

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: P242961

Luminaire Tested: **S121DR-H1025D930-X4F0-XX-UDD-F-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P242961
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1802-639-47)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121DR-H1025D930-X4F0-XX-UDD-F-W
Description: DEFINE 1 DIRECT RECESSED WITH SATIN FLUSH DIFFUSER.
HIGH PERFORMANCE LIGHT ENGINE
Light Source: (184) 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3139.3 lumens
Efficiency: N/A
Efficacy: 83.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.29
Luminous Opening: Rectangular (W 0.09' x L: 3.88' x H: 0')
CIE Type: Direct

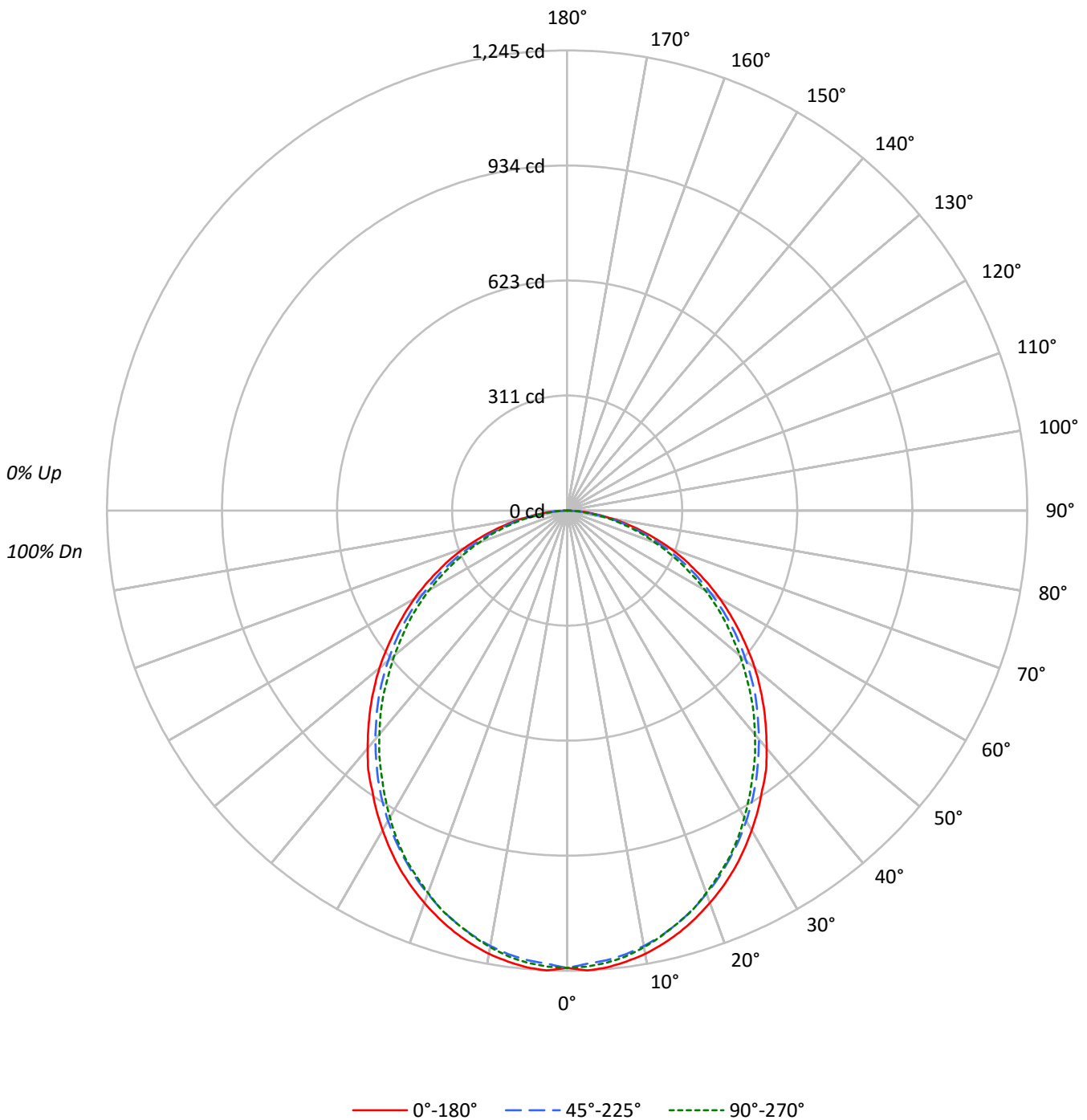
Input Watts (W): 37.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | |
| 0 | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |
| 1 | 109 | 104 | 100 | 97 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 85 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 83 | 78 | 75 | 80 | 76 | 73 | 71 |
| 3 | 91 | 80 | 73 | 66 | 88 | 79 | 72 | 66 | 76 | 70 | 64 | 73 | 68 | 63 | 71 | 66 | 62 | 60 |
| 4 | 83 | 72 | 63 | 56 | 81 | 70 | 62 | 56 | 68 | 61 | 55 | 65 | 59 | 54 | 63 | 58 | 54 | 52 |
| 5 | 77 | 64 | 55 | 49 | 75 | 63 | 55 | 48 | 61 | 54 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 45 |
| 6 | 71 | 58 | 49 | 43 | 69 | 57 | 49 | 42 | 55 | 48 | 42 | 53 | 47 | 42 | 52 | 46 | 41 | 39 |
| 7 | 66 | 53 | 44 | 38 | 64 | 52 | 44 | 38 | 50 | 43 | 37 | 49 | 42 | 37 | 47 | 41 | 37 | 35 |
| 8 | 61 | 48 | 40 | 34 | 60 | 47 | 39 | 34 | 46 | 39 | 34 | 45 | 38 | 33 | 44 | 38 | 33 | 31 |
| 9 | 57 | 44 | 36 | 31 | 56 | 44 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 41 | 33 | 28 | 53 | 40 | 33 | 28 | 39 | 32 | 28 | 38 | 32 | 27 | 37 | 32 | 27 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 36664 | 36664 | 36664 |
| 5° | 36908 | 36328 | 36530 |
| 10° | 36643 | 35987 | 36092 |
| 15° | 36199 | 35460 | 35460 |
| 20° | 35618 | 34785 | 34713 |
| 25° | 34981 | 34007 | 33893 |
| 30° | 34176 | 33156 | 32800 |
| 35° | 33310 | 32232 | 31650 |
| 40° | 32471 | 31229 | 30564 |
| 45° | 31523 | 30275 | 29412 |
| 50° | 30557 | 29128 | 28123 |
| 55° | 29383 | 28019 | 26955 |
| 60° | 28338 | 26708 | 25553 |
| 65° | 26936 | 25247 | 23879 |
| 70° | 25530 | 23442 | 21952 |
| 75° | 23365 | 21270 | 19954 |
| 80° | 20356 | 18786 | 17421 |
| 85° | 17542 | 14414 | 12103 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 116.6 | 3.7 |
| 10°-20° | 328.1 | 10.5 |
| 20°-30° | 482.3 | 15.4 |
| 30°-40° | 559.8 | 17.8 |
| 40°-50° | 558.3 | 17.8 |
| 50°-60° | 486.0 | 15.5 |
| 60°-70° | 357.7 | 11.4 |
| 70°-80° | 199.2 | 6.3 |
| 80°-90° | 51.2 | 1.6 |
| 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° | 927.0 | 29.5 |
| 0°-40° | 1486.8 | 47.4 |
| 0°-60° | 2531.1 | 80.6 |
| 0°-90° | 3139.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3139.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1237 | 1237 | 1237 | 1237 | 1237 | |
| 5° | 1241 | 1234 | 1221 | 1230 | 1228 | 118 |
| 15° | 1180 | 1173 | 1156 | 1161 | 1156 | 333 |
| 25° | 1070 | 1057 | 1040 | 1040 | 1037 | 492 |
| 35° | 921 | 909 | 891 | 881 | 875 | 577 |
| 45° | 752 | 740 | 722 | 708 | 702 | 580 |
| 55° | 569 | 558 | 542 | 528 | 522 | 509 |
| 65° | 384 | 376 | 360 | 345 | 341 | 382 |
| 75° | 204 | 195 | 186 | 178 | 174 | 217 |
| 85° | 52 | 48 | 42 | 37 | 36 | 60 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1237.4 | 1237.4 | 1237.4 | 1237.4 | 1237.4 |
| 2.5° | 1245.4 | 1238.6 | 1227.1 | 1237.4 | 1235.1 |
| 5° | 1240.9 | 1234.0 | 1221.4 | 1230.5 | 1228.2 |
| 7.5° | 1230.5 | 1224.8 | 1211.0 | 1219.1 | 1216.8 |
| 10° | 1217.9 | 1211.0 | 1196.1 | 1203.0 | 1199.6 |
| 12.5° | 1200.7 | 1195.0 | 1177.8 | 1183.5 | 1178.9 |
| 15° | 1180.1 | 1173.2 | 1156.0 | 1160.6 | 1156.0 |
| 17.5° | 1156.0 | 1149.1 | 1130.8 | 1134.2 | 1131.9 |
| 20° | 1129.6 | 1120.4 | 1103.2 | 1105.5 | 1100.9 |
| 22.5° | 1100.9 | 1090.6 | 1073.4 | 1073.4 | 1068.8 |
| 25° | 1070.0 | 1057.4 | 1040.2 | 1040.2 | 1036.7 |
| 27.5° | 1035.6 | 1024.1 | 1005.8 | 1003.5 | 1000.0 |
| 30° | 998.9 | 987.4 | 969.1 | 964.5 | 958.7 |
| 32.5° | 961.0 | 948.4 | 931.2 | 923.2 | 917.5 |
| 35° | 920.9 | 909.4 | 891.1 | 880.8 | 875.0 |
| 37.5° | 884.2 | 868.1 | 848.6 | 839.5 | 834.9 |
| 40° | 839.5 | 825.7 | 807.4 | 794.7 | 790.2 |
| 42.5° | 795.9 | 783.3 | 763.8 | 751.2 | 747.7 |
| 45° | 752.3 | 739.7 | 722.5 | 707.6 | 701.9 |
| 47.5° | 707.6 | 695.0 | 677.8 | 662.9 | 654.8 |
| 50° | 662.9 | 650.2 | 631.9 | 617.0 | 610.1 |
| 52.5° | 615.8 | 606.7 | 587.2 | 573.4 | 564.2 |
| 55° | 568.8 | 558.5 | 542.4 | 527.5 | 521.8 |
| 57.5° | 522.9 | 513.8 | 496.6 | 480.5 | 477.1 |
| 60° | 478.2 | 469.0 | 450.7 | 436.9 | 431.2 |
| 62.5° | 431.2 | 422.0 | 404.8 | 391.1 | 385.3 |
| 65° | 384.2 | 376.2 | 360.1 | 345.2 | 340.6 |
| 67.5° | 340.6 | 330.3 | 315.4 | 301.6 | 295.9 |
| 70° | 294.7 | 283.3 | 270.6 | 259.2 | 253.4 |
| 72.5° | 248.9 | 239.7 | 229.4 | 217.9 | 215.6 |
| 75° | 204.1 | 195.0 | 185.8 | 177.8 | 174.3 |
| 77.5° | 161.7 | 154.8 | 147.9 | 139.9 | 137.6 |
| 80° | 119.3 | 114.7 | 110.1 | 104.4 | 102.1 |
| 82.5° | 83.7 | 80.3 | 73.4 | 68.8 | 66.5 |
| 85° | 51.6 | 48.2 | 42.4 | 36.7 | 35.6 |
| 87.5° | 24.1 | 19.5 | 14.9 | 12.6 | 11.5 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)