

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



Scaled data based on original data using  
LM-79-2024 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055261

Luminaire Tested: S122R3DR-S865D850-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055261  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DR-S865D850-X4F0-XX-UDD-F-S  
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 5000K CCT, 80 CRI LEDS  
Ballast/Driver: -

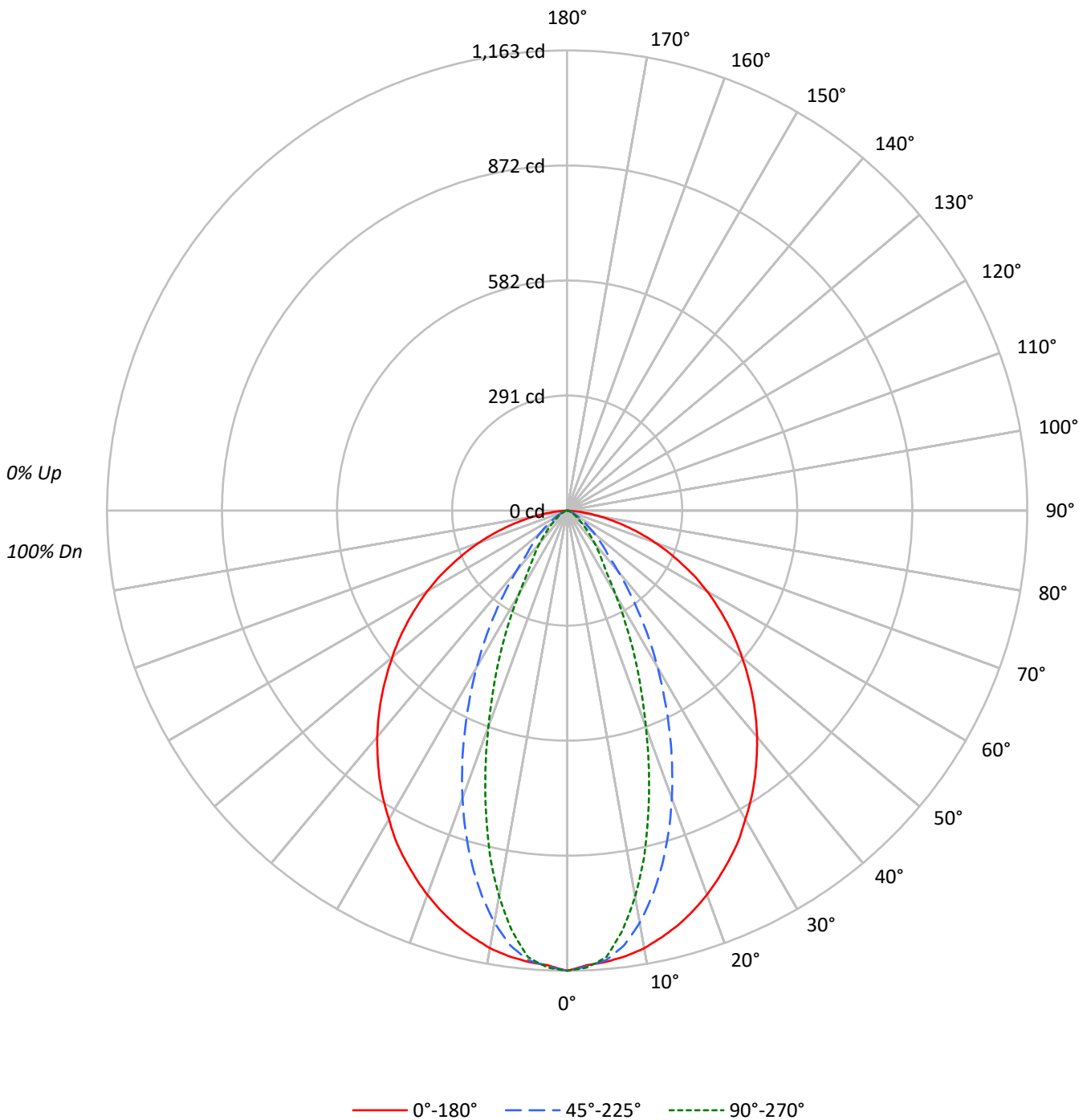
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1332.8 lumens  
Efficiency: N/A  
Efficacy: 38.4 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81  
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 34.7  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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 | 0   |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 | 0  |     |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |    |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |    | 100 |
| 1   | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99  | 97  | 98  | 96  | 94  | 94  | 93  | 92  | 90  |    |    |    | 90  |
| 2   | 104 | 98  | 93  | 88  | 102 | 96  | 91  | 87  | 93  | 89  | 85  | 90  | 86  | 83  | 87  | 84  | 82  | 80  |    |    |    | 80  |
| 3   | 97  | 89  | 83  | 78  | 95  | 88  | 82  | 77  | 85  | 80  | 76  | 82  | 78  | 74  | 80  | 76  | 73  | 71  |    |    |    | 71  |
| 4   | 91  | 81  | 74  | 69  | 89  | 80  | 74  | 69  | 78  | 72  | 68  | 76  | 71  | 67  | 74  | 70  | 66  | 64  |    |    |    | 64  |
| 5   | 85  | 75  | 67  | 62  | 83  | 74  | 67  | 62  | 72  | 66  | 61  | 70  | 65  | 61  | 68  | 64  | 60  | 58  |    |    |    | 58  |
| 6   | 80  | 69  | 62  | 56  | 78  | 68  | 61  | 56  | 66  | 60  | 56  | 65  | 59  | 55  | 63  | 59  | 55  | 53  |    |    |    | 53  |
| 7   | 75  | 64  | 57  | 52  | 74  | 63  | 56  | 51  | 62  | 56  | 51  | 60  | 55  | 51  | 59  | 54  | 50  | 49  |    |    |    | 49  |
| 8   | 71  | 59  | 52  | 47  | 69  | 59  | 52  | 47  | 58  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 45  |    |    |    | 45  |
| 9   | 67  | 56  | 49  | 44  | 66  | 55  | 48  | 44  | 54  | 48  | 44  | 53  | 47  | 43  | 52  | 47  | 43  | 42  |    |    |    | 42  |
| 10  | 63  | 52  | 45  | 41  | 62  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 44  | 40  | 49  | 44  | 40  | 39  |    |    |    | 39  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 22032 | 22032 | 22032 |
| 5°  | 21764 | 21683 | 21548 |
| 10° | 21604 | 20344 | 19055 |
| 15° | 21272 | 18198 | 15542 |
| 20° | 20831 | 15601 | 11724 |
| 25° | 20317 | 12781 | 8372  |
| 30° | 19704 | 9976  | 5331  |
| 35° | 19118 | 7318  | 3559  |
| 40° | 18470 | 4934  | 2678  |
| 45° | 17756 | 3475  | 1910  |
| 50° | 17013 | 2647  | 1344  |
| 55° | 16288 | 1837  | 988   |
| 60° | 15498 | 1243  | 811   |
| 65° | 14377 | 897   | 641   |
| 70° | 13106 | 709   | 554   |
| 75° | 11368 | 630   | 417   |
| 80° | 9023  | 469   | 469   |
| 85° | 4956  | 630   | 304   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 17756 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 106.3  | 8.0       |
| 10°-20°   | 261.0  | 19.6      |
| 20°-30°   | 298.1  | 22.4      |
| 30°-40°   | 252.8  | 19.0      |
| 40°-50°   | 188.6  | 14.2      |
| 50°-60°   | 121.9  | 9.1       |
| 60°-70°   | 68.0   | 5.1       |
| 70°-80°   | 29.9   | 2.2       |
| 80°-90°   | 6.2    | 0.5       |
| 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°    | 665.4  | 49.9      |
| 0°-40°    | 918.2  | 68.9      |
| 0°-60°    | 1228.8 | 92.2      |
| 0°-90°    | 1332.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1332.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1163 | 1163  | 1163 | 1163  | 1163 |      |
| 5°  | 1144 | 1159  | 1140 | 1129  | 1133 | 109  |
| 15° | 1084 | 1058  | 928  | 829   | 792  | 305  |
| 25° | 972  | 858   | 611  | 448   | 400  | 447  |
| 35° | 827  | 623   | 316  | 172   | 154  | 517  |
| 45° | 663  | 393   | 130  | 84    | 71   | 511  |
| 55° | 493  | 187   | 56   | 34    | 30   | 441  |
| 65° | 321  | 68    | 20   | 16    | 14   | 319  |
| 75° | 155  | 14    | 9    | 7     | 6    | 166  |
| 85° | 23   | 1     | 3    | 1     | 1    | 33   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1162.9 | 1162.9 | 1162.9 | 1162.9 | 1162.9 |
| 2.5°  | 1150.1 | 1167.2 | 1152.9 | 1152.9 | 1155.8 |
| 5°    | 1144.4 | 1158.6 | 1140.1 | 1128.7 | 1133.0 |
| 7.5°  | 1135.8 | 1145.8 | 1107.3 | 1073.1 | 1070.3 |
| 10°   | 1123.0 | 1127.3 | 1057.5 | 1004.7 | 990.5  |
| 12.5° | 1104.5 | 1094.5 | 996.2  | 922.1  | 897.8  |
| 15°   | 1084.5 | 1057.5 | 927.8  | 829.4  | 792.4  |
| 17.5° | 1060.3 | 1011.8 | 852.2  | 732.5  | 686.9  |
| 20°   | 1033.2 | 964.8  | 773.8  | 631.3  | 581.5  |
| 22.5° | 1003.3 | 912.1  | 692.6  | 535.9  | 486.0  |
| 25°   | 971.9  | 857.9  | 611.4  | 447.5  | 400.5  |
| 27.5° | 939.2  | 800.9  | 531.6  | 367.7  | 316.4  |
| 30°   | 900.7  | 742.5  | 456.0  | 290.7  | 243.7  |
| 32.5° | 865.1  | 681.2  | 386.2  | 225.2  | 185.3  |
| 35°   | 826.6  | 622.8  | 316.4  | 172.4  | 153.9  |
| 37.5° | 786.7  | 564.4  | 255.1  | 145.4  | 129.7  |
| 40°   | 746.8  | 505.9  | 199.5  | 122.6  | 108.3  |
| 42.5° | 705.4  | 448.9  | 153.9  | 102.6  | 88.4   |
| 45°   | 662.7  | 393.3  | 129.7  | 84.1   | 71.3   |
| 47.5° | 619.9  | 337.8  | 108.3  | 67.0   | 57.0   |
| 50°   | 577.2  | 285.0  | 89.8   | 52.7   | 45.6   |
| 52.5° | 535.9  | 235.1  | 71.3   | 42.8   | 37.1   |
| 55°   | 493.1  | 186.7  | 55.6   | 34.2   | 29.9   |
| 57.5° | 450.3  | 145.4  | 42.8   | 28.5   | 25.7   |
| 60°   | 409.0  | 109.7  | 32.8   | 22.8   | 21.4   |
| 62.5° | 366.3  | 88.4   | 25.7   | 18.5   | 17.1   |
| 65°   | 320.7  | 68.4   | 20.0   | 15.7   | 14.3   |
| 67.5° | 279.3  | 49.9   | 15.7   | 12.8   | 11.4   |
| 70°   | 236.6  | 34.2   | 12.8   | 11.4   | 10.0   |
| 72.5° | 195.2  | 21.4   | 10.0   | 8.6    | 8.6    |
| 75°   | 155.3  | 14.3   | 8.6    | 7.1    | 5.7    |
| 77.5° | 118.3  | 8.6    | 5.7    | 5.7    | 4.3    |
| 80°   | 82.7   | 5.7    | 4.3    | 4.3    | 4.3    |
| 82.5° | 51.3   | 4.3    | 2.9    | 2.9    | 2.9    |
| 85°   | 22.8   | 1.4    | 2.9    | 1.4    | 1.4    |
| 87.5° | 4.3    | 1.4    | 1.4    | 1.4    | 1.4    |
| 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 | 19.00            | 20.32 | 19.36 | 20.63 | 20.94 | 5.31           | 6.63 | 5.67 | 6.94 | 7.25 |
|                 | 3H   | 21.47            | 22.64 | 21.85 | 22.97 | 23.33 | 6.16           | 7.33 | 6.54 | 7.66 | 8.02 |
|                 | 4H   | 22.42            | 23.51 | 22.82 | 23.86 | 24.25 | 6.43           | 7.52 | 6.83 | 7.87 | 8.26 |
|                 | 6H   | 23.11            | 24.11 | 23.52 | 24.48 | 24.88 | 6.63           | 7.63 | 7.04 | 8.00 | 8.39 |
|                 | 8H   | 23.30            | 24.26 | 23.73 | 24.65 | 25.05 | 6.70           | 7.65 | 7.13 | 8.04 | 8.45 |
|                 | 12H  | 23.39            | 24.30 | 23.82 | 24.68 | 25.11 | 6.73           | 7.64 | 7.16 | 8.02 | 8.45 |
| 4H              | 2H   | 18.78            | 19.87 | 19.18 | 20.22 | 20.61 | 5.88           | 6.97 | 6.29 | 7.33 | 7.71 |
|                 | 3H   | 21.27            | 22.16 | 21.68 | 22.56 | 22.97 | 6.91           | 7.81 | 7.33 | 8.21 | 8.62 |
|                 | 4H   | 22.21            | 23.01 | 22.64 | 23.43 | 23.87 | 7.28           | 8.08 | 7.71 | 8.50 | 8.94 |
|                 | 6H   | 22.96            | 23.65 | 23.43 | 24.10 | 24.57 | 7.58           | 8.27 | 8.04 | 8.71 | 9.18 |
|                 | 8H   | 23.21            | 23.85 | 23.68 | 24.30 | 24.77 | 7.68           | 8.32 | 8.15 | 8.77 | 9.24 |
|                 | 12H  | 23.34            | 23.90 | 23.82 | 24.39 | 24.86 | 7.72           | 8.29 | 8.21 | 8.77 | 9.25 |
| 8H              | 4H   | 22.08            | 22.72 | 22.55 | 23.17 | 23.64 | 7.65           | 8.30 | 8.12 | 8.74 | 9.22 |
|                 | 6H   | 22.82            | 23.34 | 23.32 | 23.84 | 24.32 | 8.02           | 8.54 | 8.52 | 9.04 | 9.52 |
|                 | 8H   | 23.06            | 23.53 | 23.58 | 24.05 | 24.54 | 8.16           | 8.63 | 8.68 | 9.15 | 9.64 |
|                 | 12H  | 23.21            | 23.62 | 23.73 | 24.12 | 24.69 | 8.24           | 8.66 | 8.76 | 9.15 | 9.72 |
| 12H             | 4H   | 22.03            | 22.60 | 22.52 | 23.08 | 23.56 | 7.77           | 8.34 | 8.26 | 8.83 | 9.30 |
|                 | 6H   | 22.75            | 23.23 | 23.28 | 23.74 | 24.23 | 8.14           | 8.61 | 8.66 | 9.12 | 9.62 |
|                 | 8H   | 23.02            | 23.43 | 23.53 | 23.93 | 24.50 | 8.32           | 8.74 | 8.84 | 9.23 | 9.80 |