

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: P1439695

Luminaire Tested: S122DR-S485D940-X4F0-XX-UDD-FLB-W

Issue Date: 4/2/2026

Test Information

Test Method: LM-79-2024
Report Number: P1439695
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-S485D940-X4F0-XX-UDD-FLB-W
Description: DEFINE 2, DIRECT RECESSED WITH BATWING FLUSH OPTIC
CORE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

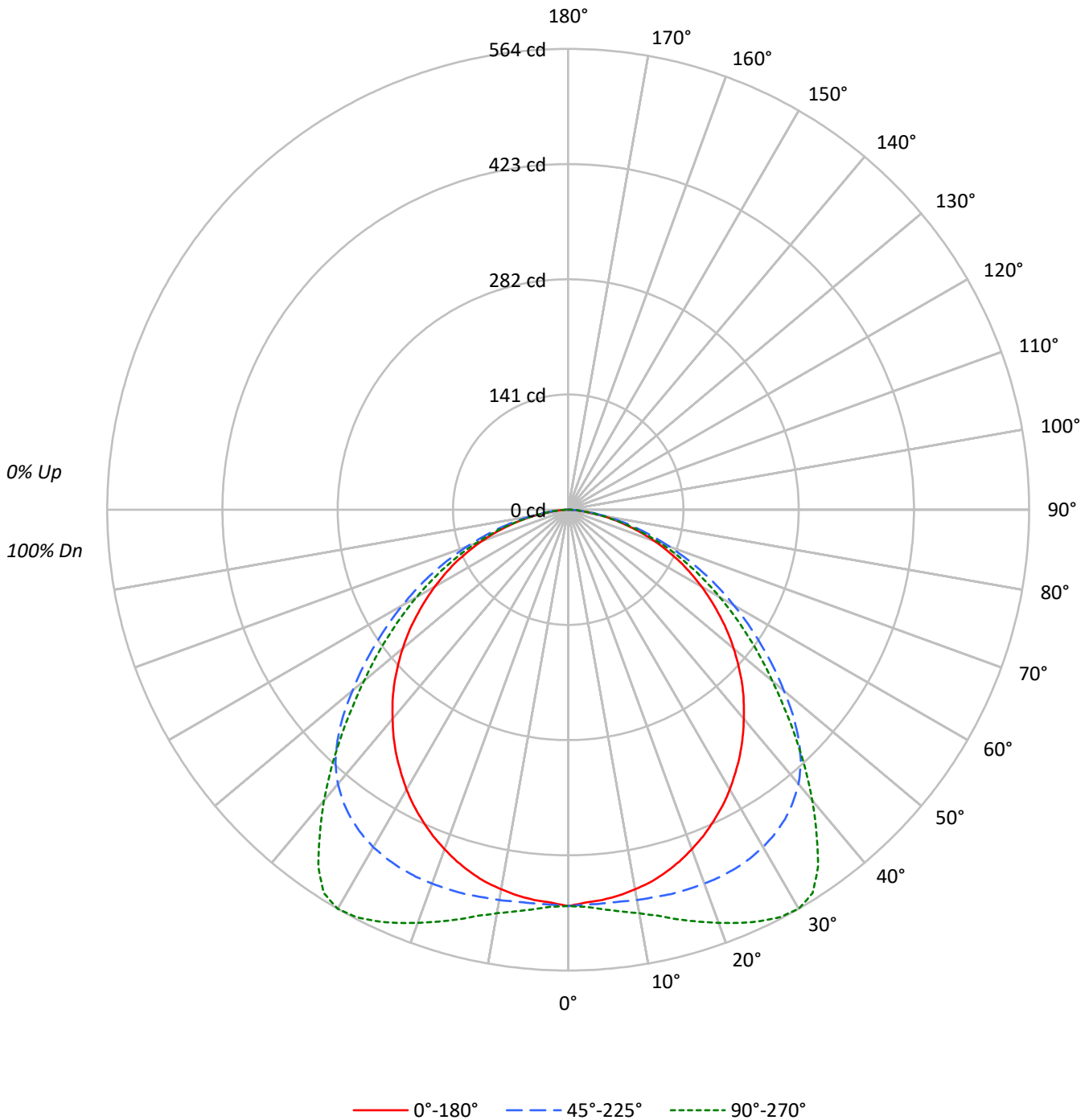
Lumens per Lamp: N/A
Luminaire Lumens: 1491.9 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.56 / 1.51
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 19.1
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 | 109 | 105 | 101 | 97 | 107 | 102 | 99 | 95 | 98 | 95 | 92 | 94 | 92 | 89 | 91 | 89 | 87 | 85 |
| 2 | 100 | 91 | 85 | 79 | 97 | 90 | 84 | 78 | 86 | 81 | 76 | 83 | 79 | 75 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 66 | 76 | 70 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 51 |
| 5 | 76 | 64 | 55 | 48 | 74 | 63 | 54 | 48 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 46 | 44 |
| 6 | 71 | 57 | 48 | 42 | 69 | 56 | 48 | 42 | 55 | 47 | 42 | 53 | 46 | 41 | 51 | 45 | 41 | 39 |
| 7 | 65 | 52 | 43 | 37 | 64 | 51 | 43 | 37 | 50 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 47 | 39 | 33 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 32 | 30 |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 30 | 42 | 34 | 29 | 41 | 34 | 29 | 40 | 34 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 39 | 32 | 27 | 38 | 31 | 27 | 38 | 31 | 26 | 37 | 31 | 26 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|-------|-------|
| 0° | 9191 | 9191 | 9191 |
| 5° | 9117 | 9201 | 9334 |
| 10° | 9077 | 9332 | 9648 |
| 15° | 9019 | 9552 | 10182 |
| 20° | 8916 | 9819 | 10849 |
| 25° | 8794 | 10126 | 11617 |
| 30° | 8652 | 10433 | 12336 |
| 35° | 8477 | 10695 | 12328 |
| 40° | 8268 | 10843 | 11498 |
| 45° | 8062 | 10699 | 10530 |
| 50° | 7790 | 10151 | 9612 |
| 55° | 7482 | 9523 | 8836 |
| 60° | 7146 | 8867 | 8128 |
| 65° | 6760 | 8172 | 7410 |
| 70° | 6221 | 7301 | 6642 |
| 75° | 5497 | 6325 | 5724 |
| 80° | 4539 | 5019 | 4539 |
| 85° | 3022 | 3282 | 3152 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 10782 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 46.4 | 3.1 |
| 10°-20° | 138.6 | 9.3 |
| 20°-30° | 224.8 | 15.1 |
| 30°-40° | 284.5 | 19.1 |
| 40°-50° | 284.9 | 19.1 |
| 50°-60° | 238.6 | 16.0 |
| 60°-70° | 168.2 | 11.3 |
| 70°-80° | 86.8 | 5.8 |
| 80°-90° | 19.2 | 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° | 409.8 | 27.5 |
| 0°-40° | 694.2 | 46.5 |
| 0°-60° | 1217.7 | 81.6 |
| 0°-90° | 1491.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1491.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 485 | 485 | 485 | 485 | 485 | |
| 5° | 479 | 488 | 484 | 486 | 491 | 46 |
| 15° | 460 | 473 | 487 | 506 | 519 | 130 |
| 25° | 421 | 443 | 484 | 532 | 556 | 194 |
| 35° | 366 | 396 | 462 | 522 | 533 | 229 |
| 45° | 301 | 332 | 399 | 402 | 393 | 232 |
| 55° | 226 | 254 | 288 | 276 | 268 | 203 |
| 65° | 151 | 168 | 182 | 171 | 165 | 149 |
| 75° | 75 | 83 | 86 | 80 | 78 | 80 |
| 85° | 14 | 15 | 15 | 15 | 14 | 18 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

TEST NUMBER: P1439695

CATALOG NUMBER: S122DR-S485D940-X4F0-XX-UDD-FLB-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 485.1 | 485.1 | 485.1 | 485.1 | 485.1 |
| 2.5° | 481.3 | 488.9 | 483.8 | 484.4 | 486.3 |
| 5° | 479.4 | 487.6 | 483.8 | 486.3 | 490.8 |
| 7.5° | 476.2 | 485.1 | 483.8 | 488.9 | 495.8 |
| 10° | 471.8 | 481.9 | 485.1 | 493.9 | 501.5 |
| 12.5° | 466.8 | 477.5 | 485.7 | 499.6 | 509.0 |
| 15° | 459.8 | 473.1 | 487.0 | 506.5 | 519.1 |
| 17.5° | 451.6 | 467.4 | 487.0 | 514.1 | 528.6 |
| 20° | 442.2 | 460.5 | 487.0 | 520.4 | 538.1 |
| 22.5° | 432.1 | 452.3 | 486.3 | 526.1 | 547.5 |
| 25° | 420.7 | 443.4 | 484.4 | 531.8 | 555.7 |
| 27.5° | 408.8 | 433.4 | 481.3 | 536.2 | 562.0 |
| 30° | 395.5 | 422.0 | 476.9 | 538.1 | 563.9 |
| 32.5° | 381.0 | 410.0 | 470.6 | 534.3 | 556.4 |
| 35° | 366.5 | 396.1 | 462.4 | 522.3 | 533.0 |
| 37.5° | 350.7 | 381.6 | 451.6 | 499.0 | 499.0 |
| 40° | 334.3 | 365.9 | 438.4 | 466.8 | 464.9 |
| 42.5° | 317.9 | 349.5 | 421.4 | 435.2 | 428.9 |
| 45° | 300.9 | 332.4 | 399.3 | 402.4 | 393.0 |
| 47.5° | 282.6 | 313.5 | 373.4 | 369.0 | 358.3 |
| 50° | 264.3 | 294.6 | 344.4 | 336.8 | 326.1 |
| 52.5° | 246.0 | 275.0 | 316.7 | 305.9 | 296.5 |
| 55° | 226.5 | 254.2 | 288.3 | 276.3 | 267.5 |
| 57.5° | 207.5 | 233.4 | 261.1 | 247.9 | 240.3 |
| 60° | 188.6 | 211.9 | 234.0 | 221.4 | 214.5 |
| 62.5° | 169.7 | 189.9 | 208.2 | 195.5 | 189.2 |
| 65° | 150.8 | 167.8 | 182.3 | 170.9 | 165.3 |
| 67.5° | 131.2 | 146.3 | 156.4 | 146.3 | 142.6 |
| 70° | 112.3 | 124.3 | 131.8 | 123.0 | 119.9 |
| 72.5° | 93.4 | 103.4 | 108.5 | 101.6 | 98.4 |
| 75° | 75.1 | 82.6 | 86.4 | 80.1 | 78.2 |
| 77.5° | 57.4 | 63.1 | 65.0 | 60.6 | 58.0 |
| 80° | 41.6 | 44.8 | 46.0 | 42.9 | 41.6 |
| 82.5° | 25.9 | 28.4 | 29.6 | 27.1 | 26.5 |
| 85° | 13.9 | 15.1 | 15.1 | 15.1 | 14.5 |
| 87.5° | 5.0 | 6.3 | 6.3 | 6.3 | 5.7 |
| 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 | 19.19 | 20.80 | 19.56 | 21.12 | 21.43 | 19.70 | 21.32 | 20.07 | 21.63 | 21.95 |
| | 3H | 20.76 | 22.22 | 21.14 | 22.54 | 22.90 | 21.17 | 22.63 | 21.55 | 22.95 | 23.31 |
| | 4H | 21.30 | 22.66 | 21.70 | 23.01 | 23.39 | 21.67 | 23.03 | 22.06 | 23.38 | 23.76 |
| | 6H | 21.64 | 22.91 | 22.05 | 23.27 | 23.66 | 21.97 | 23.23 | 22.38 | 23.60 | 23.99 |
| | 8H | 21.72 | 22.93 | 22.15 | 23.32 | 23.72 | 22.04 | 23.25 | 22.46 | 23.63 | 24.03 |
| | 12H | 21.76 | 22.92 | 22.19 | 23.30 | 23.73 | 22.07 | 23.23 | 22.50 | 23.61 | 24.04 |
| 4H | 2H | 19.95 | 21.31 | 20.34 | 21.66 | 22.04 | 20.34 | 21.71 | 20.74 | 22.06 | 22.43 |
| | 3H | 21.72 | 22.86 | 22.13 | 23.25 | 23.65 | 22.01 | 23.15 | 22.42 | 23.55 | 23.95 |
| | 4H | 22.36 | 23.39 | 22.80 | 23.81 | 24.24 | 22.60 | 23.63 | 23.04 | 24.05 | 24.48 |
| | 6H | 22.81 | 23.70 | 23.26 | 24.14 | 24.60 | 23.00 | 23.90 | 23.46 | 24.34 | 24.79 |
| | 8H | 22.92 | 23.75 | 23.38 | 24.20 | 24.66 | 23.10 | 23.94 | 23.56 | 24.38 | 24.85 |
| | 12H | 22.98 | 23.73 | 23.46 | 24.21 | 24.67 | 23.16 | 23.91 | 23.64 | 24.39 | 24.86 |
| 8H | 4H | 22.65 | 23.48 | 23.11 | 23.93 | 24.39 | 22.86 | 23.70 | 23.32 | 24.14 | 24.61 |
| | 6H | 23.19 | 23.88 | 23.68 | 24.37 | 24.84 | 23.35 | 24.04 | 23.84 | 24.53 | 25.00 |
| | 8H | 23.34 | 23.97 | 23.86 | 24.47 | 24.96 | 23.49 | 24.11 | 24.00 | 24.62 | 25.11 |
| | 12H | 23.45 | 24.00 | 23.96 | 24.49 | 25.05 | 23.59 | 24.14 | 24.10 | 24.63 | 25.19 |
| 12H | 4H | 22.66 | 23.41 | 23.14 | 23.89 | 24.36 | 22.88 | 23.63 | 23.36 | 24.10 | 24.57 |
| | 6H | 23.21 | 23.84 | 23.72 | 24.35 | 24.83 | 23.37 | 24.00 | 23.88 | 24.50 | 24.99 |
| | 8H | 23.42 | 23.97 | 23.93 | 24.46 | 25.02 | 23.56 | 24.11 | 24.07 | 24.60 | 25.16 |