Classified

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: McGRAW-EDISON

Report Number: P459736

Luminaire Tested: **GLEON-SA9A-AMB-U-5MQ**

Issue Date: 1/6/2021

Report Generated By 670246001

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: | P459736 |
| | TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2003-697-3) |
| Test Lab: | INNOVATION CENTER |
| Issue Date: | 1/6/2021 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS (FORMERLY EATON) |
| Product Line: | McGRAW-EDISON |
| Catalog Number: | GLEON-SA9A-AMB-U-5MQ |
| Description: | GALLEON AREA AND ROADWAY LUMINAIRE |
| | (9) NARROW BAND AMBER, 500mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE V MEDIUM OPTICS |
| Light Source: | - |
| Ballast/Driver: | ELECTRONIC DRIVER |

**Summary**

| | |
|---|---|
| Lumens per Lamp: | N/A |
| Luminaire Lumens: | 9502 lumens |
| Efficiency: | N/A |
| Efficacy: | 53.2 lumens/watt |
| Luminous Opening: | Rectangular (W 2.5' x L: 1' x H: 0') |
| IES Classification: | Type V - Short - Full Cutoff |
| BUG Rating: | B3 - U0 - G2 |

| | |
|---|---|
| Input Watts (W): | 178.5 |
| Input Voltage (V): | NR |
| Input Current (Ain): | NR |
| Voltage Rise (V): | NR |
| Power Factor: | NR |
| Total Harmonic Distortion (THDi): | NR |
| Frequency (hertz): | 60 |
| Stabilization Time: | NR |
| Operation Time: | NR |
| Ambient Temperature (°C): | NR |
| Test Distance: | 28.75 FT |

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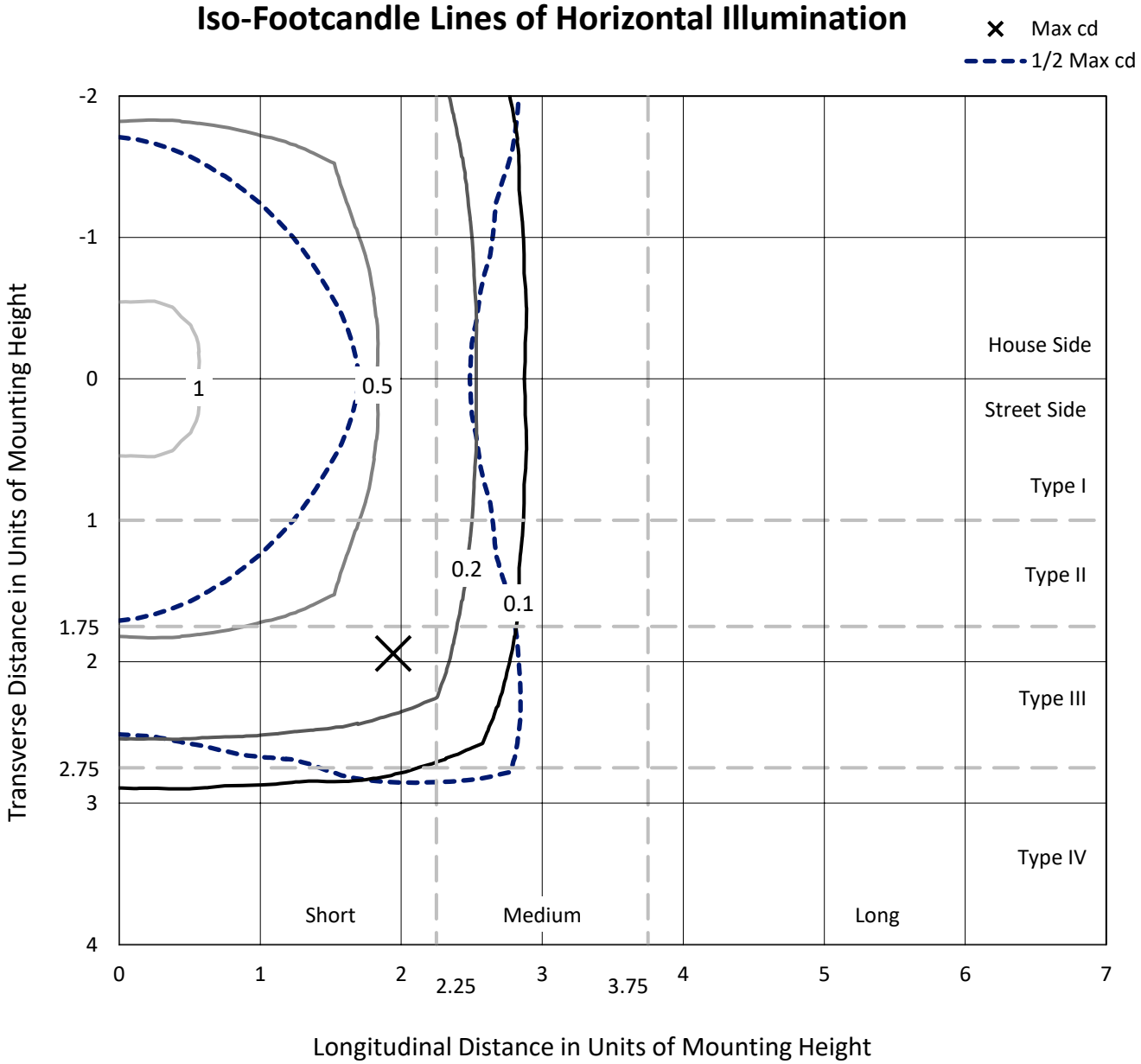
Scaled Data Report

REPORT NUMBER: P459736
CATALOG NUMBER: GLEON-SA9A-AMB-U-5MQ

## Iso-Footcandle Lines of Horizontal Illumination




Based on 25 foot mounting height. Maximum calculated value = 1.4 fc
Type V - Short - Full Cutoff

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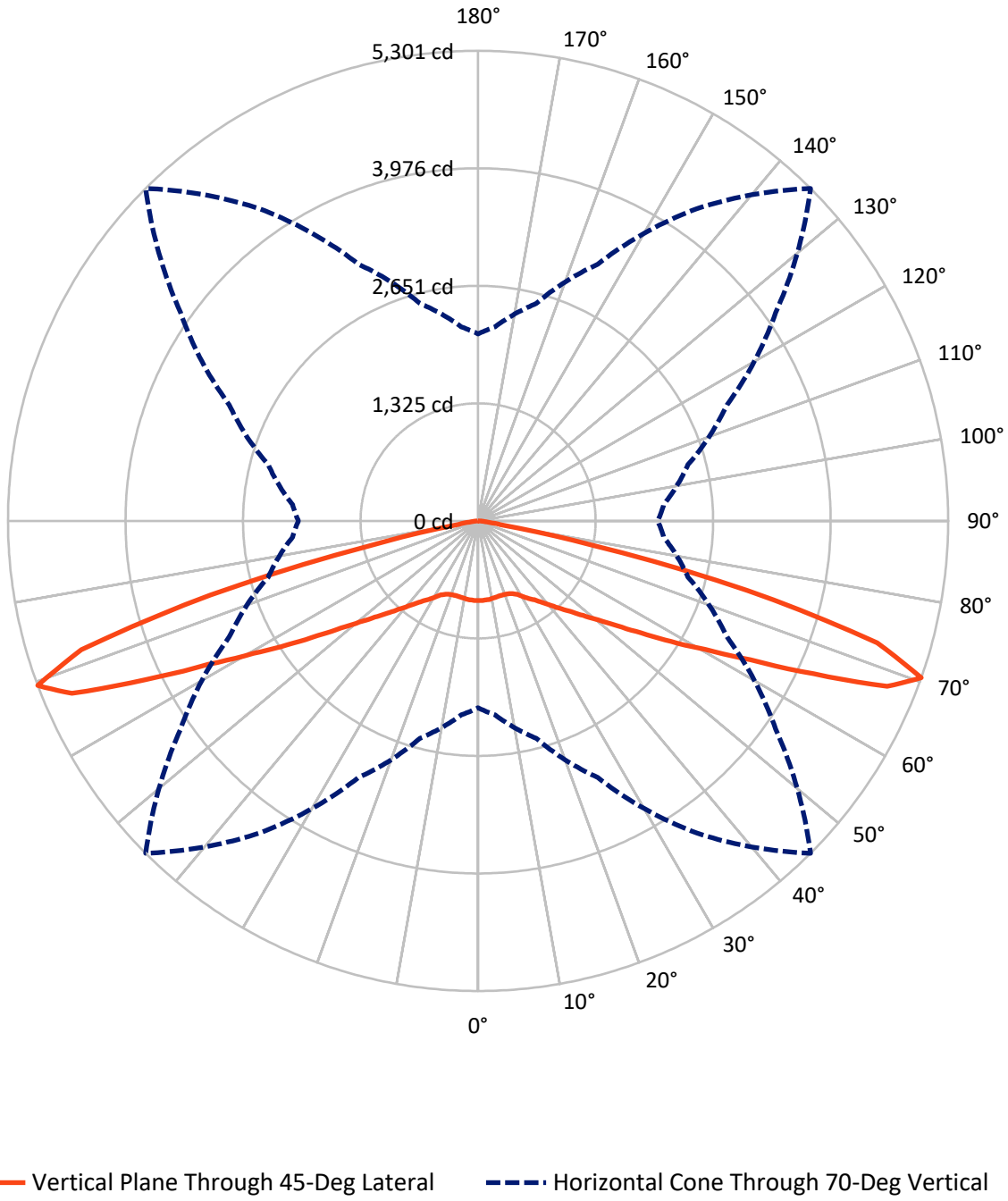
## Luminous Intensity Polar Plot



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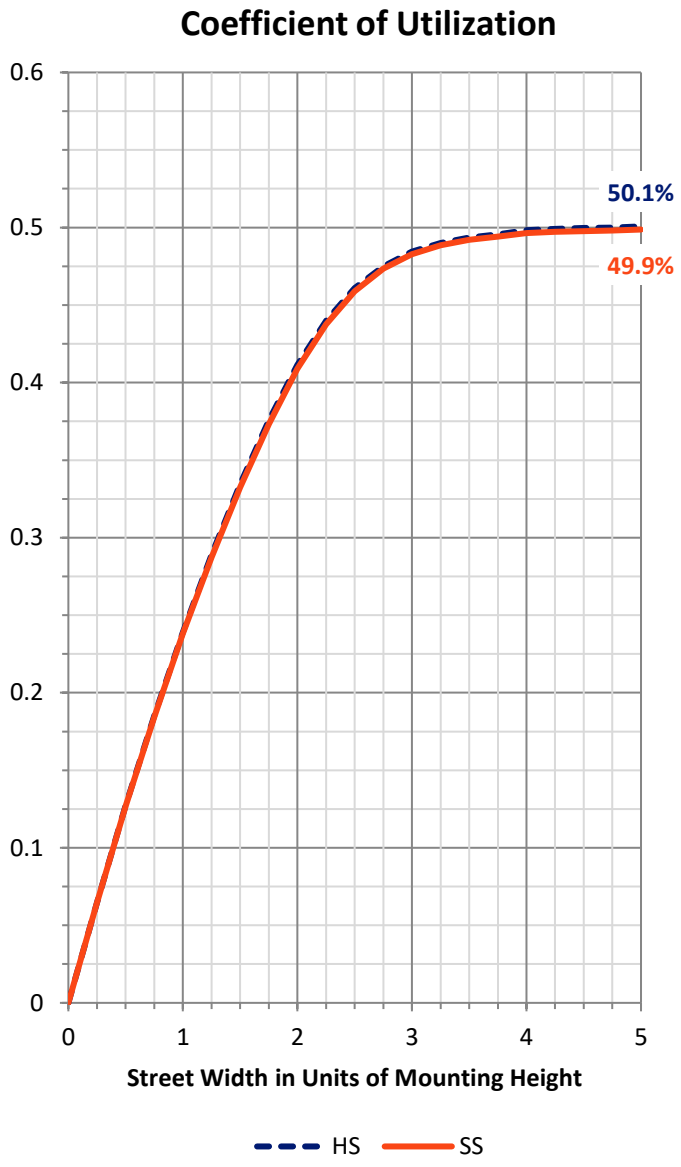
CATALOG NUMBER: GLEON-SA9A-AMB-U-5MQ

**FLUX DISTRIBUTION:**

| | | Downward | Upward | Total |
|---|---|---|---|---|
| **House Side** | Lumens | 4751.0 | 0.0 | 4751.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| **Street Side** | Lumens | 4751.0 | 0.0 | 4751.0 |
| | % Fixture | 50.0 | 0.0 | 50.0 |
| **Total** | Lumens | 9502.0 | 0.0 | 9502.0 |
| | % Fixture | 100.0 | 0.0 | 100.0 |

**ZONAL LUMENS:**

| Zone | Lumens | % Fixture |
|---|---|---|
| 0°-10° | 85.5 | 0.9 |
| 10°-20° | 248.0 | 2.6 |
| 20°-30° | 420.4 | 4.4 |
| 30°-40° | 689.1 | 7.3 |
| 40°-50° | 1152.3 | 12.1 |
| 50°-60° | 2022.9 | 21.3 |
| 60°-70° | 3323.3 | 35.0 |
| 70°-80° | 1498.2 | 15.8 |
| 80°-90° | 62.4 | 0.7 |
| 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° | 9502.0 | 100.0 |
| 0°-180° | 9502.0 | 100.0 |



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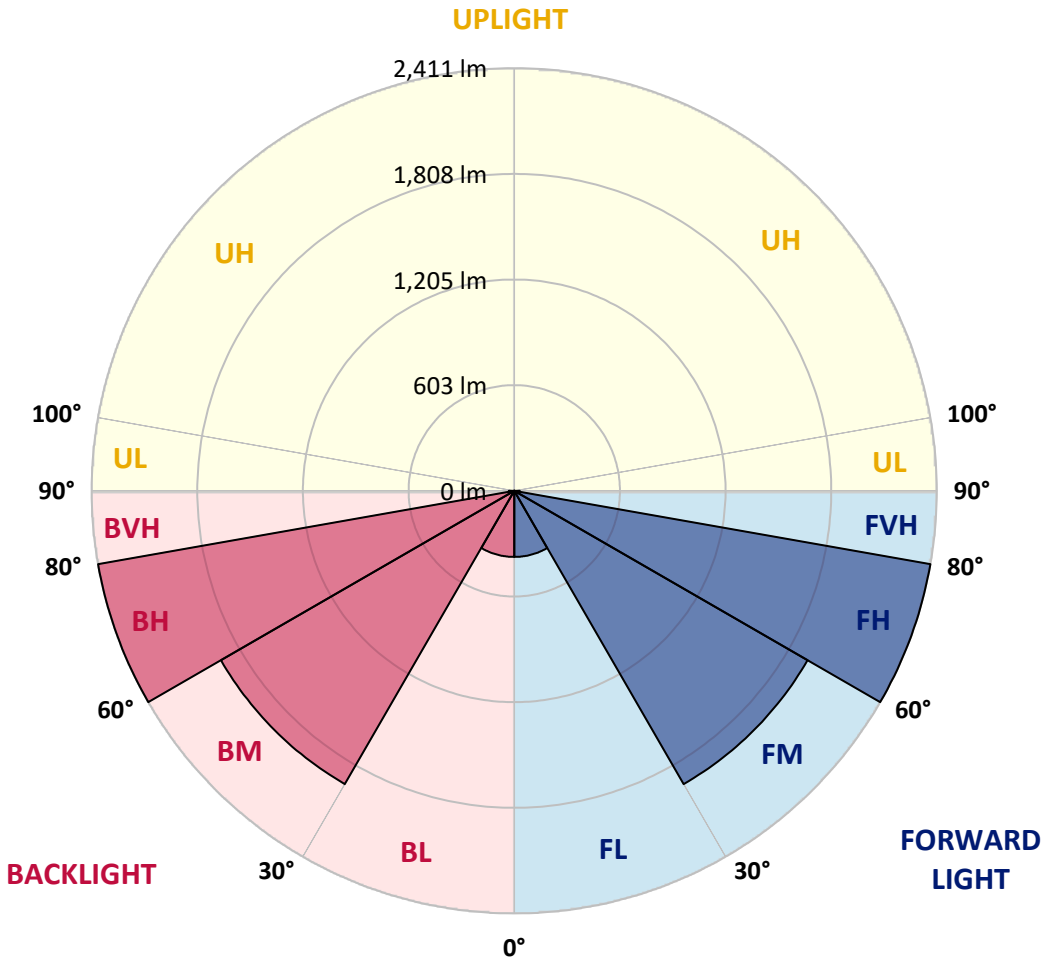
REPORT NUMBER: P459736
CATALOG NUMBER: GLEON-SA9A-AMB-U-5MQ

## LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

| Zone | | Lumens | % Fixture | Zone Rating/Lumen Limit B | U | G |
|---|---|---|---|---|---|---|
| FL | (0°-30°) | 376.9 | 4.0 | | | |
| FM | (30°-60°) | 1932.1 | 20.3 | | | |
| FH | (60°-80°) | 2410.8 | 25.4 | | | G2/5000 |
| FVH | (80°-90°) | 31.2 | 0.3 | | | G1/100 |
| BL | (0°-30°) | 376.9 | 4.0 | B1/500 | | |
| BM | (30°-60°) | 1932.1 | 20.3 | B2/2500 | | |
| BH | (60°-80°) | 2410.8 | 25.4 | B3/2500 | | G2/5000 |
| BVH | (80°-90°) | 31.2 | 0.3 | | | G1/100 |
| UL | (90°-100°) | 0.0 | 0.0 | | U0/0 | |
| UH | (100°-180°) | 0.0 | 0.0 | | U0/0 | |

**BUG Rating: B3-U0-G2**
Type V Short



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**CANDELA DISTRIBUTION (FULL):**

| | 0° | 5° | 15° | 25° | 35° | 45° | 55° | 65° | 75° | 85° | 90° |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0° | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 |
| 2.5° | 903.0 | 903.0 | 903.0 | 903.0 | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 | 899.1 |
| 5° | 903.0 | 903.0 | 903.0 | 899.1 | 899.1 | 895.2 | 899.1 | 895.2 | 895.2 | 895.2 | 899.1 |
| 7.5° | 903.0 | 903.0 | 903.0 | 899.1 | 899.1 | 895.2 | 895.2 | 891.3 | 891.3 | 891.3 | 891.3 |
| 10° | 891.3 | 891.3 | 891.3 | 891.3 | 891.3 | 887.4 | 887.4 | 883.6 | 883.6 | 883.6 | 883.6 |
| 12.5° | 879.7 | 883.6 | 879.7 | 879.7 | 883.6 | 883.6 | 879.7 | 875.8 | 871.9 | 871.9 | 875.8 |
| 15° | 871.9 | 871.9 | 871.9 | 871.9 | 879.7 | 879.7 | 879.7 | 871.9 | 868.1 | 868.1 | 868.1 |
| 17.5° | 864.2 | 864.2 | 864.2 | 871.9 | 875.8 | 879.7 | 875.8 | 871.9 | 868.1 | 860.3 | 860.3 |
| 20° | 860.3 | 860.3 | 864.2 | 871.9 | 879.7 | 883.6 | 883.6 | 875.8 | 868.1 | 860.3 | 860.3 |
| 22.5° | 860.3 | 860.3 | 868.1 | 879.7 | 887.4 | 891.3 | 891.3 | 883.6 | 875.8 | 868.1 | 868.1 |
| 25° | 875.8 | 871.9 | 879.7 | 895.2 | 906.8 | 910.7 | 914.6 | 903.0 | 891.3 | 883.6 | 879.7 |
| 27.5° | 899.1 | 903.0 | 910.7 | 926.2 | 941.7 | 937.8 | 941.7 | 934.0 | 926.2 | 914.6 | 914.6 |
| 30° | 945.6 | 945.6 | 957.2 | 972.7 | 984.3 | 988.2 | 988.2 | 980.5 | 968.8 | 961.1 | 957.2 |
| 32.5° | 999.8 | 999.8 | 1011.5 | 1030.8 | 1038.6 | 1042.5 | 1038.6 | 1030.8 | 1015.3 | 1003.7 | 999.8 |
| 35° | 1054.1 | 1054.1 | 1069.6 | 1092.8 | 1100.6 | 1092.8 | 1096.7 | 1089.0 | 1077.3 | 1069.6 | 1065.7 |
| 37.5° | 1120.0 | 1120.0 | 1139.3 | 1158.7 | 1170.3 | 1162.6 | 1174.2 | 1170.3 | 1154.8 | 1147.1 | 1143.2 |
| 40° | 1197.5 | 1201.4 | 1220.7 | 1244.0 | 1244.0 | 1247.9 | 1259.5 | 1263.4 | 1247.9 | 1240.1 | 1232.4 |
| 42.5° | 1294.4 | 1302.1 | 1317.6 | 1340.9 | 1344.7 | 1344.7 | 1360.2 | 1364.1 | 1356.4 | 1340.9 | 1333.1 |
| 45° | 1410.6 | 1418.4 | 1441.6 | 1464.9 | 1464.9 | 1457.1 | 1480.4 | 1499.8 | 1484.3 | 1461.0 | 1453.2 |
| 47.5° | 1546.3 | 1554.0 | 1585.0 | 1604.4 | 1612.1 | 1592.8 | 1627.6 | 1650.9 | 1631.5 | 1616.0 | 1600.5 |
| 50° | 1709.0 | 1724.5 | 1755.5 | 1786.5 | 1778.8 | 1755.5 | 1802.0 | 1829.2 | 1817.5 | 1782.7 | 1771.0 |
| 52.5° | 1883.4 | 1895.0 | 1957.0 | 1988.0 | 1988.0 | 1960.9 | 2022.9 | 2046.2 | 2011.3 | 1964.8 | 1949.3 |
| 55° | 2119.8 | 2115.9 | 2158.6 | 2228.3 | 2255.4 | 2228.3 | 2278.7 | 2286.4 | 2239.9 | 2201.2 | 2174.1 |
| 57.5° | 2363.9 | 2371.7 | 2429.8 | 2495.7 | 2534.5 | 2565.5 | 2565.5 | 2546.1 | 2480.2 | 2406.6 | 2391.1 |
| 60° | 2646.8 | 2670.1 | 2739.9 | 2825.1 | 2902.6 | 2945.2 | 2879.4 | 2840.6 | 2739.9 | 2677.9 | 2654.6 |
| 62.5° | 2960.8 | 2991.8 | 3096.4 | 3235.9 | 3359.9 | 3445.2 | 3336.7 | 3228.1 | 3100.3 | 3003.4 | 2987.9 |
| 65° | 3057.6 | 3084.8 | 3290.2 | 3592.4 | 3956.7 | 4158.2 | 3813.3 | 3553.7 | 3251.4 | 3049.9 | 3026.6 |
| 67.5° | 2844.5 | 2856.1 | 3115.8 | 3635.1 | 4367.5 | 4975.9 | 4216.4 | 3565.3 | 3104.1 | 2813.5 | 2798.0 |
| 70° | 2108.2 | 2197.3 | 2538.3 | 3193.3 | 4297.7 | 5301.4 | 4096.2 | 3096.4 | 2449.2 | 2100.4 | 2026.8 |
| 72.5° | 1236.2 | 1216.9 | 1476.5 | 2119.8 | 3511.0 | 4704.6 | 3332.8 | 2100.4 | 1507.5 | 1244.0 | 1185.9 |
| 75° | 484.4 | 492.2 | 616.2 | 980.5 | 1988.0 | 3135.1 | 1995.8 | 988.2 | 550.3 | 449.5 | 445.7 |
| 77.5° | 166.6 | 170.5 | 186.0 | 236.4 | 639.4 | 1294.4 | 658.8 | 240.3 | 182.1 | 193.8 | 197.6 |
| 80° | 104.6 | 100.8 | 112.4 | 116.3 | 139.5 | 255.8 | 151.1 | 124.0 | 120.1 | 120.1 | 124.0 |
| 82.5° | 54.3 | 58.1 | 77.5 | 81.4 | 85.3 | 96.9 | 96.9 | 93.0 | 81.4 | 62.0 | 54.3 |
| 85° | 34.9 | 27.1 | 54.3 | 58.1 | 54.3 | 50.4 | 62.0 | 69.8 | 62.0 | 34.9 | 38.8 |
| 87.5° | 15.5 | 15.5 | 27.1 | 27.1 | 27.1 | 19.4 | 27.1 | 38.8 | 38.8 | 15.5 | 15.5 |
| 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: SP1-2005-791-1-R5

Test Date: 05/26/2020

Luminaire Tested: Light Squares Family Amber Color

Data in this report applies to families of products including Light Squares Family Amber Color

Report Generated By FNC07603 / LDUCLS01DT446
Version: v6.13

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

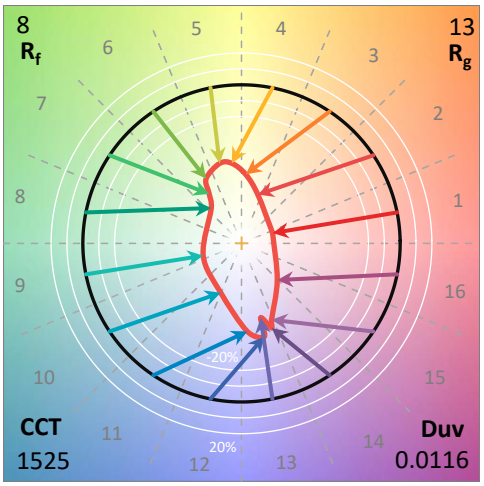
## Test Information

| | |
|---|---|
| Test Method: | LM-79-2019 |
| Report Number: | SP1-2005-791-1-R5 |
| Test Lab: | COOPER LIGHTING SOLUTIONS |
| Photometer: | SP1 - 76IN SPHERE |
| Measurement Geometry: | 4π |
| Issue Date: | 02/07/2024 |
| Manufacturer: | COOPER LIGHTING SOLUTIONS |
| Product Line: | STREETWORKS |
| Catalog Number: | **Light Squares Family Amber Color** |
| Description: | Light Squares Family Amber Color |

## Spectral Parameters

| | | | | | |
|---|---|---|---|---|---|
| CCT (K): | 1525 | CRI (Ra): | -20.7 | | |
| CIE u': | 0.3546 | R1: | -32.5 | R9: | -382.8 |
| CIE v': | 0.5459 | R2: | 55.0 | R10: | 34.9 |
| Duv: | 0.0116 | R3: | 15.4 | R11: | -92.4 |
| CIE x: | 0.5918 | R4: | -67.7 | R12: | 2.7 |
| CIE y: | 0.4049 | R5: | -38.7 | R13: | -12.7 |
| CIE z: | 0.0033 | R6: | 47.4 | R14: | 45.0 |
| Peak Wavelength (nm): | 597 | R7: | -9.2 | | |
| Dominant Wavelength (nm): | 593 | R8: | -135.0 | | |
| Purity: | 99.6 | | | | |

| | |
|---|---|
| Rf: | 8.4 |
| Rg: | 12.9 |




## Test Conditions

| | |
|---|---|
| Stabilization Time: | 65M |
| Operation Time: | 12H |
| Room Temperature (°C) / RH%: | 25.6/42% |
| Sphere Temperature (°C): | 25.2 |

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REPORT NUMBER: SP1-2005-791-1-R5

| Measurement and Test Equipment | | | |
|---|---|---|---|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 1/17/2020 | 7/17/2020 |
| Power Meter | XITRON 2801 IN0071 | 12/3/2019 | 12/3/2020 |
| AC Power Source | CHROMA 61603 IN0063 | 12/3/2019 | 12/3/2020 |
| DC Power Source | AGILENT E3634A IN0208 | 12/3/2019 | 12/3/2020 |
| Sphere Thermometer | ONSET IN0085 | 12/3/2019 | 12/3/2020 |
| Room Thermometer | ONSET IN0046 | 12/3/2019 | 12/3/2020 |

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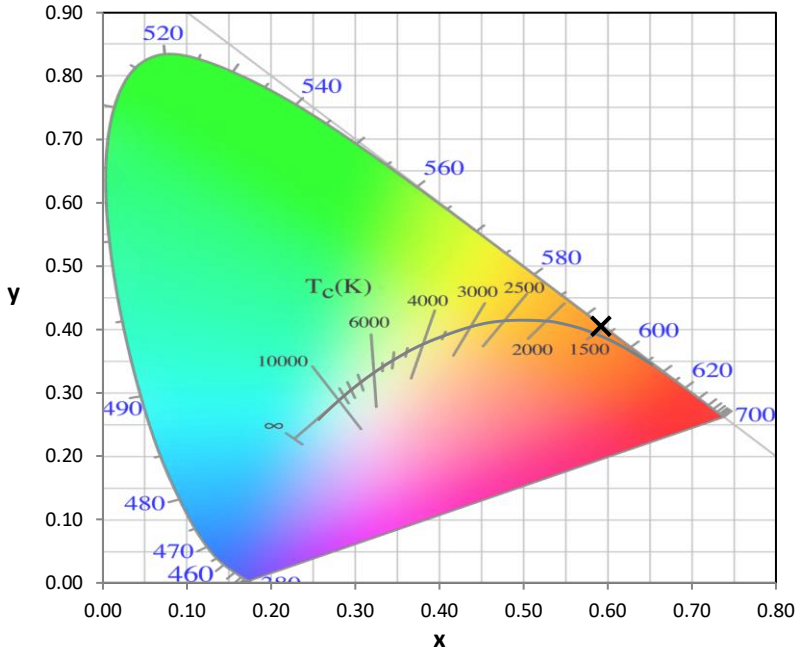
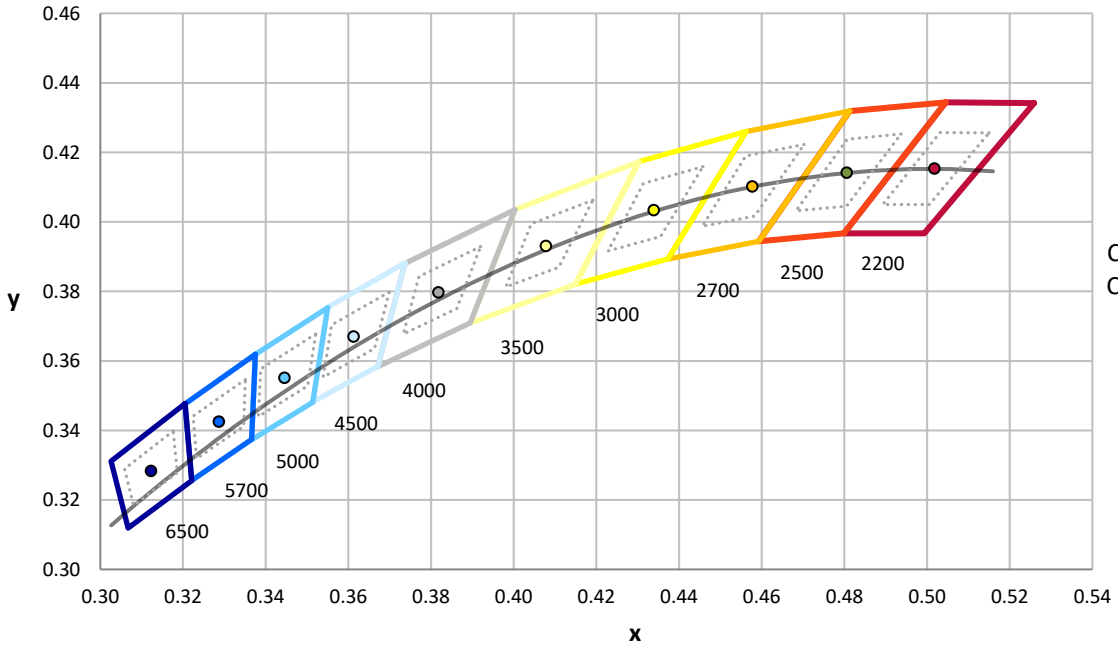
## CIE 1931 Chromaticity Diagram




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




CCT = 1525K
CIE x = 0.5918
CIE y = 0.4049
Duv = 0.0116

Point lies outside the range

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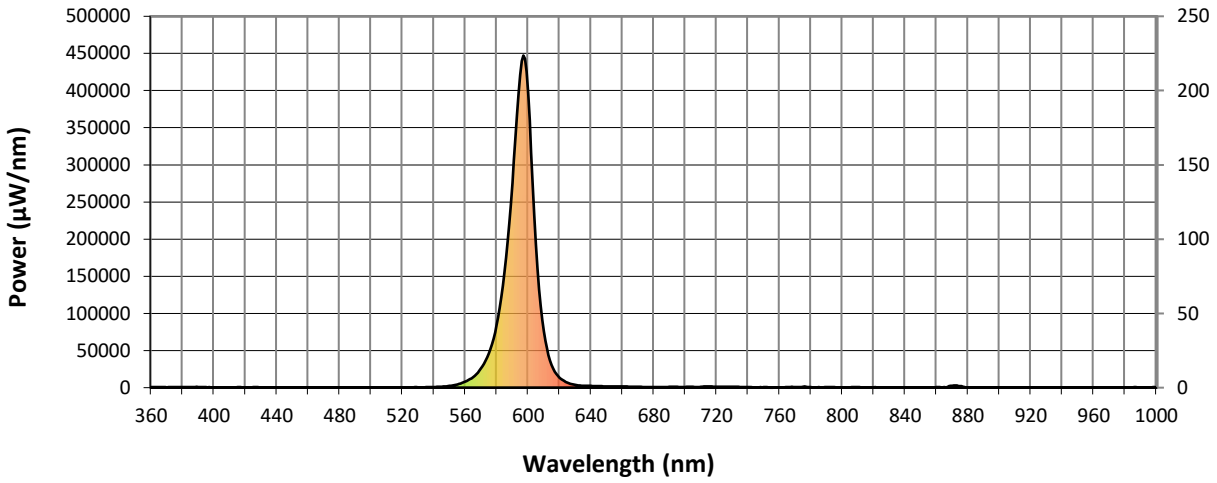
REPORT NUMBER: SP1-2005-791-1-R5

## Photopic Flux vs. Wavelength




######

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 818 | NR | 490 | 224 | NR | 620 | 13485 | NR | 750 | 666 | NR | 880 | 467 | NR |
| 365 | 765 | NR | 495 | 377 | NR | 625 | 6667 | NR | 755 | 63 | NR | 885 | 232 | NR |
| 370 | 529 | NR | 500 | 342 | NR | 630 | 3617 | NR | 760 | 170 | NR | 890 | 396 | NR |
| 375 | 859 | NR | 505 | 327 | NR | 635 | 2624 | NR | 765 | 772 | NR | 895 | 250 | NR |
| 380 | 838 | NR | 510 | 403 | NR | 640 | 2321 | NR | 770 | 684 | NR | 900 | 194 | NR |
| 385 | 931 | NR | 515 | 396 | NR | 645 | 2019 | NR | 775 | 1108 | NR | 905 | 303 | NR |
| 390 | 814 | NR | 520 | 478 | NR | 650 | 1694 | NR | 780 | 562 | NR | 910 | 335 | NR |
| 395 | 695 | NR | 525 | 468 | NR | 655 | 1437 | NR | 785 | 582 | NR | 915 | 255 | NR |
| 400 | 338 | NR | 530 | 527 | NR | 660 | 1541 | NR | 790 | 675 | NR | 920 | 182 | NR |
| 405 | 555 | NR | 535 | 574 | NR | 665 | 1318 | NR | 795 | 578 | NR | 925 | 228 | NR |
| 410 | 491 | NR | 540 | 823 | NR | 670 | 1092 | NR | 800 | 147 | NR | 930 | 239 | NR |
| 415 | 563 | NR | 545 | 1340 | NR | 675 | 936 | NR | 805 | 559 | NR | 935 | 148 | NR |
| 420 | 360 | NR | 550 | 2313 | NR | 680 | 727 | NR | 810 | 727 | NR | 940 | 308 | NR |
| 425 | 598 | NR | 555 | 4294 | NR | 685 | 833 | NR | 815 | 444 | NR | 945 | 313 | NR |
| 430 | 464 | NR | 560 | 8017 | NR | 690 | 1005 | NR | 820 | 479 | NR | 950 | 345 | NR |
| 435 | 440 | NR | 565 | 14123 | NR | 695 | 1012 | NR | 825 | 224 | NR | 955 | 229 | NR |
| 440 | 368 | NR | 570 | 25560 | NR | 700 | 962 | NR | 830 | 333 | NR | 960 | 363 | NR |
| 445 | 428 | NR | 575 | 45938 | NR | 705 | 994 | NR | 835 | 379 | NR | 965 | 412 | NR |
| 450 | 279 | NR | 580 | 84007 | NR | 710 | 1014 | NR | 840 | 285 | NR | 970 | 272 | NR |
| 455 | 407 | NR | 585 | 155807 | NR | 715 | 1458 | NR | 845 | 333 | NR | 975 | 345 | NR |
| 460 | 365 | NR | 590 | 275552 | NR | 720 | 1076 | NR | 850 | 385 | NR | 980 | 449 | NR |
| 465 | 328 | NR | 595 | 421402 | NR | 725 | 1113 | NR | 855 | 558 | NR | 985 | 501 | NR |
| 470 | 249 | NR | 600 | 396839 | NR | 730 | 1144 | NR | 860 | 663 | NR | 990 | 343 | NR |
| 475 | 277 | NR | 605 | 193475 | NR | 735 | 799 | NR | 865 | 591 | NR | 995 | 152 | NR |
| 480 | 229 | NR | 610 | 75719 | NR | 740 | 692 | NR | 870 | 2634 | NR | 1000 | 132 | NR |
| 485 | 185 | NR | 615 | 30466 | NR | 745 | 414 | NR | 875 | 2146 | NR | | | |

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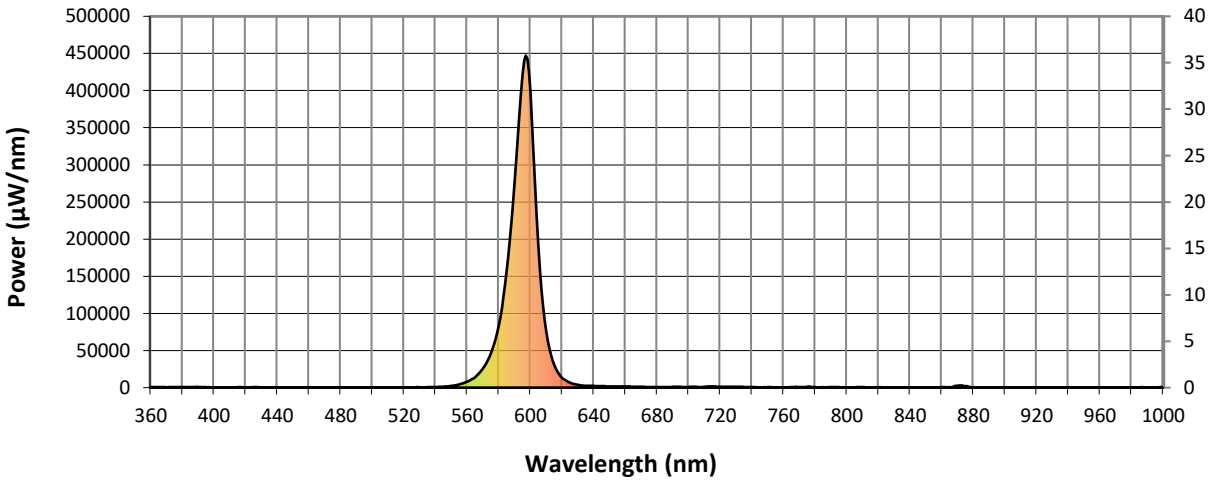
## Scotopic Flux vs. Wavelength




**Scotopic Lumens: 939.9** **S/P: 0.23**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 818 | NR | 490 | 224 | NR | 620 | 13485 | NR | 750 | 666 | NR | 880 | 467 | NR |
| 365 | 765 | NR | 495 | 377 | NR | 625 | 6667 | NR | 755 | 63 | NR | 885 | 232 | NR |
| 370 | 529 | NR | 500 | 342 | NR | 630 | 3617 | NR | 760 | 170 | NR | 890 | 396 | NR |
| 375 | 859 | NR | 505 | 327 | NR | 635 | 2624 | NR | 765 | 772 | NR | 895 | 250 | NR |
| 380 | 838 | NR | 510 | 403 | NR | 640 | 2321 | NR | 770 | 684 | NR | 900 | 194 | NR |
| 385 | 931 | NR | 515 | 396 | NR | 645 | 2019 | NR | 775 | 1108 | NR | 905 | 303 | NR |
| 390 | 814 | NR | 520 | 478 | NR | 650 | 1694 | NR | 780 | 562 | NR | 910 | 335 | NR |
| 395 | 695 | NR | 525 | 468 | NR | 655 | 1437 | NR | 785 | 582 | NR | 915 | 255 | NR |
| 400 | 338 | NR | 530 | 527 | NR | 660 | 1541 | NR | 790 | 675 | NR | 920 | 182 | NR |
| 405 | 555 | NR | 535 | 574 | NR | 665 | 1318 | NR | 795 | 578 | NR | 925 | 228 | NR |
| 410 | 491 | NR | 540 | 823 | NR | 670 | 1092 | NR | 800 | 147 | NR | 930 | 239 | NR |
| 415 | 563 | NR | 545 | 1340 | NR | 675 | 936 | NR | 805 | 559 | NR | 935 | 148 | NR |
| 420 | 360 | NR | 550 | 2313 | NR | 680 | 727 | NR | 810 | 727 | NR | 940 | 308 | NR |
| 425 | 598 | NR | 555 | 4294 | NR | 685 | 833 | NR | 815 | 444 | NR | 945 | 313 | NR |
| 430 | 464 | NR | 560 | 8017 | NR | 690 | 1005 | NR | 820 | 479 | NR | 950 | 345 | NR |
| 435 | 440 | NR | 565 | 14123 | NR | 695 | 1012 | NR | 825 | 224 | NR | 955 | 229 | NR |
| 440 | 368 | NR | 570 | 25560 | NR | 700 | 962 | NR | 830 | 333 | NR | 960 | 363 | NR |
| 445 | 428 | NR | 575 | 45938 | NR | 705 | 994 | NR | 835 | 379 | NR | 965 | 412 | NR |
| 450 | 279 | NR | 580 | 84007 | NR | 710 | 1014 | NR | 840 | 285 | NR | 970 | 272 | NR |
| 455 | 407 | NR | 585 | 155807 | NR | 715 | 1458 | NR | 845 | 333 | NR | 975 | 345 | NR |
| 460 | 365 | NR | 590 | 275552 | NR | 720 | 1076 | NR | 850 | 385 | NR | 980 | 449 | NR |
| 465 | 328 | NR | 595 | 421402 | NR | 725 | 1113 | NR | 855 | 558 | NR | 985 | 501 | NR |
| 470 | 249 | NR | 600 | 396839 | NR | 730 | 1144 | NR | 860 | 663 | NR | 990 | 343 | NR |
| 475 | 277 | NR | 605 | 193475 | NR | 735 | 799 | NR | 865 | 591 | NR | 995 | 152 | NR |
| 480 | 229 | NR | 610 | 75719 | NR | 740 | 692 | NR | 870 | 2634 | NR | 1000 | 132 | NR |
| 485 | 185 | NR | 615 | 30466 | NR | 745 | 414 | NR | 875 | 2146 | NR | | | |

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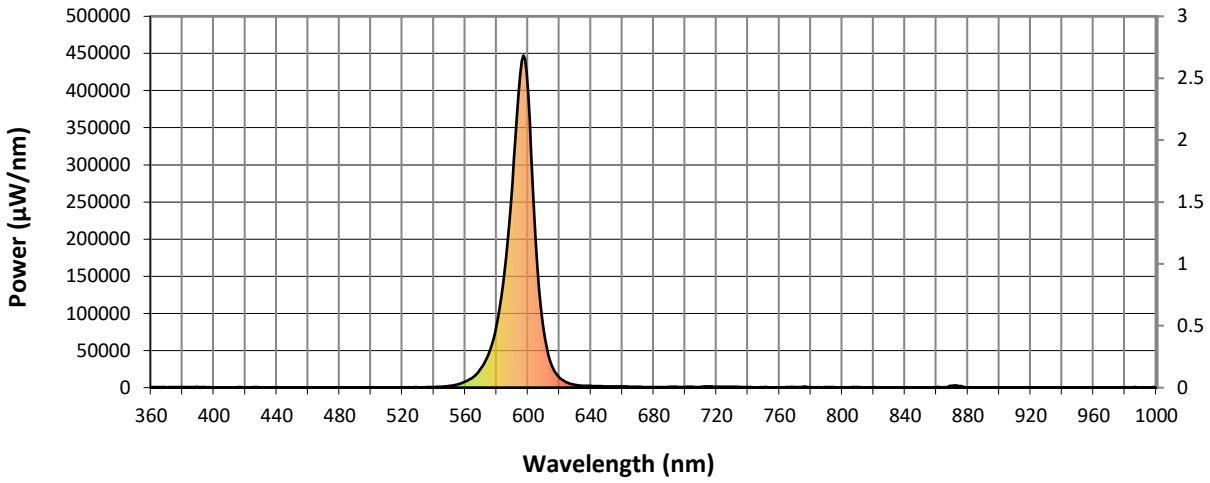
## Melanopic Flux vs. Wavelength




**Melanopic Lumens: 115.1** **M/P: 0.03**

| λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) | λ (nm) | Power (µW/nm) | Lumens (ϕ/nm) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 360 | 818 | NR | 490 | 224 | NR | 620 | 13485 | NR | 750 | 666 | NR | 880 | 467 | NR |
| 365 | 765 | NR | 495 | 377 | NR | 625 | 6667 | NR | 755 | 63 | NR | 885 | 232 | NR |
| 370 | 529 | NR | 500 | 342 | NR | 630 | 3617 | NR | 760 | 170 | NR | 890 | 396 | NR |
| 375 | 859 | NR | 505 | 327 | NR | 635 | 2624 | NR | 765 | 772 | NR | 895 | 250 | NR |
| 380 | 838 | NR | 510 | 403 | NR | 640 | 2321 | NR | 770 | 684 | NR | 900 | 194 | NR |
| 385 | 931 | NR | 515 | 396 | NR | 645 | 2019 | NR | 775 | 1108 | NR | 905 | 303 | NR |
| 390 | 814 | NR | 520 | 478 | NR | 650 | 1694 | NR | 780 | 562 | NR | 910 | 335 | NR |
| 395 | 695 | NR | 525 | 468 | NR | 655 | 1437 | NR | 785 | 582 | NR | 915 | 255 | NR |
| 400 | 338 | NR | 530 | 527 | NR | 660 | 1541 | NR | 790 | 675 | NR | 920 | 182 | NR |
| 405 | 555 | NR | 535 | 574 | NR | 665 | 1318 | NR | 795 | 578 | NR | 925 | 228 | NR |
| 410 | 491 | NR | 540 | 823 | NR | 670 | 1092 | NR | 800 | 147 | NR | 930 | 239 | NR |
| 415 | 563 | NR | 545 | 1340 | NR | 675 | 936 | NR | 805 | 559 | NR | 935 | 148 | NR |
| 420 | 360 | NR | 550 | 2313 | NR | 680 | 727 | NR | 810 | 727 | NR | 940 | 308 | NR |
| 425 | 598 | NR | 555 | 4294 | NR | 685 | 833 | NR | 815 | 444 | NR | 945 | 313 | NR |
| 430 | 464 | NR | 560 | 8017 | NR | 690 | 1005 | NR | 820 | 479 | NR | 950 | 345 | NR |
| 435 | 440 | NR | 565 | 14123 | NR | 695 | 1012 | NR | 825 | 224 | NR | 955 | 229 | NR |
| 440 | 368 | NR | 570 | 25560 | NR | 700 | 962 | NR | 830 | 333 | NR | 960 | 363 | NR |
| 445 | 428 | NR | 575 | 45938 | NR | 705 | 994 | NR | 835 | 379 | NR | 965 | 412 | NR |
| 450 | 279 | NR | 580 | 84007 | NR | 710 | 1014 | NR | 840 | 285 | NR | 970 | 272 | NR |
| 455 | 407 | NR | 585 | 155807 | NR | 715 | 1458 | NR | 845 | 333 | NR | 975 | 345 | NR |
| 460 | 365 | NR | 590 | 275552 | NR | 720 | 1076 | NR | 850 | 385 | NR | 980 | 449 | NR |
| 465 | 328 | NR | 595 | 421402 | NR | 725 | 1113 | NR | 855 | 558 | NR | 985 | 501 | NR |
| 470 | 249 | NR | 600 | 396839 | NR | 730 | 1144 | NR | 860 | 663 | NR | 990 | 343 | NR |
| 475 | 277 | NR | 605 | 193475 | NR | 735 | 799 | NR | 865 | 591 | NR | 995 | 152 | NR |
| 480 | 229 | NR | 610 | 75719 | NR | 740 | 692 | NR | 870 | 2634 | NR | 1000 | 132 | NR |
| 485 | 185 | NR | 615 | 30466 | NR | 745 | 414 | NR | 875 | 2146 | NR | | | |

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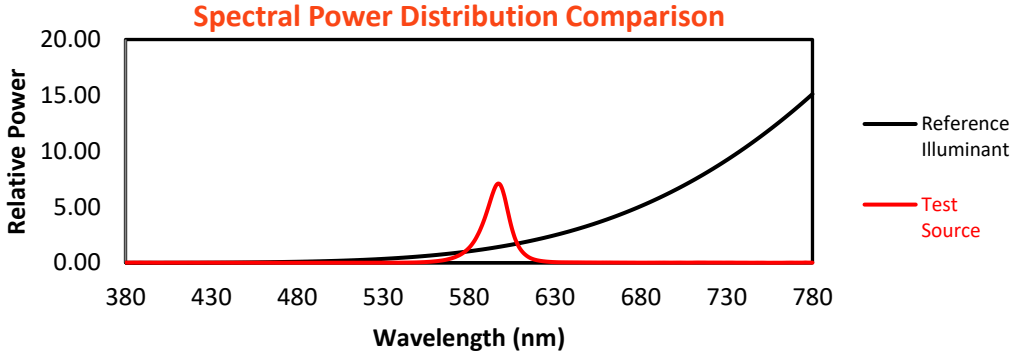
# TM-30-18

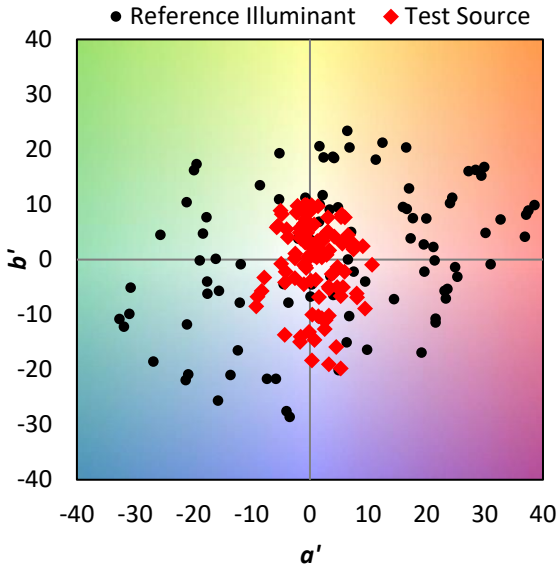
## Summary

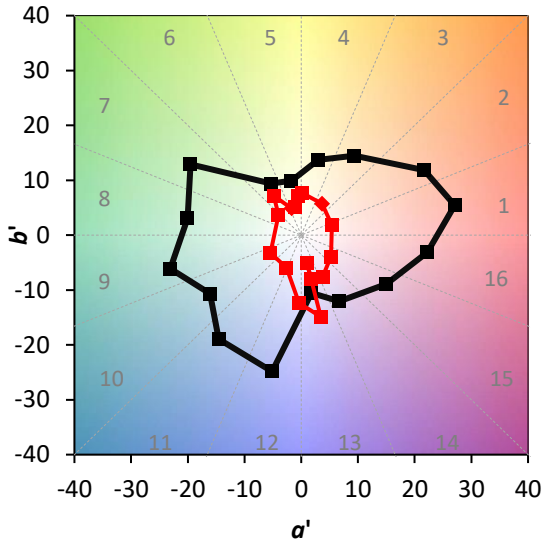
$R_f$ = 8.4
$R_g$ = 12.9
CIE $R_a$ = -20.7
$R_9$ = -382.8

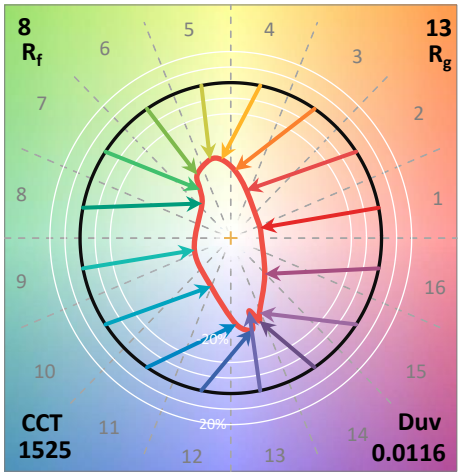
## Spectral Power Distribution Comparison

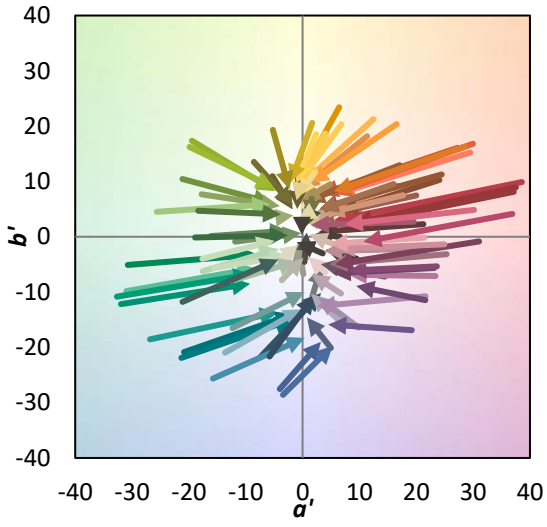



## Color Vector Graphics



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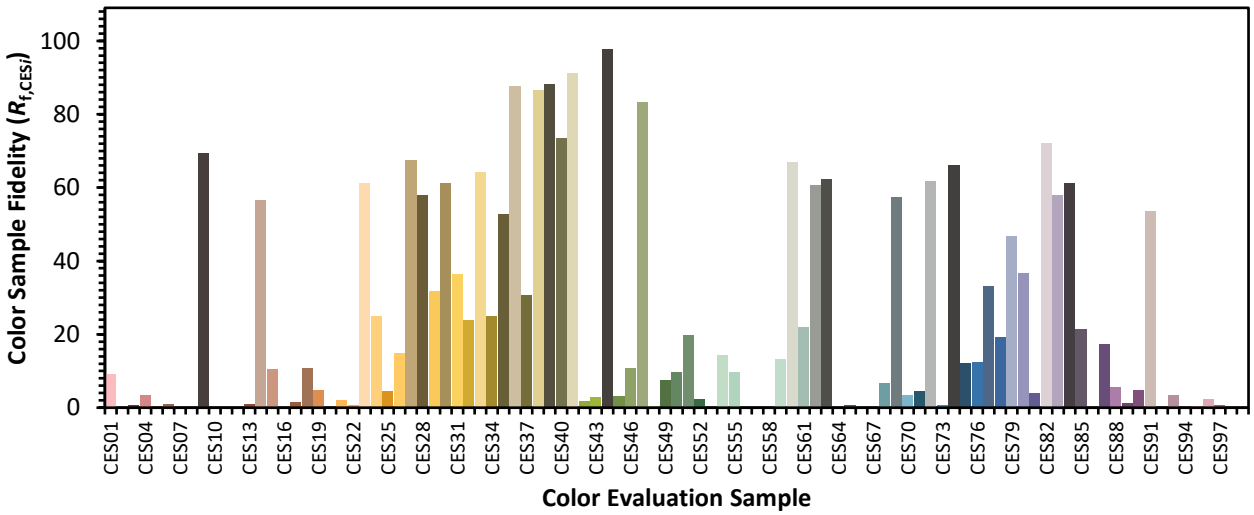
## Individual Sample Fidelity Index ($R_{f,i}$)

| | | | |
|---|---|---|---|
| CES01 = 90 | CES26 = 15 | CES51 = 20 | CES76 = 12 |
| CES02 = 69 | CES27 = 67 | CES52 = 2 | CES77 = 33 |
| CES03 = 31 | CES28 = 58 | CES53 = 0 | CES78 = 19 |
| CES04 = 77 | CES29 = 32 | CES54 = 14 | CES79 = 47 |
| CES05 = 52 | CES30 = 61 | CES55 = 10 | CES80 = 37 |
| CES06 = 56 | CES31 = 36 | CES56 = 0 | CES81 = 4 |
| CES07 = 41 | CES32 = 24 | CES57 = 0 | CES82 = 72 |
| CES08 = 38 | CES33 = 64 | CES58 = 0 | CES83 = 58 |
| CES09 = 29 | CES34 = 25 | CES59 = 13 | CES84 = 61 |
| CES10 = 87 | CES35 = 53 | CES60 = 67 | CES85 = 21 |
| CES11 = 70 | CES36 = 88 | CES61 = 22 | CES86 = 0 |
| CES12 = 75 | CES37 = 31 | CES62 = 61 | CES87 = 17 |
| CES13 = 47 | CES38 = 86 | CES63 = 62 | CES88 = 5 |
| CES14 = 76 | CES39 = 88 | CES64 = 0 | CES89 = 1 |
| CES15 = 74 | CES40 = 74 | CES65 = 1 | CES90 = 5 |
| CES16 = 49 | CES41 = 91 | CES66 = 0 | CES91 = 54 |
| CES17 = 55 | CES42 = 2 | CES67 = 0 | CES92 = 0 |
| CES18 = 59 | CES43 = 3 | CES68 = 7 | CES93 = 3 |
| CES19 = 80 | CES44 = 98 | CES69 = 57 | CES94 = 0 |
| CES20 = 71 | CES45 = 3 | CES70 = 3 | CES95 = 0 |
| CES21 = 94 | CES46 = 11 | CES71 = 5 | CES96 = 2 |
| CES22 = 86 | CES47 = 83 | CES72 = 62 | CES97 = 1 |
| CES23 = 93 | CES48 = 0 | CES73 = 1 | CES98 = 0 |
| CES24 = 95 | CES49 = 7 | CES74 = 66 | CES99 = 0 |
| CES25 = 78 | CES50 = 10 | CES75 = 12 | |



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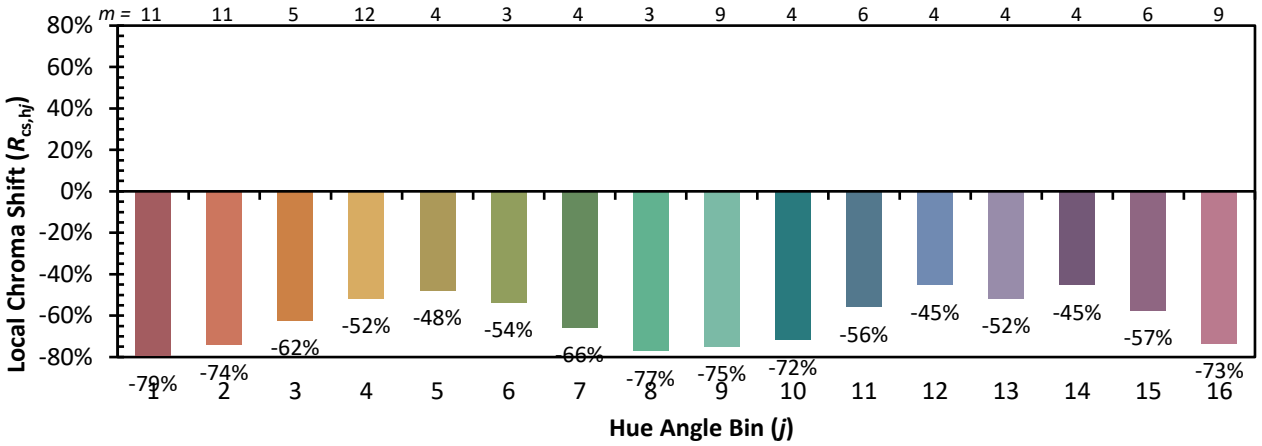
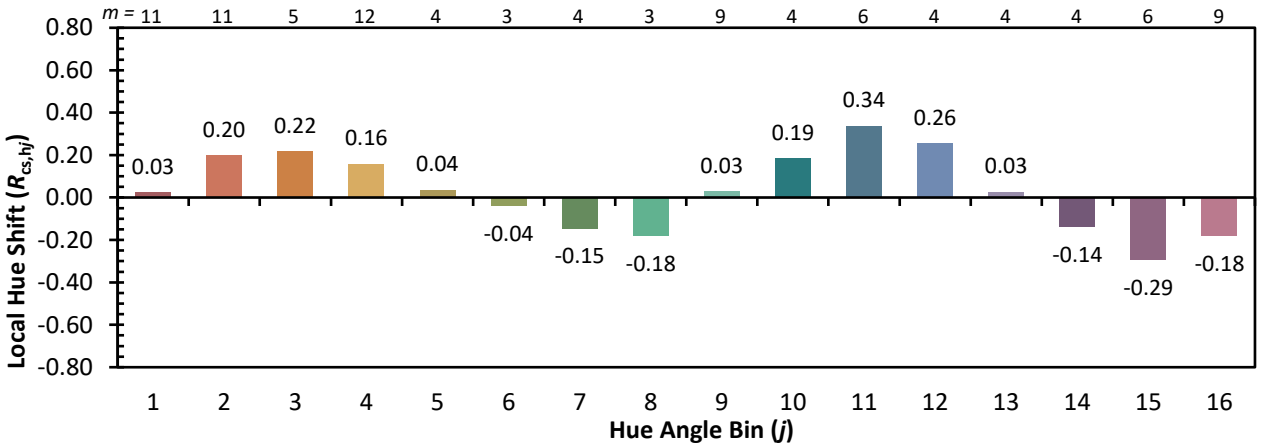
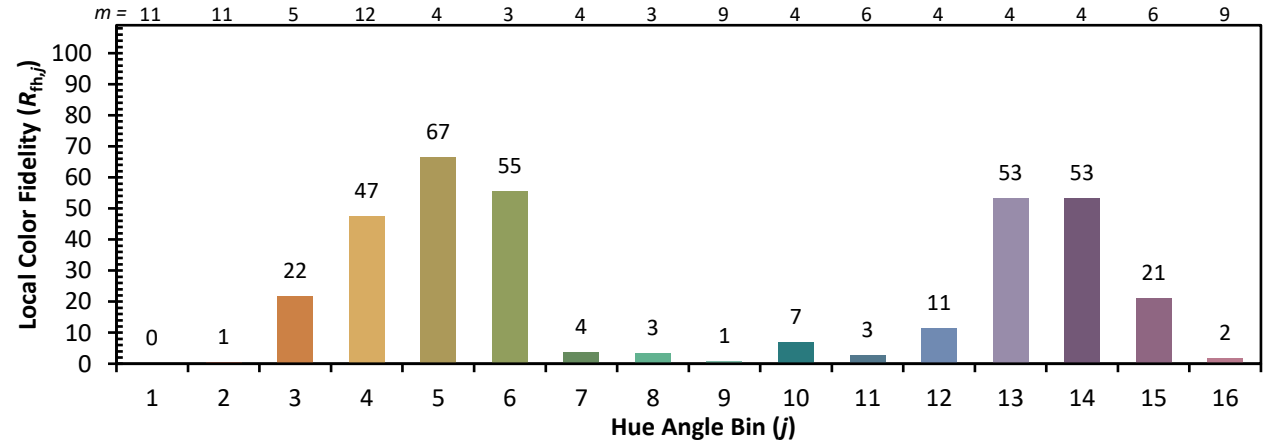
## Color Rendition by Hue-Angle Bin



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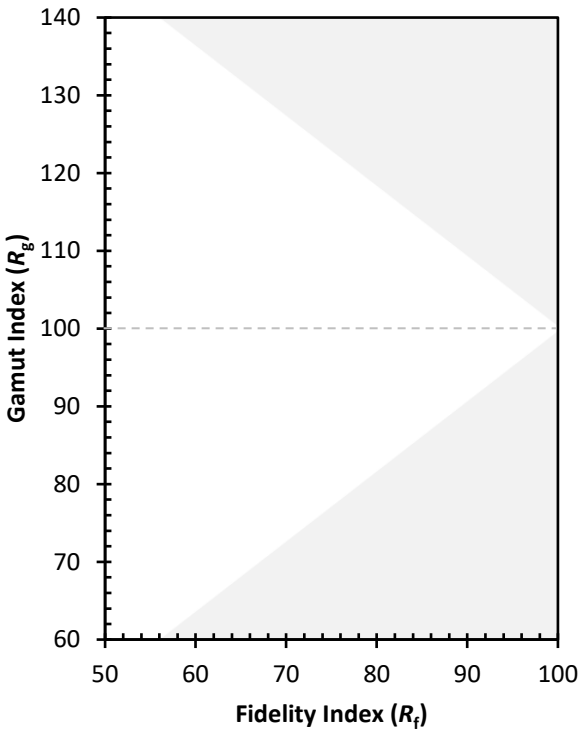
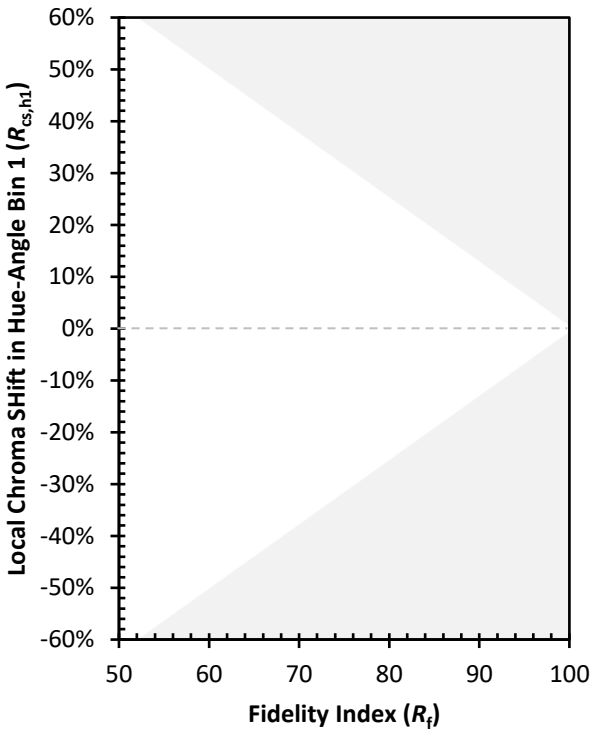
### Measure Comparisons




(END OF REPORT)