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: P867806

Luminaire Tested: **MEM2-HTN-SA-30-750-U-5MQ**

Issue Date: 08/21/2024

Report Generated By 670245763

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

Scaled Data Report

**Test Information**

| | |
|---|---|
| Test Method: | LM-79-08 |
| Report Number: | P867806 |
| Test Lab: | INNOVATION CENTER(G3) |
| Issue Date: | 08/21/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | STREETWORKS |
| Catalog Number: | MEM2-HTN-SA-30-750-U-5MQ |
| Description: | EPIC MODERN TALL HOUSING DISCRETE LED ARRAYS 30W 70CRI 5000K FIXTURE w/ TYPE V SQUARE MEDIUM DISTRIBUTION OPTIC |
| Light Source: | (10) 5000K CCT, 70 CRI LEDS |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 5077.2 lumens |
| Efficiency: | N/A |
| Efficacy: | 154.8 lumens/watt |
| Luminous Opening: | Rectangular (W 0.33' x L: 0.33' x H: 0') |
| IES Classification: | Type V - Short |
| BUG Rating: | B2 - U0 - G1 |

| | |
|---|---|
| Input Watts (W): | 32.8 |
| Input Voltage (V): | 120 |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | 0.99 |
| Total Harmonic Distortion (THDi): | 9.76% |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 24 FT |

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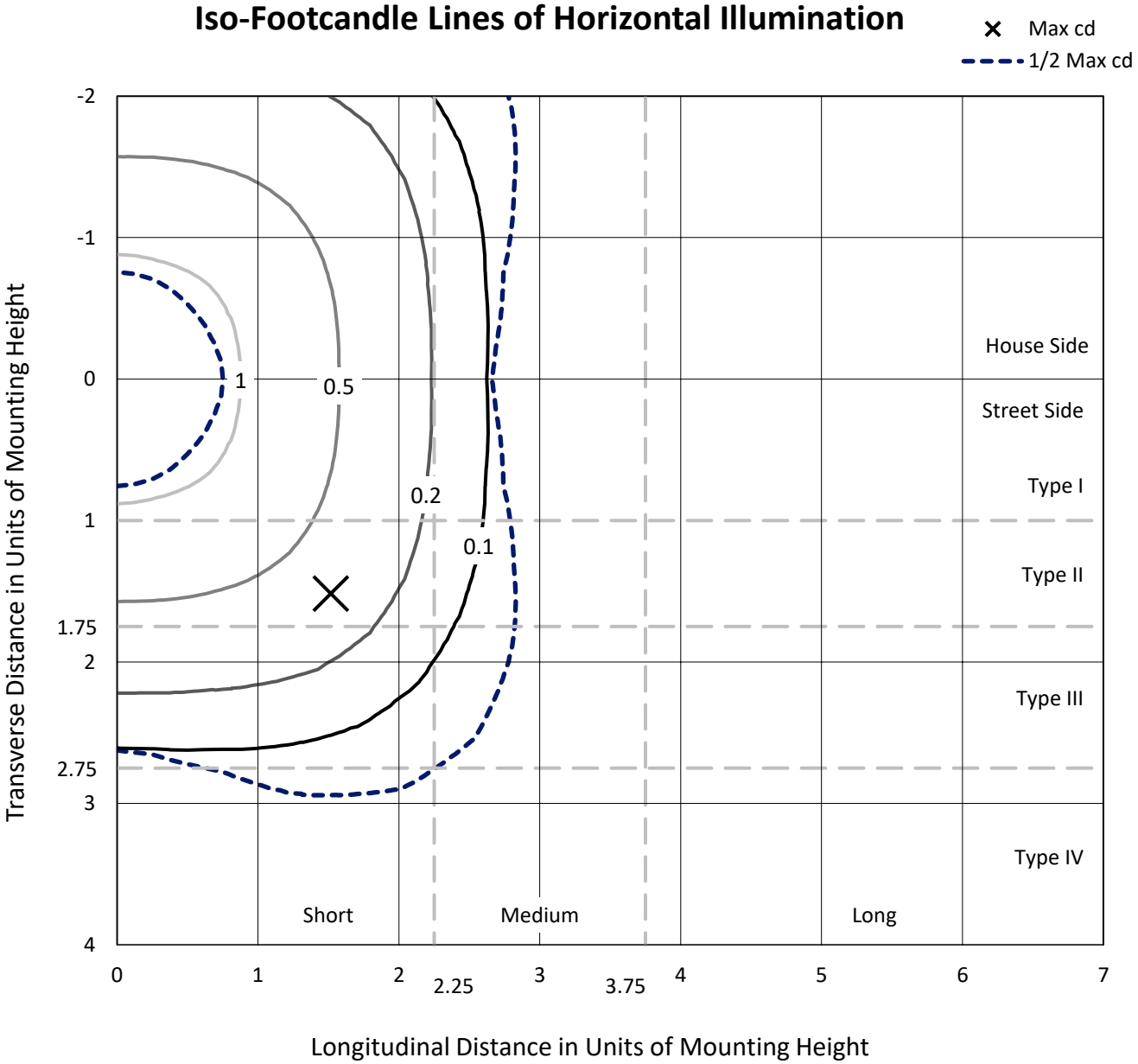
Scaled Data Report

REPORT NUMBER: P867806
CATALOG NUMBER: MEM2-HTN-SA-30-750-U-5MQ

## Iso-Footcandle Lines of Horizontal Illumination




Based on 20 foot mounting height. Maximum calculated value = 1.6 fc
Type V - Short - N/A

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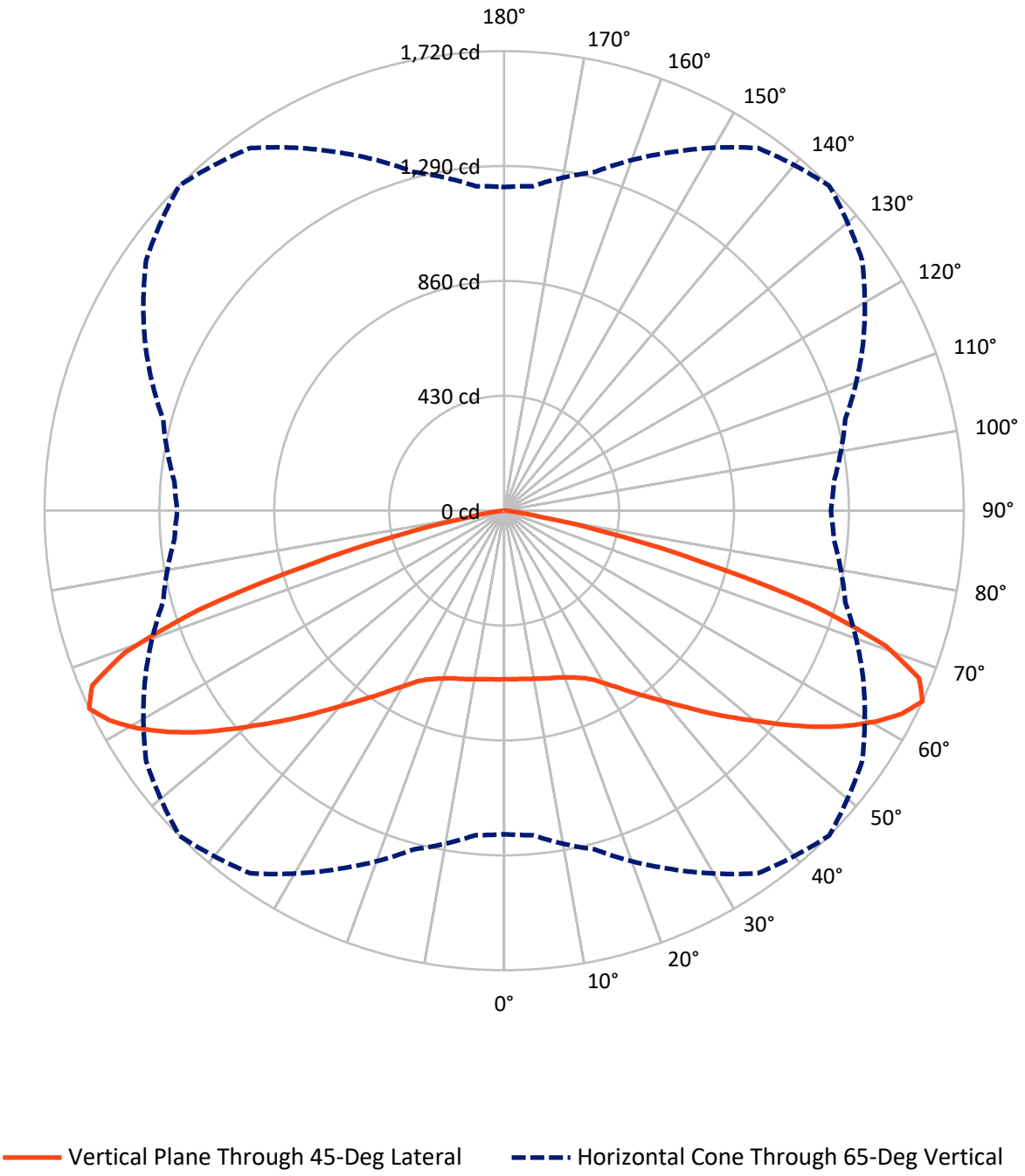
## Luminous Intensity Polar Plot



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Scaled Data Report

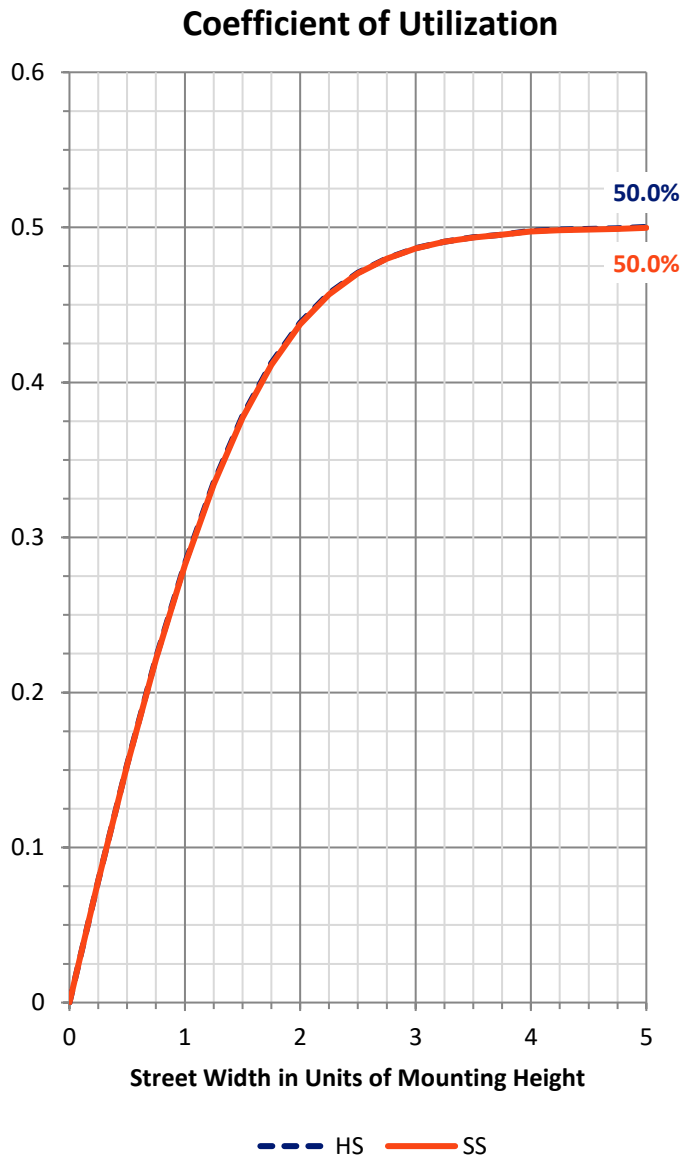
REPORT NUMBER: P867806
CATALOG NUMBER: MEM2-HTN-SA-30-750-U-5MQ

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 2538.6 | 0.0 | 2538.6 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| **Street Side** | Lumens | 2538.6 | 0.0 | 2538.6 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| **Total** | Lumens | 5077.2 | 0.0 | 5077.2 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 60.7 | 1.2 |
| 10°-20° | 184.6 | 3.6 |
| 20°-30° | 324.8 | 6.4 |
| 30°-40° | 525.3 | 10.3 |
| 40°-50° | 818.2 | 16.1 |
| 50°-60° | 1196.4 | 23.6 |
| 60°-70° | 1377.7 | 27.1 |
| 70°-80° | 562.7 | 11.1 |
| 80°-90° | 26.9 | 0.5 |
| 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° | 5077.2 | 100.0 |
| 0°-180° | 5077.2 | 100.0 |



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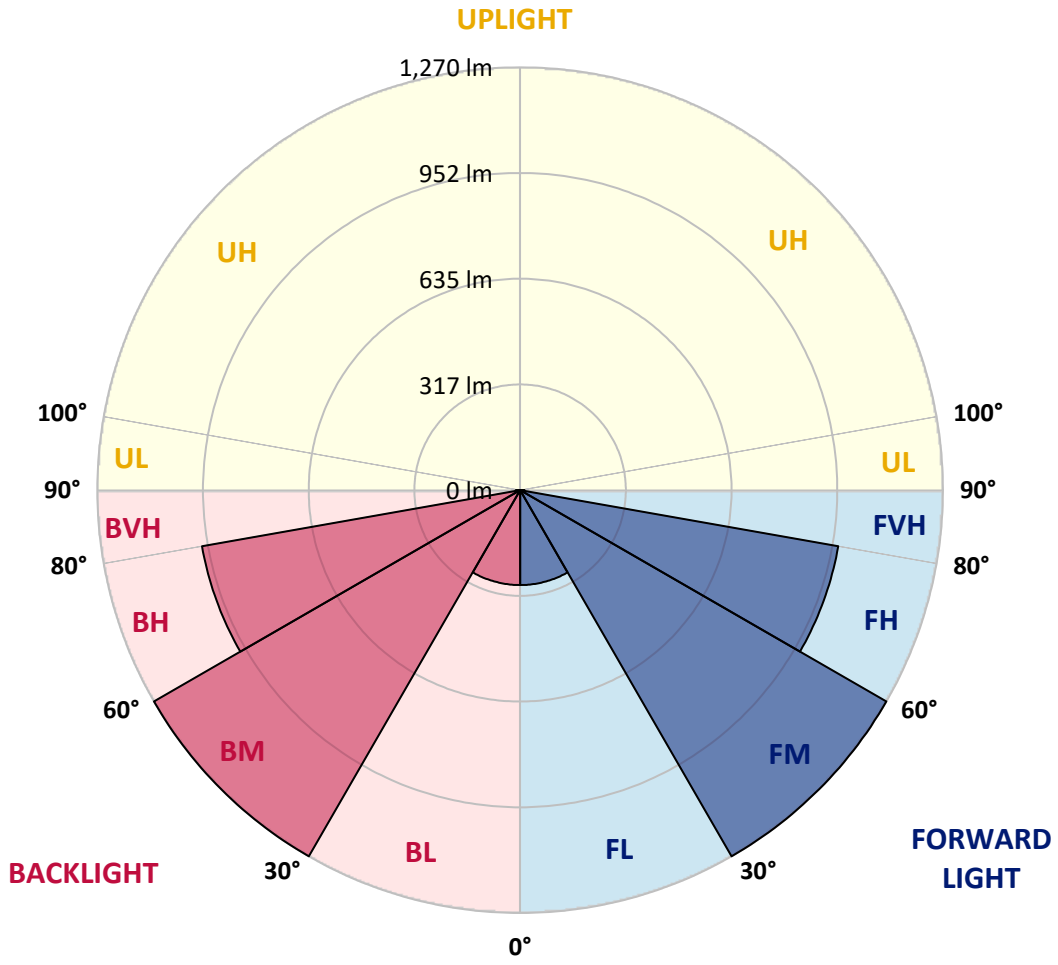
Scaled Data Report

REPORT NUMBER: P867806
CATALOG NUMBER: MEM2-HTN-SA-30-750-U-5MQ

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 285.0 | 5.6 | | | |
| FM | (30°-60°) | 1269.9 | 25.0 | | | |
| FH | (60°-80°) | 970.2 | 19.1 | | | G1/1800 |
| FVH | (80°-90°) | 13.5 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 285.0 | 5.6 | B1/500 | | |
| BM | (30°-60°) | 1269.9 | 25.0 | B2/2500 | | |
| BH | (60°-80°) | 970.2 | 19.1 | B2/1000 | | G1/1800 |
| BVH | (80°-90°) | 13.5 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B2-U0-G1**
Type V Short



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REPORT NUMBER: P867806
CATALOG NUMBER: MEM2-HTN-SA-30-750-U-5MQ

**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 630.9 | 630.9 | 630.9 | 630.9 | 630.9 | 630.9 | 630.9 | 630.9 | 630.9 | 630.9 | 630.9 |
| 2.5° | 632.8 | 632.8 | 631.8 | 631.8 | 629.9 | 631.8 | 630.9 | 631.8 | 630.9 | 630.9 | 631.8 |
| 5° | 634.8 | 634.8 | 632.8 | 633.8 | 631.8 | 632.8 | 631.8 | 633.8 | 632.8 | 631.8 | 633.8 |
| 7.5° | 637.7 | 637.7 | 635.7 | 636.7 | 634.8 | 635.7 | 634.8 | 636.7 | 635.7 | 635.7 | 636.7 |
| 10° | 640.6 | 641.6 | 639.6 | 638.7 | 638.7 | 639.6 | 640.6 | 641.6 | 640.6 | 640.6 | 642.6 |
| 12.5° | 645.5 | 646.5 | 644.5 | 643.5 | 643.5 | 644.5 | 645.5 | 647.4 | 644.5 | 644.5 | 644.5 |
| 15° | 650.4 | 650.4 | 649.4 | 648.4 | 649.4 | 650.4 | 650.4 | 652.3 | 650.4 | 648.4 | 648.4 |
| 17.5° | 652.3 | 653.3 | 652.3 | 654.3 | 655.2 | 656.2 | 657.2 | 657.2 | 654.3 | 653.3 | 653.3 |
| 20° | 659.1 | 660.1 | 658.2 | 659.1 | 662.1 | 666.0 | 666.0 | 666.0 | 666.0 | 663.0 | 663.0 |
| 22.5° | 670.8 | 671.8 | 670.8 | 670.8 | 674.7 | 678.7 | 678.7 | 681.6 | 677.7 | 675.7 | 675.7 |
| 25° | 690.4 | 690.4 | 689.4 | 690.4 | 692.3 | 694.3 | 698.2 | 700.1 | 700.1 | 699.1 | 700.1 |
| 27.5° | 713.8 | 714.7 | 713.8 | 713.8 | 712.8 | 716.7 | 722.5 | 725.5 | 726.4 | 727.4 | 727.4 |
| 30° | 745.0 | 746.9 | 745.9 | 746.9 | 748.9 | 751.8 | 753.7 | 754.7 | 754.7 | 752.8 | 752.8 |
| 32.5° | 779.1 | 781.0 | 779.1 | 784.0 | 790.8 | 790.8 | 788.8 | 792.7 | 789.8 | 787.9 | 785.9 |
| 35° | 819.1 | 819.1 | 821.0 | 823.0 | 832.7 | 837.6 | 837.6 | 835.6 | 829.8 | 826.9 | 828.8 |
| 37.5° | 864.9 | 865.9 | 867.8 | 868.8 | 877.6 | 886.3 | 885.4 | 880.5 | 873.7 | 865.9 | 865.9 |
| 40° | 919.5 | 917.5 | 918.5 | 925.3 | 932.2 | 942.9 | 943.9 | 937.0 | 925.3 | 917.5 | 917.5 |
| 42.5° | 969.2 | 970.2 | 974.1 | 982.9 | 998.5 | 1007.2 | 1002.4 | 990.7 | 978.0 | 968.2 | 967.3 |
| 45° | 1021.9 | 1020.9 | 1031.6 | 1050.2 | 1070.6 | 1081.4 | 1073.6 | 1057.0 | 1037.5 | 1024.8 | 1024.8 |
| 47.5° | 1075.5 | 1074.5 | 1092.1 | 1122.3 | 1148.6 | 1157.4 | 1149.6 | 1128.2 | 1101.8 | 1083.3 | 1080.4 |
| 50° | 1131.1 | 1135.0 | 1153.5 | 1196.4 | 1230.5 | 1240.3 | 1230.5 | 1202.3 | 1167.2 | 1142.8 | 1138.9 |
| 52.5° | 1194.5 | 1197.4 | 1221.8 | 1268.6 | 1310.5 | 1332.9 | 1318.3 | 1276.4 | 1231.5 | 1202.3 | 1198.4 |
| 55° | 1253.0 | 1254.9 | 1290.0 | 1346.6 | 1398.3 | 1428.5 | 1405.1 | 1351.5 | 1294.9 | 1257.8 | 1253.9 |
| 57.5° | 1293.9 | 1298.8 | 1343.6 | 1416.8 | 1483.1 | 1518.2 | 1483.1 | 1425.6 | 1350.5 | 1304.6 | 1301.7 |
| 60° | 1320.2 | 1328.0 | 1379.7 | 1471.4 | 1563.0 | 1601.1 | 1565.0 | 1485.0 | 1392.4 | 1332.9 | 1330.0 |
| 62.5° | 1306.6 | 1317.3 | 1383.6 | 1503.6 | 1631.3 | 1672.2 | 1625.4 | 1513.3 | 1387.5 | 1312.4 | 1304.6 |
| 65° | 1211.0 | 1218.8 | 1312.4 | 1480.2 | 1656.6 | 1720.0 | 1635.2 | 1482.1 | 1321.2 | 1238.3 | 1222.7 |
| 67.5° | 1013.1 | 1026.8 | 1150.6 | 1367.1 | 1602.0 | 1675.2 | 1567.9 | 1370.0 | 1175.9 | 1074.5 | 1057.0 |
| 70° | 778.1 | 802.5 | 938.0 | 1173.0 | 1431.4 | 1514.3 | 1396.3 | 1156.4 | 928.3 | 824.9 | 792.7 |
| 72.5° | 449.5 | 487.5 | 686.5 | 915.6 | 1138.9 | 1201.3 | 1035.5 | 808.3 | 616.2 | 543.1 | 534.3 |
| 75° | 149.2 | 162.8 | 326.6 | 527.5 | 726.4 | 757.6 | 647.4 | 510.0 | 405.6 | 347.1 | 350.1 |
| 77.5° | 73.1 | 73.1 | 98.5 | 193.1 | 330.5 | 390.0 | 354.0 | 246.7 | 177.5 | 134.6 | 130.7 |
| 80° | 58.5 | 58.5 | 68.3 | 94.6 | 111.2 | 130.7 | 111.2 | 80.9 | 66.3 | 60.5 | 63.4 |
| 82.5° | 28.3 | 27.3 | 32.2 | 45.8 | 46.8 | 44.9 | 41.9 | 41.9 | 40.0 | 37.1 | 36.1 |
| 85° | 2.0 | 2.0 | 3.9 | 8.8 | 14.6 | 19.5 | 22.4 | 21.5 | 20.5 | 17.6 | 19.5 |
| 87.5° | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 2.0 | 2.0 | 2.0 | 2.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

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

Report Prepared for

Cooper Lighting Solutions

Streetworks

Report Number: SP1-2407-157-6

Test Date: 08/07/2024

Luminaire Tested: MEM2-HTN-SA-30-750-U-5WQ-2

Data in this report applies to families of products including MEM2-HTN-SA-30-750-U-5WQ-2

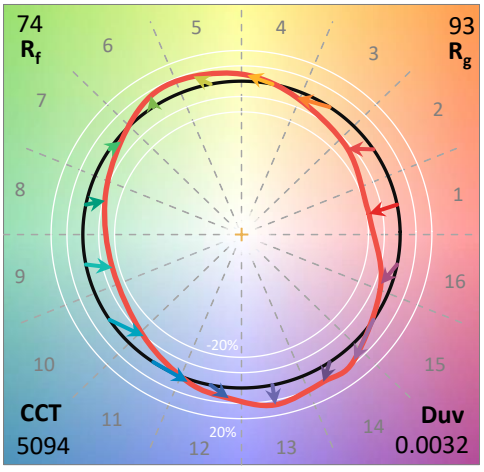
Report Generated By FNC07603 / LDUCLS01DT446
Version: v7.04

## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2407-157-6 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 08/20/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | Streetworks |
| Catalog Number: | **MEM2-HTN-SA-30-750-U-5WQ-2** |
| Description: | Epic Modern Light Square 30W 5WQ Optic and Flare Trim |

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 5094 | CRI (Ra): | 72.0 | | |
| CIE u': | 0.2082 | R1: | 68.6 | R9: | -39.6 |
| CIE v': | 0.4867 | R2: | 78.1 | R10: | 47.6 |
| Duv: | 0.0032 | R3: | 84.6 | R11: | 68.2 |
| CIE x: | 0.3430 | R4: | 71.6 | R12: | 41.4 |
| CIE y: | 0.3564 | R5: | 69.6 | R13: | 70.4 |
| CIE z: | 0.3006 | R6: | 69.4 | R14: | 91.4 |
| Peak Wavelength (nm): | 451 | R7: | 80.9 | R15: | 61.4 |
| Dominant Wavelength (nm): | 568 | R8: | 53.1 | | |
| Purity: | 9.86439 | | | | |
| Rf: | 73.7 | | | | |
| Rg: | 93 | | | | |




## Test Conditions

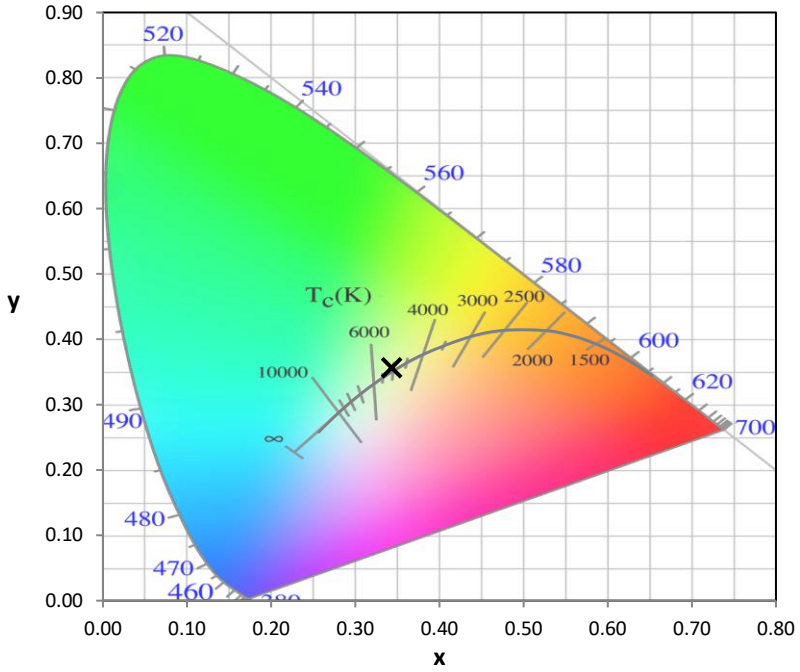
| | |
|---|---|
| Stabilization Time: | 20M |
| Operation Time: | 1H 20M |
| Sphere Temperature (°C): | 24.2 |

REPORT NUMBER: SP1-2407-157-6

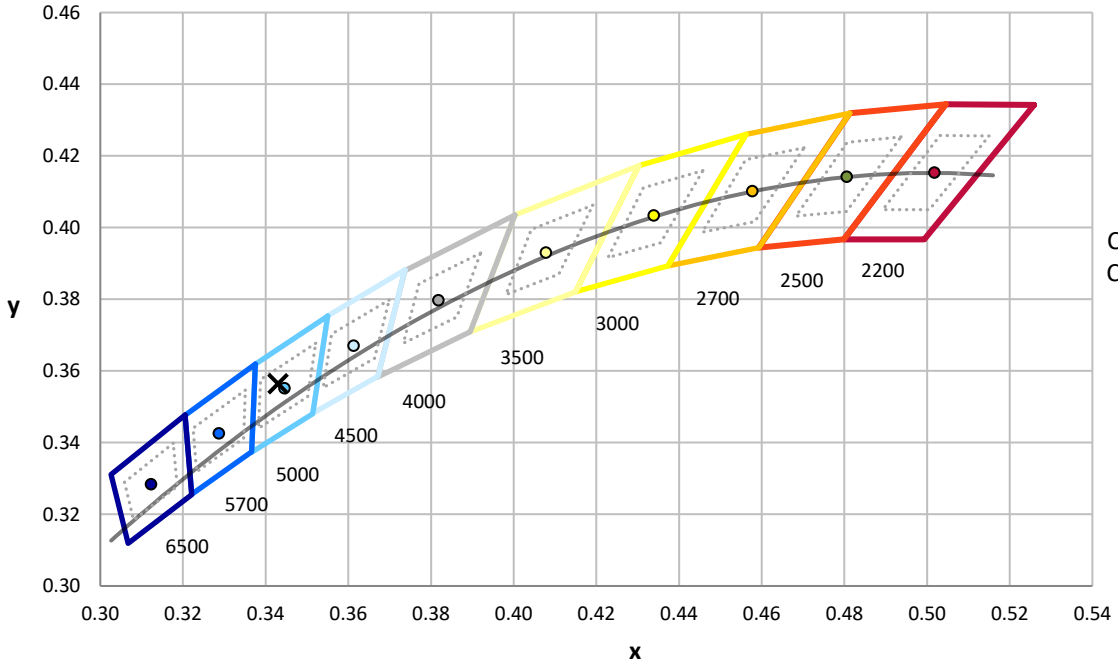
| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | IN0058 | 6/18/2024 | 12/18/2024 |
| Power Meter | INXT2011004 | 2/8/2024 | 2/8/2025 |
| AC Power Source | IN0063 | 10/24/2023 | 10/24/2024 |
| DC 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: SP1-2407-157-6

## CIE 1931 Chromaticity Diagram




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

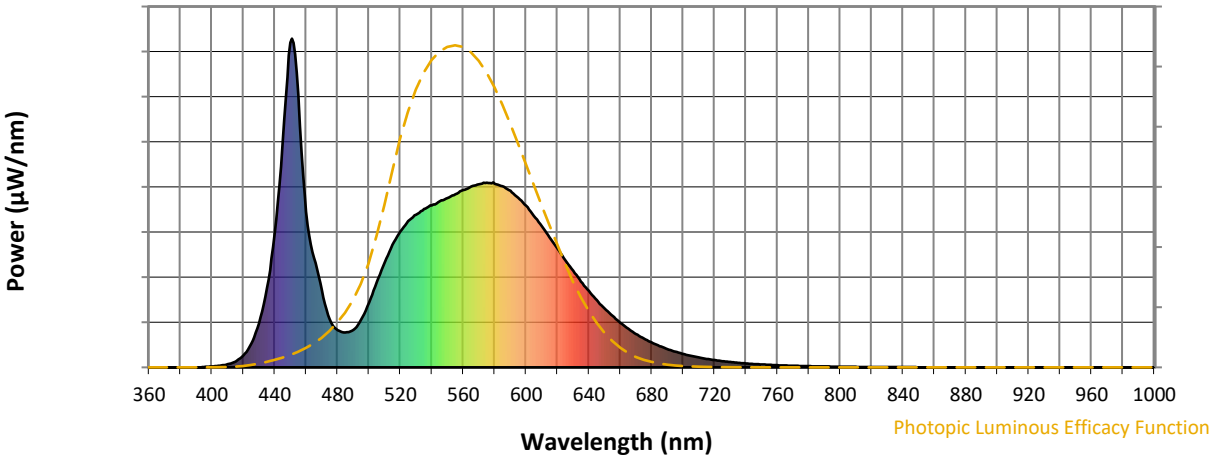



CCT = 5094K
CIE x = 0.3430
CIE y = 0.3564
Duv = 0.0032

Point lies inside the ANSI 5000K 4-step quadrangle

REPORT NUMBER: SP1-2407-157-6

## Photopic Flux vs. Wavelength

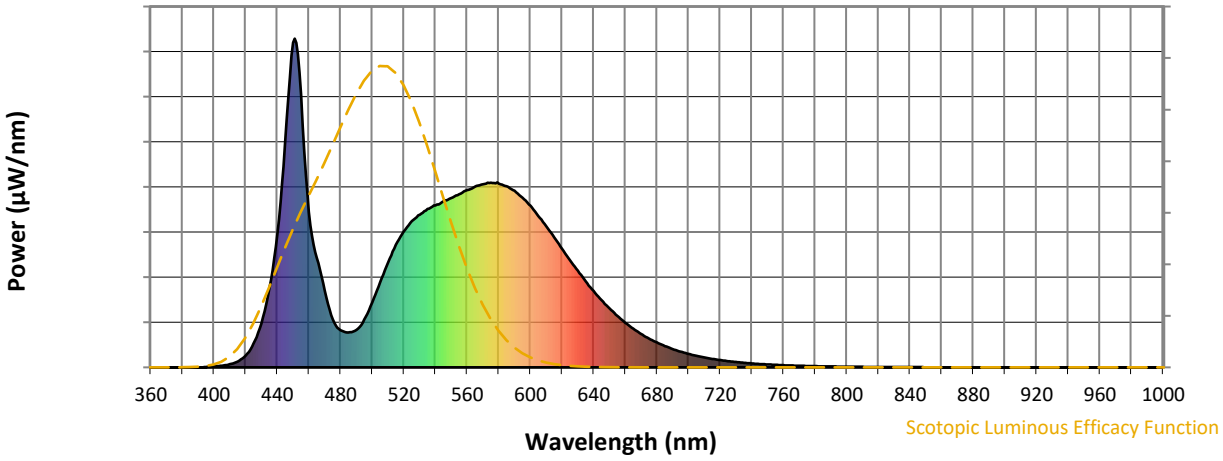



## Photopic Lumens: NR

| 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 | 114 | NR | 620 | 361 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 145 | NR | 625 | 326 | NR | 755 | 8 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 197 | NR | 630 | 294 | NR | 760 | 7 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 259 | NR | 635 | 261 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 319 | NR | 640 | 232 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 373 | NR | 645 | 204 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 414 | NR | 650 | 179 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 445 | NR | 655 | 157 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 465 | NR | 660 | 136 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 482 | NR | 665 | 118 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 493 | NR | 670 | 102 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 505 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 515 | NR | 680 | 75 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 72 | NR | 555 | 527 | NR | 685 | 65 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 134 | NR | 560 | 540 | NR | 690 | 56 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 242 | NR | 565 | 550 | NR | 695 | 48 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 407 | NR | 570 | 557 | NR | 700 | 41 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 684 | NR | 575 | 561 | NR | 705 | 35 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 988 | NR | 580 | 559 | NR | 710 | 30 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 828 | NR | 585 | 551 | NR | 715 | 26 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 473 | NR | 590 | 537 | NR | 720 | 22 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 333 | NR | 595 | 516 | NR | 725 | 19 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 232 | NR | 600 | 491 | NR | 730 | 16 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 146 | NR | 605 | 461 | NR | 735 | 14 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 113 | NR | 610 | 429 | NR | 740 | 12 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 106 | NR | 615 | 395 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

REPORT NUMBER: SP1-2407-157-6

## Scotopic Flux vs. Wavelength




**Scotopic Lumens: NR** **S/P: 1.81**

| 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 | 114 | NR | 620 | 361 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 145 | NR | 625 | 326 | NR | 755 | 8 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 197 | NR | 630 | 294 | NR | 760 | 7 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 259 | NR | 635 | 261 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 319 | NR | 640 | 232 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 373 | NR | 645 | 204 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 414 | NR | 650 | 179 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 445 | NR | 655 | 157 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 465 | NR | 660 | 136 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 482 | NR | 665 | 118 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 493 | NR | 670 | 102 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 505 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 515 | NR | 680 | 75 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 72 | NR | 555 | 527 | NR | 685 | 65 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 134 | NR | 560 | 540 | NR | 690 | 56 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 242 | NR | 565 | 550 | NR | 695 | 48 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 407 | NR | 570 | 557 | NR | 700 | 41 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 684 | NR | 575 | 561 | NR | 705 | 35 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 988 | NR | 580 | 559 | NR | 710 | 30 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 828 | NR | 585 | 551 | NR | 715 | 26 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 473 | NR | 590 | 537 | NR | 720 | 22 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 333 | NR | 595 | 516 | NR | 725 | 19 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 232 | NR | 600 | 491 | NR | 730 | 16 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 146 | NR | 605 | 461 | NR | 735 | 14 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 113 | NR | 610 | 429 | NR | 740 | 12 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 106 | NR | 615 | 395 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

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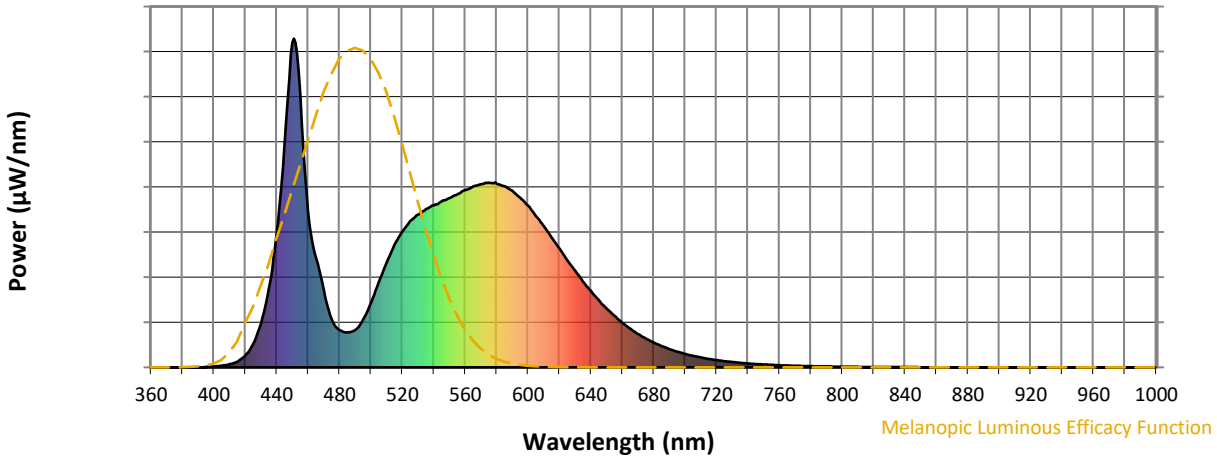
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: NR** **M/P: 3.73**

| 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 | 114 | NR | 620 | 361 | NR | 750 | 9 | NR | 880 | 0 | NR |
| 365 | 0 | NR | 495 | 145 | NR | 625 | 326 | NR | 755 | 8 | NR | 885 | 0 | NR |
| 370 | 0 | NR | 500 | 197 | NR | 630 | 294 | NR | 760 | 7 | NR | 890 | 0 | NR |
| 375 | 0 | NR | 505 | 259 | NR | 635 | 261 | NR | 765 | 6 | NR | 895 | 0 | NR |
| 380 | 0 | NR | 510 | 319 | NR | 640 | 232 | NR | 770 | 5 | NR | 900 | 0 | NR |
| 385 | 0 | NR | 515 | 373 | NR | 645 | 204 | NR | 775 | 4 | NR | 905 | 0 | NR |
| 390 | 0 | NR | 520 | 414 | NR | 650 | 179 | NR | 780 | 4 | NR | 910 | 0 | NR |
| 395 | 1 | NR | 525 | 445 | NR | 655 | 157 | NR | 785 | 3 | NR | 915 | 0 | NR |
| 400 | 3 | NR | 530 | 465 | NR | 660 | 136 | NR | 790 | 3 | NR | 920 | 0 | NR |
| 405 | 5 | NR | 535 | 482 | NR | 665 | 118 | NR | 795 | 2 | NR | 925 | 0 | NR |
| 410 | 9 | NR | 540 | 493 | NR | 670 | 102 | NR | 800 | 2 | NR | 930 | 0 | NR |
| 415 | 18 | NR | 545 | 505 | NR | 675 | 87 | NR | 805 | 2 | NR | 935 | 0 | NR |
| 420 | 36 | NR | 550 | 515 | NR | 680 | 75 | NR | 810 | 2 | NR | 940 | 0 | NR |
| 425 | 72 | NR | 555 | 527 | NR | 685 | 65 | NR | 815 | 1 | NR | 945 | 0 | NR |
| 430 | 134 | NR | 560 | 540 | NR | 690 | 56 | NR | 820 | 1 | NR | 950 | 0 | NR |
| 435 | 242 | NR | 565 | 550 | NR | 695 | 48 | NR | 825 | 1 | NR | 955 | 0 | NR |
| 440 | 407 | NR | 570 | 557 | NR | 700 | 41 | NR | 830 | 1 | NR | 960 | 0 | NR |
| 445 | 684 | NR | 575 | 561 | NR | 705 | 35 | NR | 835 | 1 | NR | 965 | 0 | NR |
| 450 | 988 | NR | 580 | 559 | NR | 710 | 30 | NR | 840 | 1 | NR | 970 | 0 | NR |
| 455 | 828 | NR | 585 | 551 | NR | 715 | 26 | NR | 845 | 1 | NR | 975 | 0 | NR |
| 460 | 473 | NR | 590 | 537 | NR | 720 | 22 | NR | 850 | 1 | NR | 980 | 0 | NR |
| 465 | 333 | NR | 595 | 516 | NR | 725 | 19 | NR | 855 | 0 | NR | 985 | 0 | NR |
| 470 | 232 | NR | 600 | 491 | NR | 730 | 16 | NR | 860 | 0 | NR | 990 | 0 | NR |
| 475 | 146 | NR | 605 | 461 | NR | 735 | 14 | NR | 865 | 0 | NR | 995 | 0 | NR |
| 480 | 113 | NR | 610 | 429 | NR | 740 | 12 | NR | 870 | 0 | NR | 1000 | 0 | NR |
| 485 | 106 | NR | 615 | 395 | NR | 745 | 10 | NR | 875 | 0 | NR | | | |

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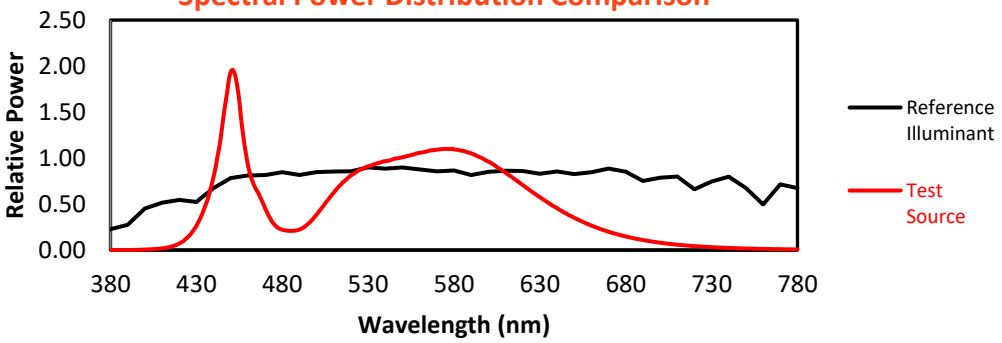
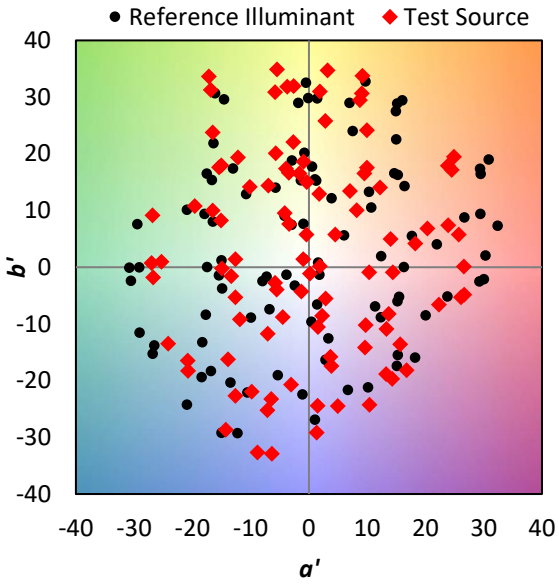
## Summary

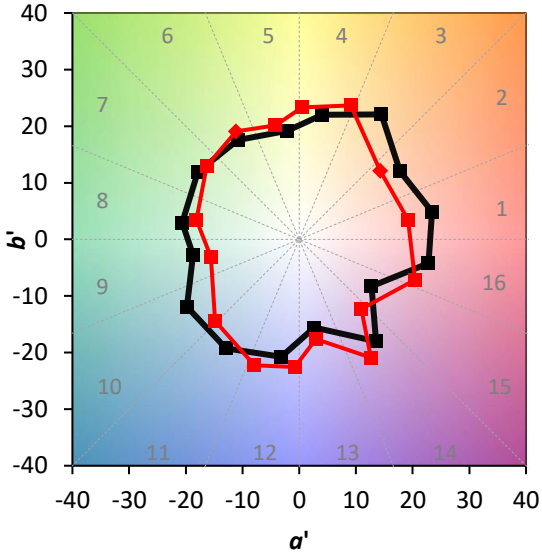
$R_f$ = 73.7
$R_g$ = 93
CIE $R_a$ = 72.0
$R_9$ = -39.6

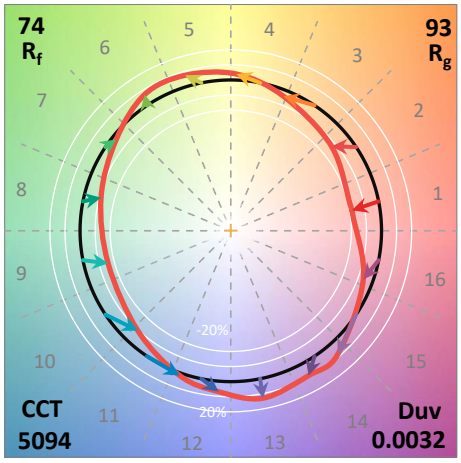
## Spectral Power Distribution Comparison

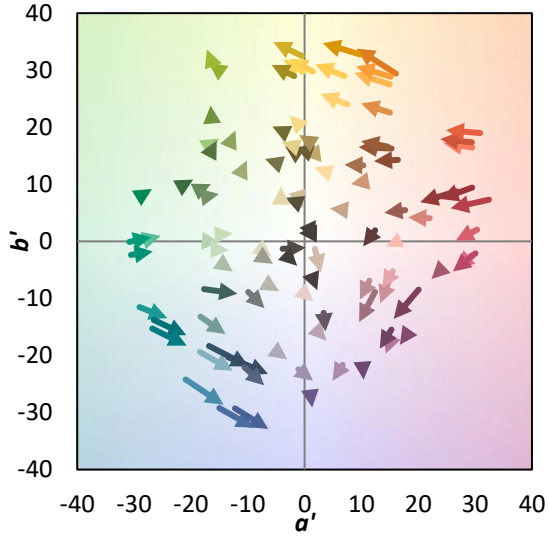



## Color Vector Graphics



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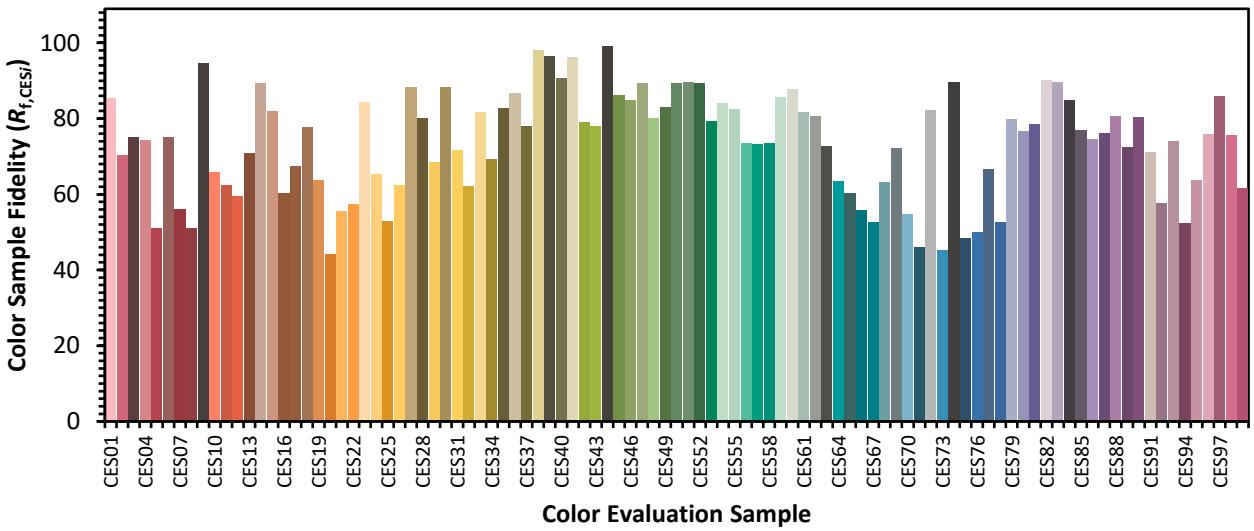
**Individual Sample Fidelity Index ($R_{f,i}$)**

| | | | |
|---|---|---|---|
| CES01 = 85 | CES26 = 62 | CES51 = 90 | CES76 = 50 |
| CES02 = 59 | CES27 = 88 | CES52 = 89 | CES77 = 67 |
| CES03 = 30 | CES28 = 80 | CES53 = 79 | CES78 = 53 |
| CES04 = 69 | CES29 = 69 | CES54 = 84 | CES79 = 80 |
| CES05 = 46 | CES30 = 88 | CES55 = 83 | CES80 = 77 |
| CES06 = 50 | CES31 = 72 | CES56 = 74 | CES81 = 78 |
| CES07 = 38 | CES32 = 62 | CES57 = 73 | CES82 = 90 |
| CES08 = 38 | CES33 = 82 | CES58 = 73 | CES83 = 90 |
| CES09 = 29 | CES34 = 69 | CES59 = 86 | CES84 = 85 |
| CES10 = 72 | CES35 = 83 | CES60 = 88 | CES85 = 77 |
| CES11 = 56 | CES36 = 87 | CES61 = 82 | CES86 = 75 |
| CES12 = 61 | CES37 = 78 | CES62 = 81 | CES87 = 76 |
| CES13 = 41 | CES38 = 98 | CES63 = 73 | CES88 = 81 |
| CES14 = 74 | CES39 = 96 | CES64 = 63 | CES89 = 72 |
| CES15 = 70 | CES40 = 91 | CES65 = 60 | CES90 = 80 |
| CES16 = 46 | CES41 = 96 | CES66 = 56 | CES91 = 71 |
| CES17 = 49 | CES42 = 79 | CES67 = 53 | CES92 = 58 |
| CES18 = 55 | CES43 = 78 | CES68 = 63 | CES93 = 74 |
| CES19 = 71 | CES44 = 99 | CES69 = 72 | CES94 = 52 |
| CES20 = 63 | CES45 = 86 | CES70 = 55 | CES95 = 64 |
| CES21 = 85 | CES46 = 85 | CES71 = 46 | CES96 = 76 |
| CES22 = 77 | CES47 = 89 | CES72 = 82 | CES97 = 86 |
| CES23 = 91 | CES48 = 80 | CES73 = 45 | CES98 = 76 |
| CES24 = 90 | CES49 = 83 | CES74 = 90 | CES99 = 62 |
| CES25 = 71 | CES50 = 89 | CES75 = 48 | |



