

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: P231742

Luminaire Tested: **S123-RDR-1-40-X-0048-1-U-DD-1-W**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P231742
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33914)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123-RDR-1-40-X-0048-1-U-DD-1-W
Description: DEFINE 3 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: 2605.4 lumens
Efficiency: N/A
Efficacy: 93.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.07 / 1.23
Luminous Opening: Rectangular (W 0.22' x L: 3.92' x H: 0')
CIE Type: Direct

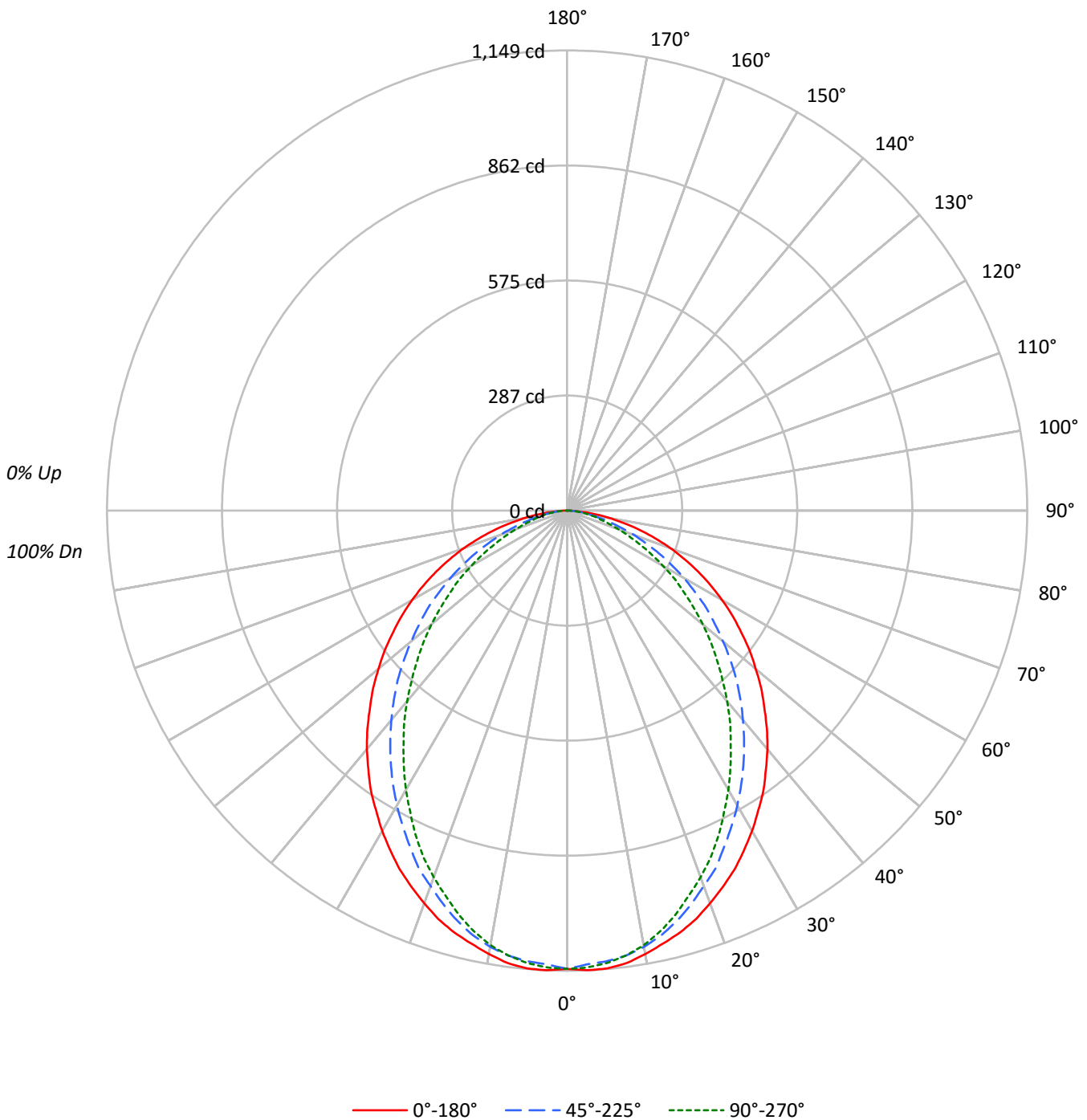
Input Watts (W): 27.9
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





TEST NUMBER: P231742

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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 | 105 | 101 | 98 | 107 | 103 | 99 | 96 | 99 | 96 | 93 | 95 | 93 | 90 | 91 | 89 | 88 | 86 | | | | | 86 | | | |
| 2 | 100 | 93 | 86 | 81 | 98 | 91 | 85 | 80 | 87 | 82 | 78 | 84 | 80 | 76 | 81 | 78 | 75 | 73 | | | | | 73 | | | |
| 3 | 92 | 82 | 74 | 68 | 90 | 81 | 73 | 68 | 78 | 72 | 67 | 75 | 70 | 65 | 72 | 68 | 64 | 62 | | | | | 62 | | | |
| 4 | 85 | 73 | 65 | 59 | 82 | 72 | 64 | 58 | 70 | 63 | 57 | 67 | 61 | 57 | 65 | 60 | 56 | 54 | | | | | 54 | | | |
| 5 | 78 | 66 | 57 | 51 | 76 | 65 | 57 | 51 | 63 | 56 | 50 | 61 | 55 | 50 | 59 | 54 | 49 | 47 | | | | | 47 | | | |
| 6 | 72 | 60 | 51 | 45 | 71 | 59 | 51 | 45 | 57 | 50 | 44 | 55 | 49 | 44 | 54 | 48 | 44 | 42 | | | | | 42 | | | |
| 7 | 67 | 54 | 46 | 40 | 66 | 54 | 46 | 40 | 52 | 45 | 40 | 51 | 44 | 39 | 49 | 43 | 39 | 37 | | | | | 37 | | | |
| 8 | 63 | 50 | 42 | 36 | 61 | 49 | 41 | 36 | 48 | 41 | 36 | 47 | 40 | 35 | 45 | 40 | 35 | 33 | | | | | 33 | | | |
| 9 | 59 | 46 | 38 | 33 | 57 | 45 | 38 | 32 | 44 | 37 | 32 | 43 | 37 | 32 | 42 | 36 | 32 | 30 | | | | | 30 | | | |
| 10 | 55 | 42 | 35 | 30 | 54 | 42 | 35 | 30 | 41 | 34 | 29 | 40 | 34 | 29 | 39 | 33 | 29 | 28 | | | | | 28 | | | |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|-------|-------|-------|
| 0° | 14083 | 14083 | 14083 |
| 5° | 14178 | 13957 | 14012 |
| 10° | 14048 | 13824 | 13768 |
| 15° | 13895 | 13510 | 13310 |
| 20° | 13667 | 13066 | 12758 |
| 25° | 13426 | 12590 | 12148 |
| 30° | 13127 | 12077 | 11440 |
| 35° | 12835 | 11540 | 10699 |
| 40° | 12503 | 10973 | 9983 |
| 45° | 12121 | 10407 | 9218 |
| 50° | 11769 | 9732 | 8469 |
| 55° | 11387 | 9104 | 7639 |
| 60° | 10995 | 8295 | 6808 |
| 65° | 10498 | 7368 | 5836 |
| 70° | 9870 | 6366 | 4915 |
| 75° | 8944 | 5112 | 4099 |
| 80° | 7697 | 4125 | 3806 |
| 85° | 6001 | 3474 | 3318 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 107.8 | 4.1 |
| 10°-20° | 300.1 | 11.5 |
| 20°-30° | 431.1 | 16.5 |
| 30°-40° | 485.3 | 18.6 |
| 40°-50° | 466.7 | 17.9 |
| 50°-60° | 386.8 | 14.8 |
| 60°-70° | 263.9 | 10.1 |
| 70°-80° | 131.2 | 5.0 |
| 80°-90° | 32.5 | 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° | 839.0 | 32.2 |
| 0°-40° | 1324.2 | 50.8 |
| 0°-60° | 2177.7 | 83.6 |
| 0°-90° | 2605.4 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2605.4 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1144 | 1144 | 1144 | 1144 | 1144 | |
| 5° | 1148 | 1143 | 1130 | 1138 | 1134 | 109 |
| 15° | 1090 | 1080 | 1060 | 1057 | 1045 | 307 |
| 25° | 989 | 972 | 927 | 908 | 895 | 455 |
| 35° | 854 | 822 | 768 | 731 | 712 | 533 |
| 45° | 696 | 660 | 598 | 549 | 530 | 538 |
| 55° | 531 | 489 | 424 | 374 | 356 | 475 |
| 65° | 360 | 316 | 253 | 214 | 200 | 357 |
| 75° | 188 | 151 | 108 | 90 | 86 | 199 |
| 85° | 42 | 28 | 25 | 25 | 24 | 51 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P231742

CATALOG NUMBER: S123-RDR-1-40-X-0048-1-U-DD-1-W

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1144.3 | 1144.3 | 1144.3 | 1144.3 | 1144.3 |
| 2.5° | 1148.8 | 1144.3 | 1134.2 | 1144.3 | 1142.0 |
| 5° | 1147.6 | 1143.2 | 1129.7 | 1137.6 | 1134.2 |
| 7.5° | 1139.8 | 1134.2 | 1120.8 | 1125.3 | 1120.8 |
| 10° | 1124.1 | 1120.8 | 1106.2 | 1108.5 | 1101.7 |
| 12.5° | 1107.3 | 1101.7 | 1086.1 | 1086.1 | 1076.0 |
| 15° | 1090.5 | 1080.5 | 1060.3 | 1057.0 | 1044.6 |
| 17.5° | 1069.3 | 1062.6 | 1030.1 | 1024.5 | 1008.8 |
| 20° | 1043.5 | 1031.2 | 997.6 | 987.5 | 974.1 |
| 22.5° | 1016.6 | 1002.1 | 967.4 | 950.6 | 937.1 |
| 25° | 988.7 | 971.9 | 927.1 | 908.0 | 894.6 |
| 27.5° | 956.2 | 937.1 | 889.0 | 866.6 | 848.7 |
| 30° | 923.7 | 900.2 | 849.8 | 822.9 | 805.0 |
| 32.5° | 887.9 | 863.3 | 809.5 | 775.9 | 759.1 |
| 35° | 854.3 | 821.8 | 768.1 | 731.1 | 712.1 |
| 37.5° | 815.1 | 782.6 | 725.5 | 684.1 | 668.4 |
| 40° | 778.2 | 743.4 | 683.0 | 639.3 | 621.4 |
| 42.5° | 737.9 | 700.9 | 640.4 | 594.5 | 574.4 |
| 45° | 696.4 | 659.5 | 597.9 | 548.6 | 529.6 |
| 47.5° | 657.2 | 618.0 | 553.1 | 505.0 | 487.0 |
| 50° | 614.7 | 576.6 | 508.3 | 460.2 | 442.3 |
| 52.5° | 574.4 | 531.8 | 464.7 | 416.5 | 398.6 |
| 55° | 530.7 | 489.3 | 424.3 | 374.0 | 356.0 |
| 57.5° | 490.4 | 446.7 | 378.4 | 331.4 | 319.1 |
| 60° | 446.7 | 402.0 | 337.0 | 292.2 | 276.6 |
| 62.5° | 404.2 | 357.2 | 293.3 | 251.9 | 238.5 |
| 65° | 360.5 | 315.7 | 253.0 | 213.9 | 200.4 |
| 67.5° | 318.0 | 274.3 | 211.6 | 179.1 | 166.8 |
| 70° | 274.3 | 231.8 | 176.9 | 145.6 | 136.6 |
| 72.5° | 230.6 | 191.5 | 140.0 | 115.3 | 108.6 |
| 75° | 188.1 | 151.2 | 107.5 | 89.6 | 86.2 |
| 77.5° | 145.6 | 115.3 | 79.5 | 70.5 | 69.4 |
| 80° | 108.6 | 79.5 | 58.2 | 53.7 | 53.7 |
| 82.5° | 72.8 | 49.3 | 40.3 | 39.2 | 38.1 |
| 85° | 42.5 | 28.0 | 24.6 | 24.6 | 23.5 |
| 87.5° | 17.9 | 11.2 | 11.2 | 11.2 | 10.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)