

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: P1036911

Luminaire Tested: S122DS-B290DB27-4F0-XX-W2A-D

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1036911  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-14)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/2/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122DS-B290DB27-4F0-XX-W2A-D  
Description: Define 2 Direct Surface with 2700K BioUP LEDs {m-DER=0.473} {m-EER=0.52}  
Light Source: -  
Ballast/Driver: -

**Summary**

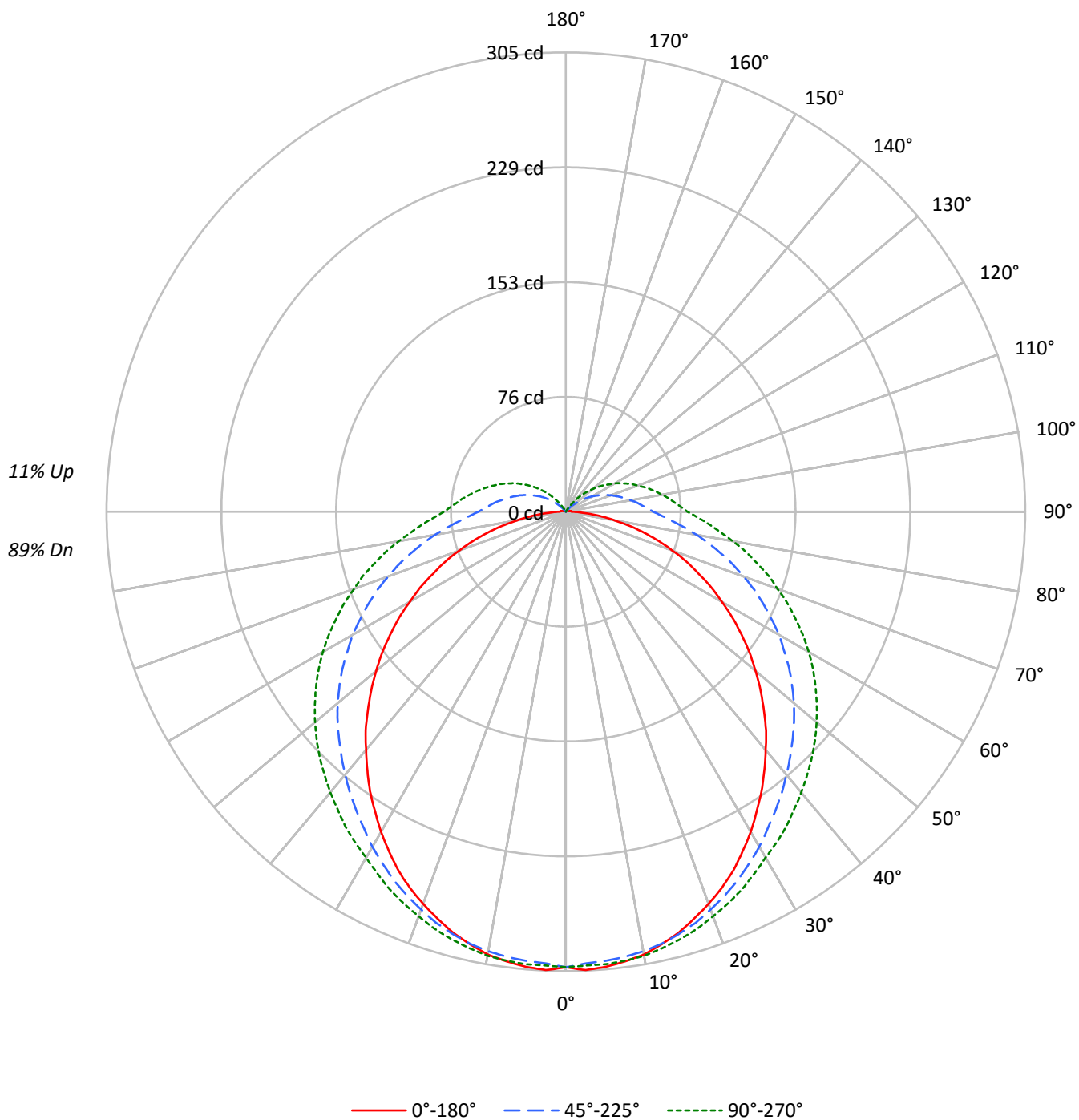
Lumens per Lamp: N/A  
Luminaire Lumens: 1154.0 lumens  
Efficiency: N/A  
Efficacy: 88.8 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

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   | 116 | 116 | 116 | 116 | 112 | 112 | 112 | 112 | 105 | 105 | 105 |  | 98 | 98 | 98 |  | 92 |
| 1   | 104 | 98  | 93  | 88  | 100 | 95  | 90  | 86  | 88  | 85  | 81  |  | 82 | 79 | 77 |  | 77 |
| 2   | 94  | 84  | 77  | 70  | 90  | 81  | 74  | 68  | 76  | 70  | 65  |  | 71 | 66 | 62 |  | 66 |
| 3   | 85  | 73  | 64  | 57  | 81  | 71  | 63  | 56  | 66  | 59  | 54  |  | 62 | 56 | 51 |  | 58 |
| 4   | 77  | 64  | 55  | 48  | 74  | 62  | 54  | 47  | 58  | 51  | 45  |  | 55 | 48 | 43 |  | 51 |
| 5   | 71  | 57  | 48  | 41  | 68  | 56  | 47  | 40  | 52  | 44  | 39  |  | 49 | 42 | 37 |  | 46 |
| 6   | 65  | 51  | 42  | 35  | 63  | 50  | 41  | 35  | 47  | 39  | 34  |  | 44 | 37 | 32 |  | 42 |
| 7   | 60  | 46  | 37  | 31  | 58  | 45  | 37  | 31  | 43  | 35  | 30  |  | 40 | 34 | 29 |  | 38 |
| 8   | 56  | 42  | 34  | 28  | 54  | 41  | 33  | 27  | 39  | 32  | 26  |  | 37 | 30 | 25 |  | 35 |
| 9   | 52  | 39  | 30  | 25  | 50  | 38  | 30  | 24  | 36  | 29  | 24  |  | 34 | 27 | 23 |  | 32 |
| 10  | 49  | 36  | 28  | 22  | 47  | 35  | 27  | 22  | 33  | 26  | 21  |  | 31 | 25 | 21 |  | 30 |

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

|     | 0°   | 45°   | 90°   |
|-----|------|-------|-------|
| 0°  | 4787 | 4787  | 4787  |
| 5°  | 4819 | 4757  | 4792  |
| 10° | 4798 | 4763  | 4812  |
| 15° | 4741 | 4756  | 4813  |
| 20° | 4666 | 4733  | 4814  |
| 25° | 4593 | 4716  | 4831  |
| 30° | 4487 | 4696  | 4847  |
| 35° | 4379 | 4684  | 4930  |
| 40° | 4265 | 4709  | 5027  |
| 45° | 4159 | 4768  | 5171  |
| 50° | 4049 | 4869  | 5354  |
| 55° | 3933 | 4995  | 5588  |
| 60° | 3790 | 5176  | 5898  |
| 65° | 3644 | 5416  | 6304  |
| 70° | 3490 | 5804  | 6919  |
| 75° | 3297 | 6514  | 8018  |
| 80° | 2999 | 8031  | 10264 |
| 85° | 2870 | 12895 | 17363 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 87.5°

Luminance: 31826 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 28.7   | 2.5       |
| 10°-20°   | 82.2   | 7.1       |
| 20°-30°   | 124.6  | 10.8      |
| 30°-40°   | 151.7  | 13.1      |
| 40°-50°   | 163.2  | 14.1      |
| 50°-60°   | 158.5  | 13.7      |
| 60°-70°   | 138.4  | 12.0      |
| 70°-80°   | 106.6  | 9.2       |
| 80°-90°   | 71.4   | 6.2       |
| 90°-100°  | 49.2   | 4.3       |
| 100°-110° | 36.0   | 3.1       |
| 110°-120° | 23.7   | 2.1       |
| 120°-130° | 13.2   | 1.1       |
| 130°-140° | 5.5    | 0.5       |
| 140°-150° | 0.9    | 0.1       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 235.5  | 20.4      |
| 0°-40°    | 387.2  | 33.6      |
| 0°-60°    | 709.0  | 61.4      |
| 0°-90°    | 1025.4 | 88.9      |
| 90°-120°  | 108.9  | 9.4       |
| 90°-150°  | 128.6  | 11.1      |
| 90°-180°  | 129.0  | 11.2      |
| 0°-180°   | 1154.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|------|-----|-------|-----|-------|-----|------|
| 0°   | 302 | 302   | 302 | 302   | 302 |      |
| 5°   | 303 | 302   | 299 | 302   | 302 | 29   |
| 15°  | 289 | 290   | 290 | 294   | 294 | 81   |
| 25°  | 263 | 266   | 270 | 275   | 277 | 121  |
| 35°  | 227 | 234   | 242 | 252   | 255 | 142  |
| 45°  | 186 | 198   | 213 | 227   | 231 | 143  |
| 55°  | 142 | 158   | 181 | 197   | 202 | 127  |
| 65°  | 97  | 119   | 145 | 163   | 168 | 97   |
| 75°  | 54  | 78    | 106 | 125   | 131 | 57   |
| 85°  | 16  | 43    | 71  | 89    | 96  | 17   |
| 90°  | 4   | 30    | 58  | 75    | 81  | 3    |
| 95°  | 4   | 24    | 50  | 67    | 72  | 3    |
| 105° | 2   | 15    | 38  | 53    | 58  | 3    |
| 115° | 2   | 7     | 26  | 39    | 44  | 2    |
| 125° | 1   | 1     | 15  | 27    | 31  | 1    |
| 135° | 0   | 0     | 5   | 14    | 18  | 0    |
| 145° | 0   | 0     | 0   | 3     | 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°     | 302.4 | 302.4 | 302.4 | 302.4 | 302.4 |
| 2.5°   | 304.6 | 303.3 | 300.2 | 302.4 | 301.6 |
| 5°     | 303.3 | 302.0 | 299.4 | 302.0 | 301.6 |
| 7.5°   | 301.1 | 300.2 | 298.1 | 301.1 | 300.7 |
| 10°    | 298.5 | 297.6 | 296.3 | 299.8 | 299.4 |
| 12.5°  | 294.1 | 294.5 | 293.7 | 297.2 | 296.7 |
| 15°    | 289.3 | 290.2 | 290.2 | 294.1 | 293.7 |
| 17.5°  | 283.2 | 284.9 | 286.2 | 290.2 | 290.2 |
| 20°    | 277.0 | 279.2 | 281.0 | 285.8 | 285.8 |
| 22.5°  | 270.4 | 273.1 | 275.7 | 280.5 | 281.4 |
| 25°    | 263.0 | 266.1 | 270.0 | 275.3 | 276.6 |
| 27.5°  | 254.2 | 259.0 | 263.4 | 270.0 | 270.9 |
| 30°    | 245.5 | 251.2 | 256.9 | 263.9 | 265.2 |
| 32.5°  | 235.8 | 242.4 | 249.4 | 257.7 | 260.4 |
| 35°    | 226.6 | 234.1 | 242.4 | 252.0 | 255.1 |
| 37.5°  | 216.5 | 224.9 | 235.4 | 245.9 | 249.0 |
| 40°    | 206.4 | 216.1 | 227.9 | 239.3 | 243.3 |
| 42.5°  | 196.8 | 206.4 | 220.5 | 233.2 | 237.1 |
| 45°    | 185.8 | 197.7 | 213.0 | 226.6 | 231.0 |
| 47.5°  | 175.3 | 188.0 | 205.6 | 219.6 | 224.4 |
| 50°    | 164.4 | 178.0 | 197.7 | 212.6 | 217.4 |
| 52.5°  | 153.8 | 168.3 | 189.4 | 204.7 | 210.0 |
| 55°    | 142.5 | 158.2 | 181.0 | 196.8 | 202.5 |
| 57.5°  | 131.5 | 149.0 | 171.8 | 188.9 | 194.6 |
| 60°    | 119.7 | 138.5 | 163.5 | 180.1 | 186.3 |
| 62.5°  | 109.1 | 128.9 | 153.8 | 171.8 | 177.5 |
| 65°    | 97.3  | 118.8 | 144.6 | 162.6 | 168.3 |
| 67.5°  | 86.8  | 109.1 | 135.4 | 153.4 | 159.5 |
| 70°    | 75.4  | 98.2  | 125.4 | 144.2 | 149.5 |
| 72.5°  | 64.9  | 88.5  | 116.2 | 134.6 | 141.1 |
| 75°    | 53.9  | 78.5  | 106.5 | 125.4 | 131.1 |
| 77.5°  | 43.4  | 68.8  | 97.3  | 116.2 | 122.3 |
| 80°    | 32.9  | 59.6  | 88.1  | 106.5 | 112.6 |
| 82.5°  | 24.1  | 50.4  | 79.3  | 97.7  | 103.4 |
| 85°    | 15.8  | 43.0  | 71.0  | 89.4  | 95.6  |
| 87.5°  | 9.6   | 35.9  | 64.0  | 82.0  | 87.7  |
| 90°    | 4.4   | 29.8  | 57.9  | 75.4  | 80.7  |
| 92.5°  | 3.9   | 27.2  | 53.9  | 71.0  | 76.3  |
| 95°    | 3.5   | 24.1  | 50.4  | 67.1  | 72.3  |
| 97.5°  | 3.1   | 21.9  | 47.3  | 63.6  | 68.8  |
| 100°   | 3.1   | 19.3  | 43.8  | 60.0  | 64.9  |
| 102.5° | 2.6   | 17.1  | 40.8  | 56.5  | 61.4  |
| 105°   | 2.2   | 14.9  | 37.7  | 53.0  | 57.9  |
| 107.5° | 2.2   | 12.7  | 34.6  | 49.5  | 54.4  |
| 110°   | 1.8   | 10.5  | 32.0  | 46.0  | 50.8  |

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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°  | 67.5° | 90°  |
|--------|-----|-------|------|-------|------|
| 112.5° | 1.8 | 8.8   | 28.9 | 43.0  | 47.8 |
| 115°   | 1.8 | 6.6   | 26.3 | 39.4  | 44.3 |
| 117.5° | 1.3 | 4.8   | 23.2 | 36.4  | 40.8 |
| 120°   | 1.3 | 3.1   | 20.6 | 32.9  | 37.7 |
| 122.5° | 1.3 | 1.8   | 18.0 | 29.8  | 33.8 |
| 125°   | 0.9 | 0.9   | 14.9 | 26.7  | 30.7 |
| 127.5° | 0.9 | 0.4   | 12.3 | 23.2  | 27.2 |
| 130°   | 0.9 | 0.4   | 9.6  | 20.2  | 23.7 |
| 132.5° | 0.9 | 0.4   | 7.0  | 17.1  | 20.6 |
| 135°   | 0.4 | 0.4   | 4.8  | 14.0  | 17.5 |
| 137.5° | 0.4 | 0.4   | 2.6  | 11.0  | 14.0 |
| 140°   | 0.4 | 0.0   | 0.9  | 7.9   | 10.5 |
| 142.5° | 0.4 | 0.0   | 0.0  | 5.3   | 7.5  |
| 145°   | 0.0 | 0.0   | 0.0  | 2.6   | 4.8  |
| 147.5° | 0.0 | 0.0   | 0.0  | 0.4   | 1.8  |
| 150°   | 0.0 | 0.0   | 0.0  | 0.0   | 0.0  |
| 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)