

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: P1055656

Luminaire Tested: S123R3DR-S775D830-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055656
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/25/2025
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: NEO-RAY
Catalog Number: S123R3DR-S775D830-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
CORE LIGHT ENGINE
Light Source: 3000K CCT, 80 CRI LEDS
Ballast/Driver: -

Summary

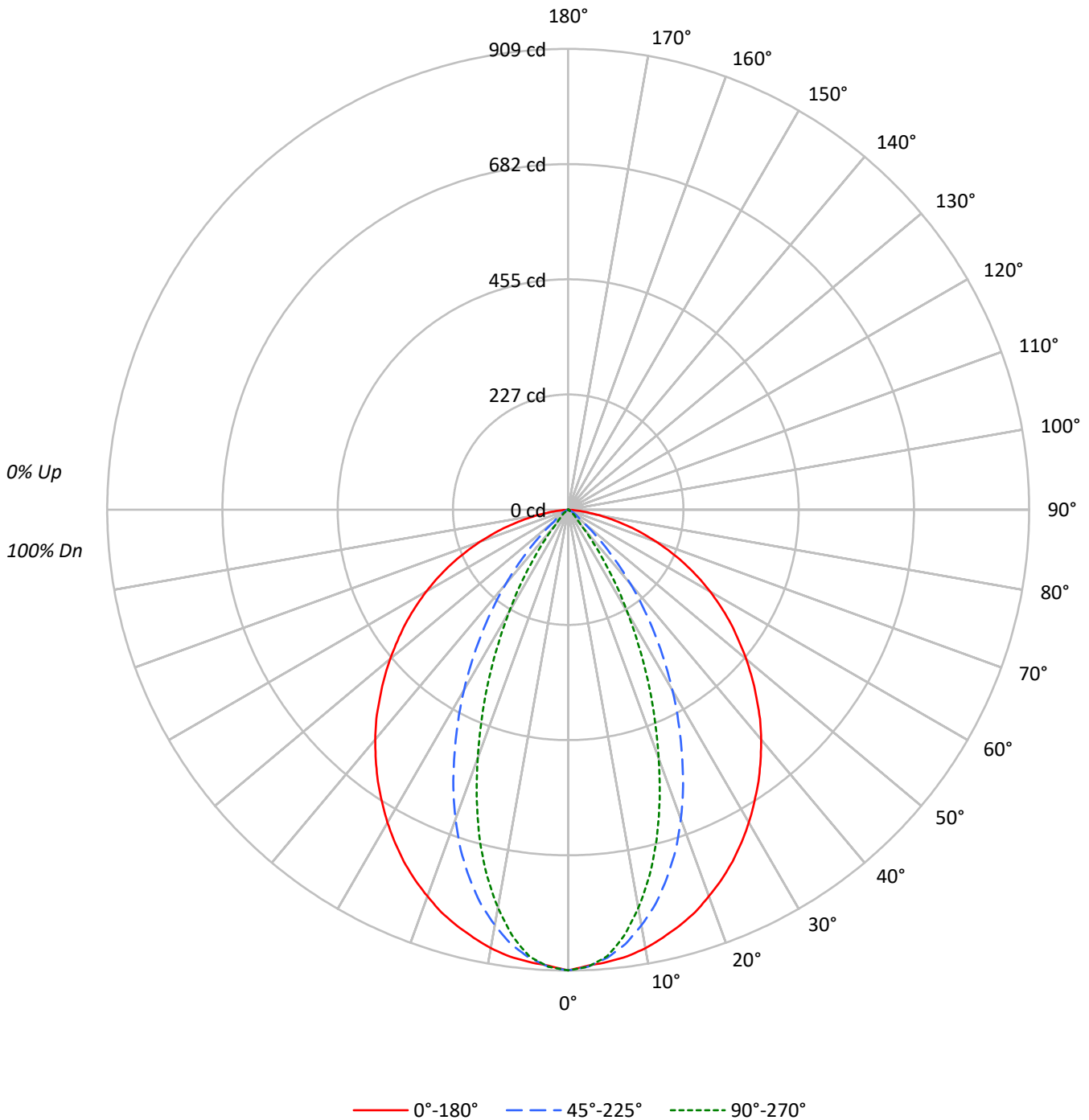
Lumens per Lamp: N/A
Luminaire Lumens: 1063.4 lumens
Efficiency: N/A
Efficacy: 40.3 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

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 | 112 | 108 | 105 | 103 | 109 | 106 | 104 | 101 | 102 | 100 | 98 | 98 | 97 | 95 | 95 | 93 | 92 | 90 |
| 2 | 105 | 99 | 94 | 89 | 102 | 97 | 92 | 88 | 93 | 90 | 86 | 90 | 87 | 84 | 87 | 85 | 83 | 81 |
| 3 | 98 | 90 | 84 | 79 | 96 | 88 | 83 | 78 | 86 | 81 | 77 | 83 | 79 | 76 | 81 | 77 | 74 | 73 |
| 4 | 92 | 82 | 75 | 70 | 90 | 81 | 75 | 70 | 79 | 73 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 65 |
| 5 | 86 | 76 | 69 | 63 | 84 | 75 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 |
| 6 | 81 | 70 | 63 | 58 | 79 | 69 | 62 | 57 | 67 | 61 | 57 | 66 | 61 | 56 | 64 | 60 | 56 | 54 |
| 7 | 76 | 65 | 58 | 53 | 74 | 64 | 57 | 52 | 63 | 57 | 52 | 61 | 56 | 52 | 60 | 55 | 52 | 50 |
| 8 | 71 | 60 | 53 | 48 | 70 | 60 | 53 | 48 | 58 | 52 | 48 | 57 | 52 | 48 | 56 | 51 | 48 | 46 |
| 9 | 68 | 56 | 49 | 45 | 66 | 56 | 49 | 45 | 55 | 49 | 45 | 54 | 48 | 44 | 53 | 48 | 44 | 43 |
| 10 | 64 | 53 | 46 | 42 | 63 | 52 | 46 | 42 | 51 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 40 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 10954 | 10954 | 10954 |
| 5° | 10837 | 10734 | 10700 |
| 10° | 10754 | 10189 | 9762 |
| 15° | 10599 | 9387 | 8411 |
| 20° | 10412 | 8332 | 6700 |
| 25° | 10194 | 7058 | 4941 |
| 30° | 9920 | 5720 | 3241 |
| 35° | 9627 | 4357 | 1775 |
| 40° | 9316 | 3011 | 608 |
| 45° | 8951 | 1751 | 353 |
| 50° | 8592 | 690 | 212 |
| 55° | 8223 | 435 | 99 |
| 60° | 7796 | 272 | 46 |
| 65° | 7260 | 134 | 26 |
| 70° | 6511 | 67 | 32 |
| 75° | 5534 | 42 | 42 |
| 80° | 4124 | 62 | 0 |
| 85° | 1563 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8951 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 83.3 | 7.8 |
| 10°-20° | 211.4 | 19.9 |
| 20°-30° | 252.2 | 23.7 |
| 30°-40° | 213.9 | 20.1 |
| 40°-50° | 145.4 | 13.7 |
| 50°-60° | 90.1 | 8.5 |
| 60°-70° | 45.6 | 4.3 |
| 70°-80° | 18.6 | 1.7 |
| 80°-90° | 2.8 | 0.3 |
| 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° | 546.9 | 51.4 |
| 0°-40° | 760.8 | 71.5 |
| 0°-60° | 996.3 | 93.7 |
| 0°-90° | 1063.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1063.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 909 | 909 | 909 | 909 | 909 | |
| 5° | 895 | 904 | 887 | 880 | 884 | 85 |
| 15° | 849 | 828 | 752 | 693 | 674 | 239 |
| 25° | 766 | 695 | 531 | 410 | 371 | 353 |
| 35° | 654 | 525 | 296 | 159 | 121 | 409 |
| 45° | 525 | 344 | 103 | 25 | 21 | 406 |
| 55° | 391 | 173 | 21 | 8 | 5 | 349 |
| 65° | 254 | 42 | 5 | 1 | 1 | 251 |
| 75° | 119 | 8 | 1 | 1 | 1 | 126 |
| 85° | 11 | 0 | 0 | 1 | 0 | 20 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055656

CATALOG NUMBER: S123R3DR-S775D830-X4F0-XX-UDD-F-B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 908.6 | 908.6 | 908.6 | 908.6 | 908.6 |
| 2.5° | 900.1 | 912.4 | 902.0 | 901.1 | 902.0 |
| 5° | 895.4 | 903.9 | 886.9 | 880.3 | 884.1 |
| 7.5° | 888.8 | 892.6 | 864.3 | 847.3 | 847.3 |
| 10° | 878.4 | 875.6 | 832.3 | 804.0 | 797.4 |
| 12.5° | 864.3 | 853.0 | 796.4 | 752.1 | 739.9 |
| 15° | 849.2 | 827.6 | 752.1 | 692.8 | 673.9 |
| 17.5° | 832.3 | 799.3 | 704.1 | 626.8 | 599.5 |
| 20° | 811.5 | 767.2 | 649.4 | 555.2 | 522.2 |
| 22.5° | 789.8 | 732.4 | 591.9 | 481.6 | 444.9 |
| 25° | 766.3 | 694.7 | 530.6 | 410.0 | 371.4 |
| 27.5° | 739.9 | 655.1 | 470.3 | 341.2 | 298.8 |
| 30° | 712.6 | 613.6 | 410.9 | 275.2 | 232.8 |
| 32.5° | 683.3 | 570.2 | 351.6 | 214.9 | 175.3 |
| 35° | 654.1 | 525.0 | 296.0 | 159.3 | 120.6 |
| 37.5° | 623.0 | 479.8 | 242.2 | 110.3 | 76.3 |
| 40° | 591.9 | 435.5 | 191.3 | 69.7 | 38.6 |
| 42.5° | 559.9 | 389.3 | 145.2 | 34.9 | 26.4 |
| 45° | 525.0 | 344.0 | 102.7 | 25.4 | 20.7 |
| 47.5° | 492.0 | 300.7 | 67.9 | 20.7 | 16.0 |
| 50° | 458.1 | 257.3 | 36.8 | 15.1 | 11.3 |
| 52.5° | 424.1 | 215.8 | 26.4 | 11.3 | 7.5 |
| 55° | 391.2 | 173.4 | 20.7 | 7.5 | 4.7 |
| 57.5° | 357.2 | 136.7 | 16.0 | 4.7 | 2.8 |
| 60° | 323.3 | 100.9 | 11.3 | 2.8 | 1.9 |
| 62.5° | 289.4 | 69.7 | 7.5 | 1.9 | 0.9 |
| 65° | 254.5 | 42.4 | 4.7 | 0.9 | 0.9 |
| 67.5° | 218.7 | 29.2 | 2.8 | 0.9 | 0.9 |
| 70° | 184.7 | 20.7 | 1.9 | 0.9 | 0.9 |
| 72.5° | 150.8 | 13.2 | 0.9 | 0.9 | 0.0 |
| 75° | 118.8 | 7.5 | 0.9 | 0.9 | 0.9 |
| 77.5° | 87.7 | 2.8 | 0.9 | 0.9 | 0.0 |
| 80° | 59.4 | 0.9 | 0.9 | 0.9 | 0.0 |
| 82.5° | 33.0 | 0.0 | 0.9 | 0.9 | 0.0 |
| 85° | 11.3 | 0.0 | 0.0 | 0.9 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 0.9 | 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 | 17.37 | 18.65 | 17.73 | 18.96 | 19.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 19.31 | 20.44 | 19.69 | 20.77 | 21.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 20.14 | 21.19 | 20.54 | 21.54 | 21.93 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 20.69 | 21.66 | 21.11 | 22.03 | 22.43 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 20.82 | 21.73 | 21.25 | 22.13 | 22.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 20.84 | 21.72 | 21.27 | 22.10 | 22.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H | 2H | 17.13 | 18.18 | 17.53 | 18.54 | 18.92 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 19.08 | 19.94 | 19.49 | 20.35 | 20.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 19.90 | 20.66 | 20.33 | 21.08 | 21.53 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 20.50 | 21.16 | 20.96 | 21.61 | 22.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 20.65 | 21.27 | 21.12 | 21.71 | 22.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 20.70 | 21.24 | 21.18 | 21.72 | 22.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H | 4H | 19.75 | 20.37 | 20.22 | 20.82 | 21.29 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 20.34 | 20.84 | 20.84 | 21.33 | 21.82 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 20.48 | 20.93 | 21.01 | 21.45 | 21.94 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 20.54 | 20.94 | 21.06 | 21.43 | 22.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H | 4H | 19.70 | 20.25 | 20.19 | 20.73 | 21.21 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 20.27 | 20.72 | 20.80 | 21.24 | 21.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 20.44 | 20.83 | 20.96 | 21.33 | 21.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |