

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: NEO-RAY

Report Number: P1033496

Luminaire Tested: S124DIW-B350D470UB50-4F0-XX-W2A-D

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1033496  
REPORT IS A COMBINATION OF REPORTS P997537 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124DIW-B350D470UB50-4F0-XX-W2A-D  
Description: Define 4 Direct/Indirect Wall Mount with 5000K BioUP LEDs {m-DER=1.015} {m-EER=1.115}  
Light Source: -  
Ballast/Driver: -

**Summary**

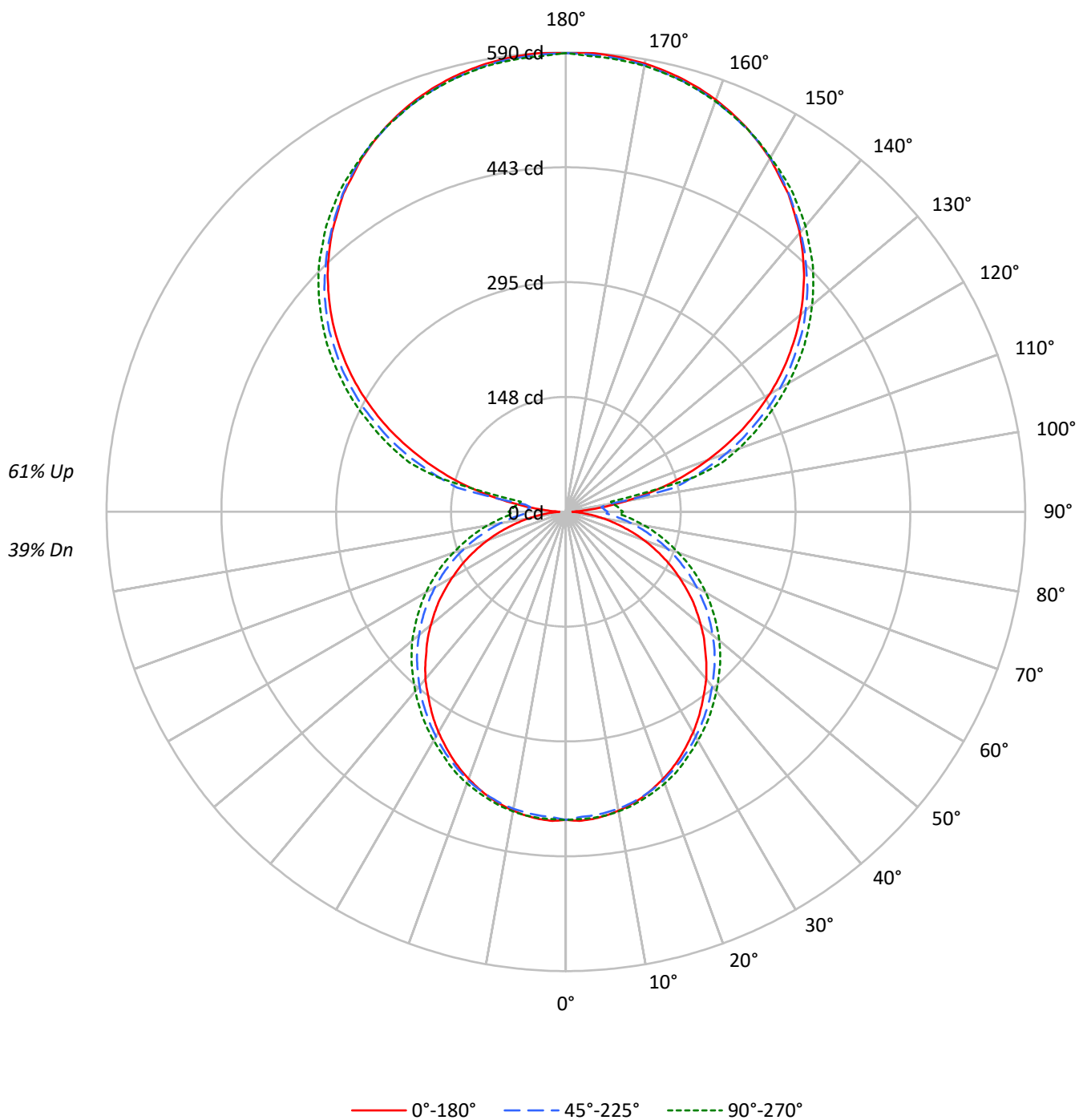
Lumens per Lamp: N/A  
Luminaire Lumens: 3173.0 lumens  
Efficiency: N/A  
Efficacy: 121.1 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 26.2  
Input Voltage (V):  
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

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### Luminous Intensity Polar Plot



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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 | 30 | 10 |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 105 | 105 | 105 | 105 | 95 | 95 | 95 | 95 | 77 | 77 | 77 | 61 | 61 | 61 | 46 | 46 | 46 |
| 1   | 95  | 90  | 86  | 82  | 86 | 82 | 78 | 75 | 67 | 64 | 62 | 53 | 51 | 49 | 40 | 39 | 38 |
| 2   | 86  | 78  | 72  | 66  | 78 | 71 | 66 | 61 | 58 | 54 | 50 | 46 | 43 | 40 | 34 | 33 | 31 |
| 3   | 78  | 68  | 61  | 55  | 70 | 62 | 56 | 50 | 51 | 46 | 42 | 40 | 37 | 34 | 30 | 28 | 26 |
| 4   | 71  | 60  | 52  | 46  | 64 | 55 | 48 | 42 | 45 | 40 | 35 | 36 | 32 | 29 | 27 | 24 | 22 |
| 5   | 65  | 53  | 45  | 39  | 59 | 49 | 42 | 36 | 40 | 35 | 30 | 32 | 28 | 25 | 24 | 21 | 19 |
| 6   | 60  | 48  | 40  | 34  | 54 | 44 | 36 | 31 | 36 | 30 | 26 | 29 | 25 | 21 | 22 | 19 | 17 |
| 7   | 55  | 43  | 35  | 29  | 50 | 39 | 32 | 27 | 32 | 27 | 23 | 26 | 22 | 19 | 20 | 17 | 15 |
| 8   | 51  | 39  | 31  | 26  | 46 | 36 | 29 | 24 | 29 | 24 | 20 | 24 | 20 | 17 | 18 | 15 | 13 |
| 9   | 48  | 35  | 28  | 23  | 43 | 32 | 26 | 21 | 27 | 22 | 18 | 22 | 18 | 15 | 17 | 14 | 12 |
| 10  | 44  | 32  | 25  | 20  | 40 | 30 | 23 | 19 | 25 | 20 | 16 | 20 | 16 | 13 | 15 | 13 | 11 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3227 | 3227 | 3227 |
| 5°  | 3235 | 3143 | 3148 |
| 10° | 3214 | 3081 | 3072 |
| 15° | 3184 | 3011 | 2986 |
| 20° | 3140 | 2936 | 2902 |
| 25° | 3090 | 2853 | 2812 |
| 30° | 3035 | 2770 | 2720 |
| 35° | 2974 | 2686 | 2638 |
| 40° | 2925 | 2605 | 2554 |
| 45° | 2851 | 2530 | 2478 |
| 50° | 2789 | 2444 | 2399 |
| 55° | 2725 | 2361 | 2308 |
| 60° | 2625 | 2258 | 2222 |
| 65° | 2516 | 2147 | 2119 |
| 70° | 2383 | 2020 | 2000 |
| 75° | 2196 | 1878 | 1887 |
| 80° | 1987 | 1734 | 1769 |
| 85° | 1710 | 1589 | 1673 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 2851 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 37.5   | 1.2       |
| 10°-20°   | 107.4  | 3.4       |
| 20°-30°   | 162.4  | 5.1       |
| 30°-40°   | 196.5  | 6.2       |
| 40°-50°   | 207.7  | 6.5       |
| 50°-60°   | 195.5  | 6.2       |
| 60°-70°   | 162.2  | 5.1       |
| 70°-80°   | 113.8  | 3.6       |
| 80°-90°   | 65.4   | 2.1       |
| 90°-100°  | 57.8   | 1.8       |
| 100°-110° | 157.1  | 5.0       |
| 110°-120° | 264.9  | 8.3       |
| 120°-130° | 322.9  | 10.2      |
| 130°-140° | 338.6  | 10.7      |
| 140°-150° | 313.2  | 9.9       |
| 150°-160° | 251.8  | 7.9       |
| 160°-170° | 162.4  | 5.1       |
