

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: P231661

Luminaire Tested: **S121-DR-2-35-X-0048-1-U-DD-1-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231661
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33906)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121-DR-2-35-X-0048-1-U-DD-1-W
Description: DEFINE 1 LED LINEAR DIRECT RECESSED LED LUMINAIRE WITH FLUSH LENS.
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3696.3 lumens
Efficiency: N/A
Efficacy: 86.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.1' x L: 3.92' x H: 0')
CIE Type: Direct

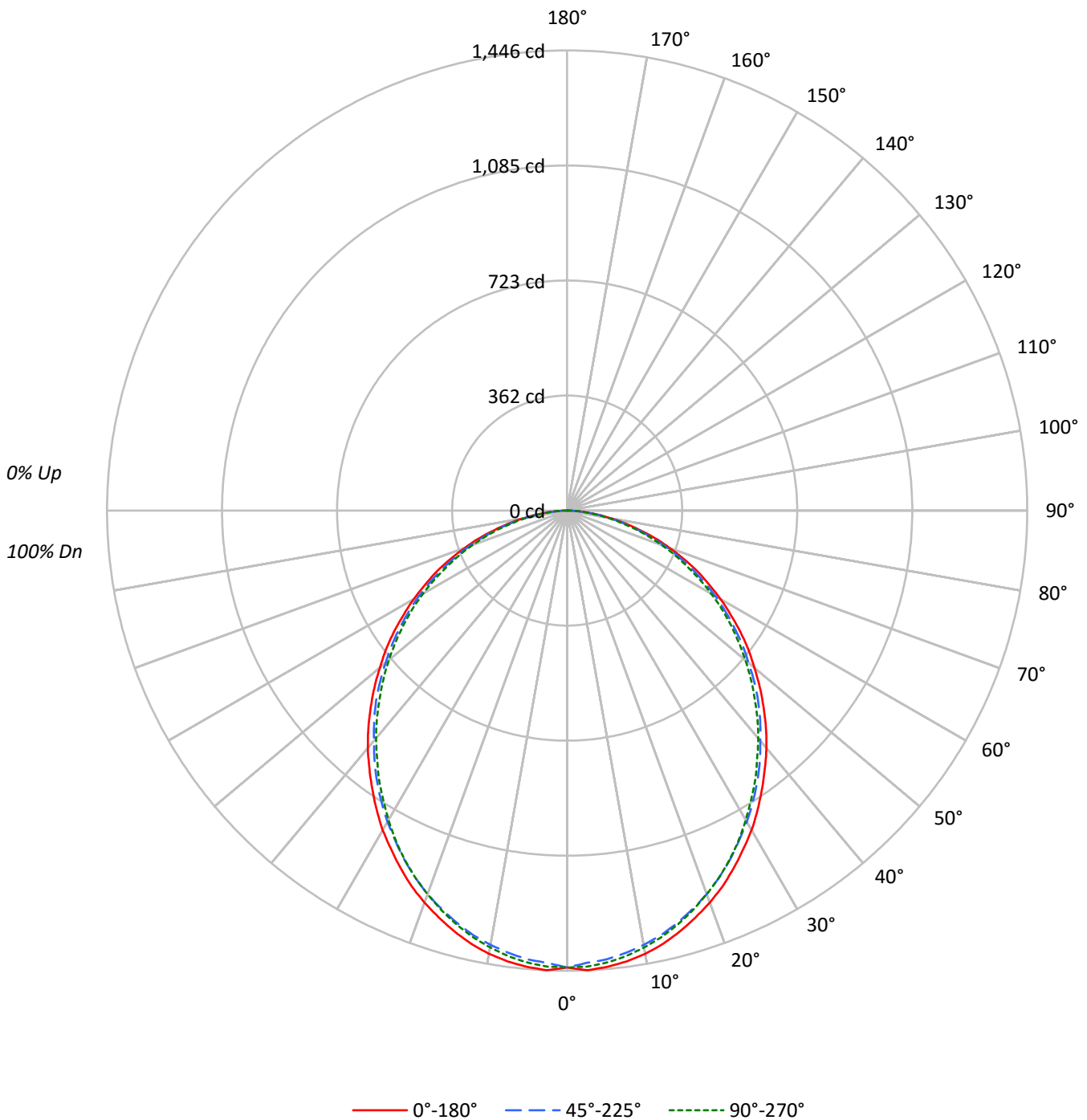
Input Watts (W): 42.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 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 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 79 | 97 | 89 | 83 | 78 | 86 | 81 | 76 | 82 | 78 | 74 | 79 | 76 | 73 | 70 |
| 3 | 91 | 80 | 72 | 66 | 88 | 79 | 71 | 65 | 76 | 69 | 64 | 73 | 67 | 63 | 70 | 66 | 62 | 60 |
| 4 | 83 | 71 | 63 | 56 | 81 | 70 | 62 | 56 | 67 | 60 | 55 | 65 | 59 | 54 | 63 | 58 | 53 | 51 |
| 5 | 77 | 64 | 55 | 48 | 74 | 63 | 54 | 48 | 61 | 53 | 48 | 59 | 52 | 47 | 57 | 51 | 47 | 44 |
| 6 | 71 | 58 | 49 | 42 | 69 | 57 | 48 | 42 | 55 | 47 | 42 | 53 | 46 | 41 | 52 | 46 | 41 | 39 |
| 7 | 66 | 52 | 44 | 38 | 64 | 51 | 43 | 37 | 50 | 43 | 37 | 48 | 42 | 37 | 47 | 41 | 37 | 35 |
| 8 | 61 | 48 | 39 | 34 | 60 | 47 | 39 | 33 | 46 | 38 | 33 | 45 | 38 | 33 | 43 | 37 | 33 | 31 |
| 9 | 57 | 44 | 36 | 30 | 56 | 43 | 36 | 30 | 42 | 35 | 30 | 41 | 35 | 30 | 40 | 34 | 30 | 28 |
| 10 | 54 | 41 | 33 | 28 | 52 | 40 | 33 | 27 | 39 | 32 | 27 | 38 | 32 | 27 | 37 | 31 | 27 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 40141 | 40141 | 40141 |
| 5° | 40387 | 39733 | 40014 |
| 10° | 40144 | 39341 | 39577 |
| 15° | 39627 | 38808 | 38952 |
| 20° | 38998 | 38156 | 38156 |
| 25° | 38226 | 37353 | 37301 |
| 30° | 37425 | 36457 | 36240 |
| 35° | 36440 | 35529 | 35188 |
| 40° | 35561 | 34467 | 34102 |
| 45° | 34509 | 33587 | 32927 |
| 50° | 33399 | 32381 | 31803 |
| 55° | 32394 | 31258 | 30605 |
| 60° | 31105 | 30082 | 29243 |
| 65° | 29861 | 28538 | 27546 |
| 70° | 27915 | 26820 | 25871 |
| 75° | 25546 | 24466 | 23570 |
| 80° | 22250 | 21188 | 20383 |
| 85° | 18701 | 17097 | 16552 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 135.3 | 3.7 |
| 10°-20° | 380.8 | 10.3 |
| 20°-30° | 561.1 | 15.2 |
| 30°-40° | 654.0 | 17.7 |
| 40°-50° | 656.2 | 17.8 |
| 50°-60° | 576.1 | 15.6 |
| 60°-70° | 428.8 | 11.6 |
| 70°-80° | 240.2 | 6.5 |
| 80°-90° | 63.8 | 1.7 |
| 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° | 1077.2 | 29.1 |
| 0°-40° | 1731.2 | 46.8 |
| 0°-60° | 2963.4 | 80.2 |
| 0°-90° | 3696.3 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3696.3 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1436 | 1436 | 1436 | 1436 | 1436 | |
| 5° | 1439 | 1431 | 1416 | 1429 | 1426 | 137 |
| 15° | 1369 | 1358 | 1341 | 1351 | 1346 | 386 |
| 25° | 1239 | 1226 | 1211 | 1213 | 1209 | 571 |
| 35° | 1068 | 1056 | 1041 | 1036 | 1031 | 668 |
| 45° | 873 | 864 | 850 | 838 | 833 | 673 |
| 55° | 665 | 656 | 641 | 633 | 628 | 593 |
| 65° | 451 | 443 | 431 | 423 | 416 | 445 |
| 75° | 236 | 232 | 226 | 218 | 218 | 252 |
| 85° | 58 | 57 | 53 | 53 | 52 | 69 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P231661

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1435.8 | 1435.8 | 1435.8 | 1435.8 | 1435.8 |
| 2.5° | 1445.8 | 1437.4 | 1422.4 | 1437.4 | 1434.1 |
| 5° | 1439.1 | 1430.8 | 1415.8 | 1429.1 | 1425.8 |
| 7.5° | 1429.1 | 1419.1 | 1402.5 | 1415.8 | 1412.4 |
| 10° | 1414.1 | 1400.8 | 1385.8 | 1395.8 | 1394.1 |
| 12.5° | 1394.1 | 1382.5 | 1365.8 | 1375.8 | 1372.5 |
| 15° | 1369.1 | 1357.5 | 1340.8 | 1350.8 | 1345.8 |
| 17.5° | 1340.8 | 1329.2 | 1312.5 | 1320.8 | 1315.8 |
| 20° | 1310.8 | 1297.5 | 1282.5 | 1289.2 | 1282.5 |
| 22.5° | 1277.5 | 1264.2 | 1247.6 | 1252.5 | 1247.6 |
| 25° | 1239.2 | 1225.9 | 1210.9 | 1212.6 | 1209.2 |
| 27.5° | 1199.2 | 1187.6 | 1169.3 | 1172.6 | 1167.6 |
| 30° | 1159.3 | 1147.6 | 1129.3 | 1127.6 | 1122.6 |
| 32.5° | 1114.3 | 1102.6 | 1086.0 | 1082.7 | 1076.0 |
| 35° | 1067.7 | 1056.0 | 1041.0 | 1036.0 | 1031.0 |
| 37.5° | 1021.0 | 1011.0 | 994.4 | 987.7 | 981.1 |
| 40° | 974.4 | 962.7 | 944.4 | 937.7 | 934.4 |
| 42.5° | 924.4 | 912.8 | 897.8 | 887.8 | 884.4 |
| 45° | 872.8 | 864.5 | 849.5 | 837.8 | 832.8 |
| 47.5° | 821.2 | 812.8 | 797.8 | 786.2 | 782.8 |
| 50° | 767.9 | 761.2 | 744.5 | 734.5 | 731.2 |
| 52.5° | 717.9 | 711.2 | 694.6 | 684.6 | 679.6 |
| 55° | 664.6 | 656.3 | 641.3 | 632.9 | 627.9 |
| 57.5° | 609.6 | 604.6 | 589.6 | 581.3 | 576.3 |
| 60° | 556.3 | 549.7 | 538.0 | 526.3 | 523.0 |
| 62.5° | 503.0 | 498.0 | 484.7 | 474.7 | 469.7 |
| 65° | 451.4 | 443.1 | 431.4 | 423.1 | 416.4 |
| 67.5° | 396.4 | 391.4 | 379.8 | 371.4 | 366.4 |
| 70° | 341.5 | 336.5 | 328.1 | 319.8 | 316.5 |
| 72.5° | 291.5 | 283.2 | 274.8 | 269.8 | 266.5 |
| 75° | 236.5 | 231.5 | 226.5 | 218.2 | 218.2 |
| 77.5° | 188.2 | 181.6 | 178.2 | 173.2 | 169.9 |
| 80° | 138.2 | 136.6 | 131.6 | 129.9 | 126.6 |
| 82.5° | 98.3 | 94.9 | 89.9 | 88.3 | 86.6 |
| 85° | 58.3 | 56.6 | 53.3 | 53.3 | 51.6 |
| 87.5° | 26.6 | 25.0 | 21.7 | 20.0 | 20.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)