

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: P1055986

Luminaire Tested: S124R3DRP-S1195D840-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055986  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-8)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S124R3DRP-S1195D840-X4F0-XX-UDD-F-B  
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 80 CRI LEDS  
Ballast/Driver: -

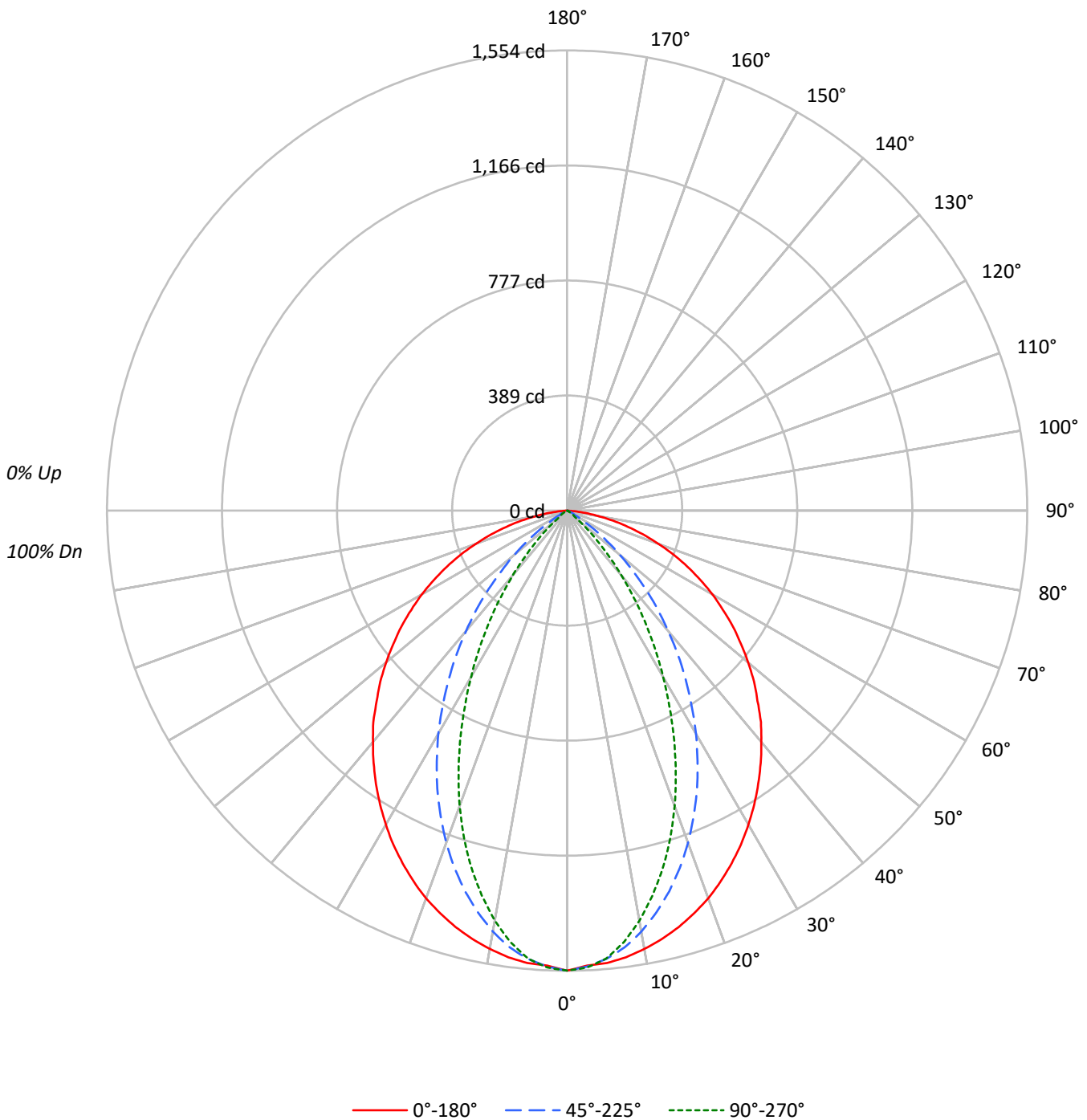
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2171.2 lumens  
Efficiency: N/A  
Efficacy: 51.8 lumens/watt  
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97  
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41.9  
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 | 108 | 105 | 102 | 109 | 106 | 103 | 100 | 102 | 99  | 97  | 98  | 96  | 94  | 95  | 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  | 82  | 77  | 95  | 87  | 81  | 77  | 84  | 79  | 75  | 82  | 78  | 74  | 79  | 76  | 73  | 71  |    |    |    |    | 71  |   |  |   |
| 4   | 90  | 81  | 74  | 68  | 88  | 80  | 73  | 68  | 77  | 72  | 67  | 75  | 70  | 66  | 73  | 69  | 65  | 64  |    |    |    |    | 64  |   |  |   |
| 5   | 84  | 74  | 66  | 61  | 83  | 73  | 66  | 61  | 71  | 65  | 60  | 69  | 64  | 60  | 67  | 63  | 59  | 57  |    |    |    |    | 57  |   |  |   |
| 6   | 79  | 68  | 60  | 55  | 77  | 67  | 60  | 55  | 65  | 59  | 54  | 64  | 58  | 54  | 62  | 57  | 54  | 52  |    |    |    |    | 52  |   |  |   |
| 7   | 74  | 63  | 55  | 50  | 73  | 62  | 55  | 50  | 60  | 54  | 50  | 59  | 53  | 49  | 58  | 53  | 49  | 47  |    |    |    |    | 47  |   |  |   |
| 8   | 70  | 58  | 51  | 46  | 68  | 57  | 50  | 46  | 56  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 9   | 66  | 54  | 47  | 42  | 64  | 53  | 47  | 42  | 52  | 46  | 42  | 51  | 46  | 42  | 50  | 45  | 41  | 40  |    |    |    |    | 40  |   |  |   |
| 10  | 62  | 50  | 43  | 39  | 61  | 50  | 43  | 39  | 49  | 43  | 39  | 48  | 42  | 39  | 47  | 42  | 38  | 37  |    |    |    |    | 37  |   |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 13735 | 13735 | 13735 |
| 5°  | 13612 | 13490 | 13477 |
| 10° | 13495 | 12962 | 12621 |
| 15° | 13327 | 12184 | 11432 |
| 20° | 13112 | 11235 | 9988  |
| 25° | 12822 | 10118 | 8335  |
| 30° | 12501 | 8879  | 6624  |
| 35° | 12148 | 7528  | 4931  |
| 40° | 11777 | 6134  | 3287  |
| 45° | 11368 | 4685  | 1809  |
| 50° | 10978 | 3205  | 503   |
| 55° | 10540 | 1737  | 328   |
| 60° | 10019 | 539   | 189   |
| 65° | 9368  | 351   | 96    |
| 70° | 8466  | 158   | 39    |
| 75° | 7283  | 51    | 0     |
| 80° | 5504  | 0     | 0     |
| 85° | 2313  | 0     | 0     |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11368 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 143.3  | 6.6       |
| 10°-20°   | 376.2  | 17.3      |
| 20°-30°   | 486.2  | 22.4      |
| 30°-40°   | 464.7  | 21.4      |
| 40°-50°   | 347.5  | 16.0      |
| 50°-60°   | 206.8  | 9.5       |
| 60°-70°   | 105.0  | 4.8       |
| 70°-80°   | 36.5   | 1.7       |
| 80°-90°   | 5.0    | 0.2       |
| 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°    | 1005.7 | 46.3      |
| 0°-40°    | 1470.4 | 67.7      |
| 0°-60°    | 2024.8 | 93.3      |
| 0°-90°    | 2171.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2171.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1554 | 1554  | 1554 | 1554  | 1554 |      |
| 5°  | 1534 | 1546  | 1520 | 1512  | 1518 | 145  |
| 15° | 1456 | 1426  | 1331 | 1269  | 1249 | 410  |
| 25° | 1314 | 1223  | 1037 | 900   | 854  | 605  |
| 35° | 1126 | 970   | 698  | 519   | 457  | 704  |
| 45° | 909  | 698   | 375  | 200   | 145  | 703  |
| 55° | 684  | 425   | 113  | 26    | 21   | 610  |
| 65° | 448  | 172   | 17   | 6     | 5    | 443  |
| 75° | 213  | 23    | 2    | 2     | 0    | 226  |
| 85° | 23   | 0     | 0    | 0     | 0    | 38   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1553.5 | 1553.5 | 1553.5 | 1553.5 | 1553.5 |
| 2.5°  | 1538.3 | 1556.5 | 1541.3 | 1542.8 | 1544.4 |
| 5°    | 1533.7 | 1545.9 | 1520.0 | 1512.4 | 1518.5 |
| 7.5°  | 1521.5 | 1526.1 | 1488.0 | 1468.2 | 1469.7 |
| 10°   | 1503.2 | 1498.7 | 1443.8 | 1410.3 | 1405.8 |
| 12.5° | 1481.9 | 1466.7 | 1390.5 | 1341.8 | 1331.1 |
| 15°   | 1456.0 | 1425.6 | 1331.1 | 1268.7 | 1248.9 |
| 17.5° | 1425.6 | 1381.4 | 1265.6 | 1183.4 | 1159.0 |
| 20°   | 1393.6 | 1332.7 | 1194.1 | 1092.0 | 1061.6 |
| 22.5° | 1355.5 | 1277.8 | 1116.4 | 996.1  | 958.0  |
| 25°   | 1314.4 | 1223.0 | 1037.2 | 900.1  | 854.4  |
| 27.5° | 1271.7 | 1163.6 | 953.4  | 802.6  | 749.3  |
| 30°   | 1224.5 | 1101.2 | 869.7  | 703.6  | 648.8  |
| 32.5° | 1175.8 | 1037.2 | 782.8  | 612.3  | 551.3  |
| 35°   | 1125.5 | 970.2  | 697.5  | 519.4  | 456.9  |
| 37.5° | 1073.7 | 903.2  | 615.3  | 431.0  | 367.1  |
| 40°   | 1020.4 | 834.6  | 531.5  | 347.3  | 284.8  |
| 42.5° | 968.6  | 766.1  | 452.3  | 268.1  | 210.2  |
| 45°   | 909.2  | 697.5  | 374.7  | 199.5  | 144.7  |
| 47.5° | 855.9  | 630.5  | 300.0  | 135.5  | 85.3   |
| 50°   | 798.1  | 559.0  | 233.0  | 79.2   | 36.6   |
| 52.5° | 740.2  | 491.9  | 170.6  | 35.0   | 27.4   |
| 55°   | 683.8  | 424.9  | 112.7  | 25.9   | 21.3   |
| 57.5° | 624.4  | 357.9  | 60.9   | 19.8   | 15.2   |
| 60°   | 566.6  | 292.4  | 30.5   | 15.2   | 10.7   |
| 62.5° | 507.2  | 230.0  | 24.4   | 9.1    | 6.1    |
| 65°   | 447.8  | 172.1  | 16.8   | 6.1    | 4.6    |
| 67.5° | 388.4  | 117.3  | 10.7   | 3.0    | 1.5    |
| 70°   | 327.5  | 71.6   | 6.1    | 1.5    | 1.5    |
| 72.5° | 269.6  | 36.6   | 3.0    | 1.5    | 1.5    |
| 75°   | 213.2  | 22.8   | 1.5    | 1.5    | 0.0    |
| 77.5° | 158.4  | 12.2   | 1.5    | 1.5    | 0.0    |
| 80°   | 108.1  | 4.6    | 0.0    | 0.0    | 0.0    |
| 82.5° | 62.4   | 1.5    | 0.0    | 0.0    | 0.0    |
| 85°   | 22.8   | 0.0    | 0.0    | 0.0    | 0.0    |
| 87.5° | 0.0    | 0.0    | 0.0    | 0.0    | 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 | 19.56            | 20.89 | 19.92 | 21.20 | 21.51 | 0.00           | 0.00 | 0.00 | 0.00 | 0.18 |
|                 | 3H   | 21.10            | 22.28 | 21.48 | 22.61 | 22.97 | 0.00           | 0.00 | 0.00 | 0.00 | 0.02 |
|                 | 4H   | 21.69            | 22.79 | 22.10 | 23.14 | 23.52 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 6H   | 22.11            | 23.12 | 22.53 | 23.49 | 23.88 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 8H   | 22.21            | 23.16 | 22.64 | 23.55 | 23.96 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
|                 | 12H  | 22.23            | 23.14 | 22.66 | 23.52 | 23.95 | 0.00           | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H              | 2H   | 19.34            | 20.43 | 19.74 | 20.78 | 21.16 | 0.00           | 0.31 | 0.00 | 0.66 | 1.04 |
|                 | 3H   | 20.90            | 21.79 | 21.31 | 22.20 | 22.60 | 0.00           | 0.07 | 0.00 | 0.47 | 0.88 |
|                 | 4H   | 21.48            | 22.28 | 21.92 | 22.70 | 23.14 | 0.00           | 0.00 | 0.00 | 0.34 | 0.78 |
|                 | 6H   | 21.94            | 22.63 | 22.41 | 23.08 | 23.54 | 0.00           | 0.00 | 0.00 | 0.19 | 0.65 |
|                 | 8H   | 22.06            | 22.70 | 22.53 | 23.15 | 23.62 | 0.00           | 0.00 | 0.00 | 0.08 | 0.55 |
|                 | 12H  | 22.10            | 22.67 | 22.59 | 23.15 | 23.62 | 0.00           | 0.00 | 0.00 | 0.00 | 0.47 |
| 8H              | 4H   | 21.35            | 21.99 | 21.82 | 22.43 | 22.91 | 0.85           | 1.49 | 1.32 | 1.94 | 2.41 |
|                 | 6H   | 21.79            | 22.31 | 22.29 | 22.81 | 23.29 | 0.76           | 1.28 | 1.26 | 1.78 | 2.26 |
|                 | 8H   | 21.90            | 22.37 | 22.43 | 22.89 | 23.38 | 0.70           | 1.17 | 1.22 | 1.68 | 2.18 |
|                 | 12H  | 21.95            | 22.36 | 22.47 | 22.86 | 23.43 | 0.66           | 1.07 | 1.17 | 1.56 | 2.14 |
| 12H             | 4H   | 21.30            | 21.87 | 21.79 | 22.35 | 22.82 | 1.27           | 1.83 | 1.75 | 2.31 | 2.79 |
|                 | 6H   | 21.72            | 22.19 | 22.25 | 22.71 | 23.20 | 1.16           | 1.63 | 1.68 | 2.14 | 2.63 |
|                 | 8H   | 21.86            | 22.27 | 22.37 | 22.77 | 23.34 | 1.11           | 1.53 | 1.63 | 2.02 | 2.59 |