

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: P385490

Luminaire Tested: **GPC-SA1A-735-U-SL3-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P385490
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: GPC-SA1A-735-U-SL3-HSS
Description: GALLEON PEDESTRIAN LUMINAIRE
(1) 70 CRI, 3500K, 615mA LIGHTSQUARE WITH 16 LEDS 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: 3994.3 lumens
Efficiency: N/A
Efficacy: 117.5 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium
BUG Rating: B1 - U0 - G1

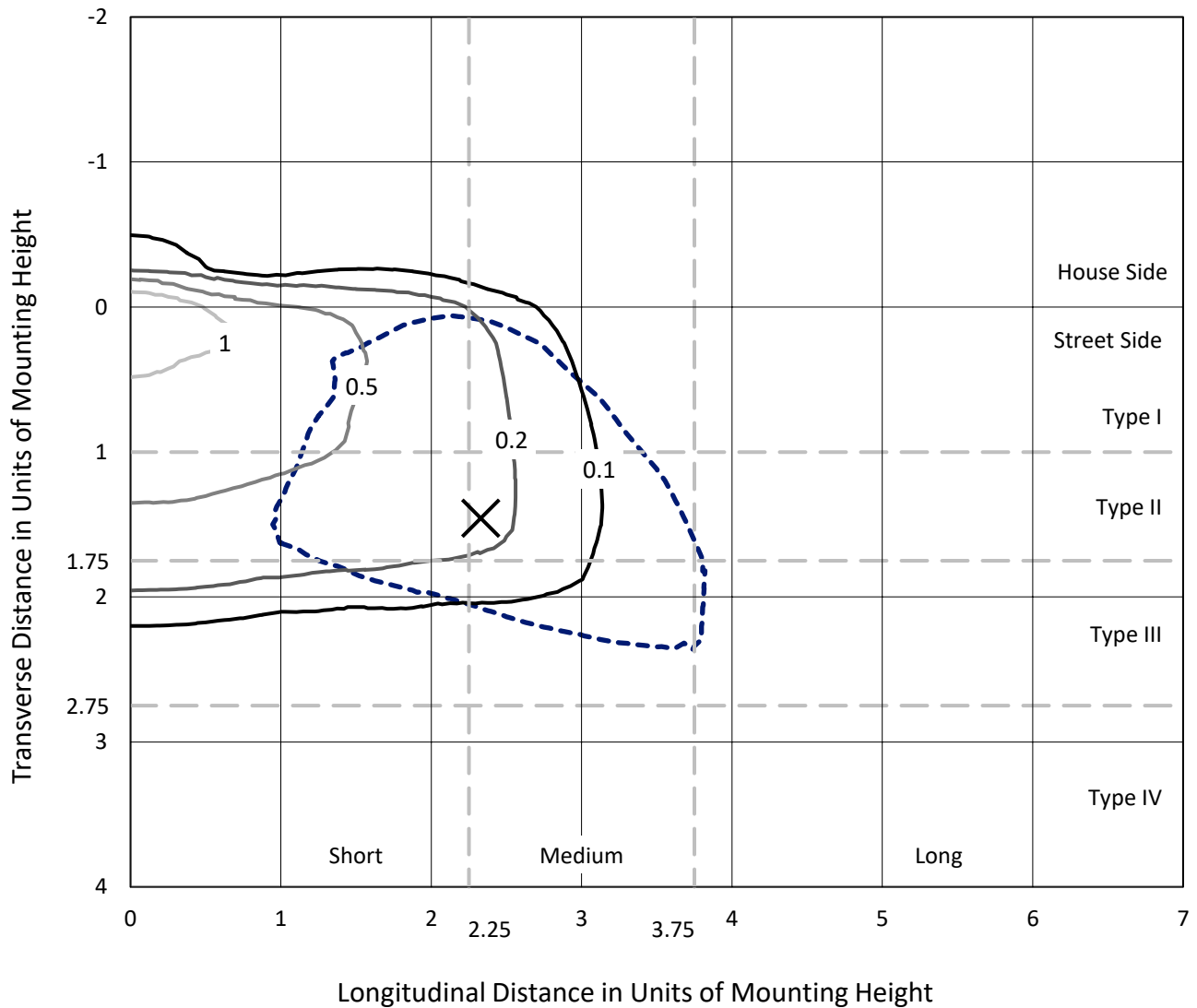
Input Watts (W): 34
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

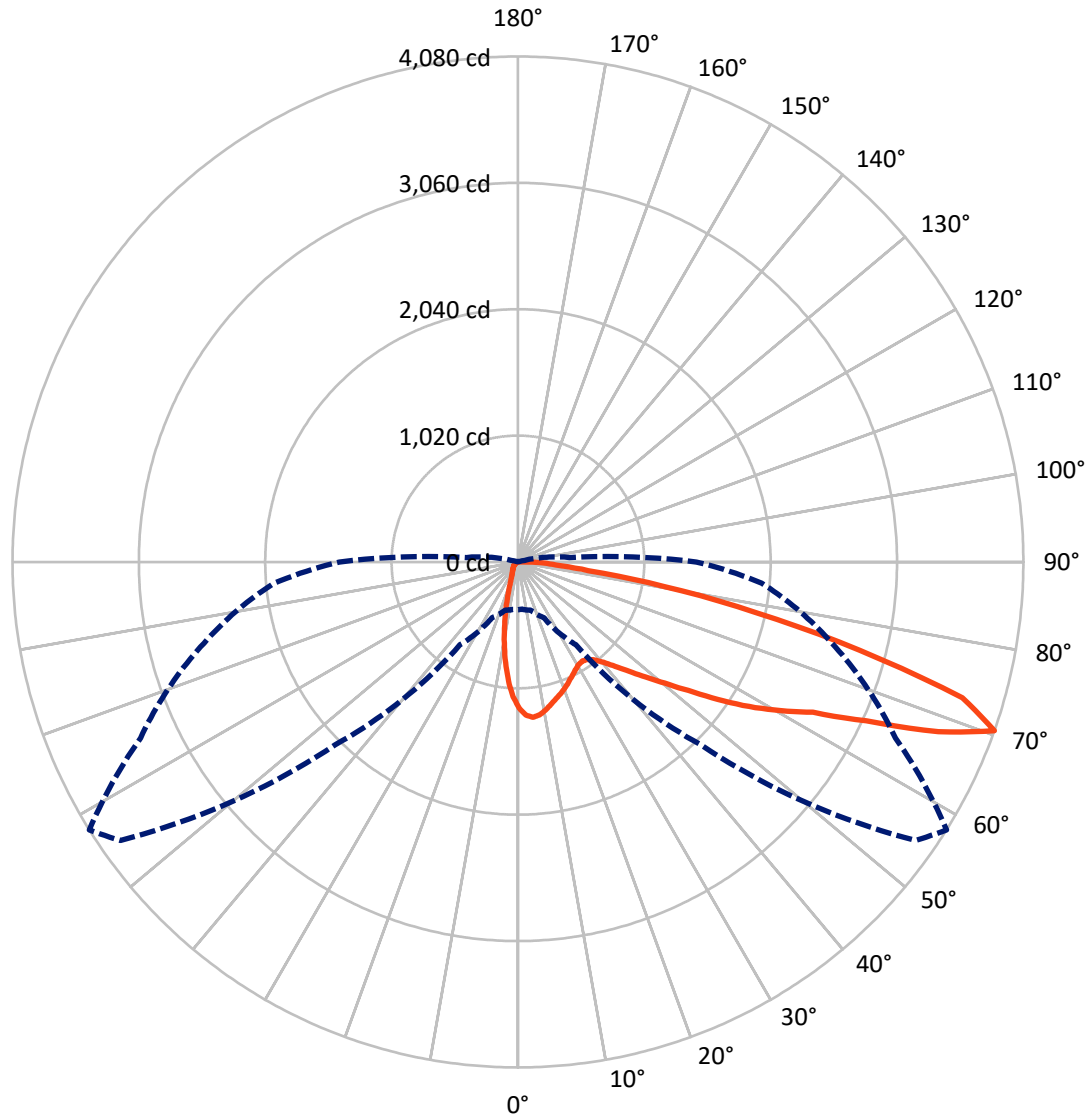
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 1.9 fc
 Type III - Medium - N/A

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Luminous Intensity Polar Plot



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

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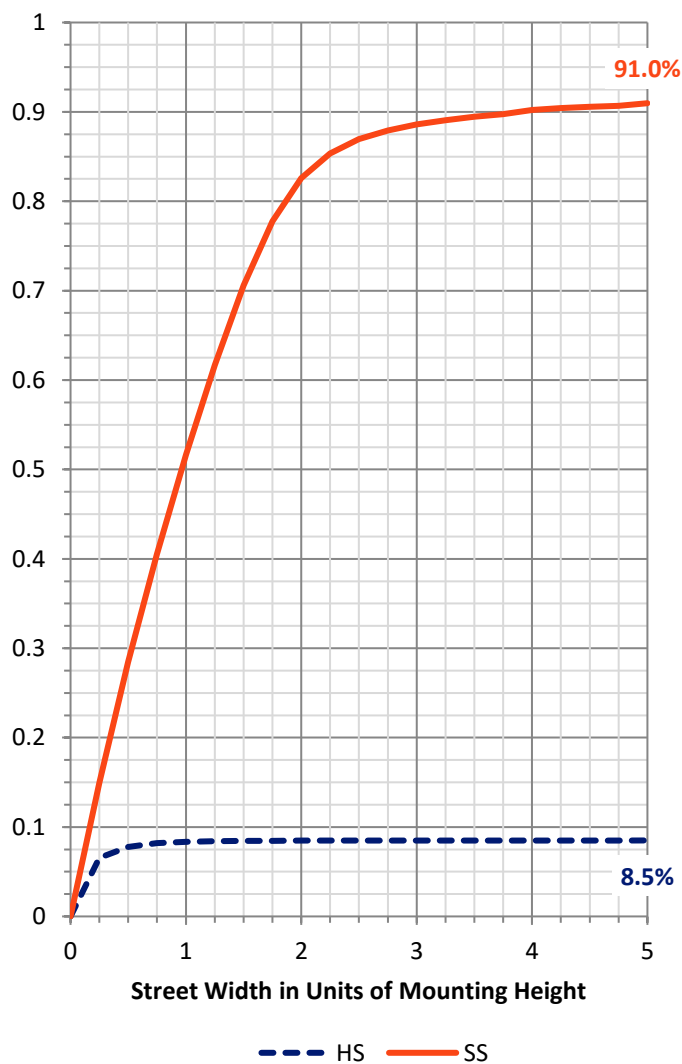
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 341.8 | 0.0 | 341.8 |
| | % Fixture | 8.6 | 0.0 | 8.6 |
| Street Side | Lumens | 3652.5 | 0.0 | 3652.5 |
| | % Fixture | 91.4 | 0.0 | 91.4 |
| Total | Lumens | 3994.3 | 0.0 | 3994.3 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 96.5 | 2.4 |
| 10°-20° | 202.5 | 5.1 |
| 20°-30° | 266.2 | 6.7 |
| 30°-40° | 352.6 | 8.8 |
| 40°-50° | 527.0 | 13.2 |
| 50°-60° | 844.2 | 21.1 |
| 60°-70° | 1064.1 | 26.6 |
| 70°-80° | 574.0 | 14.4 |
| 80°-90° | 67.2 | 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° | 3994.3 | 100.0 |
| 0°-180° | 3994.3 | 100.0 |

Coefficient of Utilization



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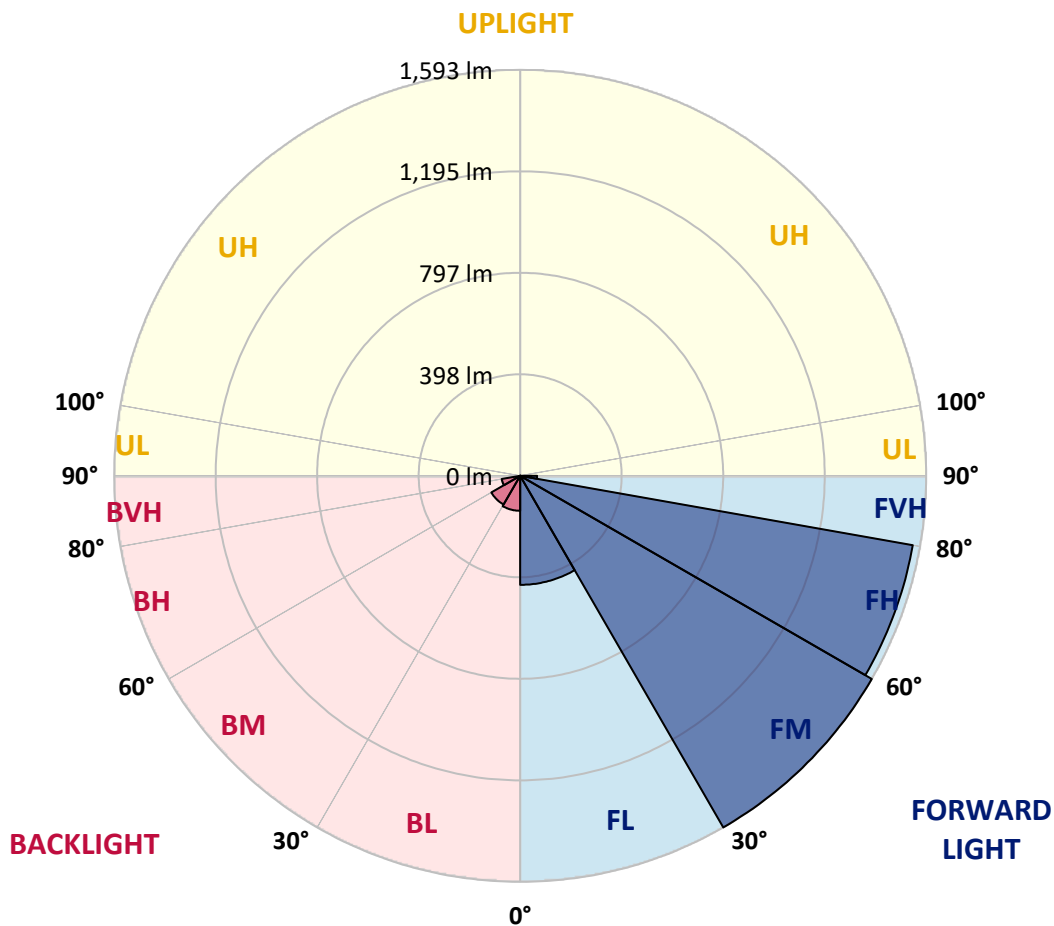
CATALOG NUMBER: GPC-SA1A-735-U-SL3-HSS

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|------|---------|
| | | | B | U | G |
| FL (0°-30°) | 427.9 | 10.7 | | | |
| FM (30°-60°) | 1593.4 | 39.9 | | | |
| FH (60°-80°) | 1564.6 | 39.2 | | | G1/1800 |
| FVH (80°-90°) | 66.6 | 1.7 | | | G1/100 |
| BL (0°-30°) | 137.3 | 3.4 | B1/500 | | |
| BM (30°-60°) | 130.4 | 3.3 | B0/220 | | |
| BH (60°-80°) | 73.5 | 1.8 | B0/110 | | G0/110 |
| 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-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 58° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 |
| 2.5° | 1277.8 | 1274.6 | 1273.4 | 1271.4 | 1263.8 | 1256.3 | 1241.5 | 1237.4 | 1228.1 | 1206.0 | 1182.5 |
| 5° | 1278.7 | 1278.5 | 1282.1 | 1281.2 | 1278.5 | 1275.0 | 1264.4 | 1259.0 | 1243.2 | 1211.6 | 1168.8 |
| 7.5° | 1217.1 | 1220.3 | 1228.1 | 1234.4 | 1241.7 | 1251.2 | 1252.5 | 1247.1 | 1234.2 | 1200.2 | 1143.3 |
| 10° | 1134.4 | 1139.4 | 1150.3 | 1162.8 | 1181.9 | 1200.8 | 1217.7 | 1217.1 | 1212.7 | 1179.0 | 1112.8 |
| 12.5° | 1051.6 | 1057.3 | 1070.0 | 1088.4 | 1115.4 | 1146.3 | 1176.6 | 1180.7 | 1188.2 | 1160.2 | 1084.5 |
| 15° | 978.9 | 983.9 | 996.4 | 1019.0 | 1052.5 | 1094.0 | 1138.4 | 1146.1 | 1165.3 | 1145.3 | 1061.0 |
| 17.5° | 917.3 | 920.5 | 929.6 | 954.7 | 993.5 | 1043.9 | 1101.5 | 1116.5 | 1145.2 | 1133.8 | 1040.6 |
| 20° | 874.3 | 874.8 | 880.8 | 898.3 | 937.2 | 993.5 | 1063.3 | 1084.7 | 1123.9 | 1123.8 | 1019.4 |
| 22.5° | 853.1 | 851.4 | 852.5 | 862.6 | 891.2 | 945.5 | 1025.1 | 1050.5 | 1104.8 | 1115.2 | 998.0 |
| 25° | 849.0 | 847.7 | 844.4 | 845.7 | 863.0 | 903.5 | 986.6 | 1016.0 | 1088.0 | 1110.2 | 979.4 |
| 27.5° | 861.5 | 862.8 | 857.2 | 851.2 | 852.5 | 876.3 | 952.4 | 986.4 | 1074.4 | 1110.2 | 966.3 |
| 30° | 886.6 | 887.3 | 883.1 | 875.3 | 864.8 | 868.7 | 928.6 | 962.7 | 1067.6 | 1117.8 | 958.0 |
| 32.5° | 914.3 | 918.0 | 917.5 | 911.2 | 896.2 | 880.8 | 923.0 | 954.0 | 1067.2 | 1134.7 | 957.1 |
| 35° | 948.7 | 952.8 | 959.9 | 958.5 | 942.9 | 917.5 | 942.2 | 966.6 | 1076.9 | 1162.6 | 966.2 |
| 37.5° | 985.2 | 991.5 | 1006.5 | 1013.6 | 1003.6 | 974.8 | 985.4 | 1002.8 | 1103.1 | 1207.8 | 988.9 |
| 40° | 1020.7 | 1027.8 | 1055.0 | 1083.0 | 1075.4 | 1045.8 | 1050.8 | 1064.8 | 1149.8 | 1272.8 | 1032.1 |
| 42.5° | 1055.3 | 1065.9 | 1105.9 | 1152.2 | 1161.3 | 1137.7 | 1140.3 | 1151.5 | 1219.1 | 1362.1 | 1102.7 |
| 45° | 1096.8 | 1108.8 | 1168.1 | 1225.1 | 1249.5 | 1239.2 | 1250.5 | 1257.8 | 1309.6 | 1480.2 | 1197.8 |
| 47.5° | 1157.8 | 1171.6 | 1244.3 | 1309.3 | 1352.2 | 1358.7 | 1381.6 | 1386.4 | 1424.0 | 1617.7 | 1321.9 |
| 50° | 1276.7 | 1280.6 | 1346.3 | 1405.2 | 1467.1 | 1506.9 | 1532.8 | 1536.5 | 1562.6 | 1768.0 | 1476.8 |
| 52.5° | 1426.4 | 1428.9 | 1466.1 | 1505.6 | 1575.8 | 1657.3 | 1717.9 | 1723.0 | 1728.5 | 1914.5 | 1629.8 |
| 55° | 1575.0 | 1574.7 | 1599.3 | 1622.5 | 1702.9 | 1821.2 | 1952.7 | 1955.9 | 1916.5 | 2053.5 | 1746.8 |
| 57.5° | 1667.9 | 1676.8 | 1714.2 | 1744.1 | 1856.3 | 2008.0 | 2190.6 | 2202.2 | 2114.0 | 2156.5 | 1862.3 |
| 60° | 1638.3 | 1642.6 | 1725.5 | 1836.1 | 2047.5 | 2273.6 | 2431.2 | 2434.2 | 2262.4 | 2259.3 | 2008.5 |
| 62.5° | 1395.8 | 1398.1 | 1528.4 | 1756.4 | 2144.4 | 2618.1 | 2721.5 | 2672.9 | 2433.2 | 2401.9 | 2183.4 |
| 65° | 956.7 | 971.8 | 1080.6 | 1362.4 | 1966.5 | 2834.2 | 3171.0 | 3090.4 | 2693.4 | 2607.6 | 2341.5 |
| 67.5° | 563.4 | 560.3 | 614.0 | 821.7 | 1444.3 | 2690.6 | 3739.5 | 3659.4 | 3048.4 | 2745.3 | 2295.2 |
| 70° | 384.9 | 382.7 | 403.3 | 497.4 | 815.3 | 2087.2 | 3918.4 | 4080.0 | 3361.8 | 2652.6 | 1975.3 |
| 72.5° | 274.7 | 275.9 | 306.2 | 386.5 | 511.9 | 1216.1 | 3369.6 | 3752.1 | 3263.6 | 2312.5 | 1501.4 |
| 75° | 186.6 | 189.7 | 233.2 | 317.0 | 448.7 | 618.7 | 2391.2 | 2852.3 | 2657.6 | 1680.7 | 863.0 |
| 77.5° | 100.3 | 103.8 | 155.1 | 255.4 | 405.7 | 429.9 | 1538.2 | 1963.1 | 1669.4 | 755.6 | 250.2 |
| 80° | 41.9 | 43.9 | 72.6 | 185.7 | 350.6 | 377.5 | 905.0 | 1190.4 | 711.4 | 149.0 | 55.8 |
| 82.5° | 18.1 | 19.1 | 30.2 | 110.8 | 262.1 | 318.7 | 479.2 | 572.7 | 215.6 | 32.7 | 28.1 |
| 85° | 3.5 | 3.7 | 12.5 | 58.6 | 167.2 | 179.9 | 310.6 | 304.5 | 96.9 | 14.1 | 20.4 |
| 87.5° | 0.0 | 0.0 | 3.0 | 18.4 | 49.1 | 98.0 | 189.5 | 187.2 | 32.9 | 6.8 | 7.6 |
| 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-SA1A-735-U-SL3-HSS

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 | 1179.9 |
| 2.5° | 1170.6 | 1159.1 | 1135.1 | 1105.3 | 1082.6 | 1057.5 | 1037.6 | 1012.3 | 1001.4 | 1001.9 | 995.9 |
| 5° | 1144.4 | 1120.8 | 1067.4 | 1000.2 | 948.4 | 894.9 | 848.8 | 803.1 | 775.9 | 767.2 | 758.8 |
| 7.5° | 1106.8 | 1069.4 | 984.4 | 880.8 | 793.0 | 707.4 | 632.8 | 567.2 | 525.7 | 505.4 | 498.0 |
| 10° | 1064.4 | 1012.0 | 888.9 | 752.4 | 627.1 | 511.2 | 414.6 | 330.5 | 296.9 | 274.2 | 268.4 |
| 12.5° | 1027.2 | 956.2 | 795.6 | 620.7 | 472.0 | 332.2 | 240.0 | 187.7 | 165.0 | 155.9 | 154.4 |
| 15° | 992.2 | 904.0 | 705.7 | 501.4 | 326.9 | 204.4 | 152.7 | 134.9 | 129.5 | 128.0 | 128.0 |
| 17.5° | 959.1 | 854.4 | 617.8 | 384.0 | 216.2 | 143.4 | 126.3 | 122.4 | 120.7 | 120.6 | 120.7 |
| 20° | 924.6 | 804.7 | 531.5 | 281.3 | 151.0 | 121.4 | 116.8 | 114.6 | 114.1 | 114.1 | 114.1 |
| 22.5° | 891.6 | 755.1 | 447.4 | 200.9 | 121.1 | 110.8 | 108.5 | 107.0 | 106.4 | 106.3 | 106.0 |
| 25° | 859.8 | 707.8 | 365.4 | 142.0 | 106.3 | 101.5 | 99.5 | 97.5 | 96.0 | 95.2 | 94.7 |
| 27.5° | 833.8 | 665.8 | 289.0 | 113.9 | 96.0 | 91.9 | 89.3 | 86.3 | 82.7 | 81.1 | 80.4 |
| 30° | 813.0 | 627.5 | 222.7 | 96.2 | 86.3 | 82.2 | 78.4 | 73.3 | 67.9 | 65.1 | 64.9 |
| 32.5° | 796.7 | 589.8 | 169.1 | 85.0 | 77.7 | 72.6 | 67.1 | 60.6 | 54.5 | 51.3 | 51.2 |
| 35° | 788.7 | 556.6 | 129.3 | 76.9 | 70.1 | 63.6 | 56.8 | 49.7 | 43.7 | 40.7 | 40.4 |
| 37.5° | 794.1 | 528.5 | 100.8 | 70.1 | 63.6 | 56.2 | 48.2 | 40.7 | 35.4 | 32.7 | 32.6 |
| 40° | 813.5 | 510.6 | 81.9 | 64.3 | 58.1 | 49.0 | 40.4 | 33.3 | 28.9 | 26.8 | 26.6 |
| 42.5° | 854.8 | 503.9 | 69.9 | 59.5 | 52.8 | 42.4 | 33.5 | 27.5 | 23.4 | 21.9 | 21.6 |
| 45° | 924.0 | 513.8 | 61.8 | 54.8 | 47.3 | 36.1 | 27.7 | 22.5 | 19.0 | 17.8 | 17.6 |
| 47.5° | 1016.0 | 539.5 | 56.0 | 50.4 | 42.4 | 30.4 | 23.1 | 18.2 | 15.4 | 14.3 | 14.1 |
| 50° | 1134.6 | 580.4 | 51.2 | 45.8 | 37.7 | 25.7 | 19.1 | 14.5 | 11.9 | 11.1 | 11.1 |
| 52.5° | 1263.6 | 629.0 | 46.9 | 41.7 | 33.1 | 21.4 | 15.4 | 11.1 | 9.5 | 8.5 | 8.5 |
| 55° | 1370.2 | 671.5 | 42.2 | 38.5 | 27.4 | 17.8 | 11.8 | 8.5 | 7.0 | 6.5 | 6.5 |
| 57.5° | 1476.7 | 716.9 | 36.9 | 33.1 | 21.9 | 14.5 | 8.9 | 6.3 | 5.2 | 4.8 | 4.8 |
| 60° | 1614.7 | 772.3 | 31.8 | 26.9 | 17.3 | 11.0 | 6.7 | 4.5 | 3.9 | 3.7 | 3.7 |
| 62.5° | 1766.5 | 804.9 | 27.1 | 21.6 | 13.4 | 8.2 | 4.8 | 3.0 | 2.8 | 2.8 | 2.6 |
| 65° | 1859.3 | 758.8 | 22.7 | 17.3 | 10.4 | 6.1 | 3.2 | 2.2 | 2.5 | 2.3 | 2.0 |
| 67.5° | 1741.0 | 594.1 | 18.6 | 13.4 | 8.2 | 4.7 | 2.0 | 1.5 | 2.6 | 2.2 | 1.7 |
| 70° | 1441.5 | 415.9 | 14.5 | 9.5 | 6.5 | 3.9 | 1.3 | 1.0 | 2.8 | 2.2 | 1.3 |
| 72.5° | 1078.7 | 278.3 | 11.5 | 6.3 | 4.8 | 3.5 | 1.1 | 0.5 | 2.5 | 1.8 | 1.1 |
| 75° | 589.5 | 112.1 | 9.1 | 3.9 | 3.0 | 2.5 | 0.8 | 0.4 | 1.7 | 1.3 | 0.8 |
| 77.5° | 155.1 | 29.6 | 6.7 | 2.6 | 1.7 | 1.0 | 0.5 | 0.2 | 0.8 | 0.7 | 0.4 |
| 80° | 39.5 | 11.5 | 4.3 | 1.8 | 1.1 | 0.5 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 |
| 82.5° | 21.1 | 4.8 | 2.6 | 1.3 | 0.7 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 85° | 16.0 | 3.2 | 1.5 | 0.8 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 87.5° | 6.1 | 1.0 | 0.5 | 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: SP1-2101-121-7
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1
 Measurement Geometry: 4π
 Issue Date: 03/04/2021
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: STREETWORKS
 Catalog Number: **IFLD-S-SA2A-735-U-T2**
 Description: STREETWORKS INF FLOOD

PROGRAMMED @ 615mA.

Spectral Parameters

CCT (K): 3388
 CIE u': 0.2371
 CIE v': 0.5177
 Duv: 0.0032
 CIE x: 0.4153
 CIE y: 0.4030
 CIE z: 0.1817
 Peak Wavelength (nm): 590
 Dominant Wavelength (nm): 580
 Purity: 45.7
 Rf: 76.9
 Rg: 94.4

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.1 | | |
| R1: | 68.9 | R9: | -34.6 |
| R2: | 81.1 | R10: | 57.8 |
| R3: | 93.1 | R11: | 68.6 |
| R4: | 71.6 | R12: | 53.9 |
| R5: | 69.4 | R13: | 70.9 |
| R6: | 75.0 | R14: | 96.2 |
| R7: | 79.5 | | |
| R8: | 46.4 | | |

Test Conditions

Stabilization Time: 81M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.0/30%
 Sphere Temperature (°C): 24.1



REPORT NUMBER: SP1-2101-121-7

| 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



Point lies inside the ANSI 3500K 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 | 2672 | 0.0 | 490 | 34553 | 4.9 | 620 | 136720 | 35.6 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 8.0 | 625 | 126308 | 27.9 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 12.1 | 630 | 114625 | 20.7 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 18.1 | 635 | 103216 | 15.5 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 25.4 | 640 | 92605 | 11.1 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 33.9 | 645 | 83234 | 8.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 43.0 | 650 | 73263 | 5.4 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 50.1 | 655 | 64627 | 3.7 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 57.9 | 660 | 56614 | 2.4 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 64.0 | 665 | 49537 | 1.6 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.0 | 540 | 107316 | 69.9 | 670 | 42866 | 0.9 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.0 | 545 | 113101 | 75.3 | 675 | 36708 | 0.6 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 0.0 | 550 | 120690 | 82.0 | 680 | 31814 | 0.4 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 0.1 | 555 | 128583 | 87.8 | 685 | 27485 | 0.2 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 0.3 | 560 | 137796 | 93.6 | 690 | 23698 | 0.1 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 0.8 | 565 | 146577 | 97.5 | 695 | 20309 | 0.1 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 1.6 | 570 | 154581 | 100.5 | 700 | 17890 | 0.1 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 2.4 | 575 | 162633 | 101.2 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 2.5 | 580 | 168101 | 99.9 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 2.1 | 585 | 173145 | 96.2 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 1.8 | 590 | 174675 | 90.3 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 1.7 | 595 | 173724 | 82.3 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 1.5 | 600 | 171241 | 73.8 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 1.7 | 605 | 165134 | 64.0 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 2.2 | 610 | 156652 | 53.8 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 3.3 | 615 | 147879 | 44.6 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Scotopic Flux vs. Wavelength



Scotopic Lumens: 12126

S/P: 1.36

| 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 | 2672 | 0.0 | 490 | 34553 | 53.2 | 620 | 136720 | 1.7 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 71.7 | 625 | 126308 | 1.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 91.4 | 630 | 114625 | 0.6 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 110.0 | 635 | 103216 | 0.4 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 125.1 | 640 | 92605 | 0.2 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 135.7 | 645 | 83234 | 0.1 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 140.8 | 650 | 73263 | 0.1 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 139.6 | 655 | 64627 | 0.1 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 135.7 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.1 | 535 | 103269 | 128.7 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.2 | 540 | 107316 | 118.6 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.6 | 545 | 113101 | 108.4 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 2.0 | 550 | 120690 | 98.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 5.9 | 555 | 128583 | 87.9 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 14.3 | 560 | 137796 | 77.0 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 30.5 | 565 | 146577 | 65.8 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 55.5 | 570 | 154581 | 54.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 77.4 | 575 | 162633 | 44.3 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 73.6 | 580 | 168101 | 34.6 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 53.7 | 585 | 173145 | 26.5 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 41.9 | 590 | 174675 | 19.5 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 34.3 | 595 | 173724 | 13.9 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 27.9 | 600 | 171241 | 9.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 27.1 | 605 | 165134 | 6.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 31.3 | 610 | 156652 | 4.2 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 40.0 | 615 | 147879 | 2.7 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

