

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: P1060239

Luminaire Tested: S124RDRP-S1020D840-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2024
Report Number: P1060239
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-75)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S124RDRP-S1020D840-X4F0-XX-UDD-BVL-W
Description: DEFINE 4 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE
LOUVER WITH DIFFUSER
CORE LIGHT ENGINE
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

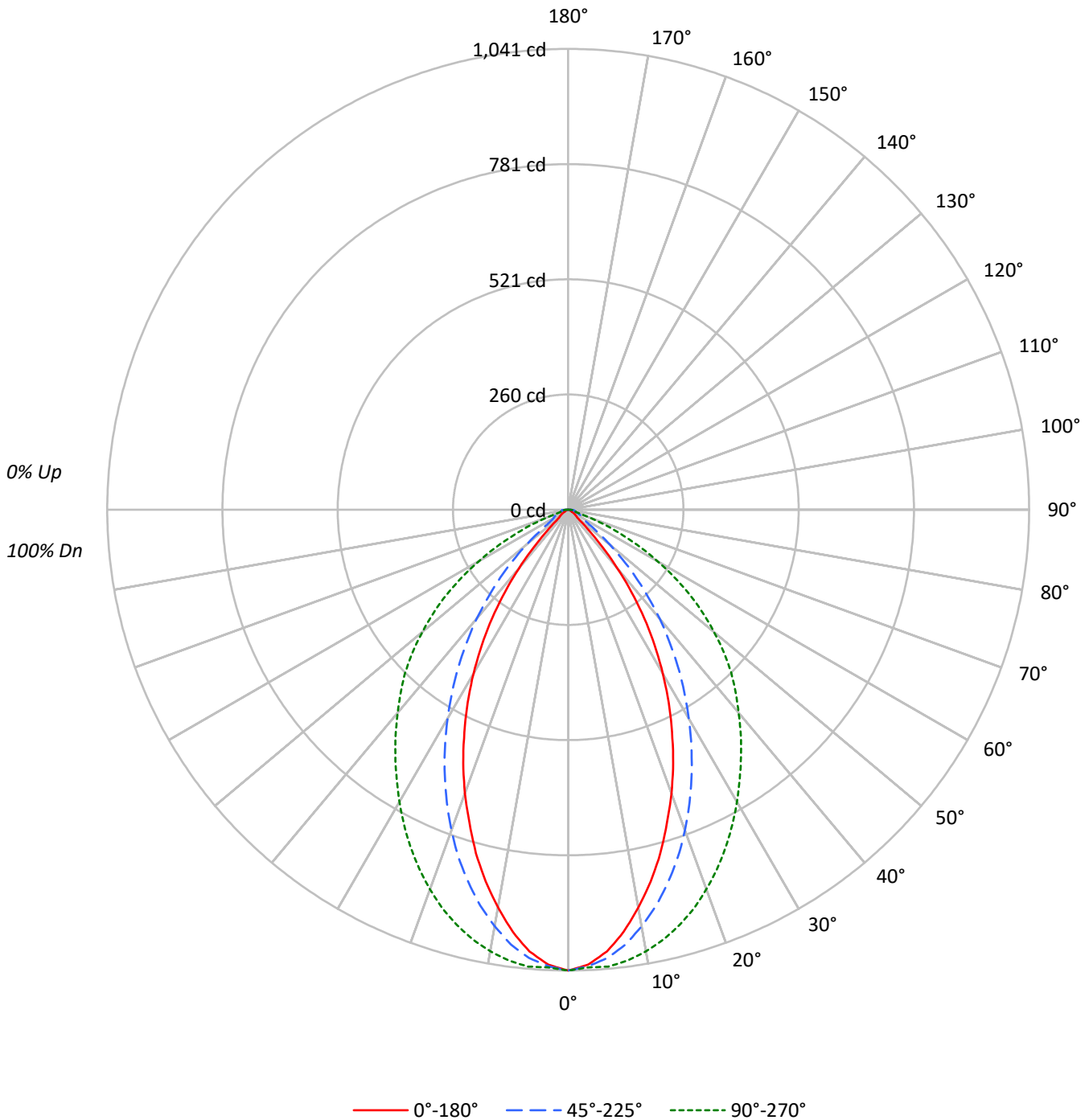
Lumens per Lamp: N/A
Luminaire Lumens: 1311.8 lumens
Efficiency: N/A
Efficacy: 37.5 lumens/watt
Spacing Criteria (0/90/45): 0.79 / 1.11 / 0.96
Luminous Opening: Rectangular (W 0.31' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 35
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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 112 | 108 | 105 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 98 | 98 | 96 | 95 | 95 | 93 | 92 | 90 |
| 2 | 105 | 98 | 93 | 89 | 102 | 97 | 92 | 88 | 93 | 89 | 86 | 90 | 87 | 84 | 87 | 85 | 82 | 81 |
| 3 | 98 | 90 | 84 | 79 | 96 | 88 | 83 | 78 | 86 | 81 | 77 | 83 | 79 | 75 | 81 | 77 | 74 | 72 |
| 4 | 91 | 82 | 75 | 70 | 89 | 81 | 75 | 70 | 79 | 73 | 69 | 76 | 72 | 68 | 74 | 70 | 67 | 65 |
| 5 | 86 | 75 | 68 | 63 | 84 | 74 | 68 | 63 | 72 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 |
| 6 | 80 | 70 | 62 | 57 | 79 | 69 | 62 | 57 | 67 | 61 | 56 | 66 | 60 | 56 | 64 | 59 | 56 | 54 |
| 7 | 75 | 64 | 57 | 52 | 74 | 64 | 57 | 52 | 62 | 56 | 52 | 61 | 55 | 51 | 60 | 55 | 51 | 49 |
| 8 | 71 | 60 | 53 | 48 | 70 | 59 | 52 | 48 | 58 | 52 | 48 | 57 | 51 | 47 | 56 | 51 | 47 | 45 |
| 9 | 67 | 56 | 49 | 44 | 66 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 52 | 47 | 44 | 42 |
| 10 | 63 | 52 | 45 | 41 | 62 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 44 | 41 | 49 | 44 | 40 | 39 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 8963 | 8963 | 8963 |
| 5° | 8660 | 8786 | 8955 |
| 10° | 7980 | 8353 | 8856 |
| 15° | 7167 | 7766 | 8658 |
| 20° | 6247 | 7064 | 8363 |
| 25° | 5269 | 6268 | 7997 |
| 30° | 4252 | 5418 | 7580 |
| 35° | 3146 | 4533 | 7154 |
| 40° | 1950 | 3612 | 6729 |
| 45° | 773 | 2633 | 6337 |
| 50° | 344 | 1653 | 5761 |
| 55° | 275 | 862 | 5044 |
| 60° | 189 | 653 | 4018 |
| 65° | 124 | 648 | 2763 |
| 70° | 123 | 584 | 1292 |
| 75° | 163 | 569 | 569 |
| 80° | 243 | 664 | 664 |
| 85° | 484 | 1324 | 968 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 6337 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 95.5 | 7.3 |
| 10°-20° | 246.4 | 18.8 |
| 20°-30° | 311.0 | 23.7 |
| 30°-40° | 285.4 | 21.8 |
| 40°-50° | 194.4 | 14.8 |
| 50°-60° | 105.9 | 8.1 |
| 60°-70° | 45.8 | 3.5 |
| 70°-80° | 16.7 | 1.3 |
| 80°-90° | 10.7 | 0.8 |
| 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° | 653.0 | 49.8 |
| 0°-40° | 938.3 | 71.5 |
| 0°-60° | 1238.6 | 94.4 |
| 0°-90° | 1311.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1311.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1041 | 1041 | 1041 | 1041 | 1041 | |
| 5° | 1002 | 1015 | 1016 | 1027 | 1036 | 93 |
| 15° | 804 | 832 | 871 | 933 | 971 | 224 |
| 25° | 555 | 594 | 660 | 765 | 842 | 253 |
| 35° | 299 | 343 | 431 | 568 | 680 | 185 |
| 45° | 64 | 106 | 216 | 384 | 520 | 59 |
| 55° | 18 | 20 | 57 | 211 | 336 | 16 |
| 65° | 6 | 9 | 32 | 66 | 136 | 7 |
| 75° | 5 | 16 | 17 | 17 | 17 | 5 |
| 85° | 5 | 11 | 13 | 13 | 10 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1040.9 | 1040.9 | 1040.9 | 1040.9 | 1040.9 |
| 2.5° | 1028.6 | 1040.9 | 1032.3 | 1034.8 | 1034.8 |
| 5° | 1001.8 | 1015.2 | 1016.4 | 1027.4 | 1036.0 |
| 7.5° | 961.5 | 981.0 | 990.8 | 1012.8 | 1027.4 |
| 10° | 912.6 | 935.8 | 955.3 | 993.2 | 1012.8 |
| 12.5° | 860.1 | 886.9 | 916.3 | 966.3 | 994.4 |
| 15° | 803.9 | 832.0 | 871.1 | 933.4 | 971.2 |
| 17.5° | 741.6 | 775.8 | 823.4 | 897.9 | 944.4 |
| 20° | 681.7 | 715.9 | 770.9 | 855.2 | 912.6 |
| 22.5° | 619.4 | 654.8 | 715.9 | 810.0 | 878.4 |
| 25° | 554.6 | 593.7 | 659.7 | 764.8 | 841.7 |
| 27.5° | 491.1 | 532.6 | 602.3 | 717.1 | 802.6 |
| 30° | 427.6 | 469.1 | 544.9 | 668.3 | 762.3 |
| 32.5° | 362.8 | 405.6 | 487.4 | 616.9 | 720.8 |
| 35° | 299.3 | 343.3 | 431.2 | 568.1 | 680.5 |
| 37.5° | 234.6 | 281.0 | 375.1 | 520.4 | 640.2 |
| 40° | 173.5 | 219.9 | 321.3 | 472.8 | 598.6 |
| 42.5° | 116.1 | 162.5 | 266.3 | 426.4 | 559.5 |
| 45° | 63.5 | 106.3 | 216.2 | 383.6 | 520.4 |
| 47.5° | 34.2 | 58.6 | 167.4 | 342.1 | 476.5 |
| 50° | 25.7 | 31.8 | 123.4 | 298.1 | 430.0 |
| 52.5° | 22.0 | 24.4 | 85.5 | 251.7 | 383.6 |
| 55° | 18.3 | 19.5 | 57.4 | 211.3 | 336.0 |
| 57.5° | 14.7 | 15.9 | 42.8 | 171.0 | 284.6 |
| 60° | 11.0 | 13.4 | 37.9 | 131.9 | 233.3 |
| 62.5° | 8.6 | 11.0 | 35.4 | 96.5 | 184.5 |
| 65° | 6.1 | 8.6 | 31.8 | 66.0 | 135.6 |
| 67.5° | 6.1 | 9.8 | 26.9 | 42.8 | 91.6 |
| 70° | 4.9 | 13.4 | 23.2 | 28.1 | 51.3 |
| 72.5° | 4.9 | 14.7 | 19.5 | 19.5 | 19.5 |
| 75° | 4.9 | 15.9 | 17.1 | 17.1 | 17.1 |
| 77.5° | 4.9 | 14.7 | 15.9 | 14.7 | 14.7 |
| 80° | 4.9 | 13.4 | 13.4 | 13.4 | 13.4 |
| 82.5° | 4.9 | 12.2 | 13.4 | 13.4 | 11.0 |
| 85° | 4.9 | 11.0 | 13.4 | 13.4 | 9.8 |
| 87.5° | 3.7 | 11.0 | 12.2 | 12.2 | 7.3 |
| 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 | 0.00 | 0.00 | 0.00 | 0.25 | 0.57 | 16.03 | 17.31 | 16.39 | 17.62 | 17.93 |
| | 3H | 0.09 | 1.22 | 0.47 | 1.55 | 1.92 | 16.40 | 17.53 | 16.78 | 17.86 | 18.23 |
| | 4H | 1.31 | 2.36 | 1.71 | 2.71 | 3.10 | 16.38 | 17.43 | 16.78 | 17.78 | 18.17 |
| | 6H | 2.49 | 3.46 | 2.91 | 3.83 | 4.23 | 16.37 | 17.34 | 16.78 | 17.71 | 18.10 |
| | 8H | 3.09 | 4.00 | 3.52 | 4.39 | 4.80 | 16.37 | 17.28 | 16.80 | 17.67 | 18.08 |
| | 12H | 3.76 | 4.63 | 4.19 | 5.01 | 5.44 | 16.38 | 17.26 | 16.82 | 17.64 | 18.07 |
| 4H | 2H | 2.28 | 3.33 | 2.68 | 3.68 | 4.07 | 15.84 | 16.89 | 16.24 | 17.24 | 17.63 |
| | 3H | 3.86 | 4.72 | 4.27 | 5.12 | 5.53 | 16.26 | 17.12 | 16.67 | 17.52 | 17.92 |
| | 4H | 5.16 | 5.92 | 5.59 | 6.34 | 6.79 | 16.26 | 17.02 | 16.69 | 17.44 | 17.89 |
| | 6H | 6.28 | 6.95 | 6.75 | 7.39 | 7.86 | 16.30 | 16.96 | 16.76 | 17.40 | 17.87 |
| | 8H | 6.79 | 7.41 | 7.26 | 7.86 | 8.33 | 16.32 | 16.94 | 16.79 | 17.39 | 17.86 |
| | 12H | 7.34 | 7.89 | 7.83 | 8.37 | 8.85 | 16.39 | 16.93 | 16.88 | 17.42 | 17.89 |
| 8H | 4H | 6.24 | 6.86 | 6.71 | 7.31 | 7.78 | 16.17 | 16.78 | 16.64 | 17.23 | 17.70 |
| | 6H | 7.78 | 8.28 | 8.28 | 8.78 | 9.26 | 16.24 | 16.75 | 16.75 | 17.25 | 17.73 |
| | 8H | 8.59 | 9.04 | 9.11 | 9.56 | 10.05 | 16.33 | 16.78 | 16.85 | 17.30 | 17.79 |
| | 12H | 9.42 | 9.82 | 9.94 | 10.32 | 10.89 | 16.50 | 16.90 | 17.01 | 17.39 | 17.97 |
| 12H | 4H | 6.43 | 6.97 | 6.92 | 7.46 | 7.93 | 16.13 | 16.67 | 16.62 | 17.16 | 17.63 |
| | 6H | 8.13 | 8.59 | 8.66 | 9.10 | 9.60 | 16.22 | 16.67 | 16.74 | 17.19 | 17.68 |
| | 8H | 9.14 | 9.54 | 9.66 | 10.04 | 10.61 | 16.35 | 16.76 | 16.87 | 17.25 | 17.82 |