| 170°-180° | 56.0   | 1.8       |
| 0°-30°    | 307.3  | 9.7       |
| 0°-40°    | 503.8  | 15.9      |
| 0°-60°    | 907.0  | 28.6      |
| 0°-90°    | 1248.5 | 39.3      |
| 90°-120°  | 479.7  | 15.1      |
| 90°-150°  | 1454.3 | 45.8      |
| 90°-180°  | 1925.0 | 60.7      |
| 0°-180°   | 3173.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 396 | 396   | 396 | 396   | 396 |      |
| 5°   | 396 | 395   | 392 | 395   | 395 | 38   |
| 15°  | 380 | 380   | 379 | 383   | 382 | 107  |
| 25°  | 347 | 350   | 351 | 356   | 357 | 160  |
| 35°  | 304 | 309   | 314 | 320   | 321 | 190  |
| 45°  | 253 | 262   | 270 | 278   | 280 | 196  |
| 55°  | 198 | 208   | 221 | 230   | 233 | 177  |
| 65°  | 137 | 152   | 167 | 178   | 181 | 136  |
| 75°  | 76  | 93    | 111 | 124   | 128 | 81   |
| 85°  | 24  | 42    | 62  | 75    | 80  | 24   |
| 90°  | 8   | 31    | 54  | 69    | 74  | 6    |
| 95°  | 30  | 30    | 48  | 63    | 67  | 34   |
| 105° | 137 | 148   | 167 | 182   | 170 | 143  |
| 115° | 250 | 256   | 269 | 280   | 283 | 247  |
| 125° | 350 | 351   | 361 | 371   | 374 | 313  |
| 135° | 433 | 432   | 437 | 445   | 449 | 334  |
| 145° | 498 | 499   | 499 | 502   | 505 | 311  |
| 155° | 546 | 546   | 545 | 547   | 545 | 252  |
| 165° | 576 | 574   | 574 | 577   | 573 | 163  |
| 175° | 589 | 586   | 587 | 591   | 586 | 56   |
| 180° | 589 | 589   | 589 | 589   | 589 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 395.7 | 395.7 | 395.7 | 395.7 | 395.7 |
| 2.5°   | 397.4 | 396.1 | 392.6 | 395.7 | 395.2 |
| 5°     | 396.1 | 394.8 | 391.7 | 395.2 | 394.8 |
| 7.5°   | 393.5 | 392.6 | 389.9 | 393.9 | 393.5 |
| 10°    | 389.9 | 389.5 | 387.3 | 391.2 | 390.8 |
| 12.5°  | 385.0 | 385.0 | 383.7 | 387.3 | 387.3 |
| 15°    | 379.7 | 380.2 | 378.8 | 382.8 | 382.4 |
| 17.5°  | 372.6 | 374.0 | 373.5 | 377.5 | 377.1 |
| 20°    | 365.1 | 366.4 | 366.9 | 371.3 | 371.3 |
| 22.5°  | 356.7 | 358.5 | 359.3 | 363.8 | 364.7 |
| 25°    | 347.4 | 350.0 | 351.4 | 356.2 | 356.7 |
| 27.5°  | 337.2 | 341.2 | 342.9 | 347.4 | 347.8 |
| 30°    | 327.0 | 330.5 | 333.6 | 338.5 | 339.4 |
| 32.5°  | 315.9 | 320.3 | 323.9 | 329.7 | 330.5 |
| 35°    | 304.0 | 309.3 | 313.7 | 319.9 | 321.2 |
| 37.5°  | 292.0 | 298.2 | 303.5 | 309.7 | 311.0 |
| 40°    | 280.5 | 286.2 | 292.4 | 299.1 | 300.9 |
| 42.5°  | 267.2 | 273.8 | 281.4 | 288.9 | 290.2 |
| 45°    | 253.4 | 261.9 | 270.3 | 277.8 | 280.0 |
| 47.5°  | 240.6 | 249.0 | 258.8 | 266.3 | 268.9 |
| 50°    | 226.4 | 236.2 | 245.9 | 254.8 | 257.4 |
| 52.5°  | 212.2 | 222.0 | 233.5 | 242.4 | 245.0 |
| 55°    | 198.5 | 207.8 | 221.1 | 230.0 | 232.6 |
| 57.5°  | 183.0 | 194.5 | 207.4 | 218.0 | 220.2 |
| 60°    | 167.9 | 179.4 | 194.1 | 204.3 | 207.8 |
| 62.5°  | 153.3 | 166.2 | 180.8 | 191.0 | 194.5 |
| 65°    | 137.4 | 151.5 | 166.6 | 177.7 | 181.2 |
| 67.5°  | 122.3 | 137.4 | 153.3 | 164.4 | 167.9 |
| 70°    | 106.8 | 121.8 | 138.7 | 150.6 | 153.7 |
| 72.5°  | 91.7  | 107.2 | 125.4 | 136.9 | 140.5 |
| 75°    | 76.2  | 92.6  | 111.2 | 123.6 | 127.6 |
| 77.5°  | 61.6  | 78.9  | 98.4  | 110.8 | 115.2 |
| 80°    | 48.3  | 66.0  | 85.5  | 98.8  | 102.4 |
| 82.5°  | 35.0  | 53.6  | 73.1  | 86.8  | 90.8  |
| 85°    | 23.5  | 42.1  | 62.0  | 75.3  | 79.8  |
| 87.5°  | 14.6  | 32.8  | 52.3  | 65.1  | 69.1  |
| 90°    | 8.4   | 31.0  | 53.6  | 69.0  | 73.5  |
| 92.5°  | 13.2  | 27.9  | 50.5  | 65.5  | 69.1  |
| 95°    | 30.0  | 29.7  | 48.2  | 62.8  | 67.3  |
| 97.5°  | 51.6  | 74.2  | 46.0  | 59.8  | 64.1  |
| 100°   | 77.2  | 96.6  | 53.1  | 57.5  | 61.0  |
| 102.5° | 106.2 | 121.2 | 143.4 | 55.8  | 59.3  |
| 105°   | 136.6 | 148.1 | 166.7 | 181.7 | 169.5 |
| 107.5° | 165.3 | 174.1 | 192.7 | 206.0 | 210.8 |
| 110°   | 193.8 | 201.4 | 219.6 | 230.6 | 235.5 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 221.6 | 229.6 | 245.1 | 254.4 | 259.7 |
| 115°   | 250.3 | 255.5 | 269.3 | 280.0 | 283.1 |
| 117.5° | 276.3 | 280.7 | 295.3 | 304.1 | 307.7 |
| 120°   | 302.2 | 305.3 | 317.8 | 327.5 | 330.2 |
| 122.5° | 326.9 | 327.8 | 340.7 | 349.9 | 352.1 |
| 125°   | 349.9 | 351.1 | 361.3 | 371.1 | 374.2 |
| 127.5° | 372.3 | 372.3 | 383.4 | 390.9 | 393.6 |
| 130°   | 393.4 | 393.5 | 401.9 | 410.3 | 412.9 |
| 132.5° | 413.3 | 413.7 | 420.8 | 428.7 | 431.0 |
| 135°   | 432.7 | 432.2 | 437.1 | 445.1 | 448.6 |
| 137.5° | 450.3 | 449.8 | 453.8 | 461.4 | 463.1 |
| 140°   | 467.5 | 467.9 | 469.2 | 476.3 | 479.0 |
| 142.5° | 482.4 | 484.2 | 484.2 | 490.0 | 491.7 |
| 145°   | 498.3 | 499.2 | 499.2 | 502.3 | 504.9 |
| 147.5° | 510.6 | 512.8 | 512.4 | 513.2 | 515.5 |
| 150°   | 524.3 | 525.6 | 525.2 | 525.2 | 525.6 |
| 152.5° | 535.3 | 536.6 | 535.8 | 536.6 | 536.2 |
| 155°   | 545.9 | 546.3 | 545.0 | 546.8 | 545.4 |
| 157.5° | 555.1 | 555.1 | 553.4 | 555.6 | 553.4 |
| 160°   | 563.1 | 561.8 | 561.3 | 564.0 | 561.3 |
| 162.5° | 570.1 | 568.4 | 567.9 | 570.6 | 567.5 |
| 165°   | 575.9 | 573.6 | 573.6 | 577.2 | 573.2 |
| 167.5° | 580.7 | 578.5 | 578.1 | 582.0 | 577.6 |
| 170°   | 584.7 | 582.0 | 582.5 | 586.0 | 581.6 |
| 172.5° | 587.3 | 584.7 | 585.1 | 588.6 | 583.8 |
| 175°   | 589.1 | 586.4 | 586.9 | 590.8 | 585.5 |
| 177.5° | 590.4 | 587.3 | 588.2 | 591.7 | 586.4 |
| 180°   | 589.1 | 589.1 | 589.1 | 589.1 | 589.1 |

(END OF REPORT)