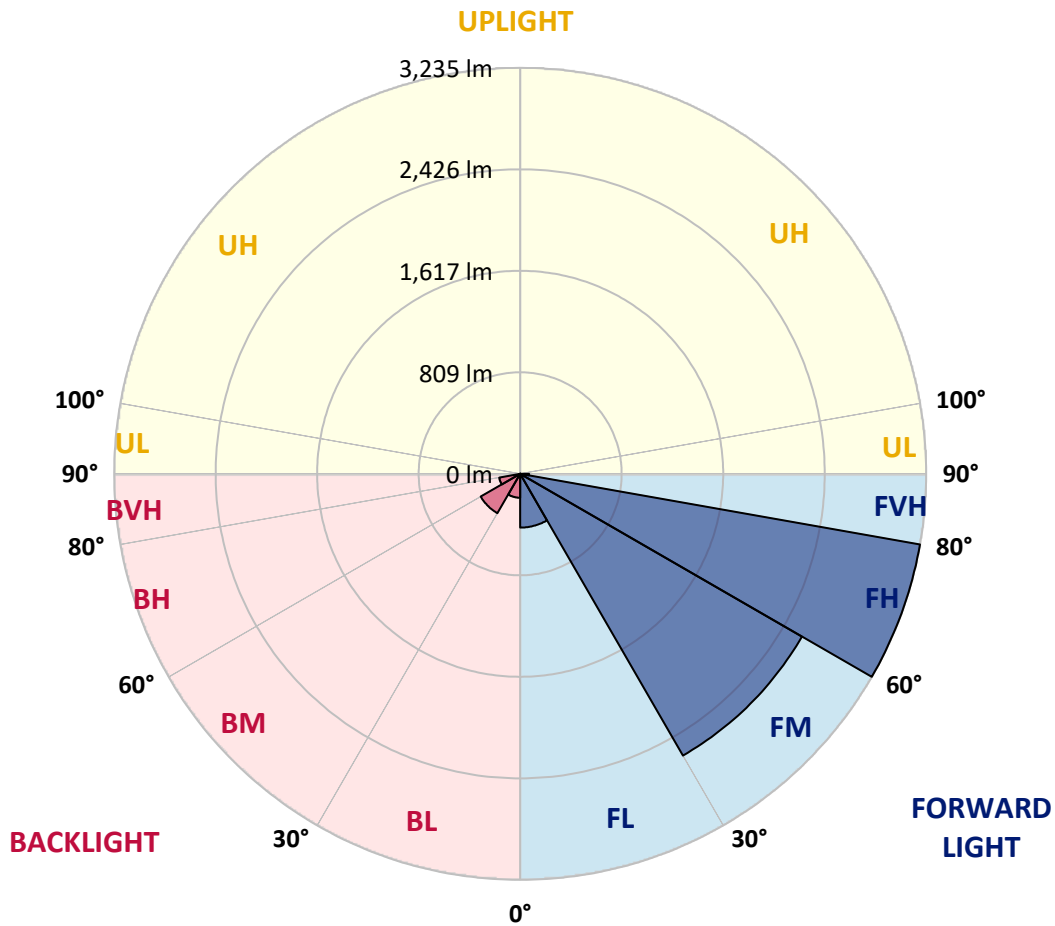
CATALOG NUMBER: GPC-SA2A-740-U-T4W-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 428.3 | 6.1 | | | |
| FM (30°-60°) | 2592.1 | 36.8 | | | |
| FH (60°-80°) | 3234.5 | 45.9 | | | G2/5000 |
| FVH (80°-90°) | 70.7 | 1.0 | | | G1/100 |
| BL (0°-30°) | 190.7 | 2.7 | B1/500 | | |
| BM (30°-60°) | 362.5 | 5.1 | B1/1000 | | |
| BH (60°-80°) | 169.6 | 2.4 | B1/500 | | G1/500 |
| BVH (80°-90°) | 0.6 | 0.0 | | | G0/10 |
| UL (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH (100°-180°) | 0.0 | 0.0 | | U0/0 | |

BUG Rating: B1-U0-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 46° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 |
| 2.5° | 784.6 | 783.6 | 779.0 | 777.0 | 765.8 | 759.2 | 756.5 | 748.3 | 736.4 | 724.5 | 711.2 |
| 5° | 873.8 | 873.5 | 864.9 | 856.7 | 835.5 | 815.7 | 812.0 | 792.9 | 766.1 | 741.0 | 715.9 |
| 7.5° | 965.1 | 960.8 | 952.2 | 936.3 | 905.6 | 873.8 | 870.9 | 843.8 | 805.8 | 769.4 | 733.4 |
| 10° | 1042.4 | 1039.8 | 1028.5 | 1004.4 | 968.4 | 932.3 | 928.7 | 895.3 | 852.4 | 807.7 | 761.8 |
| 12.5° | 1102.6 | 1100.6 | 1085.7 | 1055.6 | 1017.3 | 979.9 | 975.0 | 945.2 | 899.3 | 849.4 | 795.2 |
| 15° | 1139.2 | 1138.2 | 1120.1 | 1088.0 | 1050.3 | 1017.9 | 1013.7 | 987.5 | 944.9 | 892.7 | 831.5 |
| 17.5° | 1147.8 | 1148.2 | 1129.3 | 1096.9 | 1065.9 | 1042.7 | 1039.4 | 1019.6 | 983.9 | 932.0 | 867.9 |
| 20° | 1128.7 | 1132.6 | 1115.8 | 1087.7 | 1068.5 | 1056.3 | 1053.6 | 1041.7 | 1011.7 | 962.8 | 897.0 |
| 22.5° | 1101.6 | 1103.5 | 1092.0 | 1073.1 | 1065.2 | 1067.5 | 1066.2 | 1059.6 | 1034.1 | 989.2 | 925.7 |
| 25° | 1085.0 | 1085.0 | 1078.1 | 1062.2 | 1067.5 | 1081.7 | 1082.1 | 1080.7 | 1060.6 | 1021.6 | 960.8 |
| 27.5° | 1084.4 | 1082.4 | 1074.5 | 1062.6 | 1077.1 | 1098.9 | 1100.2 | 1109.2 | 1096.6 | 1060.9 | 1004.4 |
| 30° | 1110.8 | 1108.5 | 1091.6 | 1076.1 | 1094.6 | 1118.1 | 1121.4 | 1140.9 | 1134.6 | 1103.5 | 1053.0 |
| 32.5° | 1172.6 | 1164.4 | 1127.0 | 1101.6 | 1115.4 | 1143.5 | 1147.8 | 1178.9 | 1188.8 | 1156.1 | 1099.9 |
| 35° | 1257.2 | 1231.1 | 1177.2 | 1149.8 | 1151.1 | 1180.6 | 1184.5 | 1230.1 | 1259.5 | 1204.4 | 1136.3 |
| 37.5° | 1373.9 | 1361.0 | 1273.4 | 1200.1 | 1206.0 | 1250.6 | 1262.2 | 1311.8 | 1303.5 | 1230.8 | 1177.6 |
| 40° | 1629.7 | 1609.5 | 1516.3 | 1340.8 | 1258.6 | 1307.5 | 1311.1 | 1337.5 | 1338.2 | 1290.6 | 1263.5 |
| 42.5° | 1978.1 | 1969.8 | 1871.6 | 1596.3 | 1362.0 | 1345.5 | 1352.1 | 1396.7 | 1446.6 | 1416.9 | 1415.5 |
| 45° | 2363.8 | 2359.5 | 2255.3 | 1935.4 | 1571.2 | 1470.1 | 1478.3 | 1538.2 | 1633.7 | 1640.3 | 1682.3 |
| 47.5° | 2674.1 | 2672.1 | 2612.3 | 2313.8 | 1891.5 | 1681.3 | 1683.9 | 1747.4 | 1915.3 | 1998.2 | 2065.3 |
| 50° | 2957.0 | 2966.6 | 2919.3 | 2723.3 | 2327.7 | 2012.1 | 2005.8 | 2048.1 | 2317.8 | 2453.6 | 2536.9 |
| 52.5° | 3350.3 | 3363.9 | 3231.3 | 3105.4 | 2785.5 | 2422.6 | 2417.6 | 2461.9 | 2801.7 | 2903.5 | 2918.3 |
| 55° | 3697.7 | 3674.5 | 3569.8 | 3533.4 | 3343.7 | 2929.6 | 2928.3 | 2967.2 | 3269.7 | 3313.0 | 3340.4 |
| 57.5° | 3851.0 | 3842.1 | 3892.7 | 3975.9 | 3928.4 | 3528.8 | 3525.8 | 3496.1 | 3688.4 | 3693.0 | 3777.3 |
| 60° | 3947.9 | 3958.8 | 4113.8 | 4370.6 | 4489.2 | 4173.6 | 4154.4 | 3973.0 | 4088.3 | 4078.1 | 4168.3 |
| 62.5° | 3875.1 | 3896.6 | 4175.6 | 4603.6 | 4909.0 | 4736.4 | 4709.3 | 4409.9 | 4430.1 | 4394.7 | 4478.6 |
| 65° | 3489.1 | 3522.5 | 3979.6 | 4559.6 | 5117.2 | 5176.3 | 5148.9 | 4795.6 | 4701.4 | 4643.2 | 4596.6 |
| 67.5° | 2833.1 | 2852.9 | 3330.1 | 4177.2 | 5023.3 | 5438.7 | 5433.1 | 5133.7 | 4906.3 | 4601.3 | 4239.7 |
| 69° | 2341.3 | 2360.8 | 2820.2 | 3774.7 | 4816.7 | 5494.9 | 5505.8 | 5242.1 | 4867.3 | 4346.1 | 3756.5 |
| 70° | 1983.0 | 2003.8 | 2431.8 | 3429.6 | 4577.1 | 5468.8 | 5488.3 | 5231.9 | 4755.6 | 4050.6 | 3332.5 |
| 72.5° | 1040.1 | 1057.9 | 1497.2 | 2362.8 | 3731.4 | 5021.7 | 5080.8 | 4789.6 | 4031.1 | 2941.8 | 1970.5 |
| 75° | 326.9 | 337.1 | 584.7 | 1235.1 | 2554.8 | 3904.6 | 3918.1 | 3757.2 | 2862.5 | 1618.1 | 820.6 |
| 77.5° | 124.6 | 121.6 | 194.7 | 455.1 | 1291.6 | 2458.6 | 2541.6 | 2347.9 | 1502.1 | 572.1 | 189.4 |
| 80° | 67.1 | 67.4 | 101.1 | 188.4 | 552.6 | 1263.5 | 1333.6 | 1137.9 | 533.8 | 178.5 | 43.6 |
| 82.5° | 29.1 | 30.4 | 56.8 | 99.8 | 253.8 | 466.0 | 501.0 | 417.1 | 203.9 | 120.0 | 16.2 |
| 85° | 6.3 | 6.9 | 27.4 | 54.2 | 103.4 | 130.9 | 137.2 | 135.2 | 129.9 | 93.2 | 6.3 |
| 87.5° | 0.0 | 0.0 | 12.2 | 19.5 | 26.1 | 29.7 | 26.1 | 34.0 | 71.7 | 62.8 | 3.3 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



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 CATALOG NUMBER: GPC-SA2A-740-U-T4W-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 0° | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 | 706.3 |
| 2.5° | 706.9 | 701.0 | 690.7 | 679.5 | 671.6 | 663.3 | 656.7 | 653.7 | 650.4 | 648.1 | 651.1 |
| 5° | 705.6 | 694.1 | 674.2 | 655.1 | 641.2 | 629.9 | 620.7 | 617.0 | 613.4 | 610.8 | 610.4 |
| 7.5° | 717.2 | 701.0 | 670.6 | 642.5 | 621.0 | 605.8 | 593.3 | 588.0 | 583.7 | 581.7 | 580.0 |
| 10° | 739.3 | 718.5 | 677.9 | 641.2 | 613.4 | 587.6 | 560.5 | 539.7 | 526.2 | 519.9 | 517.6 |
| 12.5° | 768.1 | 742.0 | 691.7 | 648.1 | 607.8 | 558.2 | 500.7 | 451.1 | 419.1 | 408.5 | 402.2 |
| 15° | 801.8 | 769.4 | 709.9 | 657.0 | 587.3 | 496.7 | 399.2 | 334.5 | 304.7 | 298.8 | 292.2 |
| 17.5° | 834.2 | 798.5 | 731.7 | 658.7 | 542.4 | 396.9 | 292.5 | 248.5 | 237.0 | 240.9 | 241.9 |
| 20° | 862.6 | 827.2 | 753.2 | 644.1 | 460.7 | 297.8 | 226.4 | 215.5 | 219.8 | 227.4 | 228.7 |
| 22.5° | 891.4 | 855.0 | 773.0 | 605.8 | 356.3 | 226.1 | 203.9 | 206.6 | 210.9 | 218.5 | 219.8 |
| 25° | 926.4 | 888.7 | 791.6 | 535.4 | 267.4 | 192.4 | 193.7 | 197.6 | 201.9 | 208.9 | 209.5 |
| 27.5° | 966.7 | 931.4 | 803.8 | 443.9 | 198.3 | 176.8 | 181.1 | 187.1 | 191.4 | 198.0 | 199.3 |
| 30° | 1020.3 | 987.5 | 807.7 | 349.0 | 166.2 | 162.9 | 164.9 | 172.2 | 178.5 | 184.4 | 185.4 |
| 32.5° | 1070.5 | 1043.1 | 794.5 | 263.4 | 154.0 | 150.0 | 150.0 | 154.3 | 161.6 | 167.2 | 168.6 |
| 35° | 1116.8 | 1098.9 | 752.2 | 192.7 | 144.8 | 138.1 | 134.8 | 134.8 | 139.5 | 144.1 | 145.4 |
| 37.5° | 1177.9 | 1177.2 | 683.8 | 153.7 | 135.8 | 128.2 | 121.3 | 116.0 | 114.4 | 115.3 | 116.0 |
| 40° | 1282.7 | 1283.7 | 594.6 | 137.8 | 128.2 | 118.0 | 107.4 | 97.8 | 88.9 | 85.9 | 85.6 |
| 42.5° | 1446.3 | 1431.4 | 501.0 | 130.2 | 121.6 | 107.4 | 91.5 | 78.7 | 64.8 | 60.5 | 60.2 |
| 45° | 1706.1 | 1617.8 | 401.9 | 123.3 | 114.7 | 95.5 | 75.7 | 58.2 | 46.9 | 43.6 | 43.6 |
| 47.5° | 2084.5 | 1862.7 | 311.3 | 115.7 | 105.4 | 82.0 | 57.2 | 42.0 | 34.4 | 32.7 | 33.1 |
| 50° | 2475.8 | 2102.7 | 238.6 | 106.1 | 94.2 | 67.8 | 42.3 | 30.4 | 26.1 | 26.1 | 26.4 |
| 52.5° | 2822.8 | 2278.5 | 186.1 | 95.8 | 80.3 | 53.2 | 32.1 | 23.8 | 21.8 | 21.5 | 21.8 |
| 55° | 3147.7 | 2391.8 | 142.4 | 83.9 | 63.8 | 39.7 | 24.5 | 19.5 | 18.2 | 17.5 | 17.2 |
| 57.5° | 3461.0 | 2448.0 | 106.8 | 67.8 | 46.3 | 28.8 | 19.5 | 16.5 | 15.2 | 14.2 | 13.9 |
| 60° | 3669.6 | 2402.4 | 73.4 | 49.9 | 32.1 | 20.8 | 16.2 | 14.2 | 12.6 | 11.6 | 11.2 |
| 62.5° | 3787.2 | 2277.8 | 47.3 | 36.0 | 22.8 | 15.5 | 12.9 | 11.9 | 9.6 | 8.6 | 8.6 |
| 65° | 3739.6 | 2072.2 | 33.1 | 25.8 | 16.5 | 11.6 | 9.6 | 9.6 | 6.9 | 5.6 | 5.3 |
| 67.5° | 3313.9 | 1750.7 | 25.1 | 19.2 | 11.9 | 8.6 | 7.3 | 8.3 | 4.3 | 2.6 | 2.6 |
| 69° | 2851.2 | 1450.9 | 21.5 | 15.9 | 9.9 | 6.9 | 6.3 | 7.6 | 3.0 | 2.0 | 1.7 |
| 70° | 2478.1 | 1251.6 | 19.5 | 13.9 | 8.3 | 5.9 | 5.6 | 7.3 | 3.0 | 1.7 | 1.3 |
| 72.5° | 1482.6 | 698.0 | 14.9 | 9.9 | 5.3 | 4.6 | 4.6 | 8.3 | 3.0 | 1.7 | 1.3 |
| 75° | 599.2 | 245.9 | 10.9 | 6.9 | 4.0 | 4.0 | 5.6 | 10.6 | 2.6 | 1.3 | 1.0 |
| 77.5° | 135.8 | 53.9 | 6.3 | 4.3 | 2.6 | 4.0 | 6.6 | 8.3 | 1.7 | 0.7 | 0.0 |
| 80° | 33.1 | 13.2 | 4.0 | 2.6 | 1.7 | 3.0 | 5.0 | 4.6 | 0.3 | 0.0 | 0.0 |
| 82.5° | 10.9 | 4.6 | 1.7 | 1.3 | 0.3 | 1.0 | 2.3 | 1.3 | 0.0 | 0.0 | 0.0 |
| 85° | 4.6 | 2.6 | 0.7 | 0.3 | 0.0 | 0.0 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 3.0 | 1.0 | 0.0 | 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 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



Test Information

Test Method: LM-79-08
 Report Number: SP1-2101-121-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/05/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-740-U-T3R-HSS**
 Description: STREETWORKS INF FLOOD

SHIELD, DRIVER PROGRAMMED @ 615mA.

Spectral Parameters

| | | | | | |
|---------------------------|---------|-----------|------|------|-------|
| CCT (K): | 3905 | CRI (Ra): | 71.2 | R9: | -29.7 |
| CIE u': | 0.2273 | R1: | 68.9 | R10: | 46.2 |
| CIE v': | 0.5024 | R2: | 77.0 | R11: | 68.8 |
| Duv: | -0.0008 | R3: | 84.0 | R12: | 45.6 |
| CIE x: | 0.3841 | R4: | 71.6 | R13: | 69.5 |
| CIE y: | 0.3774 | R5: | 68.9 | R14: | 90.7 |
| CIE z: | 0.2385 | R6: | 68.3 | | |
| Peak Wavelength (nm): | 443 | R7: | 78.7 | | |
| Dominant Wavelength (nm): | 579 | R8: | 52.2 | | |
| Purity: | 28.7 | | | | |
| Rf: | 71.7 | | | | |
| Rg: | 96.9 | | | | |



Test Conditions

Stabilization Time: 211M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.8/312%
 Sphere Temperature (°C): 24.1

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| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 1/31/2021 | 7/31/2021 |
| Power Meter | IN0071 | 12/1/2020 | 12/1/2021 |
| AC Power Source | IN0063 | 12/1/2020 | 12/1/2021 |
| DC Power Source | IN0208 | 12/1/2020 | 12/1/2021 |
| Sphere Thermometer | IN0085 | 12/1/2020 | 12/1/2021 |
| Room Thermometer | IN0046 | 12/1/2020 | 12/1/2021 |

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CIE 1931 Chromaticity Diagram



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



CCT = 3905K
 CIE x = 0.3841
 CIE y = 0.3774
 Duv = -0.0008

Point lies inside the ANSI 4000K 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 | 2304 | 0.0 | 490 | 19043 | 2.7 | 620 | 97577 | 25.4 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 4.8 | 625 | 90158 | 19.9 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 8.0 | 630 | 82240 | 14.9 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 13.3 | 635 | 74361 | 11.2 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 20.2 | 640 | 66994 | 8.0 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 28.5 | 645 | 60405 | 5.8 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 37.4 | 650 | 53806 | 3.9 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 44.9 | 655 | 47610 | 2.7 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 52.6 | 660 | 42018 | 1.8 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.0 | 535 | 94097 | 58.4 | 665 | 36742 | 1.2 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.0 | 540 | 96845 | 63.1 | 670 | 32105 | 0.7 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.0 | 545 | 100829 | 67.1 | 675 | 27946 | 0.5 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 0.1 | 550 | 105648 | 71.8 | 680 | 24146 | 0.3 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 0.2 | 555 | 110017 | 75.1 | 685 | 21191 | 0.2 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 0.5 | 560 | 114586 | 77.9 | 690 | 18544 | 0.1 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 1.2 | 565 | 118987 | 79.1 | 695 | 16058 | 0.1 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 2.1 | 570 | 122326 | 79.5 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 2.9 | 575 | 125968 | 78.4 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 2.7 | 580 | 127613 | 75.8 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 2.0 | 585 | 129466 | 71.9 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 1.5 | 590 | 128813 | 66.6 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 1.3 | 595 | 126387 | 59.9 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 1.0 | 600 | 123477 | 53.2 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 1.1 | 605 | 118718 | 46.0 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 1.2 | 610 | 112091 | 38.5 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 1.7 | 615 | 105039 | 31.7 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-2

Scotopic Flux vs. Wavelength



Scotopic Lumens: 10425.8 S/P: 1.47

| 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 | 2304 | 0.0 | 490 | 19043 | 29.3 | 620 | 97577 | 1.2 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 43.0 | 625 | 90158 | 0.8 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 60.8 | 630 | 82240 | 0.5 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 81.1 | 635 | 74361 | 0.3 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 99.6 | 640 | 66994 | 0.2 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 113.9 | 645 | 60405 | 0.1 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 122.6 | 650 | 53806 | 0.1 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 125.0 | 655 | 47610 | 0.0 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 123.1 | 660 | 42018 | 0.0 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.1 | 535 | 94097 | 117.3 | 665 | 36742 | 0.0 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.2 | 540 | 96845 | 107.0 | 670 | 32105 | 0.0 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.9 | 545 | 100829 | 96.7 | 675 | 27946 | 0.0 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 3.0 | 550 | 105648 | 86.4 | 680 | 24146 | 0.0 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 9.3 | 555 | 110017 | 75.2 | 685 | 21191 | 0.0 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 23.0 | 560 | 114586 | 64.0 | 690 | 18544 | 0.0 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 45.7 | 565 | 118987 | 53.4 | 695 | 16058 | 0.0 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 75.5 | 570 | 122326 | 43.2 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 93.8 | 575 | 125968 | 34.3 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 79.3 | 580 | 127613 | 26.3 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 51.3 | 585 | 129466 | 19.8 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 35.6 | 590 | 128813 | 14.3 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 26.0 | 595 | 126387 | 10.1 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 19.3 | 600 | 123477 | 7.0 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 16.8 | 605 | 118718 | 4.7 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 17.7 | 610 | 112091 | 3.0 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 21.4 | 615 | 105039 | 1.9 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: 3927.2 M/P: 0.55

| 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 | 2304 | 0.0 | 490 | 19043 | 15.8 | 620 | 97577 | 0.1 | 750 | 4830 | 0.0 | 880 | 3505 | 0.0 |
| 365 | 2150 | 0.0 | 495 | 26606 | 22.0 | 625 | 90158 | 0.0 | 755 | 4664 | 0.0 | 885 | 2991 | 0.0 |
| 370 | 2146 | 0.0 | 500 | 36376 | 29.2 | 630 | 82240 | 0.0 | 760 | 4006 | 0.0 | 890 | 2327 | 0.0 |
| 375 | 2332 | 0.0 | 505 | 47714 | 36.6 | 635 | 74361 | 0.0 | 765 | 3715 | 0.0 | 895 | 2775 | 0.0 |
| 380 | 2527 | 0.0 | 510 | 58741 | 42.2 | 640 | 66994 | 0.0 | 770 | 3696 | 0.0 | 900 | 2141 | 0.0 |
| 385 | 2304 | 0.0 | 515 | 68716 | 44.9 | 645 | 60405 | 0.0 | 775 | 3117 | 0.0 | 905 | 2421 | 0.0 |
| 390 | 2064 | 0.0 | 520 | 77136 | 44.9 | 650 | 53806 | 0.0 | 780 | 3062 | 0.0 | 910 | 2200 | 0.0 |
| 395 | 1856 | 0.0 | 525 | 83567 | 42.4 | 655 | 47610 | 0.0 | 785 | 2907 | 0.0 | 915 | 2716 | 0.0 |
| 400 | 1856 | 0.0 | 530 | 89283 | 38.6 | 660 | 42018 | 0.0 | 790 | 2655 | 0.0 | 920 | 2656 | 0.0 |
| 405 | 2374 | 0.0 | 535 | 94097 | 33.9 | 665 | 36742 | 0.0 | 795 | 2467 | 0.0 | 925 | 2671 | 0.0 |
| 410 | 4084 | 0.2 | 540 | 96845 | 28.3 | 670 | 32105 | 0.0 | 800 | 2609 | 0.0 | 930 | 3292 | 0.0 |
| 415 | 8543 | 0.6 | 545 | 100829 | 23.4 | 675 | 27946 | 0.0 | 805 | 2293 | 0.0 | 935 | 3188 | 0.0 |
| 420 | 18394 | 2.1 | 550 | 105648 | 19.0 | 680 | 24146 | 0.0 | 810 | 2188 | 0.0 | 940 | 1997 | 0.0 |
| 425 | 37987 | 5.9 | 555 | 110017 | 14.8 | 685 | 21191 | 0.0 | 815 | 2386 | 0.0 | 945 | 2623 | 0.0 |
| 430 | 67605 | 14.3 | 560 | 114586 | 11.3 | 690 | 18544 | 0.0 | 820 | 2712 | 0.0 | 950 | 2969 | 0.0 |
| 435 | 102160 | 27.3 | 565 | 118987 | 8.4 | 695 | 16058 | 0.0 | 825 | 2473 | 0.0 | 955 | 2277 | 0.0 |
| 440 | 135103 | 45.1 | 570 | 122326 | 6.0 | 700 | 14133 | 0.0 | 830 | 1969 | 0.0 | 960 | 4267 | 0.0 |
| 445 | 140126 | 55.3 | 575 | 125968 | 4.2 | 705 | 12309 | 0.0 | 835 | 1917 | 0.0 | 965 | 2034 | 0.0 |
| 450 | 102339 | 47.2 | 580 | 127613 | 2.9 | 710 | 11142 | 0.0 | 840 | 2248 | 0.0 | 970 | 3586 | 0.0 |
| 455 | 58751 | 30.8 | 585 | 129466 | 1.9 | 715 | 10143 | 0.0 | 845 | 2266 | 0.0 | 975 | 2505 | 0.0 |
| 460 | 36892 | 21.7 | 590 | 128813 | 1.3 | 720 | 9072 | 0.0 | 850 | 2558 | 0.0 | 980 | 2666 | 0.0 |
| 465 | 24637 | 16.1 | 595 | 126387 | 0.8 | 725 | 8130 | 0.0 | 855 | 2767 | 0.0 | 985 | 2934 | 0.0 |
| 470 | 16738 | 12.0 | 600 | 123477 | 0.5 | 730 | 7149 | 0.0 | 860 | 2826 | 0.0 | 990 | 4120 | 0.0 |
| 475 | 13456 | 10.3 | 605 | 118718 | 0.3 | 735 | 6311 | 0.0 | 865 | 2385 | 0.0 | 995 | 3858 | 0.0 |
| 480 | 13081 | 10.5 | 610 | 112091 | 0.2 | 740 | 5711 | 0.0 | 870 | 3194 | 0.0 | 1000 | 3405 | 0.0 |
| 485 | 14734 | 12.1 | 615 | 105039 | 0.1 | 745 | 5111 | 0.0 | 875 | 3189 | 0.0 | | | |

Summary

$R_f = 71.7$
 $R_g = 96.9$
 CIE $R_a = 71.2$
 $R_g = -29.7$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 55 | CES51 = 86 | CES76 = 45 |
| CES02 = 61 | CES27 = 80 | CES52 = 87 | CES77 = 68 |
| CES03 = 30 | CES28 = 79 | CES53 = 74 | CES78 = 49 |
| CES04 = 70 | CES29 = 51 | CES54 = 81 | CES79 = 77 |
| CES05 = 47 | CES30 = 60 | CES55 = 80 | CES80 = 75 |
| CES06 = 50 | CES31 = 56 | CES56 = 69 | CES81 = 75 |
| CES07 = 40 | CES32 = 52 | CES57 = 67 | CES82 = 90 |
| CES08 = 39 | CES33 = 62 | CES58 = 69 | CES83 = 85 |
| CES09 = 29 | CES34 = 65 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 81 | CES60 = 91 | CES85 = 83 |
| CES11 = 57 | CES36 = 92 | CES61 = 85 | CES86 = 72 |
| CES12 = 63 | CES37 = 74 | CES62 = 81 | CES87 = 77 |
| CES13 = 42 | CES38 = 69 | CES63 = 72 | CES88 = 77 |
| CES14 = 74 | CES39 = 92 | CES64 = 69 | CES89 = 72 |
| CES15 = 71 | CES40 = 86 | CES65 = 64 | CES90 = 75 |
| CES16 = 46 | CES41 = 84 | CES66 = 63 | CES91 = 91 |
| CES17 = 49 | CES42 = 75 | CES67 = 60 | CES92 = 66 |
| CES18 = 56 | CES43 = 70 | CES68 = 67 | CES93 = 80 |
| CES19 = 72 | CES44 = 98 | CES69 = 77 | CES94 = 56 |
| CES20 = 65 | CES45 = 80 | CES70 = 57 | CES95 = 72 |
| CES21 = 86 | CES46 = 77 | CES71 = 53 | CES96 = 78 |
| CES22 = 78 | CES47 = 74 | CES72 = 84 | CES97 = 83 |
| CES23 = 92 | CES48 = 66 | CES73 = 47 | CES98 = 73 |
| CES24 = 91 | CES49 = 76 | CES74 = 96 | CES99 = 63 |
| CES25 = 72 | CES50 = 85 | CES75 = 52 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)