

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: P242209

Luminaire Tested: **S121RDR-S1025D935-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242209
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-S1025D935-X4F0-XX-UDD-F-W
Description: DEFINE 1 REGRESSED DIRECT RECESSED WITH SATIN FLUSH DIFFUSER
STANDARD LIGHT ENGINE
Light Source: (92) 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2853.8 lumens
Efficiency: N/A
Efficacy: 69.4 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

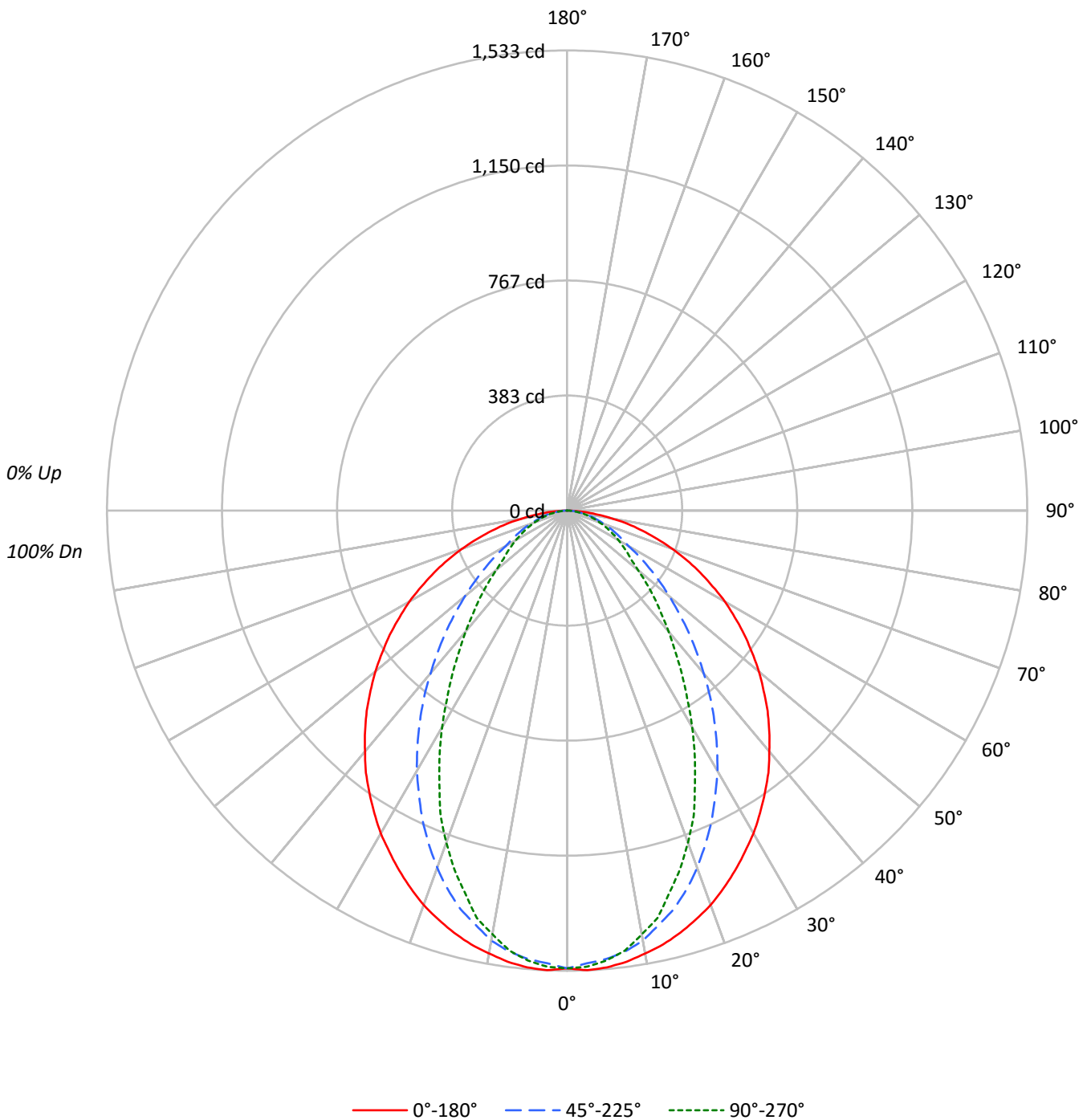
Input Watts (W): 41.1
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 45182 | 45182 | 45182 |
| 5° | 45432 | 44596 | 44748 |
| 10° | 45073 | 43767 | 43114 |
| 15° | 44663 | 42157 | 40396 |
| 20° | 44100 | 39915 | 37097 |
| 25° | 43262 | 37253 | 32915 |
| 30° | 42479 | 34272 | 28510 |
| 35° | 41543 | 30926 | 24141 |
| 40° | 40524 | 27392 | 20333 |
| 45° | 39569 | 23901 | 17163 |
| 50° | 38467 | 20471 | 14174 |
| 55° | 37245 | 17269 | 12656 |
| 60° | 35994 | 13991 | 11722 |
| 65° | 34263 | 12613 | 10825 |
| 70° | 32279 | 11383 | 9945 |
| 75° | 29650 | 10372 | 9204 |
| 80° | 25919 | 9146 | 8276 |
| 85° | 21248 | 7819 | 6935 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 142.8 | 5.0 |
| 10°-20° | 388.2 | 13.6 |
| 20°-30° | 530.0 | 18.6 |
| 30°-40° | 550.8 | 19.3 |
| 40°-50° | 481.2 | 16.9 |
| 50°-60° | 363.8 | 12.7 |
| 60°-70° | 240.3 | 8.4 |
| 70°-80° | 123.9 | 4.3 |
| 80°-90° | 32.9 | 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° | 1061.0 | 37.2 |
| 0°-40° | 1611.8 | 56.5 |
| 0°-60° | 2456.8 | 86.1 |
| 0°-90° | 2853.8 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2853.8 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1525 | 1525 | 1525 | 1525 | 1525 | |
| 5° | 1528 | 1518 | 1499 | 1511 | 1504 | 145 |
| 15° | 1456 | 1434 | 1374 | 1339 | 1317 | 410 |
| 25° | 1323 | 1271 | 1140 | 1045 | 1007 | 610 |
| 35° | 1148 | 1046 | 855 | 715 | 667 | 719 |
| 45° | 944 | 803 | 570 | 443 | 410 | 728 |
| 55° | 721 | 547 | 334 | 254 | 245 | 644 |
