

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: P1055287

Luminaire Tested: S122R3DR-H1005D850-X4F0-XX-UDD-FLL-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2019
Report Number: P1055287
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-H1005D850-X4F0-XX-UDD-FLL-B
Description: DEFINE 2, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

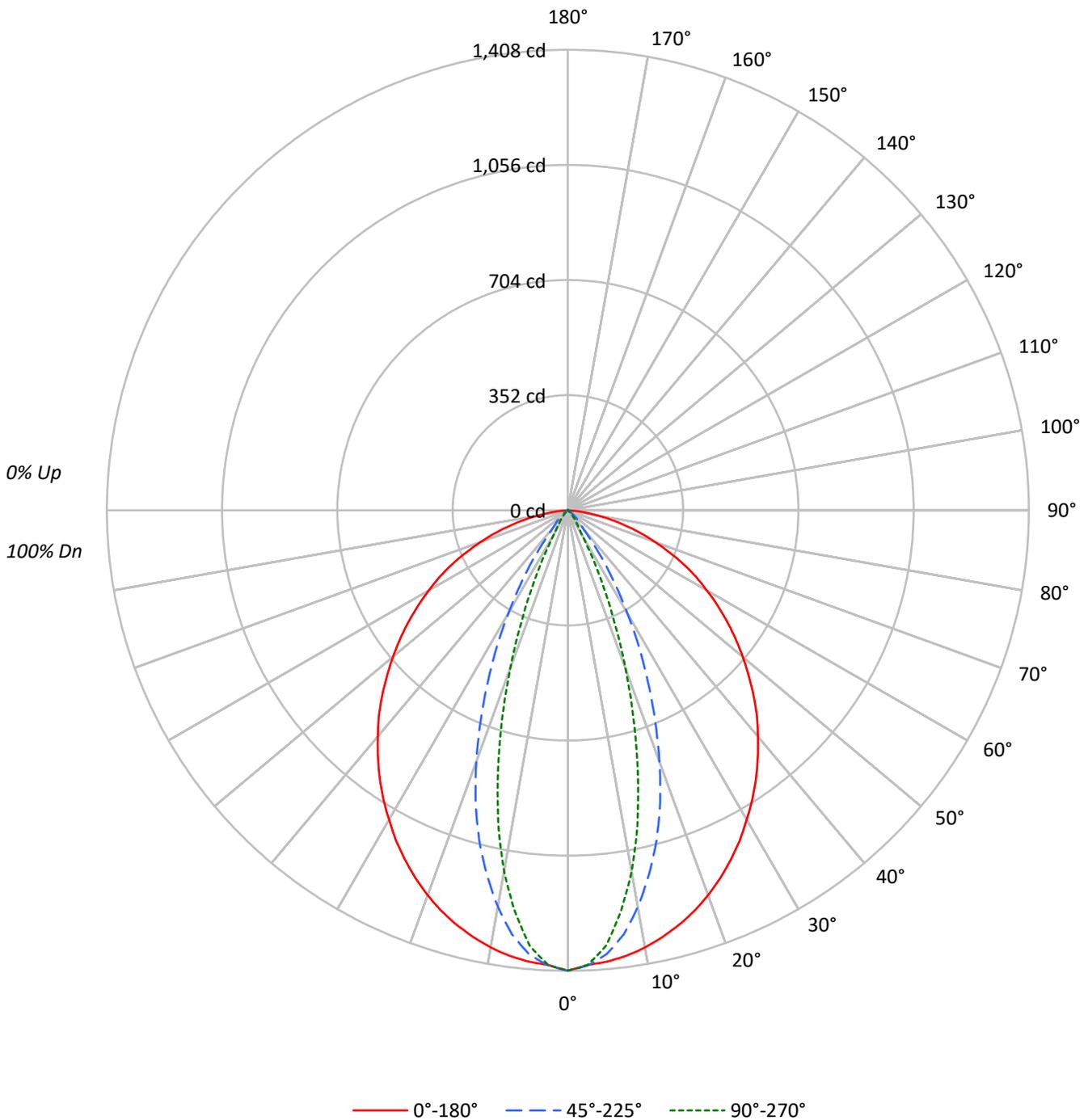
Lumens per Lamp: N/A
Luminaire Lumens: 1280.6 lumens
Efficiency: N/A
Efficacy: 35.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 0.56 / 0.7
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')
CIE Type: Direct

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





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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 | 109 | 106 | 103 | 110 | 106 | 104 | 101 | 102 | 100 | 98 | 99 | 97 | 95 | 95 | 94 | 92 | 91 |
| 2 | 105 | 99 | 94 | 90 | 103 | 97 | 93 | 89 | 94 | 90 | 87 | 91 | 88 | 85 | 88 | 86 | 83 | 81 |
| 3 | 98 | 91 | 85 | 80 | 96 | 89 | 84 | 79 | 86 | 82 | 78 | 84 | 80 | 77 | 82 | 78 | 75 | 74 |
| 4 | 92 | 83 | 77 | 72 | 90 | 82 | 76 | 71 | 80 | 75 | 70 | 78 | 73 | 70 | 76 | 72 | 69 | 67 |
| 5 | 87 | 77 | 70 | 65 | 85 | 76 | 70 | 65 | 74 | 69 | 64 | 72 | 68 | 64 | 71 | 66 | 63 | 61 |
| 6 | 82 | 72 | 65 | 60 | 80 | 71 | 64 | 59 | 69 | 63 | 59 | 68 | 63 | 59 | 66 | 62 | 58 | 56 |
| 7 | 77 | 67 | 60 | 55 | 76 | 66 | 59 | 55 | 65 | 59 | 55 | 63 | 58 | 54 | 62 | 57 | 54 | 52 |
| 8 | 73 | 62 | 56 | 51 | 72 | 62 | 55 | 51 | 61 | 55 | 51 | 60 | 54 | 50 | 59 | 54 | 50 | 49 |
| 9 | 70 | 59 | 52 | 48 | 68 | 58 | 52 | 47 | 57 | 51 | 47 | 56 | 51 | 47 | 55 | 50 | 47 | 45 |
| 10 | 66 | 55 | 49 | 45 | 65 | 55 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 44 | 52 | 48 | 44 | 43 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 26668 | 26668 | 26668 |
| 5° | 26338 | 25909 | 25416 |
| 10° | 26114 | 23686 | 21570 |
| 15° | 25736 | 20501 | 16152 |
| 20° | 25249 | 16472 | 10341 |
| 25° | 24621 | 12074 | 5310 |
| 30° | 23892 | 7893 | 1735 |
| 35° | 23163 | 4378 | 1011 |
| 40° | 22328 | 1761 | 561 |
| 45° | 21502 | 1171 | 217 |
| 50° | 20553 | 669 | 94 |
| 55° | 19614 | 320 | 53 |
| 60° | 18575 | 121 | 0 |
| 65° | 17479 | 72 | 0 |
| 70° | 15682 | 89 | 0 |
| 75° | 13498 | 117 | 0 |
| 80° | 10234 | 0 | 0 |
| 85° | 4217 | 348 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 21502 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 126.2 | 9.9 |
| 10°-20° | 293.2 | 22.9 |
| 20°-30° | 297.7 | 23.2 |
| 30°-40° | 223.4 | 17.4 |
| 40°-50° | 156.4 | 12.2 |
| 50°-60° | 95.7 | 7.5 |
| 60°-70° | 57.0 | 4.5 |
| 70°-80° | 26.3 | 2.1 |
| 80°-90° | 4.7 | 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° | 717.1 | 56.0 |
| 0°-40° | 940.4 | 73.4 |
| 0°-60° | 1192.6 | 93.1 |
| 0°-90° | 1280.6 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1280.6 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1408 | 1408 | 1408 | 1408 | 1408 | |
| 5° | 1385 | 1398 | 1362 | 1336 | 1336 | 131 |
| 15° | 1312 | 1241 | 1045 | 885 | 824 | 370 |
| 25° | 1178 | 971 | 578 | 330 | 254 | 542 |
| 35° | 1002 | 652 | 189 | 57 | 44 | 626 |
| 45° | 802 | 345 | 44 | 13 | 8 | 619 |
| 55° | 594 | 105 | 10 | 3 | 2 | 531 |
| 65° | 390 | 31 | 2 | 2 | 0 | 384 |
| 75° | 184 | 3 | 2 | 2 | 0 | 196 |
| 85° | 19 | 0 | 2 | 2 | 0 | 33 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055287

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1407.6 | 1407.6 | 1407.6 | 1407.6 | 1407.6 |
| 2.5° | 1391.4 | 1412.4 | 1393.0 | 1389.8 | 1391.4 |
| 5° | 1384.9 | 1397.9 | 1362.3 | 1336.4 | 1336.4 |
| 7.5° | 1373.6 | 1373.6 | 1307.3 | 1253.9 | 1237.7 |
| 10° | 1357.4 | 1339.6 | 1231.2 | 1145.5 | 1121.2 |
| 12.5° | 1336.4 | 1294.3 | 1142.2 | 1020.9 | 982.1 |
| 15° | 1312.1 | 1240.9 | 1045.2 | 885.0 | 823.5 |
| 17.5° | 1284.6 | 1181.1 | 936.8 | 737.8 | 666.6 |
| 20° | 1252.3 | 1116.4 | 817.0 | 587.3 | 512.9 |
| 22.5° | 1216.7 | 1045.2 | 695.7 | 453.0 | 373.7 |
| 25° | 1177.8 | 970.7 | 577.6 | 330.1 | 254.0 |
| 27.5° | 1137.4 | 893.1 | 469.2 | 226.5 | 155.3 |
| 30° | 1092.1 | 812.2 | 360.8 | 134.3 | 79.3 |
| 32.5° | 1048.4 | 734.5 | 270.2 | 72.8 | 58.2 |
| 35° | 1001.5 | 652.0 | 189.3 | 56.6 | 43.7 |
| 37.5° | 952.9 | 574.4 | 116.5 | 42.1 | 32.4 |
| 40° | 902.8 | 495.1 | 71.2 | 30.7 | 22.7 |
| 42.5° | 854.3 | 420.7 | 56.6 | 21.0 | 14.6 |
| 45° | 802.5 | 344.6 | 43.7 | 12.9 | 8.1 |
| 47.5° | 749.1 | 275.0 | 32.4 | 8.1 | 4.9 |
| 50° | 697.3 | 213.6 | 22.7 | 4.9 | 3.2 |
| 52.5° | 645.5 | 156.9 | 14.6 | 3.2 | 1.6 |
| 55° | 593.8 | 105.2 | 9.7 | 3.2 | 1.6 |
| 57.5° | 542.0 | 74.4 | 6.5 | 1.6 | 1.6 |
| 60° | 490.2 | 58.2 | 3.2 | 1.6 | 0.0 |
| 62.5° | 441.7 | 45.3 | 3.2 | 1.6 | 1.6 |
| 65° | 389.9 | 30.7 | 1.6 | 1.6 | 0.0 |
| 67.5° | 334.9 | 19.4 | 1.6 | 1.6 | 0.0 |
| 70° | 283.1 | 11.3 | 1.6 | 1.6 | 0.0 |
| 72.5° | 233.0 | 6.5 | 1.6 | 1.6 | 0.0 |
| 75° | 184.4 | 3.2 | 1.6 | 1.6 | 0.0 |
| 77.5° | 137.5 | 1.6 | 0.0 | 1.6 | 0.0 |
| 80° | 93.8 | 0.0 | 0.0 | 1.6 | 0.0 |
| 82.5° | 55.0 | 0.0 | 0.0 | 1.6 | 0.0 |
| 85° | 19.4 | 0.0 | 1.6 | 1.6 | 0.0 |
| 87.5° | 0.0 | 0.0 | 1.6 | 1.6 | 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 | 17.62 | 18.88 | 17.98 | 19.19 | 19.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 21.36 | 22.48 | 21.74 | 22.81 | 23.17 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 22.67 | 23.71 | 23.07 | 24.06 | 24.45 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 23.53 | 24.48 | 23.94 | 24.85 | 25.25 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 23.74 | 24.64 | 24.17 | 25.03 | 25.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 23.80 | 24.67 | 24.24 | 25.05 | 25.48 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H | 2H | 17.37 | 18.41 | 17.78 | 18.76 | 19.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 21.11 | 21.97 | 21.53 | 22.37 | 22.78 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 22.41 | 23.17 | 22.85 | 23.59 | 24.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 23.33 | 23.98 | 23.79 | 24.43 | 24.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 23.59 | 24.20 | 24.06 | 24.65 | 25.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 23.69 | 24.23 | 24.18 | 24.71 | 25.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H | 4H | 22.26 | 22.88 | 22.74 | 23.32 | 23.80 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 23.17 | 23.66 | 23.67 | 24.16 | 24.64 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 23.42 | 23.87 | 23.95 | 24.38 | 24.88 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 23.54 | 23.93 | 24.06 | 24.43 | 25.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H | 4H | 22.22 | 22.75 | 22.70 | 23.24 | 23.71 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 23.10 | 23.55 | 23.63 | 24.06 | 24.56 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 23.38 | 23.77 | 23.90 | 24.26 | 24.84 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |