

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: P1055681

Luminaire Tested: S123R3DR-S775D950-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055681
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-6)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S775D950-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

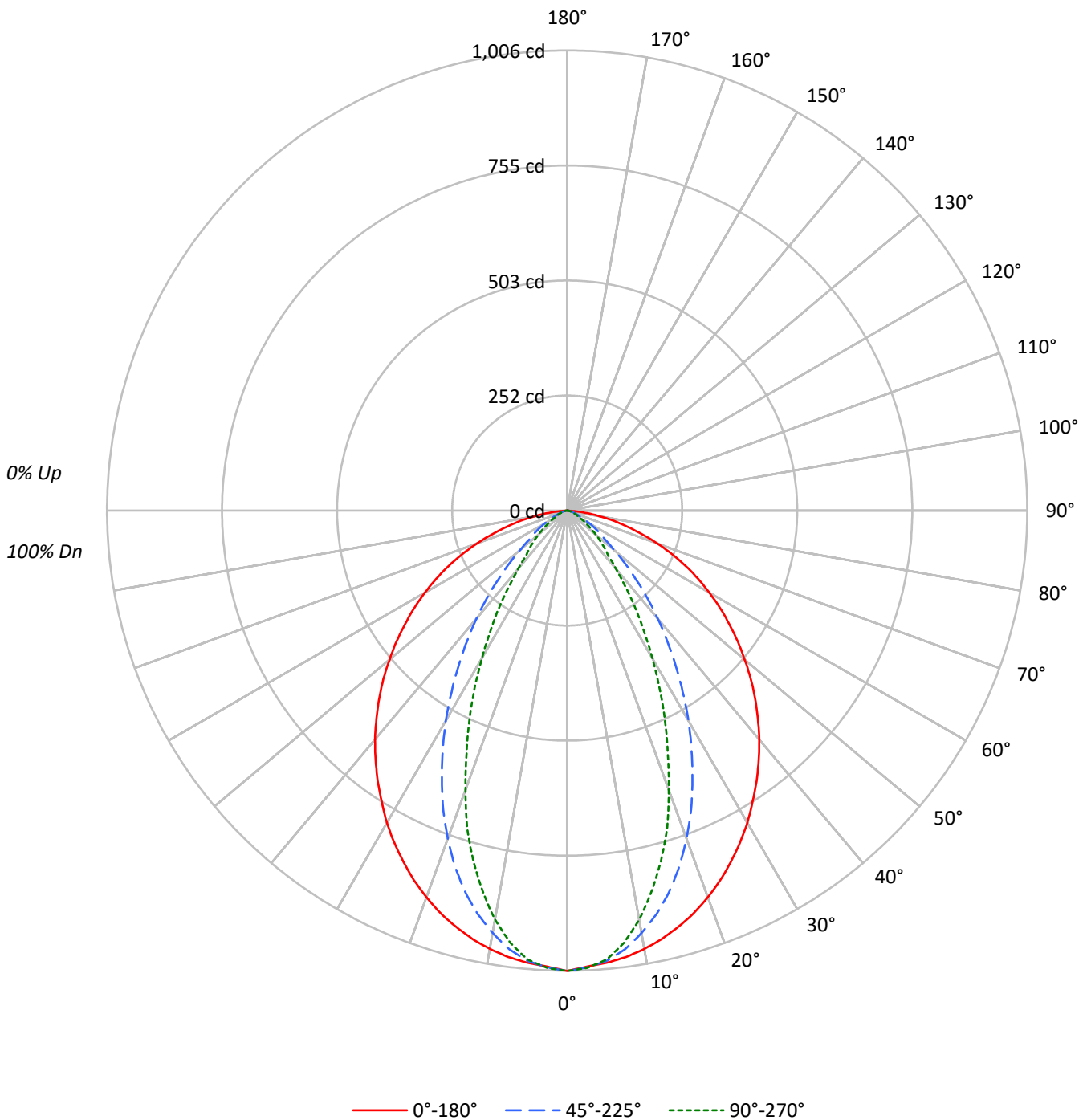
Lumens per Lamp: N/A
Luminaire Lumens: 1399.7 lumens
Efficiency: N/A
Efficacy: 53.0 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 26.4
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 | 111 | 108 | 104 | 102 | 109 | 106 | 103 | 100 | 101 | 99 | 97 | 98 | 96 | 94 | 94 | 93 | 91 | 89 |
| 2 | 104 | 97 | 92 | 87 | 101 | 95 | 90 | 86 | 92 | 88 | 84 | 89 | 85 | 82 | 86 | 83 | 81 | 79 |
| 3 | 96 | 88 | 81 | 76 | 94 | 86 | 80 | 76 | 84 | 78 | 74 | 81 | 77 | 73 | 79 | 75 | 72 | 70 |
| 4 | 90 | 80 | 73 | 67 | 88 | 79 | 72 | 67 | 76 | 71 | 66 | 74 | 69 | 65 | 72 | 68 | 64 | 62 |
| 5 | 84 | 73 | 66 | 60 | 82 | 72 | 65 | 60 | 70 | 64 | 59 | 68 | 63 | 59 | 67 | 62 | 58 | 56 |
| 6 | 78 | 67 | 60 | 54 | 77 | 66 | 59 | 54 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 57 | 53 | 51 |
| 7 | 73 | 62 | 54 | 49 | 72 | 61 | 54 | 49 | 60 | 53 | 49 | 58 | 53 | 48 | 57 | 52 | 48 | 46 |
| 8 | 69 | 57 | 50 | 45 | 68 | 57 | 50 | 45 | 56 | 49 | 45 | 54 | 49 | 44 | 53 | 48 | 44 | 42 |
| 9 | 65 | 53 | 46 | 41 | 64 | 53 | 46 | 41 | 52 | 45 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 39 |
| 10 | 62 | 50 | 43 | 38 | 60 | 49 | 43 | 38 | 48 | 42 | 38 | 48 | 42 | 38 | 47 | 42 | 38 | 36 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12135 | 12135 | 12135 |
| 5° | 12008 | 11961 | 11927 |
| 10° | 11913 | 11481 | 11119 |
| 15° | 11753 | 10764 | 9895 |
| 20° | 11542 | 9792 | 8336 |
| 25° | 11270 | 8618 | 6726 |
| 30° | 10970 | 7384 | 5180 |
| 35° | 10629 | 6093 | 3833 |
| 40° | 10285 | 4849 | 2613 |
| 45° | 9906 | 3627 | 1968 |
| 50° | 9502 | 2523 | 1538 |
| 55° | 9085 | 1846 | 1122 |
| 60° | 8649 | 1379 | 805 |
| 65° | 8136 | 924 | 625 |
| 70° | 7364 | 673 | 504 |
| 75° | 6354 | 489 | 401 |
| 80° | 5103 | 396 | 333 |
| 85° | 2642 | 401 | 263 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 9906 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 93.0 | 6.6 |
| 10°-20° | 242.2 | 17.3 |
| 20°-30° | 304.3 | 21.7 |
| 30°-40° | 283.4 | 20.2 |
| 40°-50° | 216.9 | 15.5 |
| 50°-60° | 144.2 | 10.3 |
| 60°-70° | 77.7 | 5.6 |
| 70°-80° | 31.8 | 2.3 |
| 80°-90° | 6.1 | 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° | 639.5 | 45.7 |
| 0°-40° | 922.9 | 65.9 |
| 0°-60° | 1284.0 | 91.7 |
| 0°-90° | 1399.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1399.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1006 | 1006 | 1006 | 1006 | 1006 | |
| 5° | 992 | 1003 | 988 | 984 | 986 | 94 |
| 15° | 942 | 926 | 862 | 812 | 793 | 265 |
| 25° | 847 | 790 | 648 | 540 | 506 | 390 |
| 35° | 722 | 615 | 414 | 293 | 260 | 452 |
| 45° | 581 | 429 | 213 | 125 | 115 | 448 |
| 55° | 432 | 250 | 88 | 61 | 53 | 387 |
| 65° | 285 | 96 | 32 | 24 | 22 | 282 |
| 75° | 136 | 23 | 10 | 10 | 9 | 146 |
| 85° | 19 | 3 | 3 | 3 | 2 | 28 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055681

CATALOG NUMBER: S123R3DR-S775D950-X4F0-XX-UDD-F-S

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1006.5 | 1006.5 | 1006.5 | 1006.5 | 1006.5 |
| 2.5° | 997.9 | 1010.3 | 999.8 | 1000.7 | 1000.7 |
| 5° | 992.2 | 1002.7 | 988.3 | 984.5 | 985.5 |
| 7.5° | 984.5 | 991.2 | 967.4 | 955.0 | 953.0 |
| 10° | 973.1 | 975.0 | 937.8 | 915.8 | 908.2 |
| 12.5° | 958.8 | 952.1 | 903.4 | 867.2 | 852.9 |
| 15° | 941.6 | 926.3 | 862.4 | 811.9 | 792.8 |
| 17.5° | 922.5 | 896.8 | 815.7 | 749.8 | 726.9 |
| 20° | 899.6 | 863.4 | 763.2 | 681.2 | 649.7 |
| 22.5° | 874.8 | 828.1 | 707.9 | 610.6 | 575.3 |
| 25° | 847.2 | 789.9 | 647.8 | 540.0 | 505.6 |
| 27.5° | 818.5 | 748.9 | 588.6 | 473.2 | 437.9 |
| 30° | 788.0 | 706.9 | 530.4 | 408.3 | 372.1 |
| 32.5° | 754.6 | 661.1 | 470.3 | 348.2 | 312.0 |
| 35° | 722.2 | 615.3 | 414.0 | 292.9 | 260.4 |
| 37.5° | 687.8 | 569.5 | 359.7 | 244.2 | 208.0 |
| 40° | 653.5 | 522.8 | 308.1 | 196.5 | 166.0 |
| 42.5° | 617.2 | 476.0 | 259.5 | 156.5 | 132.6 |
| 45° | 581.0 | 429.3 | 212.7 | 125.0 | 115.4 |
| 47.5° | 544.7 | 382.6 | 171.7 | 107.8 | 98.3 |
| 50° | 506.6 | 337.7 | 134.5 | 91.6 | 82.0 |
| 52.5° | 470.3 | 292.9 | 104.9 | 75.4 | 66.8 |
| 55° | 432.2 | 249.9 | 87.8 | 61.1 | 53.4 |
| 57.5° | 396.9 | 206.1 | 72.5 | 47.7 | 42.0 |
| 60° | 358.7 | 166.9 | 57.2 | 37.2 | 33.4 |
| 62.5° | 322.5 | 130.7 | 43.9 | 29.6 | 26.7 |
| 65° | 285.2 | 96.4 | 32.4 | 23.8 | 21.9 |
| 67.5° | 248.0 | 69.6 | 24.8 | 19.1 | 18.1 |
| 70° | 208.9 | 52.5 | 19.1 | 15.3 | 14.3 |
| 72.5° | 171.7 | 37.2 | 14.3 | 12.4 | 11.4 |
| 75° | 136.4 | 22.9 | 10.5 | 9.5 | 8.6 |
| 77.5° | 104.9 | 13.4 | 7.6 | 7.6 | 6.7 |
| 80° | 73.5 | 7.6 | 5.7 | 5.7 | 4.8 |
| 82.5° | 44.8 | 4.8 | 3.8 | 3.8 | 3.8 |
| 85° | 19.1 | 2.9 | 2.9 | 2.9 | 1.9 |
| 87.5° | 2.9 | 1.0 | 1.0 | 1.0 | 1.0 |
| 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 | 18.49 | 19.84 | 18.85 | 20.15 | 20.47 | 7.06 | 8.42 | 7.42 | 8.73 | 9.04 |
| | 3H | 20.24 | 21.44 | 20.62 | 21.77 | 22.14 | 7.72 | 8.93 | 8.10 | 9.26 | 9.62 |
| | 4H | 20.94 | 22.06 | 21.34 | 22.41 | 22.79 | 7.92 | 9.04 | 8.32 | 9.39 | 9.77 |
| | 6H | 21.45 | 22.48 | 21.87 | 22.85 | 23.25 | 8.04 | 9.07 | 8.45 | 9.44 | 9.84 |
| | 8H | 21.59 | 22.57 | 22.02 | 22.96 | 23.37 | 8.07 | 9.05 | 8.50 | 9.44 | 9.85 |
| | 12H | 21.64 | 22.58 | 22.07 | 22.96 | 23.39 | 8.08 | 9.02 | 8.52 | 9.40 | 9.83 |
| 4H | 2H | 18.29 | 19.42 | 18.70 | 19.77 | 20.15 | 7.61 | 8.74 | 8.02 | 9.09 | 9.47 |
| | 3H | 20.09 | 21.01 | 20.50 | 21.41 | 21.81 | 8.41 | 9.33 | 8.83 | 9.74 | 10.14 |
| | 4H | 20.78 | 21.60 | 21.21 | 22.02 | 22.46 | 8.67 | 9.49 | 9.11 | 9.91 | 10.35 |
| | 6H | 21.35 | 22.06 | 21.81 | 22.51 | 22.97 | 8.87 | 9.58 | 9.33 | 10.02 | 10.49 |
| | 8H | 21.53 | 22.19 | 21.99 | 22.64 | 23.11 | 8.92 | 9.58 | 9.39 | 10.03 | 10.50 |
| | 12H | 21.61 | 22.20 | 22.10 | 22.68 | 23.15 | 8.95 | 9.54 | 9.44 | 10.02 | 10.50 |
| 8H | 4H | 20.66 | 21.32 | 21.13 | 21.77 | 22.24 | 8.98 | 9.65 | 9.45 | 10.09 | 10.56 |
| | 6H | 21.21 | 21.75 | 21.71 | 22.25 | 22.73 | 9.23 | 9.77 | 9.73 | 10.27 | 10.75 |
| | 8H | 21.39 | 21.87 | 21.91 | 22.39 | 22.88 | 9.32 | 9.80 | 9.84 | 10.32 | 10.81 |
| | 12H | 21.49 | 21.92 | 22.01 | 22.41 | 22.99 | 9.40 | 9.83 | 9.91 | 10.32 | 10.89 |
| 12H | 4H | 20.61 | 21.20 | 21.10 | 21.68 | 22.16 | 9.03 | 9.61 | 9.51 | 10.10 | 10.57 |
| | 6H | 21.15 | 21.64 | 21.67 | 22.15 | 22.64 | 9.28 | 9.76 | 9.80 | 10.28 | 10.77 |
| | 8H | 21.35 | 21.78 | 21.86 | 22.27 | 22.84 | 9.40 | 9.83 | 9.92 | 10.33 | 10.90 |