

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: P1055179

Luminaire Tested: S122R3DRP-S290D850-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055179
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-2)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122R3DRP-S290D850-X4F0-XX-UDD-F-B
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

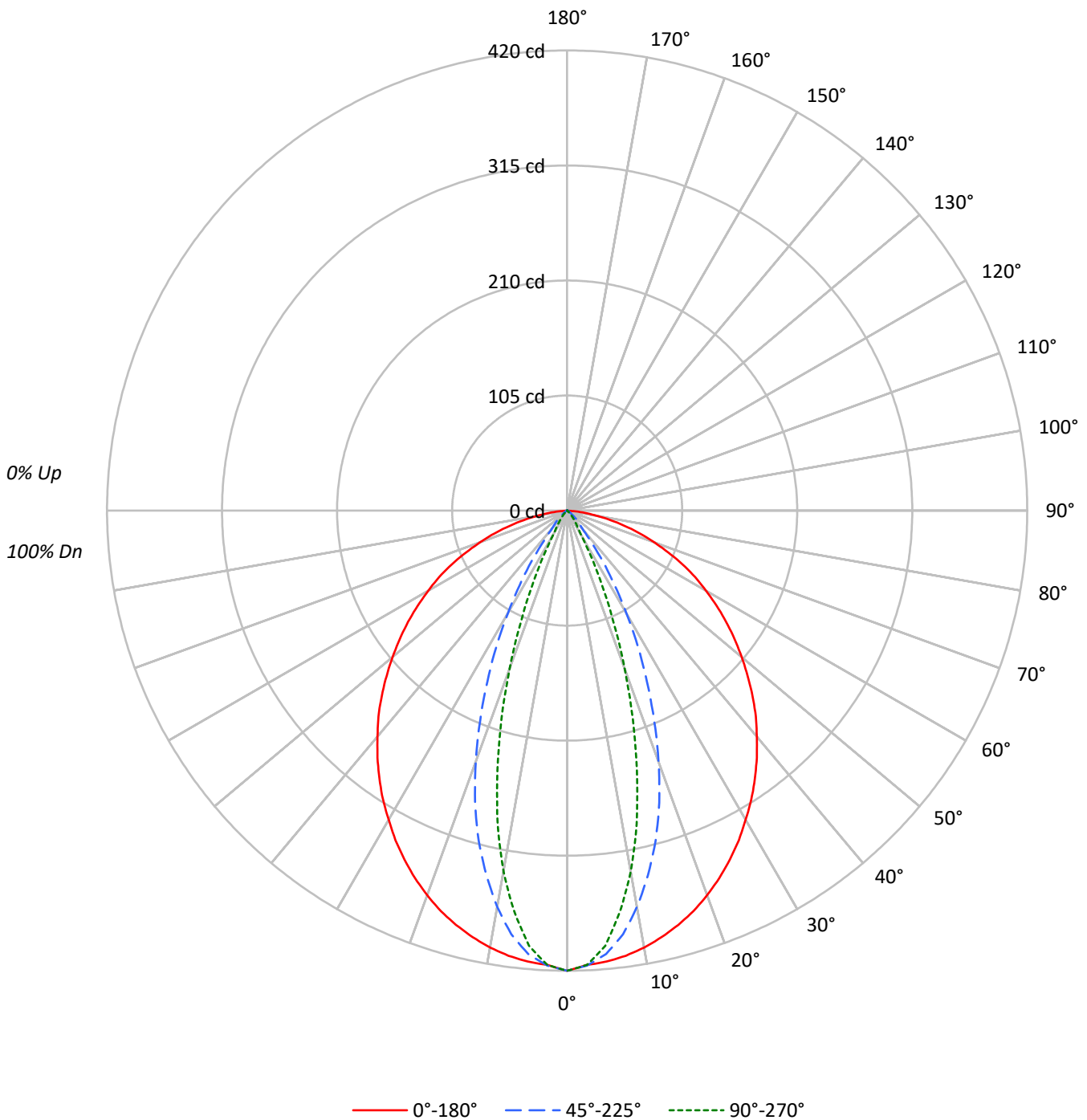
Lumens per Lamp: N/A
Luminaire Lumens: 382.1 lumens
Efficiency: N/A
Efficacy: 30.3 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 12.6
Input Voltage (V): 120
Input Current (A_{in}): 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 | 0 | |
| RCR | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 | | | | 100 |
| 1 | 112 | 109 | 106 | 103 | 110 | 106 | 104 | 101 | 102 | 100 | 98 | 99 | 97 | 95 | 95 | 94 | 92 | 91 | | | | 91 |
| 2 | 105 | 99 | 94 | 90 | 103 | 97 | 93 | 89 | 94 | 90 | 87 | 91 | 88 | 85 | 88 | 86 | 83 | 81 | | | | 81 |
| 3 | 98 | 91 | 85 | 80 | 96 | 89 | 84 | 79 | 86 | 82 | 78 | 84 | 80 | 77 | 82 | 78 | 75 | 74 | | | | 74 |
| 4 | 92 | 83 | 77 | 72 | 90 | 82 | 76 | 71 | 80 | 75 | 70 | 78 | 73 | 70 | 76 | 72 | 69 | 67 | | | | 67 |
| 5 | 87 | 77 | 70 | 65 | 85 | 76 | 70 | 65 | 74 | 69 | 64 | 72 | 68 | 64 | 71 | 66 | 63 | 61 | | | | 61 |
| 6 | 82 | 72 | 65 | 60 | 80 | 71 | 64 | 59 | 69 | 63 | 59 | 68 | 62 | 59 | 66 | 62 | 58 | 56 | | | | 56 |
| 7 | 77 | 67 | 60 | 55 | 76 | 66 | 59 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 62 | 57 | 54 | 52 | | | | 52 |
| 8 | 73 | 62 | 56 | 51 | 72 | 62 | 55 | 51 | 61 | 55 | 51 | 60 | 54 | 50 | 59 | 54 | 50 | 49 | | | | 49 |
| 9 | 70 | 59 | 52 | 48 | 68 | 58 | 52 | 47 | 57 | 51 | 47 | 56 | 51 | 47 | 55 | 50 | 47 | 45 | | | | 45 |
| 10 | 66 | 55 | 49 | 45 | 65 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 52 | 47 | 44 | 43 | | | | 43 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 7957 | 7957 | 7957 |
| 5° | 7858 | 7729 | 7583 |
| 10° | 7791 | 7066 | 6435 |
| 15° | 7679 | 6116 | 4819 |
| 20° | 7532 | 4915 | 3085 |
| 25° | 7346 | 3602 | 1585 |
| 30° | 7127 | 2354 | 518 |
| 35° | 6911 | 1307 | 301 |
| 40° | 6660 | 524 | 168 |
| 45° | 6414 | 348 | 64 |
| 50° | 6131 | 200 | 29 |
| 55° | 5853 | 96 | 17 |
| 60° | 5544 | 38 | 0 |
| 65° | 5214 | 22 | 0 |
| 70° | 4681 | 28 | 0 |
