

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: P1055353

Luminaire Tested: S122R3DR-H485D940-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055353  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-2)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DR-H485D940-X4F0-XX-UDD-FLL-B  
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

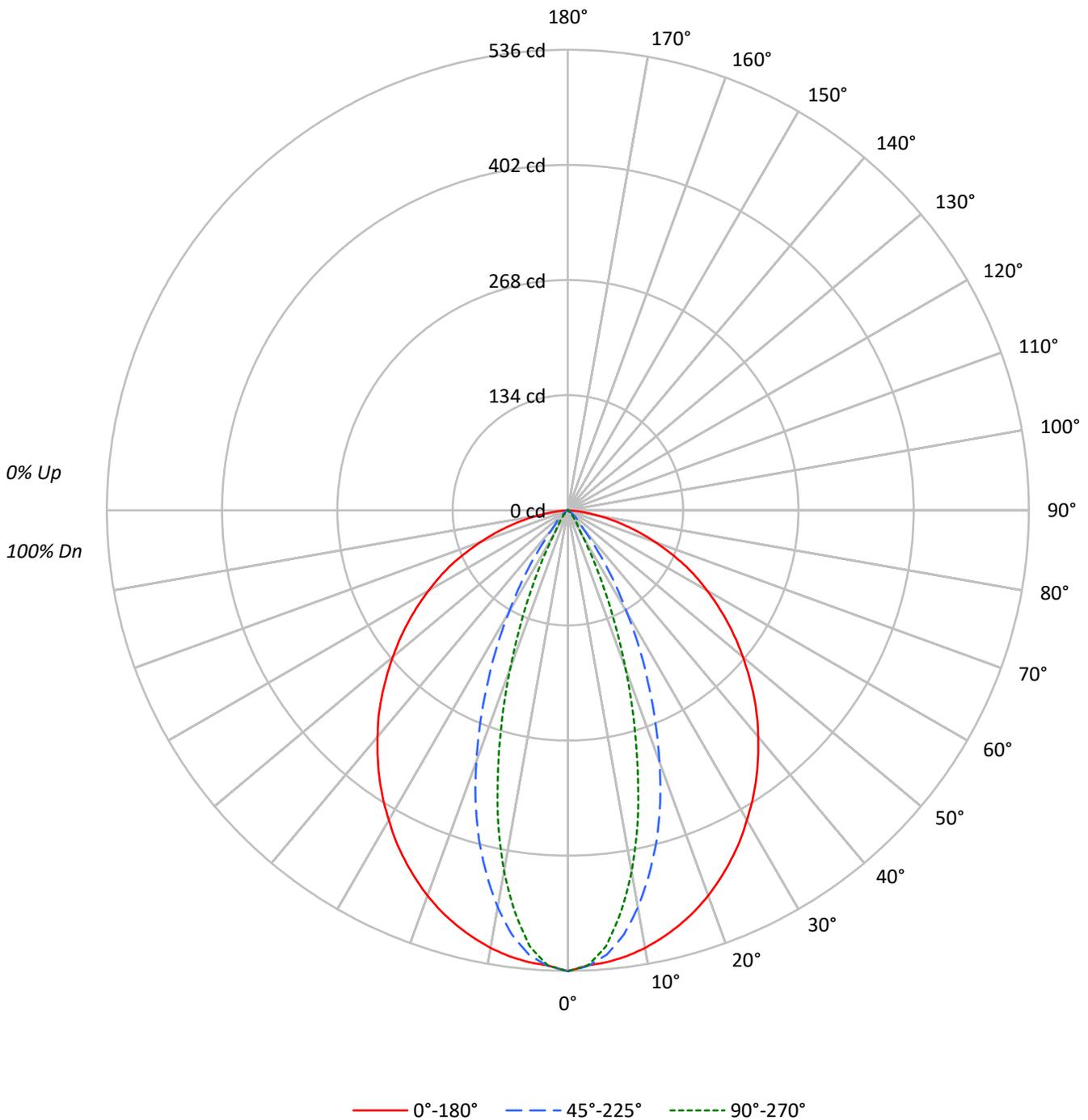
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 488.0 lumens  
Efficiency: N/A  
Efficacy: 28.2 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7  
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.3  
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 | 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 | 109 | 106 | 103 | 110 | 106 | 104 | 101 | 102 | 100 | 98  | 99  | 97  | 95  | 95  | 94  | 92  | 91  |    |    |    |    | 91  |   |  |   |
| 2   | 105 | 99  | 94  | 90  | 103 | 97  | 93  | 89  | 94  | 90  | 87  | 91  | 88  | 85  | 88  | 86  | 83  | 81  |    |    |    |    | 81  |   |  |   |
| 3   | 98  | 91  | 85  | 80  | 96  | 89  | 84  | 79  | 86  | 82  | 78  | 84  | 80  | 77  | 82  | 78  | 75  | 74  |    |    |    |    | 74  |   |  |   |
| 4   | 92  | 83  | 77  | 72  | 90  | 82  | 76  | 71  | 80  | 75  | 70  | 78  | 73  | 70  | 76  | 72  | 69  | 67  |    |    |    |    | 67  |   |  |   |
| 5   | 87  | 77  | 70  | 65  | 85  | 76  | 70  | 65  | 74  | 69  | 64  | 72  | 68  | 64  | 71  | 66  | 63  | 61  |    |    |    |    | 61  |   |  |   |
| 6   | 82  | 72  | 65  | 60  | 80  | 71  | 64  | 59  | 69  | 63  | 59  | 68  | 63  | 59  | 66  | 62  | 58  | 56  |    |    |    |    | 56  |   |  |   |
| 7   | 77  | 67  | 60  | 55  | 76  | 66  | 59  | 55  | 65  | 59  | 55  | 63  | 58  | 54  | 62  | 57  | 54  | 52  |    |    |    |    | 52  |   |  |   |
| 8   | 73  | 62  | 56  | 51  | 72  | 62  | 55  | 51  | 61  | 55  | 51  | 60  | 54  | 50  | 59  | 54  | 50  | 49  |    |    |    |    | 49  |   |  |   |
| 9   | 70  | 59  | 52  | 48  | 68  | 58  | 52  | 47  | 57  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 45  |    |    |    |    | 45  |   |  |   |
| 10  | 66  | 55  | 49  | 45  | 65  | 55  | 49  | 44  | 54  | 48  | 44  | 53  | 48  | 44  | 52  | 48  | 44  | 43  |    |    |    |    | 43  |   |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 10163 | 10163 | 10163 |
| 5°  | 10038 | 9874  | 9686  |
| 10° | 9952  | 9027  | 8220  |
| 15° | 9807  | 7812  | 6155  |
| 20° | 9621  | 6278  | 3942  |
| 25° | 9384  | 4601  | 2024  |
| 30° | 9105  | 3008  | 661   |
| 35° | 8828  | 1668  | 384   |
| 40° | 8510  | 670   | 213   |
| 45° | 8193  | 445   | 83    |
| 50° | 7831  | 253   | 35    |
| 55° | 7475  | 122   | 20    |
| 60° | 7078  | 45    | 0     |
| 65° | 6662  | 27    | 0     |
| 70° | 5977  | 33    | 0     |
| 75° | 5146  | 44    | 0     |
| 80° | 3906  | 0     | 0     |
| 85° | 1609  | 130   | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 8193 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 48.1   | 9.9       |
| 10°-20°   | 111.7  | 22.9      |
| 20°-30°   | 113.4  | 23.2      |
| 30°-40°   | 85.1   | 17.4      |
| 40°-50°   | 59.6   | 12.2      |
| 50°-60°   | 36.5   | 7.5       |
| 60°-70°   | 21.7   | 4.5       |
| 70°-80°   | 10.0   | 2.1       |
| 80°-90°   | 1.8    | 0.4       |
| 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°    | 273.3  | 56.0      |
| 0°-40°    | 358.4  | 73.4      |
| 0°-60°    | 454.5  | 93.1      |
| 0°-90°    | 488.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 488.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 536 | 536   | 536 | 536   | 536 |      |
| 5°  | 528 | 533   | 519 | 509   | 509 | 50   |
| 15° | 500 | 473   | 398 | 337   | 314 | 141  |
| 25° | 449 | 370   | 220 | 126   | 97  | 207  |
| 35° | 382 | 248   | 72  | 22    | 17  | 239  |
| 45° | 306 | 131   | 17  | 5     | 3   | 236  |
| 55° | 226 | 40    | 4   | 1     | 1   | 202  |
| 65° | 149 | 12    | 1   | 1     | 0   | 146  |
| 75° | 70  | 1     | 1   | 1     | 0   | 75   |
| 85° | 7   | 0     | 1   | 1     | 0   | 13   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



TEST NUMBER: P1055353

CATALOG NUMBER: S122R3DR-H485D940-X4F0-XX-UDD-FLL-B

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 536.4 | 536.4 | 536.4 | 536.4 | 536.4 |
| 2.5°  | 530.3 | 538.3 | 530.9 | 529.6 | 530.3 |
| 5°    | 527.8 | 532.7 | 519.2 | 509.3 | 509.3 |
| 7.5°  | 523.5 | 523.5 | 498.2 | 477.8 | 471.7 |
| 10°   | 517.3 | 510.5 | 469.2 | 436.5 | 427.3 |
| 12.5° | 509.3 | 493.3 | 435.3 | 389.1 | 374.3 |
| 15°   | 500.0 | 472.9 | 398.3 | 337.3 | 313.8 |
| 17.5° | 489.6 | 450.1 | 357.0 | 281.2 | 254.0 |
| 20°   | 477.2 | 425.4 | 311.4 | 223.8 | 195.5 |
| 22.5° | 463.7 | 398.3 | 265.1 | 172.6 | 142.4 |
| 25°   | 448.9 | 369.9 | 220.1 | 125.8 | 96.8  |
| 27.5° | 433.5 | 340.4 | 178.8 | 86.3  | 59.2  |
| 30°   | 416.2 | 309.5 | 137.5 | 51.2  | 30.2  |
| 32.5° | 399.5 | 279.9 | 103.0 | 27.7  | 22.2  |
| 35°   | 381.7 | 248.5 | 72.1  | 21.6  | 16.6  |
| 37.5° | 363.2 | 218.9 | 44.4  | 16.0  | 12.3  |
| 40°   | 344.1 | 188.7 | 27.1  | 11.7  | 8.6   |
| 42.5° | 325.6 | 160.3 | 21.6  | 8.0   | 5.5   |
| 45°   | 305.8 | 131.3 | 16.6  | 4.9   | 3.1   |
| 47.5° | 285.5 | 104.8 | 12.3  | 3.1   | 1.8   |
| 50°   | 265.7 | 81.4  | 8.6   | 1.8   | 1.2   |
| 52.5° | 246.0 | 59.8  | 5.5   | 1.2   | 0.6   |
| 55°   | 226.3 | 40.1  | 3.7   | 1.2   | 0.6   |
| 57.5° | 206.6 | 28.4  | 2.5   | 0.6   | 0.6   |
| 60°   | 186.8 | 22.2  | 1.2   | 0.6   | 0.0   |
| 62.5° | 168.3 | 17.3  | 1.2   | 0.6   | 0.6   |
| 65°   | 148.6 | 11.7  | 0.6   | 0.6   | 0.0   |
| 67.5° | 127.6 | 7.4   | 0.6   | 0.6   | 0.0   |
| 70°   | 107.9 | 4.3   | 0.6   | 0.6   | 0.0   |
| 72.5° | 88.8  | 2.5   | 0.6   | 0.6   | 0.0   |
| 75°   | 70.3  | 1.2   | 0.6   | 0.6   | 0.0   |
| 77.5° | 52.4  | 0.6   | 0.0   | 0.6   | 0.0   |
| 80°   | 35.8  | 0.0   | 0.0   | 0.6   | 0.0   |
| 82.5° | 21.0  | 0.0   | 0.0   | 0.6   | 0.0   |
| 85°   | 7.4   | 0.0   | 0.6   | 0.6   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.6   | 0.6   | 0.0   |
| 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 | 14.27            | 15.53 | 14.64 | 15.84 | 16.16 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 18.01            | 19.13 | 18.39 | 19.46 | 19.82 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 19.32            | 20.36 | 19.72 | 20.71 | 21.10 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 20.18            | 21.13 | 20.59 | 21.50 | 21.90 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.39            | 21.29 | 20.82 | 21.68 | 22.09 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.45            | 21.32 | 20.89 | 21.70 | 22.13 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 14.03            | 15.07 | 14.43 | 15.42 | 15.80 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 17.76            | 18.62 | 18.18 | 19.02 | 19.42 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 19.06            | 19.82 | 19.49 | 20.24 | 20.69 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 19.98            | 20.63 | 20.44 | 21.08 | 21.55 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.24            | 20.85 | 20.71 | 21.30 | 21.77 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.34            | 20.88 | 20.83 | 21.36 | 21.84 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 18.91            | 19.53 | 19.38 | 19.97 | 20.45 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 19.82            | 20.31 | 20.32 | 20.81 | 21.29 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.07            | 20.52 | 20.60 | 21.03 | 21.53 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 20.19            | 20.58 | 20.71 | 21.08 | 21.65 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 18.87            | 19.40 | 19.35 | 19.89 | 20.36 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 19.75            | 20.20 | 20.28 | 20.71 | 21.21 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 20.03            | 20.42 | 20.55 | 20.91 | 21.49 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |