

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: P1056015

Luminaire Tested: S124R3DR-S350D840-X4F0-XX-UDD-FLL-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056015
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: S124R3DR-S350D840-X4F0-XX-UDD-FLL-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

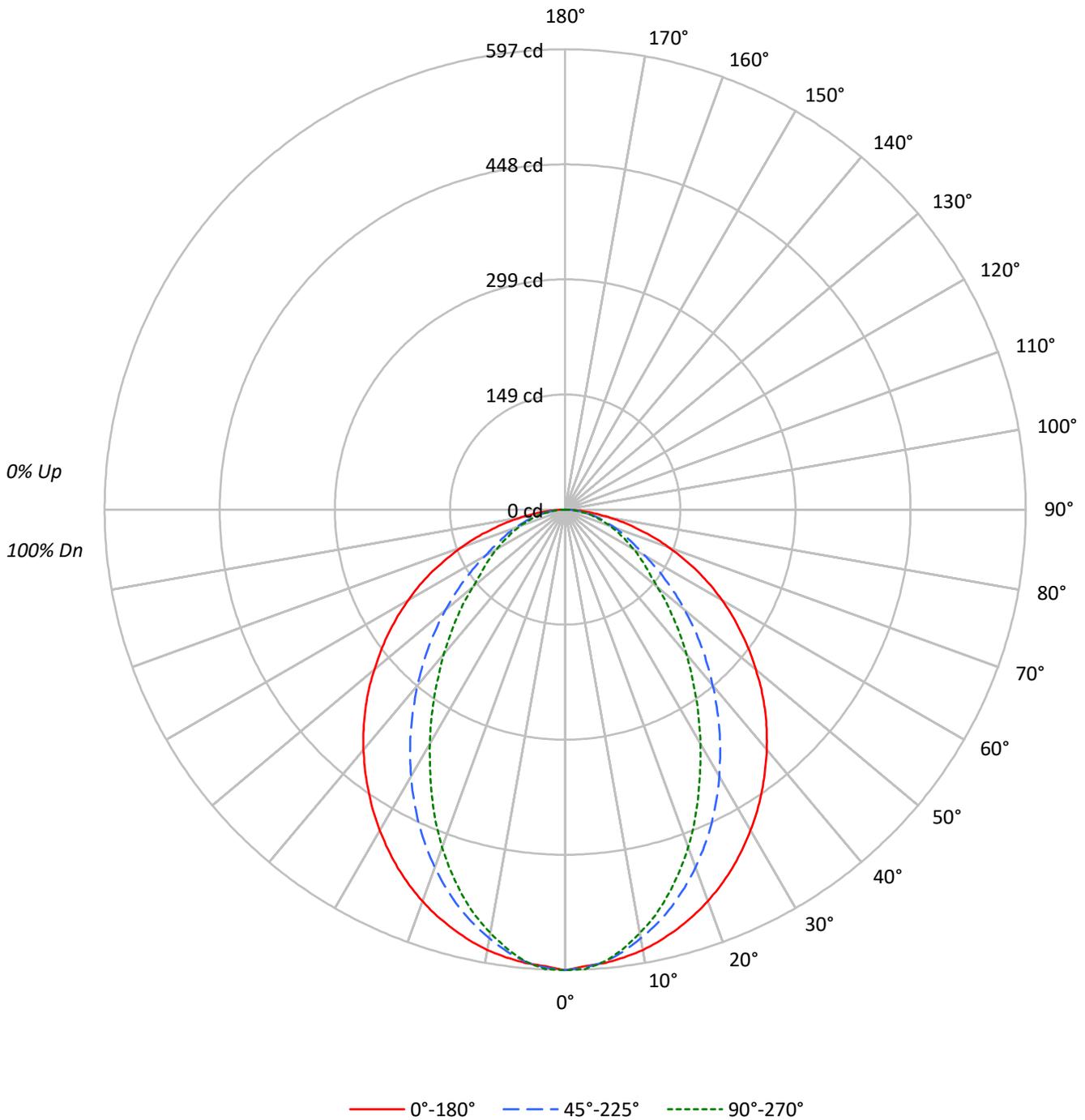
Lumens per Lamp: N/A
Luminaire Lumens: 1189.8 lumens
Efficiency: N/A
Efficacy: 94.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 110 | 105 | 102 | 98 | 107 | 103 | 100 | 97 | 99 | 96 | 93 | 95 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 93 | 87 | 82 | 98 | 91 | 86 | 81 | 88 | 83 | 79 | 85 | 81 | 77 | 82 | 78 | 76 | 73 |
| 3 | 93 | 83 | 75 | 69 | 90 | 81 | 74 | 69 | 79 | 73 | 68 | 76 | 71 | 67 | 73 | 69 | 65 | 63 |
| 4 | 85 | 74 | 66 | 60 | 83 | 73 | 65 | 60 | 71 | 64 | 59 | 68 | 63 | 58 | 66 | 61 | 57 | 55 |
| 5 | 79 | 67 | 59 | 53 | 77 | 66 | 58 | 52 | 64 | 57 | 52 | 62 | 56 | 51 | 60 | 55 | 51 | 49 |
| 6 | 73 | 61 | 53 | 47 | 72 | 60 | 52 | 46 | 58 | 51 | 46 | 57 | 50 | 46 | 55 | 50 | 45 | 43 |
| 7 | 68 | 56 | 47 | 42 | 67 | 55 | 47 | 42 | 53 | 46 | 41 | 52 | 46 | 41 | 51 | 45 | 41 | 39 |
| 8 | 64 | 51 | 43 | 38 | 62 | 51 | 43 | 38 | 49 | 42 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 |
| 9 | 60 | 47 | 39 | 34 | 59 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 34 | 44 | 38 | 34 | 32 |
| 10 | 56 | 44 | 36 | 31 | 55 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 41 | 35 | 31 | 29 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 5282 | 5282 | 5282 |
| 5° | 5239 | 5227 | 5224 |
| 10° | 5209 | 5071 | 5008 |
| 15° | 5154 | 4881 | 4731 |
| 20° | 5087 | 4649 | 4388 |
| 25° | 5005 | 4382 | 3988 |
| 30° | 4904 | 4080 | 3581 |
| 35° | 4801 | 3763 | 3188 |
| 40° | 4693 | 3435 | 2821 |
| 45° | 4578 | 3116 | 2478 |
| 50° | 4437 | 2781 | 2140 |
| 55° | 4302 | 2446 | 1945 |
| 60° | 4150 | 2099 | 1804 |
| 65° | 3962 | 1904 | 1682 |
| 70° | 3681 | 1760 | 1590 |
| 75° | 3334 | 1623 | 1503 |
| 80° | 2907 | 1502 | 1410 |
| 85° | 2232 | 1380 | 1288 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 4578 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 55.6 | 4.7 |
| 10°-20° | 150.9 | 12.7 |
| 20°-30° | 208.9 | 17.6 |
| 30°-40° | 224.2 | 18.8 |
| 40°-50° | 203.9 | 17.1 |
| 50°-60° | 160.5 | 13.5 |
| 60°-70° | 109.9 | 9.2 |
| 70°-80° | 59.2 | 5.0 |
| 80°-90° | 16.7 | 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° | 415.4 | 34.9 |
| 0°-40° | 639.5 | 53.8 |
| 0°-60° | 1004.0 | 84.4 |
| 0°-90° | 1189.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1189.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 597 | 597 | 597 | 597 | 597 | |
| 5° | 590 | 597 | 589 | 586 | 589 | 56 |
| 15° | 563 | 557 | 533 | 519 | 517 | 159 |
| 25° | 513 | 492 | 449 | 417 | 409 | 236 |
| 35° | 445 | 410 | 349 | 306 | 295 | 278 |
| 45° | 366 | 320 | 249 | 206 | 198 | 282 |
| 55° | 279 | 226 | 159 | 128 | 126 | 250 |
| 65° | 189 | 135 | 91 | 81 | 80 | 187 |
| 75° | 98 | 59 | 48 | 44 | 44 | 104 |
| 85° | 22 | 15 | 14 | 13 | 13 | 26 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1056015

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 597.4 | 597.4 | 597.4 | 597.4 | 597.4 |
| 2.5° | 593.0 | 600.0 | 594.7 | 595.6 | 596.5 |
| 5° | 590.3 | 596.9 | 589.0 | 585.9 | 588.6 |
| 7.5° | 585.9 | 590.3 | 578.0 | 572.3 | 574.9 |
| 10° | 580.2 | 581.1 | 564.8 | 556.5 | 557.8 |
| 12.5° | 572.3 | 570.1 | 550.3 | 538.5 | 539.3 |
| 15° | 563.1 | 556.9 | 533.2 | 518.7 | 516.9 |
| 17.5° | 552.5 | 542.4 | 514.3 | 495.8 | 492.3 |
| 20° | 540.7 | 527.0 | 494.1 | 470.3 | 466.4 |
| 22.5° | 527.5 | 509.9 | 472.1 | 443.9 | 438.2 |
| 25° | 513.0 | 491.9 | 449.2 | 416.7 | 408.8 |
| 27.5° | 497.1 | 472.5 | 424.6 | 389.0 | 378.9 |
| 30° | 480.4 | 452.3 | 399.6 | 361.3 | 350.8 |
| 32.5° | 463.3 | 431.6 | 374.1 | 333.6 | 322.6 |
| 35° | 444.8 | 410.1 | 348.6 | 306.4 | 295.4 |
| 37.5° | 425.9 | 387.7 | 322.6 | 280.0 | 268.6 |
| 40° | 406.6 | 365.3 | 297.6 | 253.6 | 244.4 |
| 42.5° | 386.8 | 342.4 | 273.0 | 229.0 | 220.7 |
| 45° | 366.1 | 319.6 | 249.2 | 206.2 | 198.2 |
| 47.5° | 345.0 | 296.3 | 225.1 | 184.6 | 177.1 |
| 50° | 322.6 | 273.0 | 202.2 | 163.5 | 155.6 |
| 52.5° | 301.1 | 249.2 | 180.2 | 142.9 | 138.9 |
| 55° | 279.1 | 225.9 | 158.7 | 127.9 | 126.2 |
| 57.5° | 257.1 | 202.6 | 138.9 | 116.0 | 114.3 |
| 60° | 234.7 | 179.8 | 118.7 | 103.7 | 102.0 |
| 62.5° | 212.3 | 157.4 | 103.7 | 91.9 | 91.0 |
| 65° | 189.4 | 135.4 | 91.0 | 80.9 | 80.4 |
| 67.5° | 165.3 | 114.3 | 79.6 | 71.2 | 70.8 |
| 70° | 142.4 | 93.2 | 68.1 | 61.5 | 61.5 |
| 72.5° | 120.9 | 73.8 | 57.6 | 52.3 | 52.3 |
| 75° | 97.6 | 59.3 | 47.5 | 43.5 | 44.0 |
| 77.5° | 76.9 | 46.6 | 38.2 | 35.6 | 35.6 |
| 80° | 57.1 | 34.7 | 29.5 | 27.3 | 27.7 |
| 82.5° | 38.7 | 24.2 | 21.1 | 19.8 | 19.8 |
| 85° | 22.0 | 14.9 | 13.6 | 12.7 | 12.7 |
| 87.5° | 7.9 | 7.0 | 6.6 | 5.7 | 6.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)