

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: P1055813

Luminaire Tested: S123R3DRP-H775D940-X4F0-XX-UDD-F-S

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055813
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: S123R3DRP-H775D940-X4F0-XX-UDD-F-S
Description: DEFINE 3, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

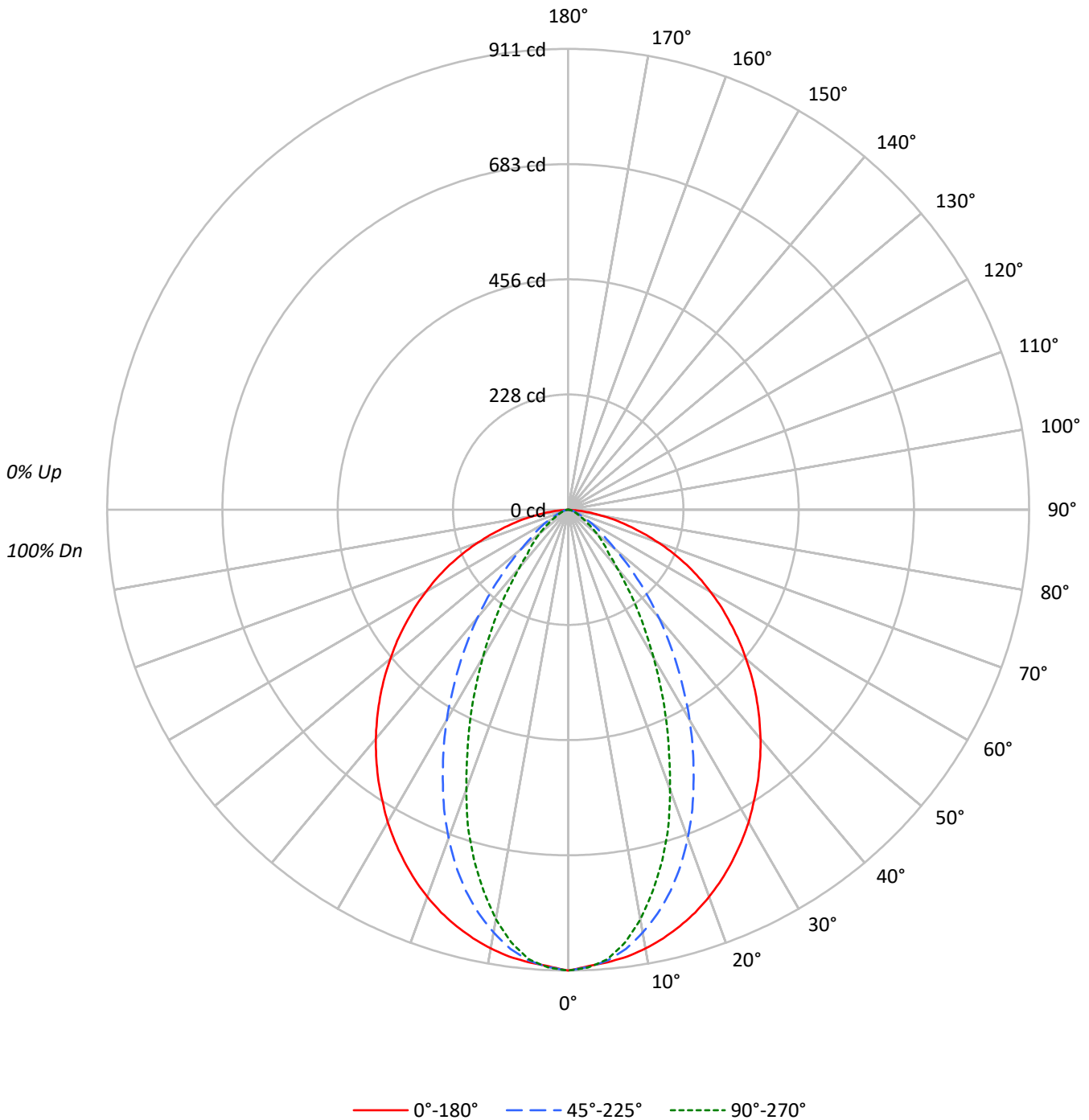
Lumens per Lamp: N/A
Luminaire Lumens: 1266.9 lumens
Efficiency: N/A
Efficacy: 53.2 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.77 / 0.94
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 23.8
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 | 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 | 61 | 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° | 10983 | 10983 | 10983 |
| 5° | 10868 | 10827 | 10795 |
| 10° | 10783 | 10391 | 10064 |
| 15° | 10638 | 9743 | 8957 |
| 20° | 10448 | 8863 | 7544 |
| 25° | 10201 | 7799 | 6089 |
| 30° | 9930 | 6684 | 4689 |
| 35° | 9621 | 5516 | 3469 |
| 40° | 9309 | 4389 | 2364 |
| 45° | 8967 | 3284 | 1782 |
| 50° | 8600 | 2285 | 1394 |
| 55° | 8223 | 1669 | 1017 |
| 60° | 7829 | 1249 | 728 |
| 65° | 7366 | 839 | 568 |
| 70° | 6666 | 610 | 458 |
| 75° | 5753 | 443 | 363 |
| 80° | 4617 | 361 | 299 |
| 85° | 2393 | 360 | 235 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 8967 cd/sqm



