

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: P242194

Luminaire Tested: **S121RDR-S1025D835-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P242194  
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-S1025D835-X4F0-XX-UDD-F-W  
Description: DEFINE 1 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER  
STANDARD LIGHT ENGINE  
Light Source: (92) 3500K CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3314.6 lumens  
Efficiency: N/A  
Efficacy: 80.6 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

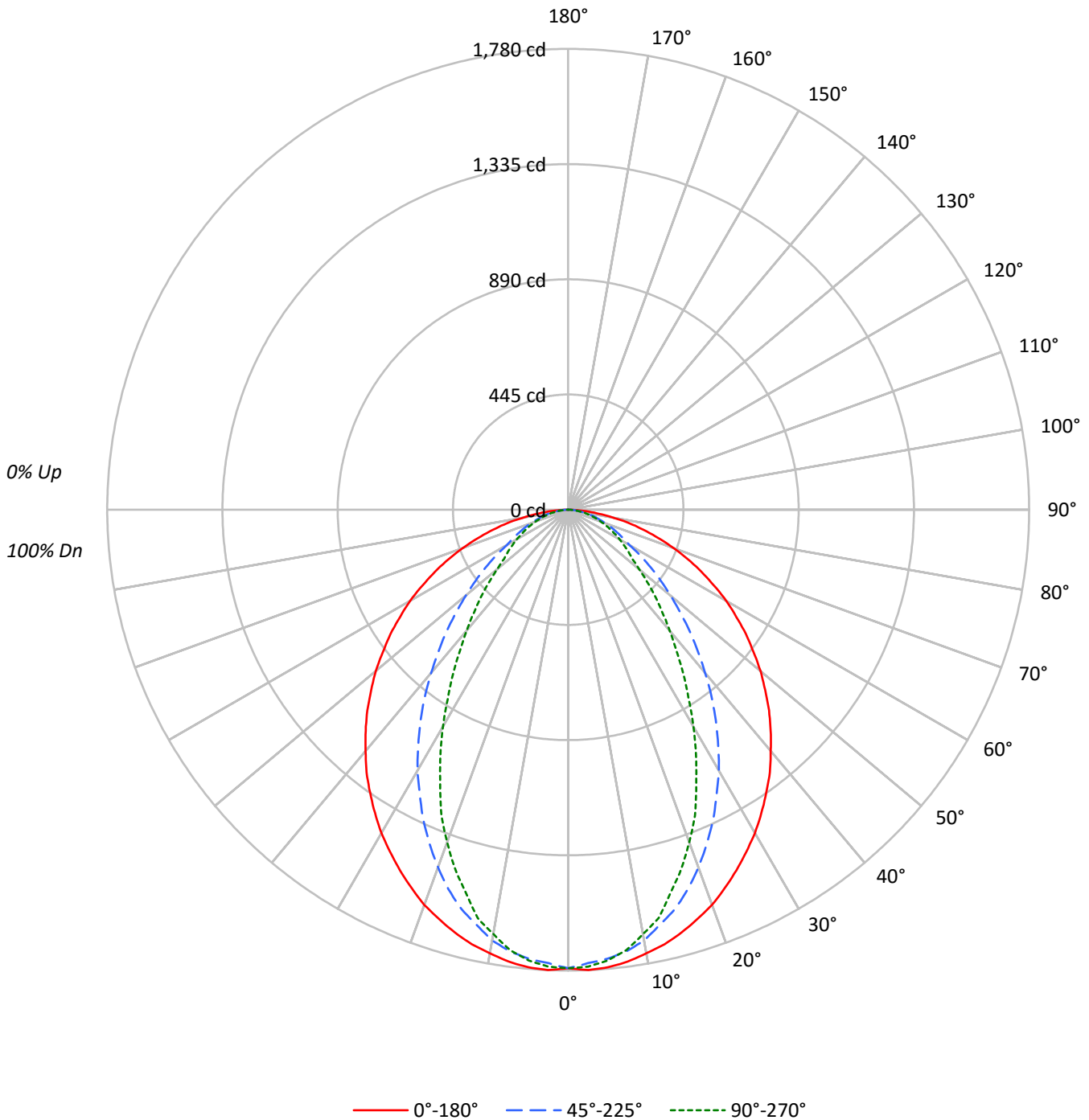
Input Watts (W): 41.1  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 0   |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 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°  | 52477 | 52477 | 52477 |
| 5°  | 52764 | 51794 | 51973 |
| 10° | 52351 | 50835 | 50076 |
| 15° | 51871 | 48963 | 46917 |
| 20° | 51219 | 46357 | 43087 |
| 25° | 50246 | 43269 | 38231 |
| 30° | 49339 | 39804 | 33112 |
| 35° | 48249 | 35918 | 28036 |
| 40° | 47064 | 31817 | 23617 |
| 45° | 45955 | 27761 | 19933 |
| 50° | 44680 | 23776 | 16465 |
| 55° | 43258 | 20059 | 14702 |
| 60° | 41808 | 16249 | 13612 |
| 65° | 39794 | 14653 | 12571 |
| 70° | 37494 | 13229 | 11557 |
| 75° | 34447 | 12043 | 10692 |
| 80° | 30099 | 10613 | 9607  |
| 85° | 24681 | 9077  | 8057  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 165.8  | 5.0       |
| 10°-20°   | 450.9  | 13.6      |
| 20°-30°   | 615.5  | 18.6      |
| 30°-40°   | 639.8  | 19.3      |
| 40°-50°   | 558.9  | 16.9      |
| 50°-60°   | 422.5  | 12.7      |
| 60°-70°   | 279.1  | 8.4       |
| 70°-80°   | 143.9  | 4.3       |
| 80°-90°   | 38.2   | 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°    | 1232.2 | 37.2      |
| 0°-40°    | 1872.0 | 56.5      |
| 0°-60°    | 2853.5 | 86.1      |
| 0°-90°    | 3314.6 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3314.6 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1771 | 1771  | 1771 | 1771  | 1771 |      |
| 5°  | 1774 | 1764  | 1741 | 1755  | 1747 | 168  |
| 15° | 1691 | 1666  | 1596 | 1555  | 1530 | 477  |
| 25° | 1537 | 1476  | 1324 | 1214  | 1169 | 708  |
| 35° | 1334 | 1215  | 993  | 830   | 775  | 835  |
| 45° | 1097 | 932   | 662  | 514   | 476  | 845  |
| 55° | 837  | 636   | 388  | 295   | 285  | 748  |
| 65° | 568  | 354   | 209  | 184   | 179  | 562  |
| 75° | 301  | 139   | 105  | 96    | 93   | 320  |
| 85° | 73   | 30    | 27   | 25    | 24   | 84   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1771.1 | 1771.1 | 1771.1 | 1771.1 | 1771.1 |
| 2.5°  | 1780.0 | 1771.1 | 1753.3 | 1769.6 | 1766.6 |
| 5°    | 1774.0 | 1763.7 | 1741.4 | 1754.8 | 1747.4 |
| 7.5°  | 1760.7 | 1748.8 | 1720.7 | 1725.1 | 1716.2 |
| 10°   | 1740.0 | 1726.6 | 1689.6 | 1682.2 | 1664.4 |
| 12.5° | 1719.2 | 1698.5 | 1640.7 | 1625.8 | 1615.5 |
| 15°   | 1691.0 | 1665.9 | 1596.2 | 1554.7 | 1529.5 |
| 17.5° | 1658.4 | 1624.4 | 1536.9 | 1480.6 | 1453.9 |
| 20°   | 1624.4 | 1579.9 | 1470.2 | 1393.2 | 1366.5 |
| 22.5° | 1581.4 | 1529.5 | 1397.6 | 1305.7 | 1279.0 |
| 25°   | 1536.9 | 1476.1 | 1323.5 | 1213.8 | 1169.4 |
| 27.5° | 1489.5 | 1415.4 | 1240.5 | 1117.5 | 1068.6 |
| 30°   | 1442.1 | 1351.7 | 1163.4 | 1015.2 | 967.8  |
| 32.5° | 1388.7 | 1287.9 | 1077.5 | 921.9  | 865.5  |
| 35°   | 1333.9 | 1215.3 | 993.0  | 830.0  | 775.1  |
| 37.5° | 1279.0 | 1148.6 | 908.5  | 744.0  | 686.2  |
| 40°   | 1216.8 | 1079.0 | 822.6  | 653.6  | 610.6  |
| 42.5° | 1157.5 | 1006.3 | 741.0  | 583.9  | 538.0  |
| 45°   | 1096.7 | 932.2  | 662.5  | 514.3  | 475.7  |
| 47.5° | 1031.5 | 859.6  | 585.4  | 453.5  | 415.0  |
| 50°   | 969.3  | 782.5  | 515.8  | 394.2  | 357.2  |
| 52.5° | 901.1  | 709.9  | 450.6  | 333.5  | 312.7  |
| 55°   | 837.4  | 635.8  | 388.3  | 294.9  | 284.6  |
| 57.5° | 769.2  | 564.7  | 330.5  | 266.8  | 254.9  |
| 60°   | 705.5  | 493.5  | 274.2  | 237.1  | 229.7  |
| 62.5° | 634.3  | 425.4  | 238.6  | 210.5  | 203.0  |
| 65°   | 567.6  | 354.2  | 209.0  | 183.8  | 179.3  |
| 67.5° | 500.9  | 293.5  | 180.8  | 160.1  | 155.6  |
| 70°   | 432.8  | 232.7  | 152.7  | 137.8  | 133.4  |
| 72.5° | 366.1  | 177.8  | 127.5  | 115.6  | 112.6  |
| 75°   | 300.9  | 139.3  | 105.2  | 96.3   | 93.4   |
| 77.5° | 243.1  | 106.7  | 83.0   | 75.6   | 74.1   |
| 80°   | 176.4  | 78.6   | 62.2   | 57.8   | 56.3   |
| 82.5° | 120.0  | 53.4   | 44.5   | 41.5   | 38.5   |
| 85°   | 72.6   | 29.6   | 26.7   | 25.2   | 23.7   |
| 87.5° | 29.6   | 13.3   | 11.9   | 10.4   | 10.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)