

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: PrentaLux

Report Number: P879204

Luminaire Tested: PRLX-210-930-LL8-F-U-S-X-X-WHHR-BR-X

Issue Date: 9/24/2024

Test Information

Test Method: LM-79-2019
Report Number: P879204
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2405-094-4)
Test Lab: COOPER LIGHTING SOLUTIONS
Issue Date: 9/24/2024
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: Pentalux
Catalog Number: PRLX-210-930-LL8-F-U-S-X-X-WHHR-BR-X
Description: Pentalux 200 SERIES 3D PRINTED LUMINAIRE, 210 SHADE, FROSTED LENS.
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

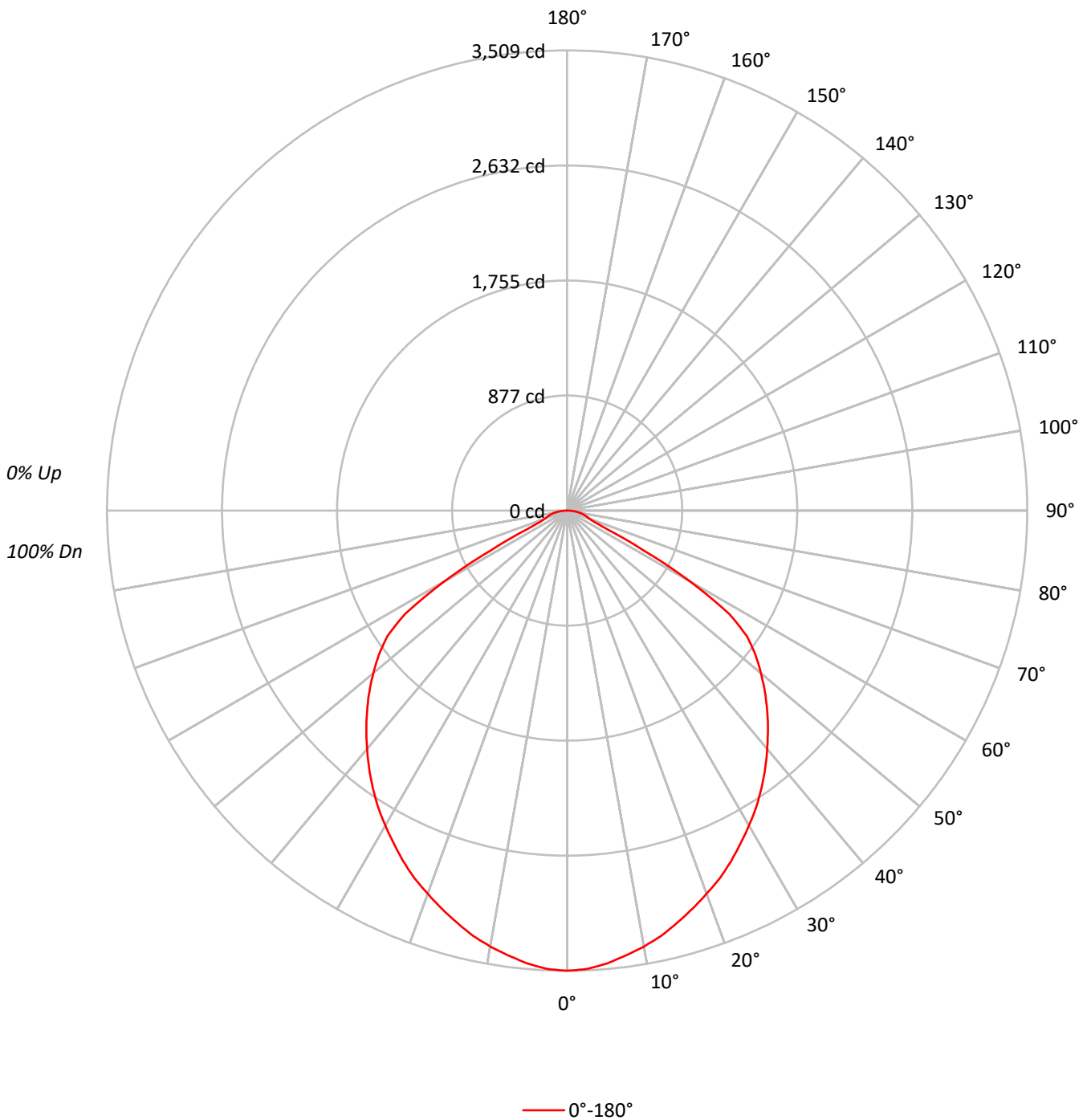
Lumens per Lamp: N/A
Luminaire Lumens: 7980.5 lumens
Efficiency: N/A
Efficacy: 110.5 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.18 / 1.32
Luminous Opening: Circular (Dia: 1.42' x H: 0')
CIE Type: Direct

Input Watts (W): 72.2
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: 0.5 HR
Operation Time: 3 HR
Ambient Temperature (°C): NR
Test Distance: 24 FT

TEST NUMBER: P879204

CATALOG NUMBER: PRLX-210-930-LL8-F-U-S-X-X-WHHR-BR-X

Luminous Intensity Polar Plot





TEST NUMBER: P879204

CATALOG NUMBER: PRLX-210-930-LL8-F-U-S-X-X-WHHR-BR-X

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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 111 | 107 | 103 | 100 | 108 | 104 | 101 | 98 | 100 | 98 | 95 | 96 | 94 | 92 | 93 | 91 | 90 | 88 |
| 2 | 102 | 95 | 89 | 84 | 100 | 93 | 88 | 83 | 90 | 85 | 81 | 86 | 83 | 79 | 84 | 80 | 78 | 76 |
| 3 | 94 | 85 | 77 | 72 | 92 | 83 | 76 | 71 | 80 | 74 | 70 | 78 | 73 | 69 | 75 | 71 | 67 | 65 |
| 4 | 86 | 76 | 68 | 62 | 84 | 74 | 67 | 61 | 72 | 66 | 60 | 70 | 64 | 60 | 68 | 63 | 59 | 57 |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 59 | 53 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | 50 |
| 6 | 74 | 62 | 53 | 47 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 46 | 56 | 50 | 46 | 44 |
| 7 | 69 | 56 | 48 | 42 | 67 | 55 | 47 | 42 | 54 | 47 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 39 |
| 8 | 64 | 51 | 43 | 38 | 62 | 50 | 43 | 37 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 |
| 9 | 60 | 47 | 39 | 34 | 58 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 33 | 43 | 37 | 33 | 32 |
| 10 | 56 | 43 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 35 | 31 | 41 | 35 | 30 | 40 | 34 | 30 | 29 |

AVERAGE LUMINANCE (cd/sqm):

| | |
|-----|-------|
| | 0° |
| 0° | 23960 |
| 5° | 23763 |
| 10° | 23405 |
| 15° | 22993 |
| 20° | 22593 |
| 25° | 22252 |
| 30° | 21870 |
| 35° | 21536 |
| 40° | 21153 |
| 45° | 20838 |
| 50° | 20488 |
| 55° | 19943 |
| 60° | 14887 |
| 65° | 5389 |
| 70° | 3590 |
| 75° | 3686 |
| 80° | 3846 |
| 85° | 4012 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 20838 cd/sqm

TEST NUMBER: P879204

CATALOG NUMBER: PRLX-210-930-LL8-F-U-S-X-X-WHHR-BR-X

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 327.9 | 4.1 |
| 10°-20° | 917.2 | 11.5 |
| 20°-30° | 1360.1 | 17.0 |
| 30°-40° | 1615.9 | 20.2 |
| 40°-50° | 1664.4 | 20.9 |
| 50°-60° | 1442.5 | 18.1 |
| 60°-70° | 450.3 | 5.6 |
| 70°-80° | 147.3 | 1.8 |
| 80°-90° | 54.9 | 0.7 |
| 90°-100° | 0.0 | 0.0 |
| 100°-110° | 0.0 | 0.0 |
| 110°-120° | 0.0 | 0.0 |
| 120°-130° | 0.0 | 0.0 |
| 130°-140° | 0.0 | 0.0 |
| 140°-150° | 0.0 | 0.0 |
| 150°-160° | 0.0 | 0.0 |
| 160°-170° | 0.0 | 0.0 |
| 170°-180° | 0.0 | 0.0 |
| 0°-30° | 2605.2 | 32.6 |
| 0°-40° | 4221.2 | 52.9 |
| 0°-60° | 7328.1 | 91.8 |
| 0°-90° | 7980.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 7980.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | Flux |
|-----|------|------|
| 0° | 3509 | |
| 5° | 3467 | 328 |
| 15° | 3252 | 917 |
| 25° | 2953 | 1360 |
| 35° | 2583 | 1616 |
| 45° | 2158 | 1664 |
| 55° | 1675 | 1442 |
| 65° | 334 | 450 |
| 75° | 140 | 147 |
| 85° | 51 | 55 |
| 90° | 0 | |

TEST NUMBER: P879204

CATALOG NUMBER: PRLX-210-930-LL8-F-U-S-X-X-WHHR-BR-X

CANDELA DISTRIBUTION (FULL):

| | 0° |
|-------|--------|
| 0° | 3508.6 |
| 2.5° | 3499.3 |
| 5° | 3466.6 |
| 7.5° | 3421.9 |
| 10° | 3375.3 |
| 12.5° | 3320.4 |
| 15° | 3252.4 |
| 17.5° | 3182.5 |
| 20° | 3108.9 |
| 22.5° | 3036.2 |
| 25° | 2953.3 |
| 27.5° | 2862.9 |
| 30° | 2773.5 |
| 32.5° | 2683.1 |
| 35° | 2583.4 |
| 37.5° | 2481.0 |
| 40° | 2372.9 |
| 42.5° | 2266.7 |
| 45° | 2157.7 |
| 47.5° | 2045.9 |
| 50° | 1928.5 |
| 52.5° | 1811.1 |
| 55° | 1675.1 |
| 57.5° | 1465.5 |
| 60° | 1090.0 |
| 62.5° | 652.2 |
| 65° | 333.5 |
| 67.5° | 217.1 |
| 70° | 179.8 |
| 72.5° | 160.2 |
| 75° | 139.7 |
| 77.5° | 119.3 |
| 80° | 97.8 |
| 82.5° | 75.5 |
| 85° | 51.2 |
| 87.5° | 26.1 |
| 90° | 0.0 |



TEST NUMBER: P879204
 CATALOG NUMBER: PRLX-210-930-LL8-F-U-S-X-X-WHHR-BR-X

CIE UGR TABLE:

| Reflectances: | | | | | | | | | | | |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling | | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 | 0.7 | 0.7 | 0.5 | 0.5 | 0.3 |
| Wall | | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 | 0.5 | 0.3 | 0.5 | 0.3 | 0.3 |
| Reference plane | | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Room dimensions | | Viewed crosswise | | | | | Viewed endwise | | | | |
| X=2H | Y=2H | 22.77 | 24.28 | 23.13 | 24.59 | 24.91 | 22.77 | 24.28 | 23.13 | 24.59 | 24.91 |
| | 3H | 22.78 | 24.12 | 23.16 | 24.45 | 24.81 | 22.78 | 24.12 | 23.16 | 24.45 | 24.81 |
| | 4H | 22.79 | 24.05 | 23.19 | 24.39 | 24.77 | 22.79 | 24.05 | 23.19 | 24.39 | 24.77 |
| | 6H | 22.81 | 23.97 | 23.23 | 24.33 | 24.73 | 22.81 | 23.97 | 23.23 | 24.33 | 24.73 |
| | 8H | 22.82 | 23.91 | 23.25 | 24.30 | 24.71 | 22.82 | 23.91 | 23.25 | 24.30 | 24.71 |
| | 12H | 22.82 | 23.87 | 23.25 | 24.25 | 24.68 | 22.82 | 23.87 | 23.25 | 24.25 | 24.68 |
| 4H | 2H | 22.69 | 23.94 | 23.09 | 24.29 | 24.67 | 22.69 | 23.94 | 23.09 | 24.29 | 24.67 |
| | 3H | 22.76 | 23.78 | 23.17 | 24.18 | 24.58 | 22.76 | 23.78 | 23.17 | 24.18 | 24.58 |
| | 4H | 22.81 | 23.72 | 23.24 | 24.13 | 24.57 | 22.81 | 23.72 | 23.24 | 24.13 | 24.57 |
| | 6H | 22.88 | 23.67 | 23.34 | 24.12 | 24.58 | 22.88 | 23.67 | 23.34 | 24.12 | 24.58 |
| | 8H | 22.90 | 23.64 | 23.37 | 24.09 | 24.56 | 22.90 | 23.64 | 23.37 | 24.09 | 24.56 |
| | 12H | 22.93 | 23.59 | 23.41 | 24.07 | 24.54 | 22.93 | 23.59 | 23.41 | 24.07 | 24.54 |
| 8H | 4H | 22.76 | 23.50 | 23.23 | 23.94 | 24.41 | 22.76 | 23.50 | 23.23 | 23.94 | 24.41 |
| | 6H | 22.87 | 23.48 | 23.36 | 23.97 | 24.45 | 22.87 | 23.48 | 23.36 | 23.97 | 24.45 |
| | 8H | 22.91 | 23.47 | 23.43 | 23.98 | 24.47 | 22.91 | 23.47 | 23.43 | 23.98 | 24.47 |
| | 12H | 22.98 | 23.47 | 23.49 | 23.97 | 24.53 | 22.98 | 23.47 | 23.49 | 23.97 | 24.53 |
| 12H | 4H | 22.74 | 23.40 | 23.22 | 23.88 | 24.35 | 22.74 | 23.40 | 23.22 | 23.88 | 24.35 |
| | 6H | 22.84 | 23.39 | 23.35 | 23.90 | 24.39 | 22.84 | 23.39 | 23.35 | 23.90 | 24.39 |
| | 8H | 22.92 | 23.42 | 23.43 | 23.91 | 24.47 | 22.92 | 23.42 | 23.43 | 23.91 | 24.47 |

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

Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

SHAPER

Report Number: SP1-2203-582-2

Test Date: 05/25/2022

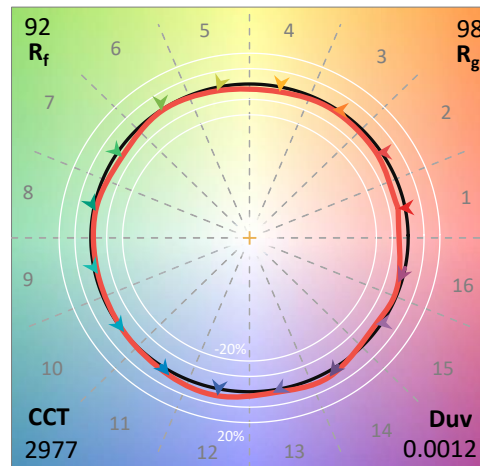
Luminaire Tested: 225-90-30K-27L-UNV-STD-X-X-WHHR-SR-X
Data in this report applies to 200 Series families of products

Test Information

Test Method: LM-79-2019
 Report Number: SP1-2203-582-2
 Test Lab: COOPER LIGHTING SOLUTIONS
 Photometer: SP1 - 76IN SPHERE
 Measurement Geometry: 4π
 Issue Date: 05/25/2022
 Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
 Product Line: SHAPER
 Catalog Number: **225-90-30K-27L-UNV-STD-X-X-WHHR-SR-X**
 Description: Shaper 3D PRINTED 200 Series Pendants

Spectral Parameters

| | | | | | |
|---------------------------|--------|-----------|------|------|------|
| CCT (K): | 2977 | CRI (Ra): | 93.8 | R9: | 64.0 |
| CIE u': | 0.2509 | R1: | 93.9 | R10: | 92.1 |
| CIE v': | 0.5235 | R2: | 97.0 | R11: | 94.8 |
| Duv: | 0.0012 | R3: | 98.8 | R12: | 81.7 |
| CIE x: | 0.4402 | R4: | 93.7 | R13: | 94.8 |
| CIE y: | 0.4082 | R5: | 93.4 | R14: | 98.7 |
| CIE z: | 0.1515 | R6: | 96.4 | | |
| Peak Wavelength (nm): | 622 | R7: | 93.1 | | |
| Dominant Wavelength (nm): | 582 | R8: | 84.0 | | |
| Purity: | 54.9 | | | | |
| Rf: | 92.3 | | | | |
| Rg: | 97.8 | | | | |



Test Conditions
 Stabilization Time: 71M
 Operation Time: 12H
 Room Temperature (°C) / RH%: 24.7/43%
 Sphere Temperature (°C): 25.0

REPORT NUMBER: SP1-2203-582-2

| Measurement and Test Equipment | | | |
|--------------------------------|-----------------------|------------------|----------------------|
| Instrument | Identification Number | Calibration Date | Calibration Due Date |
| Photometer | 76INCH SPHERE IN0058 | 2/7/2022 | 8/7/2022 |
| Power Meter | XITRON 2801 IN0071 | 11/29/2021 | 11/29/2022 |
| AC Power Source | CHROMA 61603 IN0063 | 11/29/2021 | 11/29/2022 |
| DC Power Source | AGILENT E3634A IN0208 | 11/29/2021 | 11/29/2022 |
| Sphere Thermometer | ONSET IN0085 | 11/29/2021 | 11/29/2022 |
| Room Thermometer | ONSET IN0046 | 11/29/2021 | 11/29/2022 |

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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

REPORT NUMBER: SP1-2203-582-2

Photopic Flux vs. Wavelength

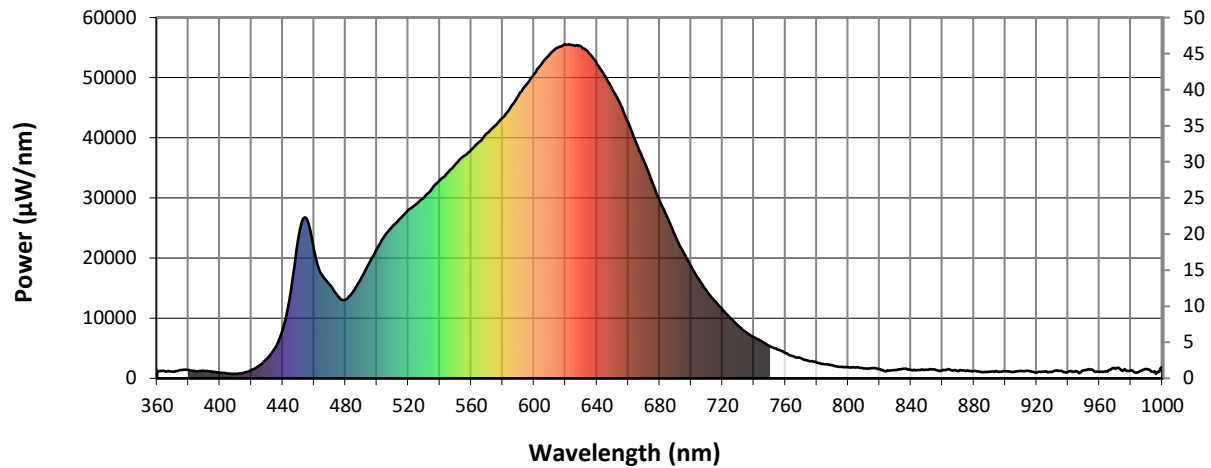


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| λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) | λ (nm) | Power (µW/nm) | Lumens (φ/nm) |
|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|--------|---------------|---------------|
| 360 | 1256 | NR | 490 | 16713 | NR | 620 | 55488 | NR | 750 | 5386 | NR | 880 | 1232 | NR |
| 365 | 1189 | NR | 495 | 19116 | NR | 625 | 55411 | NR | 755 | 4806 | NR | 885 | 1083 | NR |
| 370 | 1111 | NR | 500 | 21564 | NR | 630 | 55189 | NR | 760 | 4232 | NR | 890 | 1127 | NR |
| 375 | 1400 | NR | 505 | 23751 | NR | 635 | 54062 | NR | 765 | 3663 | NR | 895 | 1144 | NR |
| 380 | 1360 | NR | 510 | 25303 | NR | 640 | 52304 | NR | 770 | 3348 | NR | 900 | 1167 | NR |
| 385 | 1156 | NR | 515 | 26615 | NR | 645 | 50301 | NR | 775 | 2859 | NR | 905 | 1078 | NR |
| 390 | 1201 | NR | 520 | 28043 | NR | 650 | 48008 | NR | 780 | 2628 | NR | 910 | 1246 | NR |
| 395 | 1115 | NR | 525 | 28969 | NR | 655 | 45500 | NR | 785 | 2352 | NR | 915 | 1219 | NR |
| 400 | 953 | NR | 530 | 30127 | NR | 660 | 42527 | NR | 790 | 2172 | NR | 920 | 941 | NR |
| 405 | 814 | NR | 535 | 31549 | NR | 665 | 39145 | NR | 795 | 1908 | NR | 925 | 1132 | NR |
| 410 | 755 | NR | 540 | 32918 | NR | 670 | 36112 | NR | 800 | 1858 | NR | 930 | 1076 | NR |
| 415 | 915 | NR | 545 | 34219 | NR | 675 | 32740 | NR | 805 | 1832 | NR | 935 | 1285 | NR |
| 420 | 1363 | NR | 550 | 35624 | NR | 680 | 29556 | NR | 810 | 1648 | NR | 940 | 1131 | NR |
| 425 | 2118 | NR | 555 | 36908 | NR | 685 | 26682 | NR | 815 | 1723 | NR | 945 | 1200 | NR |
| 430 | 3273 | NR | 560 | 38001 | NR | 690 | 23679 | NR | 820 | 1549 | NR | 950 | 1309 | NR |
| 435 | 5028 | NR | 565 | 39315 | NR | 695 | 21005 | NR | 825 | 1330 | NR | 955 | 1517 | NR |
| 440 | 8074 | NR | 570 | 40713 | NR | 700 | 18600 | NR | 830 | 1388 | NR | 960 | 1079 | NR |
| 445 | 14325 | NR | 575 | 41978 | NR | 705 | 16437 | NR | 835 | 1616 | NR | 965 | 1117 | NR |
| 450 | 23321 | NR | 580 | 43289 | NR | 710 | 14495 | NR | 840 | 1375 | NR | 970 | 1618 | NR |
| 455 | 26653 | NR | 585 | 45077 | NR | 715 | 12890 | NR | 845 | 1381 | NR | 975 | 1214 | NR |
| 460 | 21360 | NR | 590 | 47036 | NR | 720 | 11407 | NR | 850 | 1451 | NR | 980 | 1308 | NR |
| 465 | 17172 | NR | 595 | 48772 | NR | 725 | 10022 | NR | 855 | 1508 | NR | 985 | 1082 | NR |
| 470 | 15539 | NR | 600 | 50601 | NR | 730 | 8726 | NR | 860 | 1391 | NR | 990 | 1563 | NR |
| 475 | 13714 | NR | 605 | 52357 | NR | 735 | 7674 | NR | 865 | 1446 | NR | 995 | 1194 | NR |
| 480 | 13103 | NR | 610 | 53915 | NR | 740 | 6815 | NR | 870 | 1157 | NR | 1000 | 1844 | NR |
| 485 | 14477 | NR | 615 | 54990 | NR | 745 | 6153 | NR | 875 | 1251 | NR | | | |

REPORT NUMBER: SP1-2203-582-2

Scotopic Flux vs. Wavelength



Scotopic Lumens: 3917.4

S/P: 1.42

| 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 | 1256 | NR | 490 | 16713 | NR | 620 | 55488 | NR | 750 | 5386 | NR | 880 | 1232 | NR |
| 365 | 1189 | NR | 495 | 19116 | NR | 625 | 55411 | NR | 755 | 4806 | NR | 885 | 1083 | NR |
| 370 | 1111 | NR | 500 | 21564 | NR | 630 | 55189 | NR | 760 | 4232 | NR | 890 | 1127 | NR |
| 375 | 1400 | NR | 505 | 23751 | NR | 635 | 54062 | NR | 765 | 3663 | NR | 895 | 1144 | NR |
| 380 | 1360 | NR | 510 | 25303 | NR | 640 | 52304 | NR | 770 | 3348 | NR | 900 | 1167 | NR |
| 385 | 1156 | NR | 515 | 26615 | NR | 645 | 50301 | NR | 775 | 2859 | NR | 905 | 1078 | NR |
| 390 | 1201 | NR | 520 | 28043 | NR | 650 | 48008 | NR | 780 | 2628 | NR | 910 | 1246 | NR |
| 395 | 1115 | NR | 525 | 28969 | NR | 655 | 45500 | NR | 785 | 2352 | NR | 915 | 1219 | NR |
| 400 | 953 | NR | 530 | 30127 | NR | 660 | 42527 | NR | 790 | 2172 | NR | 920 | 941 | NR |
| 405 | 814 | NR | 535 | 31549 | NR | 665 | 39145 | NR | 795 | 1908 | NR | 925 | 1132 | NR |
| 410 | 755 | NR | 540 | 32918 | NR | 670 | 36112 | NR | 800 | 1858 | NR | 930 | 1076 | NR |
| 415 | 915 | NR | 545 | 34219 | NR | 675 | 32740 | NR | 805 | 1832 | NR | 935 | 1285 | NR |
| 420 | 1363 | NR | 550 | 35624 | NR | 680 | 29556 | NR | 810 | 1648 | NR | 940 | 1131 | NR |
| 425 | 2118 | NR | 555 | 36908 | NR | 685 | 26682 | NR | 815 | 1723 | NR | 945 | 1200 | NR |
| 430 | 3273 | NR | 560 | 38001 | NR | 690 | 23679 | NR | 820 | 1549 | NR | 950 | 1309 | NR |
| 435 | 5028 | NR | 565 | 39315 | NR | 695 | 21005 | NR | 825 | 1330 | NR | 955 | 1517 | NR |
| 440 | 8074 | NR | 570 | 40713 | NR | 700 | 18600 | NR | 830 | 1388 | NR | 960 | 1079 | NR |
| 445 | 14325 | NR | 575 | 41978 | NR | 705 | 16437 | NR | 835 | 1616 | NR | 965 | 1117 | NR |
| 450 | 23321 | NR | 580 | 43289 | NR | 710 | 14495 | NR | 840 | 1375 | NR | 970 | 1618 | NR |
| 455 | 26653 | NR | 585 | 45077 | NR | 715 | 12890 | NR | 845 | 1381 | NR | 975 | 1214 | NR |
| 460 | 21360 | NR | 590 | 47036 | NR | 720 | 11407 | NR | 850 | 1451 | NR | 980 | 1308 | NR |
| 465 | 17172 | NR | 595 | 48772 | NR | 725 | 10022 | NR | 855 | 1508 | NR | 985 | 1082 | NR |
| 470 | 15539 | NR | 600 | 50601 | NR | 730 | 8726 | NR | 860 | 1391 | NR | 990 | 1563 | NR |
| 475 | 13714 | NR | 605 | 52357 | NR | 735 | 7674 | NR | 865 | 1446 | NR | 995 | 1194 | NR |
| 480 | 13103 | NR | 610 | 53915 | NR | 740 | 6815 | NR | 870 | 1157 | NR | 1000 | 1844 | NR |
| 485 | 14477 | NR | 615 | 54990 | NR | 745 | 6153 | NR | 875 | 1251 | NR | | | |

REPORT NUMBER: SP1-2203-582-2

Melanopic Flux vs. Wavelength



Melanopic Lumens: 1507.9 S/P: 0.55

| 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 | 1256 | NR | 490 | 16713 | NR | 620 | 55488 | NR | 750 | 5386 | NR | 880 | 1232 | NR |
| 365 | 1189 | NR | 495 | 19116 | NR | 625 | 55411 | NR | 755 | 4806 | NR | 885 | 1083 | NR |
| 370 | 1111 | NR | 500 | 21564 | NR | 630 | 55189 | NR | 760 | 4232 | NR | 890 | 1127 | NR |
| 375 | 1400 | NR | 505 | 23751 | NR | 635 | 54062 | NR | 765 | 3663 | NR | 895 | 1144 | NR |
| 380 | 1360 | NR | 510 | 25303 | NR | 640 | 52304 | NR | 770 | 3348 | NR | 900 | 1167 | NR |
| 385 | 1156 | NR | 515 | 26615 | NR | 645 | 50301 | NR | 775 | 2859 | NR | 905 | 1078 | NR |
| 390 | 1201 | NR | 520 | 28043 | NR | 650 | 48008 | NR | 780 | 2628 | NR | 910 | 1246 | NR |
| 395 | 1115 | NR | 525 | 28969 | NR | 655 | 45500 | NR | 785 | 2352 | NR | 915 | 1219 | NR |
| 400 | 953 | NR | 530 | 30127 | NR | 660 | 42527 | NR | 790 | 2172 | NR | 920 | 941 | NR |
| 405 | 814 | NR | 535 | 31549 | NR | 665 | 39145 | NR | 795 | 1908 | NR | 925 | 1132 | NR |
| 410 | 755 | NR | 540 | 32918 | NR | 670 | 36112 | NR | 800 | 1858 | NR | 930 | 1076 | NR |
| 415 | 915 | NR | 545 | 34219 | NR | 675 | 32740 | NR | 805 | 1832 | NR | 935 | 1285 | NR |
| 420 | 1363 | NR | 550 | 35624 | NR | 680 | 29556 | NR | 810 | 1648 | NR | 940 | 1131 | NR |
| 425 | 2118 | NR | 555 | 36908 | NR | 685 | 26682 | NR | 815 | 1723 | NR | 945 | 1200 | NR |
| 430 | 3273 | NR | 560 | 38001 | NR | 690 | 23679 | NR | 820 | 1549 | NR | 950 | 1309 | NR |
| 435 | 5028 | NR | 565 | 39315 | NR | 695 | 21005 | NR | 825 | 1330 | NR | 955 | 1517 | NR |
| 440 | 8074 | NR | 570 | 40713 | NR | 700 | 18600 | NR | 830 | 1388 | NR | 960 | 1079 | NR |
| 445 | 14325 | NR | 575 | 41978 | NR | 705 | 16437 | NR | 835 | 1616 | NR | 965 | 1117 | NR |
| 450 | 23321 | NR | 580 | 43289 | NR | 710 | 14495 | NR | 840 | 1375 | NR | 970 | 1618 | NR |
| 455 | 26653 | NR | 585 | 45077 | NR | 715 | 12890 | NR | 845 | 1381 | NR | 975 | 1214 | NR |
| 460 | 21360 | NR | 590 | 47036 | NR | 720 | 11407 | NR | 850 | 1451 | NR | 980 | 1308 | NR |
| 465 | 17172 | NR | 595 | 48772 | NR | 725 | 10022 | NR | 855 | 1508 | NR | 985 | 1082 | NR |
| 470 | 15539 | NR | 600 | 50601 | NR | 730 | 8726 | NR | 860 | 1391 | NR | 990 | 1563 | NR |
| 475 | 13714 | NR | 605 | 52357 | NR | 735 | 7674 | NR | 865 | 1446 | NR | 995 | 1194 | NR |
| 480 | 13103 | NR | 610 | 53915 | NR | 740 | 6815 | NR | 870 | 1157 | NR | 1000 | 1844 | NR |
| 485 | 14477 | NR | 615 | 54990 | NR | 745 | 6153 | NR | 875 | 1251 | NR | | | |

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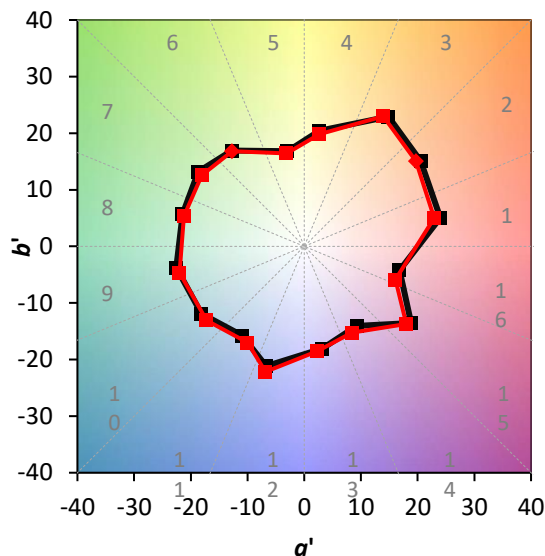
Summary

$R_f = 92.3$
 $R_g = 97.8$
 CIE $R_a = 93.8$
 $R_9 = 64.0$

Spectral Power Distribution Comparison



Color Vector Graphics

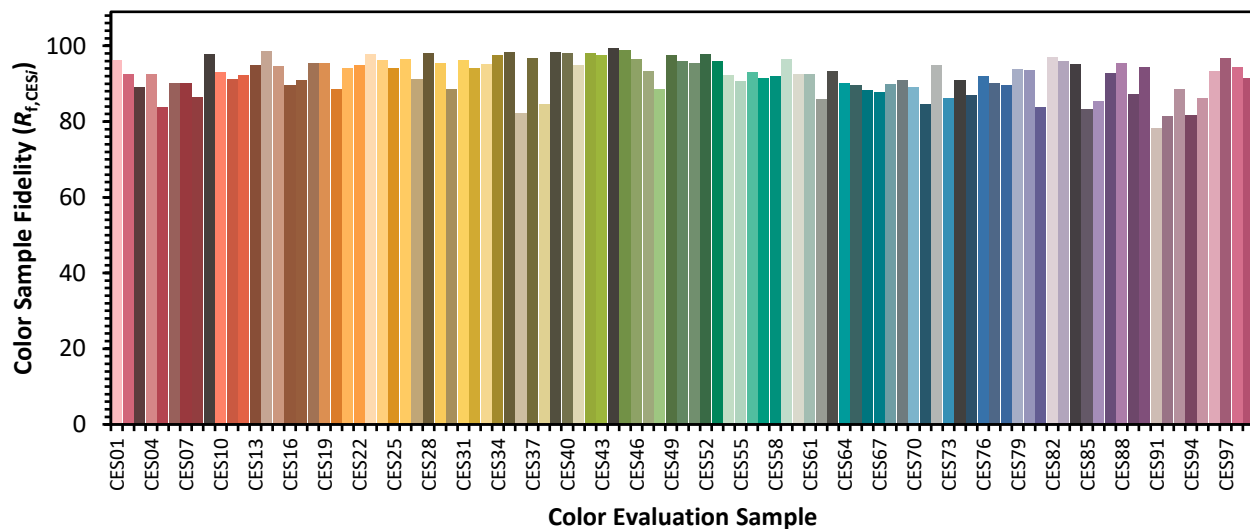


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Individual Sample Fidelity Index ($R_{f,i}$)

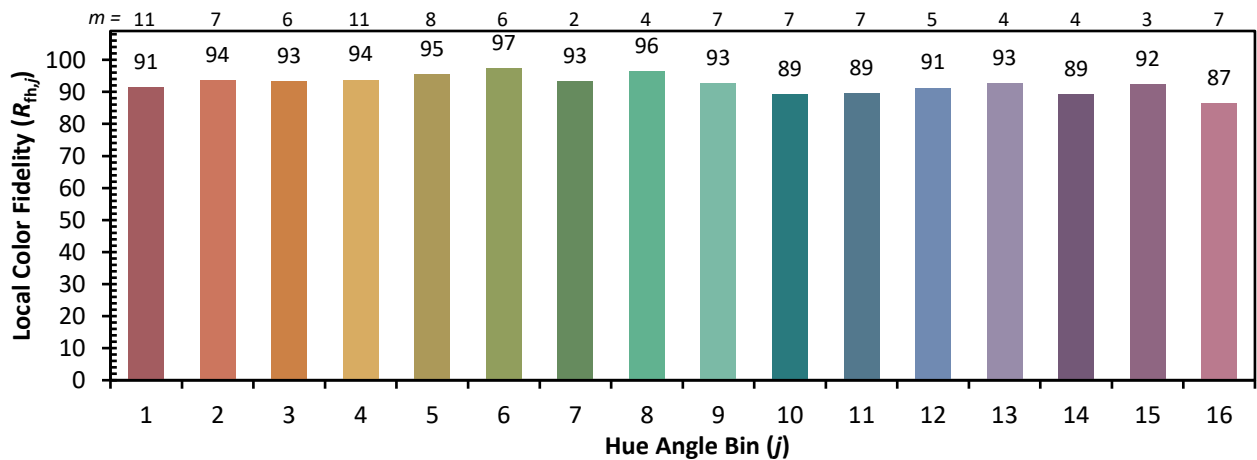
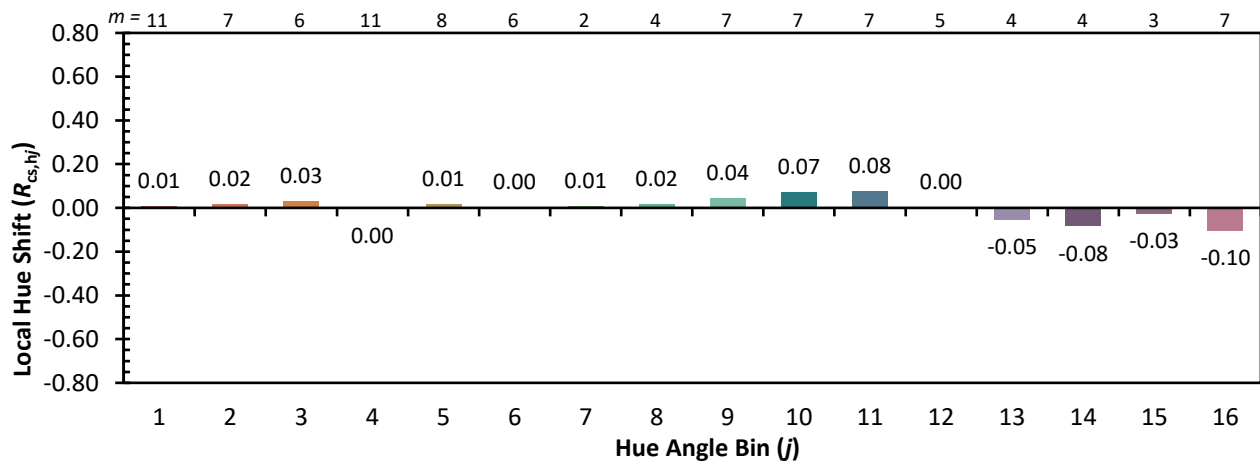
| | | | |
|------------|------------|------------|------------|
| CES01 = 86 | CES26 = 96 | CES51 = 95 | CES76 = 92 |
| CES02 = 63 | CES27 = 91 | CES52 = 98 | CES77 = 90 |
| CES03 = 32 | CES28 = 98 | CES53 = 96 | CES78 = 90 |
| CES04 = 70 | CES29 = 95 | CES54 = 92 | CES79 = 94 |
| CES05 = 51 | CES30 = 89 | CES55 = 91 | CES80 = 93 |
| CES06 = 51 | CES31 = 96 | CES56 = 93 | CES81 = 84 |
| CES07 = 43 | CES32 = 94 | CES57 = 91 | CES82 = 97 |
| CES08 = 42 | CES33 = 95 | CES58 = 92 | CES83 = 96 |
| CES09 = 29 | CES34 = 98 | CES59 = 97 | CES84 = 95 |
| CES10 = 76 | CES35 = 98 | CES60 = 93 | CES85 = 83 |
| CES11 = 59 | CES36 = 82 | CES61 = 93 | CES86 = 85 |
| CES12 = 65 | CES37 = 97 | CES62 = 86 | CES87 = 93 |
| CES13 = 44 | CES38 = 85 | CES63 = 93 | CES88 = 96 |
| CES14 = 74 | CES39 = 98 | CES64 = 90 | CES89 = 87 |
| CES15 = 72 | CES40 = 98 | CES65 = 90 | CES90 = 94 |
| CES16 = 48 | CES41 = 95 | CES66 = 88 | CES91 = 78 |
| CES17 = 50 | CES42 = 98 | CES67 = 88 | CES92 = 81 |
| CES18 = 57 | CES43 = 98 | CES68 = 90 | CES93 = 88 |
| CES19 = 72 | CES44 = 99 | CES69 = 91 | CES94 = 82 |
| CES20 = 67 | CES45 = 99 | CES70 = 89 | CES95 = 86 |
| CES21 = 86 | CES46 = 97 | CES71 = 85 | CES96 = 93 |
| CES22 = 79 | CES47 = 93 | CES72 = 95 | CES97 = 97 |
| CES23 = 92 | CES48 = 89 | CES73 = 86 | CES98 = 94 |
| CES24 = 91 | CES49 = 98 | CES74 = 91 | CES99 = 91 |
| CES25 = 72 | CES50 = 96 | CES75 = 87 | |



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Color Rendition by Hue-Angle Bin



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Measure Comparisons



(END OF REPORT)