

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: P856312

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

Issue Date: 07/16/2024



Test Information

Test Method: LM-79-08
Report Number: P856312
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-FG
Description: FAIRFAX POST TOP FIXTURE w/ FROSTED GLOBE
Light Source: (6) 4000K CCT, 70 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

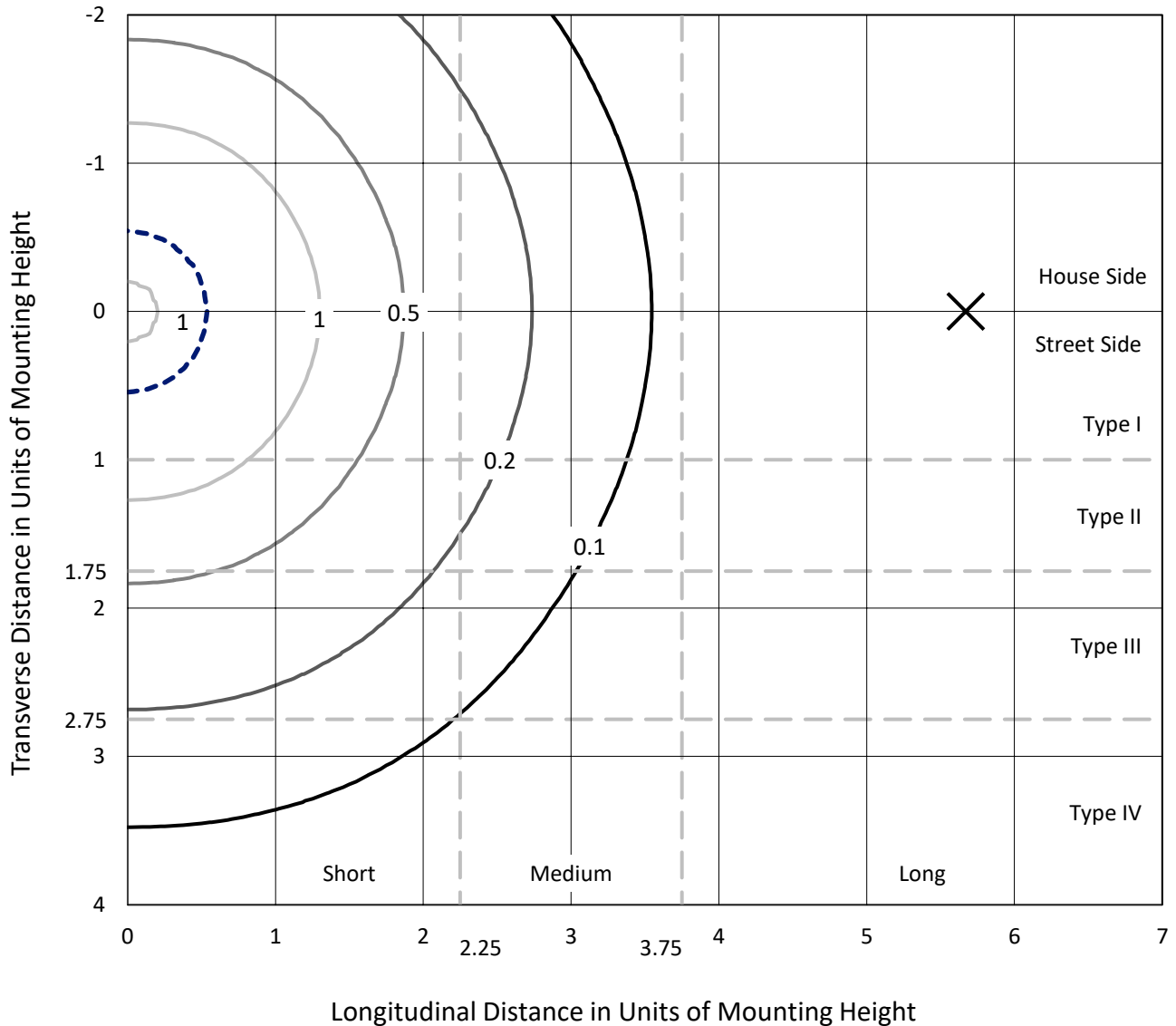
Lumens per Lamp: N/A
Luminaire Lumens: 10137.6 lumens
Efficiency: N/A
Efficacy: 169.5 lumens/watt
Luminous Opening: Vertical Cylinder (Dia: 1.58' x H: 1.5')
IES Classification: Type V - Short
BUG Rating: B3 - U5 - G4

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

REPORT NUMBER: P856312
 CATALOG NUMBER: FFX-CLB-60-740-U-FG

Iso-Footcandle Lines of Horizontal Illumination

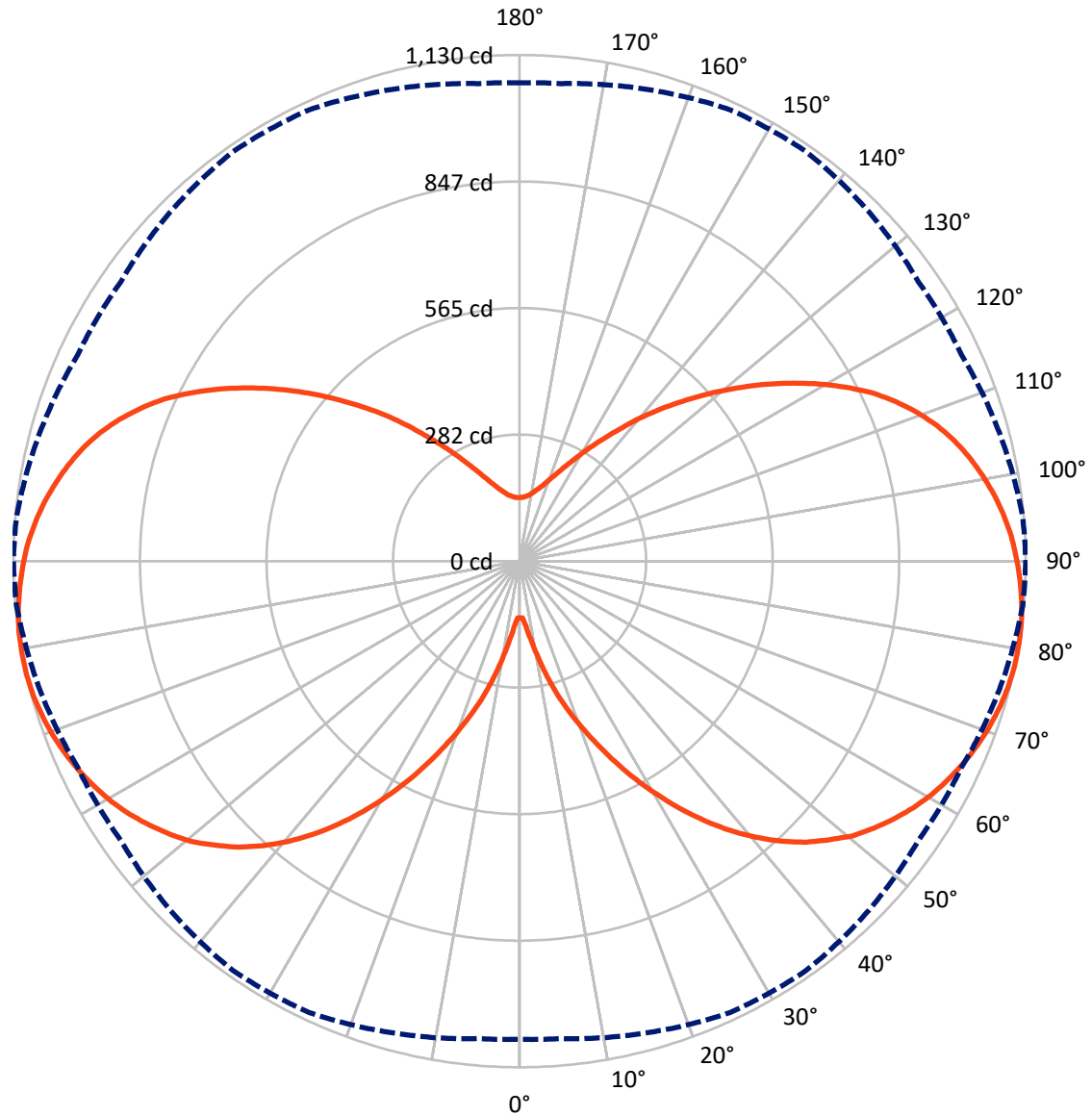
✕ Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 1.8 fc
 Type V - Short - N/A

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

Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral - - - Horizontal Cone Through 80-Deg Vertical

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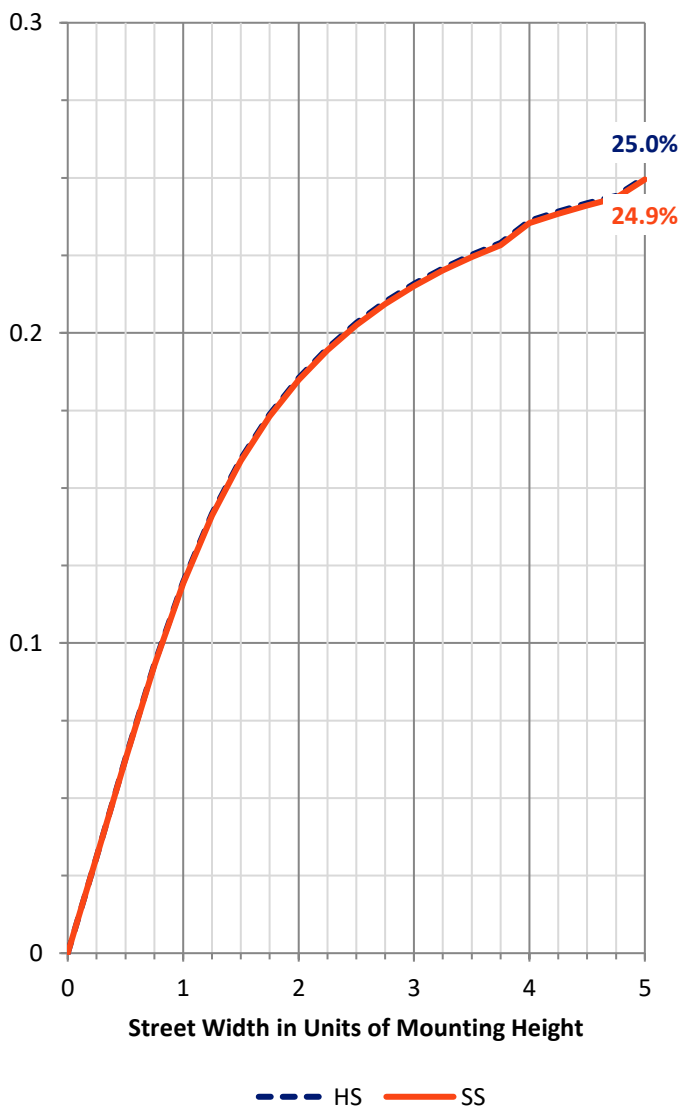
FLUX DISTRIBUTION:

| | | Downward | Upward | Total |
|--------------------|-----------|----------|--------|---------|
| House Side | Lumens | 2884.3 | 2184.6 | 5068.8 |
| | % Fixture | 28.5 | 21.5 | 50.0 |
| Street Side | Lumens | 2884.3 | 2184.6 | 5068.8 |
| | % Fixture | 28.5 | 21.5 | 50.0 |
| Total | Lumens | 5768.5 | 4369.1 | 10137.6 |
| | % Fixture | 56.9 | 43.1 | 100.0 |

Coefficient of Utilization

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 16.1 | 0.2 |
| 10°-20° | 88.5 | 0.9 |
| 20°-30° | 232.6 | 2.3 |
| 30°-40° | 444.7 | 4.4 |
| 40°-50° | 683.5 | 6.7 |
| 50°-60° | 895.5 | 8.8 |
| 60°-70° | 1056.9 | 10.4 |
| 70°-80° | 1159.5 | 11.4 |
| 80°-90° | 1191.3 | 11.8 |
| 90°-100° | 1147.7 | 11.3 |
| 100°-110° | 1029.1 | 10.2 |
| 110°-120° | 836.2 | 8.2 |
| 120°-130° | 597.5 | 5.9 |
| 130°-140° | 377.9 | 3.7 |
| 140°-150° | 211.6 | 2.1 |
| 150°-160° | 106.5 | 1.1 |
| 160°-170° | 48.4 | 0.5 |
| 170°-180° | 14.0 | 0.1 |
| 0°-90° | 5768.5 | 56.9 |
| 0°-180° | 10137.6 | 100.0 |

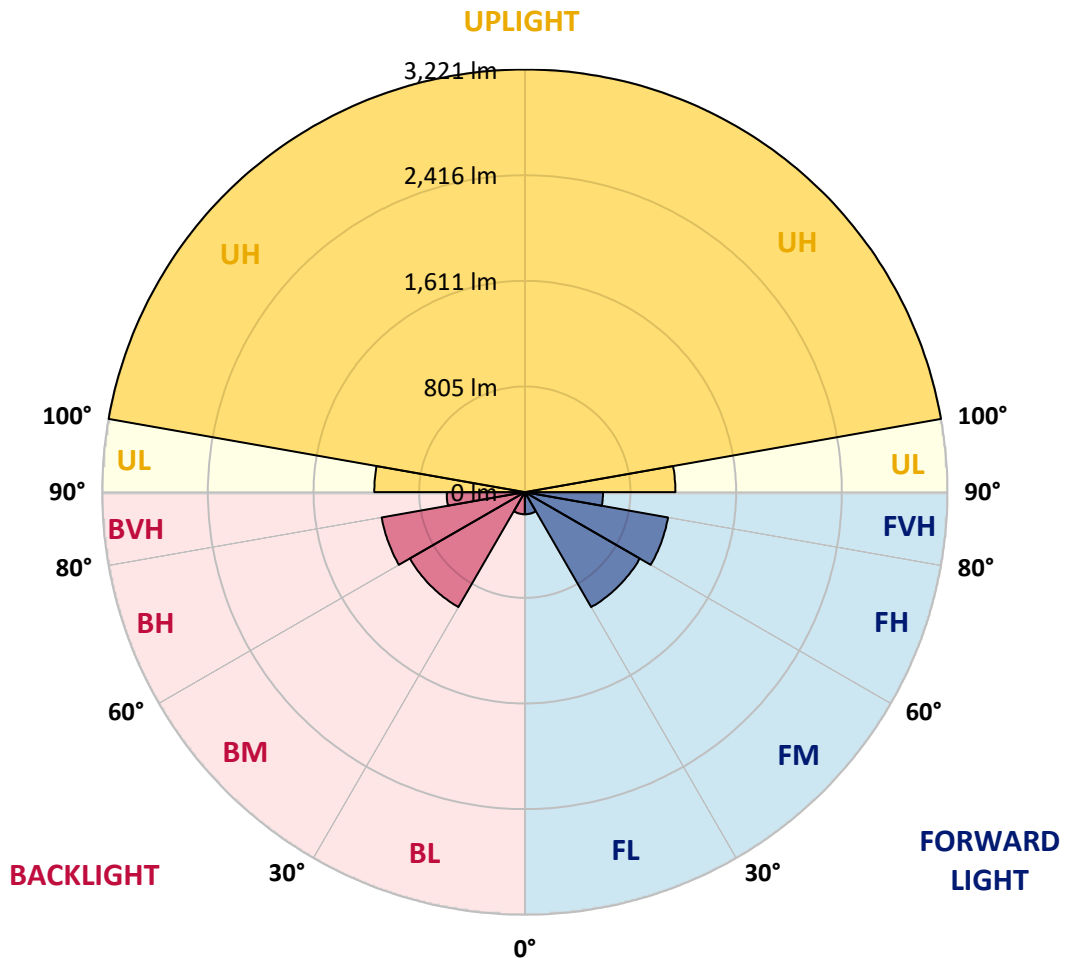


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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | Lumens | % Fixture | Zone Rating/Lumen Limit | | |
|----------------|--------|-----------|-------------------------|----|---------|
| | | | B | U | G |
| FL (0°-30°) | 168.6 | 1.7 | | | |
| FM (30°-60°) | 1011.9 | 10.0 | | | |
| FH (60°-80°) | 1108.2 | 10.9 | | | G1/1800 |
| FVH (80°-90°) | 595.6 | 5.9 | | | G4/750 |
| BL (0°-30°) | 168.6 | 1.7 | B1/500 | | |
| BM (30°-60°) | 1011.9 | 10.0 | B2/2500 | | |
| BH (60°-80°) | 1108.2 | 10.9 | B3/2500 | | G1/1800 |
| BVH (80°-90°) | 595.6 | 5.9 | | | G4/750 |
| UL (90°-100°) | 1147.7 | 11.3 | | U5 | |
| UH (100°-180°) | 3221.4 | 31.8 | | 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° | 127.3 | 127.3 | 127.3 | 127.3 | 127.3 | 127.3 | 127.3 | 127.3 | 127.3 | 127.3 | 127.3 |
| 2.5° | 133.5 | 133.5 | 132.9 | 131.6 | 131.0 | 130.4 | 129.1 | 127.3 | 126.6 | 126.6 | 126.6 |
| 5° | 145.4 | 146.0 | 146.0 | 145.4 | 146.0 | 144.7 | 144.7 | 143.5 | 144.1 | 144.1 | 144.7 |
| 7.5° | 174.7 | 174.7 | 175.3 | 175.3 | 175.9 | 174.7 | 175.3 | 174.7 | 175.3 | 175.3 | 174.7 |
| 10° | 212.7 | 212.7 | 214.0 | 212.7 | 213.4 | 212.1 | 211.5 | 211.5 | 213.4 | 212.7 | 212.1 |
| 12.5° | 255.8 | 257.0 | 256.4 | 255.8 | 257.0 | 255.8 | 254.5 | 255.2 | 257.7 | 256.4 | 255.8 |
| 15° | 301.3 | 302.6 | 303.8 | 301.9 | 302.6 | 301.9 | 301.3 | 301.9 | 304.4 | 303.2 | 302.6 |
| 17.5° | 347.5 | 348.1 | 349.4 | 346.9 | 347.5 | 348.1 | 347.5 | 348.1 | 350.0 | 349.4 | 348.7 |
| 20° | 393.7 | 394.9 | 396.2 | 393.7 | 394.3 | 394.9 | 394.3 | 394.9 | 397.4 | 396.2 | 395.5 |
| 22.5° | 442.3 | 442.9 | 445.4 | 442.3 | 443.6 | 444.2 | 442.9 | 444.2 | 446.7 | 445.4 | 444.8 |
| 25° | 492.8 | 492.2 | 496.0 | 493.5 | 494.1 | 495.3 | 494.1 | 495.3 | 498.5 | 498.5 | 496.6 |
| 27.5° | 544.6 | 544.6 | 547.7 | 545.9 | 547.1 | 546.5 | 547.7 | 549.0 | 552.1 | 552.7 | 550.9 |
| 30° | 596.4 | 596.4 | 601.4 | 598.3 | 600.2 | 600.8 | 600.8 | 602.0 | 605.8 | 607.0 | 604.5 |
| 32.5° | 648.2 | 648.2 | 650.7 | 651.3 | 652.6 | 653.2 | 654.4 | 654.4 | 659.4 | 660.0 | 658.8 |
| 35° | 698.7 | 698.7 | 701.2 | 702.5 | 705.6 | 704.3 | 706.2 | 706.2 | 711.8 | 712.4 | 711.8 |
| 37.5° | 746.8 | 747.4 | 750.5 | 751.7 | 754.2 | 754.2 | 755.5 | 756.7 | 761.7 | 763.6 | 763.0 |
| 40° | 792.3 | 793.5 | 796.0 | 798.5 | 801.0 | 801.0 | 801.7 | 803.5 | 809.1 | 811.0 | 810.4 |
| 42.5° | 833.5 | 834.1 | 837.8 | 841.6 | 844.1 | 844.1 | 844.7 | 846.0 | 852.2 | 854.7 | 854.7 |
| 45° | 869.7 | 871.5 | 876.5 | 881.5 | 884.0 | 883.4 | 883.4 | 885.3 | 892.1 | 895.2 | 895.2 |
| 47.5° | 903.3 | 905.8 | 911.5 | 916.4 | 918.9 | 918.9 | 918.3 | 920.2 | 927.7 | 931.4 | 929.5 |
| 50° | 933.3 | 935.2 | 941.4 | 948.9 | 950.8 | 950.8 | 948.9 | 950.8 | 958.9 | 963.9 | 963.9 |
| 52.5° | 958.2 | 960.1 | 967.6 | 975.7 | 978.2 | 977.6 | 975.1 | 977.0 | 985.1 | 990.7 | 990.1 |
| 55° | 979.5 | 982.0 | 990.1 | 1000.0 | 1002.5 | 1000.7 | 997.6 | 999.4 | 1008.2 | 1015.6 | 1015.0 |
| 57.5° | 998.8 | 1000.7 | 1010.0 | 1020.6 | 1024.4 | 1021.3 | 1016.9 | 1018.8 | 1028.7 | 1036.9 | 1037.5 |
| 60° | 1015.0 | 1016.9 | 1027.5 | 1040.0 | 1043.1 | 1039.3 | 1033.7 | 1035.6 | 1046.8 | 1056.2 | 1057.4 |
| 62.5° | 1028.7 | 1030.6 | 1042.5 | 1056.2 | 1060.6 | 1054.9 | 1048.1 | 1050.0 | 1062.4 | 1073.0 | 1073.7 |
| 65° | 1040.0 | 1041.8 | 1055.6 | 1069.9 | 1074.3 | 1068.0 | 1059.9 | 1061.8 | 1075.5 | 1087.4 | 1088.6 |
| 67.5° | 1048.7 | 1051.2 | 1066.8 | 1082.4 | 1086.1 | 1078.7 | 1069.3 | 1071.2 | 1086.1 | 1099.9 | 1101.1 |
| 70° | 1056.2 | 1059.3 | 1075.5 | 1092.4 | 1096.7 | 1088.0 | 1076.8 | 1079.3 | 1096.1 | 1109.8 | 1111.7 |
| 72.5° | 1061.8 | 1064.9 | 1082.4 | 1100.5 | 1105.5 | 1094.9 | 1082.4 | 1084.9 | 1103.0 | 1118.0 | 1119.8 |
| 75° | 1065.6 | 1068.7 | 1087.4 | 1106.7 | 1111.1 | 1099.9 | 1086.1 | 1088.6 | 1107.3 | 1123.6 | 1126.1 |
| 77.5° | 1067.4 | 1070.5 | 1090.5 | 1110.5 | 1114.8 | 1101.7 | 1087.4 | 1089.9 | 1109.2 | 1126.7 | 1129.2 |
| 80° | 1067.4 | 1069.9 | 1090.5 | 1111.7 | 1115.5 | 1102.4 | 1086.8 | 1088.6 | 1108.6 | 1127.3 | 1129.8 |
| 82.5° | 1065.6 | 1068.0 | 1089.3 | 1110.5 | 1114.2 | 1099.9 | 1083.6 | 1086.1 | 1106.7 | 1125.4 | 1128.6 |
| 85° | 1061.2 | 1063.7 | 1084.9 | 1106.7 | 1110.5 | 1094.9 | 1078.0 | 1080.5 | 1101.1 | 1121.1 | 1124.2 |
| 87.5° | 1054.9 | 1058.1 | 1078.7 | 1100.5 | 1103.6 | 1087.4 | 1071.2 | 1072.4 | 1094.2 | 1114.8 | 1117.3 |
| 90° | 1047.5 | 1050.6 | 1069.9 | 1091.8 | 1094.9 | 1078.7 | 1061.8 | 1063.7 | 1084.9 | 1106.1 | 1108.6 |
| 92.5° | 1038.7 | 1041.2 | 1059.9 | 1079.9 | 1083.6 | 1066.8 | 1050.6 | 1053.1 | 1074.3 | 1095.5 | 1098.6 |
| 95° | 1027.5 | 1029.4 | 1046.8 | 1065.6 | 1068.7 | 1053.7 | 1037.5 | 1040.0 | 1061.2 | 1081.8 | 1084.9 |
| 97.5° | 1013.8 | 1015.0 | 1030.6 | 1047.5 | 1051.2 | 1036.9 | 1021.9 | 1024.4 | 1045.0 | 1065.6 | 1069.3 |
| 100° | 998.2 | 998.8 | 1012.5 | 1026.9 | 1030.0 | 1018.1 | 1004.4 | 1007.5 | 1026.9 | 1048.1 | 1050.6 |
| 102.5° | 980.1 | 980.1 | 991.3 | 1003.2 | 1006.9 | 996.9 | 985.1 | 988.2 | 1006.9 | 1026.9 | 1030.0 |
| 105° | 960.1 | 958.2 | 966.4 | 975.7 | 980.1 | 972.6 | 963.9 | 966.4 | 983.8 | 1003.2 | 1006.9 |
| 107.5° | 935.2 | 933.3 | 938.9 | 947.0 | 951.4 | 945.8 | 938.9 | 942.7 | 957.6 | 975.7 | 979.5 |
| 110° | 907.1 | 904.6 | 907.1 | 913.3 | 918.3 | 914.6 | 910.8 | 914.0 | 928.3 | 945.1 | 947.6 |



REPORT NUMBER: P856312
 CATALOG NUMBER: FFX-CLB-60-740-U-FG

CANDELA DISTRIBUTION (continued):

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|--------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 112.5° | 874.7 | 871.5 | 872.2 | 876.5 | 880.9 | 880.3 | 877.8 | 882.8 | 894.6 | 908.3 | 911.5 |
| 115° | 837.2 | 834.1 | 832.2 | 834.7 | 838.5 | 841.0 | 843.5 | 846.6 | 855.9 | 867.2 | 872.2 |
| 117.5° | 797.9 | 792.9 | 789.8 | 789.8 | 794.2 | 798.5 | 802.9 | 807.3 | 813.5 | 824.1 | 826.0 |
| 120° | 752.4 | 749.3 | 744.9 | 744.9 | 748.6 | 753.0 | 759.9 | 764.9 | 768.6 | 776.1 | 778.6 |
| 122.5° | 707.5 | 703.1 | 698.7 | 698.7 | 701.2 | 707.5 | 716.8 | 721.2 | 723.1 | 727.4 | 729.3 |
| 125° | 661.9 | 656.9 | 651.9 | 651.9 | 654.4 | 660.7 | 671.3 | 675.0 | 676.3 | 678.1 | 680.0 |
| 127.5° | 615.7 | 610.8 | 606.4 | 604.5 | 608.3 | 613.3 | 623.9 | 628.8 | 629.5 | 629.5 | 630.7 |
| 130° | 569.6 | 565.8 | 561.5 | 559.6 | 563.3 | 567.7 | 579.6 | 584.6 | 582.1 | 582.1 | 582.7 |
| 132.5° | 525.9 | 522.2 | 517.8 | 516.6 | 519.1 | 524.7 | 535.3 | 539.6 | 537.8 | 535.3 | 535.9 |
| 135° | 483.5 | 480.4 | 474.8 | 474.1 | 477.9 | 480.4 | 490.4 | 494.7 | 492.8 | 490.4 | 491.0 |
| 137.5° | 442.9 | 439.8 | 434.8 | 434.2 | 437.9 | 441.1 | 448.6 | 452.9 | 450.4 | 447.9 | 448.6 |
| 140° | 404.3 | 400.5 | 396.8 | 396.2 | 398.6 | 401.8 | 408.6 | 411.1 | 408.6 | 406.8 | 407.4 |
| 142.5° | 368.1 | 365.6 | 361.2 | 361.2 | 362.5 | 365.0 | 370.6 | 373.1 | 370.6 | 368.1 | 366.8 |
| 145° | 333.8 | 330.6 | 328.1 | 327.5 | 328.8 | 331.3 | 335.0 | 337.5 | 335.0 | 333.1 | 331.9 |
| 147.5° | 303.2 | 300.7 | 298.2 | 298.2 | 298.8 | 300.7 | 303.8 | 304.4 | 302.6 | 301.3 | 300.1 |
| 150° | 275.1 | 272.6 | 271.4 | 270.8 | 271.4 | 272.0 | 274.5 | 275.7 | 273.9 | 272.6 | 271.4 |
| 152.5° | 249.5 | 247.7 | 246.4 | 247.0 | 247.0 | 247.7 | 248.3 | 248.9 | 247.0 | 247.0 | 245.8 |
| 155° | 227.1 | 225.8 | 224.6 | 225.2 | 225.2 | 225.2 | 225.8 | 225.8 | 224.6 | 224.6 | 224.0 |
| 157.5° | 208.4 | 207.1 | 206.5 | 207.1 | 207.1 | 206.5 | 207.1 | 207.1 | 205.9 | 205.9 | 205.2 |
| 160° | 192.1 | 190.9 | 190.9 | 190.9 | 190.9 | 190.3 | 191.5 | 190.9 | 190.3 | 189.7 | 189.7 |
| 162.5° | 179.0 | 177.8 | 177.8 | 178.4 | 177.8 | 177.8 | 177.8 | 177.8 | 177.2 | 177.2 | 176.6 |
| 165° | 168.4 | 167.2 | 167.2 | 167.8 | 167.2 | 167.2 | 167.2 | 167.2 | 166.6 | 166.6 | 166.6 |
| 167.5° | 159.7 | 159.1 | 159.1 | 159.1 | 159.1 | 158.5 | 159.1 | 159.1 | 158.5 | 158.5 | 158.5 |
| 170° | 152.8 | 152.2 | 152.2 | 152.2 | 152.2 | 152.2 | 152.2 | 152.2 | 152.2 | 151.6 | 151.6 |
| 172.5° | 148.5 | 147.9 | 147.9 | 147.9 | 147.9 | 147.9 | 147.9 | 147.9 | 147.2 | 147.2 | 147.2 |
| 175° | 145.4 | 144.7 | 144.7 | 144.7 | 144.7 | 144.7 | 144.7 | 144.7 | 144.7 | 144.1 | 144.1 |
| 177.5° | 143.5 | 142.9 | 142.9 | 142.9 | 142.9 | 142.9 | 142.9 | 142.9 | 142.9 | 142.2 | 142.2 |
| 180° | 142.2 | 142.2 | 142.2 | 142.2 | 142.2 | 142.2 | 142.2 | 142.2 | 142.2 | 142.2 | 142.2 |

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

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2406-133-1

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.

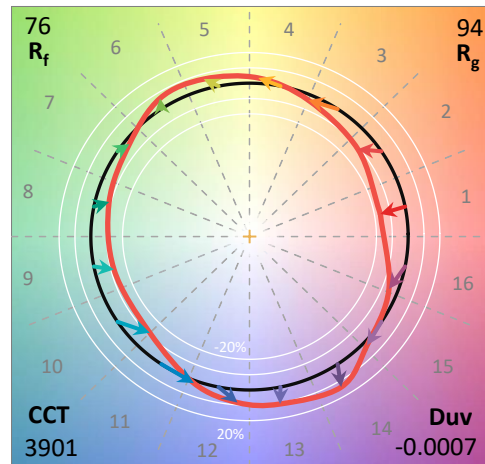
Test Information

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
 R_f: 76.2
 R_g: 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

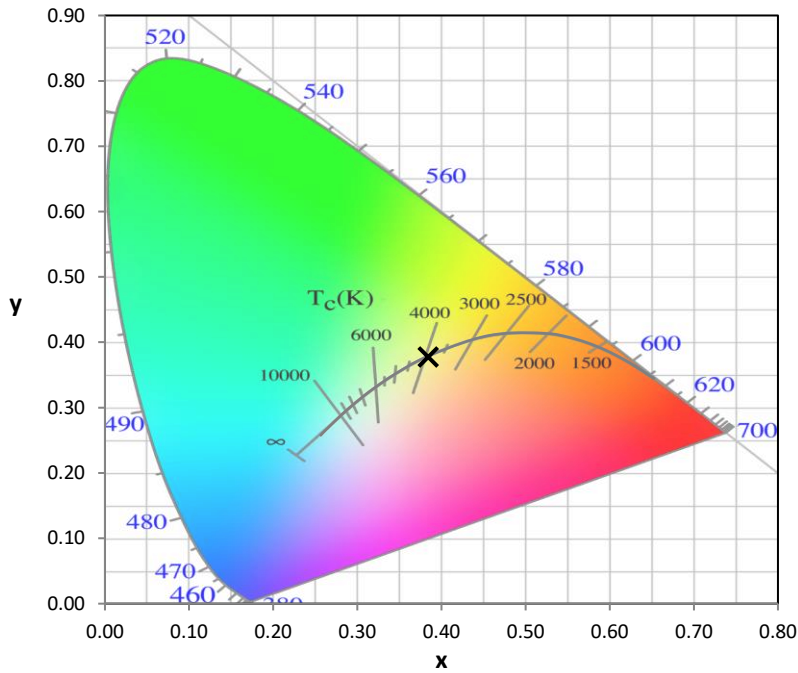
Stabilization Time: 0.818109M
 Operation Time: 1H
 Sphere Temperature (°C): 24.6

REPORT NUMBER: SP1-2406-133-1

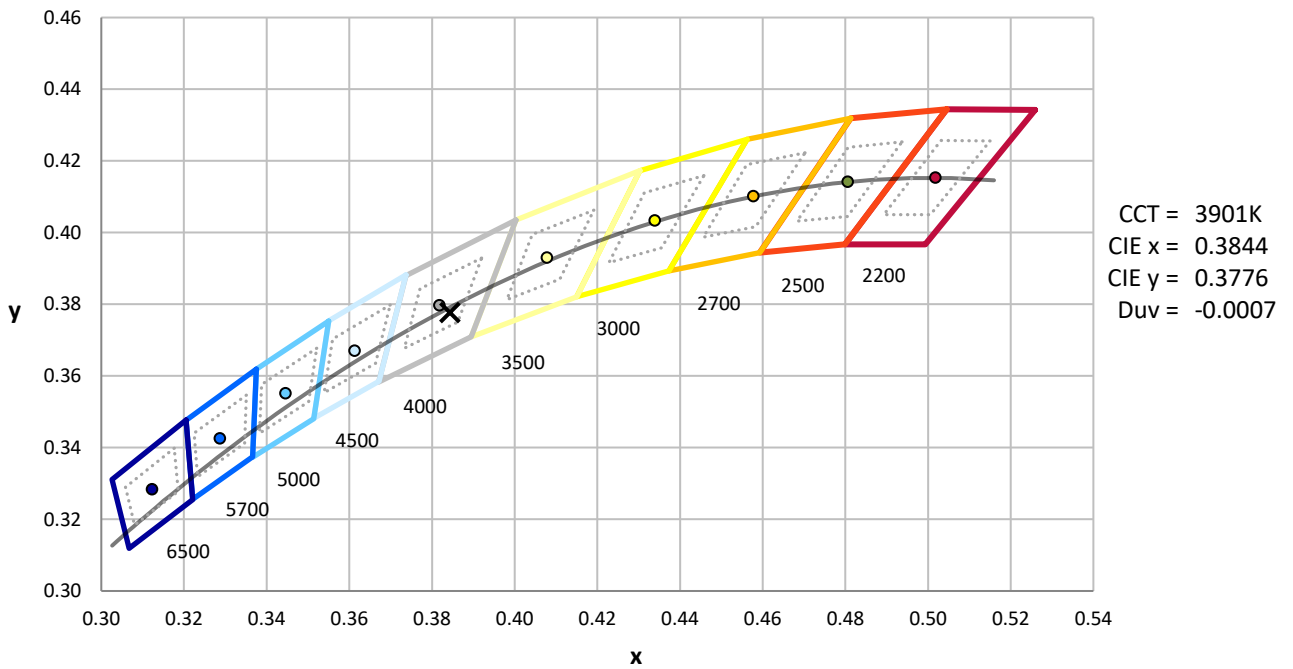
| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 |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

REPORT NUMBER: SP1-2406-133-1

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 ($R_{f,i}$)

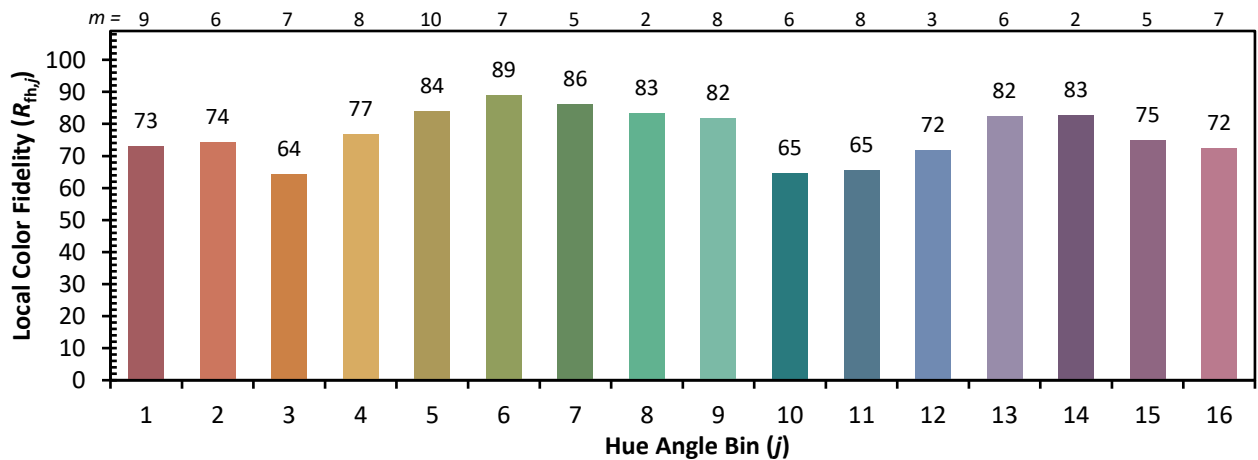
| | | | |
|------------|------------|------------|------------|
| CES01 = 85 | CES26 = 67 | CES51 = 89 | CES76 = 56 |
| CES02 = 61 | CES27 = 90 | CES52 = 88 | CES77 = 72 |
| CES03 = 30 | CES28 = 83 | CES53 = 80 | CES78 = 59 |
| CES04 = 70 | CES29 = 72 | CES54 = 86 | CES79 = 84 |
| CES05 = 48 | CES30 = 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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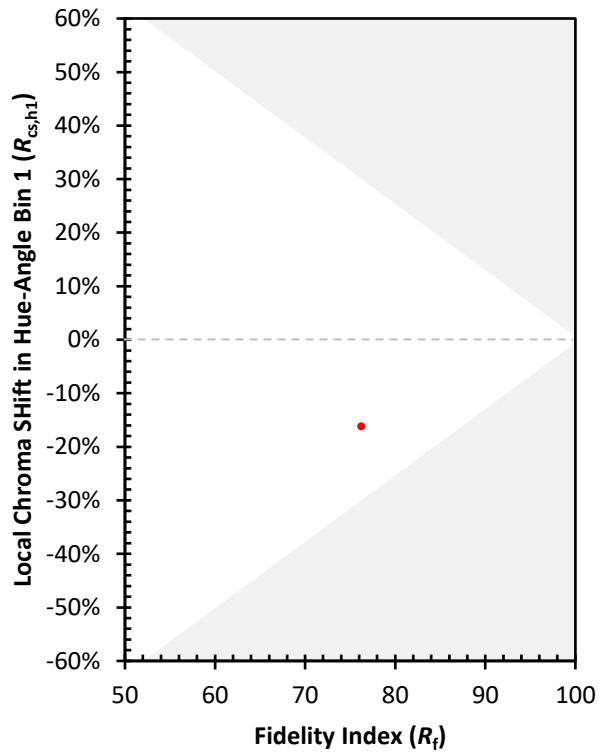
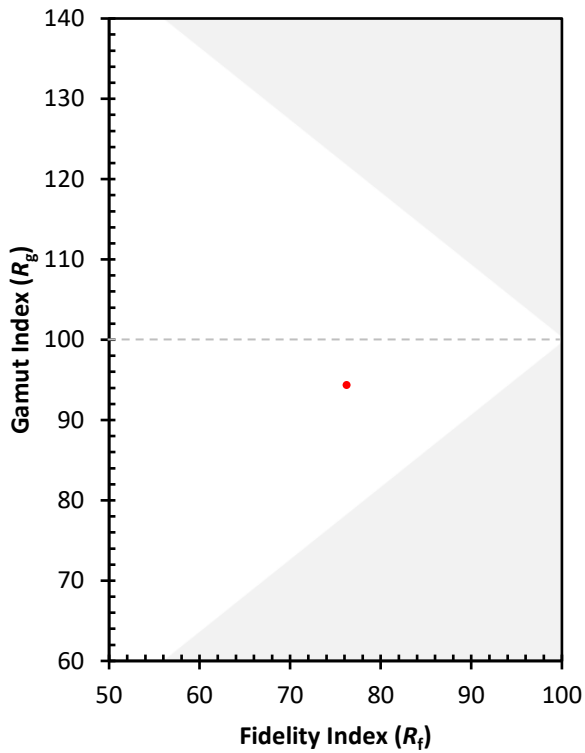
Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)