| 75° | 4026 | 37 | 0 |
| 80° | 3055 | 0 | 0 |
| 85° | 1261 | 109 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 6414 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 37.6 | 9.9 |
| 10°-20° | 87.5 | 22.9 |
| 20°-30° | 88.8 | 23.2 |
| 30°-40° | 66.6 | 17.4 |
| 40°-50° | 46.7 | 12.2 |
| 50°-60° | 28.6 | 7.5 |
| 60°-70° | 17.0 | 4.5 |
| 70°-80° | 7.9 | 2.1 |
| 80°-90° | 1.4 | 0.4 |
| 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° | 213.9 | 56.0 |
| 0°-40° | 280.6 | 73.4 |
| 0°-60° | 355.8 | 93.1 |
| 0°-90° | 382.1 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 382.1 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 420 | 420 | 420 | 420 | 420 | |
| 5° | 413 | 417 | 406 | 399 | 399 | 39 |
| 15° | 392 | 370 | 312 | 264 | 246 | 110 |
| 25° | 351 | 290 | 172 | 98 | 76 | 162 |
| 35° | 299 | 194 | 56 | 17 | 13 | 187 |
| 45° | 239 | 103 | 13 | 4 | 2 | 185 |
| 55° | 177 | 31 | 3 | 1 | 0 | 158 |
| 65° | 116 | 9 | 0 | 0 | 0 | 115 |
| 75° | 55 | 1 | 0 | 0 | 0 | 58 |
| 85° | 6 | 0 | 0 | 0 | 0 | 10 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: S122R3DRP-S290D850-X4F0-XX-UDD-F-B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 420.0 | 420.0 | 420.0 | 420.0 | 420.0 |
| 2.5° | 415.1 | 421.4 | 415.6 | 414.6 | 415.1 |
| 5° | 413.2 | 417.1 | 406.4 | 398.7 | 398.7 |
| 7.5° | 409.8 | 409.8 | 390.0 | 374.1 | 369.3 |
| 10° | 405.0 | 399.7 | 367.3 | 341.8 | 334.5 |
| 12.5° | 398.7 | 386.2 | 340.8 | 304.6 | 293.0 |
| 15° | 391.5 | 370.2 | 311.8 | 264.0 | 245.7 |
| 17.5° | 383.3 | 352.4 | 279.5 | 220.1 | 198.9 |
| 20° | 373.6 | 333.1 | 243.8 | 175.2 | 153.0 |
| 22.5° | 363.0 | 311.8 | 207.6 | 135.2 | 111.5 |
| 25° | 351.4 | 289.6 | 172.3 | 98.5 | 75.8 |
| 27.5° | 339.3 | 266.5 | 140.0 | 67.6 | 46.3 |
| 30° | 325.8 | 242.3 | 107.6 | 40.1 | 23.7 |
| 32.5° | 312.8 | 219.1 | 80.6 | 21.7 | 17.4 |
| 35° | 298.8 | 194.5 | 56.5 | 16.9 | 13.0 |
| 37.5° | 284.3 | 171.4 | 34.8 | 12.6 | 9.7 |
| 40° | 269.3 | 147.7 | 21.2 | 9.2 | 6.8 |
| 42.5° | 254.9 | 125.5 | 16.9 | 6.3 | 4.3 |
| 45° | 239.4 | 102.8 | 13.0 | 3.9 | 2.4 |
| 47.5° | 223.5 | 82.1 | 9.7 | 2.4 | 1.4 |
| 50° | 208.0 | 63.7 | 6.8 | 1.4 | 1.0 |
| 52.5° | 192.6 | 46.8 | 4.3 | 1.0 | 0.5 |
| 55° | 177.2 | 31.4 | 2.9 | 1.0 | 0.5 |
| 57.5° | 161.7 | 22.2 | 1.9 | 0.5 | 0.5 |
