

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: P1055670

Luminaire Tested: S123R3DR-S775D927-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055670
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-4)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S775D927-X4F0-XX-UDD-F-W
Description: DEFINE 3, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

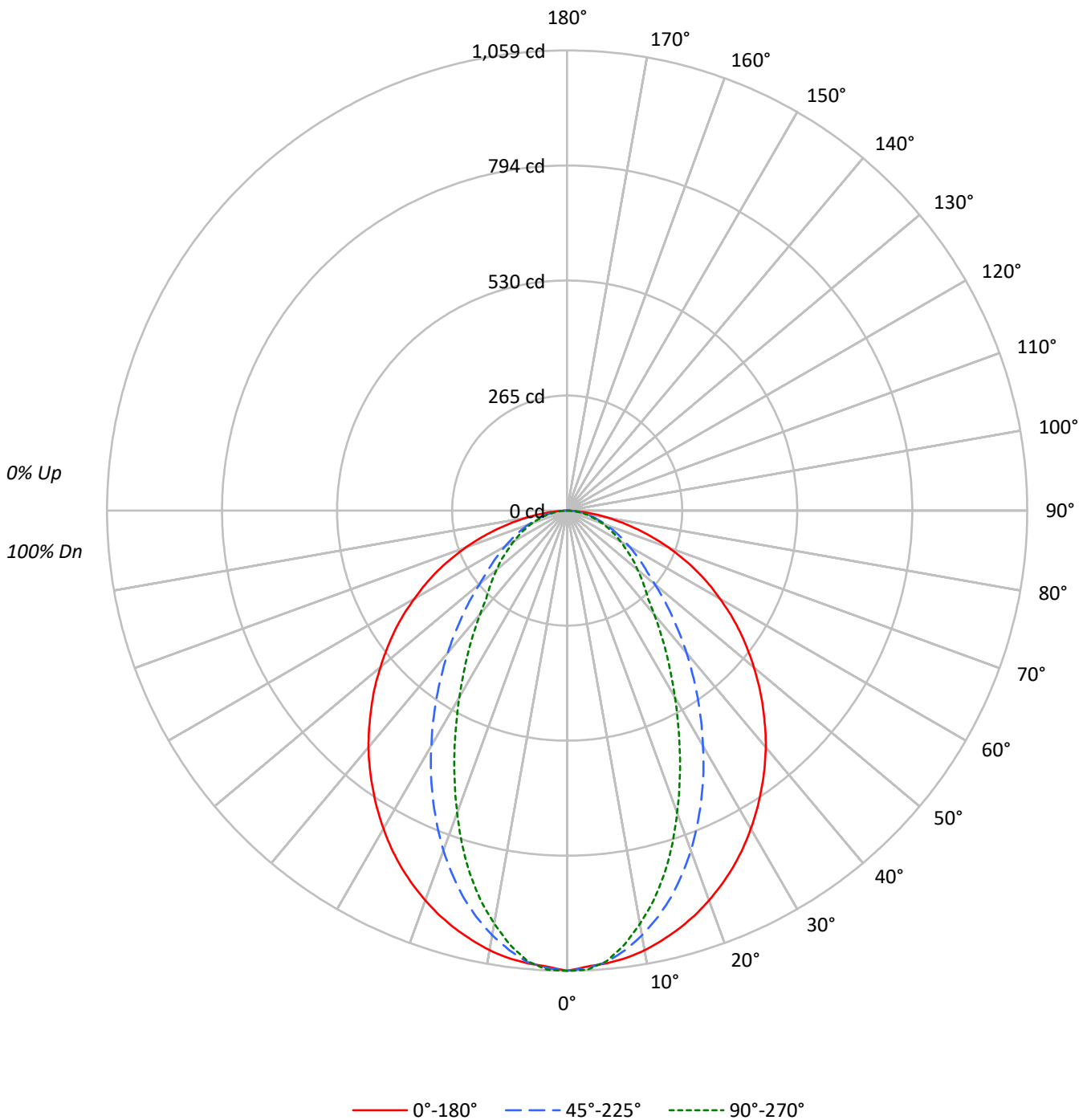
Lumens per Lamp: N/A
Luminaire Lumens: 1857.5 lumens
Efficiency: N/A
Efficacy: 70.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 0.83 / 1.02
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 26.4
Input Voltage (V): 120
Input Current (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 | 110 | 106 | 102 | 99 | 107 | 104 | 100 | 97 | 99 | 97 | 94 | 96 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 87 | 82 | 89 | 84 | 80 | 85 | 82 | 78 | 83 | 79 | 76 | 74 |
| 3 | 93 | 84 | 77 | 71 | 91 | 82 | 76 | 70 | 80 | 74 | 69 | 77 | 72 | 68 | 74 | 70 | 67 | 65 |
| 4 | 86 | 75 | 68 | 61 | 84 | 74 | 67 | 61 | 72 | 65 | 60 | 70 | 64 | 59 | 67 | 63 | 59 | 57 |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 60 | 54 | 65 | 58 | 53 | 63 | 57 | 53 | 62 | 56 | 52 | 50 |
| 6 | 75 | 62 | 54 | 48 | 73 | 61 | 54 | 48 | 60 | 53 | 48 | 58 | 52 | 47 | 57 | 51 | 47 | 45 |
| 7 | 70 | 57 | 49 | 43 | 68 | 56 | 49 | 43 | 55 | 48 | 43 | 53 | 47 | 43 | 52 | 47 | 42 | 40 |
| 8 | 65 | 53 | 45 | 39 | 64 | 52 | 44 | 39 | 51 | 44 | 39 | 49 | 43 | 39 | 48 | 43 | 39 | 37 |
| 9 | 61 | 49 | 41 | 36 | 60 | 48 | 41 | 36 | 47 | 40 | 36 | 46 | 40 | 35 | 45 | 39 | 35 | 34 |
| 10 | 58 | 45 | 38 | 33 | 56 | 45 | 38 | 33 | 44 | 37 | 33 | 43 | 37 | 33 | 42 | 37 | 33 | 31 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 12769 | 12769 | 12769 |
| 5° | 12656 | 12626 | 12597 |
| 10° | 12579 | 12152 | 11822 |
| 15° | 12429 | 11509 | 10798 |
| 20° | 12248 | 10682 | 9493 |
| 25° | 12035 | 9727 | 8167 |
| 30° | 11768 | 8701 | 6904 |
| 35° | 11485 | 7695 | 5830 |
| 40° | 11196 | 6720 | 4899 |
| 45° | 10859 | 5794 | 4322 |
| 50° | 10520 | 4933 | 3967 |
| 55° | 10207 | 4395 | 3664 |
| 60° | 9780 | 3974 | 3419 |
| 65° | 9380 | 3637 | 3209 |
| 70° | 8742 | 3352 | 3017 |
| 75° | 7821 | 3098 | 2842 |
| 80° | 6707 | 2861 | 2638 |
| 85° | 4717 | 2628 | 2518 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 10859 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 98.2 | 5.3 |
| 10°-20° | 259.8 | 14.0 |
| 20°-30° | 342.2 | 18.4 |
| 30°-40° | 347.3 | 18.7 |
| 40°-50° | 301.9 | 16.3 |
| 50°-60° | 236.5 | 12.7 |
| 60°-70° | 160.7 | 8.7 |
| 70°-80° | 87.1 | 4.7 |
| 80°-90° | 24.0 | 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° | 700.1 | 37.7 |
| 0°-40° | 1047.4 | 56.4 |
| 0°-60° | 1585.8 | 85.4 |
| 0°-90° | 1857.5 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1857.5 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1059 | 1059 | 1059 | 1059 | 1059 | |
| 5° | 1046 | 1058 | 1043 | 1034 | 1041 | 99 |
| 15° | 996 | 982 | 922 | 877 | 865 | 281 |
| 25° | 905 | 850 | 731 | 640 | 614 | 416 |
| 35° | 780 | 688 | 523 | 423 | 396 | 488 |
| 45° | 637 | 511 | 340 | 262 | 254 | 492 |
| 55° | 486 | 338 | 209 | 178 | 174 | 433 |
| 65° | 329 | 182 | 128 | 114 | 112 | 325 |
| 75° | 168 | 84 | 66 | 62 | 61 | 179 |
| 85° | 34 | 21 | 19 | 17 | 18 | 43 |
| 90° | 0 | 0 | 0 | 0 | 0 | |

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1059.1 | 1059.1 | 1059.1 | 1059.1 | 1059.1 |
| 2.5° | 1050.4 | 1063.9 | 1053.6 | 1054.4 | 1057.6 |
| 5° | 1045.7 | 1058.4 | 1043.3 | 1033.8 | 1040.9 |
| 7.5° | 1038.5 | 1048.1 | 1020.3 | 1005.3 | 1007.7 |
| 10° | 1027.5 | 1030.6 | 992.6 | 968.8 | 965.7 |
| 12.5° | 1012.4 | 1006.9 | 959.3 | 924.5 | 918.9 |
| 15° | 995.8 | 981.5 | 922.1 | 876.9 | 865.1 |
| 17.5° | 976.8 | 953.0 | 878.5 | 823.1 | 804.9 |
| 20° | 954.6 | 921.3 | 832.6 | 762.1 | 739.9 |
| 22.5° | 930.8 | 888.0 | 782.7 | 699.5 | 676.5 |
| 25° | 904.7 | 850.0 | 731.2 | 640.1 | 613.9 |
| 27.5° | 876.2 | 812.0 | 678.9 | 581.5 | 552.1 |
| 30° | 845.3 | 772.4 | 625.0 | 524.4 | 495.9 |
| 32.5° | 813.6 | 730.4 | 573.5 | 471.3 | 443.6 |
| 35° | 780.3 | 687.6 | 522.8 | 423.0 | 396.1 |
| 37.5° | 746.2 | 644.0 | 473.7 | 377.1 | 351.7 |
| 40° | 711.4 | 599.7 | 427.0 | 334.3 | 311.3 |
| 42.5° | 674.1 | 555.3 | 381.8 | 293.9 | 276.5 |
| 45° | 636.9 | 511.0 | 339.8 | 262.2 | 253.5 |
| 47.5° | 599.7 | 465.8 | 300.2 | 240.0 | 232.1 |
| 50° | 560.9 | 422.2 | 263.0 | 219.4 | 211.5 |
| 52.5° | 522.8 | 379.5 | 232.1 | 199.6 | 194.1 |
| 55° | 485.6 | 337.5 | 209.1 | 178.2 | 174.3 |
| 57.5° | 446.8 | 296.3 | 186.2 | 161.6 | 156.9 |
| 60° | 405.6 | 256.7 | 164.8 | 144.2 | 141.8 |
| 62.5° | 368.4 | 219.4 | 145.8 | 129.1 | 126.7 |
| 65° | 328.8 | 182.2 | 127.5 | 114.1 | 112.5 |
| 67.5° | 288.4 | 151.3 | 110.9 | 99.8 | 99.0 |
| 70° | 248.0 | 127.5 | 95.1 | 86.3 | 85.6 |
| 72.5° | 208.3 | 105.4 | 80.0 | 74.5 | 72.9 |
| 75° | 167.9 | 84.0 | 66.5 | 61.8 | 61.0 |
| 77.5° | 131.5 | 65.0 | 53.1 | 49.9 | 49.1 |
| 80° | 96.6 | 48.3 | 41.2 | 38.8 | 38.0 |
| 82.5° | 63.4 | 33.3 | 29.3 | 27.7 | 27.7 |
| 85° | 34.1 | 20.6 | 19.0 | 17.4 | 18.2 |
| 87.5° | 11.9 | 8.7 | 8.7 | 7.9 | 8.7 |
| 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 | 19.41 | 20.90 | 19.77 | 21.21 | 21.53 | 14.56 | 16.05 | 14.92 | 16.36 | 16.68 |
| | 3H | 21.29 | 22.63 | 21.67 | 22.96 | 23.32 | 16.18 | 17.52 | 16.56 | 17.85 | 18.21 |
| | 4H | 22.05 | 23.31 | 22.45 | 23.66 | 24.03 | 16.82 | 18.08 | 17.22 | 18.43 | 18.80 |
| | 6H | 22.61 | 23.77 | 23.03 | 24.14 | 24.53 | 17.31 | 18.47 | 17.72 | 18.84 | 19.23 |
| | 8H | 22.79 | 23.89 | 23.21 | 24.28 | 24.68 | 17.48 | 18.58 | 17.91 | 18.97 | 19.38 |
| | 12H | 22.89 | 23.94 | 23.32 | 24.32 | 24.75 | 17.60 | 18.66 | 18.04 | 19.04 | 19.47 |
| 4H | 2H | 19.45 | 20.71 | 19.85 | 21.06 | 21.44 | 15.28 | 16.54 | 15.68 | 16.89 | 17.27 |
| | 3H | 21.47 | 22.51 | 21.88 | 22.91 | 23.32 | 17.11 | 18.15 | 17.52 | 18.55 | 18.95 |
| | 4H | 22.29 | 23.23 | 22.72 | 23.64 | 24.08 | 17.85 | 18.79 | 18.28 | 19.21 | 19.65 |
| | 6H | 22.97 | 23.79 | 23.43 | 24.23 | 24.69 | 18.46 | 19.28 | 18.92 | 19.72 | 20.18 |
| | 8H | 23.20 | 23.97 | 23.67 | 24.41 | 24.88 | 18.67 | 19.44 | 19.14 | 19.88 | 20.35 |
| | 12H | 23.35 | 24.04 | 23.84 | 24.51 | 24.99 | 18.84 | 19.52 | 19.33 | 20.00 | 20.47 |
| 8H | 4H | 22.31 | 23.08 | 22.78 | 23.52 | 23.99 | 18.24 | 19.00 | 18.70 | 19.44 | 19.91 |
| | 6H | 23.04 | 23.67 | 23.54 | 24.16 | 24.64 | 18.96 | 19.59 | 19.46 | 20.09 | 20.56 |
| | 8H | 23.31 | 23.88 | 23.83 | 24.39 | 24.88 | 19.25 | 19.82 | 19.77 | 20.33 | 20.82 |
| | 12H | 23.52 | 24.02 | 24.03 | 24.51 | 25.08 | 19.49 | 19.99 | 20.00 | 20.49 | 21.05 |
| 12H | 4H | 22.30 | 22.98 | 22.78 | 23.46 | 23.93 | 18.29 | 18.97 | 18.77 | 19.45 | 19.92 |
| | 6H | 23.03 | 23.59 | 23.54 | 24.10 | 24.59 | 19.05 | 19.61 | 19.56 | 20.12 | 20.61 |
| | 8H | 23.33 | 23.83 | 23.84 | 24.32 | 24.89 | 19.39 | 19.89 | 19.90 | 20.38 | 20.95 |