

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: P1056075

Luminaire Tested: S124R3DR-S795D927-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1056075
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-S795D927-X4F0-XX-UDD-F-W
Description: DEFINE 4, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

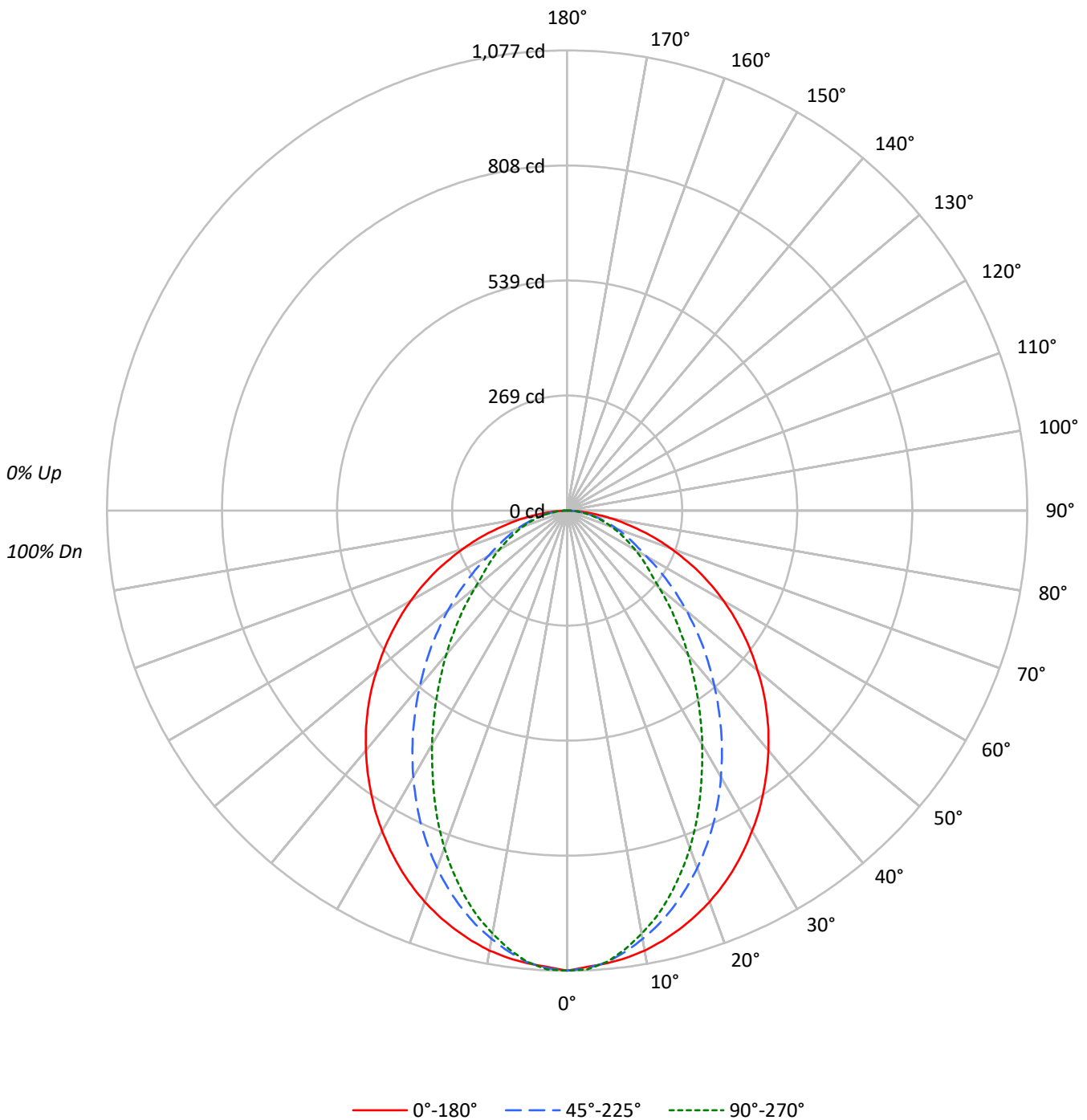
Lumens per Lamp: N/A
Luminaire Lumens: 2144.3 lumens
Efficiency: N/A
Efficacy: 81.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.95 / 1.12
Luminous Opening: Rectangular (W 0.31' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 26.4
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° | 9519 | 9519 | 9519 |
| 5° | 9442 | 9421 | 9414 |
| 10° | 9388 | 9139 | 9025 |
| 15° | 9289 | 8795 | 8527 |
| 20° | 9168 | 8378 | 7908 |
| 25° | 9019 | 7898 | 7187 |
| 30° | 8840 | 7352 | 6454 |
| 35° | 8653 | 6780 | 5745 |
| 40° | 8458 | 6190 | 5084 |
| 45° | 8251 | 5617 | 4468 |
| 50° | 7998 | 5012 | 3857 |
| 55° | 7753 | 4409 | 3505 |
| 60° | 7480 | 3782 | 3250 |
| 65° | 7142 | 3431 | 3033 |
| 70° | 6636 | 3174 | 2867 |
| 75° | 6009 | 2924 | 2706 |
| 80° | 5244 | 2704 | 2541 |
| 85° | 4017 | 2496 | 2333 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8251 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 100.2 | 4.7 |
| 10°-20° | 271.9 | 12.7 |
| 20°-30° | 376.5 | 17.6 |
| 30°-40° | 404.1 | 18.8 |
| 40°-50° | 367.4 | 17.1 |
| 50°-60° | 289.4 | 13.5 |
| 60°-70° | 198.1 | 9.2 |
| 70°-80° | 106.6 | 5.0 |
| 80°-90° | 30.2 | 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° | 748.6 | 34.9 |
| 0°-40° | 1152.6 | 53.8 |
| 0°-60° | 1809.4 | 84.4 |
| 0°-90° | 2144.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2144.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1077 | 1077 | 1077 | 1077 | 1077 | |
| 5° | 1064 | 1076 | 1062 | 1056 | 1061 | 101 |
| 15° | 1015 | 1004 | 961 | 935 | 932 | 286 |
| 25° | 924 | 886 | 810 | 751 | 737 | 426 |
| 35° | 802 | 739 | 628 | 552 | 532 | 501 |
| 45° | 660 | 576 | 449 | 372 | 357 | 509 |
| 55° | 503 | 407 | 286 | 230 | 227 | 450 |
| 65° | 341 | 244 | 164 | 146 | 145 | 337 |
| 75° | 176 | 107 | 86 | 78 | 79 | 188 |
| 85° | 40 | 27 | 25 | 23 | 23 | 48 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1076.6 | 1076.6 | 1076.6 | 1076.6 | 1076.6 |
| 2.5° | 1068.7 | 1081.3 | 1071.8 | 1073.4 | 1075.0 |
| 5° | 1063.9 | 1075.8 | 1061.5 | 1056.0 | 1060.7 |
| 7.5° | 1056.0 | 1063.9 | 1041.7 | 1031.4 | 1036.2 |
| 10° | 1045.7 | 1047.3 | 1018.0 | 1002.9 | 1005.3 |
| 12.5° | 1031.4 | 1027.5 | 991.8 | 970.4 | 972.0 |
| 15° | 1014.8 | 1003.7 | 960.9 | 934.8 | 931.6 |
| 17.5° | 995.8 | 977.6 | 926.9 | 893.6 | 887.2 |
| 20° | 974.4 | 949.8 | 890.4 | 847.6 | 840.5 |
| 22.5° | 950.6 | 918.9 | 850.8 | 800.1 | 789.8 |
| 25° | 924.5 | 886.5 | 809.6 | 751.0 | 736.7 |
| 27.5° | 896.0 | 851.6 | 765.2 | 701.1 | 682.9 |
| 30° | 865.9 | 815.2 | 720.1 | 651.2 | 632.2 |
| 32.5° | 835.0 | 777.9 | 674.1 | 601.3 | 581.5 |
| 35° | 801.7 | 739.1 | 628.2 | 552.2 | 532.3 |
| 37.5° | 767.6 | 698.7 | 581.5 | 504.6 | 484.0 |
| 40° | 732.8 | 658.3 | 536.3 | 457.1 | 440.5 |
| 42.5° | 697.1 | 617.1 | 491.9 | 412.7 | 397.7 |
| 45° | 659.9 | 575.9 | 449.2 | 371.5 | 357.3 |
| 47.5° | 621.9 | 533.9 | 405.6 | 332.7 | 319.2 |
| 50° | 581.5 | 491.9 | 364.4 | 294.7 | 280.4 |
| 52.5° | 542.6 | 449.2 | 324.8 | 257.5 | 250.3 |
| 55° | 503.0 | 407.2 | 286.0 | 230.5 | 227.4 |
| 57.5° | 463.4 | 365.2 | 250.3 | 209.1 | 206.0 |
| 60° | 423.0 | 324.0 | 213.9 | 187.0 | 183.8 |
| 62.5° | 382.6 | 283.6 | 187.0 | 165.6 | 164.0 |
| 65° | 341.4 | 244.0 | 164.0 | 145.8 | 145.0 |
| 67.5° | 297.9 | 206.0 | 143.4 | 128.3 | 127.5 |
| 70° | 256.7 | 167.9 | 122.8 | 110.9 | 110.9 |
| 72.5° | 217.9 | 133.1 | 103.8 | 94.3 | 94.3 |
| 75° | 175.9 | 106.9 | 85.6 | 78.4 | 79.2 |
| 77.5° | 138.6 | 84.0 | 68.9 | 64.2 | 64.2 |
| 80° | 103.0 | 62.6 | 53.1 | 49.1 | 49.9 |
| 82.5° | 69.7 | 43.6 | 38.0 | 35.6 | 35.6 |
| 85° | 39.6 | 26.9 | 24.6 | 23.0 | 23.0 |
| 87.5° | 14.3 | 12.7 | 11.9 | 10.3 | 11.1 |
| 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 | 18.97 | 20.49 | 19.33 | 20.81 | 21.12 | 14.75 | 16.27 | 15.11 | 16.59 | 16.90 |
| | 3H | 20.75 | 22.12 | 21.12 | 22.44 | 22.80 | 16.36 | 17.73 | 16.74 | 18.06 | 18.42 |
| | 4H | 21.42 | 22.70 | 21.82 | 23.05 | 23.43 | 16.99 | 18.28 | 17.39 | 18.62 | 19.00 |
| | 6H | 21.93 | 23.12 | 22.34 | 23.48 | 23.87 | 17.49 | 18.68 | 17.90 | 19.04 | 19.44 |
| | 8H | 22.09 | 23.22 | 22.52 | 23.61 | 24.01 | 17.66 | 18.79 | 18.09 | 19.18 | 19.58 |
| | 12H | 22.19 | 23.27 | 22.62 | 23.65 | 24.08 | 17.78 | 18.87 | 18.21 | 19.25 | 19.68 |
| 4H | 2H | 19.07 | 20.35 | 19.46 | 20.70 | 21.08 | 15.47 | 16.75 | 15.87 | 17.10 | 17.48 |
| | 3H | 21.01 | 22.08 | 21.42 | 22.48 | 22.88 | 17.27 | 18.34 | 17.68 | 18.74 | 19.14 |
| | 4H | 21.77 | 22.73 | 22.20 | 23.15 | 23.58 | 18.01 | 18.97 | 18.44 | 19.39 | 19.83 |
| | 6H | 22.40 | 23.24 | 22.86 | 23.68 | 24.14 | 18.63 | 19.47 | 19.08 | 19.91 | 20.37 |
| | 8H | 22.62 | 23.41 | 23.08 | 23.85 | 24.32 | 18.84 | 19.63 | 19.31 | 20.07 | 20.54 |
| | 12H | 22.77 | 23.48 | 23.26 | 23.95 | 24.43 | 19.01 | 19.71 | 19.49 | 20.19 | 20.66 |
| 8H | 4H | 21.82 | 22.61 | 22.29 | 23.05 | 23.52 | 18.40 | 19.18 | 18.86 | 19.63 | 20.09 |
| | 6H | 22.52 | 23.17 | 23.02 | 23.66 | 24.14 | 19.13 | 19.78 | 19.63 | 20.27 | 20.75 |
| | 8H | 22.79 | 23.37 | 23.30 | 23.88 | 24.37 | 19.42 | 20.00 | 19.93 | 20.51 | 21.00 |
| | 12H | 23.01 | 23.52 | 23.52 | 24.02 | 24.58 | 19.66 | 20.18 | 20.17 | 20.67 | 21.24 |
| 12H | 4H | 21.81 | 22.52 | 22.30 | 22.99 | 23.47 | 18.45 | 19.16 | 18.94 | 19.63 | 20.10 |
| | 6H | 22.52 | 23.10 | 23.03 | 23.61 | 24.10 | 19.21 | 19.80 | 19.73 | 20.31 | 20.79 |
| | 8H | 22.82 | 23.34 | 23.33 | 23.83 | 24.40 | 19.56 | 20.08 | 20.07 | 20.57 | 21.13 |