| 60° | 146.3 | 17.4 | 1.0 | 0.5 | 0.0 |
| 62.5° | 131.8 | 13.5 | 1.0 | 0.5 | 0.5 |
| 65° | 116.3 | 9.2 | 0.5 | 0.5 | 0.0 |
| 67.5° | 99.9 | 5.8 | 0.5 | 0.5 | 0.0 |
| 70° | 84.5 | 3.4 | 0.5 | 0.5 | 0.0 |
| 72.5° | 69.5 | 1.9 | 0.5 | 0.5 | 0.0 |
| 75° | 55.0 | 1.0 | 0.5 | 0.5 | 0.0 |
| 77.5° | 41.0 | 0.5 | 0.0 | 0.5 | 0.0 |
| 80° | 28.0 | 0.0 | 0.0 | 0.5 | 0.0 |
| 82.5° | 16.4 | 0.0 | 0.0 | 0.5 | 0.0 |
| 85° | 5.8 | 0.0 | 0.5 | 0.5 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.5 | 0.5 | 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 | 13.42 | 14.68 | 13.78 | 14.99 | 15.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 17.16 | 18.28 | 17.54 | 18.61 | 18.97 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 18.47 | 19.51 | 18.87 | 19.86 | 20.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 19.32 | 20.28 | 19.74 | 20.65 | 21.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 19.54 | 20.44 | 19.97 | 20.83 | 21.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 19.60 | 20.46 | 20.03 | 20.85 | 21.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H | 2H | 13.17 | 14.21 | 13.57 | 14.56 | 14.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 16.91 | 17.77 | 17.33 | 18.17 | 18.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 18.21 | 18.97 | 18.64 | 19.39 | 19.83 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 19.13 | 19.78 | 19.59 | 20.23 | 20.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 19.38 | 20.00 | 19.85 | 20.44 | 20.92 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 19.49 | 20.02 | 19.97 | 20.51 | 20.98 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H | 4H | 18.06 | 18.67 | 18.53 | 19.12 | 19.59 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 18.96 | 19.46 | 19.47 | 19.96 | 20.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 19.22 | 19.66 | 19.74 | 20.18 | 20.67 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 19.34 | 19.73 | 19.85 | 20.22 | 20.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H | 4H | 18.01 | 18.55 | 18.50 | 19.04 | 19.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 18.90 | 19.34 | 19.42 | 19.86 | 20.35 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 19.18 | 19.57 | 19.69 | 20.06 | 20.63 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |