

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269



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: P1056208

Luminaire Tested: S124R3DR-H795D927-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1056208
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: S124R3DR-H795D927-X4F0-XX-UDD-FLL-B
Description: DEFINE 4, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

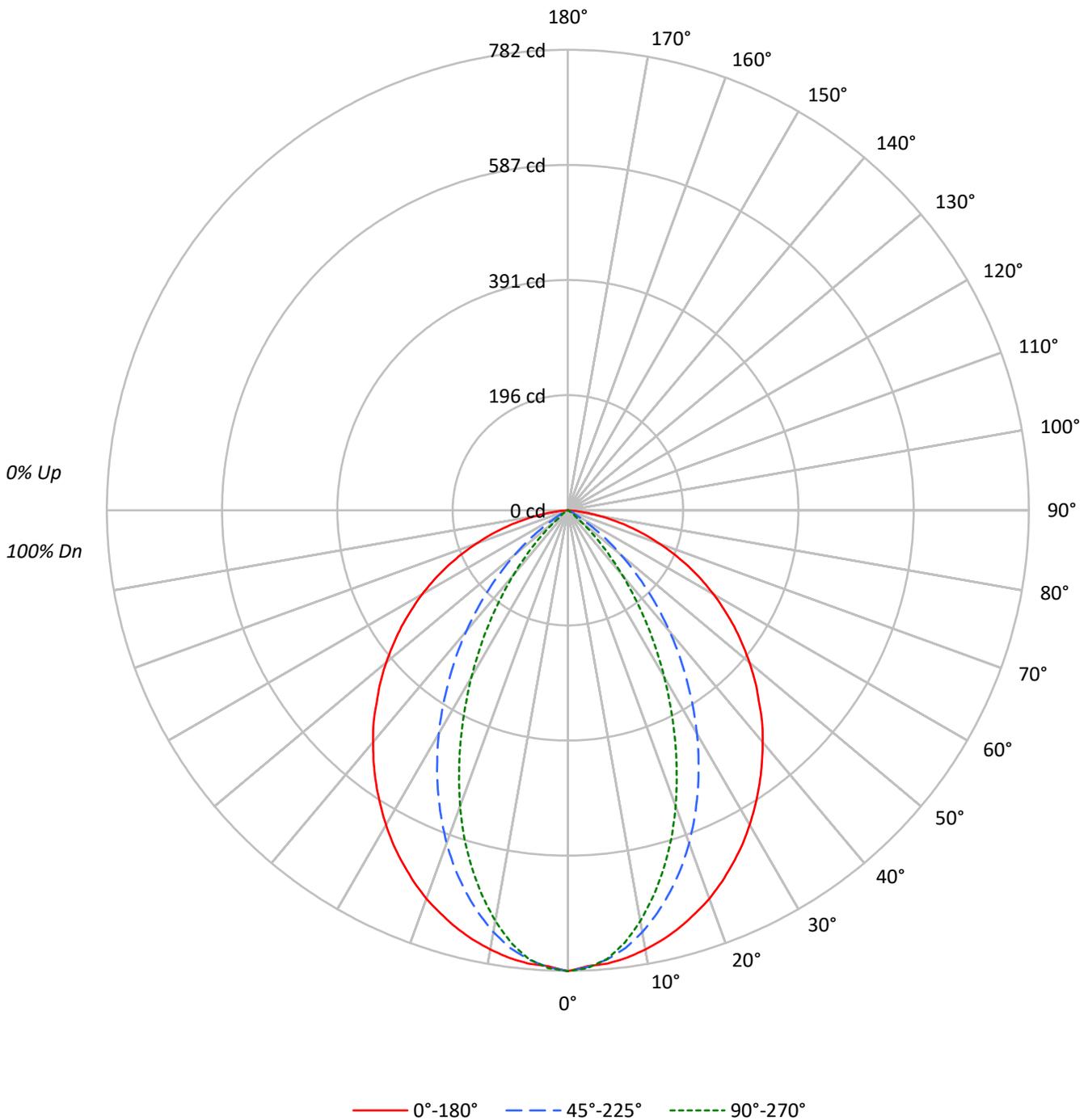
Lumens per Lamp: N/A
Luminaire Lumens: 1093.6 lumens
Efficiency: N/A
Efficacy: 46.0 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 0.81 / 0.97
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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 | 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° | 6918 | 6918 | 6918 |
| 5° | 6856 | 6795 | 6788 |
| 10° | 6798 | 6529 | 6357 |
| 15° | 6713 | 6137 | 5757 |
| 20° | 6604 | 5658 | 5031 |
| 25° | 6458 | 5096 | 4199 |
| 30° | 6297 | 4472 | 3336 |
| 35° | 6119 | 3792 | 2484 |
| 40° | 5932 | 3090 | 1656 |
| 45° | 5727 | 2359 | 912 |
| 50° | 5529 | 1615 | 253 |
| 55° | 5309 | 876 | 165 |
| 60° | 5047 | 271 | 95 |
| 65° | 4718 | 176 | 48 |
| 70° | 4263 | 80 | 21 |
| 75° | 3669 | 27 | 0 |
| 80° | 2775 | 0 | 0 |
| 85° | 1167 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5727 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 72.2 | 6.6 |
| 10°-20° | 189.5 | 17.3 |
| 20°-30° | 244.9 | 22.4 |
| 30°-40° | 234.1 | 21.4 |
| 40°-50° | 175.0 | 16.0 |
| 50°-60° | 104.2 | 9.5 |
| 60°-70° | 52.9 | 4.8 |
| 70°-80° | 18.4 | 1.7 |
| 80°-90° | 2.5 | 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° | 506.6 | 46.3 |
| 0°-40° | 740.6 | 67.7 |
| 0°-60° | 1019.8 | 93.3 |
| 0°-90° | 1093.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1093.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 782 | 782 | 782 | 782 | 782 | |
| 5° | 772 | 779 | 766 | 762 | 765 | 73 |
| 15° | 733 | 718 | 670 | 639 | 629 | 207 |
| 25° | 662 | 616 | 522 | 453 | 430 | 305 |
| 35° | 567 | 489 | 351 | 262 | 230 | 355 |
| 45° | 458 | 351 | 189 | 100 | 73 | 354 |
| 55° | 344 | 214 | 57 | 13 | 11 | 307 |
| 65° | 226 | 87 | 8 | 3 | 2 | 223 |
| 75° | 107 | 12 | 1 | 1 | 0 | 114 |
| 85° | 12 | 0 | 0 | 0 | 0 | 19 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CATALOG NUMBER: S124R3DR-H795D927-X4F0-XX-UDD-FLL-B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 782.5 | 782.5 | 782.5 | 782.5 | 782.5 |
| 2.5° | 774.8 | 784.0 | 776.3 | 777.1 | 777.9 |
| 5° | 772.5 | 778.6 | 765.6 | 761.8 | 764.8 |
| 7.5° | 766.4 | 768.7 | 749.5 | 739.5 | 740.3 |
| 10° | 757.2 | 754.9 | 727.2 | 710.4 | 708.1 |
| 12.5° | 746.4 | 738.7 | 700.4 | 675.8 | 670.5 |
| 15° | 733.4 | 718.0 | 670.5 | 639.0 | 629.0 |
| 17.5° | 718.0 | 695.8 | 637.5 | 596.1 | 583.8 |
| 20° | 701.9 | 671.2 | 601.4 | 550.0 | 534.7 |
| 22.5° | 682.7 | 643.6 | 562.3 | 501.7 | 482.5 |
| 25° | 662.0 | 616.0 | 522.4 | 453.4 | 430.4 |
| 27.5° | 640.5 | 586.1 | 480.2 | 404.3 | 377.4 |
| 30° | 616.8 | 554.6 | 438.0 | 354.4 | 326.8 |
| 32.5° | 592.2 | 522.4 | 394.3 | 308.4 | 277.7 |
| 35° | 566.9 | 488.7 | 351.3 | 261.6 | 230.1 |
| 37.5° | 540.8 | 454.9 | 309.9 | 217.1 | 184.9 |
| 40° | 514.0 | 420.4 | 267.7 | 174.9 | 143.5 |
| 42.5° | 487.9 | 385.9 | 227.8 | 135.0 | 105.9 |
| 45° | 458.0 | 351.3 | 188.7 | 100.5 | 72.9 |
| 47.5° | 431.1 | 317.6 | 151.1 | 68.3 | 43.0 |
| 50° | 402.0 | 281.5 | 117.4 | 39.9 | 18.4 |
| 52.5° | 372.8 | 247.8 | 85.9 | 17.6 | 13.8 |
| 55° | 344.4 | 214.0 | 56.8 | 13.0 | 10.7 |
| 57.5° | 314.5 | 180.3 | 30.7 | 10.0 | 7.7 |
| 60° | 285.4 | 147.3 | 15.3 | 7.7 | 5.4 |
| 62.5° | 255.5 | 115.8 | 12.3 | 4.6 | 3.1 |
| 65° | 225.5 | 86.7 | 8.4 | 3.1 | 2.3 |
| 67.5° | 195.6 | 59.1 | 5.4 | 1.5 | 0.8 |
| 70° | 164.9 | 36.1 | 3.1 | 0.8 | 0.8 |
| 72.5° | 135.8 | 18.4 | 1.5 | 0.8 | 0.8 |
| 75° | 107.4 | 11.5 | 0.8 | 0.8 | 0.0 |
| 77.5° | 79.8 | 6.1 | 0.8 | 0.8 | 0.0 |
| 80° | 54.5 | 2.3 | 0.0 | 0.0 | 0.0 |
| 82.5° | 31.5 | 0.8 | 0.0 | 0.0 | 0.0 |
| 85° | 11.5 | 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 | 17.18 | 18.50 | 17.54 | 18.82 | 19.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 18.72 | 19.89 | 19.10 | 20.22 | 20.59 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 19.31 | 20.41 | 19.71 | 20.76 | 21.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 19.73 | 20.73 | 20.14 | 21.11 | 21.50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 19.83 | 20.78 | 20.26 | 21.17 | 21.58 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 19.85 | 20.76 | 20.28 | 21.14 | 21.57 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H | 2H | 16.95 | 18.05 | 17.36 | 18.40 | 18.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 18.52 | 19.41 | 18.93 | 19.81 | 20.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 19.10 | 19.90 | 19.53 | 20.32 | 20.76 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 19.56 | 20.25 | 20.02 | 20.69 | 21.16 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 19.68 | 20.32 | 20.15 | 20.77 | 21.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 19.72 | 20.29 | 20.21 | 20.77 | 21.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H | 4H | 18.96 | 19.60 | 19.43 | 20.05 | 20.52 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 |
| | 6H | 19.40 | 19.93 | 19.91 | 20.42 | 20.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 19.52 | 19.99 | 20.04 | 20.51 | 21.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 19.57 | 19.98 | 20.09 | 20.48 | 21.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H | 4H | 18.92 | 19.48 | 19.40 | 19.97 | 20.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.41 |
| | 6H | 19.34 | 19.81 | 19.86 | 20.33 | 20.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.26 |
| | 8H | 19.48 | 19.89 | 19.99 | 20.39 | 20.96 | 0.00 | 0.00 | 0.00 | 0.00 | 0.22 |