

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: P243285

Luminaire Tested: **S123DR-H1000D927-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P243285  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-49)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DR-H1000D927-X4F0-XX-UDD-F-W  
Description: DEFINE 3 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.  
HIGH PERFORMANCE LIGHT ENGINE  
Light Source: (184) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3060.8 lumens  
Efficiency: N/A  
Efficacy: 97.2 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31  
Luminous Opening: Rectangular (W 0.23' x L: 3.88' x H: 0')  
CIE Type: Direct

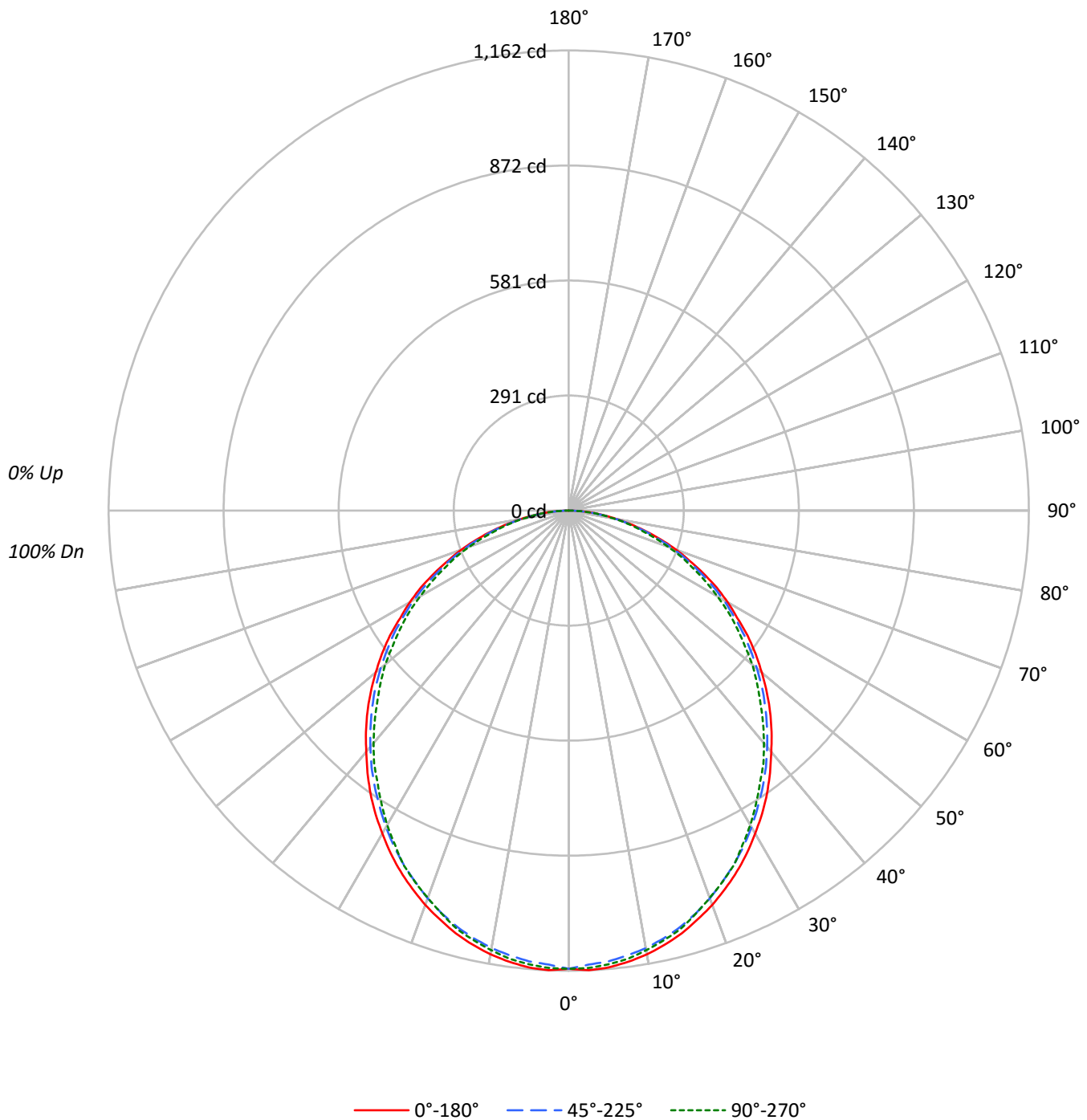
Input Watts (W): 31.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  |  | 50  | 30  | 10  |  |  | 50  | 30  | 10  |  |  | 50  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |  |     |     |     |  |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  |  | 106 | 106 | 106 |  |  | 102 |
| 1   | 109 | 104 | 100 | 96  | 106 | 102 | 98  | 94  |  | 97  | 94  | 91  |  |  | 94  | 91  | 89  |  |  | 90  |
| 2   | 99  | 91  | 84  | 78  | 96  | 89  | 83  | 77  |  | 85  | 80  | 76  |  |  | 82  | 78  | 74  |  |  | 79  |
| 3   | 90  | 80  | 72  | 65  | 88  | 78  | 71  | 65  |  | 75  | 69  | 64  |  |  | 73  | 67  | 62  |  |  | 70  |
| 4   | 83  | 71  | 62  | 55  | 80  | 70  | 61  | 55  |  | 67  | 60  | 54  |  |  | 65  | 59  | 54  |  |  | 63  |
| 5   | 76  | 63  | 54  | 48  | 74  | 62  | 54  | 48  |  | 60  | 53  | 47  |  |  | 58  | 52  | 47  |  |  | 56  |
| 6   | 70  | 57  | 48  | 42  | 69  | 56  | 48  | 42  |  | 54  | 47  | 41  |  |  | 53  | 46  | 41  |  |  | 51  |
| 7   | 65  | 52  | 43  | 37  | 64  | 51  | 43  | 37  |  | 50  | 42  | 37  |  |  | 48  | 41  | 36  |  |  | 47  |
| 8   | 61  | 47  | 39  | 33  | 59  | 47  | 39  | 33  |  | 45  | 38  | 33  |  |  | 44  | 37  | 33  |  |  | 43  |
| 9   | 57  | 44  | 35  | 30  | 56  | 43  | 35  | 30  |  | 42  | 35  | 30  |  |  | 41  | 34  | 29  |  |  | 40  |
| 10  | 53  | 40  | 32  | 27  | 52  | 40  | 32  | 27  |  | 39  | 32  | 27  |  |  | 38  | 31  | 27  |  |  | 37  |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 14024 | 14024 | 14024 |
| 5°  | 14090 | 13904 | 13998 |
| 10° | 14007 | 13806 | 13878 |
| 15° | 13861 | 13658 | 13717 |
| 20° | 13669 | 13436 | 13424 |
| 25° | 13447 | 13191 | 13204 |
| 30° | 13178 | 12923 | 12830 |
| 35° | 12915 | 12632 | 12449 |
| 40° | 12587 | 12331 | 12135 |
| 45° | 12329 | 12034 | 11723 |
| 50° | 11997 | 11692 | 11405 |
| 55° | 11650 | 11348 | 10966 |
| 60° | 11239 | 10938 | 10499 |
| 65° | 10753 | 10423 | 9987  |
| 70° | 10210 | 9870  | 9466  |
| 75° | 9470  | 9203  | 8711  |
| 80° | 8523  | 8321  | 8055  |
| 85° | 7955  | 7566  | 7301  |

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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 109.2  | 3.6       |
| 10°-20°   | 308.7  | 10.1      |
| 20°-30°   | 457.0  | 14.9      |
| 30°-40°   | 536.0  | 17.5      |
| 40°-50°   | 541.9  | 17.7      |
| 50°-60°   | 479.2  | 15.7      |
| 60°-70°   | 359.9  | 11.8      |
| 70°-80°   | 207.4  | 6.8       |
| 80°-90°   | 61.5   | 2.0       |
| 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°    | 874.9  | 28.6      |
| 0°-40°    | 1410.9 | 46.1      |
| 0°-60°    | 2432.0 | 79.5      |
| 0°-90°    | 3060.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3060.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1157 | 1157  | 1157 | 1157  | 1157 |      |
| 5°  | 1158 | 1153  | 1143 | 1152  | 1150 | 110  |
| 15° | 1105 | 1099  | 1088 | 1096  | 1093 | 311  |
| 25° | 1005 | 998   | 986  | 991   | 987  | 463  |
| 35° | 873  | 865   | 854  | 851   | 841  | 545  |
| 45° | 719  | 714   | 702  | 692   | 684  | 554  |
| 55° | 551  | 548   | 537  | 526   | 519  | 492  |
| 65° | 375  | 372   | 363  | 354   | 348  | 371  |
| 75° | 202  | 200   | 196  | 191   | 186  | 214  |
| 85° | 57   | 56    | 54   | 53    | 52   | 64   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1157.0 | 1157.0 | 1157.0 | 1157.0 | 1157.0 |
| 2.5°  | 1161.8 | 1158.0 | 1147.5 | 1158.0 | 1156.1 |
| 5°    | 1158.0 | 1153.2 | 1142.7 | 1152.3 | 1150.4 |
| 7.5°  | 1149.4 | 1144.6 | 1133.2 | 1143.7 | 1141.8 |
| 10°   | 1138.0 | 1133.2 | 1121.7 | 1130.3 | 1127.5 |
| 12.5° | 1122.7 | 1117.9 | 1106.5 | 1113.2 | 1111.3 |
| 15°   | 1104.6 | 1098.9 | 1088.4 | 1096.0 | 1093.1 |
| 17.5° | 1082.6 | 1077.9 | 1066.4 | 1076.0 | 1067.4 |
| 20°   | 1059.7 | 1055.0 | 1041.6 | 1050.2 | 1040.7 |
| 22.5° | 1033.0 | 1027.3 | 1014.0 | 1019.7 | 1014.9 |
| 25°   | 1005.4 | 997.7  | 986.3  | 991.1  | 987.3  |
| 27.5° | 974.9  | 967.2  | 955.8  | 957.7  | 951.0  |
| 30°   | 941.5  | 934.8  | 923.3  | 925.3  | 916.7  |
| 32.5° | 908.1  | 902.4  | 888.1  | 888.1  | 879.5  |
| 35°   | 872.8  | 865.2  | 853.7  | 850.8  | 841.3  |
| 37.5° | 834.6  | 828.0  | 817.5  | 812.7  | 807.0  |
| 40°   | 795.5  | 791.7  | 779.3  | 773.6  | 766.9  |
| 42.5° | 758.3  | 751.6  | 741.2  | 733.5  | 725.9  |
| 45°   | 719.2  | 713.5  | 702.0  | 692.5  | 683.9  |
| 47.5° | 678.2  | 673.4  | 662.0  | 651.5  | 644.8  |
| 50°   | 636.2  | 632.4  | 620.0  | 608.6  | 604.8  |
| 52.5° | 595.2  | 590.4  | 578.0  | 567.6  | 559.9  |
| 55°   | 551.3  | 547.5  | 537.0  | 526.5  | 518.9  |
| 57.5° | 504.6  | 504.6  | 493.1  | 483.6  | 477.9  |
| 60°   | 463.6  | 458.8  | 451.2  | 440.7  | 433.1  |
| 62.5° | 420.7  | 417.8  | 407.3  | 396.8  | 391.1  |
| 65°   | 374.9  | 372.0  | 363.4  | 353.9  | 348.2  |
| 67.5° | 330.0  | 329.1  | 321.5  | 313.8  | 310.0  |
| 70°   | 288.1  | 286.2  | 278.5  | 270.9  | 267.1  |
| 72.5° | 245.1  | 243.2  | 236.6  | 229.9  | 225.1  |
| 75°   | 202.2  | 200.3  | 196.5  | 190.8  | 186.0  |
| 77.5° | 160.2  | 160.2  | 155.5  | 153.6  | 151.7  |
| 80°   | 122.1  | 121.1  | 119.2  | 117.3  | 115.4  |
| 82.5° | 87.8   | 86.8   | 84.9   | 83.9   | 83.9   |
| 85°   | 57.2   | 56.3   | 54.4   | 53.4   | 52.5   |
| 87.5° | 29.6   | 27.7   | 26.7   | 24.8   | 23.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)