

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: P1055620

Luminaire Tested: S123R3DRP-S340D935-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055620  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DRP-S340D935-X4F0-XX-UDD-F-B  
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3500K CCT, 90 CRI LEDS  
Ballast/Driver: -

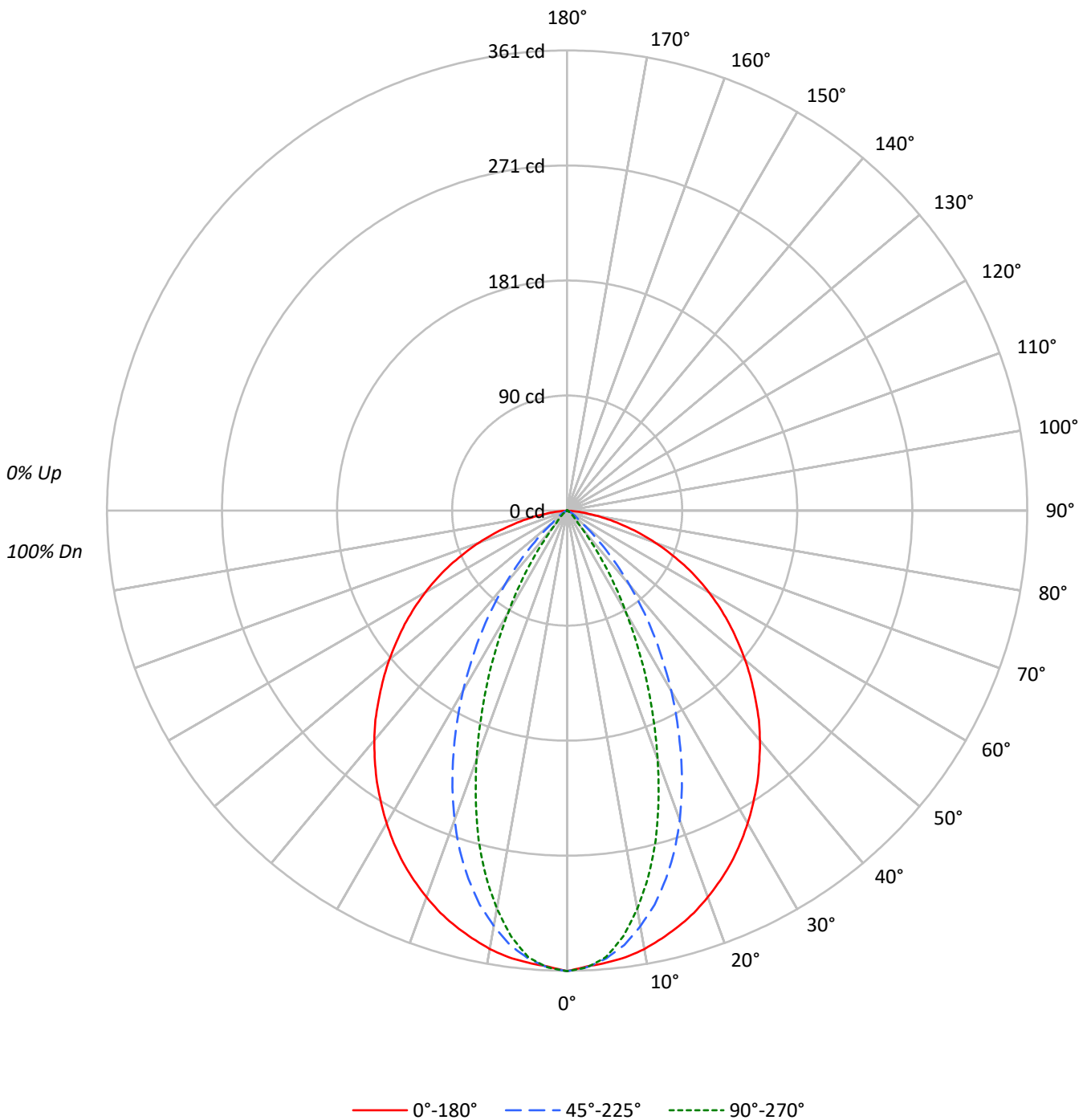
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 422.8 lumens  
Efficiency: N/A  
Efficacy: 33.6 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86  
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 12.6  
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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 |
| 1   | 112 | 108 | 105 | 103 | 109 | 106 | 104 | 101 | 102 | 100 | 98  | 98  | 97  | 95  | 95  | 93  | 92  |
| 2   | 105 | 99  | 94  | 89  | 102 | 97  | 92  | 88  | 93  | 90  | 86  | 90  | 87  | 84  | 87  | 85  | 83  |
| 3   | 98  | 90  | 84  | 79  | 96  | 88  | 83  | 78  | 86  | 81  | 77  | 83  | 79  | 76  | 81  | 77  | 74  |
| 4   | 92  | 82  | 75  | 70  | 90  | 81  | 75  | 70  | 79  | 73  | 69  | 77  | 72  | 68  | 75  | 71  | 67  |
| 5   | 86  | 76  | 69  | 63  | 84  | 75  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 62  | 69  | 65  | 61  |
| 6   | 81  | 70  | 63  | 57  | 79  | 69  | 62  | 57  | 67  | 61  | 57  | 66  | 61  | 56  | 64  | 60  | 56  |
| 7   | 76  | 65  | 58  | 53  | 74  | 64  | 57  | 52  | 63  | 57  | 52  | 61  | 56  | 52  | 60  | 55  | 52  |
| 8   | 71  | 60  | 53  | 48  | 70  | 60  | 53  | 48  | 58  | 52  | 48  | 57  | 52  | 48  | 56  | 51  | 48  |
| 9   | 68  | 56  | 49  | 45  | 66  | 56  | 49  | 45  | 55  | 49  | 45  | 54  | 48  | 44  | 53  | 48  | 44  |
| 10  | 64  | 53  | 46  | 42  | 63  | 52  | 46  | 42  | 51  | 46  | 41  | 51  | 45  | 41  | 50  | 45  | 41  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4356 | 4356 | 4356 |
| 5°  | 4308 | 4267 | 4254 |
| 10° | 4276 | 4051 | 3881 |
| 15° | 4215 | 3733 | 3345 |
| 20° | 4140 | 3313 | 2664 |
| 25° | 4053 | 2807 | 1965 |
| 30° | 3944 | 2275 | 1289 |
| 35° | 3828 | 1732 | 706  |
| 40° | 3703 | 1198 | 242  |
| 45° | 3558 | 696  | 140  |
| 50° | 3416 | 274  | 84   |
| 55° | 3269 | 172  | 40   |
| 60° | 3098 | 109  | 17   |
| 65° | 2887 | 54   | 11   |
| 70° | 2591 | 25   | 14   |
| 75° | 2199 | 19   | 19   |
| 80° | 1639 | 28   | 0    |
| 85° | 622  | 0    | 0    |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 3558 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 33.1   | 7.8       |
| 10°-20°   | 84.1   | 19.9      |
| 20°-30°   | 100.3  | 23.7      |
| 30°-40°   | 85.0   | 20.1      |
| 40°-50°   | 57.8   | 13.7      |
| 50°-60°   | 35.8   | 8.5       |
| 60°-70°   | 18.1   | 4.3       |
| 70°-80°   | 7.4    | 1.8       |
| 80°-90°   | 1.1    | 0.3       |
| 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°    | 217.4  | 51.4      |
| 0°-40°    | 302.5  | 71.5      |
| 0°-60°    | 396.1  | 93.7      |
| 0°-90°    | 422.8  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 422.8  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 361 | 361   | 361 | 361   | 361 |      |
| 5°  | 356 | 359   | 353 | 350   | 352 | 34   |
| 15° | 338 | 329   | 299 | 275   | 268 | 95   |
| 25° | 305 | 276   | 211 | 163   | 148 | 140  |
| 35° | 260 | 209   | 118 | 63    | 48  | 163  |
| 45° | 209 | 137   | 41  | 10    | 8   | 161  |
| 55° | 156 | 69    | 8   | 3     | 2   | 139  |
| 65° | 101 | 17    | 2   | 0     | 0   | 100  |
| 75° | 47  | 3     | 0   | 0     | 0   | 50   |
| 85° | 4   | 0     | 0   | 0     | 0   | 8    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 361.3 | 361.3 | 361.3 | 361.3 | 361.3 |
| 2.5°  | 357.9 | 362.8 | 358.6 | 358.3 | 358.6 |
| 5°    | 356.0 | 359.4 | 352.6 | 350.0 | 351.5 |
| 7.5°  | 353.4 | 354.9 | 343.7 | 336.9 | 336.9 |
| 10°   | 349.3 | 348.1 | 330.9 | 319.7 | 317.0 |
| 12.5° | 343.7 | 339.2 | 316.7 | 299.1 | 294.2 |
| 15°   | 337.7 | 329.0 | 299.1 | 275.4 | 268.0 |
| 17.5° | 330.9 | 317.8 | 279.9 | 249.2 | 238.3 |
| 20°   | 322.7 | 305.1 | 258.2 | 220.7 | 207.6 |
| 22.5° | 314.0 | 291.2 | 235.3 | 191.5 | 176.9 |
| 25°   | 304.7 | 276.2 | 211.0 | 163.0 | 147.7 |
| 27.5° | 294.2 | 260.5 | 187.0 | 135.7 | 118.8 |
| 30°   | 283.3 | 244.0 | 163.4 | 109.4 | 92.6  |
| 32.5° | 271.7 | 226.7 | 139.8 | 85.4  | 69.7  |
| 35°   | 260.1 | 208.7 | 117.7 | 63.3  | 48.0  |
| 37.5° | 247.7 | 190.8 | 96.3  | 43.8  | 30.4  |
| 40°   | 235.3 | 173.1 | 76.1  | 27.7  | 15.4  |
| 42.5° | 222.6 | 154.8 | 57.7  | 13.9  | 10.5  |
| 45°   | 208.7 | 136.8 | 40.8  | 10.1  | 8.2   |
| 47.5° | 195.6 | 119.5 | 27.0  | 8.2   | 6.4   |
| 50°   | 182.1 | 102.3 | 14.6  | 6.0   | 4.5   |
| 52.5° | 168.6 | 85.8  | 10.5  | 4.5   | 3.0   |
| 55°   | 155.5 | 69.0  | 8.2   | 3.0   | 1.9   |
| 57.5° | 142.0 | 54.3  | 6.4   | 1.9   | 1.1   |
| 60°   | 128.5 | 40.1  | 4.5   | 1.1   | 0.7   |
| 62.5° | 115.1 | 27.7  | 3.0   | 0.7   | 0.4   |
| 65°   | 101.2 | 16.9  | 1.9   | 0.4   | 0.4   |
| 67.5° | 86.9  | 11.6  | 1.1   | 0.4   | 0.4   |
| 70°   | 73.5  | 8.2   | 0.7   | 0.4   | 0.4   |
| 72.5° | 60.0  | 5.2   | 0.4   | 0.4   | 0.0   |
| 75°   | 47.2  | 3.0   | 0.4   | 0.4   | 0.4   |
| 77.5° | 34.9  | 1.1   | 0.4   | 0.4   | 0.0   |
| 80°   | 23.6  | 0.4   | 0.4   | 0.4   | 0.0   |
| 82.5° | 13.1  | 0.0   | 0.4   | 0.4   | 0.0   |
| 85°   | 4.5   | 0.0   | 0.0   | 0.4   | 0.0   |
| 87.5° | 0.0   | 0.0   | 0.0   | 0.4   | 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 | 14.16            | 15.44 | 14.52 | 15.75 | 16.06 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 16.10            | 17.24 | 16.48 | 17.57 | 17.93 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 16.93            | 17.99 | 17.33 | 18.34 | 18.72 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 17.48            | 18.45 | 17.90 | 18.82 | 19.22 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 17.61            | 18.53 | 18.04 | 18.92 | 19.32 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 17.63            | 18.51 | 18.07 | 18.89 | 19.32 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 13.92            | 14.98 | 14.32 | 15.33 | 15.71 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 3H   | 15.87            | 16.74 | 16.29 | 17.14 | 17.54 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 4H   | 16.69            | 17.46 | 17.12 | 17.88 | 18.32 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 17.29            | 17.95 | 17.75 | 18.40 | 18.87 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 17.44            | 18.06 | 17.91 | 18.51 | 18.98 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 17.49            | 18.03 | 17.98 | 18.52 | 18.99 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H              | 4H   | 16.54            | 17.16 | 17.02 | 17.61 | 18.08 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 17.13            | 17.63 | 17.63 | 18.13 | 18.61 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 17.28            | 17.73 | 17.80 | 18.24 | 18.74 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 17.34            | 17.73 | 17.85 | 18.23 | 18.80 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H             | 4H   | 16.50            | 17.04 | 16.98 | 17.52 | 18.00 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 17.07            | 17.52 | 17.59 | 18.03 | 18.52 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 17.23            | 17.63 | 17.75 | 18.12 | 18.70 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |