

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: P1056009

Luminaire Tested: S124R3DRP-S350D830-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056009
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-7)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124R3DRP-S350D830-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

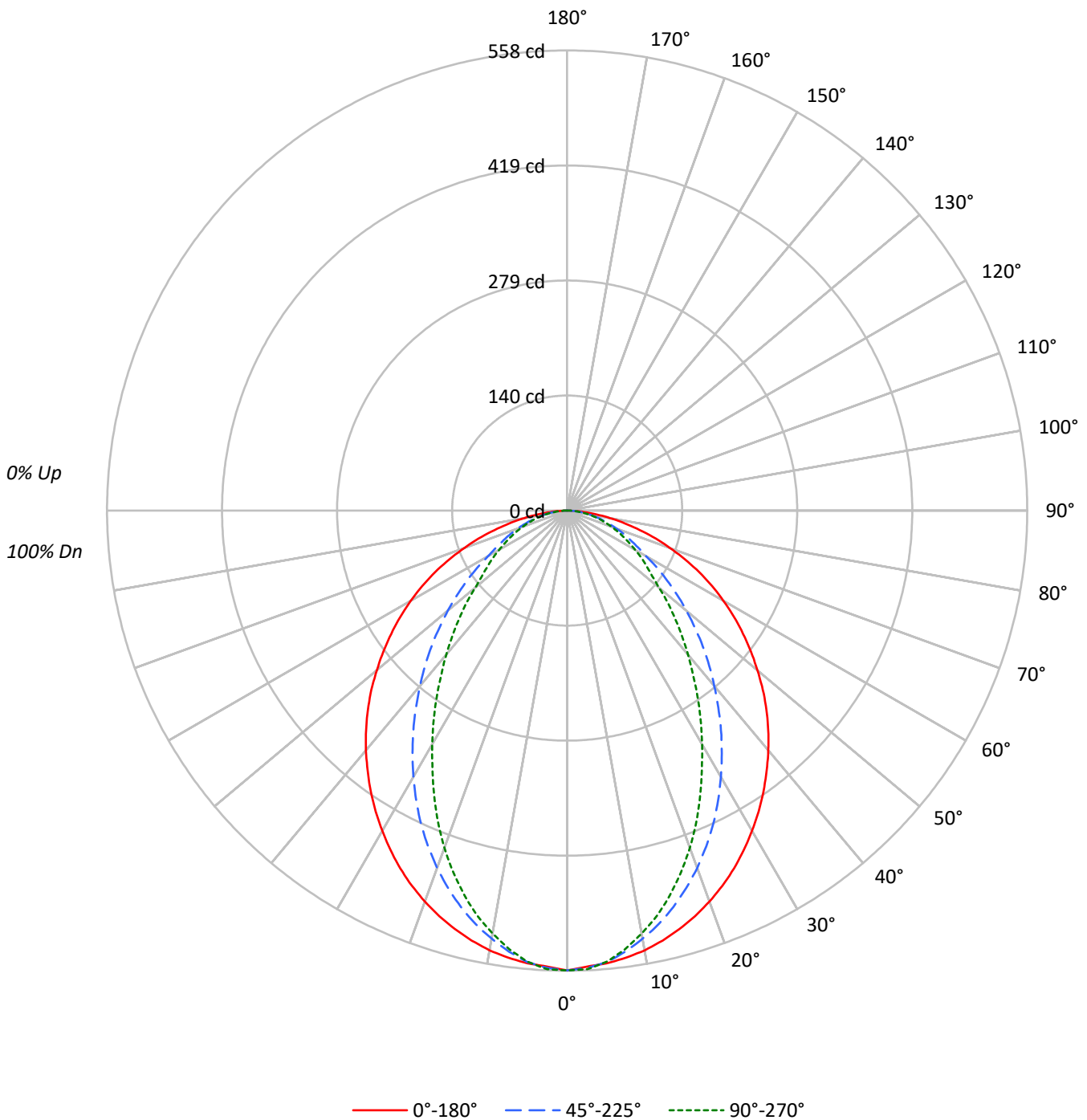
Lumens per Lamp: N/A
Luminaire Lumens: 1110.4 lumens
Efficiency: N/A
Efficacy: 88.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
Input Voltage (V): 120
Input Current (Ain): 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 | 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 | 105 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 93 | 95 | 93 | 91 | 92 | 90 | 88 | 86 | | | | | | | | | | | | | 86 | | | | | | | | | | | | | | | |
| 2 | 101 | 93 | 87 | 82 | 98 | 91 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 78 | 76 | 73 | | | | | | | | | | | | | 73 | | | | | | | | | | | | | | | |
| 3 | 93 | 83 | 75 | 69 | 90 | 81 | 74 | 69 | 79 | 73 | 68 | 76 | 71 | 67 | 73 | 69 | 65 | 63 | | | | | | | | | | | | | 63 | | | | | | | | | | | | | | | |
| 4 | 85 | 74 | 66 | 60 | 83 | 73 | 65 | 60 | 71 | 64 | 59 | 68 | 63 | 58 | 66 | 61 | 57 | 55 | | | | | | | | | | | | | 55 | | | | | | | | | | | | | | | |
| 5 | 79 | 67 | 59 | 53 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 | | | | | | | | | | | | | 49 | | | | | | | | | | | | | | | |
| 6 | 73 | 61 | 53 | 47 | 72 | 60 | 52 | 46 | 58 | 51 | 46 | 57 | 50 | 46 | 55 | 50 | 45 | 43 | | | | | | | | | | | | | 43 | | | | | | | | | | | | | | | |
| 7 | 68 | 56 | 47 | 42 | 67 | 55 | 47 | 42 | 53 | 46 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 39 | | | | | | | | | | | | | 39 | | | | | | | | | | | | | | | |
| 8 | 64 | 51 | 43 | 38 | 62 | 51 | 43 | 38 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 | | | | | | | | | | | | | 35 | | | | | | | | | | | | | | | |
| 9 | 60 | 47 | 39 | 34 | 59 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 32 | | | | | | | | | | | | | 32 | | | | | | | | | | | | | | | |
| 10 | 56 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 41 | 35 | 31 | 29 | | | | | | | | | | | | | 29 | | | | | | | | | | | | | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 4929 | 4929 | 4929 |
| 5° | 4890 | 4879 | 4875 |
| 10° | 4861 | 4733 | 4674 |
| 15° | 4810 | 4555 | 4416 |
| 20° | 4748 | 4338 | 4096 |
| 25° | 4671 | 4090 | 3722 |
| 30° | 4578 | 3807 | 3342 |
| 35° | 4481 | 3511 | 2976 |
| 40° | 4380 | 3205 | 2633 |
| 45° | 4272 | 2908 | 2313 |
| 50° | 4142 | 2596 | 1997 |
| 55° | 4015 | 2283 | 1814 |
| 60° | 3874 | 1959 | 1683 |
| 65° | 3699 | 1776 | 1571 |
| 70° | 3436 | 1644 | 1484 |
| 75° | 3112 | 1513 | 1401 |
| 80° | 2714 | 1400 | 1314 |
| 85° | 2080 | 1288 | 1207 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4272 cd/sqm

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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 51.9 | 4.7 |
| 10°-20° | 140.8 | 12.7 |
| 20°-30° | 195.0 | 17.6 |
| 30°-40° | 209.2 | 18.8 |
| 40°-50° | 190.3 | 17.1 |
| 50°-60° | 149.8 | 13.5 |
| 60°-70° | 102.6 | 9.2 |
| 70°-80° | 55.2 | 5.0 |
| 80°-90° | 15.6 | 1.4 |
| 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° | 387.7 | 34.9 |
| 0°-40° | 596.9 | 53.8 |
| 0°-60° | 937.0 | 84.4 |
| 0°-90° | 1110.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1110.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 558 | 558 | 558 | 558 | 558 | |
| 5° | 551 | 557 | 550 | 547 | 549 | 52 |
| 15° | 526 | 520 | 498 | 484 | 482 | 148 |
| 25° | 479 | 459 | 419 | 389 | 382 | 220 |
| 35° | 415 | 383 | 325 | 286 | 276 | 260 |
| 45° | 342 | 298 | 233 | 192 | 185 | 263 |
| 55° | 260 | 211 | 148 | 119 | 118 | 233 |
| 65° | 177 | 126 | 85 | 76 | 75 | 174 |
| 75° | 91 | 55 | 44 | 41 | 41 | 97 |
| 85° | 20 | 14 | 13 | 12 | 12 | 25 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 557.5 | 557.5 | 557.5 | 557.5 | 557.5 |
| 2.5° | 553.4 | 560.0 | 555.1 | 555.9 | 556.7 |
| 5° | 551.0 | 557.1 | 549.7 | 546.9 | 549.3 |
| 7.5° | 546.9 | 551.0 | 539.5 | 534.1 | 536.6 |
| 10° | 541.5 | 542.4 | 527.2 | 519.4 | 520.6 |
| 12.5° | 534.1 | 532.1 | 513.6 | 502.6 | 503.4 |
| 15° | 525.5 | 519.8 | 497.6 | 484.1 | 482.5 |
| 17.5° | 515.7 | 506.2 | 480.0 | 462.8 | 459.5 |
| 20° | 504.6 | 491.9 | 461.1 | 439.0 | 435.3 |
| 22.5° | 492.3 | 475.9 | 440.6 | 414.4 | 409.0 |
| 25° | 478.8 | 459.1 | 419.3 | 388.9 | 381.5 |
| 27.5° | 464.0 | 441.0 | 396.3 | 363.1 | 353.6 |
| 30° | 448.4 | 422.1 | 372.9 | 337.2 | 327.4 |
| 32.5° | 432.4 | 402.9 | 349.1 | 311.4 | 301.1 |
| 35° | 415.2 | 382.8 | 325.3 | 285.9 | 275.7 |
| 37.5° | 397.5 | 361.8 | 301.1 | 261.3 | 250.7 |
| 40° | 379.5 | 340.9 | 277.7 | 236.7 | 228.1 |
| 42.5° | 361.0 | 319.6 | 254.8 | 213.7 | 205.9 |
| 45° | 341.7 | 298.3 | 232.6 | 192.4 | 185.0 |
| 47.5° | 322.0 | 276.5 | 210.0 | 172.3 | 165.3 |
| 50° | 301.1 | 254.8 | 188.7 | 152.6 | 145.2 |
| 52.5° | 281.0 | 232.6 | 168.2 | 133.3 | 129.6 |
| 55° | 260.5 | 210.9 | 148.1 | 119.4 | 117.7 |
| 57.5° | 240.0 | 189.1 | 129.6 | 108.3 | 106.7 |
| 60° | 219.1 | 167.8 | 110.8 | 96.8 | 95.2 |
| 62.5° | 198.2 | 146.9 | 96.8 | 85.7 | 84.9 |
| 65° | 176.8 | 126.4 | 84.9 | 75.5 | 75.1 |
| 67.5° | 154.3 | 106.7 | 74.3 | 66.5 | 66.1 |
| 70° | 132.9 | 87.0 | 63.6 | 57.4 | 57.4 |
| 72.5° | 112.8 | 68.9 | 53.7 | 48.8 | 48.8 |
| 75° | 91.1 | 55.4 | 44.3 | 40.6 | 41.0 |
| 77.5° | 71.8 | 43.5 | 35.7 | 33.2 | 33.2 |
| 80° | 53.3 | 32.4 | 27.5 | 25.4 | 25.8 |
| 82.5° | 36.1 | 22.6 | 19.7 | 18.5 | 18.5 |
| 85° | 20.5 | 13.9 | 12.7 | 11.9 | 11.9 |
| 87.5° | 7.4 | 6.6 | 6.2 | 5.3 | 5.7 |
| 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 | 16.68 | 18.21 | 17.05 | 18.52 | 18.84 | 12.46 | 13.99 | 12.83 | 14.30 | 14.61 |
| | 3H | 18.46 | 19.83 | 18.84 | 20.16 | 20.52 | 14.07 | 15.44 | 14.45 | 15.77 | 16.13 |
| | 4H | 19.13 | 20.42 | 19.53 | 20.77 | 21.14 | 14.70 | 15.99 | 15.10 | 16.34 | 16.72 |
| | 6H | 19.64 | 20.83 | 20.05 | 21.20 | 21.59 | 15.20 | 16.39 | 15.61 | 16.76 | 17.15 |
| | 8H | 19.80 | 20.94 | 20.23 | 21.33 | 21.73 | 15.37 | 16.51 | 15.80 | 16.89 | 17.30 |
| | 12H | 19.90 | 20.99 | 20.33 | 21.37 | 21.80 | 15.50 | 16.58 | 15.93 | 16.96 | 17.39 |
| 4H | 2H | 16.78 | 18.06 | 17.18 | 18.41 | 18.79 | 13.18 | 14.47 | 13.58 | 14.81 | 15.19 |
| | 3H | 18.72 | 19.79 | 19.13 | 20.19 | 20.59 | 14.99 | 16.06 | 15.40 | 16.46 | 16.86 |
| | 4H | 19.48 | 20.44 | 19.91 | 20.86 | 21.30 | 15.72 | 16.69 | 16.16 | 17.10 | 17.54 |
| | 6H | 20.11 | 20.95 | 20.57 | 21.40 | 21.86 | 16.34 | 17.18 | 16.80 | 17.62 | 18.08 |
| | 8H | 20.33 | 21.12 | 20.80 | 21.56 | 22.03 | 16.56 | 17.34 | 17.02 | 17.78 | 18.25 |
| | 12H | 20.49 | 21.19 | 20.97 | 21.67 | 22.14 | 16.72 | 17.42 | 17.20 | 17.90 | 18.37 |
| 8H | 4H | 19.54 | 20.32 | 20.00 | 20.77 | 21.23 | 16.11 | 16.90 | 16.58 | 17.34 | 17.81 |
| | 6H | 20.24 | 20.89 | 20.73 | 21.38 | 21.85 | 16.84 | 17.49 | 17.34 | 17.98 | 18.46 |
| | 8H | 20.50 | 21.09 | 21.02 | 21.60 | 22.08 | 17.13 | 17.71 | 17.65 | 18.22 | 18.71 |
| | 12H | 20.72 | 21.24 | 21.23 | 21.73 | 22.29 | 17.38 | 17.89 | 17.89 | 18.38 | 18.95 |
| 12H | 4H | 19.53 | 20.23 | 20.01 | 20.71 | 21.18 | 16.17 | 16.87 | 16.65 | 17.35 | 17.82 |
| | 6H | 20.23 | 20.81 | 20.74 | 21.32 | 21.81 | 16.93 | 17.51 | 17.44 | 18.02 | 18.51 |
| | 8H | 20.54 | 21.05 | 21.05 | 21.54 | 22.11 | 17.28 | 17.79 | 17.78 | 18.28 | 18.85 |