

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



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: IRiS

Report Number: P1252273

Luminaire Tested: P3A17R209030DE010 E3D1B

Issue Date: 1/29/2026

**Test Information**

Test Method: LM-79-2019  
Report Number: P1252273  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2501-338-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 1/29/2026  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: IRiS  
Catalog Number: P3A17R209030DE010 E3D1B  
Description: 3in Adjustable LED luminaire with, R20 optic, 3000K CCT AND, 90CRI , E3D1B TRIM  
Light Source: -  
Ballast/Driver: -

**Summary**

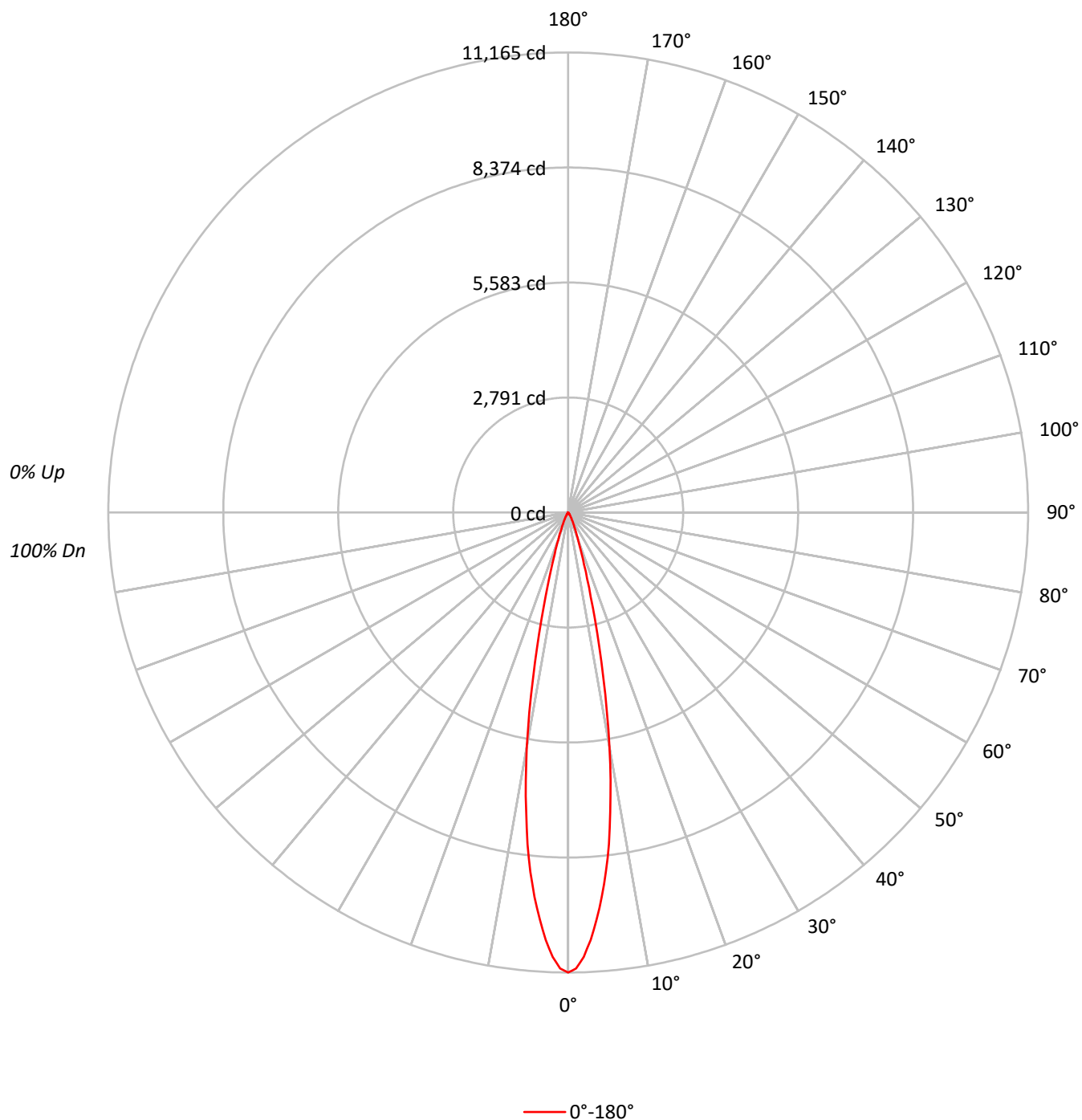
Lumens per Lamp: N/A  
Luminaire Lumens: 1614.0 lumens  
Efficiency: N/A  
Efficacy: 76.1 lumens/watt  
Spacing Criteria (0/90/45): 0.35 / 0.35 / 0.34  
Luminous Opening: Circular (Dia: 0.25' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.2  
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: 24 FT

TEST NUMBER: P1252273

CATALOG NUMBER: P3A17R209030DE010 E3D1B

### Luminous Intensity Polar Plot



TEST NUMBER: P1252273

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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|-----|-----|-----|--|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     |  | 20  |     |     |  | 20  |
| RC  | 80  |     |     |     | 70  |     |     |     | 50  |     |     |  | 30  |     |     |  | 10  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 115 | 114 | 112 | 110 | 113 | 111 | 110 | 108 | 107 | 106 | 105 |  | 104 | 103 | 102 |  | 100 |
| 2   | 112 | 109 | 106 | 104 | 110 | 107 | 105 | 103 | 104 | 102 | 101 |  | 101 | 100 | 98  |  | 99  |
| 3   | 109 | 105 | 102 | 99  | 107 | 104 | 101 | 98  | 101 | 99  | 97  |  | 99  | 97  | 95  |  | 97  |
| 4   | 106 | 101 | 98  | 95  | 105 | 100 | 97  | 95  | 99  | 96  | 94  |  | 97  | 95  | 93  |  | 95  |
| 5   | 104 | 98  | 95  | 92  | 102 | 98  | 94  | 92  | 96  | 93  | 91  |  | 95  | 92  | 90  |  | 93  |
| 6   | 101 | 96  | 92  | 89  | 100 | 95  | 92  | 89  | 94  | 91  | 89  |  | 93  | 90  | 88  |  | 92  |
| 7   | 99  | 93  | 90  | 87  | 98  | 93  | 89  | 87  | 92  | 89  | 86  |  | 91  | 88  | 86  |  | 90  |
| 8   | 97  | 91  | 87  | 85  | 96  | 91  | 87  | 85  | 90  | 87  | 85  |  | 89  | 86  | 84  |  | 88  |
| 9   | 95  | 89  | 85  | 83  | 94  | 89  | 85  | 83  | 88  | 85  | 83  |  | 87  | 84  | 83  |  | 87  |
| 10  | 93  | 87  | 84  | 81  | 92  | 87  | 83  | 81  | 86  | 83  | 81  |  | 86  | 83  | 81  |  | 85  |

**AVERAGE LUMINANCE (cd/sqm):**

|     |         |
|-----|---------|
|     | 0°      |
| 0°  | 2448313 |
| 5°  | 2061364 |
| 10° | 1287507 |
| 15° | 481342  |
| 20° | 165214  |
| 25° | 68859   |
| 30° | 32435   |
| 35° | 14536   |
| 40° | 6870    |
| 45° | 3535    |
| 50° | 1296    |
| 55° | 229     |
| 60° | 263     |
| 65° | 311     |
| 70° | 0       |
| 75° | 0       |
| 80° | 0       |
| 85° | 0       |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 3535 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 778.8  | 48.3      |
| 10°-20°   | 641.5  | 39.7      |
| 20°-30°   | 145.8  | 9.0       |
| 30°-40°   | 37.1   | 2.3       |
| 40°-50°   | 9.3    | 0.6       |
| 50°-60°   | 1.2    | 0.1       |
| 60°-70°   | 0.4    | 0.0       |
| 70°-80°   | 0.0    | 0.0       |
| 80°-90°   | 0.0    | 0.0       |
| 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       |
| <hr/>     |        |           |
| 0°-30°    | 1566.0 | 97.0      |
| 0°-40°    | 1603.1 | 99.3      |
| 0°-60°    | 1613.6 | 100.0     |
| 0°-90°    | 1614.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1614.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°    | Flux |
|-----|-------|------|
| 0°  | 11165 |      |
| 5°  | 9365  | 779  |
| 15° | 2120  | 641  |
| 25° | 285   | 146  |
| 35° | 54    | 37   |
| 45° | 11    | 9    |
| 55° | 1     | 1    |
| 65° | 1     | 0    |
| 75° | 0     | 0    |
| 85° | 0     | 0    |
| 90° | 0     |      |

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**CANDELA DISTRIBUTION (FULL):**

| 0°    |         |
|-------|---------|
| 0°    | 11165.2 |
| 1°    | 11070.5 |
| 2°    | 10791.6 |
| 3°    | 10391.5 |
| 4°    | 9900.6  |
| 5°    | 9364.8  |
| 6°    | 8767.8  |
| 7°    | 8109.0  |
| 8°    | 7340.4  |
| 9°    | 6578.7  |
| 10°   | 5782.3  |
| 11°   | 4934.8  |
| 12°   | 4088.6  |
| 13°   | 3371.7  |
| 14°   | 2686.4  |
| 15°   | 2120.3  |
| 16°   | 1673.5  |
| 17°   | 1320.2  |
| 18°   | 1060.8  |
| 19°   | 862.6   |
| 20°   | 708.0   |
| 21°   | 591.9   |
| 22°   | 494.1   |
| 23°   | 410.8   |
| 24°   | 342.7   |
| 25°   | 284.6   |
| 27.5° | 186.2   |
| 30°   | 128.1   |
| 32.5° | 78.9    |
| 35°   | 54.3    |
| 37.5° | 34.7    |
| 40°   | 24.0    |
| 42.5° | 16.4    |
| 45°   | 11.4    |
| 47.5° | 7.6     |
| 50°   | 3.8     |
| 52.5° | 1.9     |
| 55°   | 0.6     |
| 57.5° | 0.6     |
| 60°   | 0.6     |
| 62.5° | 0.6     |
| 65°   | 0.6     |
| 67.5° | 0.0     |
| 70°   | 0.0     |
| 72.5° | 0.0     |



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**CANDELA DISTRIBUTION (continued):**

|       | 0°  |
|-------|-----|
| 75°   | 0.0 |
| 77.5° | 0.0 |
| 80°   | 0.0 |
| 82.5° | 0.0 |
| 85°   | 0.0 |
| 87.5° | 0.0 |
| 90°   | 0.0 |

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

Report Prepared for

Cooper Lighting Solutions

IRiS

Report Number: SP1-2504-409-28

Test Date: 05/16/2025

Luminaire Tested: LD3A09R159030D010 E3D1H

Data in this report applies to families of products including LD3A

### Test Information

Test Method: LM-79-2019  
 Report Number: SP1-2504-409-28  
 Test Lab: COOPER LIGHTING SOLUTIONS  
 Photometer: SP1 - 76IN SPHERE  
 Measurement Geometry:  $4\pi$   
 Issue Date: 01/06/2026  
 Manufacturer: COOPER LIGHTING SOLUTIONS  
 Product Line: IRiS  
 Catalog Number: **LD3A09R159030D010 E3D1H**  
 Description: 3in Adjustable LED luminaire with, R15 optic, 3000K CCT AND, 90CRI LEDS, E3D1H TRIM

### Spectral Parameters

CCT (K): 3032  
 CIE  $u'$ : 0.2493  
 CIE  $v'$ : 0.5211  
 Duv: 0.0003  
 CIE x: 0.4351  
 CIE y: 0.4042  
 CIE z: 0.1608  
 Peak Wavelength (nm): 615  
 Dominant Wavelength (nm): 582  
 Purity: 51.90029  
 R<sub>f</sub>: 91.6  
 R<sub>g</sub>: 98.2

CRI (Ra): 92.8  
 R1: 93.5  
 R2: 97.3  
 R3: 98.7  
 R4: 93.9  
 R5: 93.6  
 R6: 96.7  
 R7: 90.3  
 R8: 78.4  
 R9: 51.3  
 R10: 93.2  
 R11: 96.4  
 R12: 82.1  
 R13: 94.8  
 R14: 99.6  
 R15: 87.6



### Test Conditions

Stabilization Time: 40M  
 Operation Time: 1H 40M  
 Sphere Temperature (°C): 25.1

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| Measurement and Test Equipment |                       |                  |                      |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument                     | Identification Number | Calibration Date | Calibration Due Date |
| Photometer                     | 76INCH SPHERE IN0058  | 12/16/2024       | 6/16/2025            |
| Power Meter                    | XITRON INXT2011004    | 1/21/2025        | 1/21/2026            |
| AC Power Source                | CHROMA 61603 IN0063   | 10/22/2024       | 10/22/2025           |
| DC Power Source                | AGILENT E3634A IN0208 | 10/22/2024       | 10/22/2025           |
| Sphere Thermometer             | ONSET IN0085          | 10/22/2024       | 10/22/2025           |
| Room Thermometer               | ONSET IN0046          | 10/22/2024       | 10/22/2025           |

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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 3000K 4-step quadrangle

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### Photopic Flux vs. Wavelength



### Photopic Lumens: NR

| $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^{\wedge}/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|-------------------|----------------------------------------|--------------------------------|
| 360               | 0                                      | NR                             | 490               | 285                                    | NR                             | 620               | 993                                    | NR                             | 750               | 55                                     | NR                             | 880               | 1                                      | NR                             |
| 365               | 0                                      | NR                             | 495               | 338                                    | NR                             | 625               | 970                                    | NR                             | 755               | 47                                     | NR                             | 885               | 1                                      | NR                             |
| 370               | 0                                      | NR                             | 500               | 392                                    | NR                             | 630               | 942                                    | NR                             | 760               | 41                                     | NR                             | 890               | 1                                      | NR                             |
| 375               | 0                                      | NR                             | 505               | 440                                    | NR                             | 635               | 902                                    | NR                             | 765               | 35                                     | NR                             | 895               | 1                                      | NR                             |
| 380               | 0                                      | NR                             | 510               | 478                                    | NR                             | 640               | 855                                    | NR                             | 770               | 30                                     | NR                             | 900               | 1                                      | NR                             |
| 385               | 0                                      | NR                             | 515               | 505                                    | NR                             | 645               | 800                                    | NR                             | 775               | 26                                     | NR                             | 905               | 1                                      | NR                             |
| 390               | 0                                      | NR                             | 520               | 524                                    | NR                             | 650               | 743                                    | NR                             | 780               | 22                                     | NR                             | 910               | 0                                      | NR                             |
| 395               | 1                                      | NR                             | 525               | 539                                    | NR                             | 655               | 682                                    | NR                             | 785               | 19                                     | NR                             | 915               | 0                                      | NR                             |
| 400               | 2                                      | NR                             | 530               | 554                                    | NR                             | 660               | 621                                    | NR                             | 790               | 16                                     | NR                             | 920               | 0                                      | NR                             |
| 405               | 3                                      | NR                             | 535               | 565                                    | NR                             | 665               | 563                                    | NR                             | 795               | 14                                     | NR                             | 925               | 1                                      | NR                             |
| 410               | 5                                      | NR                             | 540               | 581                                    | NR                             | 670               | 505                                    | NR                             | 800               | 12                                     | NR                             | 930               | 0                                      | NR                             |
| 415               | 10                                     | NR                             | 545               | 593                                    | NR                             | 675               | 451                                    | NR                             | 805               | 10                                     | NR                             | 935               | 0                                      | NR                             |
| 420               | 17                                     | NR                             | 550               | 606                                    | NR                             | 680               | 401                                    | NR                             | 810               | 9                                      | NR                             | 940               | 0                                      | NR                             |
| 425               | 32                                     | NR                             | 555               | 623                                    | NR                             | 685               | 356                                    | NR                             | 815               | 8                                      | NR                             | 945               | 0                                      | NR                             |
| 430               | 57                                     | NR                             | 560               | 645                                    | NR                             | 690               | 313                                    | NR                             | 820               | 7                                      | NR                             | 950               | 0                                      | NR                             |
| 435               | 103                                    | NR                             | 565               | 667                                    | NR                             | 695               | 274                                    | NR                             | 825               | 6                                      | NR                             | 955               | 0                                      | NR                             |
| 440               | 175                                    | NR                             | 570               | 699                                    | NR                             | 700               | 238                                    | NR                             | 830               | 5                                      | NR                             | 960               | 0                                      | NR                             |
| 445               | 287                                    | NR                             | 575               | 732                                    | NR                             | 705               | 208                                    | NR                             | 835               | 4                                      | NR                             | 965               | 0                                      | NR                             |
| 450               | 460                                    | NR                             | 580               | 774                                    | NR                             | 710               | 180                                    | NR                             | 840               | 4                                      | NR                             | 970               | 0                                      | NR                             |
| 455               | 550                                    | NR                             | 585               | 816                                    | NR                             | 715               | 157                                    | NR                             | 845               | 3                                      | NR                             | 975               | 0                                      | NR                             |
| 460               | 423                                    | NR                             | 590               | 862                                    | NR                             | 720               | 136                                    | NR                             | 850               | 3                                      | NR                             | 980               | 0                                      | NR                             |
| 465               | 309                                    | NR                             | 595               | 907                                    | NR                             | 725               | 117                                    | NR                             | 855               | 2                                      | NR                             | 985               | 0                                      | NR                             |
| 470               | 269                                    | NR                             | 600               | 943                                    | NR                             | 730               | 100                                    | NR                             | 860               | 2                                      | NR                             | 990               | 0                                      | NR                             |
| 475               | 229                                    | NR                             | 605               | 974                                    | NR                             | 735               | 86                                     | NR                             | 865               | 2                                      | NR                             | 995               | 0                                      | NR                             |
| 480               | 214                                    | NR                             | 610               | 991                                    | NR                             | 740               | 72                                     | NR                             | 870               | 2                                      | NR                             | 1000              | 0                                      | NR                             |
| 485               | 241                                    | NR                             | 615               | 1000                                   | NR                             | 745               | 62                                     | NR                             | 875               | 1                                      | NR                             |                   |                                        |                                |

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### Scotopic Flux vs. Wavelength



Scotopic Lumens: NR

S/P: 1.44

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 285                                  | NR                             | 620               | 993                                  | NR                             | 750               | 55                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 338                                  | NR                             | 625               | 970                                  | NR                             | 755               | 47                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 392                                  | NR                             | 630               | 942                                  | NR                             | 760               | 41                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 440                                  | NR                             | 635               | 902                                  | NR                             | 765               | 35                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 478                                  | NR                             | 640               | 855                                  | NR                             | 770               | 30                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 505                                  | NR                             | 645               | 800                                  | NR                             | 775               | 26                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 524                                  | NR                             | 650               | 743                                  | NR                             | 780               | 22                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 1                                    | NR                             | 525               | 539                                  | NR                             | 655               | 682                                  | NR                             | 785               | 19                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 2                                    | NR                             | 530               | 554                                  | NR                             | 660               | 621                                  | NR                             | 790               | 16                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 3                                    | NR                             | 535               | 565                                  | NR                             | 665               | 563                                  | NR                             | 795               | 14                                   | NR                             | 925               | 1                                    | NR                             |
| 410               | 5                                    | NR                             | 540               | 581                                  | NR                             | 670               | 505                                  | NR                             | 800               | 12                                   | NR                             | 930               | 0                                    | NR                             |
| 415               | 10                                   | NR                             | 545               | 593                                  | NR                             | 675               | 451                                  | NR                             | 805               | 10                                   | NR                             | 935               | 0                                    | NR                             |
| 420               | 17                                   | NR                             | 550               | 606                                  | NR                             | 680               | 401                                  | NR                             | 810               | 9                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 32                                   | NR                             | 555               | 623                                  | NR                             | 685               | 356                                  | NR                             | 815               | 8                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 57                                   | NR                             | 560               | 645                                  | NR                             | 690               | 313                                  | NR                             | 820               | 7                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 103                                  | NR                             | 565               | 667                                  | NR                             | 695               | 274                                  | NR                             | 825               | 6                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 175                                  | NR                             | 570               | 699                                  | NR                             | 700               | 238                                  | NR                             | 830               | 5                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 287                                  | NR                             | 575               | 732                                  | NR                             | 705               | 208                                  | NR                             | 835               | 4                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 460                                  | NR                             | 580               | 774                                  | NR                             | 710               | 180                                  | NR                             | 840               | 4                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 550                                  | NR                             | 585               | 816                                  | NR                             | 715               | 157                                  | NR                             | 845               | 3                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 423                                  | NR                             | 590               | 862                                  | NR                             | 720               | 136                                  | NR                             | 850               | 3                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 309                                  | NR                             | 595               | 907                                  | NR                             | 725               | 117                                  | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 269                                  | NR                             | 600               | 943                                  | NR                             | 730               | 100                                  | NR                             | 860               | 2                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 229                                  | NR                             | 605               | 974                                  | NR                             | 735               | 86                                   | NR                             | 865               | 2                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 214                                  | NR                             | 610               | 991                                  | NR                             | 740               | 72                                   | NR                             | 870               | 2                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 241                                  | NR                             | 615               | 1000                                 | NR                             | 745               | 62                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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### Melanopic Flux vs. Wavelength


**Melanopic Lumens: NR**
**M/P: 2.84**

| $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) | $\lambda$<br>(nm) | Power<br>$\text{W}^\wedge/\text{nm}$ | Lumens<br>( $\phi/\text{nm}$ ) |
|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|-------------------|--------------------------------------|--------------------------------|
| 360               | 0                                    | NR                             | 490               | 285                                  | NR                             | 620               | 993                                  | NR                             | 750               | 55                                   | NR                             | 880               | 1                                    | NR                             |
| 365               | 0                                    | NR                             | 495               | 338                                  | NR                             | 625               | 970                                  | NR                             | 755               | 47                                   | NR                             | 885               | 1                                    | NR                             |
| 370               | 0                                    | NR                             | 500               | 392                                  | NR                             | 630               | 942                                  | NR                             | 760               | 41                                   | NR                             | 890               | 1                                    | NR                             |
| 375               | 0                                    | NR                             | 505               | 440                                  | NR                             | 635               | 902                                  | NR                             | 765               | 35                                   | NR                             | 895               | 1                                    | NR                             |
| 380               | 0                                    | NR                             | 510               | 478                                  | NR                             | 640               | 855                                  | NR                             | 770               | 30                                   | NR                             | 900               | 1                                    | NR                             |
| 385               | 0                                    | NR                             | 515               | 505                                  | NR                             | 645               | 800                                  | NR                             | 775               | 26                                   | NR                             | 905               | 1                                    | NR                             |
| 390               | 0                                    | NR                             | 520               | 524                                  | NR                             | 650               | 743                                  | NR                             | 780               | 22                                   | NR                             | 910               | 0                                    | NR                             |
| 395               | 1                                    | NR                             | 525               | 539                                  | NR                             | 655               | 682                                  | NR                             | 785               | 19                                   | NR                             | 915               | 0                                    | NR                             |
| 400               | 2                                    | NR                             | 530               | 554                                  | NR                             | 660               | 621                                  | NR                             | 790               | 16                                   | NR                             | 920               | 0                                    | NR                             |
| 405               | 3                                    | NR                             | 535               | 565                                  | NR                             | 665               | 563                                  | NR                             | 795               | 14                                   | NR                             | 925               | 1                                    | NR                             |
| 410               | 5                                    | NR                             | 540               | 581                                  | NR                             | 670               | 505                                  | NR                             | 800               | 12                                   | NR                             | 930               | 0                                    | NR                             |
| 415               | 10                                   | NR                             | 545               | 593                                  | NR                             | 675               | 451                                  | NR                             | 805               | 10                                   | NR                             | 935               | 0                                    | NR                             |
| 420               | 17                                   | NR                             | 550               | 606                                  | NR                             | 680               | 401                                  | NR                             | 810               | 9                                    | NR                             | 940               | 0                                    | NR                             |
| 425               | 32                                   | NR                             | 555               | 623                                  | NR                             | 685               | 356                                  | NR                             | 815               | 8                                    | NR                             | 945               | 0                                    | NR                             |
| 430               | 57                                   | NR                             | 560               | 645                                  | NR                             | 690               | 313                                  | NR                             | 820               | 7                                    | NR                             | 950               | 0                                    | NR                             |
| 435               | 103                                  | NR                             | 565               | 667                                  | NR                             | 695               | 274                                  | NR                             | 825               | 6                                    | NR                             | 955               | 0                                    | NR                             |
| 440               | 175                                  | NR                             | 570               | 699                                  | NR                             | 700               | 238                                  | NR                             | 830               | 5                                    | NR                             | 960               | 0                                    | NR                             |
| 445               | 287                                  | NR                             | 575               | 732                                  | NR                             | 705               | 208                                  | NR                             | 835               | 4                                    | NR                             | 965               | 0                                    | NR                             |
| 450               | 460                                  | NR                             | 580               | 774                                  | NR                             | 710               | 180                                  | NR                             | 840               | 4                                    | NR                             | 970               | 0                                    | NR                             |
| 455               | 550                                  | NR                             | 585               | 816                                  | NR                             | 715               | 157                                  | NR                             | 845               | 3                                    | NR                             | 975               | 0                                    | NR                             |
| 460               | 423                                  | NR                             | 590               | 862                                  | NR                             | 720               | 136                                  | NR                             | 850               | 3                                    | NR                             | 980               | 0                                    | NR                             |
| 465               | 309                                  | NR                             | 595               | 907                                  | NR                             | 725               | 117                                  | NR                             | 855               | 2                                    | NR                             | 985               | 0                                    | NR                             |
| 470               | 269                                  | NR                             | 600               | 943                                  | NR                             | 730               | 100                                  | NR                             | 860               | 2                                    | NR                             | 990               | 0                                    | NR                             |
| 475               | 229                                  | NR                             | 605               | 974                                  | NR                             | 735               | 86                                   | NR                             | 865               | 2                                    | NR                             | 995               | 0                                    | NR                             |
| 480               | 214                                  | NR                             | 610               | 991                                  | NR                             | 740               | 72                                   | NR                             | 870               | 2                                    | NR                             | 1000              | 0                                    | NR                             |
| 485               | 241                                  | NR                             | 615               | 1000                                 | NR                             | 745               | 62                                   | NR                             | 875               | 1                                    | NR                             |                   |                                      |                                |

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TM-30-18

### Summary

$R_f = 91.6$   
 $R_g = 98.2$   
 $CIE R_a = 92.8$   
 $R_9 = 51.3$



### Color Vector Graphics



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

|            |            |            |            |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 96 | CES51 = 97 | CES76 = 92 |
| CES02 = 63 | CES27 = 91 | CES52 = 99 | CES77 = 88 |
| CES03 = 32 | CES28 = 98 | CES53 = 98 | CES78 = 88 |
| CES04 = 70 | CES29 = 97 | CES54 = 93 | CES79 = 91 |
| CES05 = 50 | CES30 = 90 | CES55 = 91 | CES80 = 92 |
| CES06 = 51 | CES31 = 97 | CES56 = 94 | CES81 = 78 |
| CES07 = 43 | CES32 = 93 | CES57 = 93 | CES82 = 96 |
| CES08 = 42 | CES33 = 97 | CES58 = 94 | CES83 = 95 |
| CES09 = 29 | CES34 = 97 | CES59 = 97 | CES84 = 95 |
| CES10 = 76 | CES35 = 98 | CES60 = 93 | CES85 = 80 |
| CES11 = 59 | CES36 = 82 | CES61 = 93 | CES86 = 79 |
| CES12 = 65 | CES37 = 98 | CES62 = 87 | CES87 = 91 |
| CES13 = 44 | CES38 = 86 | CES63 = 94 | CES88 = 95 |
| CES14 = 74 | CES39 = 98 | CES64 = 92 | CES89 = 84 |
| CES15 = 72 | CES40 = 97 | CES65 = 89 | CES90 = 94 |
| CES16 = 48 | CES41 = 96 | CES66 = 90 | CES91 = 77 |
| CES17 = 50 | CES42 = 97 | CES67 = 89 | CES92 = 76 |
| CES18 = 57 | CES43 = 96 | CES68 = 91 | CES93 = 86 |
| CES19 = 72 | CES44 = 99 | CES69 = 92 | CES94 = 76 |
| CES20 = 67 | CES45 = 99 | CES70 = 89 | CES95 = 83 |
| CES21 = 86 | CES46 = 96 | CES71 = 85 | CES96 = 91 |
| CES22 = 79 | CES47 = 93 | CES72 = 95 | CES97 = 96 |
| CES23 = 92 | CES48 = 89 | CES73 = 85 | CES98 = 93 |
| CES24 = 90 | CES49 = 97 | CES74 = 90 | CES99 = 89 |
| CES25 = 72 | CES50 = 97 | CES75 = 86 |            |



**Color Rendition by Hue-Angle Bin**


**Measure Comparisons**



(END OF REPORT)