

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



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: P997741

Luminaire Tested: SA2XXRDP-B485DB40-4F0-XX-W2A-F

Issue Date: 5/2/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P997741  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-24)  
Test Lab: INNOVATION CENTER  
Issue Date: 5/2/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDP-B485DB40-4F0-XX-W2A-F  
Description: Define 2 Regressed Direct Recessed with 4000K BioUP LEDs {m-DER=0.865} {m-EER=0.951}  
Light Source: -  
Ballast/Driver: -

**Summary**

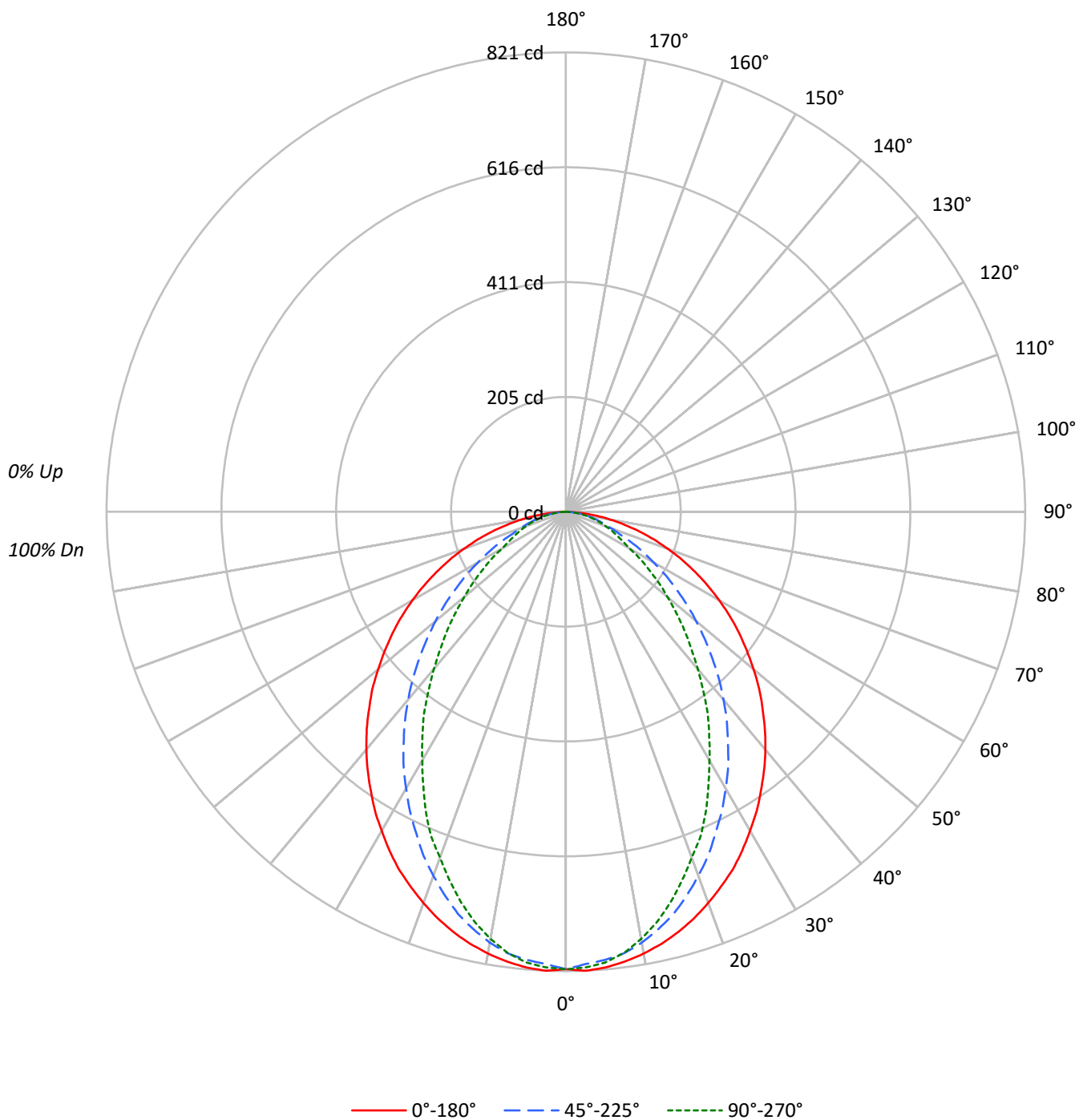
Lumens per Lamp: N/A  
Luminaire Lumens: 1681.0 lumens  
Efficiency: N/A  
Efficacy: 70.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 24  
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   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  |  | 95  | 93  | 91  |  | 92  |
| 2   | 101 | 94  | 87  | 82  | 98  | 92  | 86  | 81  | 88  | 83  | 79  |  | 85  | 81  | 78  |  | 82  |
| 3   | 93  | 83  | 76  | 70  | 90  | 82  | 75  | 69  | 79  | 73  | 68  |  | 76  | 71  | 67  |  | 74  |
| 4   | 86  | 75  | 66  | 60  | 83  | 73  | 66  | 60  | 71  | 64  | 59  |  | 69  | 63  | 58  |  | 66  |
| 5   | 79  | 67  | 59  | 53  | 77  | 66  | 58  | 52  | 64  | 57  | 52  |  | 62  | 56  | 51  |  | 60  |
| 6   | 74  | 61  | 53  | 47  | 72  | 60  | 52  | 46  | 58  | 51  | 46  |  | 57  | 50  | 46  |  | 55  |
| 7   | 68  | 56  | 47  | 42  | 67  | 55  | 47  | 42  | 53  | 46  | 41  |  | 52  | 46  | 41  |  | 51  |
| 8   | 64  | 51  | 43  | 38  | 62  | 51  | 43  | 37  | 49  | 42  | 37  |  | 48  | 42  | 37  |  | 47  |
| 9   | 60  | 47  | 39  | 34  | 59  | 47  | 39  | 34  | 46  | 39  | 34  |  | 44  | 38  | 34  |  | 44  |
| 10  | 56  | 44  | 36  | 31  | 55  | 43  | 36  | 31  | 42  | 36  | 31  |  | 41  | 35  | 31  |  | 41  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 12939 | 12939 | 12939 |
| 5°  | 12988 | 12775 | 12847 |
| 10° | 12888 | 12568 | 12460 |
| 15° | 12740 | 12194 | 11843 |
| 20° | 12534 | 11662 | 11077 |
| 25° | 12326 | 11059 | 10336 |
| 30° | 12032 | 10437 | 9382  |
| 35° | 11749 | 9762  | 8547  |
| 40° | 11464 | 9063  | 7581  |
| 45° | 11128 | 8278  | 6707  |
| 50° | 10784 | 7486  | 5846  |
| 55° | 10432 | 6634  | 5023  |
| 60° | 10023 | 5737  | 4169  |
| 65° | 9559  | 4820  | 3794  |
| 70° | 9002  | 3971  | 3490  |
| 75° | 8324  | 3621  | 3260  |
| 80° | 7347  | 3236  | 2963  |
| 85° | 5776  | 2561  | 2561  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°

Vertical Angle: 45°

Luminance: 11128 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 76.6   | 4.6       |
| 10°-20°   | 210.3  | 12.5      |
| 20°-30°   | 295.2  | 17.6      |
| 30°-40°   | 321.8  | 19.1      |
| 40°-50°   | 295.8  | 17.6      |
| 50°-60°   | 232.3  | 13.8      |
| 60°-70°   | 151.2  | 9.0       |
| 70°-80°   | 77.8   | 4.6       |
| 80°-90°   | 19.9   | 1.2       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 582.1  | 34.6      |
| 0°-40°    | 904.0  | 53.8      |
| 0°-60°    | 1432.1 | 85.2      |
| 0°-90°    | 1681.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1681.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 817 | 817   | 817 | 817   | 817 |      |
| 5°  | 817 | 814   | 804 | 811   | 808 | 78   |
| 15° | 777 | 769   | 744 | 730   | 723 | 219  |
| 25° | 706 | 682   | 633 | 603   | 592 | 325  |
| 35° | 608 | 570   | 505 | 459   | 442 | 381  |
| 45° | 497 | 448   | 370 | 317   | 300 | 384  |
| 55° | 378 | 320   | 240 | 196   | 182 | 338  |
| 65° | 255 | 195   | 129 | 104   | 101 | 253  |
| 75° | 136 | 84    | 59  | 54    | 53  | 144  |
| 85° | 32  | 16    | 14  | 14    | 14  | 38   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 817.4 | 817.4 | 817.4 | 817.4 | 817.4 |
| 2.5°  | 821.1 | 817.4 | 809.2 | 816.6 | 815.1 |
| 5°    | 817.4 | 813.7 | 804.0 | 810.7 | 808.5 |
| 7.5°  | 810.7 | 806.3 | 795.9 | 798.9 | 795.2 |
| 10°   | 801.8 | 796.6 | 781.9 | 779.6 | 775.2 |
| 12.5° | 790.7 | 784.1 | 764.1 | 759.7 | 751.5 |
| 15°   | 777.4 | 769.3 | 744.1 | 730.1 | 722.7 |
| 17.5° | 761.9 | 750.0 | 719.0 | 702.7 | 690.9 |
| 20°   | 744.1 | 729.3 | 692.3 | 673.9 | 657.6 |
| 22.5° | 724.9 | 707.9 | 665.0 | 639.8 | 628.7 |
| 25°   | 705.7 | 682.0 | 633.2 | 602.8 | 591.8 |
| 27.5° | 682.7 | 657.6 | 603.6 | 568.8 | 551.8 |
| 30°   | 658.3 | 630.2 | 571.0 | 533.3 | 513.3 |
| 32.5° | 634.7 | 600.6 | 540.0 | 495.6 | 477.1 |
| 35°   | 608.0 | 570.3 | 505.2 | 458.6 | 442.3 |
| 37.5° | 582.1 | 541.5 | 472.7 | 421.6 | 403.1 |
| 40°   | 554.8 | 510.4 | 438.6 | 386.1 | 366.9 |
| 42.5° | 526.7 | 479.3 | 404.6 | 349.9 | 331.4 |
| 45°   | 497.1 | 447.5 | 369.8 | 317.3 | 299.6 |
| 47.5° | 469.0 | 416.4 | 336.6 | 284.0 | 267.8 |
| 50°   | 437.9 | 385.4 | 304.0 | 253.0 | 237.4 |
| 52.5° | 407.6 | 352.1 | 272.9 | 224.1 | 210.1 |
| 55°   | 378.0 | 320.3 | 240.4 | 196.0 | 182.0 |
| 57.5° | 347.7 | 288.5 | 211.6 | 170.1 | 158.3 |
| 60°   | 316.6 | 257.4 | 181.2 | 143.5 | 131.7 |
| 62.5° | 286.3 | 227.1 | 155.3 | 119.8 | 113.9 |
| 65°   | 255.2 | 195.3 | 128.7 | 103.6 | 101.3 |
| 67.5° | 225.6 | 165.7 | 103.6 | 91.0  | 88.8  |
| 70°   | 194.5 | 136.8 | 85.8  | 78.4  | 75.4  |
| 72.5° | 165.0 | 110.2 | 71.7  | 65.8  | 64.4  |
| 75°   | 136.1 | 84.3  | 59.2  | 54.0  | 53.3  |
| 77.5° | 107.3 | 59.9  | 46.6  | 43.6  | 42.2  |
| 80°   | 80.6  | 42.9  | 35.5  | 32.5  | 32.5  |
| 82.5° | 56.2  | 28.8  | 24.4  | 22.9  | 22.9  |
| 85°   | 31.8  | 16.3  | 14.1  | 14.1  | 14.1  |
| 87.5° | 11.8  | 5.9   | 5.9   | 5.2   | 5.2   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

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**CIE UGR TABLE:**

| Reflectances:   |      |                  |       |       |       |       |                |       |       |       |       |
|-----------------|------|------------------|-------|-------|-------|-------|----------------|-------|-------|-------|-------|
| Ceiling         |      | 0.7              | 0.7   | 0.5   | 0.5   | 0.3   | 0.7            | 0.7   | 0.5   | 0.5   | 0.3   |
| Wall            |      | 0.5              | 0.3   | 0.5   | 0.3   | 0.3   | 0.5            | 0.3   | 0.5   | 0.3   | 0.3   |
| Reference plane |      | 0.2              | 0.2   | 0.2   | 0.2   | 0.2   | 0.2            | 0.2   | 0.2   | 0.2   | 0.2   |
| Room dimensions |      | Viewed crosswise |       |       |       |       | Viewed endwise |       |       |       |       |
| X=2H            | Y=2H | 20.13            | 21.65 | 20.49 | 21.97 | 22.28 | 16.09          | 17.61 | 16.45 | 17.92 | 18.24 |
|                 | 3H   | 21.89            | 23.26 | 22.27 | 23.59 | 23.95 | 17.36          | 18.72 | 17.73 | 19.05 | 19.41 |
|                 | 4H   | 22.56            | 23.84 | 22.96 | 24.19 | 24.57 | 17.86          | 19.14 | 18.26 | 19.49 | 19.86 |
|                 | 6H   | 23.05            | 24.23 | 23.46 | 24.60 | 24.99 | 18.24          | 19.42 | 18.65 | 19.79 | 20.18 |
|                 | 8H   | 23.22            | 24.34 | 23.64 | 24.73 | 25.13 | 18.36          | 19.49 | 18.79 | 19.88 | 20.28 |
|                 | 12H  | 23.32            | 24.40 | 23.75 | 24.78 | 25.21 | 18.44          | 19.52 | 18.87 | 19.90 | 20.33 |
| 4H              | 2H   | 20.23            | 21.51 | 20.63 | 21.86 | 22.24 | 16.78          | 18.07 | 17.18 | 18.41 | 18.79 |
|                 | 3H   | 22.17            | 23.23 | 22.58 | 23.63 | 24.03 | 18.23          | 19.29 | 18.64 | 19.69 | 20.09 |
|                 | 4H   | 22.92            | 23.87 | 23.35 | 24.29 | 24.73 | 18.83          | 19.78 | 19.26 | 20.20 | 20.64 |
|                 | 6H   | 23.51            | 24.34 | 23.97 | 24.78 | 25.24 | 19.32          | 20.15 | 19.77 | 20.59 | 21.05 |
|                 | 8H   | 23.72            | 24.50 | 24.19 | 24.94 | 25.41 | 19.48          | 20.25 | 19.94 | 20.70 | 21.17 |
|                 | 12H  | 23.88            | 24.57 | 24.36 | 25.05 | 25.52 | 19.59          | 20.29 | 20.08 | 20.77 | 21.24 |
| 8H              | 4H   | 22.94            | 23.72 | 23.40 | 24.16 | 24.63 | 19.18          | 19.96 | 19.65 | 20.40 | 20.87 |
|                 | 6H   | 23.58            | 24.22 | 24.07 | 24.71 | 25.19 | 19.77          | 20.41 | 20.26 | 20.90 | 21.38 |
|                 | 8H   | 23.83            | 24.40 | 24.34 | 24.91 | 25.40 | 19.99          | 20.56 | 20.50 | 21.07 | 21.56 |
|                 | 12H  | 24.03            | 24.54 | 24.54 | 25.03 | 25.60 | 20.17          | 20.68 | 20.68 | 21.17 | 21.73 |
| 12H             | 4H   | 22.93            | 23.62 | 23.41 | 24.10 | 24.57 | 19.23          | 19.92 | 19.71 | 20.40 | 20.87 |
|                 | 6H   | 23.56            | 24.14 | 24.07 | 24.65 | 25.13 | 19.83          | 20.41 | 20.34 | 20.92 | 21.41 |
|                 | 8H   | 23.84            | 24.35 | 24.35 | 24.84 | 25.41 | 20.10          | 20.61 | 20.61 | 21.11 | 21.67 |