

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



Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

Brand: McGRAW-EDISON

Report Number: P634320

Luminaire Tested: GWS-SA3B-740-U-T3R-W-GRSBK

Issue Date: 1/10/2023

Test Information

Test Method: LM-79-2019
Report Number: P634320
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2209-782-16)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 1/10/2023
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: McGRAW-EDISON
Catalog Number: GWS-SA3B-740-U-T3R-W-GRSBK
Description: GALLEON WALL SLIM LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III ROADWAY OPTICS W/ FACTORY INSTALLED GLARE SHIELD, BK
Light Source: (48) 4000K CCT, 70 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6523.7 lumens
Efficiency: N/A
Efficacy: 95.5 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short
BUG Rating: B1 - U0 - G0

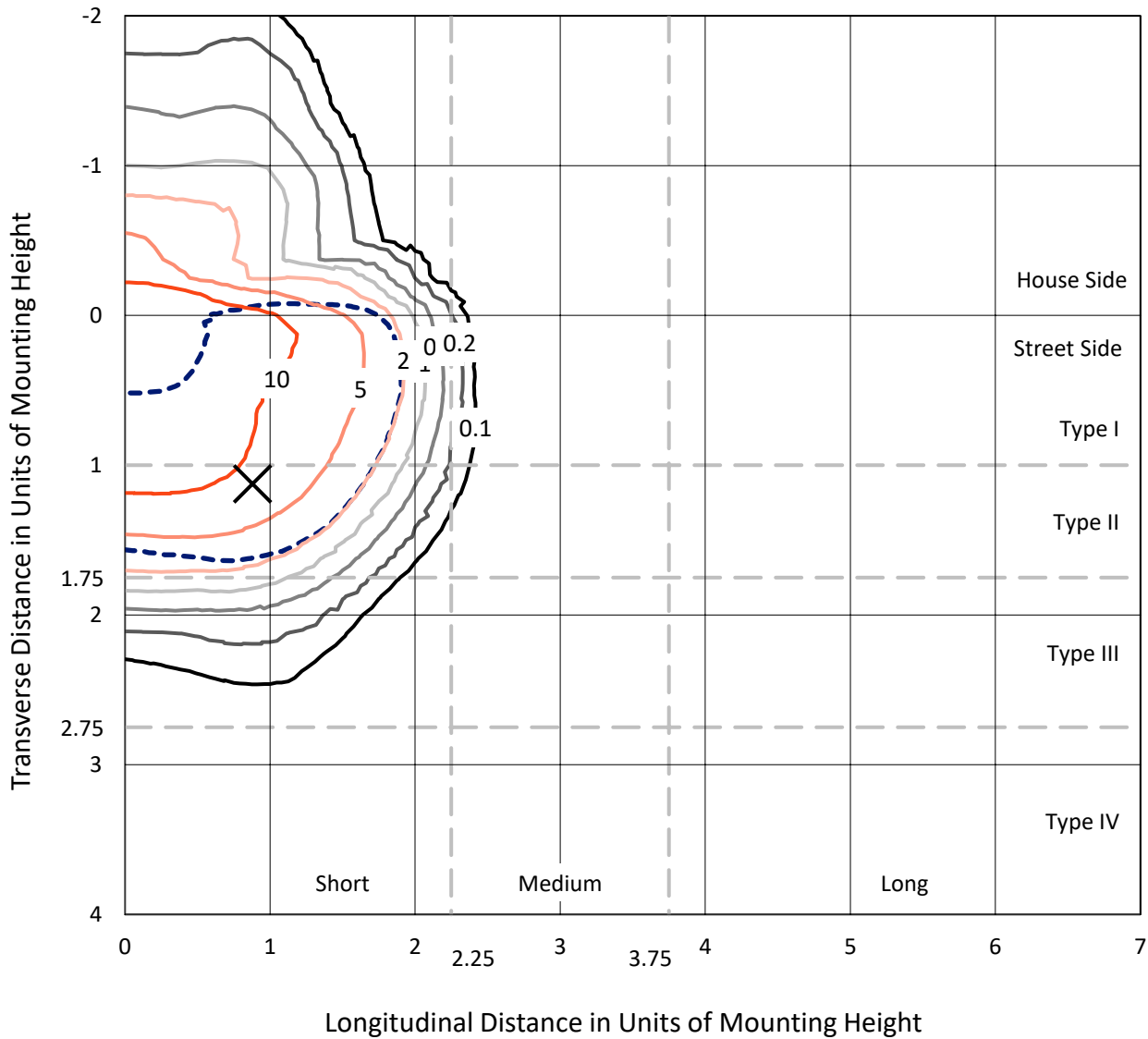
Input Watts (W): 68.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 0
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



REPORT NUMBER: P634320
 CATALOG NUMBER: GWS-SA3B-740-U-T3R-W-GRSBK

Iso-Footcandle Lines of Horizontal Illumination

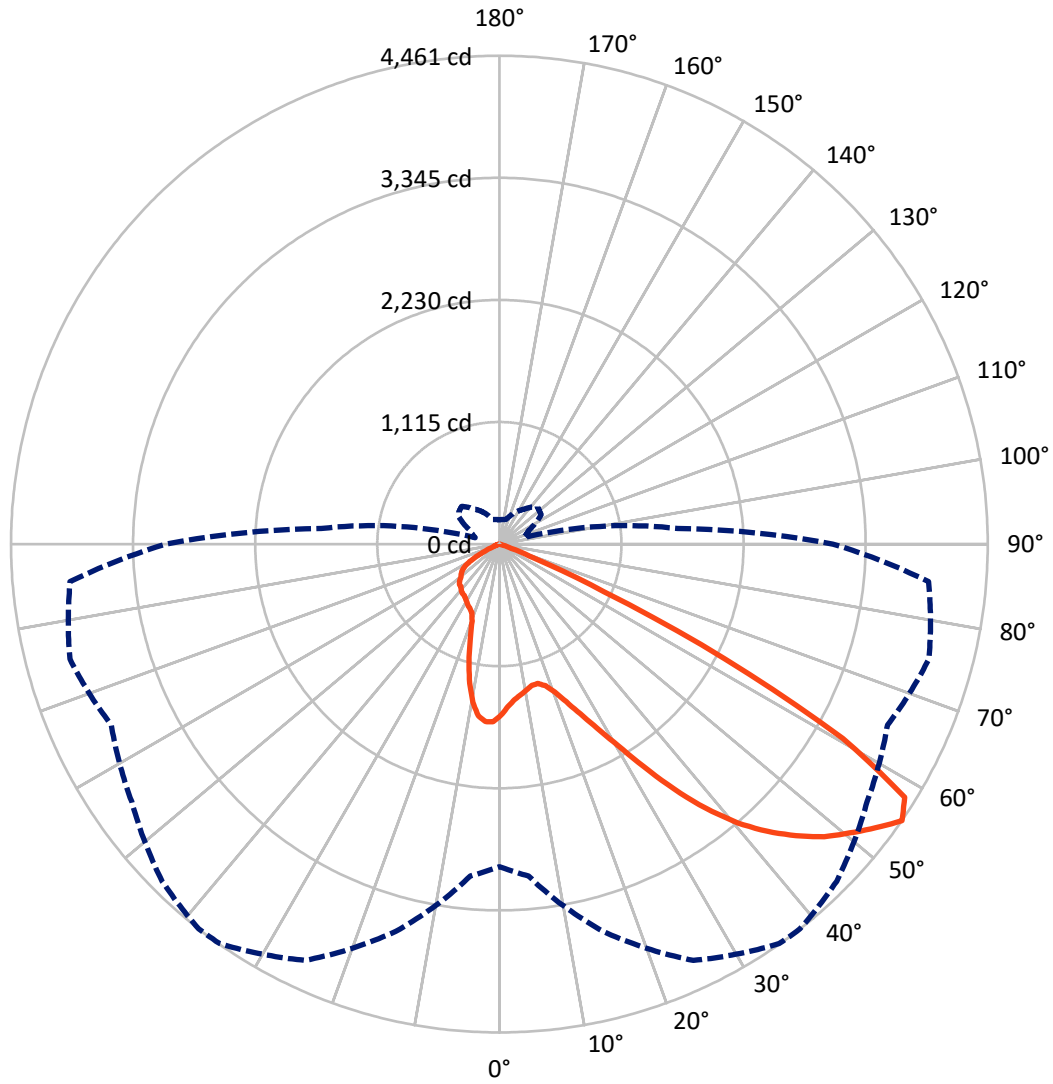
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.4 fc
 Type II - Short - N/A

REPORT NUMBER: P634320
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Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral - - - Horizontal Cone Through 55-Deg Vertical

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FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 1271.0 | 0.0 | 1271.0 |
| | % Fixture | 19.5 | 0.0 | 19.5 |
| Street Side | Lumens | 5252.7 | 0.0 | 5252.7 |
| | % Fixture | 80.5 | 0.0 | 80.5 |
| Total | Lumens | 6523.7 | 0.0 | 6523.7 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 144.7 | 2.2 |
| 10°-20° | 389.4 | 6.0 |
| 20°-30° | 668.3 | 10.2 |
| 30°-40° | 1108.4 | 17.0 |
| 40°-50° | 1629.4 | 25.0 |
| 50°-60° | 1904.0 | 29.2 |
| 60°-70° | 645.4 | 9.9 |
| 70°-80° | 33.0 | 0.5 |
| 80°-90° | 1.3 | 0.0 |
| 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° | 6523.7 | 100.0 |
| 0°-180° | 6523.7 | 100.0 |

Coefficient of Utilization



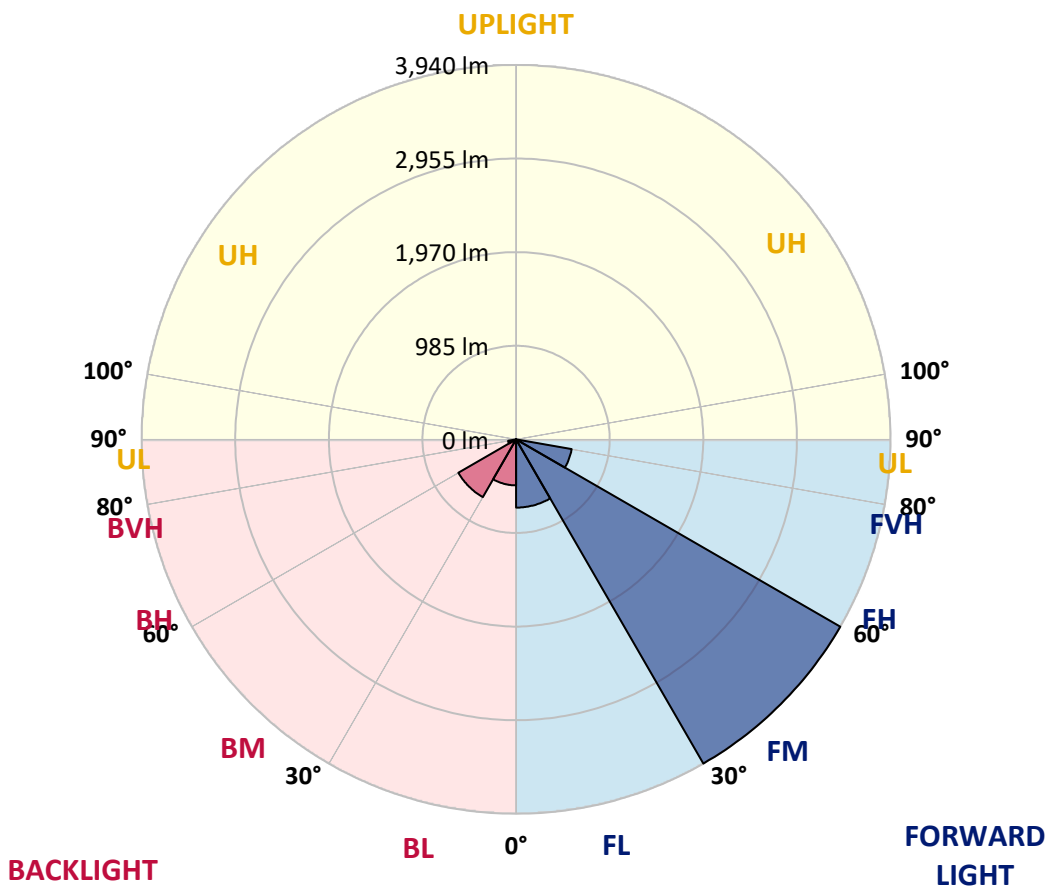
REPORT NUMBER: P634320

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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°) | 718.1 | 11.0 | | | |
| FM (30°-60°) | 3940.1 | 60.4 | | | |
| FH (60°-80°) | 593.8 | 9.1 | | | G0/660 |
| FVH (80°-90°) | 0.7 | 0.0 | | | G0/10 |
| BL (0°-30°) | 484.2 | 7.4 | B1/500 | | |
| BM (30°-60°) | 701.6 | 10.8 | B1/1000 | | |
| BH (60°-80°) | 84.6 | 1.3 | 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-G0
 Type II Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 38° | 45° | 55° | 65° | 75° | 85° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 |
| 2.5° | 1457.1 | 1454.1 | 1460.0 | 1472.0 | 1483.2 | 1486.9 | 1498.1 | 1513.7 | 1523.4 | 1546.5 | 1565.2 |
| 5° | 1391.4 | 1389.9 | 1395.9 | 1406.3 | 1421.3 | 1426.5 | 1443.6 | 1469.7 | 1495.8 | 1536.1 | 1575.6 |
| 7.5° | 1331.8 | 1331.0 | 1340.0 | 1363.1 | 1384.7 | 1391.4 | 1412.3 | 1444.4 | 1479.4 | 1541.3 | 1599.5 |
| 10° | 1253.5 | 1254.2 | 1271.4 | 1304.2 | 1343.7 | 1357.1 | 1390.7 | 1436.9 | 1482.4 | 1562.2 | 1642.7 |
| 12.5° | 1228.1 | 1229.6 | 1238.6 | 1263.9 | 1307.2 | 1324.3 | 1371.3 | 1441.4 | 1499.6 | 1592.0 | 1698.7 |
| 15° | 1290.0 | 1290.0 | 1282.6 | 1285.5 | 1304.9 | 1320.6 | 1369.8 | 1456.3 | 1528.6 | 1627.8 | 1753.8 |
| 17.5° | 1410.1 | 1405.6 | 1387.0 | 1361.6 | 1354.9 | 1360.1 | 1399.6 | 1488.4 | 1569.7 | 1669.6 | 1816.5 |
| 20° | 1572.6 | 1574.1 | 1537.6 | 1484.6 | 1442.1 | 1441.4 | 1465.3 | 1545.0 | 1628.6 | 1719.5 | 1884.3 |
| 22.5° | 1769.5 | 1763.5 | 1715.1 | 1642.7 | 1568.9 | 1562.9 | 1572.6 | 1631.5 | 1713.6 | 1798.6 | 1967.8 |
| 25° | 1997.7 | 1994.7 | 1926.1 | 1829.1 | 1731.5 | 1717.3 | 1717.3 | 1775.5 | 1835.1 | 1911.2 | 2067.8 |
| 27.5° | 2236.3 | 2236.3 | 2169.9 | 2058.1 | 1928.3 | 1903.0 | 1899.2 | 1967.8 | 2007.4 | 2022.3 | 2152.0 |
| 30° | 2481.6 | 2478.6 | 2413.0 | 2298.2 | 2159.5 | 2133.4 | 2122.9 | 2173.7 | 2202.0 | 2157.2 | 2257.2 |
| 32.5° | 2730.7 | 2735.9 | 2669.5 | 2562.9 | 2439.1 | 2422.0 | 2389.9 | 2389.9 | 2413.0 | 2350.4 | 2422.7 |
| 35° | 2998.4 | 2996.9 | 2944.7 | 2872.4 | 2766.5 | 2747.1 | 2694.1 | 2611.4 | 2646.4 | 2618.8 | 2651.6 |
| 37.5° | 3234.8 | 3245.9 | 3220.6 | 3166.9 | 3081.1 | 3061.8 | 2974.5 | 2824.6 | 2851.5 | 2894.7 | 2923.8 |
| 40° | 3474.9 | 3483.8 | 3509.2 | 3492.0 | 3383.9 | 3348.1 | 3193.0 | 2946.9 | 2976.7 | 3125.1 | 3208.7 |
| 42.5° | 3710.5 | 3715.0 | 3766.4 | 3794.8 | 3650.1 | 3587.5 | 3358.5 | 3021.5 | 3052.8 | 3305.6 | 3451.7 |
| 45° | 3860.4 | 3870.1 | 3955.1 | 4041.6 | 3885.0 | 3799.2 | 3502.5 | 3116.9 | 3130.4 | 3430.9 | 3631.5 |
| 47.5° | 3854.4 | 3876.8 | 4036.4 | 4193.7 | 4087.1 | 3994.6 | 3675.4 | 3269.8 | 3247.4 | 3548.7 | 3750.0 |
| 50° | 3734.4 | 3761.2 | 3990.1 | 4239.9 | 4232.5 | 4146.7 | 3867.8 | 3491.3 | 3421.2 | 3653.1 | 3764.9 |
| 52.5° | 3485.3 | 3562.9 | 3908.8 | 4245.9 | 4349.5 | 4306.3 | 4105.7 | 3789.5 | 3656.1 | 3803.0 | 3788.8 |
| 55° | 2946.9 | 3042.4 | 3662.0 | 4195.2 | 4455.4 | 4460.6 | 4355.5 | 4100.5 | 3911.1 | 4061.0 | 3935.7 |
| 57.5° | 2237.0 | 2313.1 | 2818.7 | 3734.4 | 4280.2 | 4365.9 | 4452.4 | 4264.5 | 4068.4 | 4236.9 | 3970.0 |
| 60° | 1348.2 | 1436.2 | 1765.0 | 2740.4 | 3457.0 | 3603.1 | 3942.4 | 3905.9 | 3669.5 | 3741.8 | 3255.6 |
| 62.5° | 546.6 | 592.8 | 815.0 | 1510.0 | 2175.9 | 2312.3 | 2637.5 | 2692.6 | 2634.5 | 2560.7 | 1974.6 |
| 65° | 199.8 | 218.5 | 326.6 | 624.1 | 1000.7 | 1050.7 | 1222.2 | 1319.9 | 1400.4 | 1192.3 | 734.5 |
| 67.5° | 123.8 | 135.7 | 212.5 | 320.6 | 363.9 | 338.5 | 344.5 | 410.9 | 392.2 | 242.3 | 131.2 |
| 70° | 91.7 | 101.4 | 166.3 | 222.2 | 146.9 | 113.3 | 76.8 | 82.0 | 73.8 | 64.9 | 64.1 |
| 72.5° | 63.4 | 72.3 | 124.5 | 131.2 | 56.7 | 40.3 | 28.3 | 39.5 | 44.7 | 44.0 | 45.5 |
| 75° | 41.8 | 48.5 | 78.3 | 51.5 | 14.2 | 11.2 | 9.7 | 20.9 | 26.8 | 26.8 | 27.6 |
| 77.5° | 24.6 | 28.3 | 27.6 | 10.4 | 3.0 | 3.0 | 2.2 | 3.7 | 6.0 | 6.7 | 8.2 |
| 80° | 3.0 | 2.2 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.2 | 2.2 | 2.2 |
| 82.5° | 0.7 | 0.7 | 0.7 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.2 | 2.2 |
| 85° | 0.0 | 0.0 | 0.7 | 0.7 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.2 | 2.2 |
| 87.5° | 0.0 | 0.0 | 0.7 | 0.7 | 1.5 | 1.5 | 1.5 | 1.5 | 1.5 | 2.2 | 2.2 |
| 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: P634320

CATALOG NUMBER: GWS-SA3B-740-U-T3R-W-GRSBK

CANDELA DISTRIBUTION (continued):

| | 90° | 95° | 105° | 115° | 125° | 135° | 145° | 155° | 165° | 175° | 180° |
|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 | 1564.4 |
| 2.5° | 1579.3 | 1574.1 | 1595.8 | 1611.4 | 1624.1 | 1630.1 | 1621.9 | 1621.1 | 1621.1 | 1604.7 | 1600.2 |
| 5° | 1598.0 | 1600.2 | 1630.8 | 1644.2 | 1646.5 | 1639.0 | 1620.4 | 1607.7 | 1600.2 | 1583.1 | 1573.4 |
| 7.5° | 1633.8 | 1641.2 | 1670.3 | 1668.1 | 1647.9 | 1613.6 | 1564.4 | 1526.4 | 1501.8 | 1475.0 | 1458.5 |
| 10° | 1685.2 | 1699.4 | 1717.3 | 1686.0 | 1621.9 | 1534.6 | 1433.2 | 1360.9 | 1317.6 | 1287.0 | 1268.4 |
| 12.5° | 1747.9 | 1762.0 | 1756.1 | 1682.3 | 1548.8 | 1392.9 | 1262.4 | 1158.0 | 1108.1 | 1080.5 | 1061.1 |
| 15° | 1811.3 | 1820.2 | 1781.4 | 1637.5 | 1419.8 | 1210.2 | 1064.8 | 961.2 | 900.0 | 877.7 | 861.3 |
| 17.5° | 1876.1 | 1873.9 | 1785.9 | 1549.5 | 1247.5 | 1004.4 | 861.3 | 790.4 | 773.3 | 769.5 | 768.0 |
| 20° | 1944.0 | 1923.9 | 1768.0 | 1423.5 | 1040.2 | 800.9 | 719.6 | 724.1 | 755.4 | 770.3 | 773.3 |
| 22.5° | 2021.5 | 1970.8 | 1723.3 | 1252.7 | 828.4 | 667.4 | 675.6 | 719.6 | 762.1 | 782.2 | 785.2 |
| 25° | 2104.3 | 2014.1 | 1648.7 | 1033.5 | 653.2 | 613.7 | 662.2 | 712.9 | 758.4 | 783.0 | 785.9 |
| 27.5° | 2158.7 | 2024.5 | 1526.4 | 812.8 | 560.8 | 592.8 | 644.3 | 692.7 | 739.7 | 766.6 | 770.3 |
| 30° | 2217.6 | 2020.0 | 1360.1 | 626.4 | 529.4 | 574.9 | 619.7 | 663.7 | 706.9 | 736.7 | 739.7 |
| 32.5° | 2304.1 | 2017.1 | 1157.3 | 508.6 | 516.8 | 560.8 | 593.6 | 630.1 | 659.9 | 677.1 | 674.8 |
| 35° | 2417.5 | 2013.3 | 920.9 | 458.6 | 509.3 | 549.6 | 575.7 | 592.8 | 560.0 | 549.6 | 551.8 |
| 37.5° | 2562.9 | 2022.3 | 721.8 | 437.7 | 507.1 | 546.6 | 569.0 | 519.7 | 469.0 | 449.6 | 446.7 |
| 40° | 2724.0 | 2045.4 | 550.3 | 429.5 | 514.5 | 554.0 | 543.6 | 462.3 | 399.7 | 361.7 | 353.5 |
| 42.5° | 2885.8 | 2070.7 | 435.5 | 426.5 | 527.2 | 574.9 | 501.8 | 420.6 | 326.6 | 305.0 | 302.0 |
| 45° | 3005.8 | 2066.3 | 376.6 | 421.3 | 538.4 | 586.8 | 490.7 | 360.9 | 291.6 | 281.9 | 282.6 |
| 47.5° | 3066.2 | 2017.1 | 344.5 | 409.4 | 542.9 | 574.9 | 463.1 | 336.3 | 267.7 | 278.1 | 287.1 |
| 50° | 3034.2 | 1889.5 | 314.7 | 386.3 | 533.2 | 559.3 | 419.1 | 317.7 | 255.8 | 299.0 | 319.2 |
| 52.5° | 2995.4 | 1733.0 | 281.9 | 350.5 | 510.0 | 537.6 | 401.9 | 312.4 | 248.3 | 288.6 | 303.5 |
| 55° | 3046.8 | 1633.8 | 228.2 | 295.3 | 464.6 | 486.9 | 388.5 | 311.7 | 231.2 | 224.4 | 222.2 |
| 57.5° | 2974.5 | 1436.2 | 163.3 | 212.5 | 356.4 | 385.5 | 378.8 | 306.5 | 205.1 | 204.3 | 207.3 |
| 60° | 2298.9 | 876.2 | 111.9 | 135.0 | 218.5 | 246.1 | 343.8 | 293.1 | 176.7 | 162.6 | 163.3 |
| 62.5° | 1306.4 | 372.8 | 76.8 | 83.5 | 111.9 | 132.7 | 262.5 | 266.2 | 163.3 | 155.1 | 163.3 |
| 65° | 454.9 | 133.5 | 59.7 | 55.9 | 61.9 | 70.8 | 150.6 | 205.8 | 148.4 | 134.2 | 135.7 |
| 67.5° | 94.0 | 66.4 | 52.9 | 46.2 | 46.2 | 46.2 | 76.8 | 128.3 | 122.3 | 106.6 | 108.1 |
| 70° | 59.7 | 56.7 | 46.2 | 39.5 | 38.0 | 35.0 | 44.0 | 70.8 | 84.3 | 77.6 | 78.3 |
| 72.5° | 44.0 | 43.2 | 36.5 | 32.1 | 28.3 | 25.4 | 27.6 | 35.0 | 43.2 | 44.7 | 45.5 |
| 75° | 26.8 | 27.6 | 23.9 | 20.1 | 17.9 | 15.7 | 16.4 | 16.4 | 16.4 | 14.9 | 16.4 |
| 77.5° | 8.2 | 8.9 | 7.5 | 6.0 | 5.2 | 5.2 | 5.2 | 4.5 | 3.7 | 2.2 | 2.2 |
| 80° | 2.2 | 2.2 | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 0.7 | 0.7 | 0.0 | 0.0 |
| 82.5° | 2.2 | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 0.7 | 0.7 | 0.0 | 0.0 | 0.0 |
| 85° | 2.2 | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 0.7 | 0.7 | 0.0 | 0.0 | 0.0 |
| 87.5° | 2.2 | 2.2 | 2.2 | 2.2 | 1.5 | 1.5 | 0.7 | 0.7 | 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 |

LM-79-08: Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Report Prepared for

Cooper Lighting Solutions

MCGRAW, INVUE, LUMARK AND STREETWORKS

DATA VALID FOR LUMINAIRES UTILIZING SA LIGHT ENGINES

Report Number: SP1-2101-121-2

Luminaire Tested: IFLD-S-SA2A-740-U-T3R-HSS

Test Date: 03/05/2021

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

REPORT NUMBER: SP1-2101-121-2

| 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 |

REPORT NUMBER: SP1-2101-121-2

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 4000K 4-step quadrangle

REPORT NUMBER: SP1-2101-121-2

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

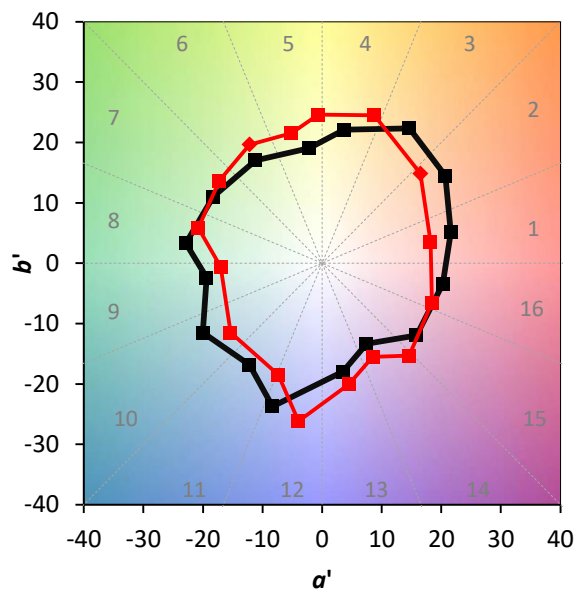
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 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)