

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P243479

Luminaire Tested: **S124DR-H575D935-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243479  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-84)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DR-H575D935-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

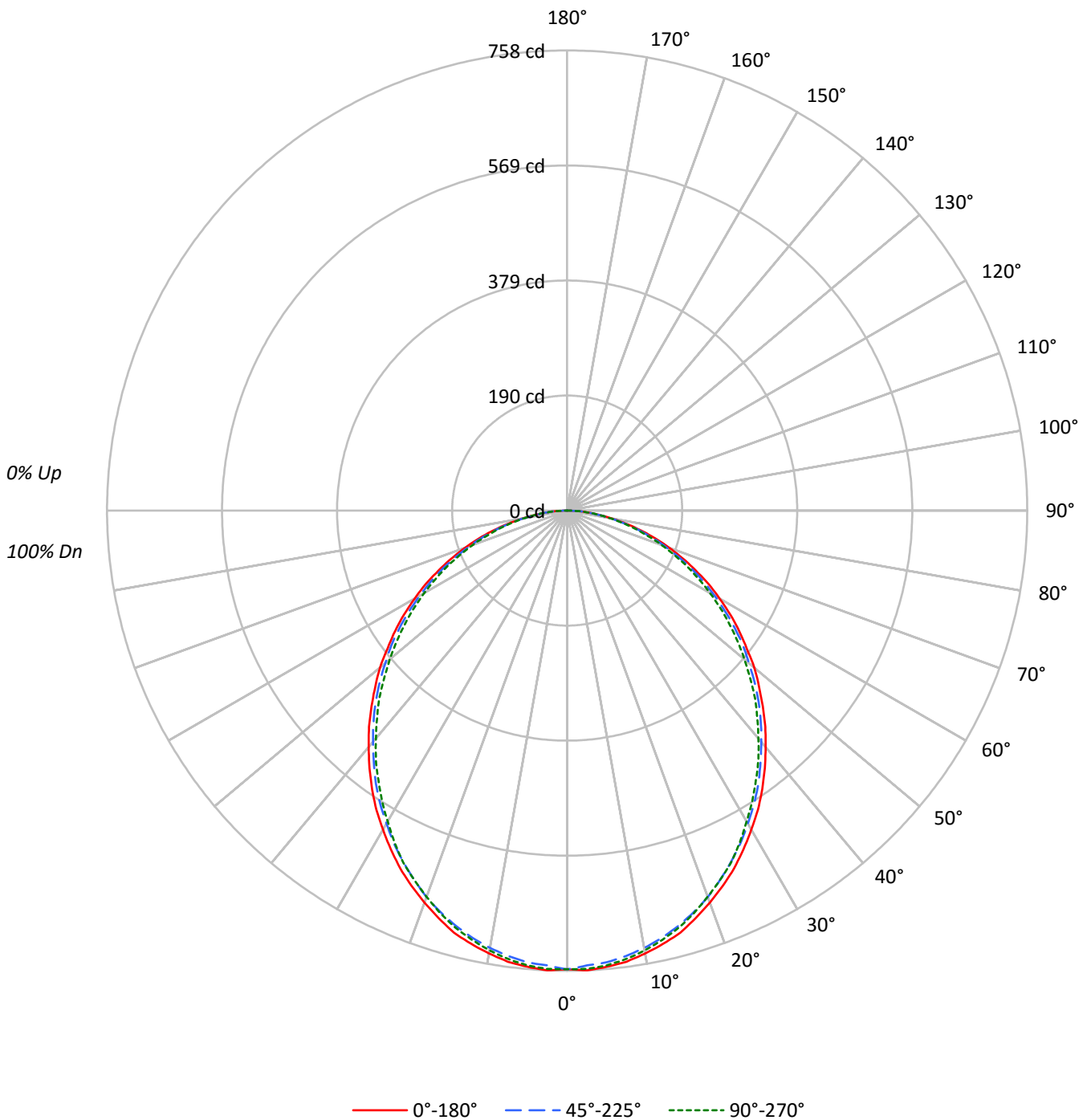
Lumens per Lamp: N/A  
Luminaire Lumens: 1945.1 lumens  
Efficiency: N/A  
Efficacy: 113.1 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 17.2  
Input Voltage (V): 120  
Input Current (A<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: 25 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   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 92  | 94  | 91  | 89  | 90  | 88  | 86  | 84  |
| 2   | 99  | 91  | 84  | 79  | 97  | 89  | 83  | 78  | 86  | 80  | 76  | 82  | 78  | 74  | 79  | 76  | 73  | 70  |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 65  | 76  | 69  | 64  | 73  | 67  | 63  | 70  | 66  | 62  | 60  |
| 4   | 83  | 71  | 63  | 56  | 81  | 70  | 62  | 56  | 67  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 53  | 51  |
| 5   | 77  | 64  | 55  | 48  | 74  | 63  | 54  | 48  | 61  | 53  | 48  | 59  | 52  | 47  | 57  | 51  | 47  | 44  |
| 6   | 71  | 58  | 49  | 42  | 69  | 57  | 48  | 42  | 55  | 47  | 42  | 53  | 46  | 41  | 52  | 46  | 41  | 39  |
| 7   | 66  | 52  | 44  | 38  | 64  | 51  | 43  | 37  | 50  | 43  | 37  | 48  | 42  | 37  | 47  | 41  | 37  | 35  |
| 8   | 61  | 48  | 39  | 34  | 60  | 47  | 39  | 33  | 46  | 38  | 33  | 45  | 38  | 33  | 43  | 37  | 33  | 31  |
| 9   | 57  | 44  | 36  | 30  | 56  | 43  | 36  | 30  | 42  | 35  | 30  | 41  | 35  | 30  | 40  | 34  | 30  | 28  |
| 10  | 54  | 41  | 33  | 28  | 52  | 40  | 33  | 27  | 39  | 32  | 27  | 38  | 32  | 27  | 37  | 31  | 27  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 6716 | 6716 | 6716 |
| 5°  | 6731 | 6665 | 6709 |
| 10° | 6686 | 6603 | 6642 |
| 15° | 6625 | 6517 | 6546 |
| 20° | 6501 | 6409 | 6403 |
| 25° | 6379 | 6265 | 6271 |
| 30° | 6228 | 6108 | 6070 |
| 35° | 6078 | 5957 | 5884 |
| 40° | 5899 | 5772 | 5686 |
| 45° | 5727 | 5610 | 5502 |
| 50° | 5569 | 5407 | 5271 |
| 55° | 5364 | 5221 | 5060 |
| 60° | 5159 | 4983 | 4830 |
| 65° | 4913 | 4745 | 4589 |
| 70° | 4650 | 4442 | 4299 |
| 75° | 4286 | 4118 | 3991 |
| 80° | 3778 | 3711 | 3619 |
| 85° | 3325 | 3325 | 3264 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 71.2   | 3.7       |
| 10°-20°   | 200.8  | 10.3      |
| 20°-30°   | 295.8  | 15.2      |
| 30°-40°   | 344.1  | 17.7      |
| 40°-50°   | 344.3  | 17.7      |
| 50°-60°   | 301.1  | 15.5      |
| 60°-70°   | 223.6  | 11.5      |
| 70°-80°   | 127.4  | 6.5       |
| 80°-90°   | 36.7   | 1.9       |
| 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°    | 567.9  | 29.2      |
| 0°-40°    | 912.0  | 46.9      |
| 0°-60°    | 1557.4 | 80.1      |
| 0°-90°    | 1945.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1945.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 756 | 756   | 756 | 756   | 756 |      |
| 5°  | 754 | 753   | 747 | 752   | 752 | 72   |
| 15° | 720 | 716   | 708 | 712   | 711 | 203  |
| 25° | 650 | 647   | 639 | 641   | 639 | 299  |
| 35° | 560 | 555   | 549 | 544   | 542 | 350  |
| 45° | 456 | 454   | 446 | 440   | 438 | 352  |
| 55° | 346 | 344   | 337 | 330   | 326 | 309  |
| 65° | 234 | 232   | 226 | 221   | 218 | 232  |
| 75° | 125 | 122   | 120 | 117   | 116 | 132  |
| 85° | 33  | 32    | 33  | 31    | 32  | 37   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 755.6 | 755.6 | 755.6 | 755.6 | 755.6 |
| 2.5°  | 758.0 | 756.2 | 750.0 | 756.2 | 755.6 |
| 5°    | 754.3 | 753.1 | 747.0 | 752.5 | 751.9 |
| 7.5°  | 749.4 | 747.0 | 740.2 | 745.7 | 745.1 |
| 10°   | 740.8 | 739.0 | 731.6 | 737.1 | 735.9 |
| 12.5° | 731.0 | 729.1 | 721.1 | 725.4 | 724.2 |
| 15°   | 719.9 | 716.2 | 708.2 | 712.5 | 711.3 |
| 17.5° | 703.9 | 701.5 | 693.5 | 697.2 | 695.3 |
| 20°   | 687.3 | 684.3 | 677.5 | 678.1 | 676.9 |
| 22.5° | 669.5 | 666.4 | 658.4 | 660.9 | 658.4 |
| 25°   | 650.4 | 647.4 | 638.8 | 640.6 | 639.4 |
| 27.5° | 628.9 | 625.9 | 617.9 | 618.5 | 616.0 |
| 30°   | 606.8 | 603.1 | 595.1 | 594.5 | 591.4 |
| 32.5° | 584.7 | 581.0 | 573.0 | 570.5 | 567.4 |
| 35°   | 560.1 | 555.2 | 549.0 | 544.1 | 542.2 |
| 37.5° | 534.9 | 532.4 | 523.2 | 520.1 | 517.6 |
| 40°   | 508.4 | 506.0 | 497.4 | 493.1 | 490.0 |
| 42.5° | 483.2 | 480.1 | 472.2 | 466.0 | 463.5 |
| 45°   | 455.6 | 453.7 | 446.3 | 439.6 | 437.7 |
| 47.5° | 428.5 | 427.9 | 418.7 | 411.9 | 408.8 |
| 50°   | 402.7 | 399.0 | 391.0 | 384.9 | 381.2 |
| 52.5° | 372.6 | 371.9 | 365.2 | 357.2 | 354.1 |
| 55°   | 346.1 | 343.7 | 336.9 | 329.5 | 326.5 |
| 57.5° | 318.5 | 317.2 | 308.6 | 302.5 | 299.4 |
| 60°   | 290.2 | 287.7 | 280.3 | 274.8 | 271.7 |
| 62.5° | 263.1 | 260.1 | 253.3 | 247.8 | 244.7 |
| 65°   | 233.6 | 231.8 | 225.6 | 220.7 | 218.2 |
| 67.5° | 206.0 | 203.5 | 197.3 | 193.0 | 190.6 |
| 70°   | 178.9 | 175.2 | 170.9 | 167.2 | 165.4 |
| 72.5° | 151.9 | 148.8 | 145.1 | 142.6 | 140.2 |
| 75°   | 124.8 | 122.3 | 119.9 | 117.4 | 116.2 |
| 77.5° | 99.0  | 96.5  | 95.3  | 94.7  | 93.4  |
| 80°   | 73.8  | 72.5  | 72.5  | 71.9  | 70.7  |
| 82.5° | 52.3  | 51.0  | 51.0  | 51.0  | 50.4  |
| 85°   | 32.6  | 32.0  | 32.6  | 31.4  | 32.0  |
| 87.5° | 15.4  | 15.4  | 16.0  | 15.4  | 16.0  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)