| 65° | 489 | 305 | 180 | 158 | 154 | 484 |
| 75° | 259 | 120 | 91 | 83 | 80 | 276 |
| 85° | 62 | 26 | 23 | 22 | 20 | 73 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1524.9 | 1524.9 | 1524.9 | 1524.9 | 1524.9 |
| 2.5° | 1532.6 | 1524.9 | 1509.6 | 1523.6 | 1521.1 |
| 5° | 1527.5 | 1518.5 | 1499.4 | 1510.9 | 1504.5 |
| 7.5° | 1516.0 | 1505.8 | 1481.5 | 1485.3 | 1477.7 |
| 10° | 1498.1 | 1486.6 | 1454.7 | 1448.3 | 1433.0 |
| 12.5° | 1480.2 | 1462.4 | 1412.6 | 1399.8 | 1390.9 |
| 15° | 1456.0 | 1434.3 | 1374.3 | 1338.6 | 1316.9 |
| 17.5° | 1427.9 | 1398.6 | 1323.3 | 1274.8 | 1251.8 |
| 20° | 1398.6 | 1360.3 | 1265.9 | 1199.5 | 1176.5 |
| 22.5° | 1361.6 | 1316.9 | 1203.3 | 1124.2 | 1101.2 |
| 25° | 1323.3 | 1271.0 | 1139.5 | 1045.1 | 1006.8 |
| 27.5° | 1282.4 | 1218.6 | 1068.1 | 962.2 | 920.0 |
| 30° | 1241.6 | 1163.8 | 1001.7 | 874.1 | 833.3 |
| 32.5° | 1195.7 | 1108.9 | 927.7 | 793.7 | 745.2 |
| 35° | 1148.5 | 1046.4 | 855.0 | 714.6 | 667.4 |
| 37.5° | 1101.2 | 989.0 | 782.2 | 640.6 | 590.8 |
| 40° | 1047.7 | 929.0 | 708.2 | 562.7 | 525.7 |
| 42.5° | 996.6 | 866.4 | 638.0 | 502.8 | 463.2 |
| 45° | 944.3 | 802.6 | 570.4 | 442.8 | 409.6 |
| 47.5° | 888.1 | 740.1 | 504.0 | 390.5 | 357.3 |
| 50° | 834.5 | 673.8 | 444.1 | 339.4 | 307.5 |
| 52.5° | 775.8 | 611.2 | 387.9 | 287.1 | 269.3 |
| 55° | 721.0 | 547.4 | 334.3 | 253.9 | 245.0 |
| 57.5° | 662.3 | 486.2 | 284.6 | 229.7 | 219.5 |
| 60° | 607.4 | 424.9 | 236.1 | 204.2 | 197.8 |
| 62.5° | 546.2 | 366.2 | 205.4 | 181.2 | 174.8 |
| 65° | 488.7 | 305.0 | 179.9 | 158.2 | 154.4 |
| 67.5° | 431.3 | 252.7 | 155.7 | 137.8 | 134.0 |
| 70° | 372.6 | 200.3 | 131.4 | 118.7 | 114.8 |
| 72.5° | 315.2 | 153.1 | 109.7 | 99.5 | 97.0 |
| 75° | 259.0 | 120.0 | 90.6 | 82.9 | 80.4 |
| 77.5° | 209.3 | 91.9 | 71.5 | 65.1 | 63.8 |
| 80° | 151.9 | 67.6 | 53.6 | 49.8 | 48.5 |
| 82.5° | 103.4 | 45.9 | 38.3 | 35.7 | 33.2 |
| 85° | 62.5 | 25.5 | 23.0 | 21.7 | 20.4 |
| 87.5° | 25.5 | 11.5 | 10.2 | 8.9 | 8.9 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)