

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: P999590

Luminaire Tested: SA2XXRDIP-B290D725UB27-4F0-XX-W2A-F4

Issue Date: 5/7/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P999590  
REPORT IS A COMBINATION OF REPORTS P988143 AND P1007351  
Test Lab: INNOVATION CENTER  
Issue Date: 5/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-B290D725UB27-4F0-XX-W2A-F4  
Description: Define 2 Regressed Direct/Indirect Pendant with 2700K BioUP LEDs {m-DER=0.473}  
{m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

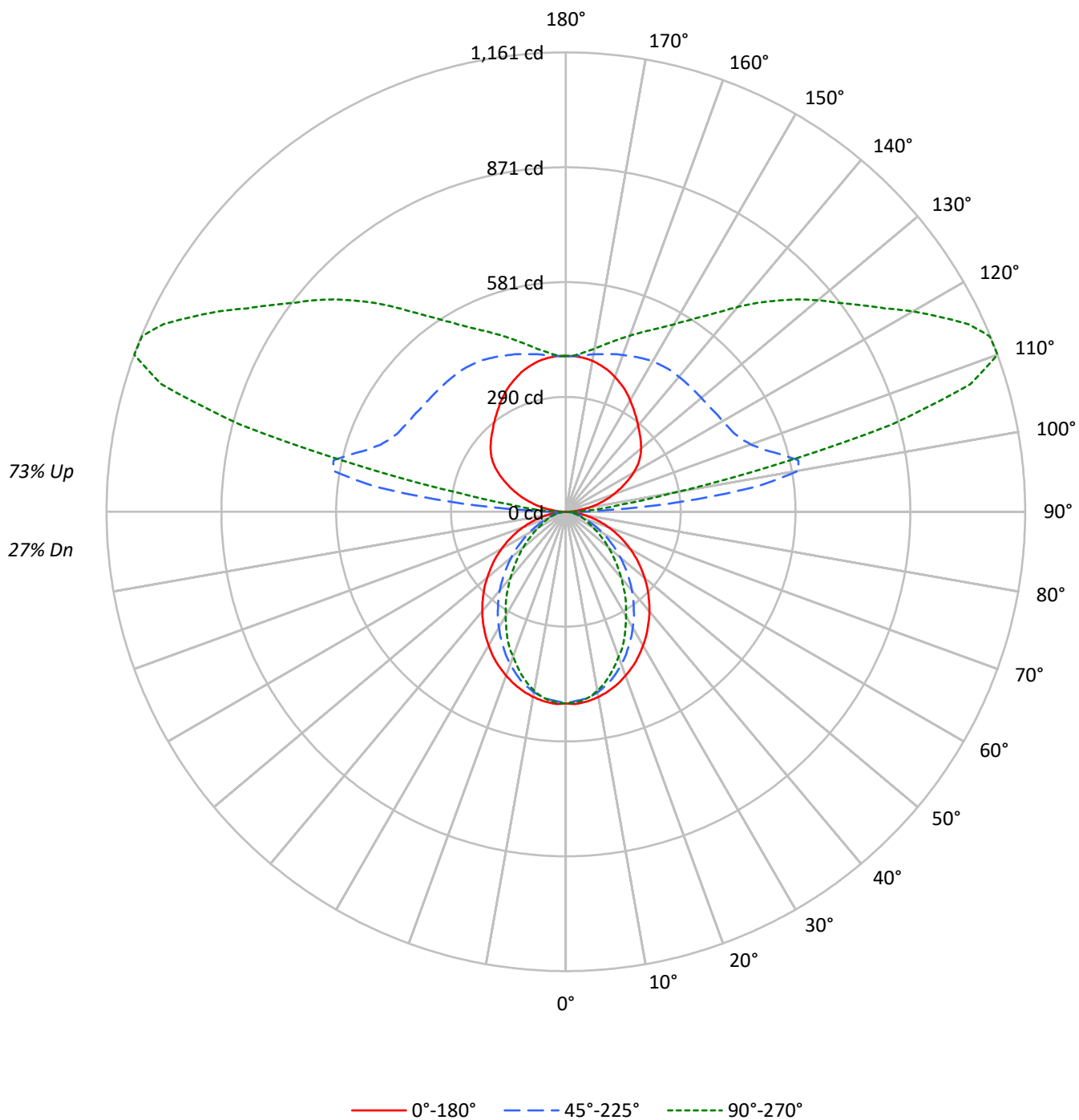
Lumens per Lamp: N/A  
Luminaire Lumens: 3742.1 lumens  
Efficiency: N/A  
Efficacy: 109.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.1')  
CIE Type: Semi-Indirect

Input Watts (W): 34.1  
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 |    |    |    |    | 0  |
| RW  | 70  | 50  | 30  | 10  | 70 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 | 50 | 30 | 10 |
| RCR |     |     |     |     |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| 0   | 102 | 102 | 102 | 102 | 91 | 91 | 91 | 91 | 70 | 70 | 70 | 52 | 52 | 52 | 35 | 35 | 35 | 27 |    |    |
| 1   | 93  | 89  | 85  | 82  | 83 | 79 | 76 | 74 | 62 | 60 | 58 | 46 | 45 | 43 | 31 | 30 | 30 | 23 |    |    |
| 2   | 85  | 78  | 72  | 67  | 75 | 70 | 65 | 61 | 54 | 51 | 48 | 41 | 38 | 37 | 28 | 26 | 25 | 20 |    |    |
| 3   | 77  | 68  | 62  | 56  | 69 | 61 | 56 | 51 | 48 | 44 | 41 | 36 | 33 | 31 | 25 | 23 | 22 | 17 |    |    |
| 4   | 71  | 61  | 53  | 48  | 63 | 55 | 48 | 43 | 43 | 38 | 35 | 32 | 29 | 27 | 22 | 20 | 19 | 15 |    |    |
| 5   | 65  | 54  | 46  | 41  | 58 | 49 | 42 | 37 | 38 | 34 | 30 | 29 | 26 | 23 | 20 | 18 | 17 | 13 |    |    |
| 6   | 60  | 48  | 41  | 35  | 53 | 44 | 37 | 32 | 35 | 30 | 26 | 26 | 23 | 21 | 18 | 16 | 15 | 12 |    |    |
| 7   | 55  | 44  | 36  | 31  | 49 | 39 | 33 | 28 | 31 | 27 | 23 | 24 | 21 | 18 | 17 | 15 | 13 | 10 |    |    |
| 8   | 51  | 40  | 32  | 27  | 46 | 36 | 29 | 25 | 29 | 24 | 21 | 22 | 19 | 16 | 15 | 13 | 12 | 9  |    |    |
| 9   | 48  | 36  | 29  | 24  | 43 | 33 | 26 | 22 | 26 | 22 | 18 | 20 | 17 | 15 | 14 | 12 | 11 | 8  |    |    |
| 10  | 44  | 33  | 26  | 21  | 40 | 30 | 24 | 20 | 24 | 20 | 16 | 18 | 15 | 13 | 13 | 11 | 10 | 8  |    |    |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7666 | 7666 | 7666 |
| 5°  | 7679 | 7293 | 7239 |
| 10° | 7603 | 6918 | 6689 |
| 15° | 7498 | 6473 | 6062 |
| 20° | 7360 | 5968 | 5406 |
| 25° | 7218 | 5451 | 4805 |
| 30° | 7029 | 4945 | 4151 |
| 35° | 6843 | 4437 | 3587 |
| 40° | 6653 | 3938 | 3008 |
| 45° | 6432 | 3421 | 2502 |
| 50° | 6206 | 2924 | 2037 |
| 55° | 5969 | 2427 | 1617 |
| 60° | 5693 | 1942 | 1223 |
| 65° | 5375 | 1481 | 994  |
| 70° | 4993 | 1073 | 791  |
| 75° | 4509 | 820  | 605  |
| 80° | 3816 | 553  | 406  |
| 85° | 2656 | 253  | 195  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 6432 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 45.4   | 1.2       |
| 10°-20°   | 124.6  | 3.3       |
| 20°-30°   | 174.9  | 4.7       |
| 30°-40°   | 190.7  | 5.1       |
| 40°-50°   | 175.3  | 4.7       |
| 50°-60°   | 137.6  | 3.7       |
| 60°-70°   | 89.6   | 2.4       |
| 70°-80°   | 46.1   | 1.2       |
| 80°-90°   | 14.3   | 0.4       |
| 90°-100°  | 159.5  | 4.3       |
| 100°-110° | 539.3  | 14.4      |
| 110°-120° | 566.9  | 15.1      |
| 120°-130° | 466.2  | 12.5      |
| 130°-140° | 374.6  | 10.0      |
| 140°-150° | 283.0  | 7.6       |
| 150°-160° | 198.9  | 5.3       |
| 160°-170° | 117.1  | 3.1       |
| 170°-180° | 38.1   | 1.0       |
| 0°-30°    | 344.9  | 9.2       |
| 0°-40°    | 535.6  | 14.3      |
| 0°-60°    | 848.5  | 22.7      |
| 0°-90°    | 998.5  | 26.7      |
| 90°-120°  | 1265.7 | 33.8      |
| 90°-150°  | 2389.4 | 63.9      |
| 90°-180°  | 2744.0 | 73.3      |
| 0°-180°   | 3742.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90°  | Flux |
|------|-----|-------|-----|-------|------|------|
| 0°   | 484 | 484   | 484 | 484   | 484  |      |
| 5°   | 484 | 482   | 476 | 480   | 479  | 46   |
| 15°  | 461 | 456   | 441 | 433   | 428  | 130  |
| 25°  | 418 | 404   | 375 | 357   | 351  | 192  |
| 35°  | 360 | 338   | 299 | 272   | 262  | 225  |
| 45°  | 294 | 265   | 219 | 188   | 178  | 227  |
| 55°  | 224 | 190   | 142 | 116   | 108  | 200  |
| 65°  | 151 | 116   | 76  | 61    | 60   | 150  |
| 75°  | 81  | 50    | 35  | 32    | 32   | 85   |
| 85°  | 19  | 10    | 8   | 8     | 8    | 22   |
| 90°  | 1   | 10    | 26  | 25    | 25   | 3    |
| 95°  | 26  | 65    | 297 | 112   | 86   | 27   |
| 105° | 92  | 139   | 561 | 1002  | 853  | 98   |
| 115° | 163 | 205   | 469 | 968   | 1122 | 161  |
| 125° | 227 | 269   | 451 | 784   | 910  | 202  |
| 135° | 266 | 318   | 446 | 659   | 754  | 206  |
| 145° | 304 | 350   | 444 | 551   | 602  | 191  |
| 155° | 346 | 374   | 431 | 487   | 506  | 159  |
| 165° | 377 | 388   | 412 | 437   | 444  | 106  |
| 175° | 393 | 393   | 396 | 402   | 400  | 37   |
| 180° | 394 | 394   | 394 | 394   | 394  |      |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 0°     | 484.3 | 484.3 | 484.3 | 484.3  | 484.3  |
| 2.5°   | 486.5 | 484.3 | 479.5 | 483.8  | 483.0  |
| 5°     | 484.3 | 482.1 | 476.4 | 480.3  | 479.0  |
| 7.5°   | 480.3 | 477.7 | 471.6 | 473.3  | 471.1  |
| 10°    | 475.1 | 472.0 | 463.3 | 461.9  | 459.3  |
| 12.5°  | 468.5 | 464.6 | 452.7 | 450.1  | 445.3  |
| 15°    | 460.6 | 455.8 | 440.9 | 432.6  | 428.2  |
| 17.5°  | 451.4 | 444.4 | 426.0 | 416.4  | 409.3  |
| 20°    | 440.9 | 432.1 | 410.2 | 399.3  | 389.6  |
| 22.5°  | 429.5 | 419.4 | 394.0 | 379.1  | 372.5  |
| 25°    | 418.1 | 404.1 | 375.2 | 357.2  | 350.6  |
| 27.5°  | 404.5 | 389.6 | 357.6 | 337.0  | 326.9  |
| 30°    | 390.1 | 373.4 | 338.3 | 316.0  | 304.2  |
| 32.5°  | 376.0 | 355.9 | 319.9 | 293.6  | 282.7  |
| 35°    | 360.3 | 337.9 | 299.3 | 271.7  | 262.1  |
| 37.5°  | 344.9 | 320.8 | 280.1 | 249.8  | 238.9  |
| 40°    | 328.7 | 302.4 | 259.9 | 228.8  | 217.4  |
| 42.5°  | 312.0 | 284.0 | 239.7 | 207.3  | 196.3  |
| 45°    | 294.5 | 265.2 | 219.1 | 188.0  | 177.5  |
| 47.5°  | 277.9 | 246.7 | 199.4 | 168.3  | 158.7  |
| 50°    | 259.5 | 228.3 | 180.1 | 149.9  | 140.7  |
| 52.5°  | 241.5 | 208.6 | 161.7 | 132.8  | 124.5  |
| 55°    | 224.0 | 189.8 | 142.4 | 116.1  | 107.8  |
| 57.5°  | 206.0 | 170.9 | 125.3 | 100.8  | 93.8   |
| 60°    | 187.6 | 152.5 | 107.4 | 85.0   | 78.0   |
| 62.5°  | 169.6 | 134.5 | 92.0  | 71.0   | 67.5   |
| 65°    | 151.2 | 115.7 | 76.3  | 61.4   | 60.0   |
| 67.5°  | 133.7 | 98.2  | 61.4  | 53.9   | 52.6   |
| 70°    | 115.3 | 81.1  | 50.8  | 46.5   | 44.7   |
| 72.5°  | 97.7  | 65.3  | 42.5  | 39.0   | 38.1   |
| 75°    | 80.6  | 50.0  | 35.1  | 32.0   | 31.6   |
| 77.5°  | 63.5  | 35.5  | 27.6  | 25.9   | 25.0   |
| 80°    | 47.8  | 25.4  | 21.0  | 19.3   | 19.3   |
| 82.5°  | 33.3  | 17.1  | 14.5  | 13.6   | 13.6   |
| 85°    | 18.8  | 9.6   | 8.3   | 8.3    | 8.3    |
| 87.5°  | 7.0   | 3.5   | 3.5   | 3.1    | 3.1    |
| 90°    | 0.8   | 10.2  | 25.7  | 24.6   | 25.0   |
| 92.5°  | 11.4  | 36.0  | 116.5 | 53.8   | 46.2   |
| 95°    | 26.5  | 65.1  | 296.7 | 112.0  | 86.3   |
| 97.5°  | 39.4  | 85.9  | 483.6 | 224.8  | 144.5  |
| 100°   | 58.3  | 105.2 | 597.8 | 447.6  | 270.9  |
| 102.5° | 75.7  | 122.6 | 601.6 | 756.8  | 528.2  |
| 105°   | 92.3  | 139.2 | 560.8 | 1002.3 | 852.9  |
| 107.5° | 110.5 | 155.9 | 522.9 | 1091.2 | 1071.6 |
| 110°   | 128.7 | 172.9 | 497.2 | 1076.9 | 1160.9 |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°    | 22.5° | 45°   | 67.5°  | 90°    |
|--------|-------|-------|-------|--------|--------|
| 112.5° | 145.3 | 189.2 | 480.5 | 1028.1 | 1159.4 |
| 115°   | 162.7 | 205.4 | 469.2 | 968.3  | 1122.3 |
| 117.5° | 180.9 | 221.7 | 463.1 | 911.2  | 1066.3 |
| 120°   | 197.5 | 237.6 | 457.8 | 860.0  | 1012.6 |
| 122.5° | 213.4 | 253.9 | 454.8 | 820.4  | 956.6  |
| 125°   | 227.0 | 268.6 | 451.0 | 784.4  | 910.4  |
| 127.5° | 238.4 | 282.6 | 448.8 | 753.8  | 867.3  |
| 130°   | 248.2 | 295.1 | 447.2 | 722.7  | 831.7  |
| 132.5° | 257.3 | 307.2 | 446.5 | 690.6  | 794.6  |
| 135°   | 266.4 | 317.8 | 445.7 | 659.2  | 754.5  |
| 137.5° | 274.7 | 327.0 | 445.7 | 627.3  | 715.9  |
| 140°   | 284.5 | 335.2 | 445.0 | 599.4  | 675.8  |
| 142.5° | 294.4 | 342.0 | 445.0 | 572.4  | 635.7  |
| 145°   | 304.2 | 349.6 | 443.5 | 550.6  | 602.4  |
| 147.5° | 314.8 | 355.6 | 441.2 | 531.2  | 572.9  |
| 150°   | 325.4 | 361.7 | 438.9 | 514.6  | 547.1  |
| 152.5° | 336.0 | 367.8 | 435.1 | 500.6  | 525.2  |
| 155°   | 345.8 | 373.5 | 430.6 | 487.0  | 506.3  |
| 157.5° | 354.2 | 378.0 | 426.1 | 474.1  | 489.6  |
| 160°   | 362.5 | 382.5 | 421.5 | 461.2  | 473.7  |
| 162.5° | 370.8 | 386.0 | 417.7 | 449.1  | 458.6  |
| 165°   | 376.9 | 388.2 | 412.4 | 437.4  | 444.2  |
| 167.5° | 382.2 | 390.5 | 407.9 | 426.8  | 430.6  |
| 170°   | 387.5 | 391.6 | 404.1 | 417.0  | 418.5  |
| 172.5° | 390.5 | 392.8 | 399.6 | 408.3  | 408.7  |
| 175°   | 392.8 | 393.2 | 396.5 | 401.5  | 400.3  |
| 177.5° | 394.3 | 393.5 | 393.5 | 396.5  | 394.3  |
| 180°   | 393.5 | 393.5 | 393.5 | 393.5  | 393.5  |

(END OF REPORT)