

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: P1055604

Luminaire Tested: S123R3DRP-S340D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055604  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123R3DRP-S340D830-X4F0-XX-UDD-F-W  
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

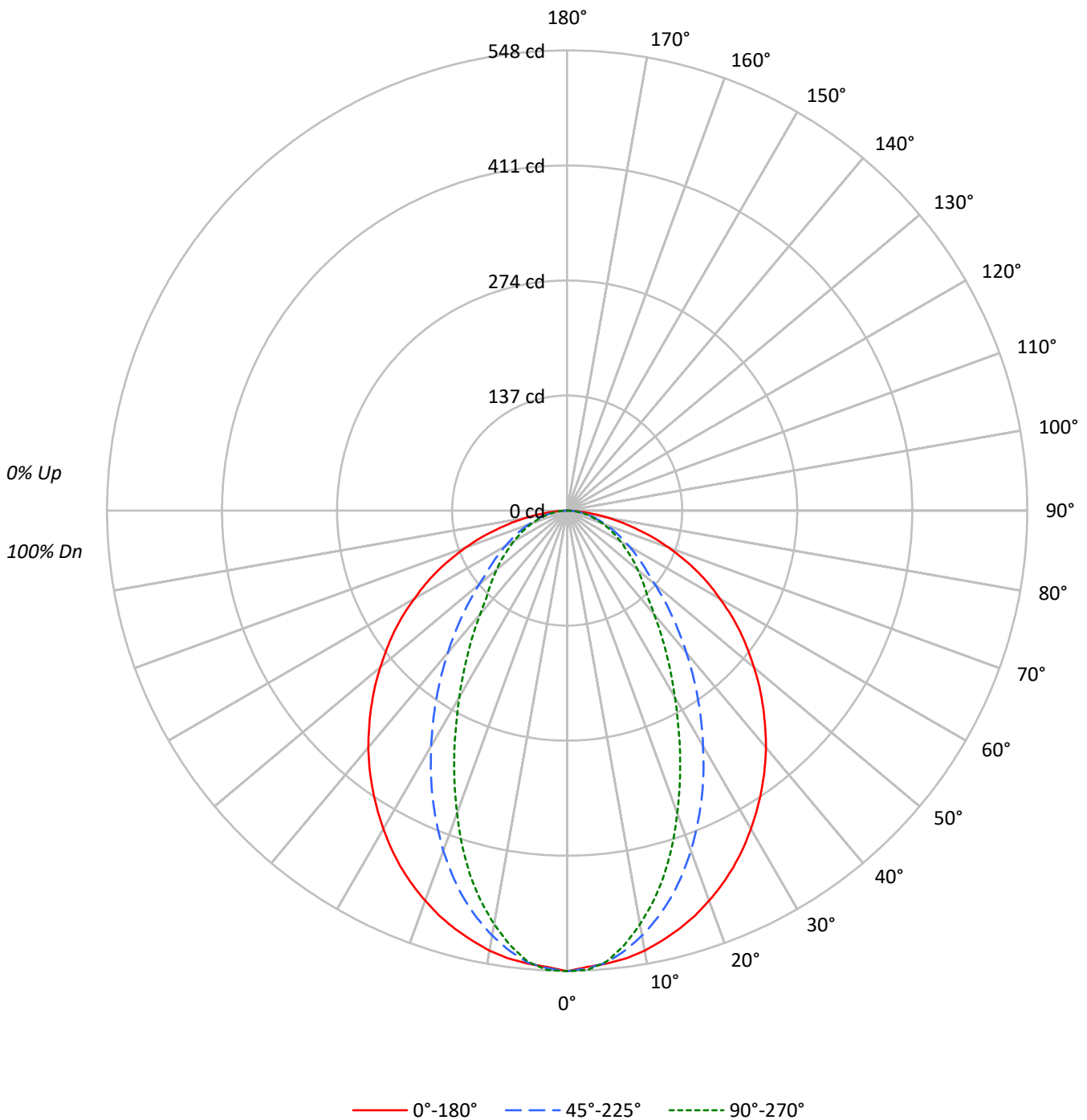
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 962.0 lumens  
Efficiency: N/A  
Efficacy: 76.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02  
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 |    |     |   |  | 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   | 110 | 106 | 102 | 99  | 107 | 104 | 100 | 97  | 99  | 97  | 94  | 96  | 93  | 91  | 92  | 90  | 88  | 86  |    |    |    |    | 86  |   |  |   |
| 2   | 101 | 94  | 88  | 83  | 99  | 92  | 87  | 82  | 89  | 84  | 80  | 85  | 82  | 78  | 83  | 79  | 76  | 74  |    |    |    |    | 74  |   |  |   |
| 3   | 93  | 84  | 77  | 71  | 91  | 82  | 76  | 70  | 80  | 74  | 69  | 77  | 72  | 68  | 74  | 70  | 67  | 65  |    |    |    |    | 65  |   |  |   |
| 4   | 86  | 75  | 68  | 61  | 84  | 74  | 67  | 61  | 72  | 65  | 60  | 70  | 64  | 59  | 67  | 63  | 59  | 57  |    |    |    |    | 57  |   |  |   |
| 5   | 80  | 68  | 60  | 54  | 78  | 67  | 60  | 54  | 65  | 58  | 53  | 63  | 57  | 53  | 62  | 56  | 52  | 50  |    |    |    |    | 50  |   |  |   |
| 6   | 75  | 62  | 54  | 48  | 73  | 61  | 54  | 48  | 60  | 53  | 48  | 58  | 52  | 47  | 57  | 51  | 47  | 45  |    |    |    |    | 45  |   |  |   |
| 7   | 70  | 57  | 49  | 43  | 68  | 56  | 49  | 43  | 55  | 48  | 43  | 53  | 47  | 43  | 52  | 47  | 42  | 40  |    |    |    |    | 40  |   |  |   |
| 8   | 65  | 53  | 45  | 39  | 64  | 52  | 44  | 39  | 51  | 44  | 39  | 49  | 43  | 39  | 48  | 43  | 39  | 37  |    |    |    |    | 37  |   |  |   |
| 9   | 61  | 49  | 41  | 36  | 60  | 48  | 41  | 36  | 47  | 40  | 36  | 46  | 40  | 35  | 45  | 39  | 35  | 34  |    |    |    |    | 34  |   |  |   |