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 84.2 | 6.6 |
| 10°-20° | 219.2 | 17.3 |
| 20°-30° | 275.4 | 21.7 |
| 30°-40° | 256.5 | 20.2 |
| 40°-50° | 196.4 | 15.5 |
| 50°-60° | 130.5 | 10.3 |
| 60°-70° | 70.4 | 5.6 |
| 70°-80° | 28.8 | 2.3 |
| 80°-90° | 5.5 | 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° | 578.8 | 45.7 |
| 0°-40° | 835.3 | 65.9 |
| 0°-60° | 1162.2 | 91.7 |
| 0°-90° | 1266.9 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1266.9 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 911 | 911 | 911 | 911 | 911 | |
| 5° | 898 | 908 | 895 | 891 | 892 | 85 |
| 15° | 852 | 838 | 781 | 735 | 718 | 240 |
| 25° | 767 | 715 | 586 | 489 | 458 | 353 |
| 35° | 654 | 557 | 375 | 265 | 236 | 409 |
| 45° | 526 | 389 | 193 | 113 | 104 | 406 |
| 55° | 391 | 226 | 79 | 55 | 48 | 350 |
| 65° | 258 | 87 | 29 | 22 | 20 | 255 |
| 75° | 124 | 21 | 10 | 9 | 8 | 132 |
| 85° | 17 | 3 | 3 | 3 | 2 | 25 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 911.0 | 911.0 | 911.0 | 911.0 | 911.0 |
| 2.5° | 903.2 | 914.5 | 905.0 | 905.8 | 905.8 |
| 5° | 898.0 | 907.5 | 894.6 | 891.1 | 892.0 |
| 7.5° | 891.1 | 897.2 | 875.6 | 864.4 | 862.6 |
| 10° | 880.8 | 882.5 | 848.8 | 829.0 | 822.1 |
| 12.5° | 867.8 | 861.8 | 817.7 | 784.9 | 772.0 |
| 15° | 852.3 | 838.5 | 780.6 | 734.8 | 717.6 |
| 17.5° | 835.0 | 811.7 | 738.3 | 678.7 | 658.0 |
| 20° | 814.3 | 781.5 | 690.8 | 616.5 | 588.0 |
| 22.5° | 791.8 | 749.5 | 640.7 | 552.6 | 520.7 |
| 25° | 766.8 | 715.0 | 586.3 | 488.7 | 457.7 |
| 27.5° | 740.9 | 677.9 | 532.8 | 428.3 | 396.3 |
| 30° | 713.3 | 639.9 | 480.1 | 369.6 | 336.8 |
| 32.5° | 683.0 | 598.4 | 425.7 | 315.2 | 282.4 |
| 35° | 653.7 | 557.0 | 374.8 | 265.1 | 235.7 |
| 37.5° | 622.6 | 515.5 | 325.5 | 221.1 | 188.2 |
| 40° | 591.5 | 473.2 | 278.9 | 177.9 | 150.2 |
| 42.5° | 558.7 | 430.9 | 234.9 | 141.6 | 120.0 |
| 45° | 525.9 | 388.6 | 192.6 | 113.1 | 104.5 |
| 47.5° | 493.1 | 346.3 | 155.4 | 97.6 | 88.9 |
| 50° | 458.5 | 305.7 | 121.8 | 82.9 | 74.3 |
| 52.5° | 425.7 | 265.1 | 95.0 | 68.2 | 60.4 |
| 55° | 391.2 | 226.2 | 79.4 | 55.3 | 48.4 |
| 57.5° | 359.2 | 186.5 | 65.6 | 43.2 | 38.0 |
| 60° | 324.7 | 151.1 | 51.8 | 33.7 | 30.2 |