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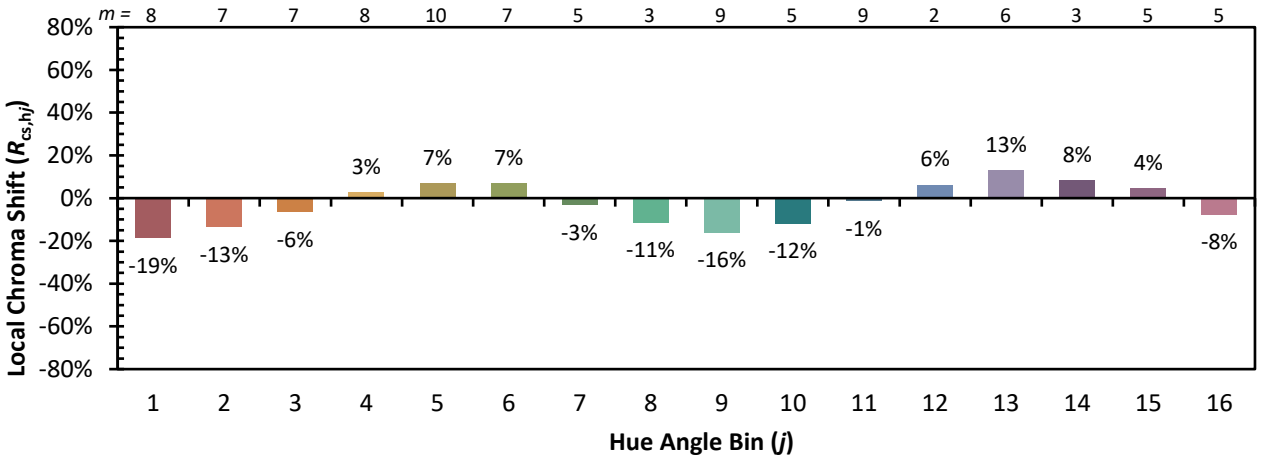
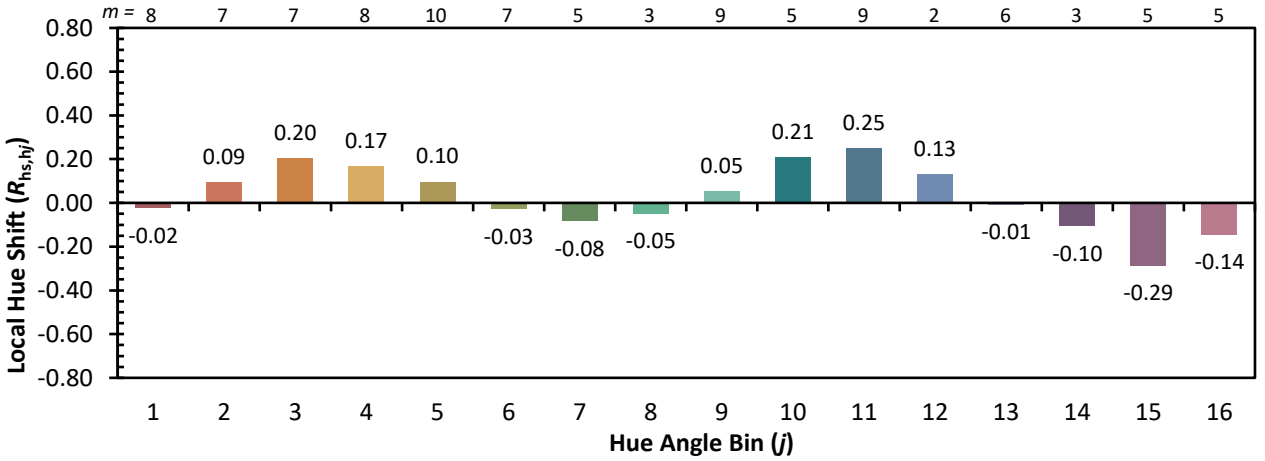
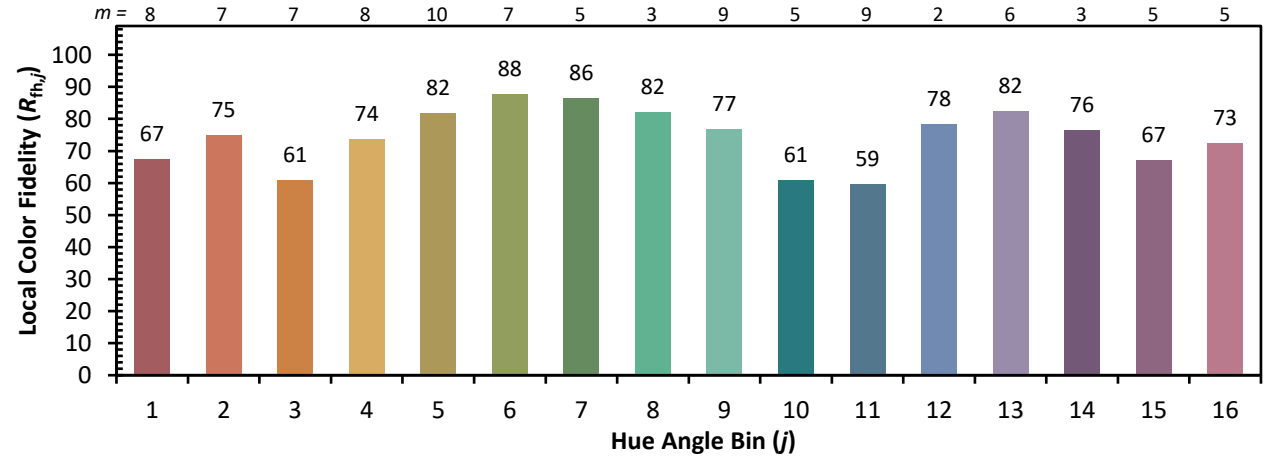
## Color Rendition by Hue-Angle Bin



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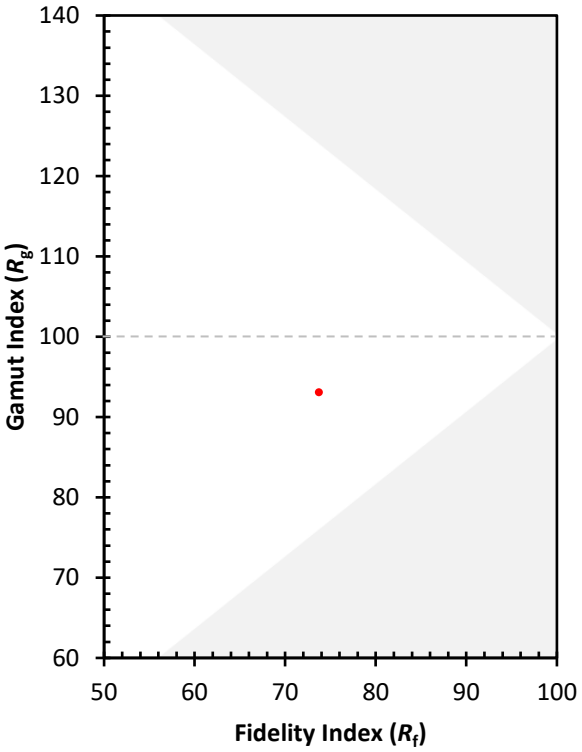
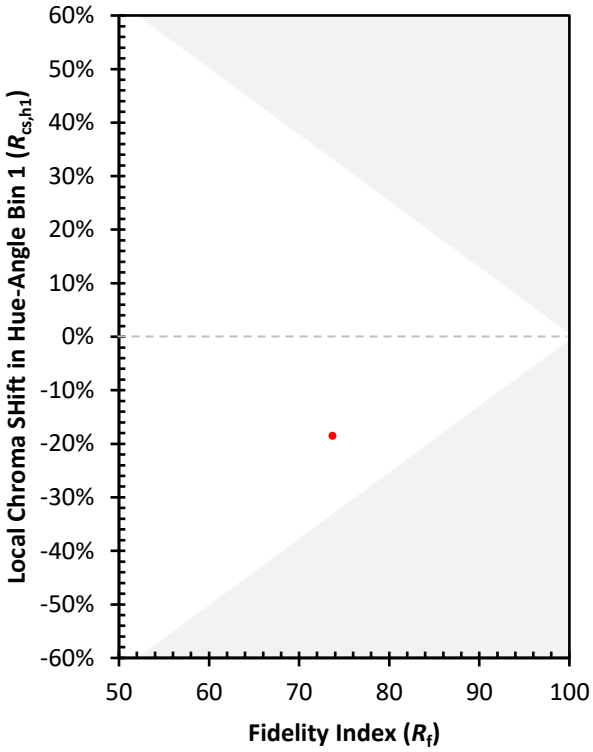
## Measure Comparisons




(END OF REPORT)