| 10  | 58  | 45  | 38  | 33  | 56  | 45  | 38  | 33  | 44  | 37  | 33  | 43  | 37  | 33  | 42  | 37  | 33  | 31  |    |    |    |    | 31  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 6613 | 6613 | 6613 |
| 5°  | 6553 | 6539 | 6524 |
| 10° | 6514 | 6293 | 6122 |
| 15° | 6437 | 5960 | 5592 |
| 20° | 6343 | 5532 | 4917 |
| 25° | 6232 | 5038 | 4229 |
| 30° | 6093 | 4506 | 3575 |
| 35° | 5948 | 3986 | 3019 |
| 40° | 5798 | 3480 | 2537 |
| 45° | 5623 | 3001 | 2239 |
| 50° | 5449 | 2555 | 2054 |
| 55° | 5286 | 2276 | 1898 |
| 60° | 5064 | 2057 | 1770 |
| 65° | 4858 | 1886 | 1663 |
| 70° | 4526 | 1734 | 1562 |
| 75° | 4053 | 1607 | 1472 |
| 80° | 3478 | 1479 | 1368 |
| 85° | 2435 | 1356 | 1300 |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 5623 cd/sqm

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 50.8   | 5.3       |
| 10°-20°   | 134.5  | 14.0      |
| 20°-30°   | 177.2  | 18.4      |
| 30°-40°   | 179.9  | 18.7      |
| 40°-50°   | 156.3  | 16.3      |
| 50°-60°   | 122.5  | 12.7      |
| 60°-70°   | 83.2   | 8.7       |
| 70°-80°   | 45.1   | 4.7       |
| 80°-90°   | 12.4   | 1.3       |
| 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°    | 362.6  | 37.7      |
| 0°-40°    | 542.4  | 56.4      |
| 0°-60°    | 821.3  | 85.4      |
| 0°-90°    | 962.0  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 962.0  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 548 | 548   | 548 | 548   | 548 |      |
| 5°  | 542 | 548   | 540 | 535   | 539 | 51   |
| 15° | 516 | 508   | 478 | 454   | 448 | 145  |
| 25° | 468 | 440   | 379 | 332   | 318 | 216  |
| 35° | 404 | 356   | 271 | 219   | 205 | 253  |
| 45° | 330 | 265   | 176 | 136   | 131 | 255  |
| 55° | 252 | 175   | 108 | 92    | 90  | 224  |
| 65° | 170 | 94    | 66  | 59    | 58  | 168  |
| 75° | 87  | 44    | 34  | 32    | 32  | 93   |
| 85° | 18  | 11    | 10  | 9     | 9   | 22   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 548.5 | 548.5 | 548.5 | 548.5 | 548.5 |
| 2.5°  | 544.0 | 551.0 | 545.6 | 546.0 | 547.7 |
| 5°    | 541.5 | 548.1 | 540.3 | 535.4 | 539.1 |
| 7.5°  | 537.8 | 542.8 | 528.4 | 520.6 | 521.8 |
| 10°   | 532.1 | 533.7 | 514.0 | 501.7 | 500.1 |
| 12.5° | 524.3 | 521.4 | 496.8 | 478.8 | 475.9 |
| 15°   | 515.7 | 508.3 | 477.5 | 454.1 | 448.0 |
| 17.5° | 505.8 | 493.5 | 455.0 | 426.2 | 416.8 |
| 20°   | 494.4 | 477.1 | 431.2 | 394.7 | 383.2 |
| 22.5° | 482.0 | 459.9 | 405.3 | 362.3 | 350.4 |
| 25°   | 468.5 | 440.2 | 378.7 | 331.5 | 317.9 |
| 27.5° | 453.7 | 420.5 | 351.6 | 301.1 | 285.9 |
| 30°   | 437.7 | 400.0 | 323.7 | 271.6 | 256.8 |
| 32.5° | 421.3 | 378.3 | 297.0 | 244.1 | 229.7 |
| 35°   | 404.1 | 356.1 | 270.8 | 219.1 | 205.1 |
| 37.5° | 386.5 | 333.5 | 245.3 | 195.3 | 182.2 |
| 40°   | 368.4 | 310.6 | 221.1 | 173.1 | 161.2 |
| 42.5° | 349.1 | 287.6 | 197.7 | 152.2 | 143.2 |
| 45°   | 329.8 | 264.6 | 176.0 | 135.8 | 131.3 |
| 47.5° | 310.6 | 241.2 | 155.5 | 124.3 | 120.2 |
| 50°   | 290.5 | 218.7 | 136.2 | 113.6 | 109.5 |
| 52.5° | 270.8 | 196.5 | 120.2 | 103.4 | 100.5 |
| 55°   | 251.5 | 174.8 | 108.3 | 92.3  | 90.3  |
| 57.5° | 231.4 | 153.4 | 96.4  | 83.7  | 81.2  |
| 60°   | 210.0 | 132.9 | 85.3  | 74.7  | 73.4  |
| 62.5° | 190.8 | 113.6 | 75.5  | 66.9  | 65.6  |
| 65°   | 170.3 | 94.4  | 66.1  | 59.1  | 58.3  |
| 67.5° | 149.3 | 78.4  | 57.4  | 51.7  | 51.3  |
| 70°   | 128.4 | 66.1  | 49.2  | 44.7  | 44.3  |
| 72.5° | 107.9 | 54.6  | 41.4  | 38.6  | 37.7  |
| 75°   | 87.0  | 43.5  | 34.5  | 32.0  | 31.6  |
| 77.5° | 68.1  | 33.6  | 27.5  | 25.8  | 25.4  |
| 80°   | 50.1  | 25.0  | 21.3  | 20.1  | 19.7  |
| 82.5° | 32.8  | 17.2  | 15.2  | 14.4  | 14.4  |
| 85°   | 17.6  | 10.7  | 9.8   | 9.0   | 9.4   |
| 87.5° | 6.2   | 4.5   | 4.5   | 4.1   | 4.5   |
| 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 | 17.12            | 18.61 | 17.49 | 18.93 | 19.24 | 12.27          | 13.76 | 12.64 | 14.08 | 14.39 |
|                 | 3H   | 19.01            | 20.35 | 19.39 | 20.67 | 21.04 | 13.90          | 15.24 | 14.28 | 15.57 | 15.93 |
|                 | 4H   | 19.76            | 21.02 | 20.16 | 21.37 | 21.75 | 14.53          | 15.79 | 14.94 | 16.14 | 16.52 |
|                 | 6H   | 20.33            | 21.49 | 20.74 | 21.86 | 22.25 | 15.02          | 16.18 | 15.44 | 16.55 | 16.94 |
|                 | 8H   | 20.50            | 21.61 | 20.93 | 22.00 | 22.40 | 15.19          | 16.30 | 15.62 | 16.69 | 17.09 |
|                 | 12H  | 20.60            | 21.66 | 21.03 | 22.04 | 22.47 | 15.32          | 16.38 | 15.75 | 16.76 | 17.19 |
| 4H              | 2H   | 17.17            | 18.42 | 17.57 | 18.77 | 19.15 | 13.00          | 14.26 | 13.40 | 14.60 | 14.98 |
|                 | 3H   | 19.18            | 20.23 | 19.60 | 20.63 | 21.03 | 14.82          | 15.86 | 15.23 | 16.26 | 16.67 |
|                 | 4H   | 20.00            | 20.94 | 20.44 | 21.36 | 21.80 | 15.57          | 16.51 | 16.00 | 16.92 | 17.36 |
|                 | 6H   | 20.69            | 21.50 | 21.14 | 21.95 | 22.41 | 16.17          | 16.99 | 16.63 | 17.43 | 17.89 |
|                 | 8H   | 20.92            | 21.68 | 21.38 | 22.12 | 22.59 | 16.39          | 17.15 | 16.85 | 17.60 | 18.07 |
|                 | 12H  | 21.07            | 21.75 | 21.55 | 22.23 | 22.70 | 16.56          | 17.24 | 17.04 | 17.72 | 18.19 |
| 8H              | 4H   | 20.03            | 20.79 | 20.49 | 21.23 | 21.70 | 15.95          | 16.71 | 16.41 | 17.16 | 17.63 |
|                 | 6H   | 20.76            | 21.39 | 21.25 | 21.88 | 22.36 | 16.68          | 17.31 | 17.17 | 17.80 | 18.28 |
|                 | 8H   | 21.02            | 21.59 | 21.54 | 22.10 | 22.59 | 16.97          | 17.53 | 17.48 | 18.04 | 18.53 |
|                 | 12H  | 21.23            | 21.73 | 21.74 | 22.23 | 22.79 | 17.21          | 17.71 | 17.72 | 18.20 | 18.77 |
| 12H             | 4H   | 20.01            | 20.69 | 20.49 | 21.17 | 21.64 | 16.00          | 16.69 | 16.49 | 17.16 | 17.64 |
|                 | 6H   | 20.74            | 21.31 | 21.25 | 21.82 | 22.30 | 16.76          | 17.33 | 17.27 | 17.84 | 18.32 |
|                 | 8H   | 21.04            | 21.54 | 21.55 | 22.04 | 22.60 | 17.11          | 17.61 | 17.62 | 18.10 | 18.67 |