| 62.5° | 291.9 | 118.3 | 39.7 | 26.8 | 24.2 |
| 65° | 258.2 | 87.2 | 29.4 | 21.6 | 19.9 |
| 67.5° | 224.5 | 63.0 | 22.5 | 17.3 | 16.4 |
| 70° | 189.1 | 47.5 | 17.3 | 13.8 | 13.0 |
| 72.5° | 155.4 | 33.7 | 13.0 | 11.2 | 10.4 |
| 75° | 123.5 | 20.7 | 9.5 | 8.6 | 7.8 |
| 77.5° | 95.0 | 12.1 | 6.9 | 6.9 | 6.0 |
| 80° | 66.5 | 6.9 | 5.2 | 5.2 | 4.3 |
| 82.5° | 40.6 | 4.3 | 3.5 | 3.5 | 3.5 |
| 85° | 17.3 | 2.6 | 2.6 | 2.6 | 1.7 |
| 87.5° | 2.6 | 0.9 | 0.9 | 0.9 | 0.9 |
| 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 | 18.14 | 19.49 | 18.50 | 19.81 | 20.12 | 6.72 | 8.07 | 7.08 | 8.39 | 8.70 |
| | 3H | 19.89 | 21.10 | 20.27 | 21.43 | 21.79 | 7.38 | 8.58 | 7.76 | 8.91 | 9.28 |
| | 4H | 20.59 | 21.72 | 20.99 | 22.07 | 22.45 | 7.58 | 8.70 | 7.98 | 9.05 | 9.43 |
| | 6H | 21.10 | 22.14 | 21.52 | 22.51 | 22.90 | 7.70 | 8.73 | 8.11 | 9.10 | 9.49 |
| | 8H | 21.24 | 22.22 | 21.67 | 22.61 | 23.02 | 7.73 | 8.71 | 8.16 | 9.10 | 9.51 |
| | 12H | 21.30 | 22.23 | 21.73 | 22.61 | 23.05 | 7.74 | 8.68 | 8.17 | 9.06 | 9.49 |
| 4H | 2H | 17.95 | 19.07 | 18.35 | 19.42 | 19.80 | 7.27 | 8.40 | 7.68 | 8.75 | 9.13 |
| | 3H | 19.74 | 20.66 | 20.15 | 21.06 | 21.47 | 8.07 | 8.99 | 8.48 | 9.40 | 9.80 |
| | 4H | 20.43 | 21.26 | 20.87 | 21.68 | 22.12 | 8.33 | 9.15 | 8.76 | 9.57 | 10.01 |
| | 6H | 21.00 | 21.71 | 21.47 | 22.16 | 22.63 | 8.52 | 9.24 | 8.99 | 9.68 | 10.15 |
| | 8H | 21.18 | 21.84 | 21.65 | 22.29 | 22.76 | 8.58 | 9.24 | 9.05 | 9.69 | 10.16 |
| | 12H | 21.27 | 21.85 | 21.75 | 22.33 | 22.81 | 8.61 | 9.20 | 9.10 | 9.68 | 10.16 |
| 8H | 4H | 20.31 | 20.97 | 20.78 | 21.42 | 21.89 | 8.64 | 9.31 | 9.11 | 9.75 | 10.22 |
| | 6H | 20.86 | 21.41 | 21.37 | 21.90 | 22.38 | 8.89 | 9.43 | 9.39 | 9.93 | 10.41 |
| | 8H | 21.04 | 21.53 | 21.56 | 22.04 | 22.53 | 8.98 | 9.47 | 9.50 | 9.98 | 10.47 |
| | 12H | 21.15 | 21.57 | 21.66 | 22.07 | 22.64 | 9.06 | 9.49 | 9.58 | 9.98 | 10.55 |
| 12H | 4H | 20.27 | 20.85 | 20.75 | 21.34 | 21.81 | 8.69 | 9.27 | 9.17 | 9.76 | 10.23 |
| | 6H | 20.81 | 21.29 | 21.33 | 21.81 | 22.30 | 8.94 | 9.42 | 9.46 | 9.94 | 10.43 |
| | 8H | 21.00 | 21.43 | 21.52 | 21.92 | 22.49 | 9.07 | 9.49 | 9.58 | 9.99 | 10.56 |