

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: P243484

Luminaire Tested: **S124DR-H575D940-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243484  
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-H575D940-X4F0-XX-UDD-F-W  
Description: DEFINE 4 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 4000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2014.5 lumens  
Efficiency: N/A  
Efficacy: 117.1 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

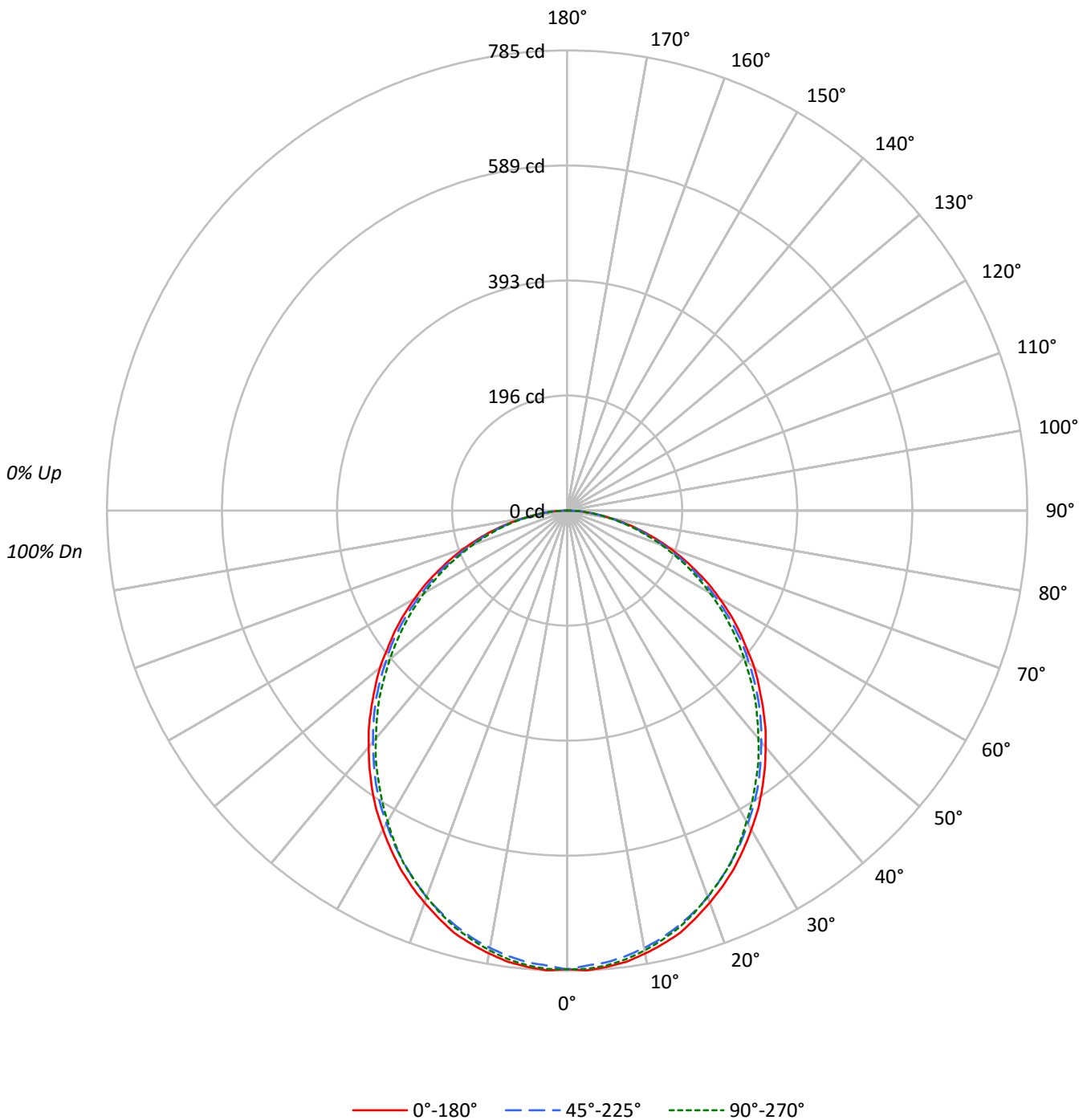
Input Watts (W): 17.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 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   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 95  | 98  | 95  | 92  | 94  | 91  | 89  | 90  | 88  | 86  | 84  |    |    |    |    | 84  |   |  |   |
| 2   | 99  | 91  | 84  | 79  | 97  | 89  | 83  | 78  | 86  | 80  | 76  | 82  | 78  | 74  | 79  | 76  | 73  | 70  |    |    |    |    | 70  |   |  |   |
| 3   | 91  | 80  | 72  | 66  | 88  | 79  | 71  | 65  | 76  | 69  | 64  | 73  | 67  | 63  | 70  | 66  | 62  | 60  |    |    |    |    | 60  |   |  |   |
| 4   | 83  | 71  | 63  | 56  | 81  | 70  | 62  | 56  | 67  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 53  | 51  |    |    |    |    | 51  |   |  |   |
| 5   | 77  | 64  | 55  | 48  | 74  | 63  | 54  | 48  | 61  | 53  | 48  | 59  | 52  | 47  | 57  | 51  | 47  | 44  |    |    |    |    | 44  |   |  |   |
| 6   | 71  | 58  | 49  | 42  | 69  | 57  | 48  | 42  | 55  | 47  | 42  | 53  | 46  | 41  | 52  | 46  | 41  | 39  |    |    |    |    | 39  |   |  |   |
| 7   | 66  | 52  | 44  | 38  | 64  | 51  | 43  | 37  | 50  | 43  | 37  | 48  | 42  | 37  | 47  | 41  | 37  | 35  |    |    |    |    | 35  |   |  |   |
| 8   | 61  | 48  | 39  | 34  | 60  | 47  | 39  | 33  | 46  | 38  | 33  | 45  | 38  | 33  | 43  | 37  | 33  | 31  |    |    |    |    | 31  |   |  |   |
| 9   | 57  | 44  | 36  | 30  | 56  | 43  | 36  | 30  | 42  | 35  | 30  | 41  | 35  | 30  | 40  | 34  | 30  | 28  |    |    |    |    | 28  |   |  |   |
| 10  | 54  | 41  | 33  | 28  | 52  | 40  | 33  | 27  | 39  | 32  | 27  | 38  | 32  | 27  | 37  | 31  | 27  | 25  |    |    |    |    | 25  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 6956 | 6956 | 6956 |
| 5°  | 6971 | 6903 | 6948 |
| 10° | 6925 | 6839 | 6879 |
| 15° | 6861 | 6750 | 6779 |
| 20° | 6733 | 6638 | 6631 |
| 25° | 6607 | 6488 | 6495 |
| 30° | 6450 | 6326 | 6287 |
| 35° | 6294 | 6170 | 6094 |
| 40° | 6110 | 5977 | 5889 |
| 45° | 5931 | 5811 | 5698 |
| 50° | 5767 | 5601 | 5460 |
| 55° | 5556 | 5407 | 5240 |
| 60° | 5342 | 5161 | 5003 |
| 65° | 5090 | 4915 | 4753 |
| 70° | 4816 | 4600 | 4452 |
| 75° | 4441 | 4266 | 4132 |
| 80° | 3911 | 3844 | 3747 |
| 85° | 3437 | 3437 | 3376 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 73.8   | 3.7       |
| 10°-20°   | 208.0  | 10.3      |
| 20°-30°   | 306.3  | 15.2      |
| 30°-40°   | 356.4  | 17.7      |
| 40°-50°   | 356.6  | 17.7      |
| 50°-60°   | 311.8  | 15.5      |
| 60°-70°   | 231.6  | 11.5      |
| 70°-80°   | 132.0  | 6.6       |
| 80°-90°   | 38.0   | 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°    | 588.1  | 29.2      |
| 0°-40°    | 944.5  | 46.9      |
| 0°-60°    | 1612.9 | 80.1      |
| 0°-90°    | 2014.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2014.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 782 | 782   | 782 | 782   | 782 |      |
| 5°  | 781 | 780   | 774 | 779   | 779 | 74   |
| 15° | 746 | 742   | 734 | 738   | 737 | 210  |
| 25° | 674 | 670   | 662 | 664   | 662 | 310  |
| 35° | 580 | 575   | 569 | 564   | 562 | 363  |
| 45° | 472 | 470   | 462 | 455   | 453 | 364  |
| 55° | 358 | 356   | 349 | 341   | 338 | 320  |
| 65° | 242 | 240   | 234 | 229   | 226 | 240  |
| 75° | 129 | 127   | 124 | 122   | 120 | 137  |
| 85° | 34  | 33    | 34  | 32    | 33  | 39   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 782.5 | 782.5 | 782.5 | 782.5 | 782.5 |
| 2.5°  | 785.1 | 783.2 | 776.8 | 783.2 | 782.5 |
| 5°    | 781.2 | 780.0 | 773.6 | 779.3 | 778.7 |
| 7.5°  | 776.2 | 773.6 | 766.6 | 772.3 | 771.7 |
| 10°   | 767.2 | 765.3 | 757.7 | 763.4 | 762.1 |
| 12.5° | 757.1 | 755.1 | 746.9 | 751.3 | 750.0 |
| 15°   | 745.6 | 741.8 | 733.5 | 738.0 | 736.7 |
| 17.5° | 729.0 | 726.5 | 718.2 | 722.0 | 720.1 |
| 20°   | 711.8 | 708.7 | 701.7 | 702.3 | 701.0 |
| 22.5° | 693.4 | 690.2 | 681.9 | 684.5 | 681.9 |
| 25°   | 673.6 | 670.5 | 661.5 | 663.5 | 662.2 |
| 27.5° | 651.4 | 648.2 | 639.9 | 640.5 | 638.0 |
| 30°   | 628.4 | 624.6 | 616.3 | 615.7 | 612.5 |
| 32.5° | 605.5 | 601.7 | 593.4 | 590.9 | 587.7 |
| 35°   | 580.0 | 575.0 | 568.6 | 563.5 | 561.6 |
| 37.5° | 553.9 | 551.4 | 541.8 | 538.7 | 536.1 |
| 40°   | 526.6 | 524.0 | 515.1 | 510.6 | 507.5 |
| 42.5° | 500.5 | 497.3 | 489.0 | 482.6 | 480.1 |
| 45°   | 471.8 | 469.9 | 462.3 | 455.3 | 453.3 |
| 47.5° | 443.8 | 443.2 | 433.6 | 426.6 | 423.4 |
| 50°   | 417.0 | 413.2 | 405.0 | 398.6 | 394.8 |
| 52.5° | 385.8 | 385.2 | 378.2 | 369.9 | 366.7 |
| 55°   | 358.5 | 355.9 | 348.9 | 341.3 | 338.1 |
| 57.5° | 329.8 | 328.5 | 319.6 | 313.3 | 310.1 |
| 60°   | 300.5 | 298.0 | 290.3 | 284.6 | 281.4 |
| 62.5° | 272.5 | 269.3 | 262.3 | 256.6 | 253.4 |
| 65°   | 242.0 | 240.0 | 233.7 | 228.6 | 226.0 |
| 67.5° | 213.3 | 210.8 | 204.4 | 199.9 | 197.4 |
| 70°   | 185.3 | 181.5 | 177.0 | 173.2 | 171.3 |
| 72.5° | 157.3 | 154.1 | 150.3 | 147.7 | 145.2 |
| 75°   | 129.3 | 126.7 | 124.2 | 121.6 | 120.3 |
| 77.5° | 102.5 | 100.0 | 98.7  | 98.1  | 96.8  |
| 80°   | 76.4  | 75.1  | 75.1  | 74.5  | 73.2  |
| 82.5° | 54.1  | 52.8  | 52.8  | 52.8  | 52.2  |
| 85°   | 33.7  | 33.1  | 33.7  | 32.5  | 33.1  |
| 87.5° | 15.9  | 15.9  | 16.6  | 15.9  | 16.6  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)