

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: P1055731

Luminaire Tested: S123R3DRP-H1165D940-X4F0-XX-UDD-F-B

Issue Date: 7/25/2025

Test Information

Test Method: LM-79-2024
Report Number: P1055731
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: S123R3DRP-H1165D940-X4F0-XX-UDD-F-B
Description: DEFINE 3, BLACK 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS
HIGH PERFORMANCE LIGHT ENGINE
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: -

Summary

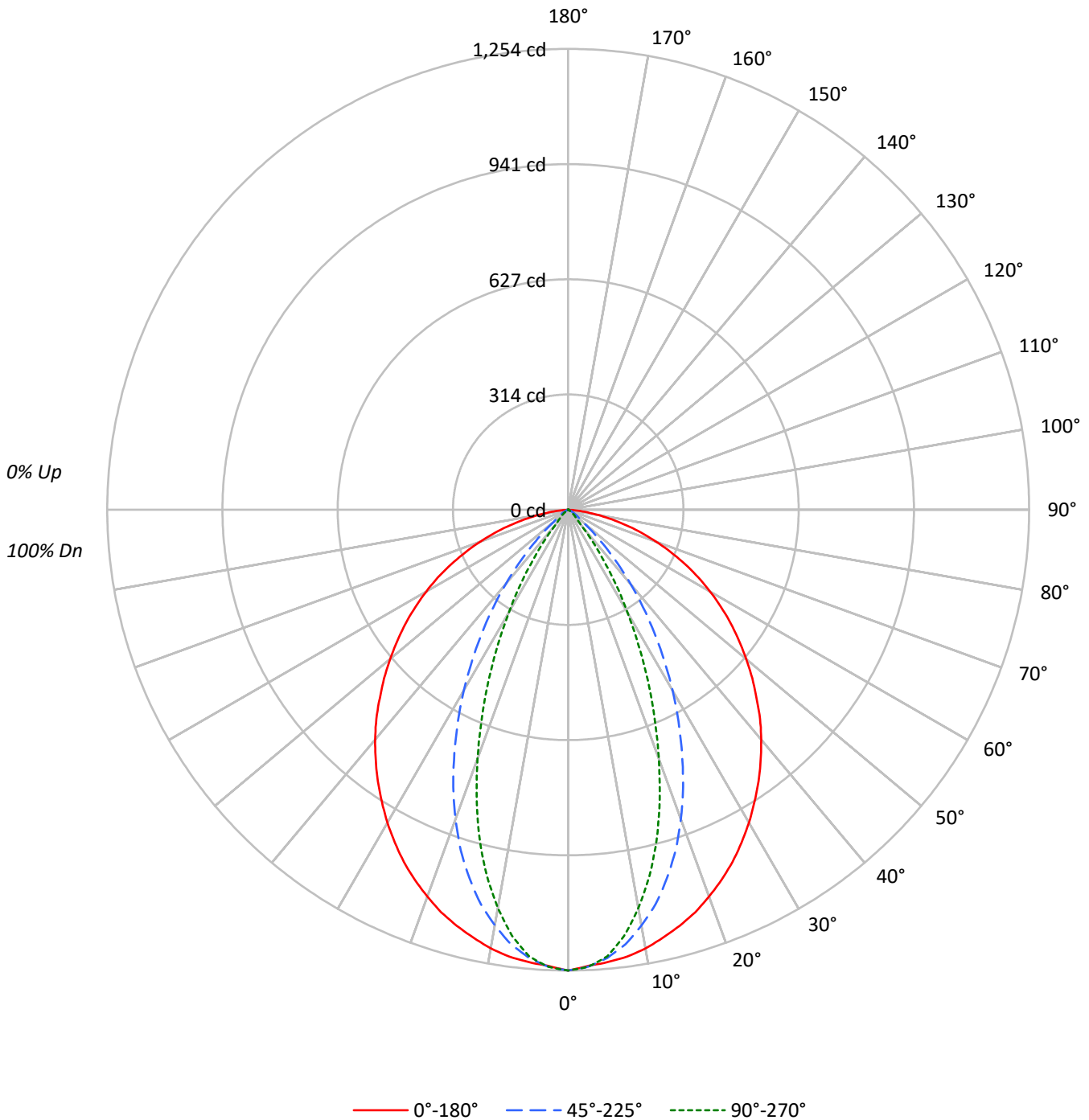
Lumens per Lamp: N/A
Luminaire Lumens: 1467.7 lumens
Efficiency: N/A
Efficacy: 40.1 lumens/watt
Spacing Criteria (0/90/45): 1.17 / 0.7 / 0.86
Luminous Opening: Rectangular (W 0.23' x L: 3.9' x H: 0')
CIE Type: Direct

Input Watts (W): 36.6
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

TEST NUMBER: P1055731

CATALOG NUMBER: S123R3DRP-H1165D940-X4F0-XX-UDD-F-B

Luminous Intensity Polar Plot





TEST NUMBER: P1055731

CATALOG NUMBER: S123R3DRP-H1165D940-X4F0-XX-UDD-F-B

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 | 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 | | | | | 100 | | | |
| 1 | 112 | 108 | 105 | 103 | 109 | 106 | 104 | 101 | 102 | 100 | 98 | 98 | 97 | 95 | 95 | 93 | 92 | 90 | | | | | 90 | | | |
| 2 | 105 | 99 | 94 | 89 | 102 | 97 | 92 | 88 | 93 | 90 | 86 | 90 | 87 | 84 | 87 | 85 | 83 | 81 | | | | | 81 | | | |
| 3 | 98 | 90 | 84 | 79 | 96 | 88 | 83 | 78 | 86 | 81 | 77 | 83 | 79 | 76 | 81 | 77 | 74 | 73 | | | | | 73 | | | |
| 4 | 92 | 82 | 75 | 70 | 90 | 81 | 75 | 70 | 79 | 73 | 69 | 77 | 72 | 68 | 75 | 71 | 67 | 65 | | | | | 65 | | | |
| 5 | 86 | 76 | 69 | 63 | 84 | 75 | 68 | 63 | 73 | 67 | 62 | 71 | 66 | 62 | 69 | 65 | 61 | 59 | | | | | 59 | | | |
| 6 | 81 | 70 | 63 | 58 | 79 | 69 | 62 | 57 | 67 | 61 | 57 | 66 | 61 | 56 | 64 | 60 | 56 | 54 | | | | | 54 | | | |
| 7 | 76 | 65 | 58 | 53 | 74 | 64 | 57 | 52 | 63 | 57 | 52 | 61 | 56 | 52 | 60 | 55 | 52 | 50 | | | | | 50 | | | |
| 8 | 71 | 60 | 53 | 48 | 70 | 60 | 53 | 48 | 58 | 52 | 48 | 57 | 52 | 48 | 56 | 51 | 48 | 46 | | | | | 46 | | | |
| 9 | 68 | 56 | 49 | 45 | 66 | 56 | 49 | 45 | 55 | 49 | 45 | 54 | 48 | 44 | 53 | 48 | 44 | 43 | | | | | 43 | | | |
| 10 | 64 | 53 | 46 | 42 | 63 | 52 | 46 | 42 | 51 | 46 | 41 | 51 | 45 | 41 | 50 | 45 | 41 | 40 | | | | | 40 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 15120 | 15120 | 15120 |
| 5° | 14957 | 14815 | 14767 |
| 10° | 14843 | 14063 | 13474 |
| 15° | 14630 | 12957 | 11609 |
| 20° | 14371 | 11500 | 9247 |
| 25° | 14069 | 9743 | 6819 |
| 30° | 13692 | 7896 | 4473 |
| 35° | 13288 | 6012 | 2451 |
| 40° | 12858 | 4157 | 839 |
| 45° | 12355 | 2418 | 488 |
| 50° | 11858 | 951 | 293 |
| 55° | 11349 | 601 | 137 |
| 60° | 10759 | 376 | 63 |
| 65° | 10019 | 185 | 37 |
| 70° | 8989 | 92 | 46 |
| 75° | 7635 | 61 | 61 |
| 80° | 5693 | 90 | 0 |
| 85° | 2158 | 0 | 0 |

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 12355 cd/sqm



TEST NUMBER: P1055731

CATALOG NUMBER: S123R3DRP-H1165D940-X4F0-XX-UDD-F-B

ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 115.0 | 7.8 |
| 10°-20° | 291.8 | 19.9 |
| 20°-30° | 348.1 | 23.7 |
| 30°-40° | 295.2 | 20.1 |
| 40°-50° | 200.7 | 13.7 |
| 50°-60° | 124.4 | 8.5 |
| 60°-70° | 63.0 | 4.3 |
| 70°-80° | 25.7 | 1.8 |
| 80°-90° | 4.0 | 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° | 754.8 | 51.4 |
| 0°-40° | 1050.1 | 71.5 |
| 0°-60° | 1375.1 | 93.7 |
| 0°-90° | 1467.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1467.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1254 | 1254 | 1254 | 1254 | 1254 | |
| 5° | 1236 | 1248 | 1224 | 1215 | 1220 | 117 |
| 15° | 1172 | 1142 | 1038 | 956 | 930 | 330 |
| 25° | 1058 | 959 | 732 | 566 | 513 | 487 |
| 35° | 903 | 725 | 408 | 220 | 166 | 564 |
| 45° | 725 | 475 | 142 | 35 | 29 | 560 |
| 55° | 540 | 239 | 29 | 10 | 6 | 482 |
| 65° | 351 | 58 | 6 | 1 | 1 | 347 |
| 75° | 164 | 10 | 1 | 1 | 1 | 174 |
| 85° | 16 | 0 | 0 | 1 | 0 | 28 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P1055731

CATALOG NUMBER: S123R3DRP-H1165D940-X4F0-XX-UDD-F-B

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1254.1 | 1254.1 | 1254.1 | 1254.1 | 1254.1 |
| 2.5° | 1242.4 | 1259.3 | 1245.0 | 1243.7 | 1245.0 |
| 5° | 1235.9 | 1247.6 | 1224.1 | 1215.0 | 1220.2 |
| 7.5° | 1226.7 | 1231.9 | 1192.9 | 1169.5 | 1169.5 |
| 10° | 1212.4 | 1208.5 | 1148.7 | 1109.7 | 1100.6 |
| 12.5° | 1192.9 | 1177.3 | 1099.3 | 1038.1 | 1021.2 |
| 15° | 1172.1 | 1142.2 | 1038.1 | 956.2 | 930.1 |
| 17.5° | 1148.7 | 1103.2 | 971.8 | 865.1 | 827.4 |
| 20° | 1120.1 | 1058.9 | 896.3 | 766.2 | 720.7 |
| 22.5° | 1090.2 | 1010.8 | 817.0 | 664.8 | 614.0 |
| 25° | 1057.6 | 958.8 | 732.4 | 565.9 | 512.6 |
| 27.5° | 1021.2 | 904.1 | 649.1 | 470.9 | 412.4 |
| 30° | 983.5 | 846.9 | 567.2 | 379.9 | 321.3 |
| 32.5° | 943.2 | 787.0 | 485.2 | 296.6 | 242.0 |
| 35° | 902.8 | 724.6 | 408.5 | 219.9 | 166.5 |
| 37.5° | 859.9 | 662.2 | 334.3 | 152.2 | 105.4 |
| 40° | 817.0 | 601.0 | 264.1 | 96.3 | 53.3 |
| 42.5° | 772.7 | 537.3 | 200.3 | 48.1 | 36.4 |
| 45° | 724.6 | 474.8 | 141.8 | 35.1 | 28.6 |
| 47.5° | 679.1 | 415.0 | 93.7 | 28.6 | 22.1 |
| 50° | 632.2 | 355.1 | 50.7 | 20.8 | 15.6 |
| 52.5° | 585.4 | 297.9 | 36.4 | 15.6 | 10.4 |
| 55° | 539.9 | 239.4 | 28.6 | 10.4 | 6.5 |
| 57.5° | 493.0 | 188.6 | 22.1 | 6.5 | 3.9 |
| 60° | 446.2 | 139.2 | 15.6 | 3.9 | 2.6 |
| 62.5° | 399.4 | 96.3 | 10.4 | 2.6 | 1.3 |
| 65° | 351.2 | 58.5 | 6.5 | 1.3 | 1.3 |
| 67.5° | 301.8 | 40.3 | 3.9 | 1.3 | 1.3 |
| 70° | 255.0 | 28.6 | 2.6 | 1.3 | 1.3 |
| 72.5° | 208.1 | 18.2 | 1.3 | 1.3 | 0.0 |
| 75° | 163.9 | 10.4 | 1.3 | 1.3 | 1.3 |
| 77.5° | 121.0 | 3.9 | 1.3 | 1.3 | 0.0 |
| 80° | 82.0 | 1.3 | 1.3 | 1.3 | 0.0 |
| 82.5° | 45.5 | 0.0 | 1.3 | 1.3 | 0.0 |
| 85° | 15.6 | 0.0 | 0.0 | 1.3 | 0.0 |
| 87.5° | 0.0 | 0.0 | 0.0 | 1.3 | 0.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |



TEST NUMBER: P1055731

CATALOG NUMBER: S123R3DRP-H1165D940-X4F0-XX-UDD-F-B

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 | 18.48 | 19.76 | 18.85 | 20.08 | 20.39 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 20.43 | 21.56 | 20.81 | 21.89 | 22.26 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 21.26 | 22.31 | 21.66 | 22.66 | 23.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.81 | 22.78 | 22.23 | 23.15 | 23.54 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.94 | 22.85 | 22.37 | 23.24 | 23.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 21.96 | 22.84 | 22.39 | 23.22 | 23.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 4H | 2H | 18.25 | 19.30 | 18.65 | 19.65 | 20.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 3H | 20.20 | 21.06 | 20.61 | 21.47 | 21.87 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 4H | 21.01 | 21.78 | 21.45 | 22.20 | 22.65 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.62 | 22.28 | 22.08 | 22.72 | 23.19 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.77 | 22.39 | 22.24 | 22.83 | 23.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 21.81 | 22.36 | 22.30 | 22.84 | 23.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 8H | 4H | 20.87 | 21.49 | 21.34 | 21.94 | 22.41 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.45 | 21.96 | 21.96 | 22.45 | 22.94 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.60 | 22.05 | 22.13 | 22.57 | 23.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 12H | 21.66 | 22.06 | 22.18 | 22.55 | 23.12 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 12H | 4H | 20.82 | 21.37 | 21.31 | 21.85 | 22.33 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 6H | 21.39 | 21.84 | 21.91 | 22.36 | 22.85 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| | 8H | 21.56 | 21.95 | 22.07 | 22.45 | 23.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |