

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: P1011840

Luminaire Tested: S123DIP-B560D585UB40-4F0-XX-W2A-D4

Issue Date: 5/6/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1011840  
REPORT IS A COMBINATION OF REPORTS P990146 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/6/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DIP-B560D585UB40-4F0-XX-W2A-D4  
Description: Define 3 Direct/Indirect Pendant with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

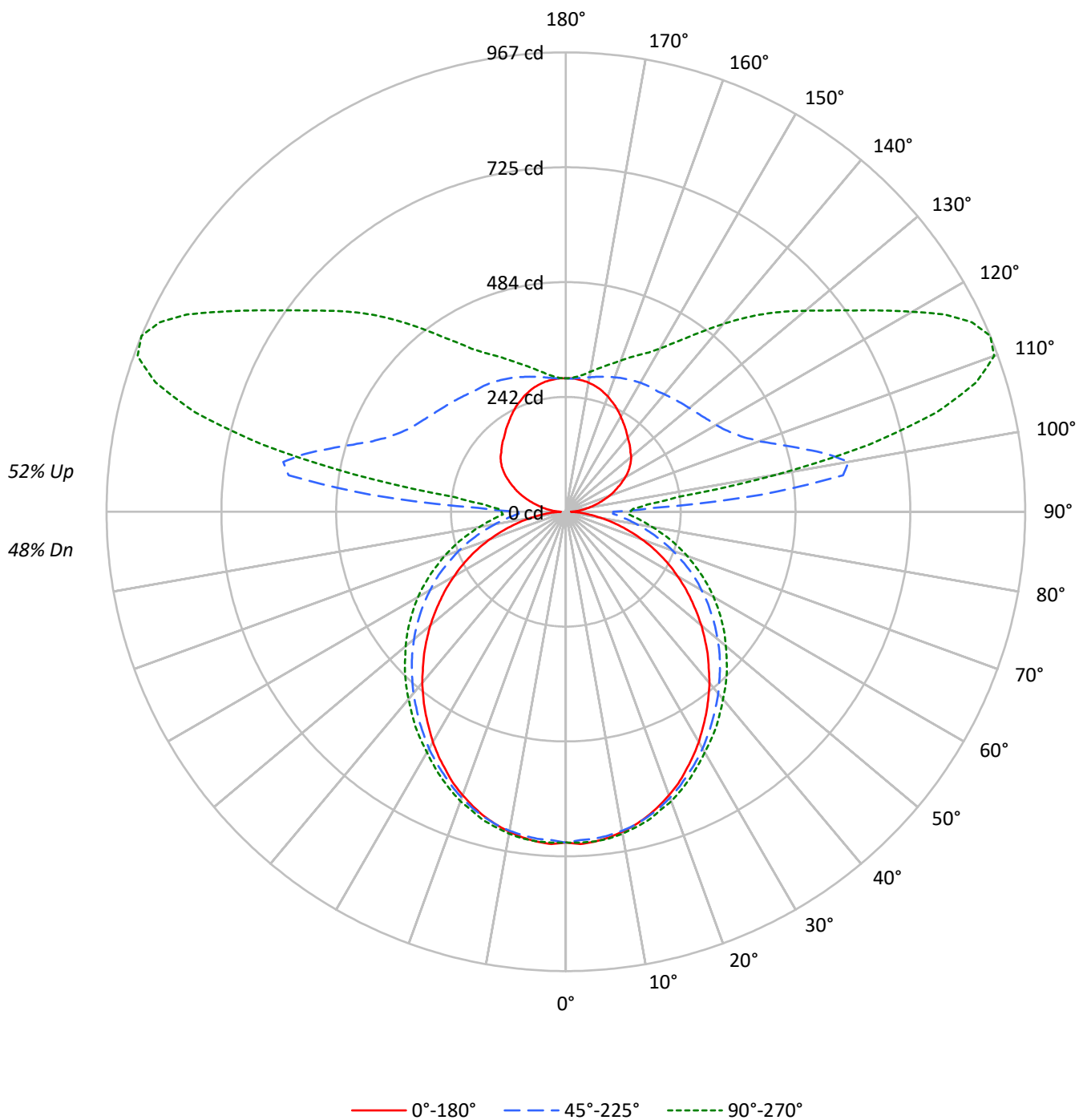
Lumens per Lamp: N/A  
Luminaire Lumens: 4457.9 lumens  
Efficiency: N/A  
Efficacy: 113.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.1')  
CIE Type: General Diffuse

Input Watts (W): 39.4  
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   | 107 | 107 | 107 | 107 | 98 | 98 | 98 | 98 | 82 | 82 | 82 | 68 | 68 | 68 | 54 | 54 | 54 |
| 1   | 96  | 92  | 87  | 83  | 88 | 84 | 81 | 77 | 71 | 68 | 65 | 58 | 56 | 54 | 46 | 45 | 44 |
| 2   | 87  | 79  | 73  | 67  | 80 | 73 | 67 | 63 | 61 | 57 | 53 | 50 | 47 | 45 | 40 | 38 | 36 |
| 3   | 79  | 69  | 62  | 56  | 73 | 64 | 57 | 52 | 54 | 49 | 44 | 44 | 40 | 37 | 35 | 33 | 30 |
| 4   | 72  | 61  | 53  | 47  | 66 | 57 | 49 | 44 | 48 | 42 | 38 | 39 | 35 | 32 | 31 | 28 | 26 |
| 5   | 66  | 54  | 46  | 40  | 61 | 50 | 43 | 37 | 42 | 37 | 32 | 35 | 31 | 27 | 28 | 25 | 22 |
| 6   | 61  | 49  | 40  | 34  | 56 | 45 | 38 | 32 | 38 | 32 | 28 | 32 | 27 | 24 | 26 | 22 | 20 |
| 7   | 56  | 44  | 36  | 30  | 52 | 41 | 33 | 28 | 34 | 29 | 25 | 29 | 24 | 21 | 23 | 20 | 17 |
| 8   | 52  | 40  | 32  | 26  | 48 | 37 | 30 | 25 | 31 | 26 | 22 | 26 | 22 | 19 | 21 | 18 | 15 |
| 9   | 49  | 36  | 29  | 23  | 45 | 34 | 27 | 22 | 29 | 23 | 19 | 24 | 20 | 17 | 20 | 16 | 14 |
| 10  | 45  | 33  | 26  | 21  | 42 | 31 | 24 | 20 | 26 | 21 | 17 | 22 | 18 | 15 | 18 | 15 | 13 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7495 | 7495 | 7495 |
| 5°  | 7515 | 7275 | 7269 |
| 10° | 7444 | 7078 | 7023 |
| 15° | 7347 | 6860 | 6764 |
| 20° | 7206 | 6618 | 6484 |
| 25° | 7034 | 6344 | 6195 |
| 30° | 6858 | 6097 | 5905 |
| 35° | 6661 | 5837 | 5668 |
| 40° | 6471 | 5601 | 5418 |
| 45° | 6263 | 5371 | 5212 |
| 50° | 6056 | 5144 | 4988 |
| 55° | 5827 | 4910 | 4783 |
| 60° | 5602 | 4671 | 4572 |
| 65° | 5371 | 4417 | 4325 |
| 70° | 5027 | 4132 | 4071 |
| 75° | 4588 | 3807 | 3809 |
| 80° | 4077 | 3477 | 3510 |
| 85° | 3573 | 3211 | 3296 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6263 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 66.0   | 1.5       |
| 10°-20°   | 188.3  | 4.2       |
| 20°-30°   | 281.6  | 6.3       |
| 30°-40°   | 336.2  | 7.5       |
| 40°-50°   | 351.8  | 7.9       |
| 50°-60°   | 330.1  | 7.4       |
| 60°-70°   | 275.7  | 6.2       |
| 70°-80°   | 197.1  | 4.4       |
| 80°-90°   | 118.9  | 2.7       |
| 90°-100°  | 233.2  | 5.2       |
| 100°-110° | 500.0  | 11.2      |
| 110°-120° | 470.9  | 10.6      |
| 120°-130° | 366.8  | 8.2       |
| 130°-140° | 282.5  | 6.3       |
| 140°-150° | 205.8  | 4.6       |
| 150°-160° | 142.2  | 3.2       |
| 160°-170° | 83.5   | 1.9       |
| 170°-180° | 27.2   | 0.6       |
| 0°-30°    | 535.9  | 12.0      |
| 0°-40°    | 872.1  | 19.6      |
| 0°-60°    | 1553.9 | 34.9      |
| 0°-90°    | 2145.7 | 48.1      |
| 90°-120°  | 1204.2 | 27.0      |
| 90°-150°  | 2059.3 | 46.2      |
| 90°-180°  | 2312.0 | 51.9      |
| 0°-180°   | 4457.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 696 | 696   | 696 | 696   | 696 |      |
| 5°   | 697 | 696   | 691 | 697   | 696 | 66   |
| 15°  | 664 | 666   | 665 | 673   | 672 | 187  |
| 25°  | 599 | 607   | 609 | 619   | 619 | 276  |
| 35°  | 516 | 528   | 538 | 549   | 552 | 323  |
| 45°  | 422 | 440   | 459 | 473   | 479 | 325  |
| 55°  | 322 | 347   | 374 | 394   | 400 | 288  |
| 65°  | 222 | 252   | 285 | 308   | 316 | 220  |
| 75°  | 121 | 156   | 194 | 219   | 228 | 129  |
| 85°  | 37  | 75    | 115 | 141   | 149 | 38   |
| 90°  | 11  | 54    | 100 | 127   | 136 | 9    |
| 95°  | 28  | 101   | 412 | 197   | 172 | 27   |
| 105° | 72  | 122   | 514 | 877   | 808 | 76   |
| 115° | 120 | 158   | 390 | 825   | 944 | 119  |
| 125° | 164 | 194   | 350 | 631   | 739 | 146  |
| 135° | 191 | 227   | 331 | 510   | 588 | 148  |
| 145° | 217 | 248   | 318 | 405   | 448 | 136  |
| 155° | 246 | 265   | 307 | 349   | 364 | 113  |
| 165° | 269 | 276   | 294 | 312   | 318 | 76   |
| 175° | 280 | 280   | 282 | 286   | 286 | 27   |
| 180° | 281 | 281   | 281 | 281   | 281 |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 696.3 | 696.3 | 696.3 | 696.3 | 696.3 |
| 2.5°   | 700.1 | 697.8 | 691.7 | 697.8 | 697.0 |
| 5°     | 697.0 | 695.5 | 691.0 | 697.0 | 696.3 |
| 7.5°   | 691.7 | 691.7 | 687.2 | 694.7 | 694.0 |
| 10°    | 684.1 | 685.6 | 681.9 | 689.4 | 687.9 |
| 12.5°  | 675.0 | 677.3 | 675.0 | 681.9 | 680.3 |
| 15°    | 663.7 | 665.9 | 665.2 | 672.8 | 672.0 |
| 17.5°  | 650.0 | 654.6 | 653.8 | 660.6 | 659.1 |
| 20°    | 634.8 | 639.4 | 640.9 | 647.7 | 648.5 |
| 22.5°  | 618.9 | 623.5 | 625.7 | 634.8 | 634.1 |
| 25°    | 599.2 | 606.8 | 609.0 | 618.9 | 618.9 |
| 27.5°  | 580.2 | 588.6 | 593.1 | 601.5 | 602.2 |
| 30°    | 559.7 | 569.6 | 575.7 | 584.8 | 584.8 |
| 32.5°  | 537.0 | 548.4 | 556.7 | 566.6 | 568.8 |
| 35°    | 515.8 | 527.9 | 537.7 | 549.1 | 552.2 |
| 37.5°  | 493.0 | 506.7 | 518.0 | 530.9 | 533.2 |
| 40°    | 470.2 | 483.9 | 499.1 | 512.0 | 515.0 |
| 42.5°  | 445.2 | 462.7 | 478.6 | 493.0 | 497.5 |
| 45°    | 421.7 | 439.9 | 458.9 | 473.3 | 479.3 |
| 47.5°  | 396.7 | 417.2 | 438.4 | 454.3 | 458.9 |
| 50°    | 372.4 | 393.6 | 417.2 | 434.6 | 439.9 |
| 52.5°  | 346.6 | 369.4 | 395.9 | 414.1 | 420.9 |
| 55°    | 321.6 | 346.6 | 373.9 | 394.4 | 400.5 |
| 57.5°  | 297.3 | 323.1 | 352.7 | 373.2 | 380.0 |
| 60°    | 271.5 | 298.8 | 329.9 | 351.2 | 359.5 |
| 62.5°  | 247.3 | 275.3 | 308.7 | 329.9 | 337.5 |
| 65°    | 222.2 | 251.8 | 285.2 | 307.9 | 315.5 |
| 67.5°  | 197.2 | 228.3 | 261.7 | 286.7 | 292.8 |
| 70°    | 170.7 | 203.3 | 239.7 | 263.9 | 271.5 |
| 72.5°  | 146.4 | 179.0 | 216.9 | 241.9 | 249.5 |
| 75°    | 120.6 | 156.2 | 194.2 | 219.2 | 228.3 |
| 77.5°  | 98.6  | 134.2 | 172.2 | 198.7 | 205.5 |
| 80°    | 75.1  | 112.3 | 151.7 | 177.5 | 185.1 |
| 82.5°  | 54.6  | 92.5  | 132.7 | 158.5 | 166.1 |
| 85°    | 37.2  | 75.1  | 115.3 | 141.1 | 148.7 |
| 87.5°  | 22.8  | 60.7  | 99.4  | 125.1 | 132.7 |
| 90°    | 11.0  | 53.8  | 99.9  | 127.4 | 135.6 |
| 92.5°  | 17.6  | 75.8  | 185.3 | 140.8 | 141.6 |
| 95°    | 27.6  | 100.7 | 412.1 | 196.9 | 172.1 |
| 97.5°  | 38.3  | 106.8 | 588.7 | 340.5 | 236.1 |
| 100°   | 48.8  | 110.4 | 604.1 | 605.0 | 451.9 |
| 102.5° | 60.1  | 115.0 | 562.6 | 775.1 | 654.5 |
| 105°   | 72.0  | 121.7 | 513.7 | 877.0 | 807.7 |
| 107.5° | 83.7  | 130.0 | 469.9 | 918.6 | 905.8 |
| 110°   | 96.7  | 138.6 | 433.8 | 915.5 | 959.6 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 112.5° | 109.2 | 147.8 | 407.7 | 878.1 | 967.0 |
| 115°   | 120.3 | 158.1 | 389.7 | 824.6 | 943.5 |
| 117.5° | 132.2 | 167.0 | 375.4 | 767.9 | 899.2 |
| 120°   | 143.9 | 175.8 | 365.4 | 713.8 | 841.6 |
| 122.5° | 154.7 | 185.0 | 357.7 | 670.3 | 788.2 |
| 125°   | 164.2 | 193.5 | 350.5 | 631.2 | 738.7 |
| 127.5° | 172.2 | 203.0 | 345.0 | 598.2 | 695.6 |
| 130°   | 179.6 | 212.0 | 339.4 | 567.5 | 658.4 |
| 132.5° | 184.5 | 220.3 | 335.1 | 538.4 | 623.4 |
| 135°   | 191.3 | 227.2 | 330.7 | 509.5 | 588.5 |
| 137.5° | 197.5 | 233.5 | 326.6 | 481.0 | 552.7 |
| 140°   | 203.1 | 239.2 | 322.9 | 453.9 | 516.0 |
| 142.5° | 209.9 | 243.4 | 318.8 | 428.1 | 480.8 |
| 145°   | 217.3 | 248.0 | 317.6 | 405.2 | 448.3 |
| 147.5° | 223.9 | 252.8 | 315.9 | 386.7 | 420.7 |
| 150°   | 231.3 | 256.8 | 313.7 | 371.3 | 396.4 |
| 152.5° | 238.7 | 261.1 | 310.8 | 360.0 | 377.9 |
| 155°   | 246.0 | 265.4 | 307.4 | 349.4 | 364.2 |
| 157.5° | 251.7 | 269.0 | 304.6 | 339.2 | 351.2 |
| 160°   | 258.5 | 272.2 | 301.2 | 329.8 | 338.7 |
| 162.5° | 263.7 | 274.4 | 297.7 | 321.0 | 327.3 |
| 165°   | 268.8 | 276.4 | 294.3 | 312.2 | 317.6 |
| 167.5° | 272.7 | 278.2 | 290.9 | 304.5 | 308.0 |
| 170°   | 276.2 | 279.0 | 287.5 | 297.8 | 299.5 |
| 172.5° | 278.4 | 279.8 | 284.7 | 291.8 | 291.5 |
| 175°   | 280.1 | 280.4 | 282.4 | 286.4 | 285.8 |
| 177.5° | 281.3 | 280.7 | 280.7 | 283.0 | 281.8 |
| 180°   | 280.7 | 280.7 | 280.7 | 280.7 | 280.7 |

(END OF REPORT)