

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: P1059150

Luminaire Tested: S123RDRP-S1165D940-X4F0-XX-UDD-BVL-W

Issue Date: 8/7/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1059150  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2406-143-66)  
Test Lab: INNOVATION CENTER  
Issue Date: 8/7/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S123RDRP-S1165D940-X4F0-XX-UDD-BVL-W  
Description: DEFINE 3 WHITE REGRESSED DIRECT RECESSED HOUSING WITH BLACK STRAIGHT BLADE  
LOUVER WITH DIFFUSER  
CORE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

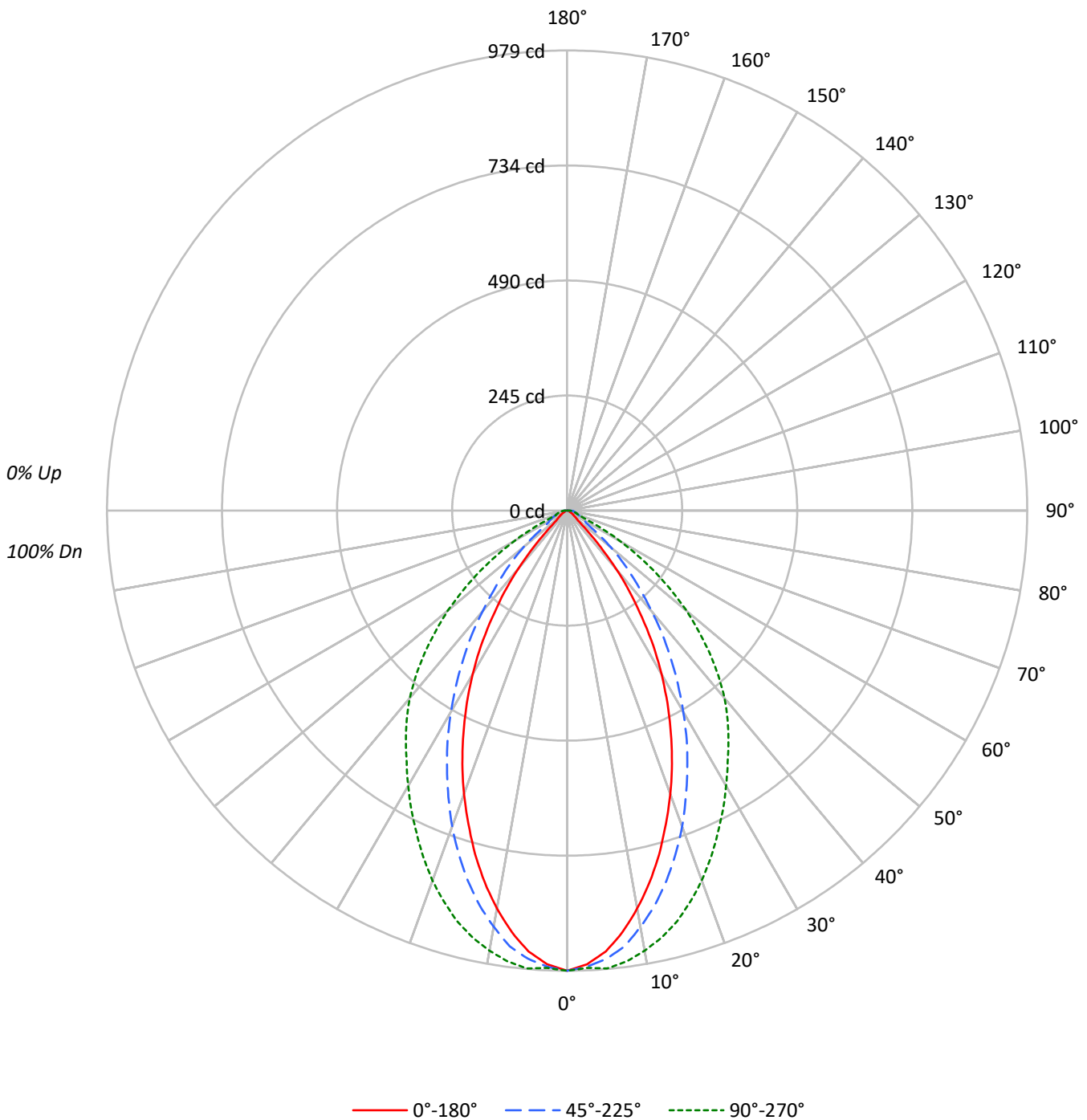
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1175.3 lumens  
Efficiency: N/A  
Efficacy: 28.1 lumens/watt  
Spacing Criteria (0/90/45): 0.79 / 1.06 / 0.94  
Luminous Opening: Rectangular (W 0.23' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 41.8  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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  | 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 | 102 | 109 | 106 | 103 | 101 | 102 | 100 | 98  | 98  | 96  | 95  | 95  | 93  | 92  | 90  |    |    |    |    | 90  |   |  |   |
| 2   | 105 | 99  | 94  | 90  | 102 | 97  | 92  | 88  | 94  | 90  | 86  | 91  | 87  | 85  | 88  | 85  | 83  | 81  |    |    |    |    | 81  |   |  |   |
| 3   | 98  | 90  | 84  | 79  | 96  | 89  | 83  | 79  | 86  | 81  | 77  | 83  | 79  | 76  | 81  | 78  | 75  | 73  |    |    |    |    | 73  |   |  |   |
| 4   | 92  | 83  | 76  | 71  | 90  | 81  | 75  | 70  | 79  | 74  | 70  | 77  | 72  | 69  | 75  | 71  | 68  | 66  |    |    |    |    | 66  |   |  |   |
| 5   | 86  | 76  | 69  | 64  | 84  | 75  | 69  | 64  | 73  | 67  | 63  | 71  | 66  | 62  | 70  | 65  | 62  | 60  |    |    |    |    | 60  |   |  |   |
| 6   | 81  | 70  | 63  | 58  | 79  | 69  | 63  | 58  | 68  | 62  | 57  | 66  | 61  | 57  | 65  | 60  | 57  | 55  |    |    |    |    | 55  |   |  |   |
| 7   | 76  | 65  | 58  | 53  | 75  | 65  | 58  | 53  | 63  | 57  | 53  | 62  | 56  | 52  | 61  | 56  | 52  | 50  |    |    |    |    | 50  |   |  |   |
| 8   | 72  | 61  | 54  | 49  | 70  | 60  | 53  | 49  | 59  | 53  | 49  | 58  | 52  | 48  | 57  | 52  | 48  | 47  |    |    |    |    | 47  |   |  |   |
| 9   | 68  | 57  | 50  | 45  | 67  | 56  | 50  | 45  | 55  | 49  | 45  | 54  | 49  | 45  | 53  | 48  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 10  | 64  | 53  | 46  | 42  | 63  | 53  | 46  | 42  | 52  | 46  | 42  | 51  | 45  | 42  | 50  | 45  | 42  | 40  |    |    |    |    | 40  |   |  |   |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 11496 | 11496 | 11496 |
| 5°  | 11099 | 11282 | 11524 |
| 10° | 10246 | 10722 | 11336 |
| 15° | 9195  | 9915  | 10993 |
| 20° | 8021  | 8937  | 10464 |
| 25° | 6767  | 7833  | 9817  |
| 30° | 5443  | 6698  | 9174  |
| 35° | 3984  | 5513  | 8575  |
| 40° | 2485  | 4298  | 7986  |
| 45° | 940   | 3205  | 7114  |
| 50° | 446   | 2209  | 6063  |
| 55° | 342   | 1212  | 4688  |
| 60° | 242   | 1026  | 3081  |
| 65° | 178   | 895   | 1286  |
| 70° | 175   | 838   | 838   |
| 75° | 231   | 876   | 876   |
| 80° | 345   | 1041  | 960   |
| 85° | 687   | 1738  | 1388  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 90°  
 Vertical Angle: 45°  
 Luminance: 7114 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 89.9   | 7.6       |
| 10°-20°   | 230.4  | 19.6      |
| 20°-30°   | 285.2  | 24.3      |
| 30°-40°   | 255.7  | 21.8      |
| 40°-50°   | 167.7  | 14.3      |
| 50°-60°   | 83.9   | 7.1       |
| 60°-70°   | 32.7   | 2.8       |
| 70°-80°   | 18.4   | 1.6       |
| 80°-90°   | 11.4   | 1.0       |
| 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°    | 605.5  | 51.5      |
| 0°-40°    | 861.2  | 73.3      |
| 0°-60°    | 1112.8 | 94.7      |
| 0°-90°    | 1175.3 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1175.3 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 979 | 979   | 979 | 979   | 979 |      |
| 5°  | 942 | 957   | 957 | 967   | 978 | 87   |
| 15° | 756 | 787   | 816 | 870   | 904 | 211  |
| 25° | 522 | 554   | 605 | 691   | 758 | 238  |
| 35° | 278 | 315   | 385 | 500   | 598 | 173  |
| 45° | 57  | 91    | 193 | 331   | 428 | 54   |
| 55° | 17  | 21    | 59  | 162   | 229 | 15   |
| 65° | 6   | 19    | 32  | 42    | 46  | 7    |
| 75° | 5   | 19    | 19  | 19    | 19  | 5    |
| 85° | 5   | 13    | 13  | 13    | 10  | 5    |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 979.0 | 979.0 | 979.0 | 979.0 | 979.0 |
| 2.5°  | 966.1 | 980.2 | 971.2 | 972.5 | 973.8 |
| 5°    | 941.6 | 957.1 | 957.1 | 967.4 | 977.7 |
| 7.5°  | 904.3 | 922.4 | 935.2 | 953.2 | 967.4 |
| 10°   | 859.3 | 881.2 | 899.2 | 931.4 | 950.7 |
| 12.5° | 810.4 | 837.4 | 860.6 | 903.1 | 930.1 |
| 15°   | 756.4 | 787.3 | 815.6 | 869.6 | 904.3 |
| 17.5° | 698.5 | 729.4 | 766.7 | 829.7 | 872.2 |
| 20°   | 641.9 | 672.8 | 715.2 | 786.0 | 837.4 |
| 22.5° | 582.7 | 614.9 | 659.9 | 738.4 | 798.9 |
| 25°   | 522.3 | 554.4 | 604.6 | 690.8 | 757.7 |
| 27.5° | 461.8 | 494.0 | 550.6 | 644.5 | 717.8 |
| 30°   | 401.4 | 433.5 | 494.0 | 594.3 | 676.6 |
| 32.5° | 340.9 | 375.6 | 438.7 | 548.0 | 635.5 |
| 35°   | 277.9 | 315.2 | 384.6 | 500.4 | 598.2 |
| 37.5° | 220.0 | 254.7 | 333.2 | 459.2 | 560.9 |
| 40°   | 162.1 | 199.4 | 280.4 | 419.4 | 521.0 |
| 42.5° | 105.5 | 145.4 | 232.8 | 375.6 | 476.0 |
| 45°   | 56.6  | 91.3  | 193.0 | 330.6 | 428.4 |
| 47.5° | 30.9  | 50.2  | 155.7 | 283.0 | 379.5 |
| 50°   | 24.4  | 28.3  | 120.9 | 241.8 | 331.9 |
| 52.5° | 20.6  | 23.2  | 86.2  | 203.3 | 279.1 |
| 55°   | 16.7  | 20.6  | 59.2  | 162.1 | 229.0 |
| 57.5° | 14.2  | 18.0  | 46.3  | 126.1 | 178.8 |
| 60°   | 10.3  | 15.4  | 43.7  | 92.6  | 131.2 |
| 62.5° | 7.7   | 16.7  | 38.6  | 64.3  | 86.2  |
| 65°   | 6.4   | 19.3  | 32.2  | 42.5  | 46.3  |
| 67.5° | 5.1   | 20.6  | 28.3  | 27.0  | 27.0  |
| 70°   | 5.1   | 19.3  | 24.4  | 23.2  | 24.4  |
| 72.5° | 5.1   | 20.6  | 21.9  | 20.6  | 21.9  |
| 75°   | 5.1   | 19.3  | 19.3  | 19.3  | 19.3  |
| 77.5° | 5.1   | 18.0  | 18.0  | 16.7  | 16.7  |
| 80°   | 5.1   | 15.4  | 15.4  | 15.4  | 14.2  |
| 82.5° | 5.1   | 14.2  | 14.2  | 14.2  | 11.6  |
| 85°   | 5.1   | 12.9  | 12.9  | 12.9  | 10.3  |
| 87.5° | 3.9   | 11.6  | 12.9  | 11.6  | 7.7   |
| 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 | 0.84             | 2.10  | 1.21  | 2.41  | 2.72  | 15.09          | 16.35 | 15.45 | 16.66 | 16.97 |
|                 | 3H   | 3.17             | 4.28  | 3.55  | 4.61  | 4.97  | 15.17          | 16.28 | 15.55 | 16.61 | 16.98 |
|                 | 4H   | 4.27             | 5.30  | 4.67  | 5.65  | 6.04  | 15.25          | 16.28 | 15.65 | 16.63 | 17.02 |
|                 | 6H   | 5.25             | 6.20  | 5.67  | 6.57  | 6.97  | 15.35          | 16.30 | 15.77 | 16.67 | 17.07 |
|                 | 8H   | 5.73             | 6.63  | 6.16  | 7.02  | 7.43  | 15.41          | 16.31 | 15.84 | 16.70 | 17.11 |
|                 | 12H  | 6.29             | 7.14  | 6.72  | 7.53  | 7.96  | 15.49          | 16.35 | 15.92 | 16.73 | 17.16 |
| 4H              | 2H   | 4.10             | 5.13  | 4.50  | 5.48  | 5.87  | 14.94          | 15.98 | 15.35 | 16.33 | 16.71 |
|                 | 3H   | 6.41             | 7.25  | 6.82  | 7.66  | 8.06  | 15.12          | 15.97 | 15.53 | 16.37 | 16.77 |
|                 | 4H   | 7.78             | 8.53  | 8.21  | 8.95  | 9.40  | 15.27          | 16.03 | 15.71 | 16.45 | 16.89 |
|                 | 6H   | 8.86             | 9.51  | 9.32  | 9.96  | 10.43 | 15.50          | 16.15 | 15.96 | 16.60 | 17.06 |
|                 | 8H   | 9.32             | 9.93  | 9.79  | 10.37 | 10.84 | 15.62          | 16.23 | 16.09 | 16.68 | 17.15 |
|                 | 12H  | 9.81             | 10.35 | 10.29 | 10.83 | 11.30 | 15.80          | 16.33 | 16.28 | 16.82 | 17.29 |
| 8H              | 4H   | 8.75             | 9.36  | 9.22  | 9.81  | 10.28 | 15.27          | 15.88 | 15.74 | 16.33 | 16.80 |
|                 | 6H   | 10.27            | 10.77 | 10.77 | 11.27 | 11.75 | 15.61          | 16.10 | 16.11 | 16.60 | 17.08 |
|                 | 8H   | 11.04            | 11.49 | 11.57 | 12.01 | 12.50 | 15.84          | 16.29 | 16.36 | 16.80 | 17.30 |
|                 | 12H  | 11.85            | 12.25 | 12.37 | 12.74 | 13.32 | 16.18          | 16.57 | 16.69 | 17.07 | 17.64 |
| 12H             | 4H   | 8.93             | 9.47  | 9.42  | 9.95  | 10.43 | 15.25          | 15.79 | 15.74 | 16.27 | 16.75 |
|                 | 6H   | 10.58            | 11.03 | 11.11 | 11.55 | 12.04 | 15.62          | 16.07 | 16.15 | 16.59 | 17.08 |
|                 | 8H   | 11.54            | 11.94 | 12.06 | 12.44 | 13.01 | 15.94          | 16.33 | 16.45 | 16.83 | 17.40 |