

Cooper Lighting Solutions Photometric Lab  
1121 Highway 74 South  
Peachtree City, GA 30269



Scaled data based on original data using  
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions

Brand: NEO-RAY

Report Number: P1055360

Luminaire Tested: S122R3DR-H675D830-X4F0-XX-UDD-FLL-S

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2019  
Report Number: P1055360  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-3)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DR-H675D830-X4F0-XX-UDD-FLL-S  
Description: DEFINE 2, SILVER 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 3000K CCT, 80 CRI LEDS  
Ballast/Driver: -

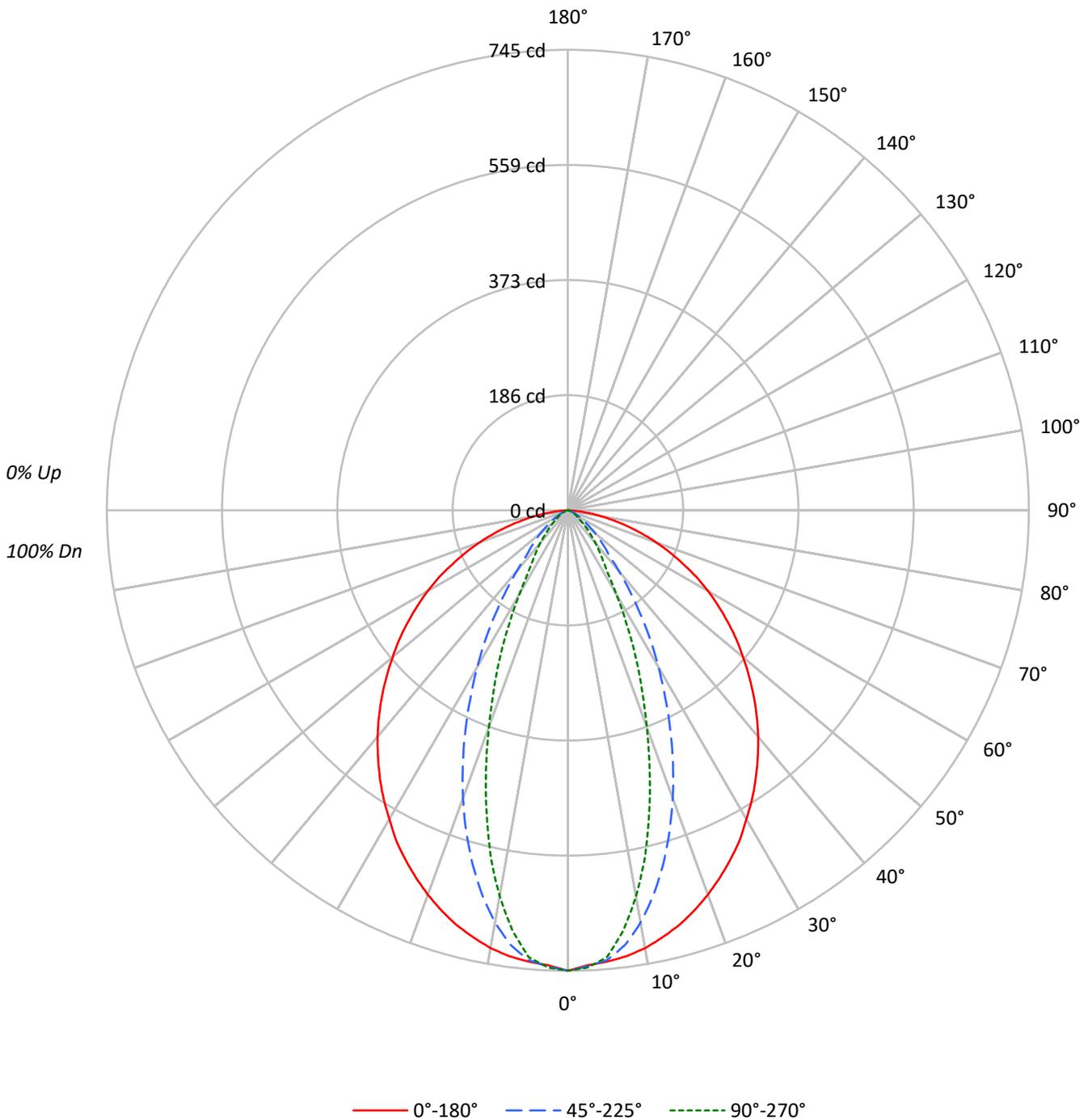
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 853.5 lumens  
Efficiency: N/A  
Efficacy: 35.9 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 0.64 / 0.81  
Luminous Opening: Rectangular (W 0.15' x L: 3.9' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 23.8  
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: P105360

CATALOG NUMBER: S122R3DR-H675D830-X4F0-XX-UDD-FLL-S

### 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 | 100 | 102 | 99  | 97  | 98  | 96  | 94  | 94  | 93  | 92  | 90  |    |    |    |    | 90  |   |  |   |
| 2   | 104 | 98  | 93  | 88  | 102 | 96  | 91  | 87  | 93  | 89  | 85  | 90  | 86  | 83  | 87  | 84  | 82  | 80  |    |    |    |    | 80  |   |  |   |
| 3   | 97  | 89  | 83  | 78  | 95  | 88  | 82  | 77  | 85  | 80  | 76  | 82  | 78  | 74  | 80  | 76  | 73  | 71  |    |    |    |    | 71  |   |  |   |
| 4   | 91  | 81  | 74  | 69  | 89  | 80  | 74  | 69  | 78  | 72  | 68  | 76  | 71  | 67  | 74  | 70  | 66  | 64  |    |    |    |    | 64  |   |  |   |
| 5   | 85  | 75  | 67  | 62  | 83  | 74  | 67  | 62  | 72  | 66  | 61  | 70  | 65  | 61  | 68  | 64  | 60  | 58  |    |    |    |    | 58  |   |  |   |
| 6   | 80  | 69  | 62  | 56  | 78  | 68  | 61  | 56  | 66  | 60  | 56  | 65  | 59  | 55  | 63  | 59  | 55  | 53  |    |    |    |    | 53  |   |  |   |
| 7   | 75  | 64  | 57  | 52  | 74  | 63  | 56  | 51  | 62  | 56  | 51  | 60  | 55  | 51  | 59  | 54  | 50  | 49  |    |    |    |    | 49  |   |  |   |
| 8   | 71  | 59  | 52  | 47  | 69  | 59  | 52  | 47  | 58  | 51  | 47  | 56  | 51  | 47  | 55  | 50  | 47  | 45  |    |    |    |    | 45  |   |  |   |
| 9   | 67  | 56  | 49  | 44  | 66  | 55  | 48  | 44  | 54  | 48  | 44  | 53  | 47  | 43  | 52  | 47  | 43  | 42  |    |    |    |    | 42  |   |  |   |
| 10  | 63  | 52  | 45  | 41  | 62  | 52  | 45  | 41  | 51  | 45  | 41  | 50  | 44  | 40  | 49  | 44  | 40  | 39  |    |    |    |    | 39  |   |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 14111 | 14111 | 14111 |
| 5°  | 13938 | 13887 | 13800 |
| 10° | 13836 | 13028 | 12203 |
| 15° | 13624 | 11655 | 9954  |
| 20° | 13341 | 9992  | 7508  |
| 25° | 13013 | 8186  | 5362  |
| 30° | 12619 | 6390  | 3415  |
| 35° | 12244 | 4686  | 2280  |
| 40° | 11829 | 3161  | 1716  |
| 45° | 11371 | 2227  | 1222  |
| 50° | 10897 | 1695  | 861   |
| 55° | 10431 | 1176  | 634   |
| 60° | 9928  | 796   | 519   |
| 65° | 9208  | 574   | 408   |
| 70° | 8392  | 454   | 355   |
| 75° | 7284  | 403   | 271   |
| 80° | 5772  | 295   | 295   |
| 85° | 3174  | 391   | 196   |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 11371 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 68.1   | 8.0       |
| 10°-20°   | 167.1  | 19.6      |
| 20°-30°   | 190.9  | 22.4      |
| 30°-40°   | 161.9  | 19.0      |
| 40°-50°   | 120.8  | 14.2      |
| 50°-60°   | 78.1   | 9.1       |
| 60°-70°   | 43.5   | 5.1       |
| 70°-80°   | 19.1   | 2.2       |
| 80°-90°   | 3.9    | 0.5       |
| 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°    | 426.2  | 49.9      |
| 0°-40°    | 588.1  | 68.9      |
| 0°-60°    | 787.0  | 92.2      |
| 0°-90°    | 853.5  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 853.5  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 745 | 745   | 745 | 745   | 745 |      |
| 5°  | 733 | 742   | 730 | 723   | 726 | 70   |
| 15° | 695 | 677   | 594 | 531   | 508 | 196  |
| 25° | 622 | 550   | 392 | 287   | 256 | 287  |
| 35° | 529 | 399   | 203 | 110   | 99  | 331  |
| 45° | 424 | 252   | 83  | 54    | 46  | 327  |
| 55° | 316 | 120   | 36  | 22    | 19  | 282  |
| 65° | 205 | 44    | 13  | 10    | 9   | 204  |
| 75° | 100 | 9     | 6   | 5     | 4   | 106  |
| 85° | 15  | 1     | 2   | 1     | 1   | 21   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 744.8 | 744.8 | 744.8 | 744.8 | 744.8 |
| 2.5°  | 736.6 | 747.5 | 738.4 | 738.4 | 740.2 |
| 5°    | 732.9 | 742.0 | 730.2 | 722.9 | 725.6 |
| 7.5°  | 727.4 | 733.8 | 709.2 | 687.3 | 685.5 |
| 10°   | 719.2 | 722.0 | 677.2 | 643.5 | 634.3 |
| 12.5° | 707.4 | 701.0 | 638.0 | 590.5 | 575.0 |
| 15°   | 694.6 | 677.2 | 594.2 | 531.2 | 507.5 |
| 17.5° | 679.1 | 648.0 | 545.8 | 469.1 | 439.9 |
| 20°   | 661.7 | 617.9 | 495.6 | 404.3 | 372.4 |
| 22.5° | 642.6 | 584.1 | 443.6 | 343.2 | 311.2 |
| 25°   | 622.5 | 549.5 | 391.6 | 286.6 | 256.5 |
| 27.5° | 601.5 | 513.0 | 340.4 | 235.5 | 202.6 |
| 30°   | 576.8 | 475.5 | 292.1 | 186.2 | 156.1 |
| 32.5° | 554.0 | 436.3 | 247.3 | 144.2 | 118.7 |
| 35°   | 529.4 | 398.9 | 202.6 | 110.4 | 98.6  |
| 37.5° | 503.8 | 361.4 | 163.4 | 93.1  | 83.1  |
| 40°   | 478.3 | 324.0 | 127.8 | 78.5  | 69.4  |
| 42.5° | 451.8 | 287.5 | 98.6  | 65.7  | 56.6  |
| 45°   | 424.4 | 251.9 | 83.1  | 53.9  | 45.6  |
| 47.5° | 397.0 | 216.3 | 69.4  | 42.9  | 36.5  |
| 50°   | 369.7 | 182.5 | 57.5  | 33.8  | 29.2  |
| 52.5° | 343.2 | 150.6 | 45.6  | 27.4  | 23.7  |
| 55°   | 315.8 | 119.6 | 35.6  | 21.9  | 19.2  |
| 57.5° | 288.4 | 93.1  | 27.4  | 18.3  | 16.4  |
| 60°   | 262.0 | 70.3  | 21.0  | 14.6  | 13.7  |
| 62.5° | 234.6 | 56.6  | 16.4  | 11.9  | 11.0  |
| 65°   | 205.4 | 43.8  | 12.8  | 10.0  | 9.1   |
| 67.5° | 178.9 | 31.9  | 10.0  | 8.2   | 7.3   |
| 70°   | 151.5 | 21.9  | 8.2   | 7.3   | 6.4   |
| 72.5° | 125.0 | 13.7  | 6.4   | 5.5   | 5.5   |
| 75°   | 99.5  | 9.1   | 5.5   | 4.6   | 3.7   |
| 77.5° | 75.8  | 5.5   | 3.7   | 3.7   | 2.7   |
| 80°   | 52.9  | 3.7   | 2.7   | 2.7   | 2.7   |
| 82.5° | 32.9  | 2.7   | 1.8   | 1.8   | 1.8   |
| 85°   | 14.6  | 0.9   | 1.8   | 0.9   | 0.9   |
| 87.5° | 2.7   | 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 | 17.45            | 18.77 | 17.81 | 19.08 | 19.40 | 3.77           | 5.09 | 4.13 | 5.40 | 5.72 |
|                 | 3H   | 19.92            | 21.09 | 20.30 | 21.42 | 21.78 | 4.62           | 5.79 | 5.00 | 6.12 | 6.48 |
|                 | 4H   | 20.87            | 21.96 | 21.28 | 22.32 | 22.70 | 4.90           | 5.99 | 5.30 | 6.34 | 6.72 |
|                 | 6H   | 21.56            | 22.56 | 21.98 | 22.93 | 23.33 | 5.08           | 6.09 | 5.50 | 6.46 | 6.85 |
|                 | 8H   | 21.76            | 22.71 | 22.19 | 23.10 | 23.50 | 5.15           | 6.10 | 5.58 | 6.49 | 6.90 |
|                 | 12H  | 21.84            | 22.75 | 22.27 | 23.13 | 23.56 | 5.18           | 6.08 | 5.61 | 6.47 | 6.90 |
| 4H              | 2H   | 17.23            | 18.32 | 17.64 | 18.68 | 19.06 | 4.34           | 5.43 | 4.74 | 5.78 | 6.17 |
|                 | 3H   | 19.72            | 20.61 | 20.13 | 21.02 | 21.42 | 5.37           | 6.26 | 5.78 | 6.67 | 7.07 |
|                 | 4H   | 20.66            | 21.46 | 21.09 | 21.88 | 22.32 | 5.74           | 6.54 | 6.18 | 6.96 | 7.41 |
|                 | 6H   | 21.42            | 22.11 | 21.88 | 22.55 | 23.02 | 6.03           | 6.72 | 6.49 | 7.17 | 7.63 |
|                 | 8H   | 21.66            | 22.30 | 22.13 | 22.75 | 23.22 | 6.12           | 6.77 | 6.59 | 7.22 | 7.69 |
|                 | 12H  | 21.79            | 22.36 | 22.27 | 22.84 | 23.31 | 6.17           | 6.74 | 6.65 | 7.22 | 7.69 |
| 8H              | 4H   | 20.53            | 21.17 | 21.00 | 21.62 | 22.09 | 6.12           | 6.76 | 6.59 | 7.21 | 7.68 |
|                 | 6H   | 21.27            | 21.79 | 21.77 | 22.29 | 22.77 | 6.47           | 6.99 | 6.97 | 7.49 | 7.97 |
|                 | 8H   | 21.51            | 21.98 | 22.03 | 22.50 | 22.99 | 6.60           | 7.07 | 7.12 | 7.59 | 8.08 |
|                 | 12H  | 21.66            | 22.08 | 22.18 | 22.57 | 23.14 | 6.68           | 7.10 | 7.20 | 7.59 | 8.16 |
| 12H             | 4H   | 20.48            | 21.05 | 20.97 | 21.53 | 22.01 | 6.24           | 6.81 | 6.72 | 7.29 | 7.76 |
|                 | 6H   | 21.21            | 21.68 | 21.73 | 22.19 | 22.68 | 6.59           | 7.06 | 7.11 | 7.57 | 8.07 |
|                 | 8H   | 21.47            | 21.88 | 21.99 | 22.38 | 22.95 | 6.76           | 7.17 | 7.28 | 7.67 | 8.24 |