REPORT NUMBER: SP1-2101-121-7

Melanopic Flux vs. Wavelength



Melanopic Lumens: 4490.7 M/P: 0.5

| 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 | 2672 | 0.0 | 490 | 34553 | 28.8 | 620 | 136720 | 0.1 | 750 | 5870 | 0.0 | 880 | 4216 | 0.0 |
| 365 | 2252 | 0.0 | 495 | 44336 | 36.6 | 625 | 126308 | 0.1 | 755 | 5421 | 0.0 | 885 | 4132 | 0.0 |
| 370 | 2217 | 0.0 | 500 | 54643 | 43.9 | 630 | 114625 | 0.0 | 760 | 5097 | 0.0 | 890 | 3992 | 0.0 |
| 375 | 2697 | 0.0 | 505 | 64676 | 49.6 | 635 | 103216 | 0.0 | 765 | 4626 | 0.0 | 895 | 3214 | 0.0 |
| 380 | 3039 | 0.0 | 510 | 73825 | 53.0 | 640 | 92605 | 0.0 | 770 | 3782 | 0.0 | 900 | 2580 | 0.0 |
| 385 | 2655 | 0.0 | 515 | 81872 | 53.5 | 645 | 83234 | 0.0 | 775 | 3506 | 0.0 | 905 | 1776 | 0.0 |
| 390 | 2357 | 0.0 | 520 | 88574 | 51.6 | 650 | 73263 | 0.0 | 780 | 3507 | 0.0 | 910 | 3995 | 0.0 |
| 395 | 2186 | 0.0 | 525 | 93289 | 47.3 | 655 | 64627 | 0.0 | 785 | 3267 | 0.0 | 915 | 4288 | 0.0 |
| 400 | 2015 | 0.0 | 530 | 98393 | 42.5 | 660 | 56614 | 0.0 | 790 | 2849 | 0.0 | 920 | 2446 | 0.0 |
| 405 | 2234 | 0.0 | 535 | 103269 | 37.2 | 665 | 49537 | 0.0 | 795 | 3037 | 0.0 | 925 | 3009 | 0.0 |
| 410 | 3412 | 0.1 | 540 | 107316 | 31.4 | 670 | 42866 | 0.0 | 800 | 2716 | 0.0 | 930 | 3026 | 0.0 |
| 415 | 6135 | 0.4 | 545 | 113101 | 26.3 | 675 | 36708 | 0.0 | 805 | 2648 | 0.0 | 935 | 4734 | 0.0 |
| 420 | 12146 | 1.4 | 550 | 120690 | 21.7 | 680 | 31814 | 0.0 | 810 | 3187 | 0.0 | 940 | 3719 | 0.0 |
| 425 | 23983 | 3.7 | 555 | 128583 | 17.3 | 685 | 27485 | 0.0 | 815 | 2931 | 0.0 | 945 | 1480 | 0.0 |
| 430 | 42142 | 8.9 | 560 | 137796 | 13.6 | 690 | 23698 | 0.0 | 820 | 2717 | 0.0 | 950 | 3450 | 0.0 |
| 435 | 68228 | 18.2 | 565 | 146577 | 10.3 | 695 | 20309 | 0.0 | 825 | 2236 | 0.0 | 955 | 5051 | 0.0 |
| 440 | 99323 | 33.2 | 570 | 154581 | 7.6 | 700 | 17890 | 0.0 | 830 | 2628 | 0.0 | 960 | 3176 | 0.0 |
| 445 | 115584 | 45.6 | 575 | 162633 | 5.4 | 705 | 15500 | 0.0 | 835 | 3140 | 0.0 | 965 | 5178 | 0.0 |
| 450 | 94997 | 43.8 | 580 | 168101 | 3.8 | 710 | 13699 | 0.0 | 840 | 3675 | 0.0 | 970 | 6385 | 0.0 |
| 455 | 61433 | 32.2 | 585 | 173145 | 2.6 | 715 | 12398 | 0.0 | 845 | 3283 | 0.0 | 975 | 3810 | 0.0 |
| 460 | 43373 | 25.6 | 590 | 174675 | 1.7 | 720 | 11147 | 0.0 | 850 | 3055 | 0.0 | 980 | 4322 | 0.0 |
| 465 | 32472 | 21.2 | 595 | 173724 | 1.1 | 725 | 9761 | 0.0 | 855 | 2932 | 0.0 | 985 | 4200 | 0.0 |
| 470 | 24257 | 17.4 | 600 | 171241 | 0.7 | 730 | 8651 | 0.0 | 860 | 3382 | 0.0 | 990 | 4661 | 0.0 |
| 475 | 21690 | 16.6 | 605 | 165134 | 0.5 | 735 | 7730 | 0.0 | 865 | 2605 | 0.0 | 995 | 6746 | 0.0 |
| 480 | 23173 | 18.6 | 610 | 156652 | 0.3 | 740 | 6847 | 0.0 | 870 | 3325 | 0.0 | 1000 | 4150 | 0.0 |
| 485 | 27564 | 22.7 | 615 | 147879 | 0.2 | 745 | 6124 | 0.0 | 875 | 3325 | 0.0 | | | |

Summary

$R_f = 76.9$
 $R_g = 94.4$
 $CIE R_a = 73.1$
 $R_g = -34.6$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 68 | CES51 = 90 | CES76 = 63 |
| CES02 = 62 | CES27 = 88 | CES52 = 89 | CES77 = 80 |
| CES03 = 31 | CES28 = 87 | CES53 = 80 | CES78 = 65 |
| CES04 = 70 | CES29 = 67 | CES54 = 84 | CES79 = 87 |
| CES05 = 48 | CES30 = 74 | CES55 = 84 | CES80 = 86 |
| CES06 = 51 | CES31 = 71 | CES56 = 75 | CES81 = 75 |
| CES07 = 40 | CES32 = 67 | CES57 = 74 | CES82 = 94 |
| CES08 = 39 | CES33 = 74 | CES58 = 76 | CES83 = 91 |
| CES09 = 29 | CES34 = 78 | CES59 = 87 | CES84 = 89 |
| CES10 = 75 | CES35 = 89 | CES60 = 93 | CES85 = 80 |
| CES11 = 58 | CES36 = 98 | CES61 = 86 | CES86 = 66 |
| CES12 = 64 | CES37 = 86 | CES62 = 89 | CES87 = 79 |
| CES13 = 43 | CES38 = 82 | CES63 = 77 | CES88 = 79 |
| CES14 = 74 | CES39 = 95 | CES64 = 74 | CES89 = 70 |
| CES15 = 71 | CES40 = 91 | CES65 = 68 | CES90 = 77 |
| CES16 = 47 | CES41 = 89 | CES66 = 71 | CES91 = 88 |
| CES17 = 50 | CES42 = 88 | CES67 = 69 | CES92 = 60 |
| CES18 = 56 | CES43 = 82 | CES68 = 74 | CES93 = 77 |
| CES19 = 72 | CES44 = 99 | CES69 = 82 | CES94 = 52 |
| CES20 = 65 | CES45 = 87 | CES70 = 67 | CES95 = 69 |
| CES21 = 86 | CES46 = 82 | CES71 = 66 | CES96 = 78 |
| CES22 = 79 | CES47 = 82 | CES72 = 88 | CES97 = 85 |
| CES23 = 92 | CES48 = 72 | CES73 = 59 | CES98 = 76 |
| CES24 = 91 | CES49 = 82 | CES74 = 97 | CES99 = 63 |
| CES25 = 72 | CES50 = 88 | CES75 = 66 | |



Color Rendition by Hue-Angle Bin



Measure Comparisons



(END OF REPORT)