

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: P231722

Luminaire Tested: **S121-RDR-2-40-X-0048-1-U-DD-1-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231722
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33908)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S121-RDR-2-40-X-0048-1-U-DD-1-W
Description: DEFINE 1 LED LINEAR REGRESSED DIRECT RECESSED LED LUMINAIRE WITH FLUSH LENS.
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3096.7 lumens
Efficiency: N/A
Efficacy: 72.7 lumens/watt
Spacing Criteria (0/90/45): 1.22 / 0.93 / 1.1
Luminous Opening: Rectangular (W 0.1' x L: 3.92' x H: 0')
CIE Type: Direct

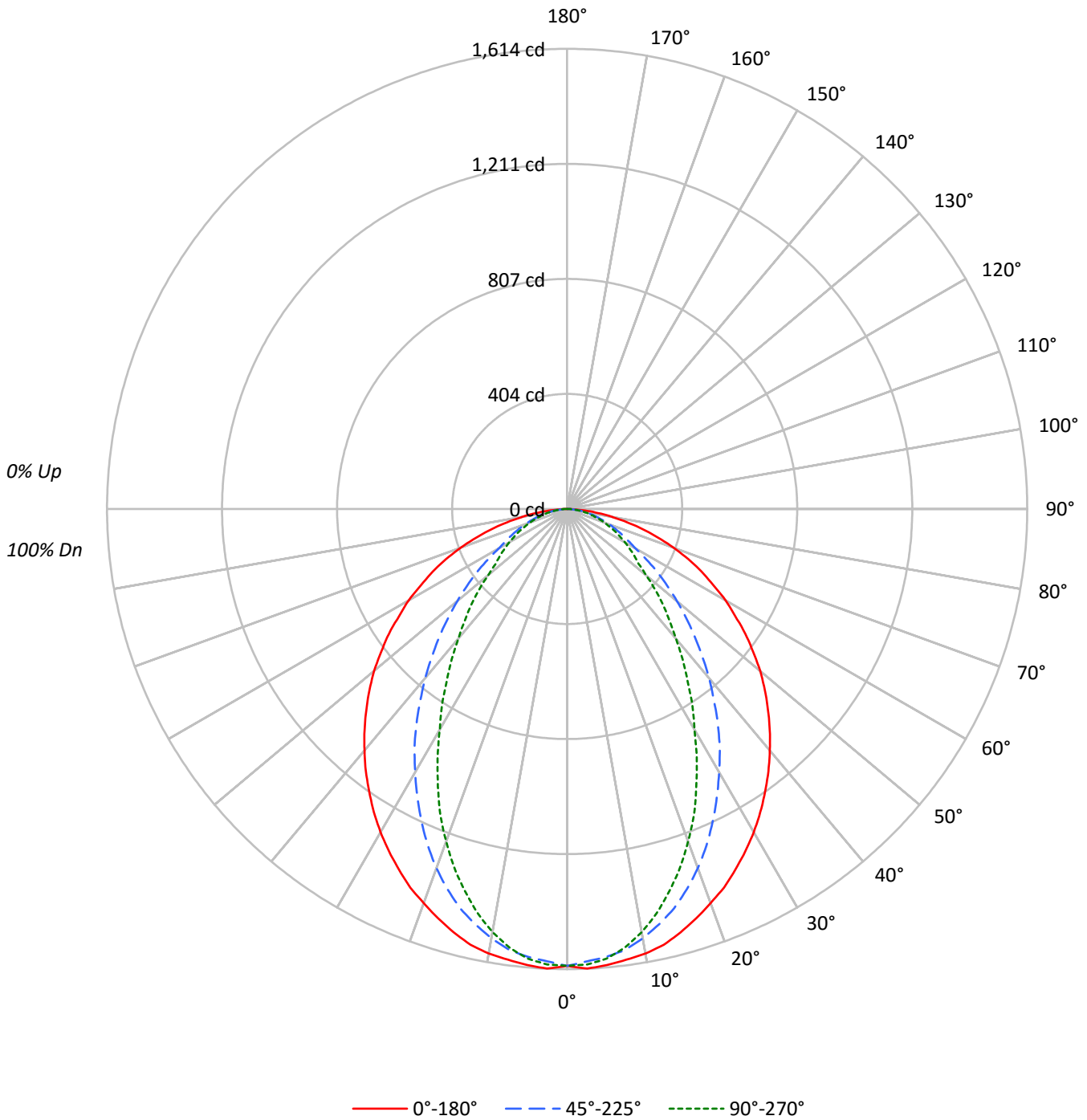
Input Watts (W): 42.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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 | 110 | 106 | 102 | 99 | 107 | 104 | 100 | 97 | 99 | 97 | 94 | 96 | 93 | 91 | 92 | 90 | 88 | 86 |
| 2 | 101 | 94 | 88 | 83 | 99 | 92 | 86 | 82 | 89 | 84 | 80 | 85 | 81 | 78 | 82 | 79 | 76 | 74 |
| 3 | 93 | 84 | 76 | 70 | 91 | 82 | 75 | 70 | 79 | 73 | 69 | 77 | 72 | 67 | 74 | 70 | 66 | 64 |
| 4 | 86 | 75 | 67 | 61 | 84 | 74 | 66 | 61 | 71 | 65 | 60 | 69 | 64 | 59 | 67 | 62 | 58 | 56 |
| 5 | 80 | 68 | 60 | 54 | 78 | 67 | 59 | 53 | 65 | 58 | 53 | 63 | 57 | 52 | 61 | 56 | 52 | 50 |
| 6 | 74 | 62 | 53 | 48 | 72 | 61 | 53 | 47 | 59 | 52 | 47 | 57 | 51 | 47 | 56 | 50 | 46 | 44 |
| 7 | 69 | 57 | 48 | 43 | 67 | 56 | 48 | 42 | 54 | 47 | 42 | 53 | 47 | 42 | 52 | 46 | 42 | 40 |
| 8 | 65 | 52 | 44 | 39 | 63 | 51 | 44 | 38 | 50 | 43 | 38 | 49 | 43 | 38 | 48 | 42 | 38 | 36 |
| 9 | 61 | 48 | 40 | 35 | 59 | 47 | 40 | 35 | 46 | 40 | 35 | 45 | 39 | 35 | 44 | 39 | 35 | 33 |
| 10 | 57 | 45 | 37 | 32 | 56 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 41 | 36 | 32 | 30 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 44799 | 44799 | 44799 |
| 5° | 45060 | 44257 | 44437 |
| 10° | 44951 | 43418 | 42787 |
| 15° | 44498 | 41971 | 40133 |
| 20° | 43756 | 39885 | 36913 |
| 25° | 43069 | 37295 | 33084 |
| 30° | 42254 | 34419 | 28835 |
| 35° | 41314 | 31461 | 25126 |
| 40° | 40357 | 28255 | 21657 |
| 45° | 39395 | 25027 | 18820 |
| 50° | 38436 | 21873 | 15732 |
| 55° | 37195 | 18790 | 14077 |
| 60° | 35931 | 15438 | 13039 |
| 65° | 34426 | 13958 | 12172 |
| 70° | 32419 | 12842 | 11280 |
| 75° | 29651 | 11655 | 10283 |
| 80° | 25792 | 10224 | 9451 |
| 85° | 20369 | 8661 | 8148 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 150.1 | 4.8 |
| 10°-20° | 409.6 | 13.2 |
| 20°-30° | 562.1 | 18.2 |
| 30°-40° | 591.9 | 19.1 |
| 40°-50° | 527.3 | 17.0 |
| 50°-60° | 405.2 | 13.1 |
| 60°-70° | 271.4 | 8.8 |
| 70°-80° | 141.8 | 4.6 |
| 80°-90° | 37.3 | 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° | 1121.8 | 36.2 |
| 0°-40° | 1713.7 | 55.3 |
| 0°-60° | 2646.2 | 85.5 |
| 0°-90° | 3096.7 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3096.7 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1602 | 1602 | 1602 | 1602 | 1602 | |
| 5° | 1606 | 1596 | 1577 | 1588 | 1583 | 152 |
| 15° | 1537 | 1517 | 1450 | 1414 | 1387 | 433 |
| 25° | 1396 | 1338 | 1209 | 1117 | 1072 | 643 |
| 35° | 1210 | 1111 | 922 | 784 | 736 | 757 |
| 45° | 996 | 855 | 633 | 509 | 476 | 769 |
| 55° | 763 | 595 | 386 | 298 | 289 | 681 |
| 65° | 520 | 341 | 211 | 189 | 184 | 514 |
| 75° | 274 | 140 | 108 | 98 | 95 | 291 |
| 85° | 64 | 30 | 27 | 25 | 25 | 75 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P231722

CATALOG NUMBER: S121-RDR-2-40-X-0048-1-U-DD-1-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1602.4 | 1602.4 | 1602.4 | 1602.4 | 1602.4 |
| 2.5° | 1613.5 | 1604.0 | 1588.1 | 1602.4 | 1599.2 |
| 5° | 1605.6 | 1596.1 | 1577.0 | 1588.1 | 1583.4 |
| 7.5° | 1594.5 | 1581.8 | 1559.6 | 1562.8 | 1551.6 |
| 10° | 1583.4 | 1565.9 | 1529.4 | 1521.5 | 1507.2 |
| 12.5° | 1565.9 | 1546.9 | 1491.4 | 1469.1 | 1451.7 |
| 15° | 1537.4 | 1516.7 | 1450.1 | 1413.6 | 1386.6 |
| 17.5° | 1505.6 | 1473.9 | 1397.8 | 1347.0 | 1318.4 |
| 20° | 1470.7 | 1432.7 | 1340.6 | 1275.6 | 1240.7 |
| 22.5° | 1437.4 | 1386.6 | 1277.2 | 1199.4 | 1162.9 |
| 25° | 1396.2 | 1337.5 | 1209.0 | 1116.9 | 1072.5 |
| 27.5° | 1353.3 | 1281.9 | 1137.6 | 1034.4 | 983.7 |
| 30° | 1308.9 | 1226.4 | 1066.2 | 947.2 | 893.2 |
| 32.5° | 1261.3 | 1167.7 | 996.4 | 864.7 | 817.1 |
| 35° | 1210.5 | 1110.6 | 921.8 | 783.8 | 736.2 |
| 37.5° | 1159.8 | 1045.5 | 845.6 | 707.6 | 664.8 |
| 40° | 1105.8 | 983.7 | 774.2 | 636.2 | 593.4 |
| 42.5° | 1051.9 | 918.6 | 701.3 | 571.2 | 531.5 |
| 45° | 996.4 | 855.2 | 633.0 | 509.3 | 476.0 |
| 47.5° | 940.8 | 790.1 | 566.4 | 450.6 | 418.9 |
| 50° | 883.7 | 725.1 | 502.9 | 395.1 | 361.7 |
| 52.5° | 821.8 | 660.0 | 442.6 | 339.5 | 315.7 |
| 55° | 763.1 | 595.0 | 385.5 | 298.3 | 288.8 |
| 57.5° | 698.1 | 529.9 | 330.0 | 269.7 | 260.2 |
| 60° | 642.6 | 464.9 | 276.1 | 242.7 | 233.2 |
| 62.5° | 577.5 | 401.4 | 241.2 | 215.8 | 207.8 |
| 65° | 520.4 | 341.1 | 211.0 | 188.8 | 184.0 |
| 67.5° | 460.1 | 282.4 | 182.5 | 165.0 | 158.7 |
| 70° | 396.6 | 226.9 | 157.1 | 141.2 | 138.0 |
| 72.5° | 334.8 | 176.1 | 130.1 | 119.0 | 117.4 |
| 75° | 274.5 | 139.6 | 107.9 | 98.4 | 95.2 |
| 77.5° | 215.8 | 106.3 | 85.7 | 79.3 | 77.7 |
| 80° | 160.2 | 77.7 | 63.5 | 60.3 | 58.7 |
| 82.5° | 109.5 | 52.4 | 44.4 | 41.3 | 41.3 |
| 85° | 63.5 | 30.1 | 27.0 | 25.4 | 25.4 |
| 87.5° | 23.8 | 12.7 | 11.1 | 11.1 | 11.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)