

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: STREETWORKS

Report Number: P856274

Luminaire Tested: **FFX-CLB-80-750-U-PG**

Issue Date: 07/16/2024



Test Information

Test Method: LM-79-08
Report Number: P856274
Test Lab: INNOVATION CENTER(G3)
Issue Date: 07/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: FFX-CLB-80-750-U-PG
Description: FAIRFAX POST TOP FIXTURE w/ PRISMATIC GLOBE
Light Source: (6) 5000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

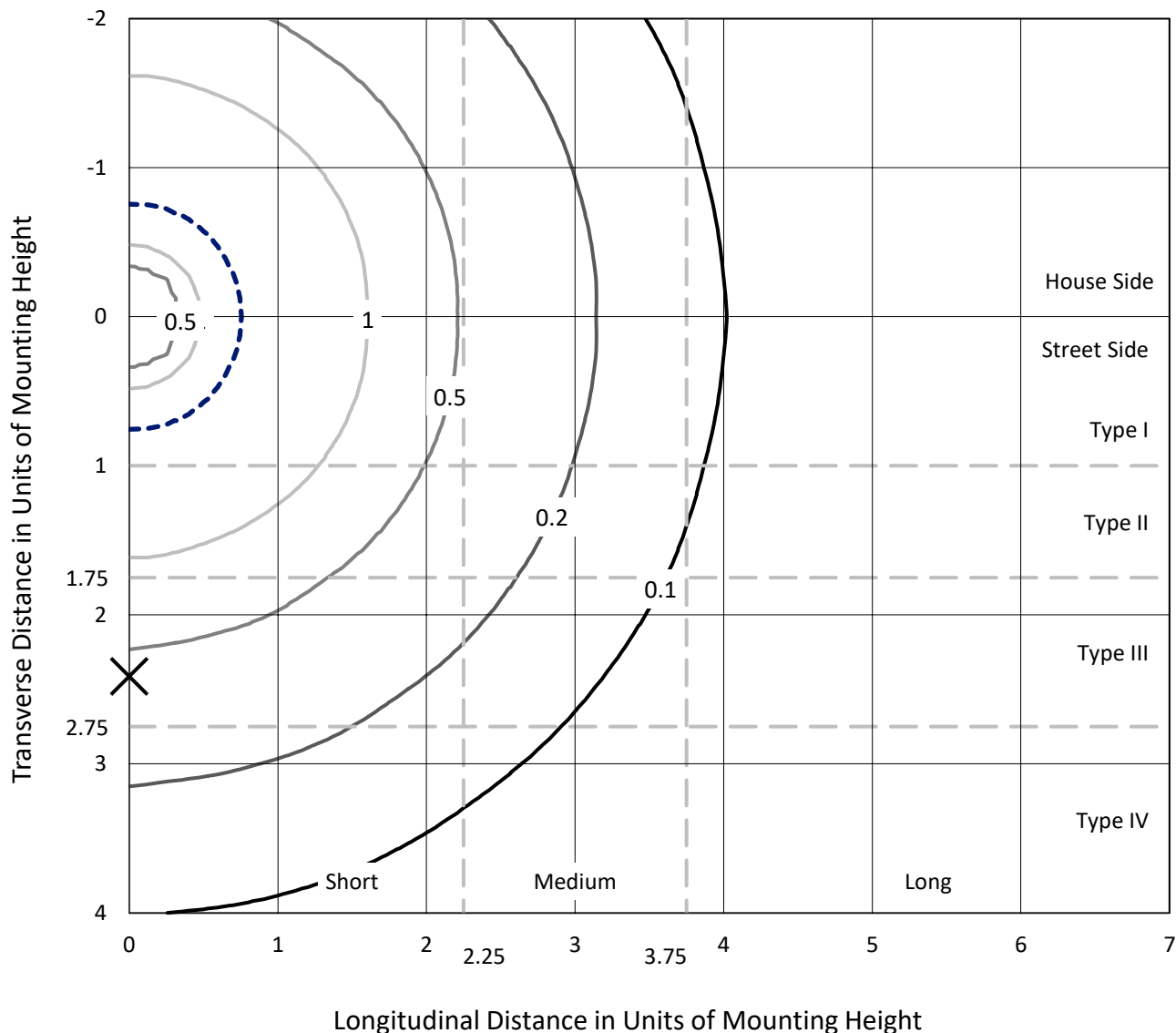
Lumens per Lamp: N/A
Luminaire Lumens: 13031 lumens
Efficiency: N/A
Efficacy: 161.3 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.58' x H: 1.5')
IES Classification: Type V - Short
BUG Rating: B3 - U5 - G5

Input Watts (W): 80.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 6.1%%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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Iso-Footcandle Lines of Horizontal Illumination

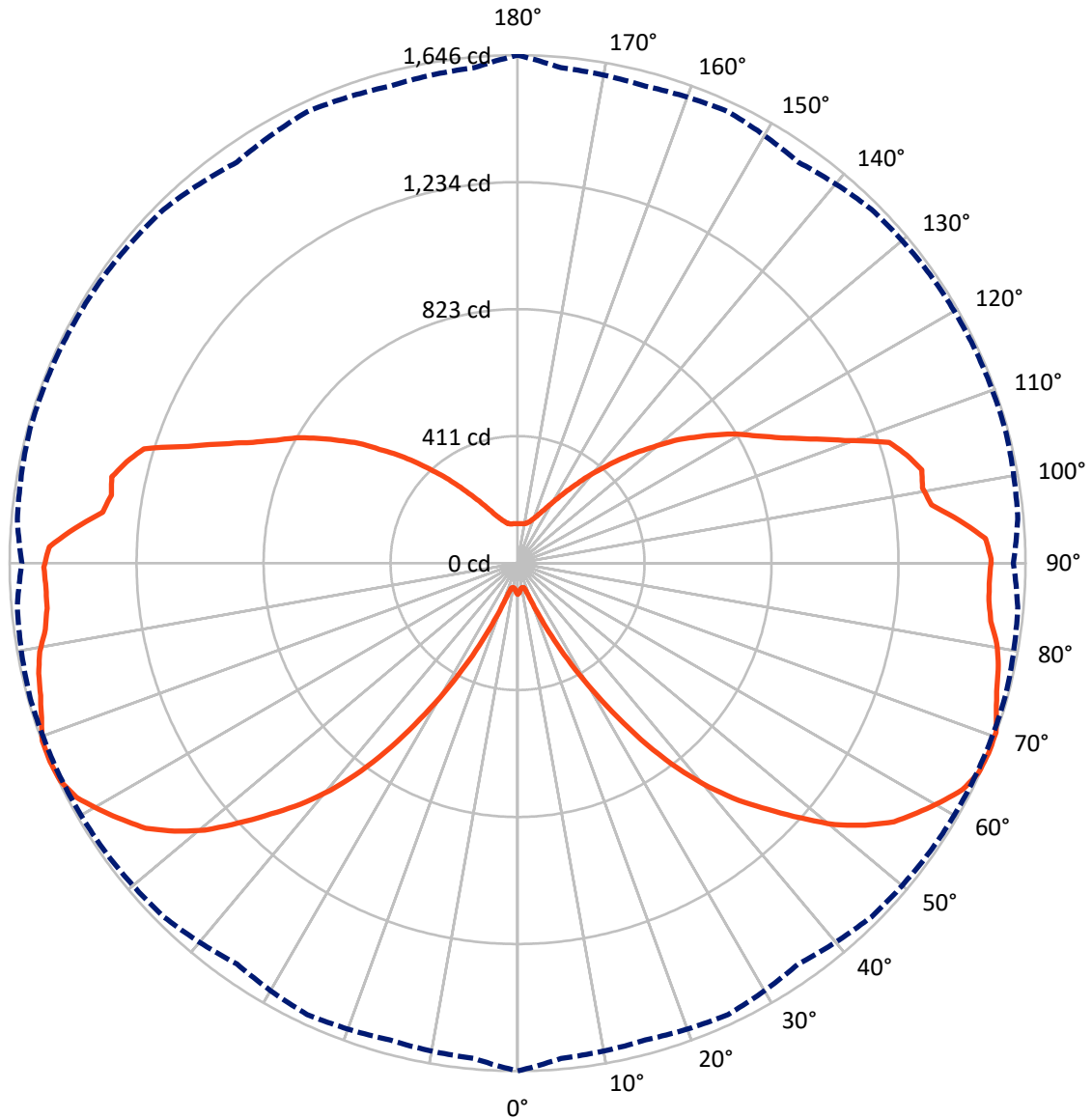
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 1.9 fc
 Type V - Short - N/A

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Luminous Intensity Polar Plot



— Vertical Plane Through 0-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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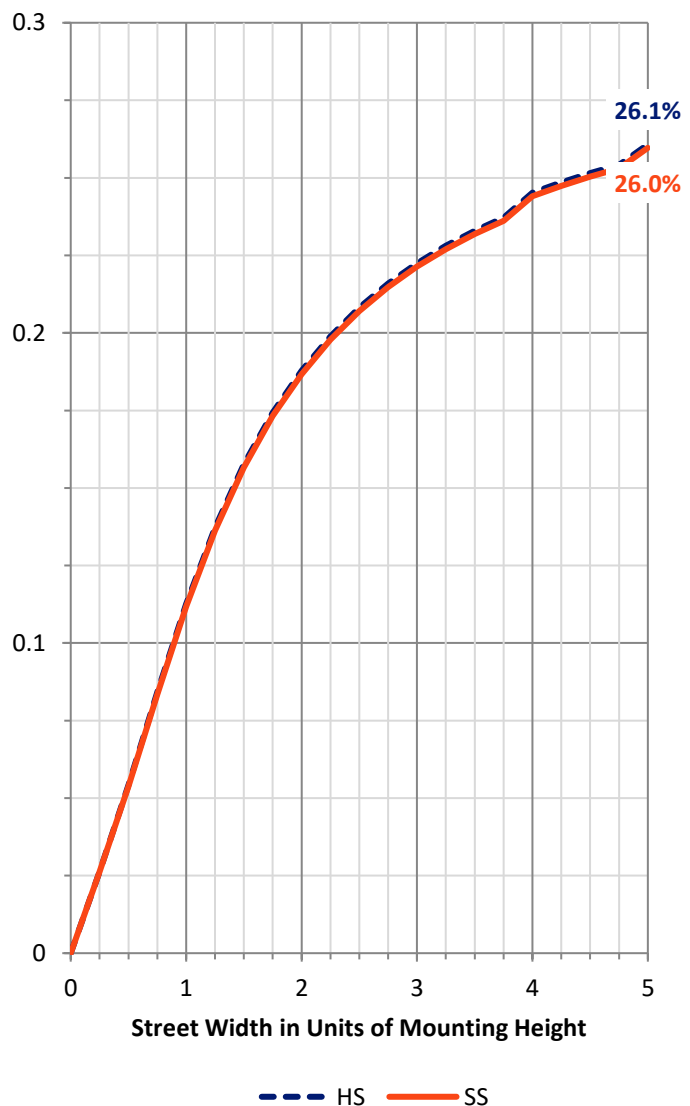
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 3887.4 | 2628.1 | 6515.5 |
| | % Fixture | 29.8 | 20.2 | 50.0 |
| Street Side | Lumens | 3887.4 | 2628.1 | 6515.5 |
| | % Fixture | 29.8 | 20.2 | 50.0 |
| Total | Lumens | 7774.9 | 5256.1 | 13031.0 |
| | % Fixture | 59.7 | 40.3 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 8.4 | 0.1 |
| 10°-20° | 27.8 | 0.2 |
| 20°-30° | 139.2 | 1.1 |
| 30°-40° | 457.3 | 3.5 |
| 40°-50° | 884.4 | 6.8 |
| 50°-60° | 1308.7 | 10.0 |
| 60°-70° | 1591.1 | 12.2 |
| 70°-80° | 1679.7 | 12.9 |
| 80°-90° | 1678.4 | 12.9 |
| 90°-100° | 1570.1 | 12.0 |
| 100°-110° | 1396.8 | 10.7 |
| 110°-120° | 955.4 | 7.3 |
| 120°-130° | 641.7 | 4.9 |
| 130°-140° | 372.6 | 2.9 |
| 140°-150° | 183.5 | 1.4 |
| 150°-160° | 84.7 | 0.7 |
| 160°-170° | 39.1 | 0.3 |
| 170°-180° | 12.3 | 0.1 |
| 0°-90° | 7774.9 | 59.7 |
| 0°-180° | 13031.0 | 100.0 |



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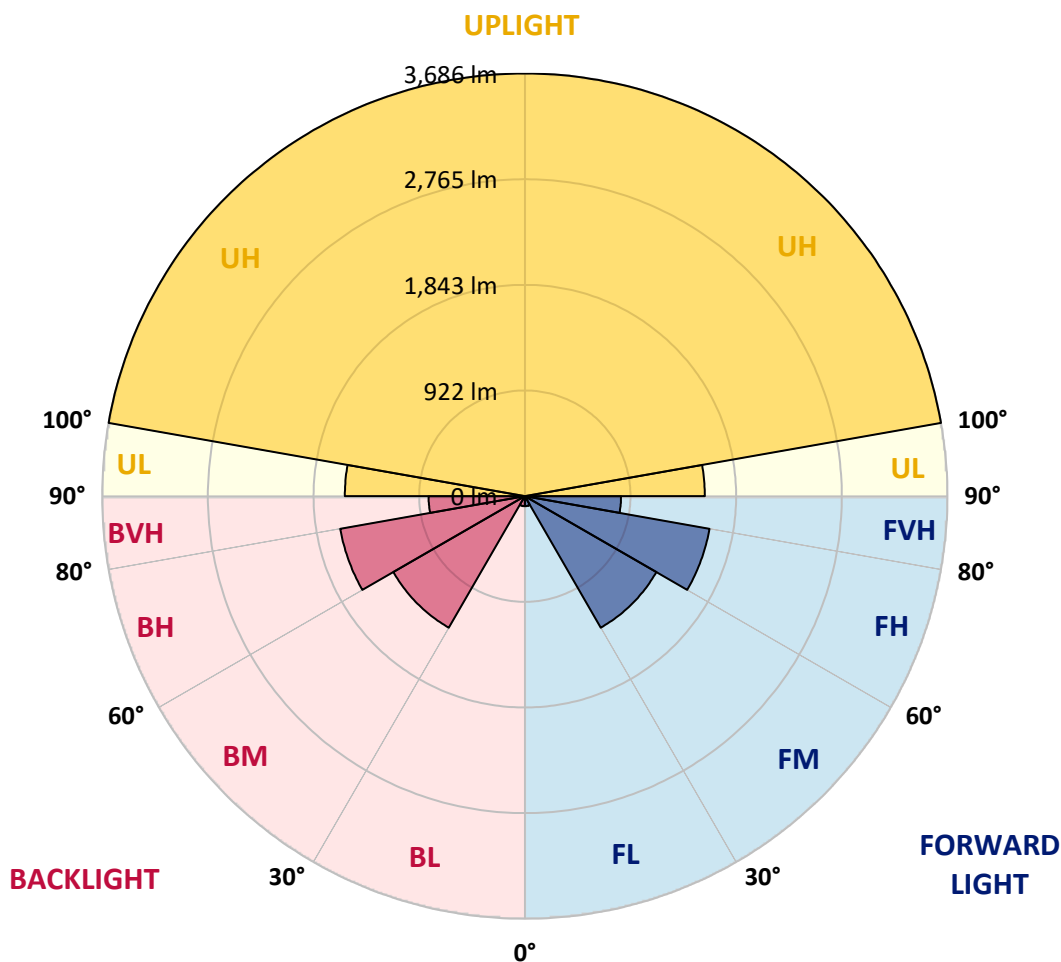
CATALOG NUMBER: FFX-CLB-80-750-U-PG

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|----|---------|
| | | | B | U | G |
| FL (0°-30°) | 87.7 | 0.7 | | | |
| FM (30°-60°) | 1325.2 | 10.2 | | | |
| FH (60°-80°) | 1635.4 | 12.5 | | | G1/1800 |
| FVH (80°-90°) | 839.2 | 6.4 | | | G5 |
| BL (0°-30°) | 87.7 | 0.7 | B0/110 | | |
| BM (30°-60°) | 1325.2 | 10.2 | B2/2500 | | |
| BH (60°-80°) | 1635.4 | 12.5 | B3/2500 | | G1/1800 |
| BVH (80°-90°) | 839.2 | 6.4 | | | G5 |
| UL (90°-100°) | 1570.1 | 12.0 | | U5 | |
| UH (100°-180°) | 3686.0 | 28.3 | | U5 | |

BUG Rating: B3-U5-G5

Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 101.1 | 101.1 | 101.1 | 101.1 | 101.1 | 101.1 | 101.1 | 101.1 | 101.1 | 101.1 | 101.1 |
| 2.5° | 97.0 | 96.2 | 95.4 | 94.5 | 95.4 | 96.2 | 97.8 | 98.6 | 98.6 | 98.6 | 98.6 |
| 5° | 88.0 | 88.8 | 89.6 | 90.4 | 90.4 | 90.4 | 90.4 | 91.2 | 92.1 | 92.1 | 92.1 |
| 7.5° | 83.0 | 83.0 | 83.8 | 86.3 | 87.1 | 86.3 | 86.3 | 87.1 | 84.7 | 82.2 | 81.4 |
| 10° | 80.6 | 80.6 | 81.4 | 82.2 | 83.0 | 84.7 | 85.5 | 85.5 | 85.5 | 85.5 | 84.7 |
| 12.5° | 81.4 | 80.6 | 81.4 | 82.2 | 83.8 | 84.7 | 83.0 | 83.0 | 84.7 | 86.3 | 87.1 |
| 15° | 85.5 | 84.7 | 84.7 | 86.3 | 87.1 | 87.1 | 85.5 | 85.5 | 86.3 | 88.0 | 88.0 |
| 17.5° | 103.6 | 101.9 | 101.1 | 101.9 | 101.1 | 101.9 | 101.1 | 102.7 | 102.7 | 101.9 | 101.1 |
| 20° | 141.4 | 139.7 | 137.3 | 136.4 | 137.3 | 139.7 | 140.6 | 143.0 | 140.6 | 139.7 | 136.4 |
| 22.5° | 200.6 | 198.1 | 196.5 | 196.5 | 198.9 | 200.6 | 199.7 | 203.0 | 201.4 | 200.6 | 197.3 |
| 25° | 276.2 | 274.5 | 275.4 | 279.5 | 283.6 | 281.1 | 274.5 | 279.5 | 279.5 | 278.7 | 277.8 |
| 27.5° | 370.7 | 365.0 | 367.4 | 378.1 | 381.4 | 374.8 | 367.4 | 373.2 | 375.6 | 376.5 | 376.5 |
| 30° | 478.4 | 474.3 | 473.5 | 485.0 | 489.1 | 483.3 | 478.4 | 485.0 | 485.0 | 487.4 | 487.4 |
| 32.5° | 595.1 | 592.7 | 588.5 | 595.1 | 601.7 | 600.0 | 600.0 | 605.0 | 603.3 | 605.8 | 606.6 |
| 35° | 723.3 | 718.4 | 710.2 | 711.0 | 718.4 | 719.2 | 725.0 | 728.3 | 726.6 | 725.8 | 725.8 |
| 37.5° | 844.2 | 837.6 | 830.2 | 826.1 | 835.1 | 834.3 | 847.5 | 847.5 | 844.2 | 845.0 | 845.0 |
| 40° | 953.5 | 949.4 | 943.6 | 932.1 | 949.4 | 946.1 | 961.7 | 961.7 | 952.7 | 955.1 | 953.5 |
| 42.5° | 1051.3 | 1051.3 | 1044.7 | 1027.5 | 1045.6 | 1042.3 | 1062.8 | 1062.8 | 1050.5 | 1049.7 | 1047.2 |
| 45° | 1139.3 | 1143.4 | 1140.1 | 1124.5 | 1131.1 | 1133.5 | 1153.2 | 1149.1 | 1139.3 | 1139.3 | 1135.2 |
| 47.5° | 1233.8 | 1237.9 | 1226.4 | 1210.0 | 1217.4 | 1221.5 | 1239.6 | 1237.9 | 1232.2 | 1224.8 | 1224.8 |
| 50° | 1332.4 | 1333.3 | 1310.2 | 1290.5 | 1297.1 | 1318.5 | 1331.6 | 1334.9 | 1322.6 | 1305.3 | 1304.5 |
| 52.5° | 1410.5 | 1415.5 | 1393.3 | 1371.9 | 1376.8 | 1401.5 | 1416.3 | 1417.1 | 1401.5 | 1376.8 | 1384.2 |
| 55° | 1479.6 | 1484.5 | 1462.3 | 1443.4 | 1453.3 | 1466.4 | 1483.7 | 1473.8 | 1474.6 | 1448.3 | 1460.7 |
| 57.5° | 1526.4 | 1542.9 | 1505.9 | 1501.8 | 1510.8 | 1526.4 | 1533.8 | 1531.4 | 1536.3 | 1511.6 | 1515.7 |
| 60° | 1573.3 | 1580.7 | 1549.4 | 1555.2 | 1544.5 | 1572.5 | 1578.2 | 1584.0 | 1570.8 | 1553.6 | 1553.6 |
| 62.5° | 1617.7 | 1599.6 | 1577.4 | 1591.4 | 1562.6 | 1597.9 | 1604.5 | 1611.1 | 1597.1 | 1580.7 | 1584.0 |
| 65° | 1640.7 | 1607.8 | 1588.9 | 1606.2 | 1578.2 | 1610.3 | 1621.0 | 1623.4 | 1621.0 | 1605.3 | 1597.9 |
| 67.5° | 1645.6 | 1611.1 | 1599.6 | 1613.6 | 1585.6 | 1621.0 | 1630.8 | 1635.8 | 1638.2 | 1626.7 | 1606.2 |
| 70° | 1644.0 | 1607.0 | 1597.1 | 1610.3 | 1592.2 | 1625.1 | 1625.9 | 1633.3 | 1636.6 | 1641.5 | 1618.5 |
| 72.5° | 1621.8 | 1589.7 | 1587.3 | 1598.8 | 1582.3 | 1603.7 | 1604.5 | 1613.6 | 1608.6 | 1624.2 | 1612.7 |
| 75° | 1603.7 | 1582.3 | 1586.4 | 1584.0 | 1567.5 | 1579.9 | 1583.1 | 1593.8 | 1575.7 | 1590.5 | 1600.4 |
| 77.5° | 1592.2 | 1580.7 | 1590.5 | 1577.4 | 1560.1 | 1568.3 | 1573.3 | 1585.6 | 1558.5 | 1570.8 | 1599.6 |
| 80° | 1574.1 | 1570.8 | 1583.1 | 1563.4 | 1548.6 | 1556.0 | 1564.2 | 1574.9 | 1545.3 | 1553.6 | 1594.7 |
| 82.5° | 1544.5 | 1547.0 | 1558.5 | 1535.5 | 1525.6 | 1533.8 | 1543.7 | 1560.1 | 1529.7 | 1534.6 | 1578.2 |
| 85° | 1531.4 | 1542.0 | 1547.8 | 1524.8 | 1513.3 | 1518.2 | 1528.9 | 1546.2 | 1514.1 | 1521.5 | 1565.9 |
| 87.5° | 1529.7 | 1542.9 | 1547.0 | 1527.3 | 1517.4 | 1524.8 | 1529.7 | 1554.4 | 1519.9 | 1528.9 | 1574.1 |
| 90° | 1534.6 | 1539.6 | 1542.0 | 1524.8 | 1516.6 | 1528.1 | 1528.9 | 1559.3 | 1524.8 | 1527.3 | 1567.5 |
| 92.5° | 1518.2 | 1519.0 | 1524.0 | 1508.3 | 1507.5 | 1515.7 | 1514.1 | 1539.6 | 1501.8 | 1496.0 | 1530.5 |
| 95° | 1438.5 | 1431.9 | 1442.6 | 1434.4 | 1451.6 | 1464.0 | 1477.9 | 1510.0 | 1491.1 | 1496.0 | 1525.6 |
| 97.5° | 1353.8 | 1355.5 | 1358.7 | 1345.6 | 1343.1 | 1348.1 | 1353.8 | 1370.3 | 1364.5 | 1369.4 | 1397.4 |
| 100° | 1334.1 | 1339.8 | 1339.0 | 1332.4 | 1305.3 | 1299.6 | 1287.2 | 1270.0 | 1247.0 | 1250.2 | 1254.4 |
| 102.5° | 1343.9 | 1359.6 | 1362.0 | 1371.1 | 1371.1 | 1367.0 | 1376.0 | 1368.6 | 1372.7 | 1396.6 | 1383.4 |
| 105° | 1308.6 | 1326.7 | 1338.2 | 1348.1 | 1367.0 | 1382.6 | 1424.5 | 1450.0 | 1470.5 | 1499.3 | 1495.2 |
| 107.5° | 1265.9 | 1274.9 | 1283.1 | 1283.1 | 1278.2 | 1275.7 | 1298.7 | 1302.8 | 1297.1 | 1304.5 | 1305.3 |
| 110° | 1132.7 | 1131.9 | 1140.1 | 1136.8 | 1139.3 | 1126.1 | 1132.7 | 1154.9 | 1150.0 | 1164.8 | 1167.2 |



REPORT NUMBER: P856274
 CATALOG NUMBER: FFX-CLB-80-750-U-PG

CANDELA DISTRIBUTION (continued):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 112.5° | 1029.1 | 1029.1 | 1034.9 | 1026.7 | 1027.5 | 1016.8 | 1020.9 | 1035.7 | 1036.5 | 1048.9 | 1055.4 |
| 115° | 942.0 | 940.4 | 948.6 | 942.0 | 934.6 | 932.1 | 936.2 | 945.3 | 947.7 | 956.0 | 969.1 |
| 117.5° | 877.1 | 868.8 | 875.4 | 876.2 | 879.5 | 872.9 | 882.8 | 888.6 | 891.9 | 898.4 | 909.1 |
| 120° | 823.6 | 815.4 | 817.9 | 826.1 | 836.0 | 822.0 | 832.7 | 837.6 | 840.1 | 842.5 | 847.5 |
| 122.5° | 762.8 | 757.0 | 754.6 | 771.0 | 776.8 | 764.4 | 770.2 | 777.6 | 781.7 | 785.8 | 789.9 |
| 125° | 701.2 | 696.2 | 693.8 | 708.6 | 714.3 | 704.4 | 712.7 | 723.3 | 721.7 | 730.7 | 722.5 |
| 127.5° | 645.3 | 643.6 | 640.3 | 647.7 | 651.8 | 651.0 | 658.4 | 671.6 | 665.8 | 674.0 | 665.0 |
| 130° | 578.7 | 585.3 | 580.3 | 589.4 | 590.2 | 596.8 | 599.2 | 611.6 | 605.8 | 607.4 | 601.7 |
| 132.5° | 524.4 | 526.9 | 524.4 | 527.7 | 530.2 | 530.2 | 536.8 | 549.9 | 540.9 | 540.0 | 535.1 |
| 135° | 469.4 | 470.2 | 466.9 | 471.8 | 473.5 | 469.4 | 475.9 | 485.8 | 480.9 | 478.4 | 478.4 |
| 137.5° | 415.1 | 414.3 | 415.1 | 416.7 | 418.4 | 417.6 | 420.9 | 428.3 | 426.6 | 423.3 | 427.4 |
| 140° | 369.1 | 366.6 | 367.4 | 368.2 | 367.4 | 367.4 | 370.7 | 377.3 | 377.3 | 373.2 | 377.3 |
| 142.5° | 323.0 | 322.2 | 322.2 | 322.2 | 322.2 | 323.9 | 327.2 | 328.8 | 330.4 | 327.2 | 326.3 |
| 145° | 284.4 | 283.6 | 282.8 | 282.8 | 282.8 | 283.6 | 286.9 | 286.1 | 289.3 | 286.1 | 283.6 |
| 147.5° | 249.9 | 250.7 | 249.1 | 248.2 | 247.4 | 249.9 | 250.7 | 252.3 | 254.0 | 252.3 | 249.9 |
| 150° | 221.9 | 221.1 | 221.1 | 219.5 | 219.5 | 221.9 | 221.1 | 222.8 | 224.4 | 223.6 | 222.8 |
| 152.5° | 197.3 | 197.3 | 197.3 | 195.6 | 196.5 | 198.1 | 198.1 | 198.1 | 199.7 | 199.7 | 198.9 |
| 155° | 177.5 | 177.5 | 177.5 | 176.7 | 176.7 | 178.4 | 178.4 | 178.4 | 179.2 | 179.2 | 179.2 |
| 157.5° | 162.8 | 162.8 | 161.9 | 161.9 | 161.9 | 162.8 | 161.9 | 161.9 | 162.8 | 162.8 | 162.8 |
| 160° | 151.2 | 151.2 | 150.4 | 150.4 | 149.6 | 150.4 | 149.6 | 149.6 | 150.4 | 150.4 | 150.4 |
| 162.5° | 142.2 | 142.2 | 141.4 | 141.4 | 141.4 | 141.4 | 141.4 | 140.6 | 140.6 | 141.4 | 140.6 |
| 165° | 135.6 | 135.6 | 135.6 | 135.6 | 135.6 | 135.6 | 135.6 | 134.8 | 134.8 | 134.8 | 134.8 |
| 167.5° | 131.5 | 131.5 | 131.5 | 131.5 | 131.5 | 131.5 | 131.5 | 131.5 | 131.5 | 131.5 | 131.5 |
| 170° | 129.1 | 129.1 | 129.1 | 129.9 | 129.9 | 129.9 | 129.1 | 129.1 | 129.9 | 129.9 | 129.1 |
| 172.5° | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 |
| 175° | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 127.4 | 128.2 | 128.2 | 128.2 | 128.2 |
| 177.5° | 128.2 | 127.4 | 127.4 | 128.2 | 128.2 | 127.4 | 127.4 | 127.4 | 127.4 | 127.4 | 127.4 |
| 180° | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 | 128.2 |

LM-79-2019: Approved Method: Electrical and Photometric Measurements of Solid-State Lighting Products

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2406-133-5

Test Date: 07/12/2024

Luminaire Tested: FFX-CLB-100-750-U-FR-T5

Data in this report applies to families of products including FFX-CLB-100-750-U-FR-T5.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2406-133-5
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 07/12/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: Streetworks
 Catalog Number: **FFX-CLB-100-750-U-FR-T5**
 Description: FAIRFAX ACORN W/ FAIRFAX REFRACTOR 100W T5

Spectral Parameters

CCT (K): 4950
 CIE u': 0.2102
 CIE v': 0.4882
 Duv: 0.0025
 CIE x: 0.3471
 CIE y: 0.3583
 CIE z: 0.2946
 Peak Wavelength (nm): 452
 Dominant Wavelength (nm): 571
 Purity: 11.64963
 Rf: 74.8
 Rg: 92.4

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 73.0 | | |
| R1: | 69.1 | R9: | -35.4 |
| R2: | 80.1 | R10: | 51.9 |
| R3: | 87.3 | R11: | 66.1 |
| R4: | 70.6 | R12: | 40.1 |
| R5: | 69.4 | R13: | 71.5 |
| R6: | 71.2 | R14: | 93.0 |
| R7: | 82.5 | R15: | 62.2 |
| R8: | 53.6 | | |



Test Conditions

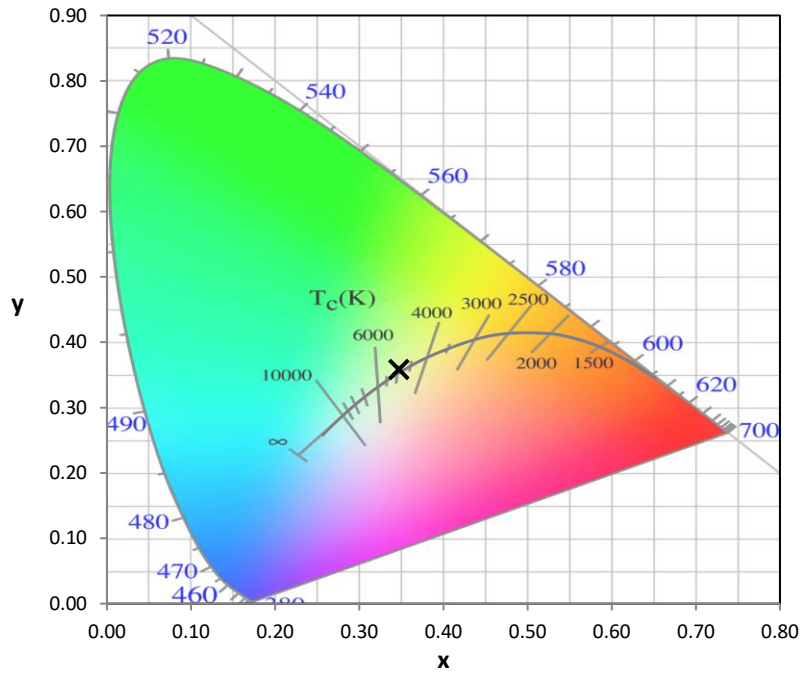
Stabilization Time: 0.803355M
 Operation Time: 1H
 Sphere Temperature (°C): 24.7

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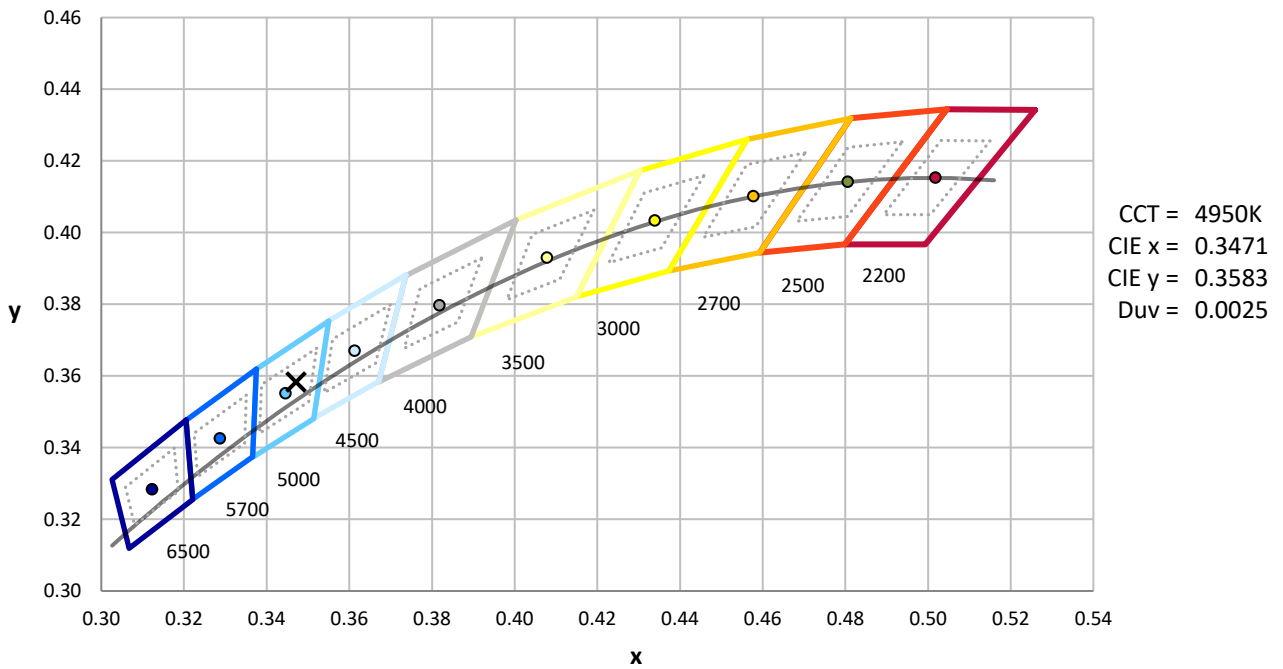
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | IN0046 | 10/24/2023 | 10/24/2024 |

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CIE 1931 Chromaticity Diagram



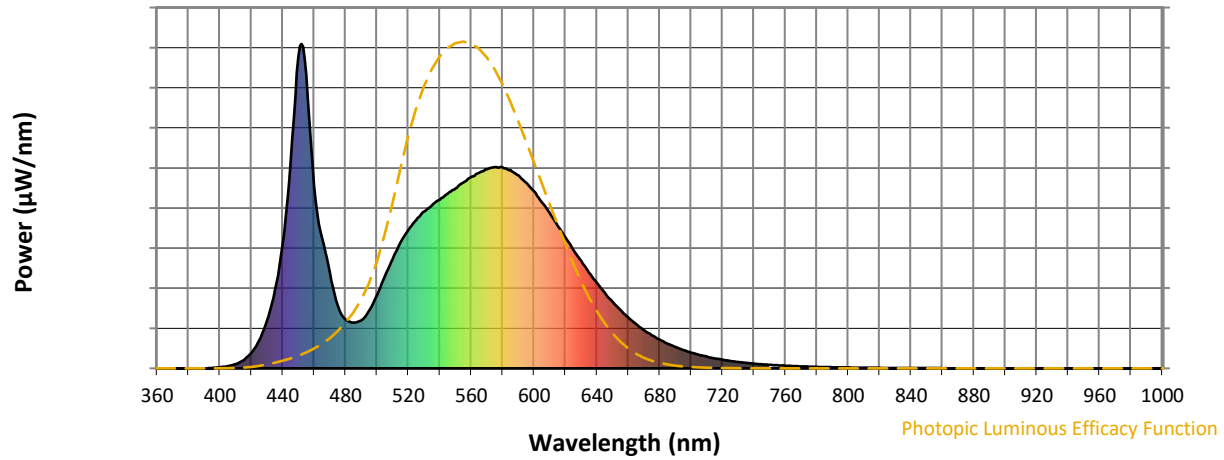
CIE 1931 Chromaticity Diagram with 2017 ANSI 7-Step and 4-Step Quadrangles



Point lies inside the ANSI 5000K 4-step quadrangle

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Photopic Flux vs. Wavelength



Photopic Lumens: NR

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 148 | NR | 620 | 403 | NR | 750 | 11 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 178 | NR | 625 | 366 | NR | 755 | 9 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 226 | NR | 630 | 331 | NR | 760 | 8 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 283 | NR | 635 | 295 | NR | 765 | 7 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 338 | NR | 640 | 263 | NR | 770 | 6 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 387 | NR | 645 | 232 | NR | 775 | 5 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 428 | NR | 650 | 205 | NR | 780 | 5 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 457 | NR | 655 | 179 | NR | 785 | 4 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 484 | NR | 660 | 156 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 503 | NR | 665 | 136 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 520 | NR | 670 | 118 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 25 | NR | 545 | 538 | NR | 675 | 102 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 48 | NR | 550 | 555 | NR | 680 | 89 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 87 | NR | 555 | 573 | NR | 685 | 76 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 147 | NR | 560 | 590 | NR | 690 | 66 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 242 | NR | 565 | 603 | NR | 695 | 56 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 384 | NR | 570 | 614 | NR | 700 | 49 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 638 | NR | 575 | 621 | NR | 705 | 42 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 960 | NR | 580 | 619 | NR | 710 | 36 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 902 | NR | 585 | 611 | NR | 715 | 31 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 564 | NR | 590 | 594 | NR | 720 | 27 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 402 | NR | 595 | 572 | NR | 725 | 23 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 293 | NR | 600 | 546 | NR | 730 | 20 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 194 | NR | 605 | 511 | NR | 735 | 17 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 150 | NR | 610 | 478 | NR | 740 | 14 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 141 | NR | 615 | 440 | NR | 745 | 13 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2406-133-5

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.8

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 148 | NR | 620 | 403 | NR | 750 | 11 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 178 | NR | 625 | 366 | NR | 755 | 9 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 226 | NR | 630 | 331 | NR | 760 | 8 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 283 | NR | 635 | 295 | NR | 765 | 7 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 338 | NR | 640 | 263 | NR | 770 | 6 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 387 | NR | 645 | 232 | NR | 775 | 5 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 428 | NR | 650 | 205 | NR | 780 | 5 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 457 | NR | 655 | 179 | NR | 785 | 4 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 484 | NR | 660 | 156 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 503 | NR | 665 | 136 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 520 | NR | 670 | 118 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 25 | NR | 545 | 538 | NR | 675 | 102 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 48 | NR | 550 | 555 | NR | 680 | 89 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 87 | NR | 555 | 573 | NR | 685 | 76 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 147 | NR | 560 | 590 | NR | 690 | 66 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 242 | NR | 565 | 603 | NR | 695 | 56 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 384 | NR | 570 | 614 | NR | 700 | 49 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 638 | NR | 575 | 621 | NR | 705 | 42 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 960 | NR | 580 | 619 | NR | 710 | 36 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 902 | NR | 585 | 611 | NR | 715 | 31 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 564 | NR | 590 | 594 | NR | 720 | 27 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 402 | NR | 595 | 572 | NR | 725 | 23 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 293 | NR | 600 | 546 | NR | 730 | 20 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 194 | NR | 605 | 511 | NR | 735 | 17 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 150 | NR | 610 | 478 | NR | 740 | 14 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 141 | NR | 615 | 440 | NR | 745 | 13 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2406-133-5

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.74

| λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) | λ (nm) | Power W [^] /nm | Lumens (φ/nm) |
|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|--------|--------------------------|---------------|
| 360 | 0 | NR | 490 | 148 | NR | 620 | 403 | NR | 750 | 11 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 178 | NR | 625 | 366 | NR | 755 | 9 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 226 | NR | 630 | 331 | NR | 760 | 8 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 283 | NR | 635 | 295 | NR | 765 | 7 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 338 | NR | 640 | 263 | NR | 770 | 6 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 387 | NR | 645 | 232 | NR | 775 | 5 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 428 | NR | 650 | 205 | NR | 780 | 5 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 457 | NR | 655 | 179 | NR | 785 | 4 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 484 | NR | 660 | 156 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 7 | NR | 535 | 503 | NR | 665 | 136 | NR | 795 | 3 | NR | 925 | 0 | NR |
| 410 | 13 | NR | 540 | 520 | NR | 670 | 118 | NR | 800 | 3 | NR | 930 | 0 | NR |
| 415 | 25 | NR | 545 | 538 | NR | 675 | 102 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 48 | NR | 550 | 555 | NR | 680 | 89 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 87 | NR | 555 | 573 | NR | 685 | 76 | NR | 815 | 2 | NR | 945 | 0 | NR |
| 430 | 147 | NR | 560 | 590 | NR | 690 | 66 | NR | 820 | 2 | NR | 950 | 0 | NR |
| 435 | 242 | NR | 565 | 603 | NR | 695 | 56 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 384 | NR | 570 | 614 | NR | 700 | 49 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 638 | NR | 575 | 621 | NR | 705 | 42 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 960 | NR | 580 | 619 | NR | 710 | 36 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 902 | NR | 585 | 611 | NR | 715 | 31 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 564 | NR | 590 | 594 | NR | 720 | 27 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 402 | NR | 595 | 572 | NR | 725 | 23 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 293 | NR | 600 | 546 | NR | 730 | 20 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 194 | NR | 605 | 511 | NR | 735 | 17 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 150 | NR | 610 | 478 | NR | 740 | 14 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 141 | NR | 615 | 440 | NR | 745 | 13 | NR | 875 | 0 | NR | | | |

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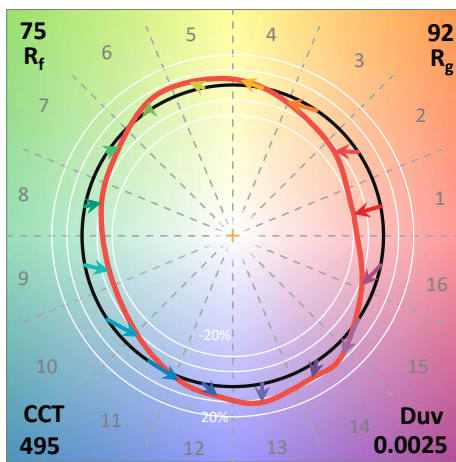
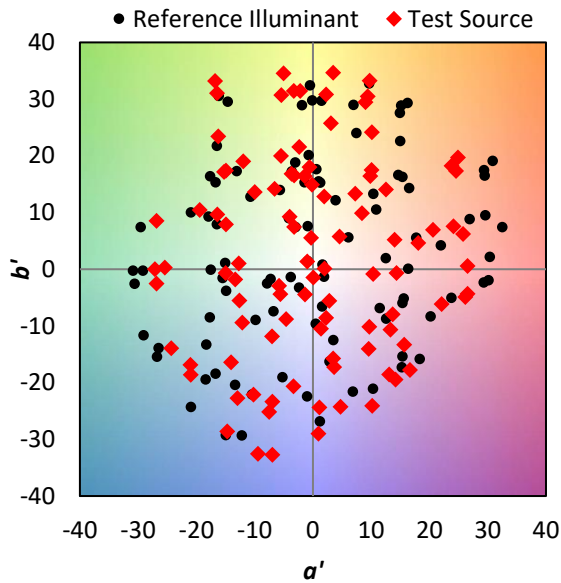
TM-30-18

Summary

$R_f = 74.8$
 $R_g = 92.4$
 CIE $R_a = 73.0$
 $R_9 = -35.4$



Color Vector Graphics

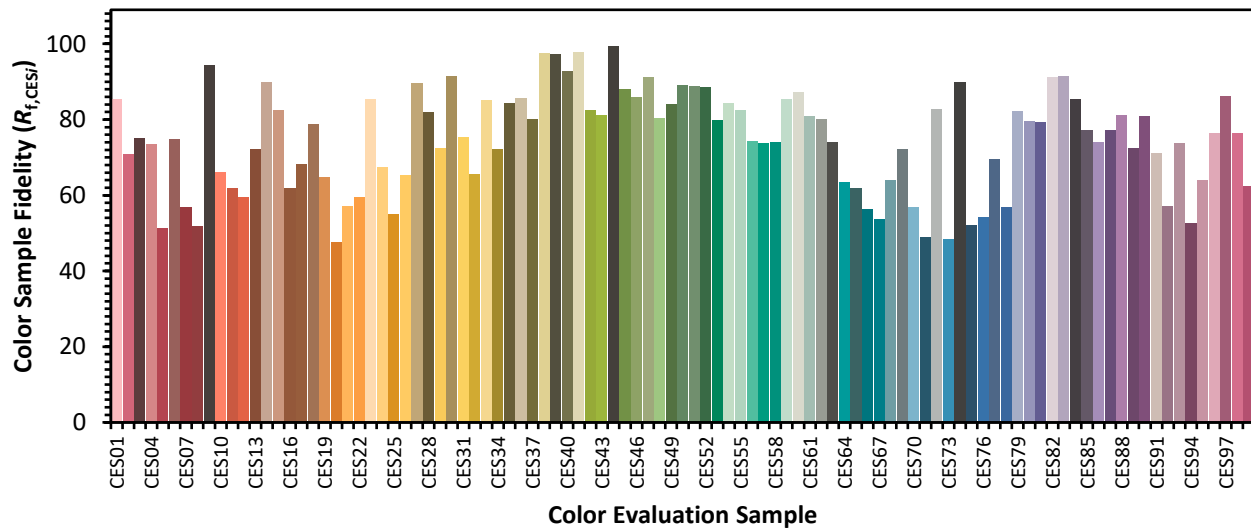


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Individual Sample Fidelity Index ($R_{f,i}$)

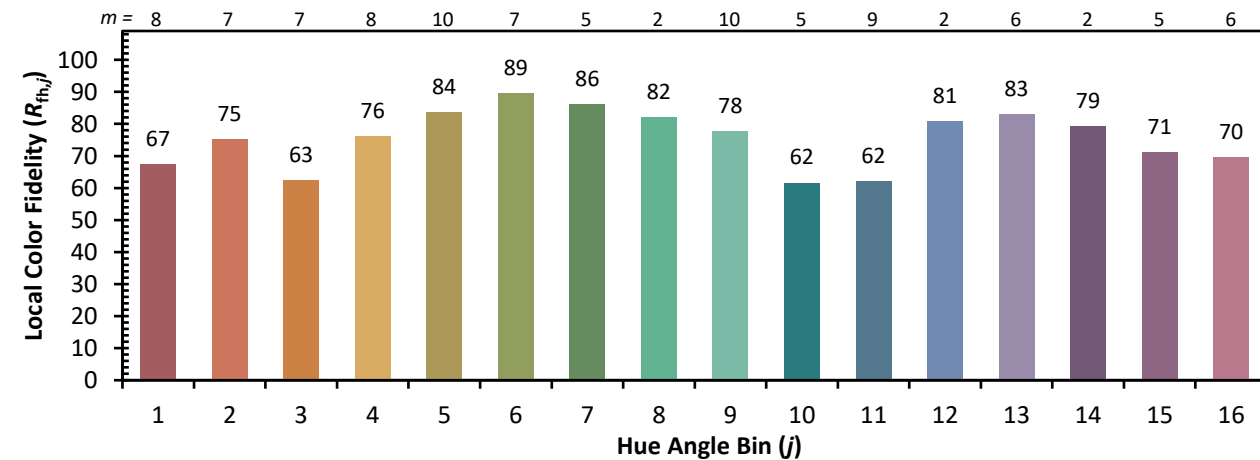
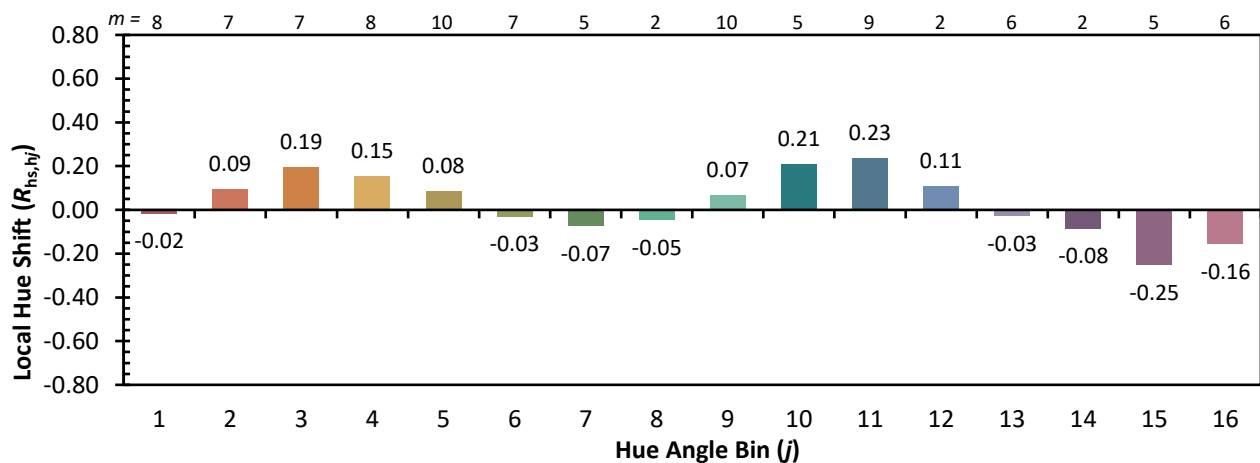
| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 65 | CES51 = 89 | CES76 = 54 |
| CES02 = 60 | CES27 = 90 | CES52 = 88 | CES77 = 69 |
| CES03 = 30 | CES28 = 82 | CES53 = 80 | CES78 = 57 |
| CES04 = 69 | CES29 = 72 | CES54 = 84 | CES79 = 82 |
| CES05 = 46 | CES30 = 91 | CES55 = 82 | CES80 = 79 |
| CES06 = 50 | CES31 = 75 | CES56 = 74 | CES81 = 79 |
| CES07 = 39 | CES32 = 66 | CES57 = 74 | CES82 = 91 |
| CES08 = 38 | CES33 = 85 | CES58 = 74 | CES83 = 91 |
| CES09 = 29 | CES34 = 72 | CES59 = 85 | CES84 = 85 |
| CES10 = 73 | CES35 = 84 | CES60 = 87 | CES85 = 77 |
| CES11 = 56 | CES36 = 86 | CES61 = 81 | CES86 = 74 |
| CES12 = 62 | CES37 = 80 | CES62 = 80 | CES87 = 77 |
| CES13 = 41 | CES38 = 98 | CES63 = 74 | CES88 = 81 |
| CES14 = 74 | CES39 = 97 | CES64 = 63 | CES89 = 72 |
| CES15 = 70 | CES40 = 93 | CES65 = 62 | CES90 = 81 |
| CES16 = 46 | CES41 = 98 | CES66 = 56 | CES91 = 71 |
| CES17 = 49 | CES42 = 83 | CES67 = 54 | CES92 = 57 |
| CES18 = 55 | CES43 = 81 | CES68 = 64 | CES93 = 74 |
| CES19 = 71 | CES44 = 99 | CES69 = 72 | CES94 = 53 |
| CES20 = 64 | CES45 = 88 | CES70 = 57 | CES95 = 64 |
| CES21 = 85 | CES46 = 86 | CES71 = 49 | CES96 = 76 |
| CES22 = 77 | CES47 = 91 | CES72 = 83 | CES97 = 86 |
| CES23 = 91 | CES48 = 80 | CES73 = 48 | CES98 = 77 |
| CES24 = 90 | CES49 = 84 | CES74 = 90 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 52 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)