

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: P78127

Luminaire Tested: **DFN2DIP-RG3F0-050D040US927-FLL-OOB-1DUDD-W**

Issue Date: 02/20/2024

Test Information

Test Method: LM-79-08
Report Number: P78127
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-RG3F0-050D040US927-FLL-OOB-1DUDD-W
Description: Define Geo Ring 3ft Diameter Direct/Indirect Fixture w/ Frosted Lens
for Downlight and Bat-Wing Lens for UPLIGHT
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

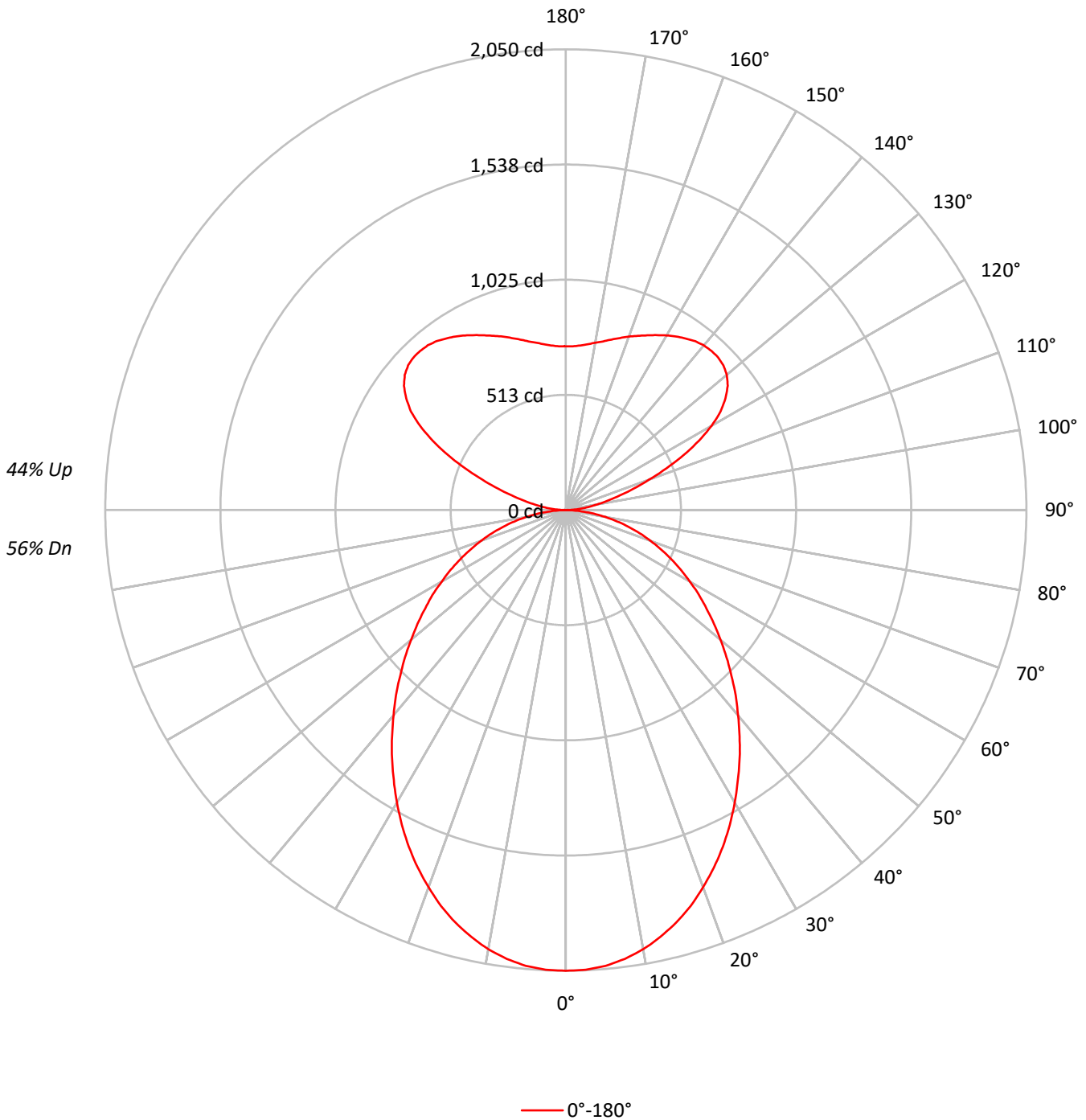
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8422.2 lumens
Efficiency: N/A
Efficacy: 80.7 lumens/watt
Spacing Criteria (0/90/45): 1.11 / 1.11 / 1.21
Luminous Opening: Circular (Dia: 3' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 104.4
Input Voltage (V): 120
Input Current (A_{in}): 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: P78127
CATALOG NUMBER: DFN2DIP-RG3F0-050D040US927-FLL-OOB-1DUDD-W

Luminous Intensity Polar Plot





TEST NUMBER: P78127

CATALOG NUMBER: DFN2DIP-RG3F0-050D040US927-FLL-OOB-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 | 109 | 109 | 109 | 109 | 101 | 101 | 101 | 101 | 87 | 87 | 87 | 74 | 74 | 74 | 62 | 62 | 62 | 56 | 56 | 56 | 56 |
| 1 | 99 | 95 | 91 | 87 | 92 | 88 | 85 | 82 | 76 | 74 | 71 | 65 | 63 | 62 | 55 | 53 | 52 | 47 | 47 | 47 | 47 |
| 2 | 90 | 83 | 77 | 72 | 84 | 77 | 72 | 67 | 67 | 63 | 59 | 57 | 54 | 52 | 48 | 46 | 44 | 40 | 40 | 40 | 40 |
| 3 | 83 | 73 | 66 | 60 | 77 | 68 | 62 | 57 | 59 | 54 | 50 | 51 | 47 | 44 | 43 | 40 | 38 | 34 | 34 | 34 | 34 |
| 4 | 76 | 65 | 57 | 51 | 70 | 61 | 54 | 48 | 53 | 47 | 43 | 45 | 41 | 38 | 39 | 35 | 33 | 29 | 29 | 29 | 29 |
| 5 | 70 | 58 | 50 | 44 | 65 | 54 | 47 | 42 | 47 | 42 | 37 | 41 | 36 | 33 | 35 | 31 | 29 | 26 | 26 | 26 | 26 |
| 6 | 64 | 52 | 44 | 38 | 60 | 49 | 42 | 36 | 43 | 37 | 33 | 37 | 33 | 29 | 32 | 28 | 25 | 23 | 23 | 23 | 23 |
| 7 | 60 | 47 | 39 | 34 | 55 | 44 | 37 | 32 | 39 | 33 | 29 | 34 | 29 | 26 | 29 | 25 | 23 | 20 | 20 | 20 | 20 |
| 8 | 55 | 43 | 35 | 30 | 51 | 40 | 33 | 29 | 36 | 30 | 26 | 31 | 26 | 23 | 27 | 23 | 20 | 18 | 18 | 18 | 18 |
| 9 | 52 | 39 | 32 | 27 | 48 | 37 | 30 | 26 | 33 | 27 | 23 | 29 | 24 | 21 | 25 | 21 | 19 | 16 | 16 | 16 | 16 |
| 10 | 48 | 36 | 29 | 24 | 45 | 34 | 28 | 23 | 30 | 25 | 21 | 27 | 22 | 19 | 23 | 19 | 17 | 15 | 15 | 15 | 15 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|------|
| | 0° |
| 0° | 3122 |
| 5° | 3113 |
| 10° | 3069 |
| 15° | 2996 |
| 20° | 2895 |
| 25° | 2778 |
| 30° | 2644 |
| 35° | 2507 |
| 40° | 2370 |
| 45° | 2245 |
| 50° | 2129 |
| 55° | 2029 |
| 60° | 1942 |
| 65° | 1864 |
| 70° | 1788 |
| 75° | 1692 |
| 80° | 1576 |
| 85° | 1228 |



TEST NUMBER: P78127
 CATALOG NUMBER: DFN2DIP-RG3F0-050D040US927-FLL-OOB-1DUDD-W

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 192.7 | 2.3 |
| 10°-20° | 534.2 | 6.3 |
| 20°-30° | 760.0 | 9.0 |
| 30°-40° | 843.1 | 10.0 |
| 40°-50° | 805.7 | 9.6 |
| 50°-60° | 685.7 | 8.1 |
| 60°-70° | 513.3 | 6.1 |
| 70°-80° | 305.4 | 3.6 |
| 80°-90° | 85.2 | 1.0 |
| 90°-100° | 73.6 | 0.9 |
| 100°-110° | 268.2 | 3.2 |
| 110°-120° | 569.4 | 6.8 |
| 120°-130° | 768.9 | 9.1 |
| 130°-140° | 738.9 | 8.8 |
| 140°-150° | 585.0 | 6.9 |
| 150°-160° | 398.3 | 4.7 |
| 160°-170° | 223.9 | 2.7 |
| 170°-180° | 70.8 | 0.8 |
| 0°-30° | 1486.9 | 17.7 |
| 0°-40° | 2330.0 | 27.7 |
| 0°-60° | 3821.3 | 45.4 |
| 0°-90° | 4725.3 | 56.1 |
| 90°-120° | 911.2 | 10.8 |
| 90°-150° | 3003.9 | 35.7 |
| 90°-180° | 3697.0 | 43.9 |
| 0°-180° | 8422.2 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|------|------|------|
| 0° | 2050 | |
| 5° | 2036 | 193 |
| 15° | 1900 | 534 |
| 25° | 1654 | 760 |
| 35° | 1349 | 843 |
| 45° | 1042 | 806 |
| 55° | 764 | 686 |
| 65° | 517 | 513 |
| 75° | 288 | 305 |
| 85° | 70 | 81 |
| 90° | 3 | 9 |
| 95° | 66 | 69 |
| 105° | 247 | 268 |
| 115° | 579 | 569 |
| 125° | 868 | 769 |
| 135° | 960 | 739 |
| 145° | 931 | 585 |
| 155° | 858 | 398 |
| 165° | 785 | 224 |
| 175° | 735 | 71 |
| 180° | 728 | |



TEST NUMBER: P78127

CATALOG NUMBER: DFN2DIP-RG3F0-050D040US927-FLL-OOB-1DUDD-W

CANDELA DISTRIBUTION (FULL):

| 0° | |
|--------|--------|
| 0° | 2050.4 |
| 2.5° | 2047.3 |
| 5° | 2036.4 |
| 7.5° | 2014.5 |
| 10° | 1984.8 |
| 12.5° | 1945.7 |
| 15° | 1900.4 |
| 17.5° | 1847.3 |
| 20° | 1786.3 |
| 22.5° | 1722.2 |
| 25° | 1653.5 |
| 27.5° | 1580.0 |
| 30° | 1503.4 |
| 32.5° | 1425.3 |
| 35° | 1348.7 |
| 37.5° | 1270.6 |
| 40° | 1192.4 |
| 42.5° | 1119.0 |
| 45° | 1042.4 |
| 47.5° | 970.5 |
| 50° | 898.6 |
| 52.5° | 831.4 |
| 55° | 764.2 |
| 57.5° | 703.3 |
| 60° | 637.6 |
| 62.5° | 578.2 |
| 65° | 517.3 |
| 67.5° | 459.5 |
| 70° | 401.6 |
| 72.5° | 345.4 |
| 75° | 287.6 |
| 77.5° | 234.4 |
| 80° | 179.7 |
| 82.5° | 125.0 |
| 85° | 70.3 |
| 87.5° | 26.6 |
| 90° | 3.3 |
| 92.5° | 32.9 |
| 95° | 65.8 |
| 97.5° | 99.8 |
| 100° | 140.4 |
| 102.5° | 187.5 |
| 105° | 246.8 |
| 107.5° | 315.9 |
| 110° | 394.8 |



TEST NUMBER: P78127
CATALOG NUMBER: DFN2DIP-RG3F0-050D040US927-FLL-OOB-1DUDD-W

CANDELA DISTRIBUTION (continued):

| | 0° |
|--------|-------|
| 112.5° | 484.8 |
| 115° | 579.1 |
| 117.5° | 667.9 |
| 120° | 749.1 |
| 122.5° | 817.1 |
| 125° | 867.5 |
| 127.5° | 908.1 |
| 130° | 935.5 |
| 132.5° | 952.0 |
| 135° | 959.7 |
| 137.5° | 959.7 |
| 140° | 956.4 |
| 142.5° | 946.5 |
| 145° | 931.1 |
| 147.5° | 915.8 |
| 150° | 897.1 |
| 152.5° | 877.4 |
| 155° | 857.7 |
| 157.5° | 839.0 |
| 160° | 821.5 |
| 162.5° | 802.8 |
| 165° | 785.3 |
| 167.5° | 768.8 |
| 170° | 755.7 |
| 172.5° | 743.6 |
| 175° | 734.8 |
| 177.5° | 729.3 |
| 180° | 728.2 |

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: SP1-2401-290-1

Test Date: 01/18/2024

Luminaire Tested: RNG2DIP-RG2F0-020D020US927-FLL-FLL-1-D-UDD-W

Data in this report applies to families of products including RNG2DIP-RG2F0-020D020US927-FLL-FLL-1-D-UDD-W.

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2401-290-1
 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-RG2F0-020D020US927-FLL-FLL-1-D-UDD-W**
 Description: 2' RING DIRECT/INDIRECT FIXTURE WITH FROSTED LIGHT LEVEL 1

Spectral Parameters

CCT (K): 2655
 CIE u': 0.2643
 CIE v': 0.5293
 Duv: 0.0008
 CIE x: 0.4648
 CIE y: 0.4137
 CIE z: 0.1215
 Peak Wavelength (nm): 625
 Dominant Wavelength (nm): 584
 Purity: 63.9

| | | | |
|-----------|------|------|------|
| CRI (Ra): | 93.4 | | |
| R1: | 93.4 | R9: | 59.7 |
| R2: | 96.8 | R10: | 92.1 |
| R3: | 99.2 | R11: | 95.8 |
| R4: | 94.0 | R12: | 87.6 |
| R5: | 93.5 | R13: | 94.3 |
| R6: | 97.2 | R14: | 98.8 |
| R7: | 91.9 | | |
| R8: | 81.5 | | |

Rf: 93.2
 Rg: 98.9



Test Conditions

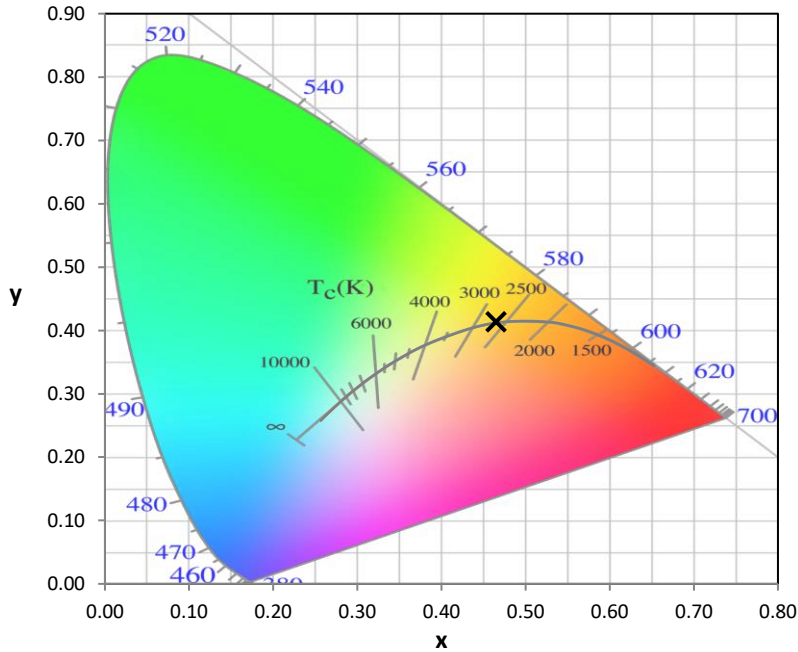
Stabilization Time: 23M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 25.6/15%
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2401-290-1

| 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 |

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CIE 1931 Chromaticity Diagram



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



Point lies inside the ANSI 2700K 4-step quadrangle

REPORT NUMBER: SP1-2401-290-1

Photopic Flux vs. Wavelength



#####

| λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) | λ (nm) | Power ($\mu\text{W}/\text{nm}$) | Lumens (ϕ/nm) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360 | 1543 | NR | 490 | 19797 | NR | 620 | 85353 | NR | 750 | 8090 | NR | 880 | 1792 | NR |
| 365 | 1414 | NR | 495 | 23402 | NR | 625 | 85989 | NR | 755 | 7198 | NR | 885 | 2020 | NR |
| 370 | 1551 | NR | 500 | 26949 | NR | 630 | 85515 | NR | 760 | 6225 | NR | 890 | 1828 | NR |
| 375 | 1796 | NR | 505 | 29825 | NR | 635 | 83747 | NR | 765 | 5688 | NR | 895 | 1860 | NR |
| 380 | 1726 | NR | 510 | 32000 | NR | 640 | 81402 | NR | 770 | 5021 | NR | 900 | 1911 | NR |
| 385 | 1466 | NR | 515 | 33805 | NR | 645 | 78259 | NR | 775 | 4504 | NR | 905 | 1780 | NR |
| 390 | 1558 | NR | 520 | 35652 | NR | 650 | 74273 | NR | 780 | 3834 | NR | 910 | 1898 | NR |
| 395 | 1442 | NR | 525 | 37021 | NR | 655 | 70182 | NR | 785 | 3465 | NR | 915 | 1803 | NR |
| 400 | 1203 | NR | 530 | 38939 | NR | 660 | 65368 | NR | 790 | 3329 | NR | 920 | 1835 | NR |
| 405 | 1067 | NR | 535 | 40941 | NR | 665 | 60328 | NR | 795 | 2970 | NR | 925 | 1737 | NR |
| 410 | 1017 | NR | 540 | 42696 | NR | 670 | 55011 | NR | 800 | 2874 | NR | 930 | 1738 | NR |
| 415 | 1324 | NR | 545 | 44809 | NR | 675 | 49838 | NR | 805 | 2736 | NR | 935 | 2125 | NR |
| 420 | 1972 | NR | 550 | 46959 | NR | 680 | 44927 | NR | 810 | 2648 | NR | 940 | 1637 | NR |
| 425 | 3033 | NR | 555 | 49260 | NR | 685 | 40277 | NR | 815 | 2400 | NR | 945 | 1569 | NR |
| 430 | 4609 | NR | 560 | 51165 | NR | 690 | 35795 | NR | 820 | 2470 | NR | 950 | 1938 | NR |
| 435 | 7105 | NR | 565 | 53562 | NR | 695 | 31683 | NR | 825 | 2425 | NR | 955 | 1864 | NR |
| 440 | 11197 | NR | 570 | 56177 | NR | 700 | 27880 | NR | 830 | 2392 | NR | 960 | 2093 | NR |
| 445 | 18973 | NR | 575 | 58898 | NR | 705 | 24664 | NR | 835 | 1867 | NR | 965 | 2277 | NR |
| 450 | 27311 | NR | 580 | 62115 | NR | 710 | 21670 | NR | 840 | 1912 | NR | 970 | 2629 | NR |
| 455 | 25348 | NR | 585 | 65028 | NR | 715 | 19241 | NR | 845 | 1927 | NR | 975 | 2541 | NR |
| 460 | 18677 | NR | 590 | 68395 | NR | 720 | 16927 | NR | 850 | 2066 | NR | 980 | 2508 | NR |
| 465 | 16400 | NR | 595 | 72374 | NR | 725 | 14936 | NR | 855 | 1671 | NR | 985 | 2238 | NR |
| 470 | 15032 | NR | 600 | 75401 | NR | 730 | 13104 | NR | 860 | 1946 | NR | 990 | 2619 | NR |
| 475 | 13281 | NR | 605 | 78653 | NR | 735 | 11394 | NR | 865 | 2045 | NR | 995 | 1965 | NR |
| 480 | 14079 | NR | 610 | 81994 | NR | 740 | 10108 | NR | 870 | 2206 | NR | 1000 | 3108 | NR |
| 485 | 16672 | NR | 615 | 84326 | NR | 745 | 9008 | NR | 875 | 1893 | NR | | | |

REPORT NUMBER: SP1-2401-290-1

Scotopic Flux vs. Wavelength



Scotopic Lumens: 4864.8

S/P: 1.26

| 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 | 1543 | NR | 490 | 19797 | NR | 620 | 85353 | NR | 750 | 8090 | NR | 880 | 1792 | NR |
| 365 | 1414 | NR | 495 | 23402 | NR | 625 | 85989 | NR | 755 | 7198 | NR | 885 | 2020 | NR |
| 370 | 1551 | NR | 500 | 26949 | NR | 630 | 85515 | NR | 760 | 6225 | NR | 890 | 1828 | NR |
| 375 | 1796 | NR | 505 | 29825 | NR | 635 | 83747 | NR | 765 | 5688 | NR | 895 | 1860 | NR |
| 380 | 1726 | NR | 510 | 32000 | NR | 640 | 81402 | NR | 770 | 5021 | NR | 900 | 1911 | NR |
| 385 | 1466 | NR | 515 | 33805 | NR | 645 | 78259 | NR | 775 | 4504 | NR | 905 | 1780 | NR |
| 390 | 1558 | NR | 520 | 35652 | NR | 650 | 74273 | NR | 780 | 3834 | NR | 910 | 1898 | NR |
| 395 | 1442 | NR | 525 | 37021 | NR | 655 | 70182 | NR | 785 | 3465 | NR | 915 | 1803 | NR |
| 400 | 1203 | NR | 530 | 38939 | NR | 660 | 65368 | NR | 790 | 3329 | NR | 920 | 1835 | NR |
| 405 | 1067 | NR | 535 | 40941 | NR | 665 | 60328 | NR | 795 | 2970 | NR | 925 | 1737 | NR |
| 410 | 1017 | NR | 540 | 42696 | NR | 670 | 55011 | NR | 800 | 2874 | NR | 930 | 1738 | NR |
| 415 | 1324 | NR | 545 | 44809 | NR | 675 | 49838 | NR | 805 | 2736 | NR | 935 | 2125 | NR |
| 420 | 1972 | NR | 550 | 46959 | NR | 680 | 44927 | NR | 810 | 2648 | NR | 940 | 1637 | NR |
| 425 | 3033 | NR | 555 | 49260 | NR | 685 | 40277 | NR | 815 | 2400 | NR | 945 | 1569 | NR |
| 430 | 4609 | NR | 560 | 51165 | NR | 690 | 35795 | NR | 820 | 2470 | NR | 950 | 1938 | NR |
| 435 | 7105 | NR | 565 | 53562 | NR | 695 | 31683 | NR | 825 | 2425 | NR | 955 | 1864 | NR |
| 440 | 11197 | NR | 570 | 56177 | NR | 700 | 27880 | NR | 830 | 2392 | NR | 960 | 2093 | NR |
| 445 | 18973 | NR | 575 | 58898 | NR | 705 | 24664 | NR | 835 | 1867 | NR | 965 | 2277 | NR |
| 450 | 27311 | NR | 580 | 62115 | NR | 710 | 21670 | NR | 840 | 1912 | NR | 970 | 2629 | NR |
| 455 | 25348 | NR | 585 | 65028 | NR | 715 | 19241 | NR | 845 | 1927 | NR | 975 | 2541 | NR |
| 460 | 18677 | NR | 590 | 68395 | NR | 720 | 16927 | NR | 850 | 2066 | NR | 980 | 2508 | NR |
| 465 | 16400 | NR | 595 | 72374 | NR | 725 | 14936 | NR | 855 | 1671 | NR | 985 | 2238 | NR |
| 470 | 15032 | NR | 600 | 75401 | NR | 730 | 13104 | NR | 860 | 1946 | NR | 990 | 2619 | NR |
| 475 | 13281 | NR | 605 | 78653 | NR | 735 | 11394 | NR | 865 | 2045 | NR | 995 | 1965 | NR |
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| 485 | 16672 | NR | 615 | 84326 | NR | 745 | 9008 | NR | 875 | 1893 | NR | | | |

REPORT NUMBER: SP1-2401-290-1

Melanopic Flux vs. Wavelength



Melanopic Lumens: 1804.6 M/P: 0.47

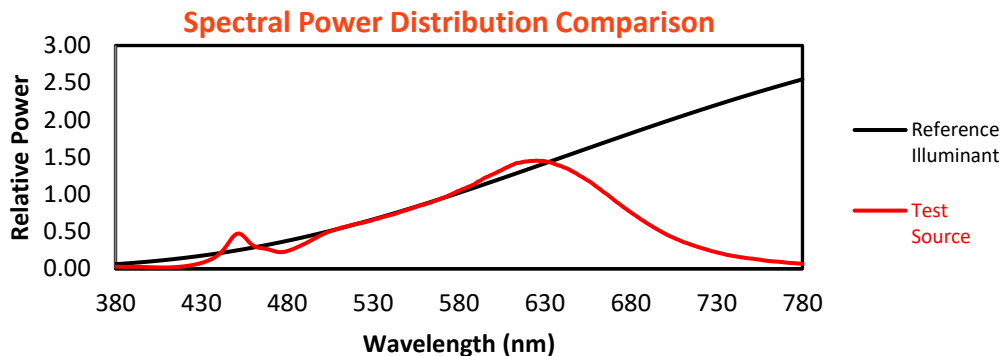
| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 1543 | NR | 490 | 19797 | NR | 620 | 85353 | NR | 750 | 8090 | NR | 880 | 1792 | NR |
| 365 | 1414 | NR | 495 | 23402 | NR | 625 | 85989 | NR | 755 | 7198 | NR | 885 | 2020 | NR |
| 370 | 1551 | NR | 500 | 26949 | NR | 630 | 85515 | NR | 760 | 6225 | NR | 890 | 1828 | NR |
| 375 | 1796 | NR | 505 | 29825 | NR | 635 | 83747 | NR | 765 | 5688 | NR | 895 | 1860 | NR |
| 380 | 1726 | NR | 510 | 32000 | NR | 640 | 81402 | NR | 770 | 5021 | NR | 900 | 1911 | NR |
| 385 | 1466 | NR | 515 | 33805 | NR | 645 | 78259 | NR | 775 | 4504 | NR | 905 | 1780 | NR |
| 390 | 1558 | NR | 520 | 35652 | NR | 650 | 74273 | NR | 780 | 3834 | NR | 910 | 1898 | NR |
| 395 | 1442 | NR | 525 | 37021 | NR | 655 | 70182 | NR | 785 | 3465 | NR | 915 | 1803 | NR |
| 400 | 1203 | NR | 530 | 38939 | NR | 660 | 65368 | NR | 790 | 3329 | NR | 920 | 1835 | NR |
| 405 | 1067 | NR | 535 | 40941 | NR | 665 | 60328 | NR | 795 | 2970 | NR | 925 | 1737 | NR |
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| 420 | 1972 | NR | 550 | 46959 | NR | 680 | 44927 | NR | 810 | 2648 | NR | 940 | 1637 | NR |
| 425 | 3033 | NR | 555 | 49260 | NR | 685 | 40277 | NR | 815 | 2400 | NR | 945 | 1569 | NR |
| 430 | 4609 | NR | 560 | 51165 | NR | 690 | 35795 | NR | 820 | 2470 | NR | 950 | 1938 | NR |
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| 440 | 11197 | NR | 570 | 56177 | NR | 700 | 27880 | NR | 830 | 2392 | NR | 960 | 2093 | NR |
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| 450 | 27311 | NR | 580 | 62115 | NR | 710 | 21670 | NR | 840 | 1912 | NR | 970 | 2629 | NR |
| 455 | 25348 | NR | 585 | 65028 | NR | 715 | 19241 | NR | 845 | 1927 | NR | 975 | 2541 | NR |
| 460 | 18677 | NR | 590 | 68395 | NR | 720 | 16927 | NR | 850 | 2066 | NR | 980 | 2508 | NR |
| 465 | 16400 | NR | 595 | 72374 | NR | 725 | 14936 | NR | 855 | 1671 | NR | 985 | 2238 | NR |
| 470 | 15032 | NR | 600 | 75401 | NR | 730 | 13104 | NR | 860 | 1946 | NR | 990 | 2619 | NR |
| 475 | 13281 | NR | 605 | 78653 | NR | 735 | 11394 | NR | 865 | 2045 | NR | 995 | 1965 | NR |
| 480 | 14079 | NR | 610 | 81994 | NR | 740 | 10108 | NR | 870 | 2206 | NR | 1000 | 3108 | NR |
| 485 | 16672 | NR | 615 | 84326 | NR | 745 | 9008 | NR | 875 | 1893 | NR | | | |

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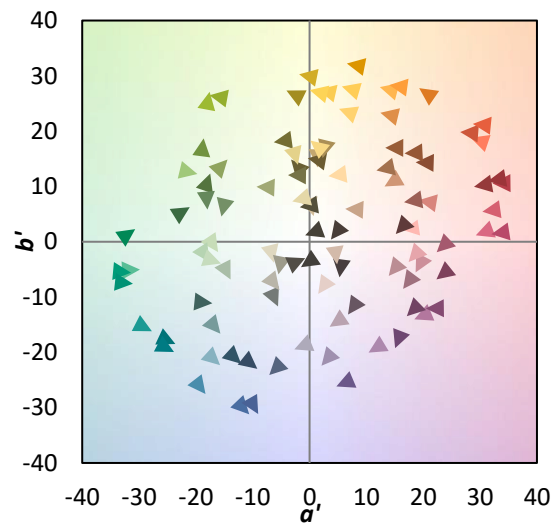
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Summary

$R_f = 93.2$
 $R_g = 98.9$
 CIE $R_a = 93.4$
 $R_9 = 59.7$



Color Vector Graphics



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

| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 95 | CES51 = 98 | CES76 = 92 |
| CES02 = 64 | CES27 = 95 | CES52 = 99 | CES77 = 89 |
| CES03 = 32 | CES28 = 98 | CES53 = 97 | CES78 = 90 |
| CES04 = 71 | CES29 = 96 | CES54 = 96 | CES79 = 92 |
| CES05 = 52 | CES30 = 97 | CES55 = 95 | CES80 = 93 |
| CES06 = 52 | CES31 = 96 | CES56 = 96 | CES81 = 81 |
| CES07 = 44 | CES32 = 91 | CES57 = 95 | CES82 = 97 |
| CES08 = 43 | CES33 = 98 | CES58 = 96 | CES83 = 95 |
| CES09 = 29 | CES34 = 97 | CES59 = 97 | CES84 = 96 |
| CES10 = 77 | CES35 = 98 | CES60 = 96 | CES85 = 84 |
| CES11 = 60 | CES36 = 89 | CES61 = 95 | CES86 = 83 |
| CES12 = 66 | CES37 = 96 | CES62 = 94 | CES87 = 93 |
| CES13 = 44 | CES38 = 94 | CES63 = 95 | CES88 = 95 |
| CES14 = 74 | CES39 = 99 | CES64 = 94 | CES89 = 85 |
| CES15 = 72 | CES40 = 97 | CES65 = 91 | CES90 = 96 |
| CES16 = 49 | CES41 = 97 | CES66 = 93 | CES91 = 85 |
| CES17 = 50 | CES42 = 97 | CES67 = 92 | CES92 = 82 |
| CES18 = 57 | CES43 = 96 | CES68 = 93 | CES93 = 89 |
| CES19 = 72 | CES44 = 99 | CES69 = 94 | CES94 = 80 |
| CES20 = 68 | CES45 = 98 | CES70 = 91 | CES95 = 87 |
| CES21 = 87 | CES46 = 96 | CES71 = 90 | CES96 = 93 |
| CES22 = 79 | CES47 = 93 | CES72 = 96 | CES97 = 96 |
| CES23 = 92 | CES48 = 94 | CES73 = 88 | CES98 = 94 |
| CES24 = 91 | CES49 = 96 | CES74 = 91 | CES99 = 91 |
| CES25 = 72 | CES50 = 99 | CES75 = 91 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)