

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: P1055382

Luminaire Tested: S122R3DR-H675D940-X4F0-XX-UDD-F-W

Issue Date: 7/25/2025

**Test Information**

Test Method: LM-79-2024  
Report Number: P1055382  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2503-402-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 7/25/2025  
Manufacturer: COOPER LIGHTING SOLUTIONS  
Product Line: NEO-RAY  
Catalog Number: S122R3DR-H675D940-X4F0-XX-UDD-F-W  
Description: DEFINE 2, WHITE 3-INCH REGRESSED DIRECT RECESSED HOUSING WITH FROSTED LENS  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: 4000K CCT, 90 CRI LEDS  
Ballast/Driver: -

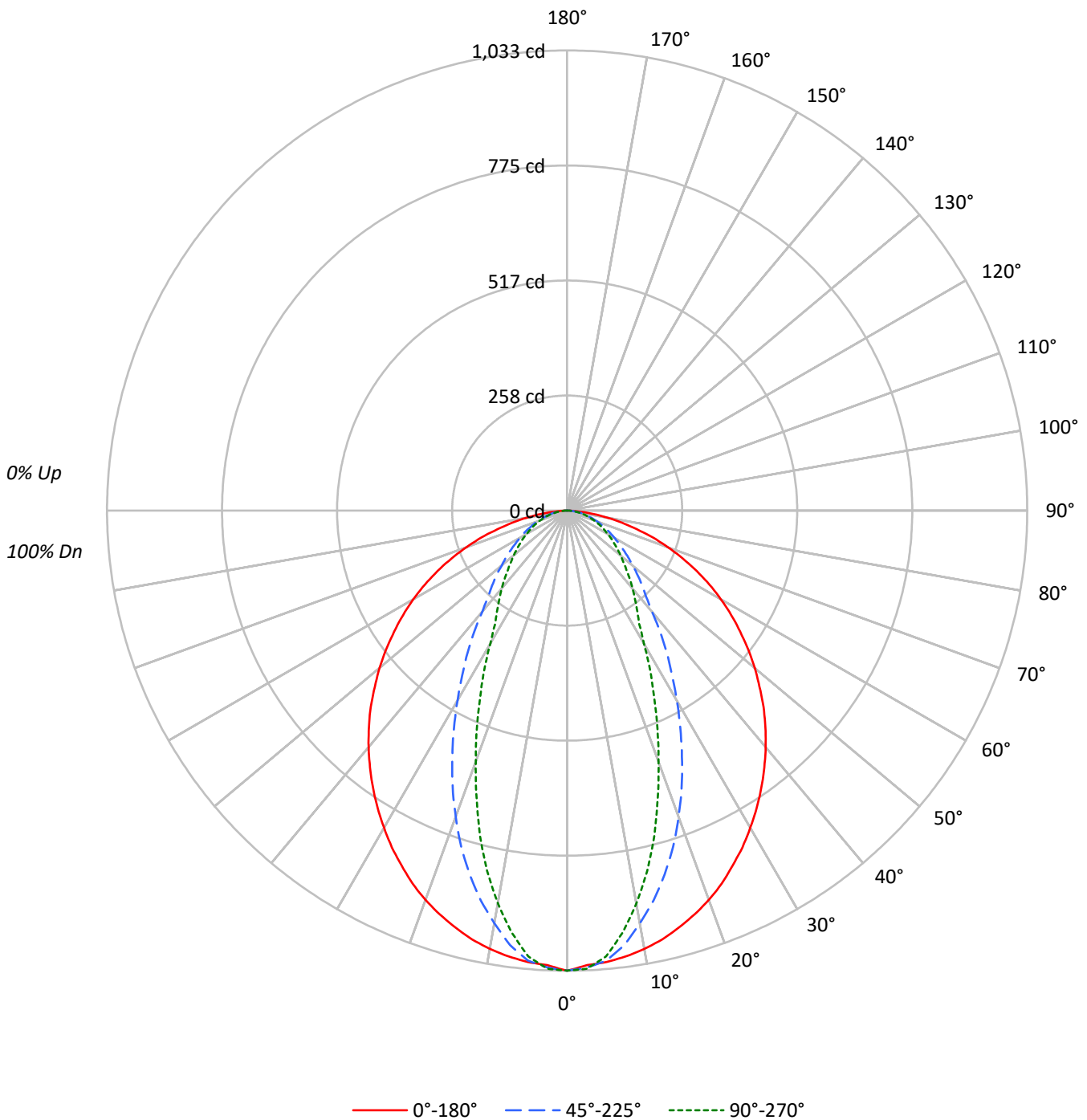
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1562.1 lumens  
Efficiency: N/A  
Efficacy: 65.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 0.71 / 0.9  
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

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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   | 110 | 106 | 102 | 99  | 108 | 104 | 101 | 97  | 100 | 97  | 94  | 96  | 94  | 92  | 92  | 91  | 89  | 87  |
| 2   | 102 | 95  | 89  | 84  | 99  | 93  | 87  | 83  | 89  | 85  | 81  | 86  | 82  | 79  | 83  | 80  | 77  | 75  |
| 3   | 94  | 85  | 78  | 72  | 92  | 83  | 77  | 71  | 80  | 75  | 70  | 78  | 73  | 69  | 75  | 71  | 68  | 66  |
| 4   | 87  | 76  | 69  | 63  | 85  | 75  | 68  | 62  | 73  | 66  | 61  | 71  | 65  | 61  | 68  | 64  | 60  | 58  |
| 5   | 81  | 69  | 61  | 55  | 79  | 68  | 61  | 55  | 66  | 60  | 55  | 64  | 59  | 54  | 63  | 58  | 54  | 52  |
| 6   | 75  | 63  | 55  | 50  | 74  | 63  | 55  | 49  | 61  | 54  | 49  | 59  | 53  | 49  | 58  | 52  | 48  | 46  |
| 7   | 71  | 58  | 50  | 45  | 69  | 58  | 50  | 45  | 56  | 49  | 44  | 55  | 49  | 44  | 53  | 48  | 44  | 42  |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |
| 9   | 62  | 50  | 43  | 37  | 61  | 49  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 37  | 46  | 41  | 37  | 35  |
| 10  | 59  | 47  | 39  | 35  | 58  | 46  | 39  | 34  | 45  | 39  | 34  | 44  | 38  | 34  | 43  | 38  | 34  | 32  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 19567 | 19567 | 19567 |
| 5°  | 19345 | 19281 | 19100 |
| 10° | 19221 | 18092 | 17228 |
| 15° | 19004 | 16582 | 14820 |
| 20° | 18750 | 14746 | 12099 |
| 25° | 18375 | 12743 | 9658  |
| 30° | 17985 | 10768 | 7537  |
| 35° | 17575 | 9006  | 6330  |
| 40° | 17149 | 7303  | 5639  |
| 45° | 16706 | 6385  | 5043  |
| 50° | 16214 | 5650  | 4607  |
| 55° | 15660 | 5107  | 4278  |
| 60° | 15115 | 4646  | 3990  |
| 65° | 14399 | 4259  | 3757  |
| 70° | 13344 | 3972  | 3540  |
| 75° | 11822 | 3601  | 3353  |
| 80° | 10081 | 3393  | 3109  |
| 85° | 6934  | 3000  | 2826  |

**MAXIMUM LUMINANCE 45°-90°:**

Horizontal Angle: 0°  
 Vertical Angle: 45°  
 Luminance: 16706 cd/sqm



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 94.6   | 6.1       |
| 10°-20°   | 238.9  | 15.3      |
| 20°-30°   | 294.4  | 18.8      |
| 30°-40°   | 282.5  | 18.1      |
| 40°-50°   | 243.7  | 15.6      |
| 50°-60°   | 189.0  | 12.1      |
| 60°-70°   | 129.4  | 8.3       |
| 70°-80°   | 70.3   | 4.5       |
| 80°-90°   | 19.3   | 1.2       |
| 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°    | 628.0  | 40.2      |
| 0°-40°    | 910.5  | 58.3      |
| 0°-60°    | 1343.1 | 86.0      |
| 0°-90°    | 1562.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1562.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1033 | 1033  | 1033 | 1033  | 1033 |      |
| 5°  | 1017 | 1032  | 1014 | 1001  | 1004 | 97   |
| 15° | 969  | 940   | 845  | 776   | 756  | 273  |
| 25° | 879  | 785   | 610  | 497   | 462  | 405  |
| 35° | 760  | 603   | 389  | 290   | 274  | 475  |
| 45° | 624  | 420   | 238  | 197   | 188  | 480  |
| 55° | 474  | 252   | 155  | 134   | 130  | 424  |
| 65° | 321  | 137   | 95   | 86    | 84   | 317  |
| 75° | 162  | 63    | 49   | 47    | 46   | 173  |
| 85° | 32   | 16    | 14   | 14    | 13   | 41   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1032.8 | 1032.8 | 1032.8 | 1032.8 | 1032.8 |
| 2.5°  | 1021.5 | 1038.8 | 1026.7 | 1026.7 | 1029.3 |
| 5°    | 1017.2 | 1031.9 | 1013.8 | 1000.8 | 1004.3 |
| 7.5°  | 1009.4 | 1019.8 | 983.5  | 955.9  | 955.0  |
| 10°   | 999.1  | 999.9  | 940.4  | 904.1  | 895.5  |
| 12.5° | 986.1  | 972.3  | 896.3  | 841.9  | 829.0  |
| 15°   | 968.9  | 939.5  | 845.4  | 776.3  | 755.6  |
| 17.5° | 950.7  | 905.8  | 791.0  | 704.6  | 676.1  |
| 20°   | 930.0  | 865.2  | 731.4  | 632.9  | 600.1  |
| 22.5° | 906.7  | 826.4  | 671.8  | 563.9  | 529.3  |
| 25°   | 879.0  | 784.9  | 609.6  | 497.4  | 462.0  |
| 27.5° | 852.3  | 742.6  | 550.1  | 438.7  | 402.4  |
| 30°   | 822.1  | 696.8  | 492.2  | 382.5  | 344.5  |
| 32.5° | 791.8  | 650.2  | 438.7  | 329.0  | 300.5  |
| 35°   | 759.9  | 602.7  | 389.4  | 290.1  | 273.7  |
| 37.5° | 727.1  | 556.1  | 342.8  | 264.2  | 249.6  |
| 40°   | 693.4  | 509.5  | 295.3  | 239.2  | 228.0  |
| 42.5° | 658.9  | 463.7  | 262.5  | 218.5  | 208.1  |
| 45°   | 623.5  | 419.7  | 238.3  | 196.9  | 188.2  |
| 47.5° | 585.5  | 375.6  | 215.0  | 178.7  | 171.0  |
| 50°   | 550.1  | 333.3  | 191.7  | 162.3  | 156.3  |
| 52.5° | 512.1  | 291.9  | 172.7  | 147.7  | 142.5  |
| 55°   | 474.1  | 252.1  | 154.6  | 133.8  | 129.5  |
| 57.5° | 436.9  | 214.1  | 137.3  | 120.9  | 117.4  |
| 60°   | 398.9  | 183.9  | 122.6  | 108.8  | 105.3  |
| 62.5° | 360.1  | 159.7  | 108.8  | 97.6   | 94.1   |
| 65°   | 321.2  | 137.3  | 95.0   | 86.4   | 83.8   |
| 67.5° | 280.6  | 115.7  | 82.9   | 76.0   | 74.3   |
| 70°   | 240.9  | 96.7   | 71.7   | 65.6   | 63.9   |
| 72.5° | 202.1  | 78.6   | 60.4   | 56.1   | 54.4   |
| 75°   | 161.5  | 63.0   | 49.2   | 46.6   | 45.8   |
| 77.5° | 126.1  | 49.2   | 39.7   | 38.0   | 37.1   |
| 80°   | 92.4   | 36.3   | 31.1   | 29.4   | 28.5   |
| 82.5° | 61.3   | 25.0   | 22.5   | 21.6   | 20.7   |
| 85°   | 31.9   | 15.5   | 13.8   | 13.8   | 13.0   |
| 87.5° | 10.4   | 6.9    | 6.9    | 6.9    | 6.0    |
| 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 | 19.94            | 21.41 | 20.30 | 21.72 | 22.04 | 14.75          | 16.21 | 15.11 | 16.53 | 16.84 |
|                 | 3H   | 22.27            | 23.59 | 22.65 | 23.91 | 24.28 | 16.39          | 17.71 | 16.77 | 18.04 | 18.40 |
|                 | 4H   | 23.17            | 24.40 | 23.57 | 24.75 | 25.13 | 17.03          | 18.26 | 17.43 | 18.61 | 18.99 |
|                 | 6H   | 23.83            | 24.97 | 24.24 | 25.34 | 25.73 | 17.52          | 18.66 | 17.94 | 19.03 | 19.42 |
|                 | 8H   | 24.04            | 25.12 | 24.46 | 25.51 | 25.91 | 17.69          | 18.78 | 18.12 | 19.17 | 19.57 |
|                 | 12H  | 24.15            | 25.19 | 24.58 | 25.57 | 26.00 | 17.81          | 18.85 | 18.24 | 19.23 | 19.66 |
| 4H              | 2H   | 19.96            | 21.19 | 20.36 | 21.54 | 21.92 | 15.46          | 16.70 | 15.86 | 17.05 | 17.43 |
|                 | 3H   | 22.37            | 23.39 | 22.78 | 23.79 | 24.20 | 17.31          | 18.34 | 17.72 | 18.74 | 19.14 |
|                 | 4H   | 23.30            | 24.22 | 23.73 | 24.64 | 25.08 | 18.06          | 18.98 | 18.49 | 19.40 | 19.84 |
|                 | 6H   | 24.08            | 24.88 | 24.53 | 25.32 | 25.78 | 18.67          | 19.47 | 19.13 | 19.92 | 20.38 |
|                 | 8H   | 24.35            | 25.10 | 24.81 | 25.54 | 26.01 | 18.89          | 19.64 | 19.35 | 20.08 | 20.55 |
|                 | 12H  | 24.52            | 25.19 | 25.01 | 25.67 | 26.14 | 19.05          | 19.72 | 19.53 | 20.20 | 20.67 |
| 8H              | 4H   | 23.29            | 24.04 | 23.76 | 24.49 | 24.95 | 18.44          | 19.18 | 18.90 | 19.63 | 20.10 |
|                 | 6H   | 24.10            | 24.72 | 24.60 | 25.21 | 25.69 | 19.17          | 19.79 | 19.67 | 20.28 | 20.76 |
|                 | 8H   | 24.40            | 24.95 | 24.92 | 25.47 | 25.95 | 19.47          | 20.02 | 19.98 | 20.53 | 21.02 |
|                 | 12H  | 24.63            | 25.12 | 25.14 | 25.61 | 26.18 | 19.71          | 20.20 | 20.22 | 20.70 | 21.26 |
| 12H             | 4H   | 23.27            | 23.94 | 23.75 | 24.42 | 24.89 | 18.49          | 19.16 | 18.98 | 19.64 | 20.11 |
|                 | 6H   | 24.07            | 24.63 | 24.59 | 25.14 | 25.63 | 19.26          | 19.81 | 19.78 | 20.33 | 20.81 |
|                 | 8H   | 24.41            | 24.90 | 24.92 | 25.39 | 25.96 | 19.62          | 20.10 | 20.13 | 20.60 | 21.16 |