

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: NEO-RAY

Report Number: P78366

Luminaire Tested: **DFN2DIP-RG3F0-080D030US930-FLL-FLL-1DUDD-W**

Issue Date: 02/20/2024

Test Information

Test Method: LM-79-08
Report Number: P78366
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA
Test Lab: INNOVATION CENTER(G3)
Issue Date: 02/20/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: DFN2DIP-RG3F0-080D030US930-FLL-FLL-1DUDD-W
Description: Define Geo Ring 3ft Diameter Direct/Indirect Fixture w/ Frosted Lens
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

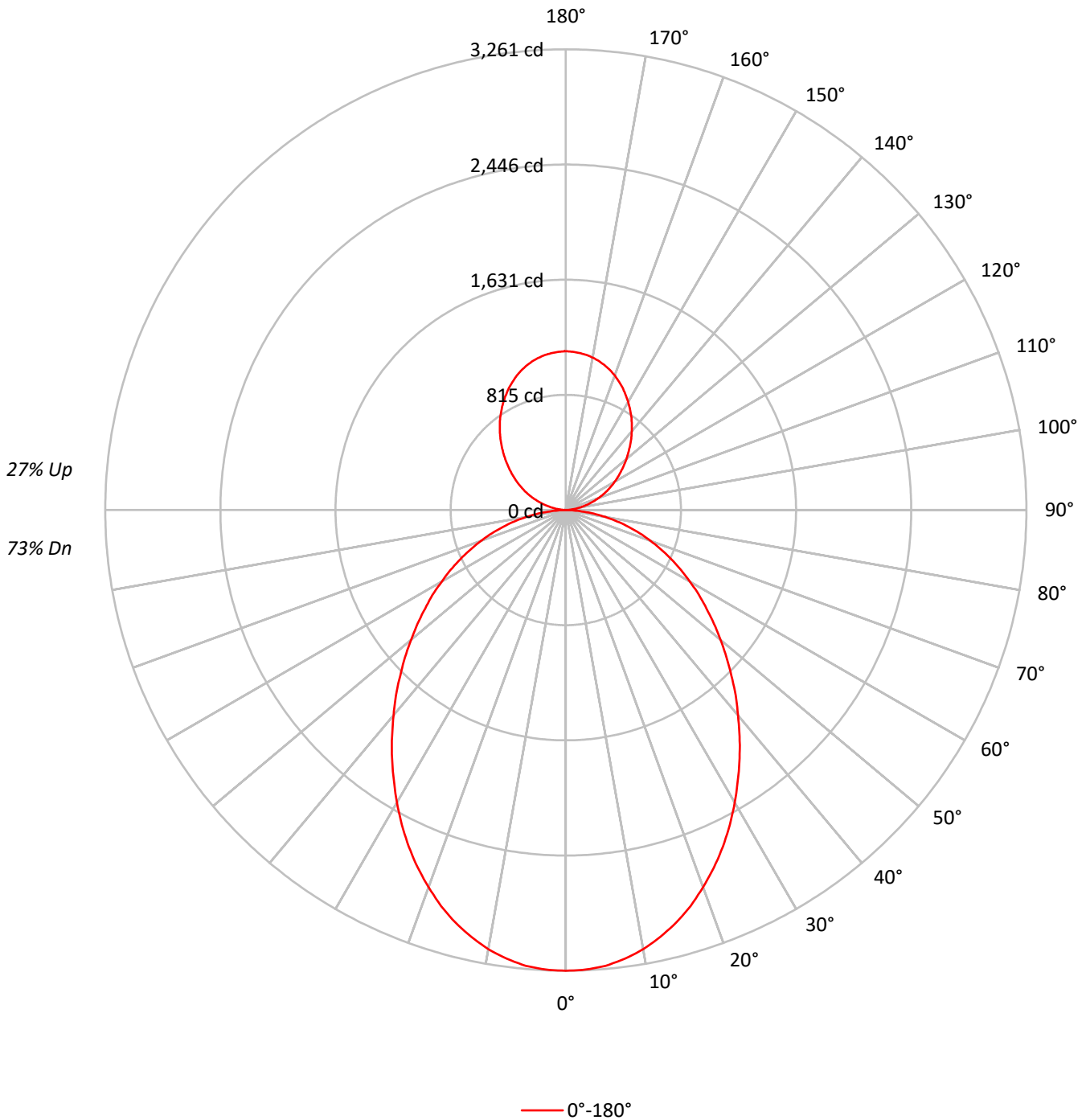
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 10330.9 lumens
Efficiency: N/A
Efficacy: 73.0 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.11 / 1.21
Luminous Opening: Circular (Dia: 3' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 141.6
Input Voltage (V): 120
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: 25 FT

TEST NUMBER: P78366
CATALOG NUMBER: DFN2DIP-RG3F0-080D030US930-FLL-FLL-1DUDD-W

Luminous Intensity Polar Plot



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



TEST NUMBER: P78366

CATALOG NUMBER: DFN2DIP-RG3F0-080D030US930-FLL-FLL-1DUDD-W

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

| | | | | | | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| RF | 20 | | | | 20 | | | | 20 | | | | 20 | | | | 20 | | | | |
| RC | 80 | | | | 70 | | | | 50 | | | | 30 | | | | 10 | | | 0 | |
| RW | 70 | 50 | 30 | 10 | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | | |
| 0 | 113 | 113 | 113 | 113 | 107 | 107 | 107 | 107 | 96 | 96 | 96 | 86 | 86 | 86 | 77 | 77 | 77 | 77 | 77 | 77 | 73 |
| 1 | 103 | 99 | 95 | 91 | 98 | 94 | 90 | 87 | 84 | 82 | 79 | 76 | 74 | 72 | 68 | 67 | 65 | 65 | 65 | 65 | 61 |
| 2 | 94 | 86 | 80 | 75 | 89 | 82 | 76 | 72 | 74 | 70 | 66 | 67 | 64 | 60 | 60 | 58 | 55 | 55 | 55 | 55 | 52 |
| 3 | 86 | 76 | 69 | 63 | 81 | 73 | 66 | 60 | 66 | 60 | 56 | 59 | 55 | 51 | 54 | 50 | 47 | 47 | 47 | 47 | 44 |
| 4 | 79 | 68 | 60 | 53 | 74 | 65 | 57 | 51 | 59 | 53 | 48 | 53 | 48 | 44 | 48 | 44 | 41 | 41 | 41 | 41 | 38 |
| 5 | 73 | 61 | 52 | 46 | 69 | 58 | 50 | 45 | 53 | 46 | 42 | 48 | 43 | 39 | 44 | 39 | 36 | 36 | 36 | 36 | 33 |
| 6 | 67 | 55 | 46 | 40 | 63 | 52 | 45 | 39 | 48 | 41 | 37 | 44 | 38 | 34 | 40 | 35 | 32 | 32 | 32 | 32 | 29 |
| 7 | 62 | 50 | 41 | 36 | 59 | 47 | 40 | 35 | 44 | 37 | 33 | 40 | 34 | 31 | 36 | 32 | 29 | 29 | 29 | 29 | 26 |
| 8 | 58 | 45 | 37 | 32 | 55 | 43 | 36 | 31 | 40 | 34 | 29 | 37 | 31 | 27 | 34 | 29 | 26 | 26 | 26 | 26 | 24 |
| 9 | 54 | 42 | 34 | 29 | 51 | 40 | 33 | 28 | 37 | 31 | 26 | 34 | 29 | 25 | 31 | 27 | 23 | 23 | 23 | 23 | 21 |
| 10 | 51 | 38 | 31 | 26 | 48 | 37 | 30 | 25 | 34 | 28 | 24 | 31 | 26 | 23 | 29 | 24 | 21 | 21 | 21 | 21 | 19 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|------|
| | 0° |
| 0° | 4966 |
| 5° | 4951 |
| 10° | 4882 |
| 15° | 4765 |
| 20° | 4604 |
| 25° | 4419 |
| 30° | 4205 |
| 35° | 3988 |
| 40° | 3770 |
| 45° | 3571 |
| 50° | 3386 |
| 55° | 3227 |
| 60° | 3089 |
| 65° | 2965 |
| 70° | 2845 |
| 75° | 2691 |
| 80° | 2507 |
| 85° | 1955 |



TEST NUMBER: P78366
 CATALOG NUMBER: DFN2DIP-RG3F0-080D030US930-FLL-FLL-1DUDD-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|---------|-----------|
| 0°-10° | 306.5 | 3.0 |
| 10°-20° | 849.8 | 8.2 |
| 20°-30° | 1208.8 | 11.7 |
| 30°-40° | 1341.0 | 13.0 |
| 40°-50° | 1281.5 | 12.4 |
| 50°-60° | 1090.7 | 10.6 |
| 60°-70° | 816.5 | 7.9 |
| 70°-80° | 485.8 | 4.7 |
| 80°-90° | 135.0 | 1.3 |
| 90°-100° | 45.5 | 0.4 |
| 100°-110° | 179.7 | 1.7 |
| 110°-120° | 318.8 | 3.1 |
| 120°-130° | 427.5 | 4.1 |
| 130°-140° | 495.9 | 4.8 |
| 140°-150° | 504.8 | 4.9 |
| 150°-160° | 438.3 | 4.2 |
| 160°-170° | 298.9 | 2.9 |
| 170°-180° | 105.9 | 1.0 |
| 0°-30° | 2365.1 | 22.9 |
| 0°-40° | 3706.1 | 35.9 |
| 0°-60° | 6078.3 | 58.8 |
| 0°-90° | 7515.7 | 72.7 |
| 90°-120° | 543.9 | 5.3 |
| 90°-150° | 1972.1 | 19.1 |
| 90°-180° | 2815.0 | 27.2 |
| 0°-180° | 10330.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|------|------|------|
| 0° | 3261 | |
| 5° | 3239 | 307 |
| 15° | 3023 | 850 |
| 25° | 2630 | 1209 |
| 35° | 2145 | 1341 |
| 45° | 1658 | 1282 |
| 55° | 1216 | 1091 |
| 65° | 823 | 817 |
| 75° | 457 | 486 |
| 85° | 112 | 129 |
| 90° | 1 | 8 |
| 95° | 37 | 43 |
| 105° | 170 | 180 |
| 115° | 322 | 319 |
| 125° | 477 | 427 |
| 135° | 642 | 496 |
| 145° | 808 | 505 |
| 155° | 953 | 438 |
| 165° | 1061 | 299 |
| 175° | 1116 | 106 |
| 180° | 1124 | |



TEST NUMBER: P78366

CATALOG NUMBER: DFN2DIP-RG3F0-080D030US930-FLL-FLL-1DUDD-W

CANDELA DISTRIBUTION (FULL):

| 0° | |
|--------|--------|
| 0° | 3261.4 |
| 2.5° | 3256.4 |
| 5° | 3239.0 |
| 7.5° | 3204.2 |
| 10° | 3157.0 |
| 12.5° | 3094.9 |
| 15° | 3022.8 |
| 17.5° | 2938.3 |
| 20° | 2841.3 |
| 22.5° | 2739.4 |
| 25° | 2630.0 |
| 27.5° | 2513.2 |
| 30° | 2391.4 |
| 32.5° | 2267.1 |
| 35° | 2145.3 |
| 37.5° | 2021.0 |
| 40° | 1896.7 |
| 42.5° | 1779.9 |
| 45° | 1658.1 |
| 47.5° | 1543.7 |
| 50° | 1429.4 |
| 52.5° | 1322.5 |
| 55° | 1215.6 |
| 57.5° | 1118.6 |
| 60° | 1014.2 |
| 62.5° | 919.8 |
| 65° | 822.8 |
| 67.5° | 730.8 |
| 70° | 638.9 |
| 72.5° | 549.4 |
| 75° | 457.4 |
| 77.5° | 372.9 |
| 80° | 285.9 |
| 82.5° | 198.9 |
| 85° | 111.9 |
| 87.5° | 42.3 |
| 90° | 0.8 |
| 92.5° | 15.7 |
| 95° | 37.2 |
| 97.5° | 65.2 |
| 100° | 97.4 |
| 102.5° | 132.9 |
| 105° | 170.1 |
| 107.5° | 207.3 |
| 110° | 245.2 |



TEST NUMBER: P78366
CATALOG NUMBER: DFN2DIP-RG3F0-080D030US930-FLL-FLL-1DUDD-W

CANDELA DISTRIBUTION (continued):

| | 0° |
|--------|--------|
| 112.5° | 283.2 |
| 115° | 322.0 |
| 117.5° | 360.8 |
| 120° | 399.7 |
| 122.5° | 437.6 |
| 125° | 477.3 |
| 127.5° | 517.7 |
| 130° | 559.0 |
| 132.5° | 600.3 |
| 135° | 642.4 |
| 137.5° | 685.4 |
| 140° | 725.8 |
| 142.5° | 767.9 |
| 145° | 808.4 |
| 147.5° | 845.6 |
| 150° | 883.5 |
| 152.5° | 918.2 |
| 155° | 952.9 |
| 157.5° | 983.4 |
| 160° | 1013.2 |
| 162.5° | 1038.8 |
| 165° | 1061.1 |
| 167.5° | 1080.1 |
| 170° | 1095.7 |
| 172.5° | 1108.1 |
| 175° | 1115.6 |
| 177.5° | 1121.3 |
| 180° | 1123.8 |

Signify Classified - Internal
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

NEO-RAY

Report Number: SP1-2401-290-2

Test Date: 01/18/2024

Luminaire Tested: RNG2DIP-RG2F0-020D020US930-FLL-FLL-1-D-UDD-W

Data in this report applies to families of products including RNG2DIP-RG2F0-020D020US930-FLL-FLL-1-D-UDD-W.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2401-290-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 01/19/2024
 Manufacturer: COOPER LIGHTING SOLUTIONS
 Product Line: NEO-RAY
 Catalog Number: **RNG2DIP-RG2F0-020D020US930-FLL-FLL-1-D-UDD-W**
 Description: 2' RING DIRECT/INDIRECT FIXTURE WITH FROSTED LIGHT LEVEL 1

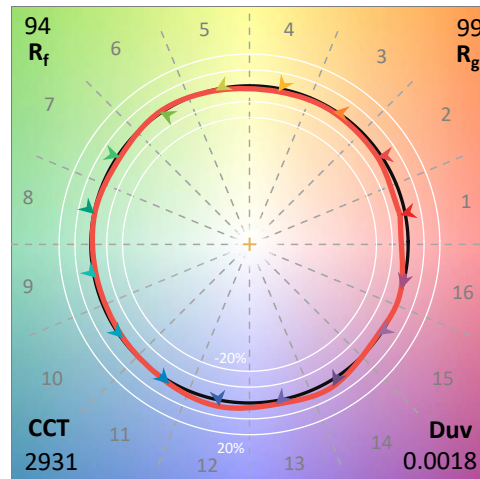
Spectral Parameters

CCT (K): 2931
 CIE u': 0.2524
 CIE v': 0.5253
 Duv: 0.0018
 CIE x: 0.4446
 CIE y: 0.4112
 CIE z: 0.1443
 Peak Wavelength (nm): 629
 Dominant Wavelength (nm): 582
 Purity: 57.1

CRI (Ra): 94.7
 R1: 95.1
 R2: 96.3
 R3: 96.3
 R4: 95.9
 R5: 94.4
 R6: 95.6
 R7: 95.7
 R8: 88.4

R9: 72.1
 R10: 90.5
 R11: 96.7
 R12: 82.6
 R13: 95.3
 R14: 97.1

Rf: 93.8
 Rg: 99.3



Test Conditions

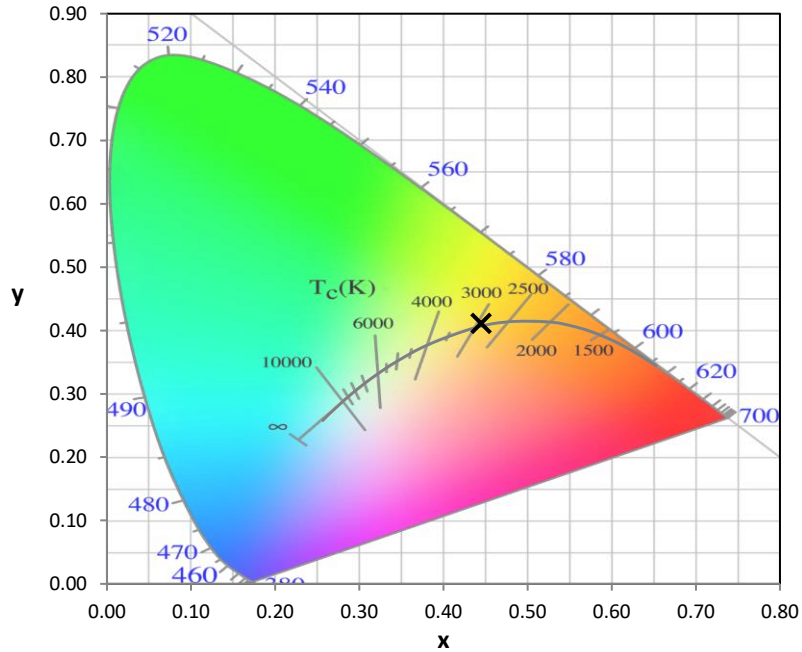
Stabilization Time: 28M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.6/15%
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2401-290-2

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 8/9/2023 | 2/9/2024 |
| Power Meter | XITRON 2801 IN0071 | 10/23/2023 | 10/23/2024 |
| AC Power Source | CHROMA 61603 IN0063 | 10/24/2023 | 10/24/2024 |
| DC Power Source | AGILENT E3634A IN0208 | 10/24/2023 | 10/24/2024 |
| Sphere Thermometer | ONSET IN0085 | 10/24/2023 | 10/24/2024 |
| Room Thermometer | ONSET IN0046 | 10/24/2023 | 10/24/2024 |

REPORT NUMBER: SP1-2401-290-2

CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 3000K 7-step quadrangle

REPORT NUMBER: SP1-2401-290-2

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 | 1461 | NR | 490 | 21821 | NR | 620 | 77901 | NR | 750 | 8179 | NR | 880 | 1643 | NR |
| 365 | 1400 | NR | 495 | 25627 | NR | 625 | 79163 | NR | 755 | 7299 | NR | 885 | 1703 | NR |
| 370 | 1570 | NR | 500 | 29501 | NR | 630 | 79015 | NR | 760 | 6398 | NR | 890 | 1343 | NR |
| 375 | 1768 | NR | 505 | 32566 | NR | 635 | 78215 | NR | 765 | 5779 | NR | 895 | 1272 | NR |
| 380 | 1653 | NR | 510 | 34919 | NR | 640 | 77002 | NR | 770 | 4957 | NR | 900 | 1388 | NR |
| 385 | 1519 | NR | 515 | 37015 | NR | 645 | 74220 | NR | 775 | 4366 | NR | 905 | 1205 | NR |
| 390 | 1495 | NR | 520 | 39034 | NR | 650 | 71542 | NR | 780 | 3858 | NR | 910 | 1298 | NR |
| 395 | 1377 | NR | 525 | 40568 | NR | 655 | 67792 | NR | 785 | 3408 | NR | 915 | 1337 | NR |
| 400 | 1116 | NR | 530 | 42614 | NR | 660 | 63857 | NR | 790 | 3251 | NR | 920 | 1680 | NR |
| 405 | 1027 | NR | 535 | 44347 | NR | 665 | 59357 | NR | 795 | 3012 | NR | 925 | 1293 | NR |
| 410 | 1056 | NR | 540 | 46106 | NR | 670 | 54656 | NR | 800 | 2808 | NR | 930 | 1369 | NR |
| 415 | 1393 | NR | 545 | 48203 | NR | 675 | 49862 | NR | 805 | 2550 | NR | 935 | 1382 | NR |
| 420 | 2045 | NR | 550 | 50008 | NR | 680 | 45198 | NR | 810 | 2478 | NR | 940 | 1295 | NR |
| 425 | 3225 | NR | 555 | 51782 | NR | 685 | 40716 | NR | 815 | 2341 | NR | 945 | 1425 | NR |
| 430 | 5118 | NR | 560 | 53082 | NR | 690 | 36247 | NR | 820 | 2409 | NR | 950 | 1783 | NR |
| 435 | 8200 | NR | 565 | 54447 | NR | 695 | 32175 | NR | 825 | 2301 | NR | 955 | 1148 | NR |
| 440 | 13442 | NR | 570 | 56050 | NR | 700 | 28460 | NR | 830 | 2205 | NR | 960 | 1184 | NR |
| 445 | 23157 | NR | 575 | 57513 | NR | 705 | 25105 | NR | 835 | 1768 | NR | 965 | 1637 | NR |
| 450 | 33968 | NR | 580 | 59394 | NR | 710 | 22282 | NR | 840 | 1774 | NR | 970 | 1795 | NR |
| 455 | 31939 | NR | 585 | 61139 | NR | 715 | 19778 | NR | 845 | 1483 | NR | 975 | 2363 | NR |
| 460 | 23216 | NR | 590 | 63214 | NR | 720 | 17396 | NR | 850 | 1630 | NR | 980 | 1601 | NR |
| 465 | 19706 | NR | 595 | 66121 | NR | 725 | 15186 | NR | 855 | 1763 | NR | 985 | 1282 | NR |
| 470 | 17657 | NR | 600 | 68559 | NR | 730 | 13540 | NR | 860 | 1852 | NR | 990 | 2177 | NR |
| 475 | 15359 | NR | 605 | 71420 | NR | 735 | 11700 | NR | 865 | 1735 | NR | 995 | 970 | NR |
| 480 | 15859 | NR | 610 | 74391 | NR | 740 | 10401 | NR | 870 | 2047 | NR | 1000 | 2032 | NR |
| 485 | 18528 | NR | 615 | 76685 | NR | 745 | 9147 | NR | 875 | 1930 | NR | | | |

REPORT NUMBER: SP1-2401-290-2

Scotopic Flux vs. Wavelength



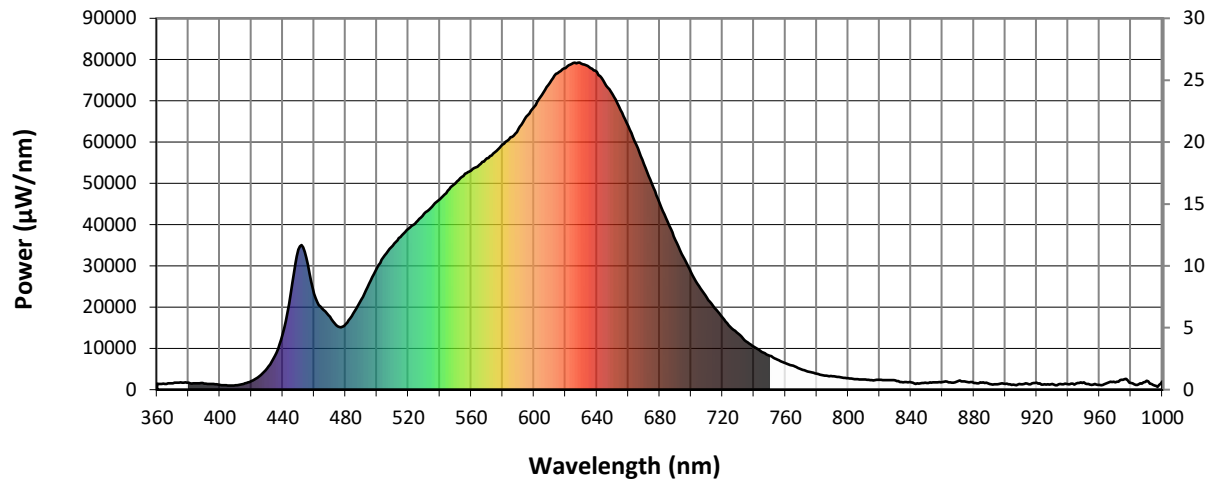
Scotopic Lumens: 5310.4

S/P: 1.38

| 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 | 1461 | NR | 490 | 21821 | NR | 620 | 77901 | NR | 750 | 8179 | NR | 880 | 1643 | NR |
| 365 | 1400 | NR | 495 | 25627 | NR | 625 | 79163 | NR | 755 | 7299 | NR | 885 | 1703 | NR |
| 370 | 1570 | NR | 500 | 29501 | NR | 630 | 79015 | NR | 760 | 6398 | NR | 890 | 1343 | NR |
| 375 | 1768 | NR | 505 | 32566 | NR | 635 | 78215 | NR | 765 | 5779 | NR | 895 | 1272 | NR |
| 380 | 1653 | NR | 510 | 34919 | NR | 640 | 77002 | NR | 770 | 4957 | NR | 900 | 1388 | NR |
| 385 | 1519 | NR | 515 | 37015 | NR | 645 | 74220 | NR | 775 | 4366 | NR | 905 | 1205 | NR |
| 390 | 1495 | NR | 520 | 39034 | NR | 650 | 71542 | NR | 780 | 3858 | NR | 910 | 1298 | NR |
| 395 | 1377 | NR | 525 | 40568 | NR | 655 | 67792 | NR | 785 | 3408 | NR | 915 | 1337 | NR |
| 400 | 1116 | NR | 530 | 42614 | NR | 660 | 63857 | NR | 790 | 3251 | NR | 920 | 1680 | NR |
| 405 | 1027 | NR | 535 | 44347 | NR | 665 | 59357 | NR | 795 | 3012 | NR | 925 | 1293 | NR |
| 410 | 1056 | NR | 540 | 46106 | NR | 670 | 54656 | NR | 800 | 2808 | NR | 930 | 1369 | NR |
| 415 | 1393 | NR | 545 | 48203 | NR | 675 | 49862 | NR | 805 | 2550 | NR | 935 | 1382 | NR |
| 420 | 2045 | NR | 550 | 50008 | NR | 680 | 45198 | NR | 810 | 2478 | NR | 940 | 1295 | NR |
| 425 | 3225 | NR | 555 | 51782 | NR | 685 | 40716 | NR | 815 | 2341 | NR | 945 | 1425 | NR |
| 430 | 5118 | NR | 560 | 53082 | NR | 690 | 36247 | NR | 820 | 2409 | NR | 950 | 1783 | NR |
| 435 | 8200 | NR | 565 | 54447 | NR | 695 | 32175 | NR | 825 | 2301 | NR | 955 | 1148 | NR |
| 440 | 13442 | NR | 570 | 56050 | NR | 700 | 28460 | NR | 830 | 2205 | NR | 960 | 1184 | NR |
| 445 | 23157 | NR | 575 | 57513 | NR | 705 | 25105 | NR | 835 | 1768 | NR | 965 | 1637 | NR |
| 450 | 33968 | NR | 580 | 59394 | NR | 710 | 22282 | NR | 840 | 1774 | NR | 970 | 1795 | NR |
| 455 | 31939 | NR | 585 | 61139 | NR | 715 | 19778 | NR | 845 | 1483 | NR | 975 | 2363 | NR |
| 460 | 23216 | NR | 590 | 63214 | NR | 720 | 17396 | NR | 850 | 1630 | NR | 980 | 1601 | NR |
| 465 | 19706 | NR | 595 | 66121 | NR | 725 | 15186 | NR | 855 | 1763 | NR | 985 | 1282 | NR |
| 470 | 17657 | NR | 600 | 68559 | NR | 730 | 13540 | NR | 860 | 1852 | NR | 990 | 2177 | NR |
| 475 | 15359 | NR | 605 | 71420 | NR | 735 | 11700 | NR | 865 | 1735 | NR | 995 | 970 | NR |
| 480 | 15859 | NR | 610 | 74391 | NR | 740 | 10401 | NR | 870 | 2047 | NR | 1000 | 2032 | NR |
| 485 | 18528 | NR | 615 | 76685 | NR | 745 | 9147 | NR | 875 | 1930 | NR | | | |

REPORT NUMBER: SP1-2401-290-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: 2012.9

M/P: 0.52

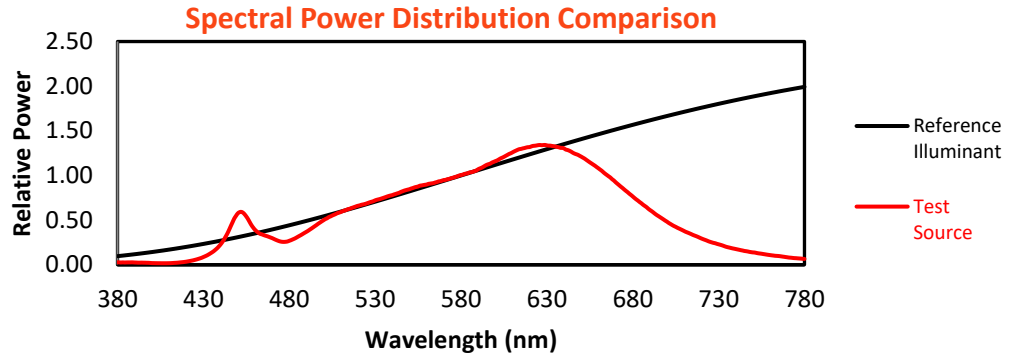
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 1461 | NR | 490 | 21821 | NR | 620 | 77901 | NR | 750 | 8179 | NR | 880 | 1643 | NR |
| 365 | 1400 | NR | 495 | 25627 | NR | 625 | 79163 | NR | 755 | 7299 | NR | 885 | 1703 | NR |
| 370 | 1570 | NR | 500 | 29501 | NR | 630 | 79015 | NR | 760 | 6398 | NR | 890 | 1343 | NR |
| 375 | 1768 | NR | 505 | 32566 | NR | 635 | 78215 | NR | 765 | 5779 | NR | 895 | 1272 | NR |
| 380 | 1653 | NR | 510 | 34919 | NR | 640 | 77002 | NR | 770 | 4957 | NR | 900 | 1388 | NR |
| 385 | 1519 | NR | 515 | 37015 | NR | 645 | 74220 | NR | 775 | 4366 | NR | 905 | 1205 | NR |
| 390 | 1495 | NR | 520 | 39034 | NR | 650 | 71542 | NR | 780 | 3858 | NR | 910 | 1298 | NR |
| 395 | 1377 | NR | 525 | 40568 | NR | 655 | 67792 | NR | 785 | 3408 | NR | 915 | 1337 | NR |
| 400 | 1116 | NR | 530 | 42614 | NR | 660 | 63857 | NR | 790 | 3251 | NR | 920 | 1680 | NR |
| 405 | 1027 | NR | 535 | 44347 | NR | 665 | 59357 | NR | 795 | 3012 | NR | 925 | 1293 | NR |
| 410 | 1056 | NR | 540 | 46106 | NR | 670 | 54656 | NR | 800 | 2808 | NR | 930 | 1369 | NR |
| 415 | 1393 | NR | 545 | 48203 | NR | 675 | 49862 | NR | 805 | 2550 | NR | 935 | 1382 | NR |
| 420 | 2045 | NR | 550 | 50008 | NR | 680 | 45198 | NR | 810 | 2478 | NR | 940 | 1295 | NR |
| 425 | 3225 | NR | 555 | 51782 | NR | 685 | 40716 | NR | 815 | 2341 | NR | 945 | 1425 | NR |
| 430 | 5118 | NR | 560 | 53082 | NR | 690 | 36247 | NR | 820 | 2409 | NR | 950 | 1783 | NR |
| 435 | 8200 | NR | 565 | 54447 | NR | 695 | 32175 | NR | 825 | 2301 | NR | 955 | 1148 | NR |
| 440 | 13442 | NR | 570 | 56050 | NR | 700 | 28460 | NR | 830 | 2205 | NR | 960 | 1184 | NR |
| 445 | 23157 | NR | 575 | 57513 | NR | 705 | 25105 | NR | 835 | 1768 | NR | 965 | 1637 | NR |
| 450 | 33968 | NR | 580 | 59394 | NR | 710 | 22282 | NR | 840 | 1774 | NR | 970 | 1795 | NR |
| 455 | 31939 | NR | 585 | 61139 | NR | 715 | 19778 | NR | 845 | 1483 | NR | 975 | 2363 | NR |
| 460 | 23216 | NR | 590 | 63214 | NR | 720 | 17396 | NR | 850 | 1630 | NR | 980 | 1601 | NR |
| 465 | 19706 | NR | 595 | 66121 | NR | 725 | 15186 | NR | 855 | 1763 | NR | 985 | 1282 | NR |
| 470 | 17657 | NR | 600 | 68559 | NR | 730 | 13540 | NR | 860 | 1852 | NR | 990 | 2177 | NR |
| 475 | 15359 | NR | 605 | 71420 | NR | 735 | 11700 | NR | 865 | 1735 | NR | 995 | 970 | NR |
| 480 | 15859 | NR | 610 | 74391 | NR | 740 | 10401 | NR | 870 | 2047 | NR | 1000 | 2032 | NR |
| 485 | 18528 | NR | 615 | 76685 | NR | 745 | 9147 | NR | 875 | 1930 | NR | | | |

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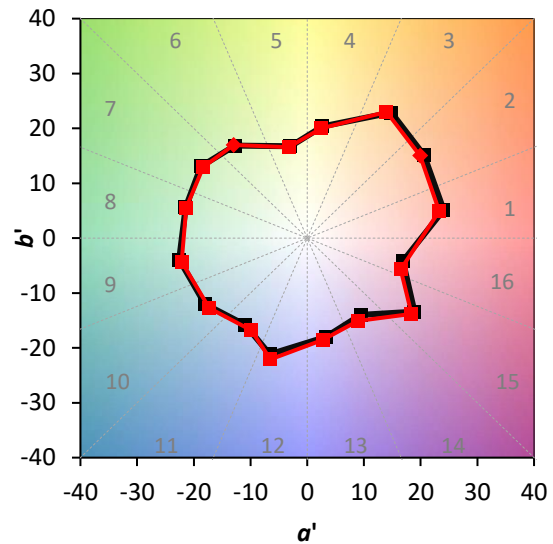
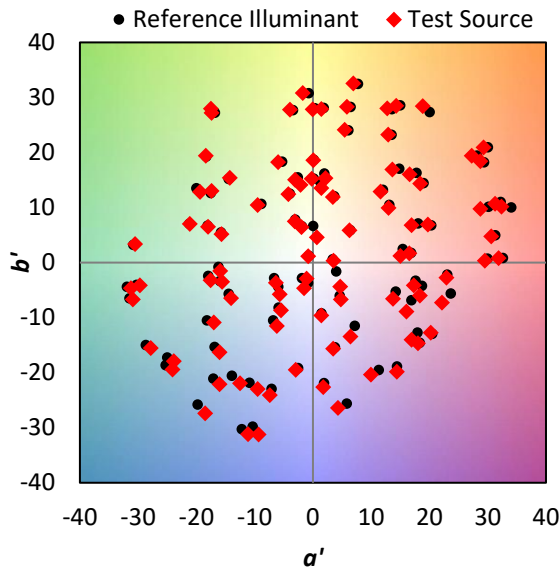
TM-30-18

Summary

$R_f = 93.8$
 $R_g = 99.3$
 CIE $R_a = 94.7$
 $R_9 = 72.1$



Color Vector Graphics



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

| | | | |
|------------|------------|-------------|------------|
| CES01 = 86 | CES26 = 96 | CES51 = 98 | CES76 = 91 |
| CES02 = 63 | CES27 = 93 | CES52 = 100 | CES77 = 92 |
| CES03 = 32 | CES28 = 97 | CES53 = 98 | CES78 = 88 |
| CES04 = 70 | CES29 = 97 | CES54 = 95 | CES79 = 96 |
| CES05 = 51 | CES30 = 94 | CES55 = 94 | CES80 = 95 |
| CES06 = 51 | CES31 = 97 | CES56 = 96 | CES81 = 87 |
| CES07 = 44 | CES32 = 93 | CES57 = 95 | CES82 = 98 |
| CES08 = 43 | CES33 = 99 | CES58 = 96 | CES83 = 97 |
| CES09 = 29 | CES34 = 96 | CES59 = 98 | CES84 = 96 |
| CES10 = 76 | CES35 = 98 | CES60 = 95 | CES85 = 86 |
| CES11 = 59 | CES36 = 86 | CES61 = 94 | CES86 = 89 |
| CES12 = 65 | CES37 = 95 | CES62 = 91 | CES87 = 94 |
| CES13 = 44 | CES38 = 90 | CES63 = 95 | CES88 = 97 |
| CES14 = 74 | CES39 = 99 | CES64 = 93 | CES89 = 89 |
| CES15 = 72 | CES40 = 98 | CES65 = 92 | CES90 = 97 |
| CES16 = 48 | CES41 = 98 | CES66 = 91 | CES91 = 81 |
| CES17 = 50 | CES42 = 96 | CES67 = 91 | CES92 = 85 |
| CES18 = 57 | CES43 = 97 | CES68 = 91 | CES93 = 91 |
| CES19 = 72 | CES44 = 99 | CES69 = 92 | CES94 = 84 |
| CES20 = 67 | CES45 = 99 | CES70 = 90 | CES95 = 88 |
| CES21 = 86 | CES46 = 98 | CES71 = 87 | CES96 = 94 |
| CES22 = 79 | CES47 = 95 | CES72 = 96 | CES97 = 96 |
| CES23 = 92 | CES48 = 94 | CES73 = 86 | CES98 = 96 |
| CES24 = 91 | CES49 = 97 | CES74 = 92 | CES99 = 94 |
| CES25 = 72 | CES50 = 99 | CES75 = 88 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)