

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: P1055299

Luminaire Tested: S122R3DR-H1005D940-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055299
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: S122R3DR-H1005D940-X4F0-XX-UDD-FLL-B
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

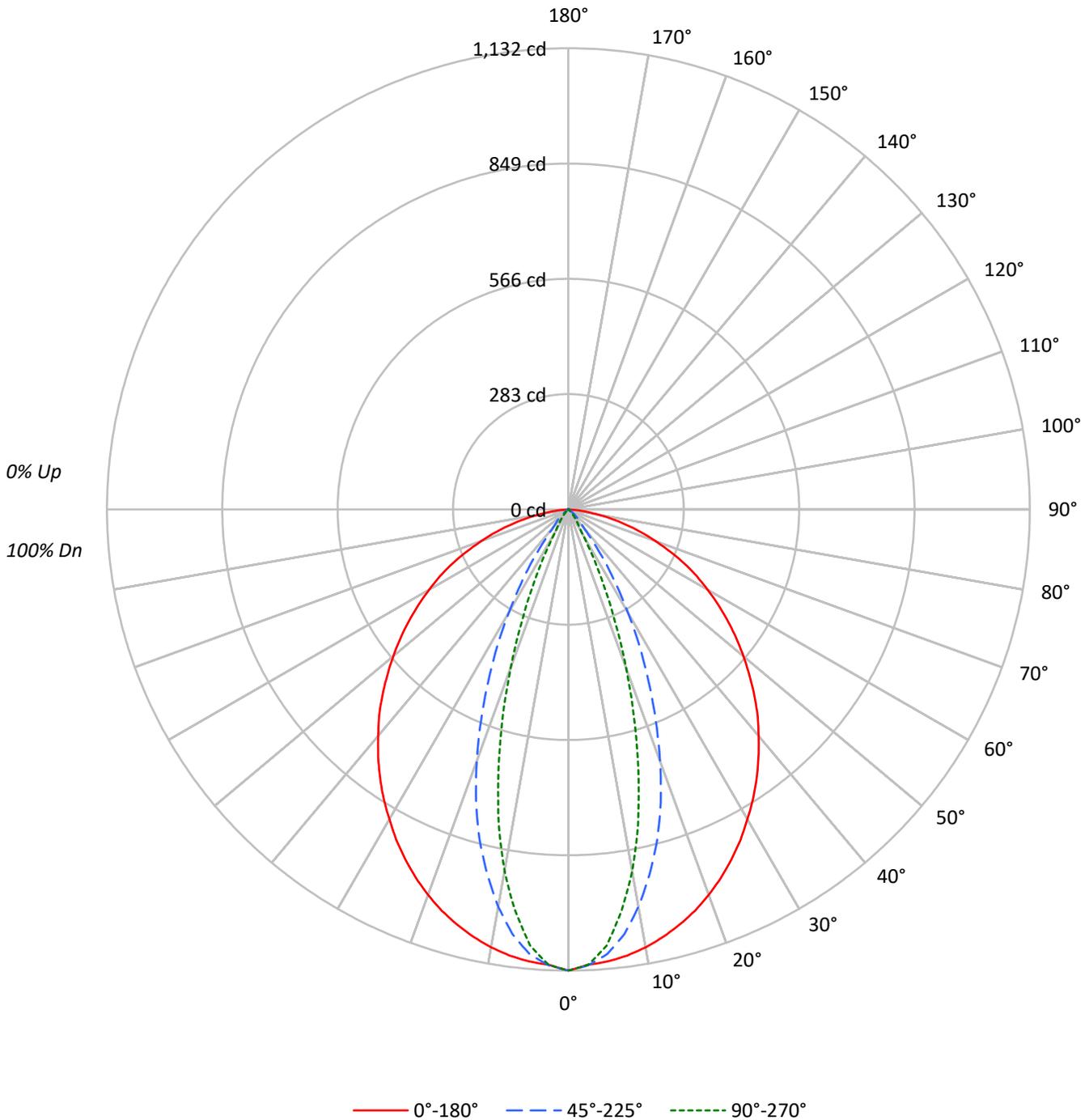
Lumens per Lamp: N/A
Luminaire Lumens: 1029.7 lumens
Efficiency: N/A
Efficacy: 28.1 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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





TEST NUMBER: P1055299

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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 | 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° | 21443 | 21443 | 21443 |
| 5° | 21179 | 20833 | 20437 |
| 10° | 20998 | 19046 | 17343 |
| 15° | 20693 | 16484 | 12989 |
| 20° | 20301 | 13246 | 8315 |
| 25° | 19799 | 9708 | 4269 |
| 30° | 19210 | 6346 | 1394 |
| 35° | 18625 | 3520 | 812 |
| 40° | 17953 | 1415 | 450 |
| 45° | 17290 | 940 | 174 |
| 50° | 16526 | 536 | 77 |
| 55° | 15769 | 258 | 43 |
| 60° | 14937 | 99 | 0 |
| 65° | 14054 | 58 | 0 |
| 70° | 12613 | 72 | 0 |
| 75° | 10856 | 95 | 0 |
| 80° | 8237 | 0 | 0 |
| 85° | 3391 | 283 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 17290 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 101.5 | 9.9 |
| 10°-20° | 235.7 | 22.9 |
| 20°-30° | 239.4 | 23.2 |
| 30°-40° | 179.6 | 17.4 |
| 40°-50° | 125.8 | 12.2 |
| 50°-60° | 77.0 | 7.5 |
| 60°-70° | 45.8 | 4.5 |
| 70°-80° | 21.1 | 2.1 |
| 80°-90° | 3.8 | 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° | 576.6 | 56.0 |
| 0°-40° | 756.2 | 73.4 |
| 0°-60° | 958.9 | 93.1 |
| 0°-90° | 1029.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1029.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1132 | 1132 | 1132 | 1132 | 1132 | |
| 5° | 1114 | 1124 | 1095 | 1075 | 1075 | 106 |
| 15° | 1055 | 998 | 840 | 712 | 662 | 297 |
| 25° | 947 | 780 | 464 | 265 | 204 | 436 |
| 35° | 805 | 524 | 152 | 46 | 35 | 503 |
| 45° | 645 | 277 | 35 | 10 | 6 | 497 |
| 55° | 477 | 85 | 8 | 3 | 1 | 427 |
| 65° | 314 | 25 | 1 | 1 | 0 | 309 |
| 75° | 148 | 3 | 1 | 1 | 0 | 158 |
| 85° | 16 | 0 | 1 | 1 | 0 | 26 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055299

CATALOG NUMBER: S122R3DR-H1005D940-X4F0-XX-UDD-FLL-B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1131.8 | 1131.8 | 1131.8 | 1131.8 | 1131.8 |
| 2.5° | 1118.8 | 1135.7 | 1120.1 | 1117.5 | 1118.8 |
| 5° | 1113.6 | 1124.0 | 1095.4 | 1074.6 | 1074.6 |
| 7.5° | 1104.5 | 1104.5 | 1051.1 | 1008.2 | 995.2 |
| 10° | 1091.5 | 1077.2 | 990.0 | 921.0 | 901.5 |
| 12.5° | 1074.6 | 1040.7 | 918.4 | 820.9 | 789.7 |
| 15° | 1055.0 | 997.8 | 840.4 | 711.6 | 662.2 |
| 17.5° | 1032.9 | 949.7 | 753.2 | 593.2 | 536.0 |
| 20° | 1006.9 | 897.6 | 657.0 | 472.2 | 412.4 |
| 22.5° | 978.3 | 840.4 | 559.4 | 364.3 | 300.5 |
| 25° | 947.1 | 780.5 | 464.4 | 265.4 | 204.2 |
| 27.5° | 914.5 | 718.1 | 377.3 | 182.1 | 124.9 |
| 30° | 878.1 | 653.1 | 290.1 | 108.0 | 63.7 |
| 32.5° | 843.0 | 590.6 | 217.3 | 58.5 | 46.8 |
| 35° | 805.3 | 524.3 | 152.2 | 45.5 | 35.1 |
| 37.5° | 766.2 | 461.8 | 93.7 | 33.8 | 26.0 |
| 40° | 725.9 | 398.1 | 57.2 | 24.7 | 18.2 |
| 42.5° | 686.9 | 338.2 | 45.5 | 16.9 | 11.7 |
| 45° | 645.3 | 277.1 | 35.1 | 10.4 | 6.5 |
| 47.5° | 602.3 | 221.2 | 26.0 | 6.5 | 3.9 |
| 50° | 560.7 | 171.7 | 18.2 | 3.9 | 2.6 |
| 52.5° | 519.1 | 126.2 | 11.7 | 2.6 | 1.3 |
| 55° | 477.4 | 84.6 | 7.8 | 2.6 | 1.3 |
| 57.5° | 435.8 | 59.8 | 5.2 | 1.3 | 1.3 |
| 60° | 394.2 | 46.8 | 2.6 | 1.3 | 0.0 |
| 62.5° | 355.1 | 36.4 | 2.6 | 1.3 | 1.3 |
| 65° | 313.5 | 24.7 | 1.3 | 1.3 | 0.0 |
| 67.5° | 269.3 | 15.6 | 1.3 | 1.3 | 0.0 |
| 70° | 227.7 | 9.1 | 1.3 | 1.3 | 0.0 |
| 72.5° | 187.3 | 5.2 | 1.3 | 1.3 | 0.0 |
| 75° | 148.3 | 2.6 | 1.3 | 1.3 | 0.0 |
| 77.5° | 110.6 | 1.3 | 0.0 | 1.3 | 0.0 |
| 80° | 75.5 | 0.0 | 0.0 | 1.3 | 0.0 |
| 82.5° | 44.2 | 0.0 | 0.0 | 1.3 | 0.0 |
| 85° | 15.6 | 0.0 | 1.3 | 1.3 | 0.0 |
| 87.5° | 0.0 | 0.0 | 1.3 | 1.3 | 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 | 16.86 | 18.12 | 17.23 | 18.43 | 18.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 20.60 | 21.72 | 20.98 | 22.05 | 22.42 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 21.91 | 22.95 | 22.32 | 23.31 | 23.69 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 22.77 | 23.72 | 23.18 | 24.10 | 24.49 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 22.98 | 23.89 | 23.41 | 24.28 | 24.68 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 23.05 | 23.91 | 23.48 | 24.29 | 24.72 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H | 2H | 16.61 | 17.65 | 17.02 | 18.01 | 18.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 20.36 | 21.21 | 20.77 | 21.61 | 22.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 21.65 | 22.41 | 22.09 | 22.83 | 23.28 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 22.57 | 23.23 | 23.04 | 23.67 | 24.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 22.83 | 23.44 | 23.30 | 23.89 | 24.36 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 22.93 | 23.47 | 23.42 | 23.95 | 24.43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H | 4H | 21.51 | 22.12 | 21.98 | 22.57 | 23.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 22.41 | 22.91 | 22.91 | 23.40 | 23.89 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 22.67 | 23.11 | 23.19 | 23.63 | 24.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 22.78 | 23.17 | 23.30 | 23.67 | 24.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H | 4H | 21.46 | 22.00 | 21.95 | 22.48 | 22.96 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 22.35 | 22.79 | 22.87 | 23.31 | 23.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 22.62 | 23.01 | 23.14 | 23.51 | 24.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |