

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: P987443

Luminaire Tested: S122DR-B1005DB40-4F0-XX-W2A-D

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P987443  
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: S122DR-B1005DB40-4F0-XX-W2A-D  
Description: Define 2 Direct Recessed with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

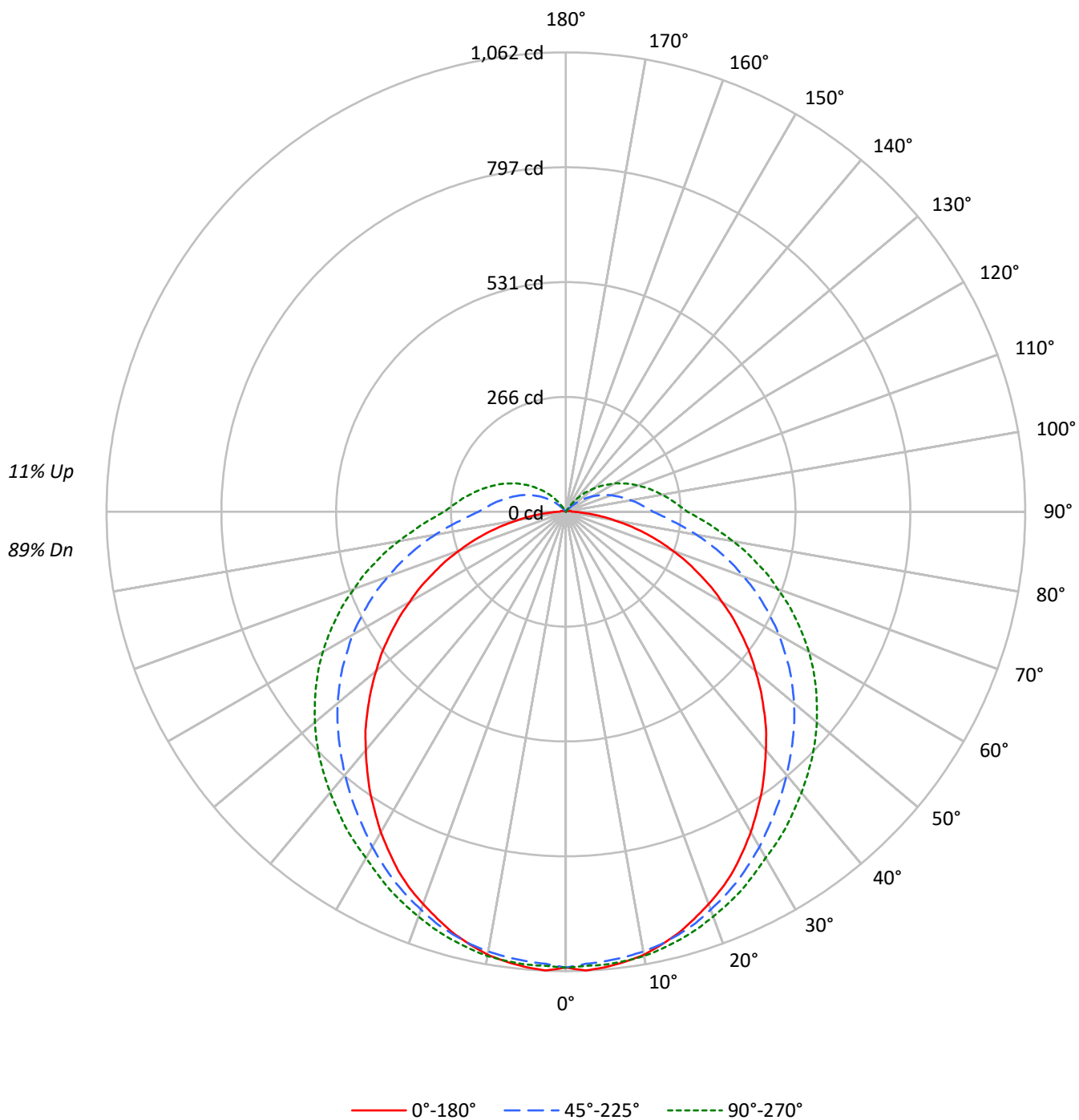
Lumens per Lamp: N/A  
Luminaire Lumens: 4021.0 lumens  
Efficiency: N/A  
Efficacy: 65.6 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 61.3  
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   | 116 | 116 | 116 | 116 | 112 | 112 | 112 | 112 | 105 | 105 | 105 | 98 | 98 | 98 | 92 | 92 | 92 |
| 1   | 104 | 98  | 93  | 88  | 100 | 95  | 90  | 86  | 88  | 85  | 81  | 82 | 79 | 77 | 77 | 75 | 72 |
| 2   | 94  | 84  | 77  | 70  | 90  | 81  | 74  | 68  | 76  | 70  | 65  | 71 | 66 | 62 | 66 | 62 | 59 |
| 3   | 85  | 73  | 64  | 57  | 81  | 71  | 63  | 56  | 66  | 59  | 54  | 62 | 56 | 51 | 58 | 53 | 49 |
| 4   | 77  | 64  | 55  | 48  | 74  | 62  | 54  | 47  | 58  | 51  | 45  | 55 | 48 | 43 | 51 | 46 | 42 |
| 5   | 71  | 57  | 48  | 41  | 68  | 56  | 47  | 40  | 52  | 44  | 39  | 49 | 42 | 37 | 46 | 40 | 36 |
| 6   | 65  | 51  | 42  | 35  | 63  | 50  | 41  | 35  | 47  | 39  | 34  | 44 | 37 | 32 | 42 | 36 | 31 |
| 7   | 60  | 46  | 37  | 31  | 58  | 45  | 37  | 31  | 43  | 35  | 30  | 40 | 34 | 29 | 38 | 32 | 28 |
| 8   | 56  | 42  | 34  | 28  | 54  | 41  | 33  | 27  | 39  | 32  | 26  | 37 | 30 | 25 | 35 | 29 | 25 |
| 9   | 52  | 39  | 30  | 25  | 50  | 38  | 30  | 24  | 36  | 29  | 24  | 34 | 27 | 23 | 32 | 26 | 22 |
| 10  | 49  | 36  | 28  | 22  | 47  | 35  | 27  | 22  | 33  | 26  | 21  | 31 | 25 | 21 | 30 | 24 | 20 |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 16681 | 16681 | 16681 |
| 5°  | 16794 | 16575 | 16697 |
| 10° | 16718 | 16594 | 16766 |
| 15° | 16519 | 16570 | 16770 |
| 20° | 16259 | 16491 | 16774 |
| 25° | 16006 | 16432 | 16832 |
| 30° | 15633 | 16359 | 16889 |
| 35° | 15258 | 16321 | 17177 |
| 40° | 14863 | 16411 | 17515 |
| 45° | 14497 | 16617 | 18018 |
| 50° | 14103 | 16962 | 18654 |
| 55° | 13699 | 17409 | 19473 |
| 60° | 13198 | 18036 | 20550 |
| 65° | 12701 | 18877 | 21968 |
| 70° | 12158 | 20216 | 24104 |
| 75° | 11492 | 22696 | 27932 |
| 80° | 10438 | 27985 | 35779 |
| 85° | 9989  | 44933 | 60462 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°

Vertical Angle: 87.5°

Luminance: 110865 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 99.9   | 2.5       |
| 10°-20°   | 286.5  | 7.1       |
| 20°-30°   | 434.1  | 10.8      |
| 30°-40°   | 528.7  | 13.1      |
| 40°-50°   | 568.8  | 14.1      |
| 50°-60°   | 552.4  | 13.7      |
| 60°-70°   | 482.4  | 12.0      |
| 70°-80°   | 371.3  | 9.2       |
| 80°-90°   | 248.7  | 6.2       |
| 90°-100°  | 171.6  | 4.3       |
| 100°-110° | 125.3  | 3.1       |
| 110°-120° | 82.7   | 2.1       |
| 120°-130° | 46.1   | 1.1       |
| 130°-140° | 19.4   | 0.5       |
| 140°-150° | 3.3    | 0.1       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| <hr/>     |        |           |
| 0°-30°    | 820.6  | 20.4      |
| 0°-40°    | 1349.2 | 33.6      |
| 0°-60°    | 2470.4 | 61.4      |
| 0°-90°    | 3572.7 | 88.9      |
| 90°-120°  | 379.6  | 9.4       |
| 90°-150°  | 448.3  | 11.1      |
| 90°-180°  | 448.0  | 11.1      |
| 0°-180°   | 4021.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|------|------|-------|------|-------|------|------|
| 0°   | 1054 | 1054  | 1054 | 1054  | 1054 |      |
| 5°   | 1057 | 1052  | 1043 | 1052  | 1051 | 100  |
| 15°  | 1008 | 1011  | 1011 | 1025  | 1023 | 284  |
| 25°  | 916  | 927   | 941  | 959   | 964  | 421  |
| 35°  | 790  | 816   | 845  | 878   | 889  | 494  |
| 45°  | 648  | 689   | 742  | 790   | 805  | 500  |
| 55°  | 496  | 551   | 631  | 686   | 706  | 444  |
| 65°  | 339  | 414   | 504  | 567   | 586  | 337  |
| 75°  | 188  | 273   | 371  | 437   | 457  | 199  |
| 85°  | 55   | 150   | 247  | 312   | 333  | 58   |
| 90°  | 15   | 104   | 202  | 263   | 281  | 11   |
| 95°  | 12   | 84    | 176  | 234   | 252  | 10   |
| 105° | 8    | 52    | 131  | 185   | 202  | 9    |
| 115° | 6    | 23    | 92   | 138   | 154  | 6    |
| 125° | 3    | 3     | 52   | 93    | 107  | 3    |
| 135° | 2    | 2     | 17   | 49    | 61   | 2    |
| 145° | 0    | 0     | 0    | 9     | 17   | 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°     | 1053.8 | 1053.8 | 1053.8 | 1053.8 | 1053.8 |
| 2.5°   | 1061.5 | 1056.9 | 1046.2 | 1053.8 | 1050.8 |
| 5°     | 1056.9 | 1052.3 | 1043.1 | 1052.3 | 1050.8 |
| 7.5°   | 1049.2 | 1046.2 | 1038.5 | 1049.2 | 1047.7 |
| 10°    | 1040.1 | 1037.0 | 1032.4 | 1044.7 | 1043.1 |
| 12.5°  | 1024.8 | 1026.3 | 1023.3 | 1035.5 | 1034.0 |
| 15°    | 1008.0 | 1011.1 | 1011.1 | 1024.8 | 1023.3 |
| 17.5°  | 986.6  | 992.7  | 997.3  | 1011.1 | 1011.1 |
| 20°    | 965.2  | 972.9  | 979.0  | 995.8  | 995.8  |
| 22.5°  | 942.3  | 951.5  | 960.7  | 977.5  | 980.5  |
| 25°    | 916.4  | 927.1  | 940.8  | 959.1  | 963.7  |
| 27.5°  | 885.8  | 902.6  | 917.9  | 940.8  | 943.9  |
| 30°    | 855.3  | 875.1  | 895.0  | 919.4  | 924.0  |
| 32.5°  | 821.7  | 844.6  | 869.0  | 898.0  | 907.2  |
| 35°    | 789.6  | 815.6  | 844.6  | 878.2  | 888.9  |
| 37.5°  | 754.5  | 783.5  | 820.1  | 856.8  | 867.5  |
| 40°    | 719.3  | 752.9  | 794.2  | 833.9  | 847.6  |
| 42.5°  | 685.7  | 719.3  | 768.2  | 812.5  | 826.3  |
| 45°    | 647.6  | 688.8  | 742.3  | 789.6  | 804.9  |
| 47.5°  | 610.9  | 655.2  | 716.3  | 765.2  | 782.0  |
| 50°    | 572.7  | 620.1  | 688.8  | 740.7  | 757.5  |
| 52.5°  | 536.1  | 586.5  | 659.8  | 713.2  | 731.6  |
| 55°    | 496.4  | 551.3  | 630.8  | 685.7  | 705.6  |
| 57.5°  | 458.2  | 519.3  | 598.7  | 658.3  | 678.1  |
| 60°    | 416.9  | 482.6  | 569.7  | 627.7  | 649.1  |
| 62.5°  | 380.3  | 449.0  | 536.1  | 598.7  | 618.5  |
| 65°    | 339.1  | 413.9  | 504.0  | 566.6  | 586.5  |
| 67.5°  | 302.4  | 380.3  | 471.9  | 534.5  | 555.9  |
| 70°    | 262.7  | 342.1  | 436.8  | 502.5  | 520.8  |
| 72.5°  | 226.0  | 308.5  | 404.7  | 468.9  | 491.8  |
| 75°    | 187.9  | 273.4  | 371.1  | 436.8  | 456.7  |
| 77.5°  | 151.2  | 239.8  | 339.1  | 404.7  | 426.1  |
| 80°    | 114.5  | 207.7  | 307.0  | 371.1  | 392.5  |
| 82.5°  | 84.0   | 175.6  | 276.4  | 340.6  | 360.4  |
| 85°    | 55.0   | 149.7  | 247.4  | 311.6  | 332.9  |
| 87.5°  | 33.6   | 125.2  | 223.0  | 285.6  | 305.5  |
| 90°    | 15.3   | 103.9  | 201.6  | 262.7  | 281.0  |
| 92.5°  | 13.7   | 94.7   | 187.9  | 247.4  | 265.7  |
| 95°    | 12.2   | 84.0   | 175.6  | 233.7  | 252.0  |
| 97.5°  | 10.7   | 76.4   | 164.9  | 221.5  | 239.8  |
| 100°   | 10.7   | 67.2   | 152.7  | 209.2  | 226.0  |
| 102.5° | 9.2    | 59.6   | 142.0  | 197.0  | 213.8  |
| 105°   | 7.6    | 51.9   | 131.3  | 184.8  | 201.6  |
| 107.5° | 7.6    | 44.3   | 120.7  | 172.6  | 189.4  |
| 110°   | 6.1    | 36.7   | 111.5  | 160.4  | 177.2  |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45°   | 67.5° | 90°   |
|--------|-----|-------|-------|-------|-------|
| 112.5° | 6.1 | 30.5  | 100.8 | 149.7 | 166.5 |
| 115°   | 6.1 | 22.9  | 91.6  | 137.5 | 154.3 |
| 117.5° | 4.6 | 16.8  | 80.9  | 126.8 | 142.0 |
| 120°   | 4.6 | 10.7  | 71.8  | 114.5 | 131.3 |
| 122.5° | 4.6 | 6.1   | 62.6  | 103.9 | 117.6 |
| 125°   | 3.1 | 3.1   | 51.9  | 93.2  | 106.9 |
| 127.5° | 3.1 | 1.5   | 42.8  | 80.9  | 94.7  |
| 130°   | 3.1 | 1.5   | 33.6  | 70.3  | 82.5  |
| 132.5° | 3.1 | 1.5   | 24.4  | 59.6  | 71.8  |
| 135°   | 1.5 | 1.5   | 16.8  | 48.9  | 61.1  |
| 137.5° | 1.5 | 1.5   | 9.2   | 38.2  | 48.9  |
| 140°   | 1.5 | 0.0   | 3.1   | 27.5  | 36.7  |
| 142.5° | 1.5 | 0.0   | 0.0   | 18.3  | 26.0  |
| 145°   | 0.0 | 0.0   | 0.0   | 9.2   | 16.8  |
| 147.5° | 0.0 | 0.0   | 0.0   | 1.5   | 6.1   |
| 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)