

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: P242711

Luminaire Tested: **S124RDR-S350D840-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242711  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-26)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124RDR-S350D840-X4F0-XX-UDD-F-W  
Description: DEFINE 4 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 4000K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

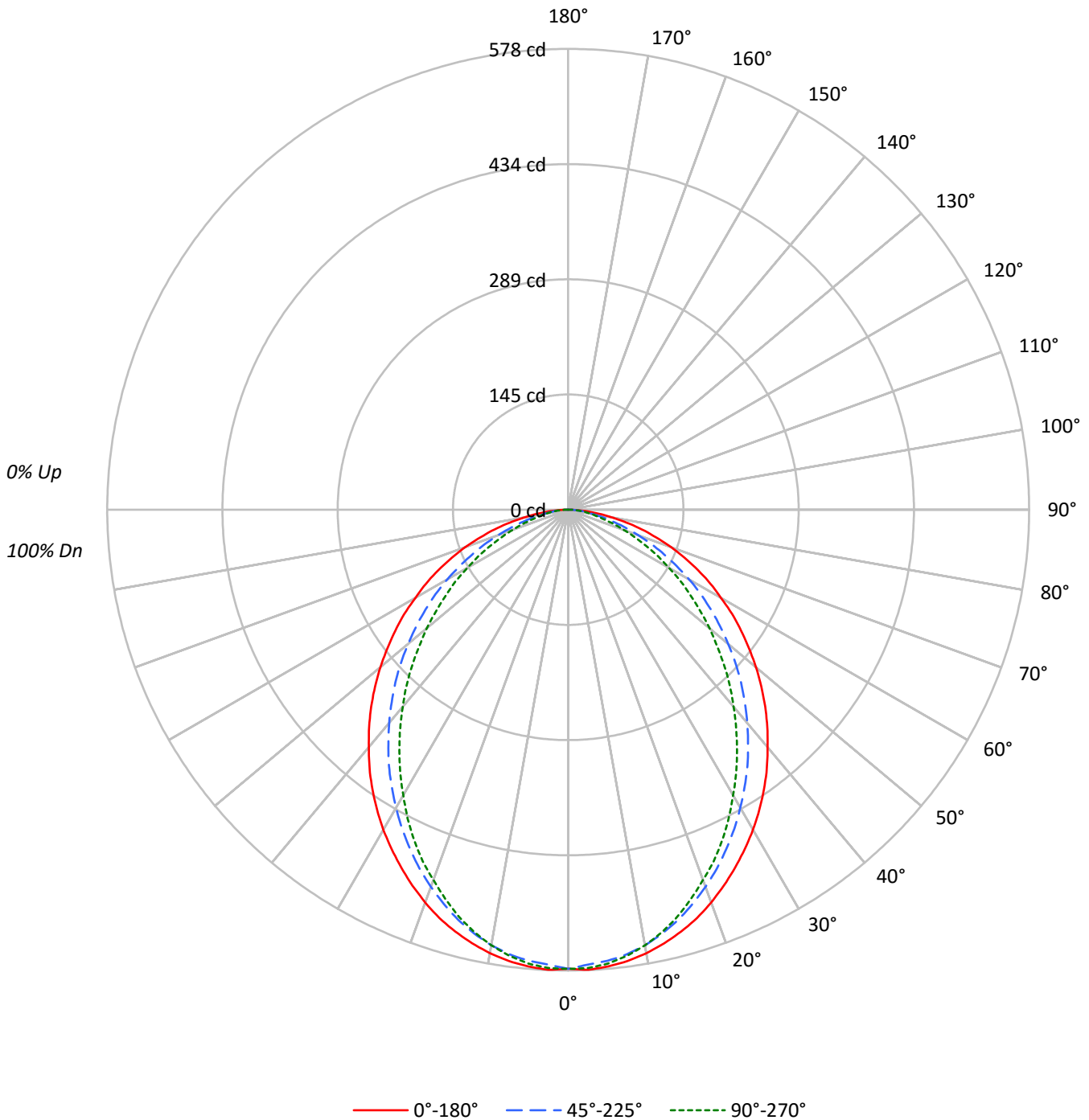
Lumens per Lamp: N/A  
Luminaire Lumens: 1330.6 lumens  
Efficiency: N/A  
Efficacy: 114.7 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.31' x L: 3.88' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 11.6  
Input Voltage (V): 120  
Input Current (Ain): 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: 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   | 110 | 105 | 101 | 98  | 107 | 103 | 99  | 96  | 99  | 96  | 93  | 95  | 92  | 90  | 91  | 89  | 87  | 85  |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  | 87  | 82  | 78  | 84  | 80  | 76  | 81  | 78  | 74  | 72  |
| 3   | 92  | 82  | 74  | 68  | 89  | 80  | 73  | 67  | 77  | 71  | 66  | 75  | 69  | 65  | 72  | 68  | 64  | 62  |
| 4   | 84  | 73  | 65  | 58  | 82  | 72  | 64  | 58  | 69  | 62  | 57  | 67  | 61  | 56  | 65  | 60  | 56  | 54  |
| 5   | 78  | 66  | 57  | 51  | 76  | 65  | 56  | 50  | 62  | 55  | 50  | 61  | 54  | 49  | 59  | 53  | 49  | 47  |
| 6   | 72  | 59  | 51  | 45  | 70  | 58  | 50  | 44  | 57  | 49  | 44  | 55  | 49  | 44  | 53  | 48  | 43  | 41  |
| 7   | 67  | 54  | 46  | 40  | 65  | 53  | 45  | 40  | 52  | 45  | 39  | 50  | 44  | 39  | 49  | 43  | 39  | 37  |
| 8   | 63  | 50  | 41  | 36  | 61  | 49  | 41  | 36  | 48  | 40  | 35  | 46  | 40  | 35  | 45  | 39  | 35  | 33  |
| 9   | 59  | 46  | 38  | 32  | 57  | 45  | 37  | 32  | 44  | 37  | 32  | 43  | 36  | 32  | 42  | 36  | 32  | 30  |
| 10  | 55  | 42  | 35  | 29  | 54  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 29  | 39  | 33  | 29  | 27  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5119 | 5119 | 5119 |
| 5°  | 5131 | 5067 | 5099 |
| 10° | 5098 | 5007 | 5007 |
| 15° | 5039 | 4901 | 4865 |
| 20° | 4960 | 4763 | 4676 |
| 25° | 4857 | 4602 | 4484 |
| 30° | 4756 | 4431 | 4245 |
| 35° | 4645 | 4254 | 4005 |
| 40° | 4513 | 4052 | 3746 |
| 45° | 4390 | 3852 | 3481 |
| 50° | 4250 | 3622 | 3201 |
| 55° | 4101 | 3383 | 2898 |
| 60° | 3934 | 3120 | 2587 |
| 65° | 3784 | 2791 | 2282 |
| 70° | 3563 | 2430 | 1936 |
| 75° | 3287 | 2013 | 1576 |
| 80° | 2867 | 1536 | 1444 |
| 85° | 2427 | 1397 | 1305 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 54.1   | 4.1       |
| 10°-20°   | 151.0  | 11.3      |
| 20°-30°   | 218.0  | 16.4      |
| 30°-40°   | 247.0  | 18.6      |
| 40°-50°   | 238.5  | 17.9      |
| 50°-60°   | 198.3  | 14.9      |
| 60°-70°   | 136.9  | 10.3      |
| 70°-80°   | 69.2   | 5.2       |
| 80°-90°   | 17.6   | 1.3       |
| 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°    | 423.1  | 31.8      |
| 0°-40°    | 670.1  | 50.4      |
| 0°-60°    | 1107.0 | 83.2      |
| 0°-90°    | 1330.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1330.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 576 | 576   | 576 | 576   | 576 |      |
| 5°  | 575 | 573   | 568 | 572   | 571 | 55   |
| 15° | 548 | 544   | 533 | 532   | 529 | 154  |
| 25° | 495 | 487   | 469 | 462   | 457 | 228  |
| 35° | 428 | 414   | 392 | 377   | 369 | 268  |
| 45° | 349 | 333   | 306 | 285   | 277 | 269  |
| 55° | 265 | 247   | 218 | 195   | 187 | 237  |
| 65° | 180 | 161   | 133 | 114   | 108 | 178  |
| 75° | 96  | 79    | 59  | 48    | 46  | 101  |
| 85° | 24  | 15    | 14  | 13    | 13  | 28   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 575.9 | 575.9 | 575.9 | 575.9 | 575.9 |
| 2.5°  | 577.6 | 575.9 | 571.0 | 575.9 | 575.4 |
| 5°    | 575.0 | 573.2 | 567.9 | 572.3 | 571.4 |
| 7.5°  | 571.0 | 569.2 | 562.6 | 565.7 | 564.4 |
| 10°   | 564.8 | 562.6 | 554.7 | 556.5 | 554.7 |
| 12.5° | 556.9 | 554.2 | 544.5 | 545.4 | 542.8 |
| 15°   | 547.6 | 543.7 | 532.6 | 531.8 | 528.7 |
| 17.5° | 537.1 | 531.3 | 518.5 | 516.3 | 511.9 |
| 20°   | 524.3 | 518.5 | 503.5 | 500.0 | 494.3 |
| 22.5° | 510.2 | 503.5 | 487.2 | 481.5 | 477.1 |
| 25°   | 495.2 | 487.2 | 469.2 | 461.7 | 457.2 |
| 27.5° | 479.7 | 470.0 | 451.1 | 442.3 | 436.1 |
| 30°   | 463.4 | 452.4 | 431.7 | 420.6 | 413.6 |
| 32.5° | 446.2 | 433.4 | 411.8 | 398.6 | 392.0 |
| 35°   | 428.1 | 414.0 | 392.0 | 377.0 | 369.1 |
| 37.5° | 409.2 | 394.6 | 370.4 | 354.1 | 346.1 |
| 40°   | 388.9 | 374.4 | 349.2 | 330.7 | 322.8 |
| 42.5° | 369.5 | 354.1 | 327.6 | 308.7 | 300.3 |
| 45°   | 349.2 | 332.9 | 306.4 | 284.8 | 276.9 |
| 47.5° | 328.5 | 311.7 | 284.4 | 261.9 | 253.1 |
| 50°   | 307.3 | 290.1 | 261.9 | 239.9 | 231.5 |
| 52.5° | 285.7 | 269.0 | 239.9 | 217.4 | 208.6 |
| 55°   | 264.6 | 246.9 | 218.3 | 195.3 | 187.0 |
| 57.5° | 243.8 | 225.3 | 197.1 | 173.7 | 167.6 |
| 60°   | 221.3 | 203.7 | 175.5 | 152.6 | 145.5 |
| 62.5° | 201.1 | 182.5 | 153.4 | 132.7 | 127.4 |
| 65°   | 179.9 | 160.9 | 132.7 | 113.8 | 108.5 |
| 67.5° | 157.9 | 139.8 | 113.3 | 96.6  | 90.4  |
| 70°   | 137.1 | 118.6 | 93.5  | 78.9  | 74.5  |
| 72.5° | 115.1 | 98.8  | 75.4  | 63.5  | 59.5  |
| 75°   | 95.7  | 79.4  | 58.6  | 48.5  | 45.9  |
| 77.5° | 75.4  | 61.3  | 43.7  | 36.6  | 35.7  |
| 80°   | 56.0  | 43.2  | 30.0  | 28.7  | 28.2  |
| 82.5° | 39.2  | 27.8  | 21.6  | 20.7  | 20.3  |
| 85°   | 23.8  | 15.0  | 13.7  | 12.8  | 12.8  |
| 87.5° | 10.1  | 6.6   | 6.2   | 5.7   | 6.2   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)