

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: P242185

Luminaire Tested: **S121RDR-S1025D927-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242185  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-23)  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S121RDR-S1025D927-X4F0-XX-UDD-F-W  
Description: DEFINE 1 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 2700K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2625.8 lumens  
Efficiency: N/A  
Efficacy: 63.9 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 0.92 / 1.09  
Luminous Opening: Rectangular (W 0.09' x L: 3.88' x H: 0')  
CIE Type: Direct

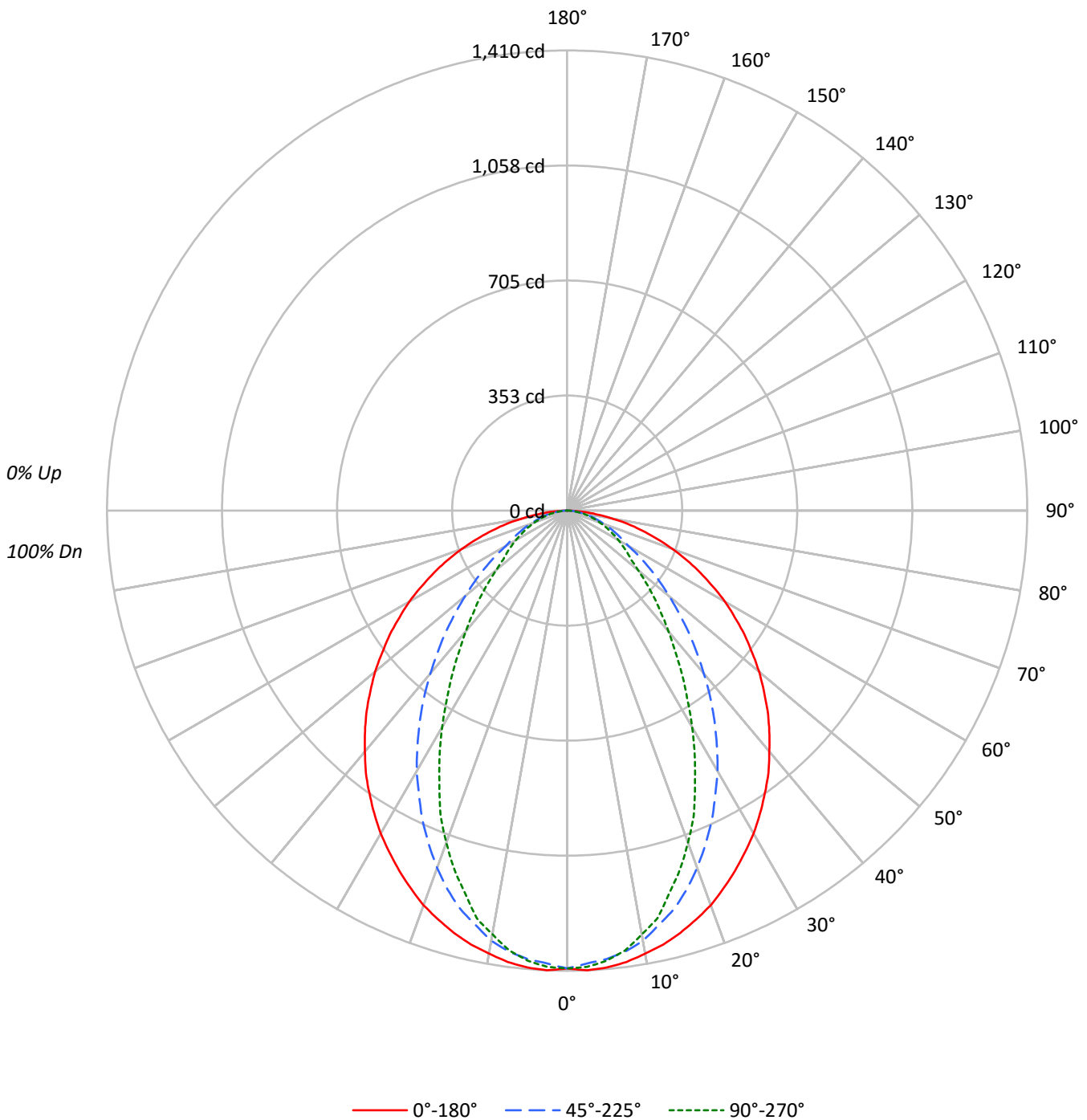
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 110 | 106 | 102 | 99  | 108 | 104 | 100 | 97  | 100 | 97  | 94  | 96  | 93  | 91  | 92  | 90  | 89  |     |    |    |    | 87 |     |   |  |   |
| 2   | 101 | 94  | 88  | 83  | 99  | 92  | 87  | 82  | 89  | 84  | 80  | 86  | 82  | 78  | 83  | 80  | 77  |     |    |    |    | 75 |     |   |  |   |
| 3   | 94  | 84  | 77  | 71  | 91  | 83  | 76  | 70  | 80  | 74  | 69  | 77  | 72  | 68  | 75  | 70  | 67  |     |    |    |    | 65 |     |   |  |   |
| 4   | 86  | 76  | 68  | 62  | 84  | 74  | 67  | 61  | 72  | 65  | 60  | 70  | 64  | 60  | 68  | 63  | 59  |     |    |    |    | 57 |     |   |  |   |
| 5   | 80  | 68  | 60  | 54  | 78  | 67  | 60  | 54  | 65  | 59  | 53  | 63  | 57  | 53  | 62  | 56  | 52  |     |    |    |    | 50 |     |   |  |   |
| 6   | 75  | 62  | 54  | 48  | 73  | 61  | 54  | 48  | 60  | 53  | 48  | 58  | 52  | 47  | 57  | 51  | 47  |     |    |    |    | 45 |     |   |  |   |
| 7   | 70  | 57  | 49  | 43  | 68  | 56  | 49  | 43  | 55  | 48  | 43  | 53  | 47  | 43  | 52  | 47  | 42  |     |    |    |    | 40 |     |   |  |   |
| 8   | 65  | 53  | 45  | 39  | 64  | 52  | 44  | 39  | 51  | 44  | 39  | 49  | 43  | 39  | 48  | 43  | 38  |     |    |    |    | 37 |     |   |  |   |
| 9   | 61  | 49  | 41  | 36  | 60  | 48  | 41  | 36  | 47  | 40  | 35  | 46  | 40  | 35  | 45  | 39  | 35  |     |    |    |    | 33 |     |   |  |   |
| 10  | 58  | 45  | 38  | 33  | 56  | 45  | 37  | 33  | 44  | 37  | 33  | 43  | 37  | 32  | 42  | 36  | 32  |     |    |    |    | 31 |     |   |  |   |

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

|     | 0°    | 45°   | 90°   |
|-----|-------|-------|-------|
| 0°  | 41570 | 41570 | 41570 |
| 5°  | 41801 | 41030 | 41170 |
| 10° | 41472 | 40268 | 39669 |
| 15° | 41092 | 38788 | 37166 |
| 20° | 40574 | 36724 | 34133 |
| 25° | 39803 | 34275 | 30283 |
| 30° | 39085 | 31531 | 26231 |
| 35° | 38222 | 28452 | 22209 |
| 40° | 37283 | 25203 | 18709 |
| 45° | 36405 | 21991 | 15793 |
| 50° | 35392 | 18835 | 13045 |
| 55° | 34270 | 15890 | 11644 |
| 60° | 33120 | 12871 | 10785 |
| 65° | 31528 | 11603 | 9963  |
| 70° | 29697 | 10474 | 9157  |
| 75° | 27281 | 9548  | 8472  |
| 80° | 23837 | 8412  | 7610  |
| 85° | 19548 | 7173  | 6391  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 131.3  | 5.0       |
| 10°-20°   | 357.2  | 13.6      |
| 20°-30°   | 487.6  | 18.6      |
| 30°-40°   | 506.8  | 19.3      |
| 40°-50°   | 442.8  | 16.9      |
| 50°-60°   | 334.7  | 12.7      |
| 60°-70°   | 221.1  | 8.4       |
| 70°-80°   | 114.0  | 4.3       |
| 80°-90°   | 30.2   | 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°    | 976.2  | 37.2      |
| 0°-40°    | 1483.0 | 56.5      |
| 0°-60°    | 2260.5 | 86.1      |
| 0°-90°    | 2625.8 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2625.8 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1403 | 1403  | 1403 | 1403  | 1403 |      |
| 5°  | 1405 | 1397  | 1380 | 1390  | 1384 | 133  |
| 15° | 1340 | 1320  | 1264 | 1232  | 1212 | 378  |
| 25° | 1218 | 1169  | 1048 | 962   | 926  | 561  |
| 35° | 1057 | 963   | 787  | 658   | 614  | 661  |
| 45° | 869  | 738   | 525  | 407   | 377  | 670  |
| 55° | 663  | 504   | 308  | 234   | 225  | 593  |
| 65° | 450  | 281   | 166  | 146   | 142  | 445  |
| 75° | 238  | 110   | 83   | 76    | 74   | 254  |
| 85° | 58   | 24    | 21   | 20    | 19   | 67   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1403.0 | 1403.0 | 1403.0 | 1403.0 | 1403.0 |
| 2.5°  | 1410.1 | 1403.0 | 1388.9 | 1401.8 | 1399.5 |
| 5°    | 1405.4 | 1397.1 | 1379.5 | 1390.1 | 1384.2 |
| 7.5°  | 1394.8 | 1385.4 | 1363.1 | 1366.6 | 1359.6 |
| 10°   | 1378.4 | 1367.8 | 1338.4 | 1332.6 | 1318.5 |
| 12.5° | 1361.9 | 1345.5 | 1299.7 | 1288.0 | 1279.7 |
| 15°   | 1339.6 | 1319.7 | 1264.5 | 1231.6 | 1211.6 |
| 17.5° | 1313.8 | 1286.8 | 1217.5 | 1172.9 | 1151.8 |
| 20°   | 1286.8 | 1251.6 | 1164.7 | 1103.6 | 1082.5 |
| 22.5° | 1252.7 | 1211.6 | 1107.2 | 1034.4 | 1013.2 |
| 25°   | 1217.5 | 1169.4 | 1048.4 | 961.6  | 926.3  |
| 27.5° | 1179.9 | 1121.2 | 982.7  | 885.3  | 846.5  |
| 30°   | 1142.4 | 1070.8 | 921.6  | 804.2  | 766.7  |
| 32.5° | 1100.1 | 1020.3 | 853.6  | 730.3  | 685.7  |
| 35°   | 1056.7 | 962.7  | 786.6  | 657.5  | 614.0  |
| 37.5° | 1013.2 | 909.9  | 719.7  | 589.4  | 543.6  |
| 40°   | 963.9  | 854.7  | 651.6  | 517.8  | 483.7  |
| 42.5° | 917.0  | 797.2  | 587.0  | 462.6  | 426.2  |
| 45°   | 868.8  | 738.5  | 524.8  | 407.4  | 376.9  |
| 47.5° | 817.2  | 681.0  | 463.8  | 359.3  | 328.7  |
| 50°   | 767.8  | 619.9  | 408.6  | 312.3  | 283.0  |
| 52.5° | 713.8  | 562.4  | 356.9  | 264.2  | 247.7  |
| 55°   | 663.4  | 503.7  | 307.6  | 233.6  | 225.4  |
| 57.5° | 609.3  | 447.3  | 261.8  | 211.3  | 201.9  |
| 60°   | 558.9  | 391.0  | 217.2  | 187.9  | 182.0  |
| 62.5° | 502.5  | 337.0  | 189.0  | 166.7  | 160.8  |
| 65°   | 449.7  | 280.6  | 165.5  | 145.6  | 142.1  |
| 67.5° | 396.8  | 232.5  | 143.2  | 126.8  | 123.3  |
| 70°   | 342.8  | 184.3  | 120.9  | 109.2  | 105.7  |
| 72.5° | 290.0  | 140.9  | 101.0  | 91.6   | 89.2   |
| 75°   | 238.3  | 110.4  | 83.4   | 76.3   | 74.0   |
| 77.5° | 192.5  | 84.5   | 65.7   | 59.9   | 58.7   |
| 80°   | 139.7  | 62.2   | 49.3   | 45.8   | 44.6   |
| 82.5° | 95.1   | 42.3   | 35.2   | 32.9   | 30.5   |
| 85°   | 57.5   | 23.5   | 21.1   | 20.0   | 18.8   |
| 87.5° | 23.5   | 10.6   | 9.4    | 8.2    | 8.2    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)