

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: P856267

Luminaire Tested: **FFX-CLB-60-740-U-PG**

Issue Date: 07/16/2024



Test Information

Test Method: LM-79-08
Report Number: P856267
Test Lab: INNOVATION CENTER(G3)
Issue Date: 07/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: FFX-CLB-60-740-U-PG
Description: FAIRFAX POST TOP FIXTURE w/ PRISMATIC GLOBE
Light Source: (6) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

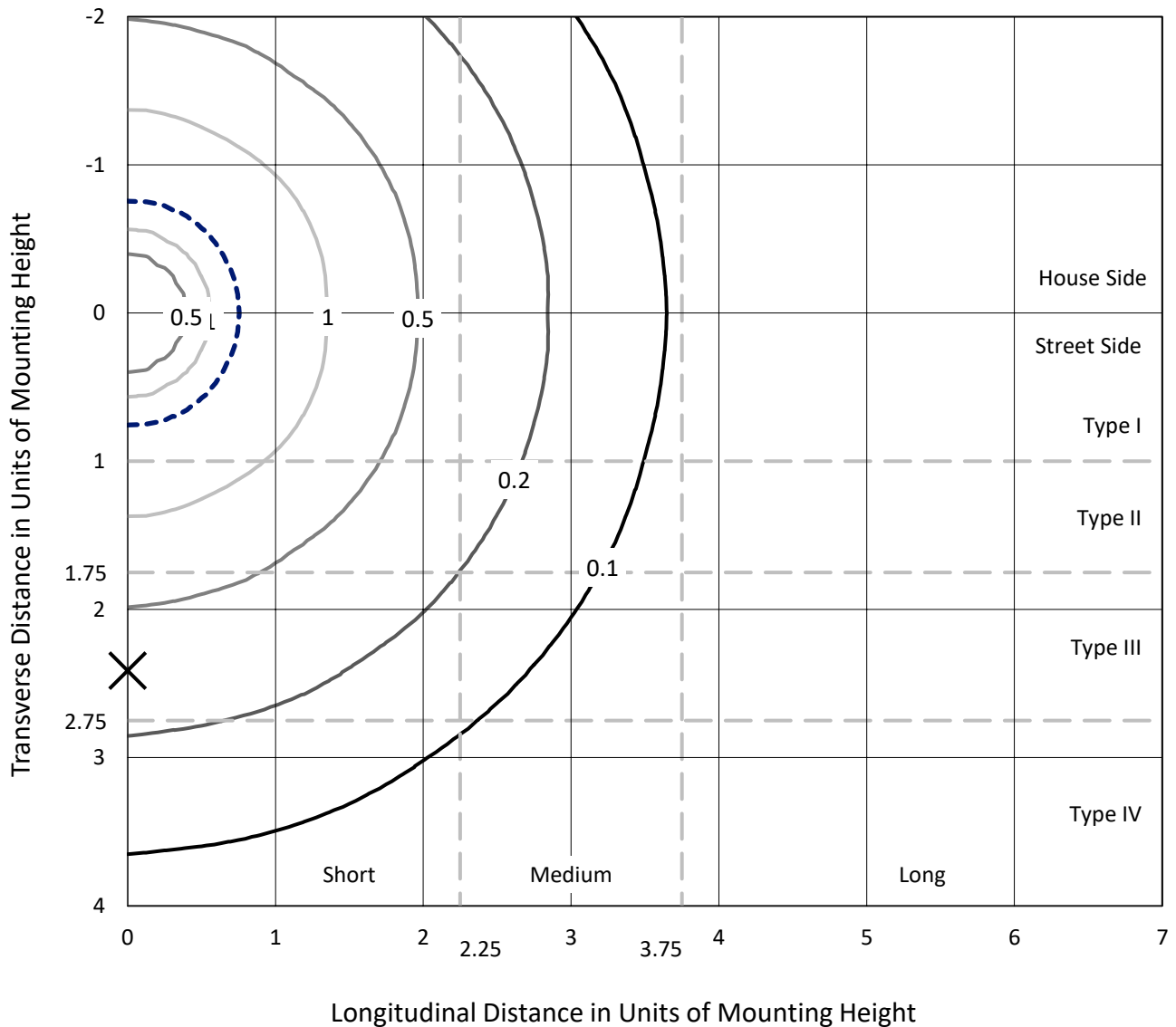
Lumens per Lamp: N/A
Luminaire Lumens: 9889.5 lumens
Efficiency: N/A
Efficacy: 165.4 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.58' x H: 1.5')
IES Classification: Type V - Short
BUG Rating: B3 - U5 - G4

Input Watts (W): 59.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: 0.99
Total Harmonic Distortion (THDi): 8.9%
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT

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 CATALOG NUMBER: FFX-CLB-60-740-U-PG

Iso-Footcandle Lines of Horizontal Illumination

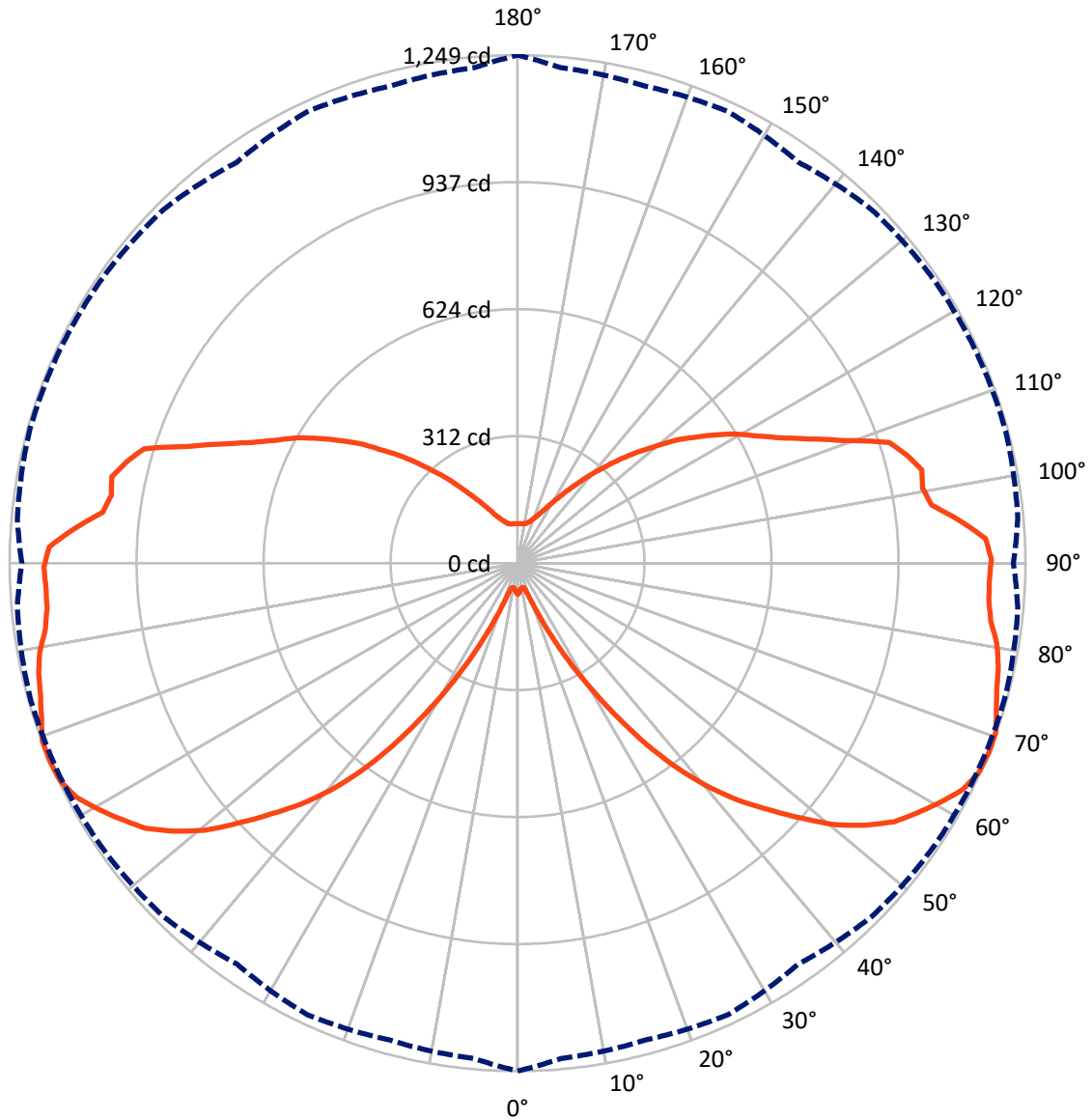
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 1.5 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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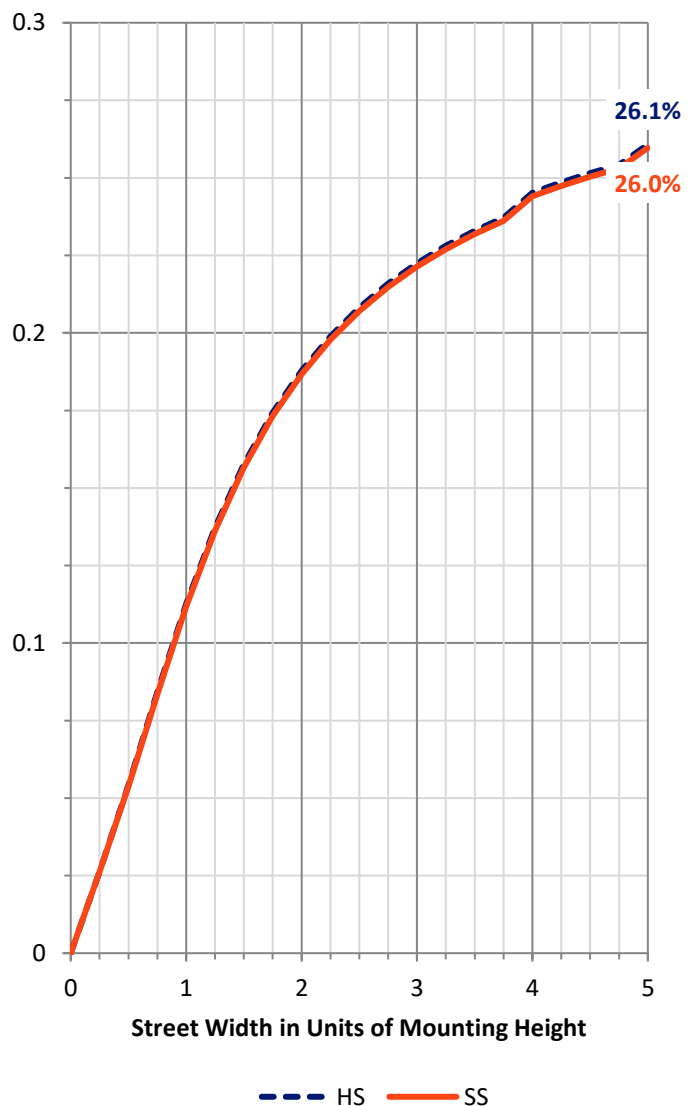
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|--------|
| House Side | Lumens | 2950.3 | 1994.5 | 4944.8 |
| | % Fixture | 29.8 | 20.2 | 50.0 |
| Street Side | Lumens | 2950.3 | 1994.5 | 4944.8 |
| | % Fixture | 29.8 | 20.2 | 50.0 |
| Total | Lumens | 5900.5 | 3989.0 | 9889.5 |
| | % Fixture | 59.7 | 40.3 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 6.4 | 0.1 |
| 10°-20° | 21.1 | 0.2 |
| 20°-30° | 105.6 | 1.1 |
| 30°-40° | 347.0 | 3.5 |
| 40°-50° | 671.2 | 6.8 |
| 50°-60° | 993.2 | 10.0 |
| 60°-70° | 1207.5 | 12.2 |
| 70°-80° | 1274.8 | 12.9 |
| 80°-90° | 1273.8 | 12.9 |
| 90°-100° | 1191.6 | 12.0 |
| 100°-110° | 1060.0 | 10.7 |
| 110°-120° | 725.1 | 7.3 |
| 120°-130° | 487.0 | 4.9 |
| 130°-140° | 282.8 | 2.9 |
| 140°-150° | 139.2 | 1.4 |
| 150°-160° | 64.3 | 0.7 |
| 160°-170° | 29.7 | 0.3 |
| 170°-180° | 9.3 | 0.1 |
| 0°-90° | 5900.5 | 59.7 |
| 0°-180° | 9889.5 | 100.0 |

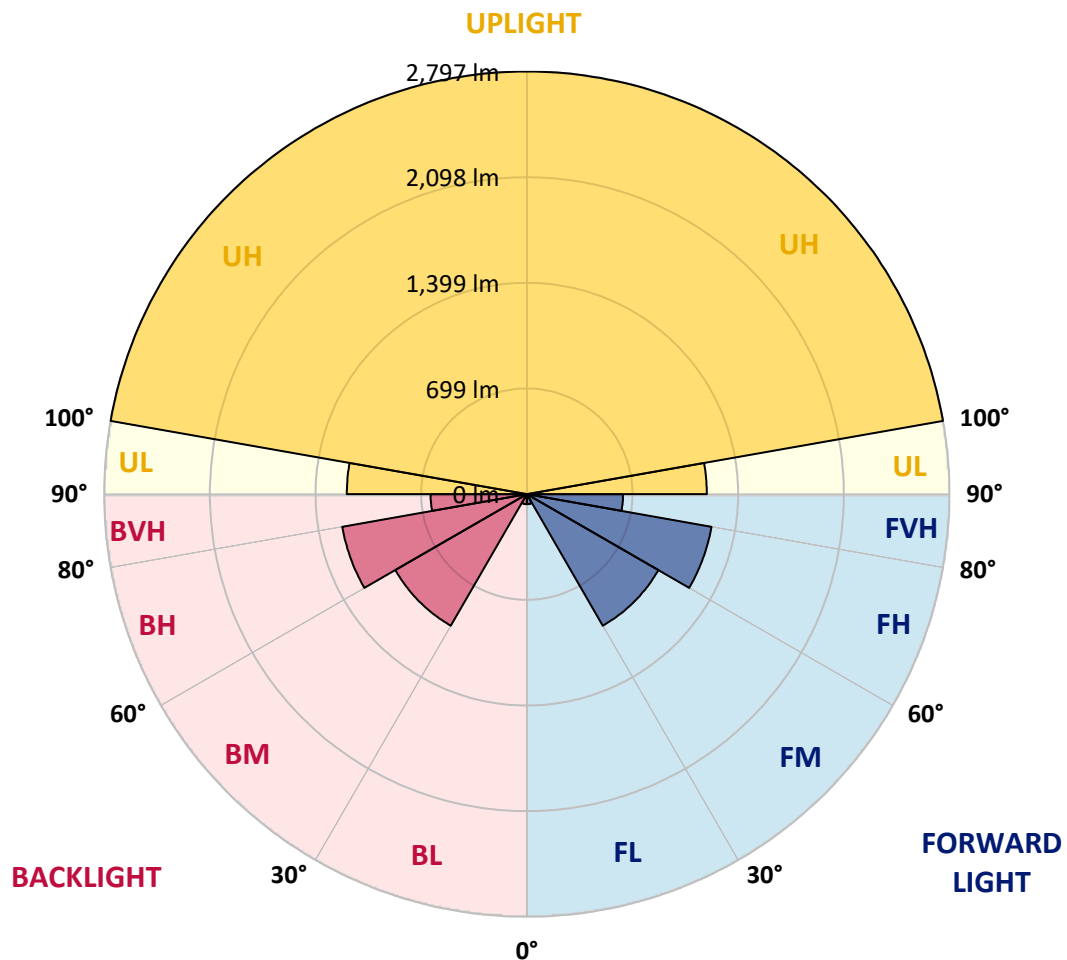


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|----|---------|
| | | | B | U | G |
| FL (0°-30°) | 66.6 | 0.7 | | | |
| FM (30°-60°) | 1005.7 | 10.2 | | | |
| FH (60°-80°) | 1241.1 | 12.5 | | | G1/1800 |
| FVH (80°-90°) | 636.9 | 6.4 | | | G4/750 |
| BL (0°-30°) | 66.6 | 0.7 | B0/110 | | |
| BM (30°-60°) | 1005.7 | 10.2 | B2/2500 | | |
| BH (60°-80°) | 1241.1 | 12.5 | B3/2500 | | G1/1800 |
| BVH (80°-90°) | 636.9 | 6.4 | | | G4/750 |
| UL (90°-100°) | 1191.6 | 12.0 | | U5 | |
| UH (100°-180°) | 2797.4 | 28.3 | | U5 | |

BUG Rating: B3-U5-G4
 Type V Short





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CANDELA DISTRIBUTION (FULL):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 0° | 76.7 | 76.7 | 76.7 | 76.7 | 76.7 | 76.7 | 76.7 | 76.7 | 76.7 | 76.7 | 76.7 |
| 2.5° | 73.6 | 73.0 | 72.4 | 71.7 | 72.4 | 73.0 | 74.2 | 74.9 | 74.9 | 74.9 | 74.9 |
| 5° | 66.7 | 67.4 | 68.0 | 68.6 | 68.6 | 68.6 | 68.6 | 69.2 | 69.9 | 69.9 | 69.9 |
| 7.5° | 63.0 | 63.0 | 63.6 | 65.5 | 66.1 | 65.5 | 65.5 | 66.1 | 64.3 | 62.4 | 61.8 |
| 10° | 61.1 | 61.1 | 61.8 | 62.4 | 63.0 | 64.3 | 64.9 | 64.9 | 64.9 | 64.9 | 64.3 |
| 12.5° | 61.8 | 61.1 | 61.8 | 62.4 | 63.6 | 64.3 | 63.0 | 63.0 | 64.3 | 65.5 | 66.1 |
| 15° | 64.9 | 64.3 | 64.3 | 65.5 | 66.1 | 66.1 | 64.9 | 64.9 | 65.5 | 66.7 | 66.7 |
| 17.5° | 78.6 | 77.4 | 76.7 | 77.4 | 76.7 | 77.4 | 76.7 | 78.0 | 78.0 | 77.4 | 76.7 |
| 20° | 107.3 | 106.1 | 104.2 | 103.6 | 104.2 | 106.1 | 106.7 | 108.5 | 106.7 | 106.1 | 103.6 |
| 22.5° | 152.2 | 150.3 | 149.1 | 149.1 | 151.0 | 152.2 | 151.6 | 154.1 | 152.8 | 152.2 | 149.7 |
| 25° | 209.6 | 208.4 | 209.0 | 212.1 | 215.2 | 213.3 | 208.4 | 212.1 | 212.1 | 211.5 | 210.9 |
| 27.5° | 281.3 | 277.0 | 278.8 | 287.0 | 289.5 | 284.5 | 278.8 | 283.2 | 285.1 | 285.7 | 285.7 |
| 30° | 363.1 | 359.9 | 359.3 | 368.1 | 371.2 | 366.8 | 363.1 | 368.1 | 368.1 | 369.9 | 369.9 |
| 32.5° | 451.6 | 449.8 | 446.7 | 451.6 | 456.6 | 455.4 | 455.4 | 459.1 | 457.9 | 459.8 | 460.4 |
| 35° | 549.0 | 545.2 | 539.0 | 539.6 | 545.2 | 545.8 | 550.2 | 552.7 | 551.5 | 550.8 | 550.8 |
| 37.5° | 640.7 | 635.7 | 630.1 | 626.9 | 633.8 | 633.2 | 643.2 | 643.2 | 640.7 | 641.3 | 641.3 |
| 40° | 723.6 | 720.5 | 716.2 | 707.4 | 720.5 | 718.0 | 729.9 | 729.9 | 723.0 | 724.9 | 723.6 |
| 42.5° | 797.9 | 797.9 | 792.9 | 779.8 | 793.5 | 791.0 | 806.6 | 806.6 | 797.2 | 796.6 | 794.8 |
| 45° | 864.6 | 867.7 | 865.2 | 853.4 | 858.4 | 860.3 | 875.2 | 872.1 | 864.6 | 864.6 | 861.5 |
| 47.5° | 936.4 | 939.5 | 930.7 | 918.3 | 923.9 | 927.0 | 940.7 | 939.5 | 935.1 | 929.5 | 929.5 |
| 50° | 1011.2 | 1011.8 | 994.4 | 979.4 | 984.4 | 1000.6 | 1010.6 | 1013.1 | 1003.7 | 990.6 | 990.0 |
| 52.5° | 1070.5 | 1074.2 | 1057.4 | 1041.2 | 1044.9 | 1063.6 | 1074.8 | 1075.5 | 1063.6 | 1044.9 | 1050.5 |
| 55° | 1122.9 | 1126.6 | 1109.8 | 1095.4 | 1102.9 | 1112.9 | 1126.0 | 1118.5 | 1119.1 | 1099.2 | 1108.5 |
| 57.5° | 1158.4 | 1170.9 | 1142.8 | 1139.7 | 1146.6 | 1158.4 | 1164.1 | 1162.2 | 1165.9 | 1147.2 | 1150.3 |
| 60° | 1194.0 | 1199.6 | 1175.9 | 1180.3 | 1172.2 | 1193.4 | 1197.7 | 1202.1 | 1192.1 | 1179.0 | 1179.0 |
| 62.5° | 1227.7 | 1214.0 | 1197.1 | 1207.7 | 1185.9 | 1212.7 | 1217.7 | 1222.7 | 1212.1 | 1199.6 | 1202.1 |
| 65° | 1245.2 | 1220.2 | 1205.9 | 1219.0 | 1197.7 | 1222.1 | 1230.2 | 1232.1 | 1230.2 | 1218.3 | 1212.7 |
| 67.5° | 1248.9 | 1222.7 | 1214.0 | 1224.6 | 1203.4 | 1230.2 | 1237.7 | 1241.4 | 1243.3 | 1234.5 | 1219.0 |
| 70° | 1247.6 | 1219.6 | 1212.1 | 1222.1 | 1208.3 | 1233.3 | 1233.9 | 1239.5 | 1242.0 | 1245.8 | 1228.3 |
| 72.5° | 1230.8 | 1206.5 | 1204.6 | 1213.3 | 1200.9 | 1217.1 | 1217.7 | 1224.6 | 1220.8 | 1232.7 | 1223.9 |
| 75° | 1217.1 | 1200.9 | 1204.0 | 1202.1 | 1189.6 | 1199.0 | 1201.5 | 1209.6 | 1195.9 | 1207.1 | 1214.6 |
| 77.5° | 1208.3 | 1199.6 | 1207.1 | 1197.1 | 1184.0 | 1190.3 | 1194.0 | 1203.4 | 1182.8 | 1192.1 | 1214.0 |
| 80° | 1194.6 | 1192.1 | 1201.5 | 1186.5 | 1175.3 | 1180.9 | 1187.1 | 1195.2 | 1172.8 | 1179.0 | 1210.2 |
| 82.5° | 1172.2 | 1174.0 | 1182.8 | 1165.3 | 1157.8 | 1164.1 | 1171.5 | 1184.0 | 1160.9 | 1164.7 | 1197.7 |
| 85° | 1162.2 | 1170.3 | 1174.7 | 1157.2 | 1148.5 | 1152.2 | 1160.3 | 1173.4 | 1149.1 | 1154.7 | 1188.4 |
| 87.5° | 1160.9 | 1170.9 | 1174.0 | 1159.1 | 1151.6 | 1157.2 | 1160.9 | 1179.7 | 1153.5 | 1160.3 | 1194.6 |
| 90° | 1164.7 | 1168.4 | 1170.3 | 1157.2 | 1151.0 | 1159.7 | 1160.3 | 1183.4 | 1157.2 | 1159.1 | 1189.6 |
| 92.5° | 1152.2 | 1152.8 | 1156.6 | 1144.7 | 1144.1 | 1150.3 | 1149.1 | 1168.4 | 1139.7 | 1135.4 | 1161.6 |
| 95° | 1091.7 | 1086.7 | 1094.8 | 1088.6 | 1101.7 | 1111.0 | 1121.6 | 1146.0 | 1131.6 | 1135.4 | 1157.8 |
| 97.5° | 1027.4 | 1028.7 | 1031.2 | 1021.2 | 1019.3 | 1023.1 | 1027.4 | 1039.9 | 1035.5 | 1039.3 | 1060.5 |
| 100° | 1012.5 | 1016.8 | 1016.2 | 1011.2 | 990.6 | 986.3 | 976.9 | 963.8 | 946.3 | 948.8 | 952.0 |
| 102.5° | 1020.0 | 1031.8 | 1033.7 | 1040.5 | 1040.5 | 1037.4 | 1044.3 | 1038.7 | 1041.8 | 1059.9 | 1049.9 |
| 105° | 993.1 | 1006.9 | 1015.6 | 1023.1 | 1037.4 | 1049.3 | 1081.1 | 1100.4 | 1116.0 | 1137.9 | 1134.7 |
| 107.5° | 960.7 | 967.6 | 973.8 | 973.8 | 970.0 | 968.2 | 985.6 | 988.8 | 984.4 | 990.0 | 990.6 |
| 110° | 859.6 | 859.0 | 865.2 | 862.7 | 864.6 | 854.6 | 859.6 | 876.5 | 872.7 | 884.0 | 885.8 |



REPORT NUMBER: P856267
 CATALOG NUMBER: FFX-CLB-60-740-U-PG

CANDELA DISTRIBUTION (continued):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 112.5° | 781.0 | 781.0 | 785.4 | 779.2 | 779.8 | 771.7 | 774.8 | 786.0 | 786.6 | 796.0 | 801.0 |
| 115° | 714.9 | 713.7 | 719.9 | 714.9 | 709.3 | 707.4 | 710.5 | 717.4 | 719.3 | 725.5 | 735.5 |
| 117.5° | 665.6 | 659.4 | 664.4 | 665.0 | 667.5 | 662.5 | 670.0 | 674.4 | 676.8 | 681.8 | 689.9 |
| 120° | 625.1 | 618.8 | 620.7 | 626.9 | 634.4 | 623.8 | 631.9 | 635.7 | 637.5 | 639.4 | 643.2 |
| 122.5° | 578.9 | 574.5 | 572.7 | 585.1 | 589.5 | 580.2 | 584.5 | 590.1 | 593.3 | 596.4 | 599.5 |
| 125° | 532.1 | 528.4 | 526.5 | 537.7 | 542.1 | 534.6 | 540.9 | 549.0 | 547.7 | 554.6 | 548.3 |
| 127.5° | 489.7 | 488.5 | 486.0 | 491.6 | 494.7 | 494.1 | 499.7 | 509.7 | 505.3 | 511.5 | 504.7 |
| 130° | 439.2 | 444.2 | 440.4 | 447.3 | 447.9 | 452.9 | 454.8 | 464.1 | 459.8 | 461.0 | 456.6 |
| 132.5° | 398.0 | 399.9 | 398.0 | 400.5 | 402.4 | 402.4 | 407.4 | 417.3 | 410.5 | 409.9 | 406.1 |
| 135° | 356.2 | 356.8 | 354.3 | 358.1 | 359.3 | 356.2 | 361.2 | 368.7 | 364.9 | 363.1 | 363.1 |
| 137.5° | 315.0 | 314.4 | 315.0 | 316.3 | 317.5 | 316.9 | 319.4 | 325.0 | 323.8 | 321.3 | 324.4 |
| 140° | 280.1 | 278.2 | 278.8 | 279.5 | 278.8 | 278.8 | 281.3 | 286.3 | 286.3 | 283.2 | 286.3 |
| 142.5° | 245.2 | 244.5 | 244.5 | 244.5 | 244.5 | 245.8 | 248.3 | 249.5 | 250.8 | 248.3 | 247.7 |
| 145° | 215.8 | 215.2 | 214.6 | 214.6 | 214.6 | 215.2 | 217.7 | 217.1 | 219.6 | 217.1 | 215.2 |
| 147.5° | 189.6 | 190.3 | 189.0 | 188.4 | 187.8 | 189.6 | 190.3 | 191.5 | 192.8 | 191.5 | 189.6 |
| 150° | 168.4 | 167.8 | 167.8 | 166.6 | 166.6 | 168.4 | 167.8 | 169.1 | 170.3 | 169.7 | 169.1 |
| 152.5° | 149.7 | 149.7 | 149.7 | 148.5 | 149.1 | 150.3 | 150.3 | 150.3 | 151.6 | 151.6 | 151.0 |
| 155° | 134.7 | 134.7 | 134.7 | 134.1 | 134.1 | 135.4 | 135.4 | 135.4 | 136.0 | 136.0 | 136.0 |
| 157.5° | 123.5 | 123.5 | 122.9 | 122.9 | 122.9 | 123.5 | 122.9 | 122.9 | 123.5 | 123.5 | 123.5 |
| 160° | 114.8 | 114.8 | 114.2 | 114.2 | 113.5 | 114.2 | 113.5 | 113.5 | 114.2 | 114.2 | 114.2 |
| 162.5° | 107.9 | 107.9 | 107.3 | 107.3 | 107.3 | 107.3 | 107.3 | 106.7 | 106.7 | 107.3 | 106.7 |
| 165° | 102.9 | 102.9 | 102.9 | 102.9 | 102.9 | 102.9 | 102.9 | 102.3 | 102.3 | 102.3 | 102.3 |
| 167.5° | 99.8 | 99.8 | 99.8 | 99.8 | 99.8 | 99.8 | 99.8 | 99.8 | 99.8 | 99.8 | 99.8 |
| 170° | 97.9 | 97.9 | 97.9 | 98.6 | 98.6 | 98.6 | 97.9 | 97.9 | 98.6 | 98.6 | 97.9 |
| 172.5° | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 |
| 175° | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 96.7 | 97.3 | 97.3 | 97.3 | 97.3 |
| 177.5° | 97.3 | 96.7 | 96.7 | 97.3 | 97.3 | 96.7 | 96.7 | 96.7 | 96.7 | 96.7 | 96.7 |
| 180° | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 | 97.3 |

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

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2406-133-1

Test Date: 07/11/2024

Luminaire Tested: FFX-CLB-100-740-U-FR-T5

Data in this report applies to families of products including FFX-CLB-100-740-U-FR-T5.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2406-133-1
 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-100-740-U-FR-T5**
 Description: FAIRFAX ACORN W/ FAIRFAX REFRACTOR 100W T5

Spectral Parameters

CCT (K): 3901
 CIE u': 0.2273
 CIE v': 0.5026
 Duv: -0.0007
 CIE x: 0.3844
 CIE y: 0.3776
 CIE z: 0.2380
 Peak Wavelength (nm): 451
 Dominant Wavelength (nm): 579
 Purity: 28.6799
 Rf: 76.2
 Rg: 94.4

| | | | |
|-----------|------|------|-------|
| CRI (Ra): | 74.5 | | |
| R1: | 71.8 | R9: | -23.4 |
| R2: | 81.9 | R10: | 56.6 |
| R3: | 89.3 | R11: | 68.4 |
| R4: | 72.6 | R12: | 46.6 |
| R5: | 71.3 | R13: | 73.7 |
| R6: | 74.0 | R14: | 93.9 |
| R7: | 81.5 | R15: | 65.1 |
| R8: | 53.3 | | |



Test Conditions

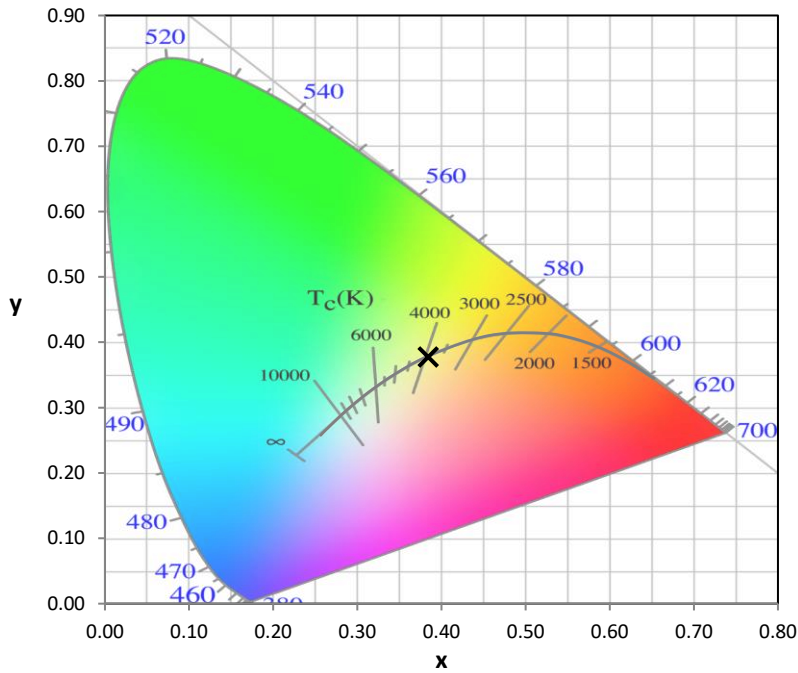
Stabilization Time: 0.818109M
 Operation Time: 1H
 Sphere Temperature (°C): 24.6

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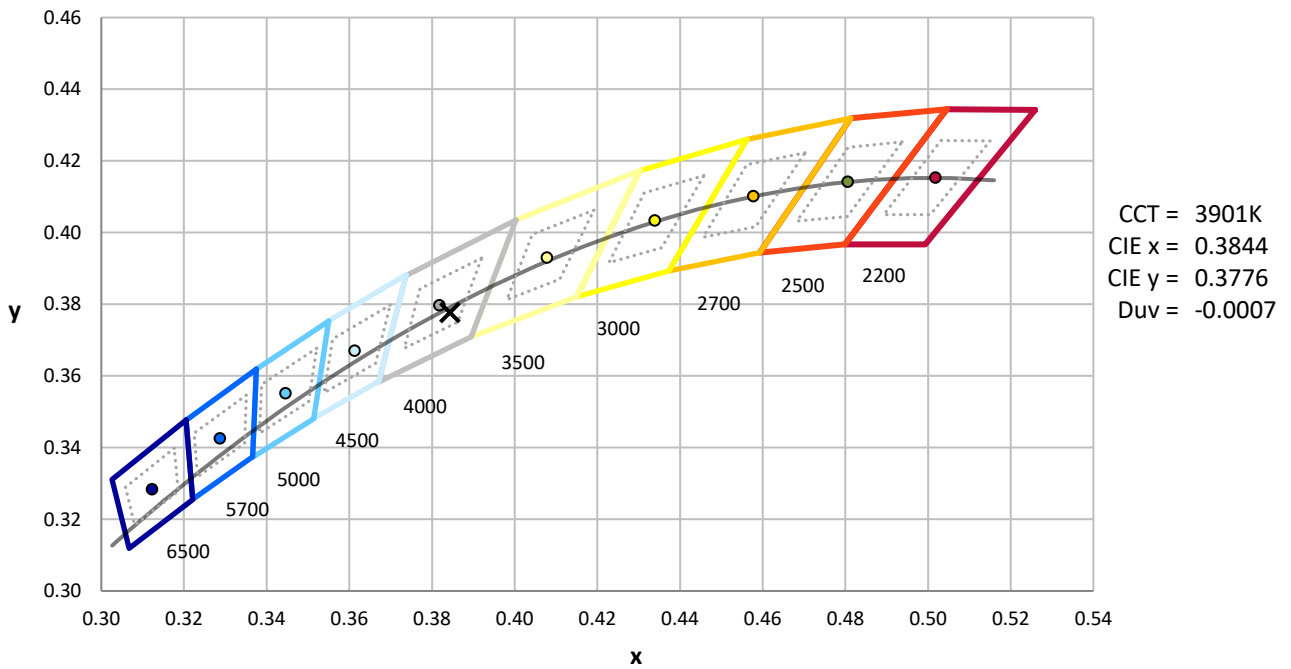
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 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 4000K 4-step quadrangle

REPORT NUMBER: SP1-2406-133-1

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 | 154 | NR | 620 | 687 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 191 | NR | 625 | 634 | NR | 755 | 17 | NR | 885 | 2 | NR |
| 370 | 0 | NR | 500 | 251 | NR | 630 | 581 | NR | 760 | 14 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 323 | NR | 635 | 524 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 395 | NR | 640 | 471 | NR | 770 | 11 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 462 | NR | 645 | 420 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 520 | NR | 650 | 373 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 563 | NR | 655 | 328 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 599 | NR | 660 | 286 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 627 | NR | 665 | 250 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 653 | NR | 670 | 217 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 679 | NR | 675 | 188 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 63 | NR | 550 | 706 | NR | 680 | 163 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 114 | NR | 555 | 737 | NR | 685 | 140 | NR | 815 | 3 | NR | 945 | 1 | NR |
| 430 | 186 | NR | 560 | 768 | NR | 690 | 121 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 297 | NR | 565 | 798 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 454 | NR | 570 | 831 | NR | 700 | 89 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 713 | NR | 575 | 860 | NR | 705 | 77 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 983 | NR | 580 | 882 | NR | 710 | 65 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 861 | NR | 585 | 893 | NR | 715 | 56 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 540 | NR | 590 | 892 | NR | 720 | 48 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 386 | NR | 595 | 880 | NR | 725 | 41 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 279 | NR | 600 | 859 | NR | 730 | 35 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 188 | NR | 605 | 825 | NR | 735 | 30 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 149 | NR | 610 | 787 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 143 | NR | 615 | 738 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2406-133-1

Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.53

| 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 | 154 | NR | 620 | 687 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 191 | NR | 625 | 634 | NR | 755 | 17 | NR | 885 | 2 | NR |
| 370 | 0 | NR | 500 | 251 | NR | 630 | 581 | NR | 760 | 14 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 323 | NR | 635 | 524 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 395 | NR | 640 | 471 | NR | 770 | 11 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 462 | NR | 645 | 420 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 520 | NR | 650 | 373 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 563 | NR | 655 | 328 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 599 | NR | 660 | 286 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 627 | NR | 665 | 250 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 653 | NR | 670 | 217 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 679 | NR | 675 | 188 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 63 | NR | 550 | 706 | NR | 680 | 163 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 114 | NR | 555 | 737 | NR | 685 | 140 | NR | 815 | 3 | NR | 945 | 1 | NR |
| 430 | 186 | NR | 560 | 768 | NR | 690 | 121 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 297 | NR | 565 | 798 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 454 | NR | 570 | 831 | NR | 700 | 89 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 713 | NR | 575 | 860 | NR | 705 | 77 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 983 | NR | 580 | 882 | NR | 710 | 65 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 861 | NR | 585 | 893 | NR | 715 | 56 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 540 | NR | 590 | 892 | NR | 720 | 48 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 386 | NR | 595 | 880 | NR | 725 | 41 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 279 | NR | 600 | 859 | NR | 730 | 35 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 188 | NR | 605 | 825 | NR | 735 | 30 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 149 | NR | 610 | 787 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 143 | NR | 615 | 738 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

REPORT NUMBER: SP1-2406-133-1

Melanopic Flux vs. Wavelength



Melanopic Lumens: NR

M/P: 3.04

| 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 | 154 | NR | 620 | 687 | NR | 750 | 19 | NR | 880 | 1 | NR |
| 365 | 0 | NR | 495 | 191 | NR | 625 | 634 | NR | 755 | 17 | NR | 885 | 2 | NR |
| 370 | 0 | NR | 500 | 251 | NR | 630 | 581 | NR | 760 | 14 | NR | 890 | 1 | NR |
| 375 | 0 | NR | 505 | 323 | NR | 635 | 524 | NR | 765 | 12 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 395 | NR | 640 | 471 | NR | 770 | 11 | NR | 900 | 1 | NR |
| 385 | 0 | NR | 515 | 462 | NR | 645 | 420 | NR | 775 | 9 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 520 | NR | 650 | 373 | NR | 780 | 8 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 563 | NR | 655 | 328 | NR | 785 | 7 | NR | 915 | 0 | NR |
| 400 | 4 | NR | 530 | 599 | NR | 660 | 286 | NR | 790 | 6 | NR | 920 | 0 | NR |
| 405 | 8 | NR | 535 | 627 | NR | 665 | 250 | NR | 795 | 5 | NR | 925 | 0 | NR |
| 410 | 17 | NR | 540 | 653 | NR | 670 | 217 | NR | 800 | 4 | NR | 930 | 0 | NR |
| 415 | 34 | NR | 545 | 679 | NR | 675 | 188 | NR | 805 | 4 | NR | 935 | 0 | NR |
| 420 | 63 | NR | 550 | 706 | NR | 680 | 163 | NR | 810 | 3 | NR | 940 | 0 | NR |
| 425 | 114 | NR | 555 | 737 | NR | 685 | 140 | NR | 815 | 3 | NR | 945 | 1 | NR |
| 430 | 186 | NR | 560 | 768 | NR | 690 | 121 | NR | 820 | 3 | NR | 950 | 0 | NR |
| 435 | 297 | NR | 565 | 798 | NR | 695 | 104 | NR | 825 | 2 | NR | 955 | 0 | NR |
| 440 | 454 | NR | 570 | 831 | NR | 700 | 89 | NR | 830 | 2 | NR | 960 | 0 | NR |
| 445 | 713 | NR | 575 | 860 | NR | 705 | 77 | NR | 835 | 2 | NR | 965 | 0 | NR |
| 450 | 983 | NR | 580 | 882 | NR | 710 | 65 | NR | 840 | 2 | NR | 970 | 0 | NR |
| 455 | 861 | NR | 585 | 893 | NR | 715 | 56 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 540 | NR | 590 | 892 | NR | 720 | 48 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 386 | NR | 595 | 880 | NR | 725 | 41 | NR | 855 | 1 | NR | 985 | 0 | NR |
| 470 | 279 | NR | 600 | 859 | NR | 730 | 35 | NR | 860 | 1 | NR | 990 | 0 | NR |
| 475 | 188 | NR | 605 | 825 | NR | 735 | 30 | NR | 865 | 1 | NR | 995 | 0 | NR |
| 480 | 149 | NR | 610 | 787 | NR | 740 | 26 | NR | 870 | 1 | NR | 1000 | 0 | NR |
| 485 | 143 | NR | 615 | 738 | NR | 745 | 22 | NR | 875 | 1 | NR | | | |

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Summary

$R_f = 76.2$
 $R_g = 94.4$
 CIE $R_a = 74.5$
 $R_g = -23.4$



Color Vector Graphics



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TM-30-18

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

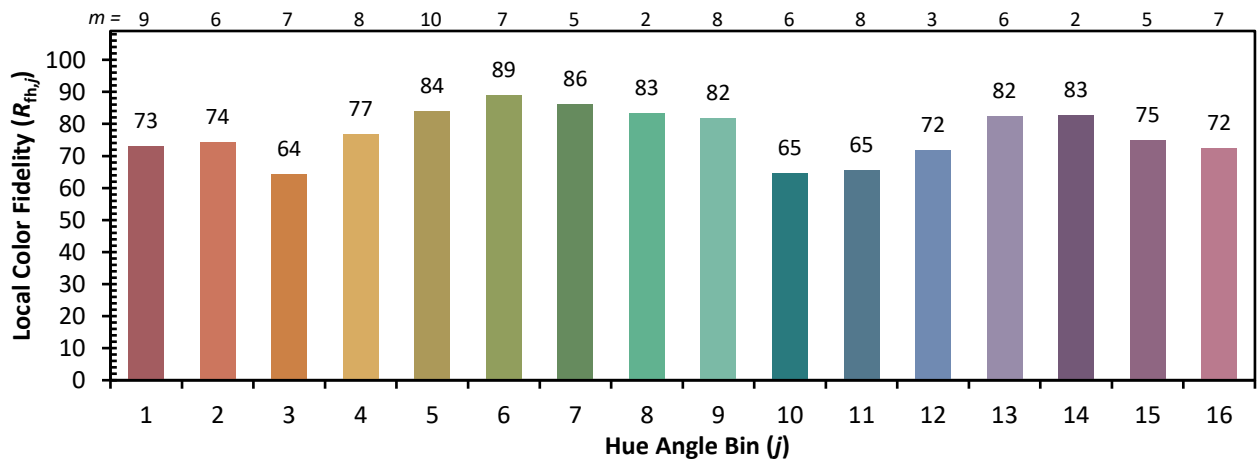
| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 67 | CES51 = 89 | CES76 = 56 |
| CES02 = 61 | CES27 = 90 | CES52 = 88 | CES77 = 72 |
| CES03 = 30 | CES28 = 83 | CES53 = 80 | CES78 = 59 |
| CES04 = 70 | CES29 = 72 | CES54 = 86 | CES79 = 84 |
| CES05 = 48 | CES30 = 89 | CES55 = 84 | CES80 = 81 |
| CES06 = 51 | CES31 = 75 | CES56 = 77 | CES81 = 79 |
| CES07 = 40 | CES32 = 66 | CES57 = 76 | CES82 = 92 |
| CES08 = 39 | CES33 = 83 | CES58 = 76 | CES83 = 92 |
| CES09 = 29 | CES34 = 74 | CES59 = 86 | CES84 = 87 |
| CES10 = 74 | CES35 = 85 | CES60 = 89 | CES85 = 77 |
| CES11 = 57 | CES36 = 87 | CES61 = 82 | CES86 = 73 |
| CES12 = 63 | CES37 = 81 | CES62 = 84 | CES87 = 79 |
| CES13 = 42 | CES38 = 98 | CES63 = 74 | CES88 = 83 |
| CES14 = 74 | CES39 = 97 | CES64 = 66 | CES89 = 72 |
| CES15 = 71 | CES40 = 93 | CES65 = 65 | CES90 = 83 |
| CES16 = 46 | CES41 = 96 | CES66 = 59 | CES91 = 73 |
| CES17 = 49 | CES42 = 83 | CES67 = 57 | CES92 = 60 |
| CES18 = 56 | CES43 = 80 | CES68 = 66 | CES93 = 75 |
| CES19 = 72 | CES44 = 99 | CES69 = 74 | CES94 = 55 |
| CES20 = 65 | CES45 = 87 | CES70 = 59 | CES95 = 67 |
| CES21 = 86 | CES46 = 85 | CES71 = 52 | CES96 = 78 |
| CES22 = 78 | CES47 = 90 | CES72 = 84 | CES97 = 86 |
| CES23 = 92 | CES48 = 81 | CES73 = 51 | CES98 = 79 |
| CES24 = 91 | CES49 = 83 | CES74 = 92 | CES99 = 68 |
| CES25 = 72 | CES50 = 89 | CES75 = 56 | |



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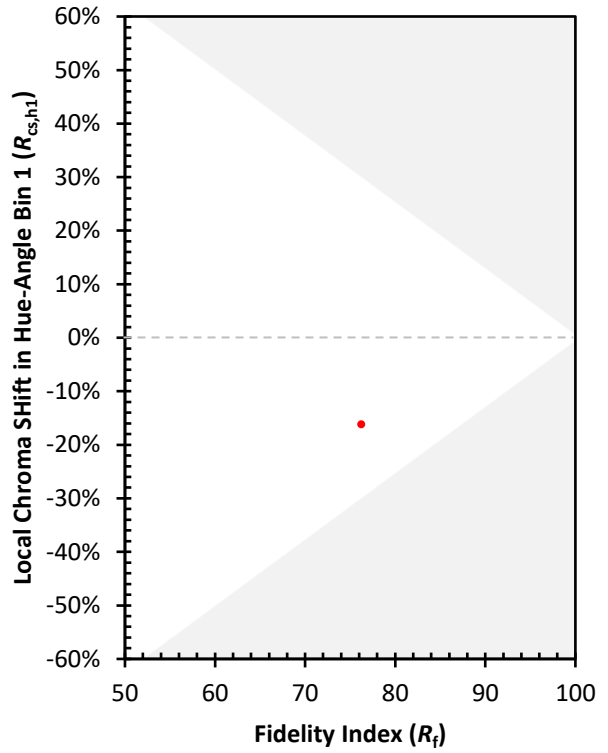
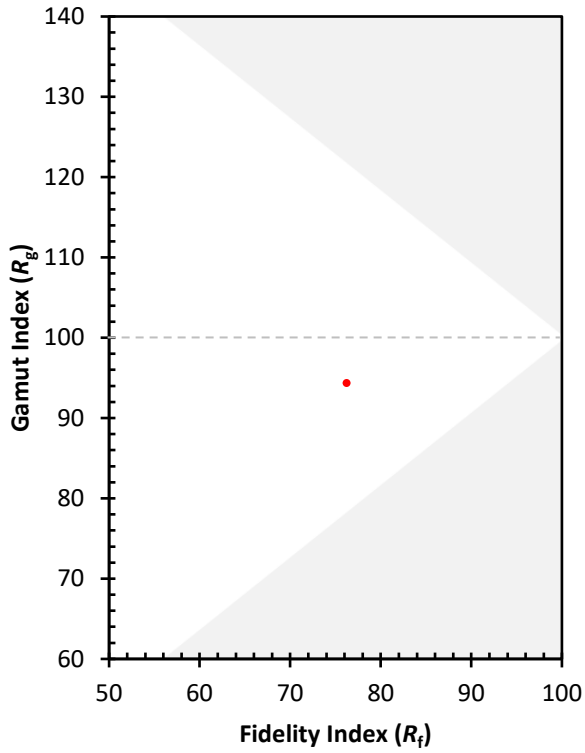
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)