

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: P1059120

Luminaire Tested: S123RDRP-S1165D850-X4F0-XX-UDD-WVL-W

Issue Date: 8/7/2025

Test Information

Test Method: LM-79-2024
Report Number: P1059120
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-64)
Test Lab: INNOVATION CENTER
Issue Date: 8/7/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123RDRP-S1165D850-X4F0-XX-UDD-WVL-W
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH WHITE STRAIGHT BLADE
LOUVER WITH DIFFUSER
CORE LIGHT ENGINE
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

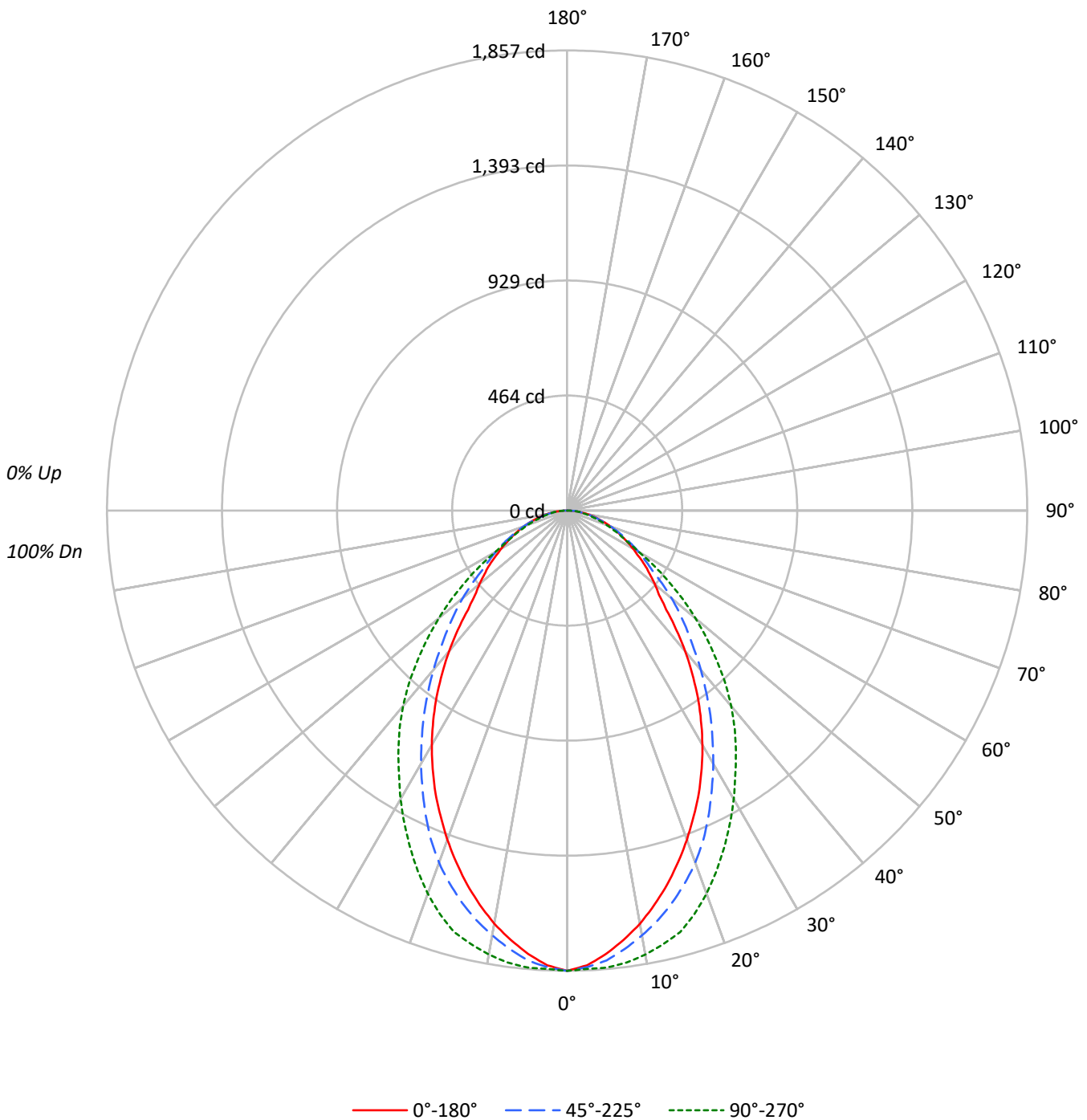
Lumens per Lamp: N/A
Luminaire Lumens: 3263.9 lumens
Efficiency: N/A
Efficacy: 78.1 lumens/watt
Spacing Criteria (0/90/45): 0.94 / 1.1 / 1.09
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 41.8
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 | 110 | 106 | 102 | 99 | 108 | 104 | 101 | 97 | 100 | 97 | 94 | 96 | 94 | 92 | 92 | 91 | 89 | 87 |
| 2 | 102 | 95 | 89 | 84 | 99 | 93 | 87 | 83 | 89 | 85 | 81 | 86 | 82 | 79 | 83 | 80 | 77 | 75 |
| 3 | 94 | 85 | 77 | 72 | 92 | 83 | 76 | 71 | 80 | 75 | 70 | 78 | 73 | 69 | 75 | 71 | 68 | 66 |
| 4 | 87 | 76 | 69 | 63 | 85 | 75 | 68 | 62 | 73 | 66 | 61 | 70 | 65 | 61 | 68 | 64 | 60 | 58 |
| 5 | 81 | 69 | 61 | 55 | 79 | 68 | 61 | 55 | 66 | 59 | 54 | 64 | 58 | 54 | 62 | 57 | 53 | 51 |
| 6 | 75 | 63 | 55 | 49 | 73 | 62 | 55 | 49 | 61 | 54 | 49 | 59 | 53 | 48 | 57 | 52 | 48 | 46 |
| 7 | 70 | 58 | 50 | 44 | 69 | 57 | 50 | 44 | 56 | 49 | 44 | 54 | 48 | 44 | 53 | 48 | 43 | 41 |
| 8 | 66 | 53 | 46 | 40 | 64 | 53 | 45 | 40 | 51 | 45 | 40 | 50 | 44 | 40 | 49 | 44 | 39 | 38 |
| 9 | 62 | 49 | 42 | 37 | 60 | 49 | 42 | 37 | 48 | 41 | 36 | 47 | 41 | 36 | 46 | 40 | 36 | 34 |
| 10 | 58 | 46 | 39 | 34 | 57 | 45 | 38 | 34 | 45 | 38 | 34 | 44 | 38 | 33 | 43 | 37 | 33 | 32 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 21810 | 21810 | 21810 |
| 5° | 21178 | 21480 | 21818 |
| 10° | 20184 | 20755 | 21690 |
| 15° | 18985 | 19917 | 21414 |
| 20° | 17657 | 18897 | 20553 |
| 25° | 16299 | 17521 | 19427 |
| 30° | 14804 | 15996 | 18227 |
| 35° | 13175 | 14435 | 17026 |
| 40° | 11369 | 12864 | 15779 |
| 45° | 9398 | 11387 | 14149 |
| 50° | 8440 | 10046 | 12353 |
| 55° | 7820 | 8574 | 10242 |
| 60° | 7208 | 7809 | 7846 |
| 65° | 6707 | 7063 | 6574 |
| 70° | 6310 | 6420 | 5761 |
| 75° | 5948 | 5730 | 5077 |
| 80° | 5619 | 5187 | 4754 |
| 85° | 5389 | 5820 | 5389 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 90°
 Vertical Angle: 45°
 Luminance: 14149 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 172.0 | 5.3 |
| 10°-20° | 463.5 | 14.2 |
| 20°-30° | 627.0 | 19.2 |
| 30°-40° | 644.3 | 19.7 |
| 40°-50° | 541.1 | 16.6 |
| 50°-60° | 387.9 | 11.9 |
| 60°-70° | 247.0 | 7.6 |
| 70°-80° | 135.7 | 4.2 |
| 80°-90° | 45.3 | 1.4 |
| 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° | 1262.5 | 38.7 |
| 0°-40° | 1906.8 | 58.4 |
| 0°-60° | 2835.9 | 86.9 |
| 0°-90° | 3263.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3263.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1857 | 1857 | 1857 | 1857 | 1857 | |
| 5° | 1797 | 1829 | 1822 | 1835 | 1851 | 168 |
| 15° | 1562 | 1605 | 1638 | 1709 | 1762 | 438 |
| 25° | 1258 | 1306 | 1352 | 1426 | 1499 | 577 |
| 35° | 919 | 969 | 1007 | 1097 | 1188 | 572 |
| 45° | 566 | 615 | 686 | 785 | 852 | 447 |
| 55° | 382 | 390 | 419 | 475 | 500 | 341 |
| 65° | 241 | 256 | 254 | 240 | 237 | 241 |
| 75° | 131 | 144 | 126 | 117 | 112 | 139 |
| 85° | 40 | 42 | 43 | 45 | 40 | 44 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

TEST NUMBER: P1059120

CATALOG NUMBER: S123RDRP-S1165D850-X4F0-XX-UDD-WVL-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1857.4 | 1857.4 | 1857.4 | 1857.4 | 1857.4 |
| 2.5° | 1836.6 | 1862.2 | 1844.6 | 1846.2 | 1851.0 |
| 5° | 1796.7 | 1828.7 | 1822.3 | 1835.0 | 1851.0 |
| 7.5° | 1747.1 | 1782.3 | 1783.9 | 1814.3 | 1839.8 |
| 10° | 1692.8 | 1729.5 | 1740.7 | 1787.1 | 1819.1 |
| 12.5° | 1628.8 | 1668.8 | 1692.8 | 1750.3 | 1791.9 |
| 15° | 1561.7 | 1604.9 | 1638.4 | 1708.8 | 1761.5 |
| 17.5° | 1488.2 | 1534.5 | 1577.7 | 1652.8 | 1707.2 |
| 20° | 1413.0 | 1462.6 | 1512.2 | 1582.5 | 1644.8 |
| 22.5° | 1334.7 | 1385.9 | 1437.0 | 1505.8 | 1574.5 |
| 25° | 1258.0 | 1306.0 | 1352.3 | 1425.8 | 1499.4 |
| 27.5° | 1174.9 | 1224.4 | 1264.4 | 1345.9 | 1422.6 |
| 30° | 1091.8 | 1141.3 | 1179.7 | 1264.4 | 1344.3 |
| 32.5° | 1005.4 | 1056.6 | 1091.8 | 1179.7 | 1262.8 |
| 35° | 919.1 | 968.7 | 1007.0 | 1096.6 | 1187.7 |
| 37.5° | 828.0 | 882.4 | 920.7 | 1021.4 | 1110.9 |
| 40° | 741.7 | 792.8 | 839.2 | 944.7 | 1029.4 |
| 42.5° | 652.2 | 704.9 | 757.7 | 866.4 | 944.7 |
| 45° | 565.9 | 615.4 | 685.7 | 784.8 | 852.0 |
| 47.5° | 503.5 | 535.5 | 617.0 | 700.1 | 764.1 |
| 50° | 462.0 | 474.7 | 549.9 | 623.4 | 676.2 |
| 52.5° | 420.4 | 430.0 | 481.1 | 548.3 | 588.2 |
| 55° | 382.0 | 390.0 | 418.8 | 474.7 | 500.3 |
| 57.5° | 340.5 | 348.5 | 372.4 | 404.4 | 418.8 |
| 60° | 306.9 | 313.3 | 332.5 | 337.3 | 334.1 |
| 62.5° | 273.3 | 282.9 | 292.5 | 281.3 | 276.5 |
| 65° | 241.4 | 255.8 | 254.2 | 239.8 | 236.6 |
| 67.5° | 212.6 | 227.0 | 219.0 | 204.6 | 199.8 |
| 70° | 183.8 | 198.2 | 187.0 | 172.6 | 167.8 |
| 72.5° | 156.7 | 172.6 | 155.1 | 142.3 | 139.1 |
| 75° | 131.1 | 143.9 | 126.3 | 116.7 | 111.9 |
| 77.5° | 107.1 | 116.7 | 100.7 | 92.7 | 89.5 |
| 80° | 83.1 | 89.5 | 76.7 | 71.9 | 70.3 |
| 82.5° | 60.7 | 63.9 | 55.9 | 59.1 | 57.5 |
| 85° | 40.0 | 41.6 | 43.2 | 44.8 | 40.0 |
| 87.5° | 19.2 | 27.2 | 27.2 | 25.6 | 20.8 |
| 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 | 17.89 | 19.36 | 18.26 | 19.67 | 19.99 | 18.96 | 20.43 | 19.33 | 20.74 | 21.05 |
| | 3H | 19.59 | 20.90 | 19.97 | 21.23 | 21.59 | 20.05 | 21.36 | 20.43 | 21.69 | 22.05 |
| | 4H | 20.25 | 21.47 | 20.65 | 21.82 | 22.20 | 20.45 | 21.68 | 20.85 | 22.03 | 22.41 |
| | 6H | 20.75 | 21.88 | 21.16 | 22.25 | 22.64 | 20.76 | 21.89 | 21.17 | 22.26 | 22.65 |
| | 8H | 20.92 | 22.00 | 21.35 | 22.39 | 22.79 | 20.89 | 21.97 | 21.32 | 22.36 | 22.76 |
| | 12H | 21.05 | 22.08 | 21.48 | 22.46 | 22.89 | 21.01 | 22.05 | 21.45 | 22.43 | 22.86 |
| 4H | 2H | 18.50 | 19.72 | 18.90 | 20.07 | 20.45 | 19.37 | 20.59 | 19.77 | 20.94 | 21.32 |
| | 3H | 20.42 | 21.44 | 20.83 | 21.84 | 22.24 | 20.69 | 21.70 | 21.10 | 22.10 | 22.51 |
| | 4H | 21.24 | 22.15 | 21.67 | 22.57 | 23.01 | 21.20 | 22.12 | 21.64 | 22.54 | 22.98 |
| | 6H | 21.88 | 22.68 | 22.34 | 23.12 | 23.58 | 21.64 | 22.43 | 22.09 | 22.88 | 23.34 |
| | 8H | 22.10 | 22.85 | 22.57 | 23.29 | 23.76 | 21.83 | 22.57 | 22.29 | 23.02 | 23.48 |
| | 12H | 22.28 | 22.94 | 22.76 | 23.42 | 23.89 | 22.01 | 22.67 | 22.49 | 23.15 | 23.62 |
| 8H | 4H | 21.47 | 22.22 | 21.94 | 22.66 | 23.13 | 21.45 | 22.19 | 21.91 | 22.64 | 23.11 |
| | 6H | 22.26 | 22.88 | 22.76 | 23.37 | 23.85 | 22.00 | 22.61 | 22.50 | 23.11 | 23.58 |
| | 8H | 22.57 | 23.13 | 23.09 | 23.64 | 24.13 | 22.27 | 22.83 | 22.79 | 23.34 | 23.83 |
| | 12H | 22.84 | 23.33 | 23.35 | 23.82 | 24.39 | 22.57 | 23.06 | 23.08 | 23.55 | 24.11 |
| 12H | 4H | 21.48 | 22.15 | 21.97 | 22.63 | 23.10 | 21.48 | 22.14 | 21.96 | 22.62 | 23.09 |
| | 6H | 22.29 | 22.85 | 22.81 | 23.36 | 23.85 | 22.05 | 22.60 | 22.57 | 23.11 | 23.60 |
| | 8H | 22.67 | 23.16 | 23.18 | 23.65 | 24.22 | 22.39 | 22.88 | 22.90 | 23.37 | 23.94 |