

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: P1439635

Luminaire Tested: S122DR-H290D835-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439635
TEST IS SCALED FROM IESNA LM-79-24 TEST DATA (G2-2602-702-1)
Test Lab: INNOVATION CENTER
Issue Date: 4/2/2026
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S122DR-H290D835-X4F0-XX-UDD-FLB-W
Description: DEFINE 2, DIRECT RECESSED WITH BATWING FLUSH OPTIC
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

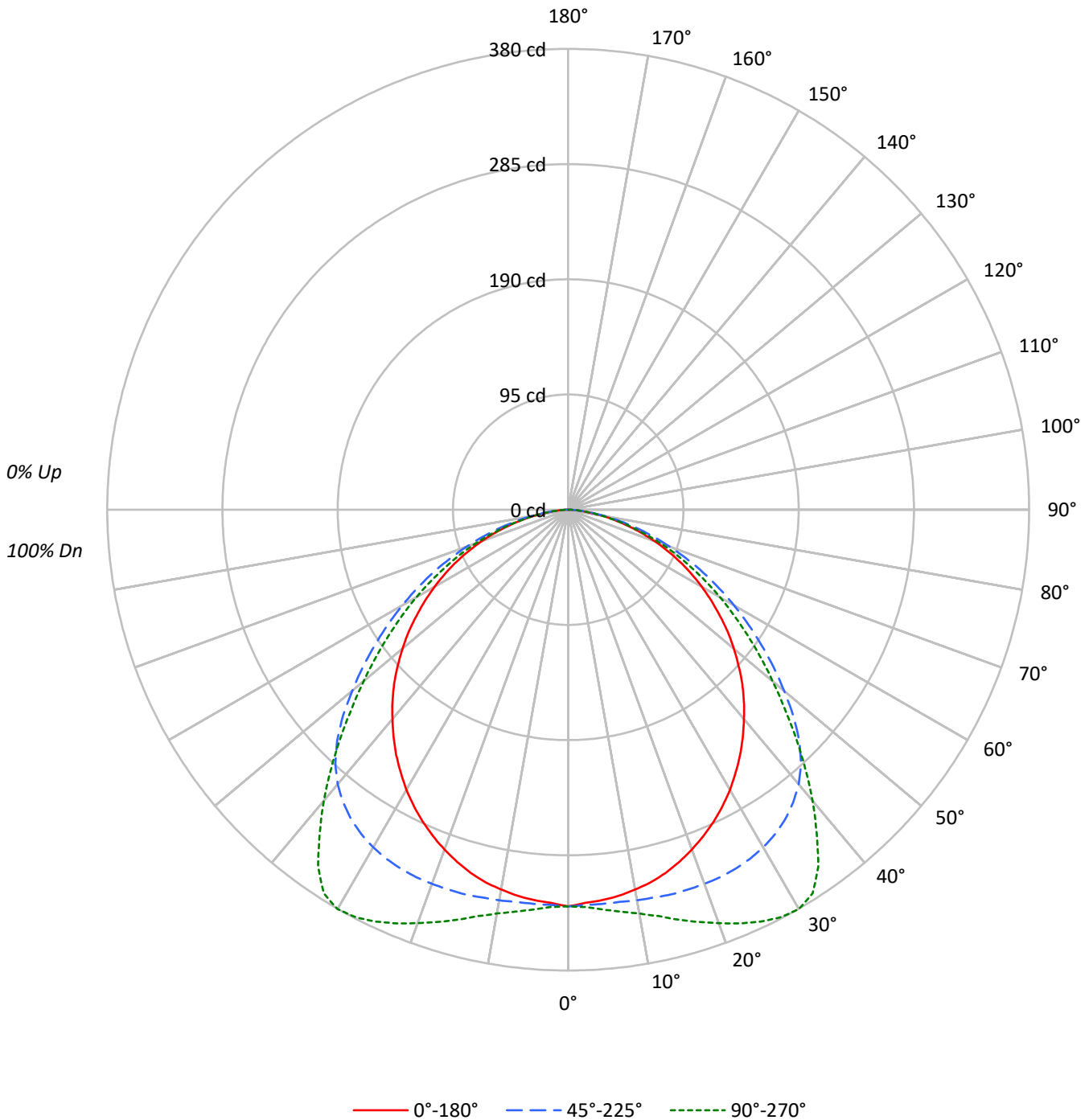
Lumens per Lamp: N/A
Luminaire Lumens: 1005.9 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.56 / 1.51
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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 | 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 | 109 | 105 | 101 | 97 | 107 | 102 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 89 | 91 | 89 | 87 | 85 | | | | | 85 | | | |
| 2 | 100 | 91 | 85 | 79 | 97 | 90 | 84 | 78 | 86 | 81 | 76 | 83 | 79 | 75 | 80 | 76 | 73 | 71 | | | | | 71 | | | |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 66 | 76 | 70 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 | | | | | 60 | | | |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 51 | | | | | 51 | | | |
| 5 | 76 | 64 | 55 | 48 | 74 | 63 | 54 | 48 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 46 | 44 | | | | | 44 | | | |
| 6 | 71 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 55 | 47 | 42 | 53 | 46 | 41 | 51 | 45 | 41 | 39 | | | | | 39 | | | |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 34 | | | | | 34 | | | |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 32 | 30 | | | | | 30 | | | |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 27 | | | | | 27 | | | |
| 10 | 53 | 40 | 32 | 27 | 52 | 39 | 32 | 27 | 38 | 31 | 27 | 38 | 31 | 26 | 37 | 31 | 26 | 25 | | | | | 25 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6197 | 6197 | 6197 |
| 5° | 6147 | 6204 | 6293 |
| 10° | 6120 | 6293 | 6504 |
| 15° | 6082 | 6441 | 6865 |
| 20° | 6012 | 6621 | 7315 |
| 25° | 5931 | 6827 | 7833 |
| 30° | 5835 | 7033 | 8318 |
| 35° | 5715 | 7212 | 8312 |
| 40° | 5575 | 7311 | 7753 |
| 45° | 5436 | 7213 | 7100 |
| 50° | 5252 | 6844 | 6481 |
| 55° | 5044 | 6421 | 5956 |
| 60° | 4820 | 5979 | 5479 |
| 65° | 4559 | 5510 | 4994 |
| 70° | 4193 | 4925 | 4476 |
| 75° | 3704 | 4268 | 3858 |
| 80° | 3066 | 3382 | 3066 |
| 85° | 2043 | 2217 | 2130 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7272 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 31.3 | 3.1 |
| 10°-20° | 93.4 | 9.3 |
| 20°-30° | 151.6 | 15.1 |
| 30°-40° | 191.8 | 19.1 |
| 40°-50° | 192.1 | 19.1 |
| 50°-60° | 160.9 | 16.0 |
| 60°-70° | 113.4 | 11.3 |
| 70°-80° | 58.5 | 5.8 |
| 80°-90° | 13.0 | 1.3 |
| 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° | 276.3 | 27.5 |
| 0°-40° | 468.1 | 46.5 |
| 0°-60° | 821.1 | 81.6 |
| 0°-90° | 1005.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1005.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 327 | 327 | 327 | 327 | 327 | |
| 5° | 323 | 329 | 326 | 328 | 331 | 31 |
| 15° | 310 | 319 | 328 | 342 | 350 | 87 |
| 25° | 284 | 299 | 327 | 358 | 375 | 131 |
| 35° | 247 | 267 | 312 | 352 | 359 | 154 |
| 45° | 203 | 224 | 269 | 271 | 265 | 156 |
| 55° | 153 | 171 | 194 | 186 | 180 | 137 |
| 65° | 102 | 113 | 123 | 115 | 111 | 100 |
| 75° | 51 | 56 | 58 | 54 | 53 | 54 |
| 85° | 9 | 10 | 10 | 10 | 10 | 12 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1439635

CATALOG NUMBER: S122DR-H290D835-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 327.1 | 327.1 | 327.1 | 327.1 | 327.1 |
| 2.5° | 324.5 | 329.6 | 326.2 | 326.6 | 327.9 |
| 5° | 323.2 | 328.8 | 326.2 | 327.9 | 330.9 |
| 7.5° | 321.1 | 327.1 | 326.2 | 329.6 | 334.3 |
| 10° | 318.1 | 324.9 | 327.1 | 333.0 | 338.1 |
| 12.5° | 314.7 | 322.0 | 327.5 | 336.9 | 343.2 |
| 15° | 310.1 | 319.0 | 328.4 | 341.5 | 350.0 |
| 17.5° | 304.5 | 315.2 | 328.4 | 346.6 | 356.4 |
| 20° | 298.2 | 310.5 | 328.4 | 350.9 | 362.8 |
| 22.5° | 291.3 | 305.0 | 327.9 | 354.7 | 369.2 |
| 25° | 283.7 | 299.0 | 326.6 | 358.5 | 374.7 |
| 27.5° | 275.6 | 292.2 | 324.5 | 361.5 | 379.0 |
| 30° | 266.7 | 284.5 | 321.5 | 362.8 | 380.2 |
| 32.5° | 256.9 | 276.5 | 317.3 | 360.3 | 375.1 |
| 35° | 247.1 | 267.1 | 311.8 | 352.2 | 359.4 |
| 37.5° | 236.5 | 257.3 | 304.5 | 336.4 | 336.4 |
| 40° | 225.4 | 246.7 | 295.6 | 314.7 | 313.5 |
| 42.5° | 214.4 | 235.6 | 284.1 | 293.5 | 289.2 |
| 45° | 202.9 | 224.1 | 269.2 | 271.4 | 265.0 |
| 47.5° | 190.5 | 211.4 | 251.8 | 248.8 | 241.6 |
| 50° | 178.2 | 198.6 | 232.2 | 227.1 | 219.9 |
| 52.5° | 165.9 | 185.4 | 213.5 | 206.3 | 199.9 |
| 55° | 152.7 | 171.4 | 194.4 | 186.3 | 180.3 |
| 57.5° | 139.9 | 157.4 | 176.1 | 167.2 | 162.0 |
| 60° | 127.2 | 142.9 | 157.8 | 149.3 | 144.6 |
| 62.5° | 114.4 | 128.0 | 140.4 | 131.9 | 127.6 |
| 65° | 101.7 | 113.1 | 122.9 | 115.3 | 111.4 |
| 67.5° | 88.5 | 98.7 | 105.5 | 98.7 | 96.1 |
| 70° | 75.7 | 83.8 | 88.9 | 82.9 | 80.8 |
| 72.5° | 62.9 | 69.8 | 73.2 | 68.5 | 66.4 |
| 75° | 50.6 | 55.7 | 58.3 | 54.0 | 52.7 |
| 77.5° | 38.7 | 42.5 | 43.8 | 40.8 | 39.1 |
| 80° | 28.1 | 30.2 | 31.0 | 28.9 | 28.1 |
| 82.5° | 17.4 | 19.1 | 20.0 | 18.3 | 17.9 |
| 85° | 9.4 | 10.2 | 10.2 | 10.2 | 9.8 |
| 87.5° | 3.4 | 4.3 | 4.3 | 4.3 | 3.8 |
| 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 | 17.82 | 19.44 | 18.19 | 19.75 | 20.06 | 18.34 | 19.95 | 18.70 | 20.26 | 20.58 |
| | 3H | 19.39 | 20.85 | 19.77 | 21.17 | 21.53 | 19.80 | 21.26 | 20.18 | 21.58 | 21.94 |
| | 4H | 19.93 | 21.30 | 20.33 | 21.64 | 22.02 | 20.30 | 21.66 | 20.69 | 22.01 | 22.39 |
| | 6H | 20.27 | 21.54 | 20.68 | 21.90 | 22.29 | 20.60 | 21.86 | 21.01 | 22.23 | 22.62 |
| | 8H | 20.36 | 21.56 | 20.78 | 21.95 | 22.35 | 20.67 | 21.88 | 21.09 | 22.27 | 22.66 |
| | 12H | 20.39 | 21.55 | 20.82 | 21.93 | 22.36 | 20.70 | 21.86 | 21.13 | 22.24 | 22.67 |
| 4H | 2H | 18.58 | 19.94 | 18.98 | 20.29 | 20.67 | 18.97 | 20.34 | 19.37 | 20.69 | 21.07 |
| | 3H | 20.35 | 21.49 | 20.76 | 21.89 | 22.29 | 20.64 | 21.78 | 21.05 | 22.18 | 22.58 |
| | 4H | 21.00 | 22.02 | 21.43 | 22.44 | 22.87 | 21.23 | 22.26 | 21.67 | 22.68 | 23.11 |
| | 6H | 21.44 | 22.33 | 21.89 | 22.78 | 23.23 | 21.63 | 22.53 | 22.09 | 22.97 | 23.42 |
| | 8H | 21.55 | 22.39 | 22.01 | 22.83 | 23.29 | 21.73 | 22.57 | 22.19 | 23.01 | 23.48 |
| | 12H | 21.61 | 22.36 | 22.09 | 22.84 | 23.31 | 21.79 | 22.54 | 22.27 | 23.02 | 23.49 |
| 8H | 4H | 21.28 | 22.11 | 21.74 | 22.56 | 23.02 | 21.49 | 22.33 | 21.95 | 22.77 | 23.24 |
| | 6H | 21.82 | 22.51 | 22.31 | 23.00 | 23.47 | 21.98 | 22.67 | 22.47 | 23.16 | 23.63 |
| | 8H | 21.98 | 22.60 | 22.49 | 23.10 | 23.59 | 22.12 | 22.74 | 22.63 | 23.25 | 23.74 |
| | 12H | 22.08 | 22.63 | 22.59 | 23.12 | 23.68 | 22.22 | 22.77 | 22.73 | 23.26 | 23.82 |
| 12H | 4H | 21.29 | 22.04 | 21.77 | 22.52 | 22.99 | 21.51 | 22.26 | 21.99 | 22.74 | 23.20 |
| | 6H | 21.84 | 22.47 | 22.36 | 22.98 | 23.46 | 22.00 | 22.63 | 22.51 | 23.13 | 23.62 |
| | 8H | 22.05 | 22.60 | 22.56 | 23.09 | 23.65 | 22.19 | 22.74 | 22.70 | 23.23 | 23.80 |