

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: P1037308

Luminaire Tested: S123DS-B340DB30-4F0-XX-W2A-D

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1037308  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-15)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/2/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123DS-B340DB30-4F0-XX-W2A-D  
Description: Define 3 Direct Surface with 3000K BioUP LEDs {m-DER=0.589} {m-EER=0.647}  
Light Source: -  
Ballast/Driver: -

**Summary**

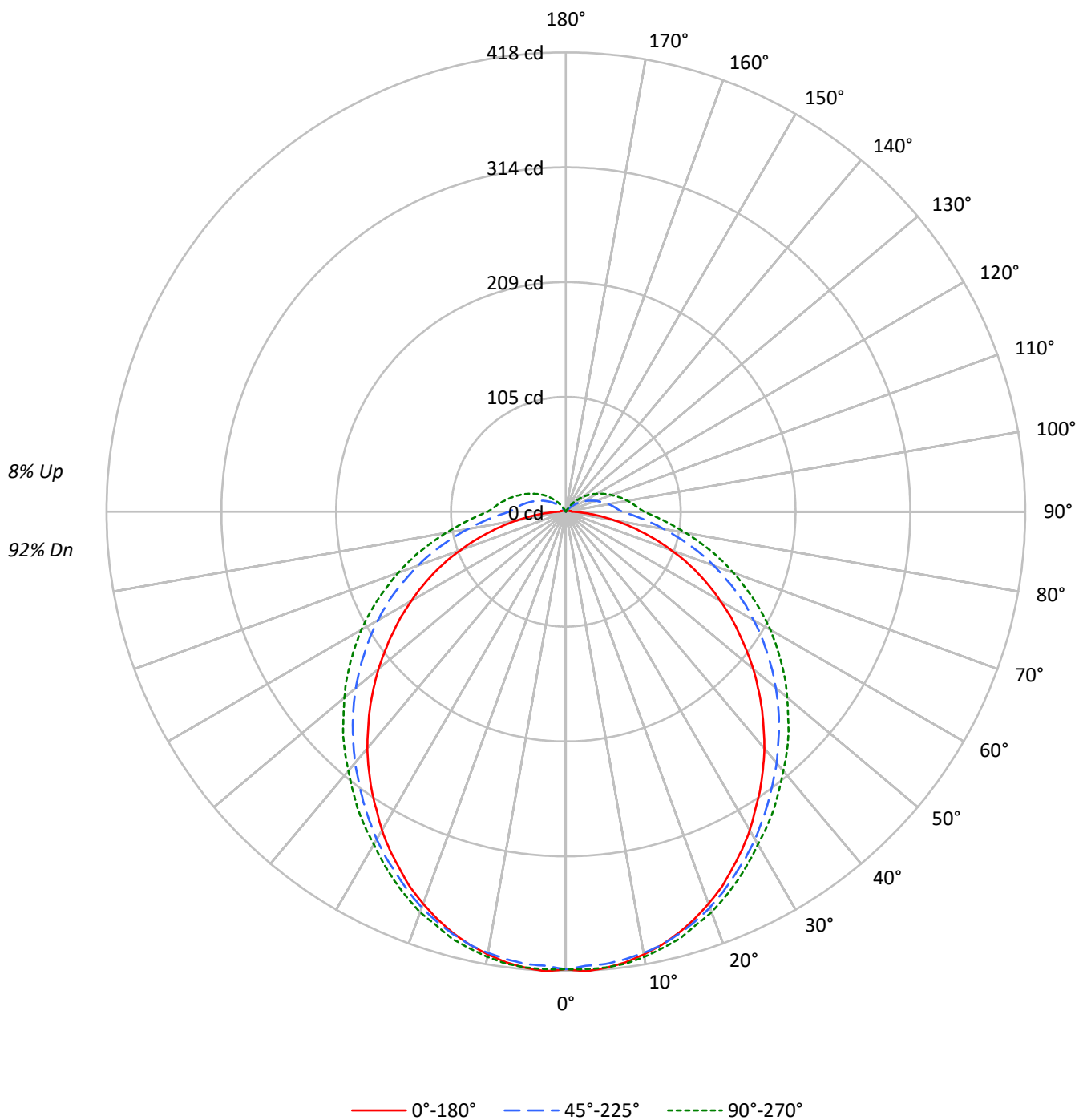
Lumens per Lamp: N/A  
Luminaire Lumens: 1399.0 lumens  
Efficiency: N/A  
Efficacy: 107.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.25 / 1.37  
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 13  
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 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |  |     |     |     |  |    |
| 0   | 117 | 117 | 117 | 117 | 113 | 113 | 113 | 113 | 106 | 106 | 106 |  | 100 | 100 | 100 |  | 94 |
| 1   | 105 | 100 | 95  | 90  | 102 | 97  | 92  | 88  | 91  | 87  | 84  |  | 85  | 82  | 80  |  | 80 |
| 2   | 95  | 86  | 79  | 72  | 92  | 83  | 77  | 71  | 79  | 73  | 68  |  | 74  | 69  | 65  |  | 70 |
| 3   | 86  | 75  | 67  | 60  | 83  | 73  | 65  | 59  | 69  | 62  | 56  |  | 65  | 59  | 54  |  | 61 |
| 4   | 79  | 66  | 57  | 50  | 76  | 64  | 56  | 49  | 61  | 54  | 48  |  | 57  | 51  | 46  |  | 54 |
| 5   | 72  | 59  | 50  | 43  | 70  | 58  | 49  | 42  | 54  | 47  | 41  |  | 52  | 45  | 40  |  | 49 |
| 6   | 67  | 53  | 44  | 37  | 64  | 52  | 43  | 37  | 49  | 42  | 36  |  | 47  | 40  | 35  |  | 44 |
| 7   | 62  | 48  | 39  | 33  | 60  | 47  | 38  | 32  | 45  | 37  | 32  |  | 42  | 36  | 31  |  | 40 |
| 8   | 58  | 44  | 35  | 29  | 56  | 43  | 35  | 29  | 41  | 33  | 28  |  | 39  | 32  | 28  |  | 37 |
| 9   | 54  | 40  | 32  | 26  | 52  | 39  | 31  | 26  | 37  | 30  | 25  |  | 36  | 29  | 25  |  | 34 |
| 10  | 50  | 37  | 29  | 24  | 49  | 36  | 29  | 24  | 35  | 28  | 23  |  | 33  | 27  | 23  |  | 32 |

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

|     | 0°   | 45°  | 90°   |
|-----|------|------|-------|
| 0°  | 4481 | 4481 | 4481  |
| 5°  | 4502 | 4464 | 4498  |
| 10° | 4470 | 4456 | 4495  |
| 15° | 4422 | 4432 | 4478  |
| 20° | 4347 | 4389 | 4441  |
| 25° | 4254 | 4324 | 4394  |
| 30° | 4160 | 4278 | 4345  |
| 35° | 4051 | 4225 | 4338  |
| 40° | 3950 | 4193 | 4326  |
| 45° | 3838 | 4176 | 4363  |
| 50° | 3728 | 4176 | 4404  |
| 55° | 3609 | 4196 | 4493  |
| 60° | 3494 | 4247 | 4626  |
| 65° | 3385 | 4343 | 4804  |
| 70° | 3210 | 4510 | 5108  |
| 75° | 2999 | 4828 | 5677  |
| 80° | 2783 | 5622 | 6856  |
| 85° | 2742 | 8509 | 10979 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 87.5°

Luminance: 19593 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 39.5   | 2.8       |
| 10°-20°   | 112.6  | 8.0       |
| 20°-30°   | 168.3  | 12.0      |
| 30°-40°   | 201.0  | 14.4      |
| 40°-50°   | 210.3  | 15.0      |
| 50°-60°   | 197.3  | 14.1      |
| 60°-70°   | 164.8  | 11.8      |
| 70°-80°   | 117.9  | 8.4       |
| 80°-90°   | 70.1   | 5.0       |
| 90°-100°  | 44.1   | 3.2       |
| 100°-110° | 32.4   | 2.3       |
| 110°-120° | 21.6   | 1.5       |
| 120°-130° | 12.3   | 0.9       |
| 130°-140° | 5.5    | 0.4       |
| 140°-150° | 1.2    | 0.1       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| <hr/>     |        |           |
| 0°-30°    | 320.4  | 22.9      |
| 0°-40°    | 521.4  | 37.3      |
| 0°-60°    | 929.0  | 66.4      |
| 0°-90°    | 1281.8 | 91.6      |
| 90°-120°  | 98.1   | 7.0       |
| 90°-150°  | 117.1  | 8.4       |
| 90°-180°  | 117.0  | 8.4       |
| 0°-180°   | 1399.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 416 | 416   | 416 | 416   | 416 |      |
| 5°   | 417 | 416   | 413 | 417   | 416 | 40   |
| 15°  | 397 | 398   | 398 | 402   | 402 | 112  |
| 25°  | 358 | 363   | 364 | 370   | 370 | 165  |
| 35°  | 308 | 316   | 322 | 328   | 330 | 193  |
| 45°  | 252 | 263   | 274 | 283   | 287 | 194  |
| 55°  | 192 | 207   | 224 | 236   | 239 | 172  |
| 65°  | 133 | 150   | 170 | 184   | 189 | 131  |
| 75°  | 72  | 93    | 116 | 131   | 136 | 77   |
| 85°  | 22  | 45    | 69  | 84    | 89  | 23   |
| 90°  | 6   | 28    | 51  | 67    | 71  | 4    |
| 95°  | 5   | 23    | 45  | 59    | 64  | 4    |
| 105° | 4   | 14    | 34  | 47    | 51  | 4    |
| 115° | 2   | 8     | 24  | 35    | 38  | 2    |
| 125° | 1   | 1     | 14  | 24    | 27  | 1    |
| 135° | 1   | 0     | 5   | 14    | 16  | 1    |
| 145° | 0   | 0     | 0   | 4     | 5   | 0    |
| 155° | 0   | 0     | 0   | 0     | 0   | 0    |
| 165° | 0   | 0     | 0   | 0     | 0   | 0    |
| 175° | 0   | 0     | 0   | 0     | 0   | 0    |
| 180° | 0   | 0     | 0   | 0     | 0   | 0    |

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**CANDELA DISTRIBUTION (FULL):**

|        | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|--------|-------|-------|-------|-------|-------|
| 0°     | 416.3 | 416.3 | 416.3 | 416.3 | 416.3 |
| 2.5°   | 418.5 | 417.2 | 413.6 | 417.2 | 416.7 |
| 5°     | 416.7 | 415.8 | 413.1 | 416.7 | 416.3 |
| 7.5°   | 413.6 | 413.6 | 410.8 | 415.4 | 414.9 |
| 10°    | 409.0 | 409.9 | 407.7 | 412.2 | 411.3 |
| 12.5°  | 403.6 | 404.9 | 403.6 | 407.7 | 406.7 |
| 15°    | 396.8 | 398.1 | 397.7 | 402.2 | 401.8 |
| 17.5°  | 388.6 | 391.3 | 390.9 | 395.0 | 394.1 |
| 20°    | 379.5 | 382.3 | 383.2 | 387.3 | 387.7 |
| 22.5°  | 370.0 | 372.7 | 374.1 | 379.5 | 379.1 |
| 25°    | 358.2 | 362.8 | 364.1 | 370.0 | 370.0 |
| 27.5°  | 346.9 | 351.9 | 354.6 | 359.6 | 360.0 |
| 30°    | 334.7 | 340.5 | 344.2 | 349.6 | 349.6 |
| 32.5°  | 321.0 | 327.8 | 332.8 | 338.7 | 340.1 |
| 35°    | 308.3 | 315.6 | 321.5 | 328.3 | 330.1 |
| 37.5°  | 294.7 | 302.9 | 309.7 | 317.4 | 318.8 |
| 40°    | 281.1 | 289.3 | 298.4 | 306.1 | 307.9 |
| 42.5°  | 266.2 | 276.6 | 286.1 | 294.7 | 297.5 |
| 45°    | 252.1 | 263.0 | 274.3 | 283.0 | 286.6 |
| 47.5°  | 237.2 | 249.4 | 262.1 | 271.6 | 274.3 |
| 50°    | 222.6 | 235.3 | 249.4 | 259.8 | 263.0 |
| 52.5°  | 207.2 | 220.8 | 236.7 | 247.6 | 251.7 |
| 55°    | 192.3 | 207.2 | 223.6 | 235.8 | 239.4 |
| 57.5°  | 177.8 | 193.2 | 210.9 | 223.1 | 227.2 |
| 60°    | 162.3 | 178.7 | 197.3 | 209.9 | 214.9 |
| 62.5°  | 147.8 | 164.6 | 184.6 | 197.3 | 201.8 |
| 65°    | 132.9 | 150.5 | 170.5 | 184.1 | 188.6 |
| 67.5°  | 117.9 | 136.5 | 156.4 | 171.4 | 175.0 |
| 70°    | 102.0 | 121.5 | 143.3 | 157.8 | 162.3 |
| 72.5°  | 87.5  | 107.0 | 129.7 | 144.7 | 149.2 |
| 75°    | 72.1  | 93.4  | 116.1 | 131.0 | 136.5 |
| 77.5°  | 58.9  | 80.3  | 102.9 | 118.8 | 122.9 |
| 80°    | 44.9  | 67.1  | 90.7  | 106.1 | 110.6 |
| 82.5°  | 32.6  | 55.3  | 79.4  | 94.8  | 99.3  |
| 85°    | 22.2  | 44.9  | 68.9  | 84.3  | 88.9  |
| 87.5°  | 13.6  | 36.3  | 59.4  | 74.8  | 79.4  |
| 90°    | 5.9   | 28.1  | 51.2  | 66.7  | 71.2  |
| 92.5°  | 5.4   | 24.9  | 47.6  | 62.6  | 66.7  |
| 95°    | 5.0   | 22.7  | 44.9  | 58.9  | 63.5  |
| 97.5°  | 4.5   | 20.9  | 42.2  | 55.8  | 60.3  |
| 100°   | 4.1   | 18.6  | 39.5  | 52.6  | 57.1  |
| 102.5° | 3.6   | 16.3  | 36.7  | 49.4  | 54.0  |
| 105°   | 3.6   | 14.5  | 34.0  | 46.7  | 50.8  |
| 107.5° | 3.2   | 12.7  | 31.3  | 43.5  | 47.6  |
| 110°   | 2.7   | 10.9  | 29.0  | 40.8  | 44.4  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°  | 67.5° | 90°  |
|--------|-----|-------|------|-------|------|
| 112.5° | 2.7 | 9.1   | 26.3 | 37.6  | 41.7 |
| 115°   | 2.3 | 7.7   | 24.0 | 34.9  | 38.5 |
| 117.5° | 2.3 | 5.9   | 21.3 | 32.2  | 35.8 |
| 120°   | 1.8 | 4.1   | 19.0 | 29.5  | 32.6 |
| 122.5° | 1.8 | 2.7   | 16.8 | 26.8  | 29.9 |
| 125°   | 1.4 | 1.4   | 14.5 | 24.0  | 27.2 |
| 127.5° | 1.4 | 0.9   | 12.2 | 21.3  | 24.5 |
| 130°   | 1.4 | 0.9   | 10.0 | 18.6  | 21.3 |
| 132.5° | 0.9 | 0.9   | 7.7  | 15.9  | 19.0 |
| 135°   | 0.9 | 0.5   | 5.4  | 13.6  | 15.9 |
| 137.5° | 0.9 | 0.5   | 3.6  | 10.9  | 13.2 |
| 140°   | 0.5 | 0.5   | 1.8  | 8.6   | 10.9 |
| 142.5° | 0.5 | 0.0   | 0.0  | 5.9   | 8.2  |
| 145°   | 0.5 | 0.0   | 0.0  | 3.6   | 5.4  |
| 147.5° | 0.0 | 0.0   | 0.0  | 1.4   | 3.2  |
| 150°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.9  |
| 152.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 155°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 157.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 160°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 162.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 165°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 167.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 170°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 172.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 175°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 177.5° | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 180°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |

(END OF REPORT)