

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: METALUX

Report Number: P229467

Luminaire Tested: **14RLN-LD5-23-UNV-L930-CD1-U**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P229467
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P36058)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 14RLN-LD5-23-UNV-L930-CD1-U
Description: METALUX 1X4 RLN LED TROFFER
Light Source: (112)3000K CCT, 90 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

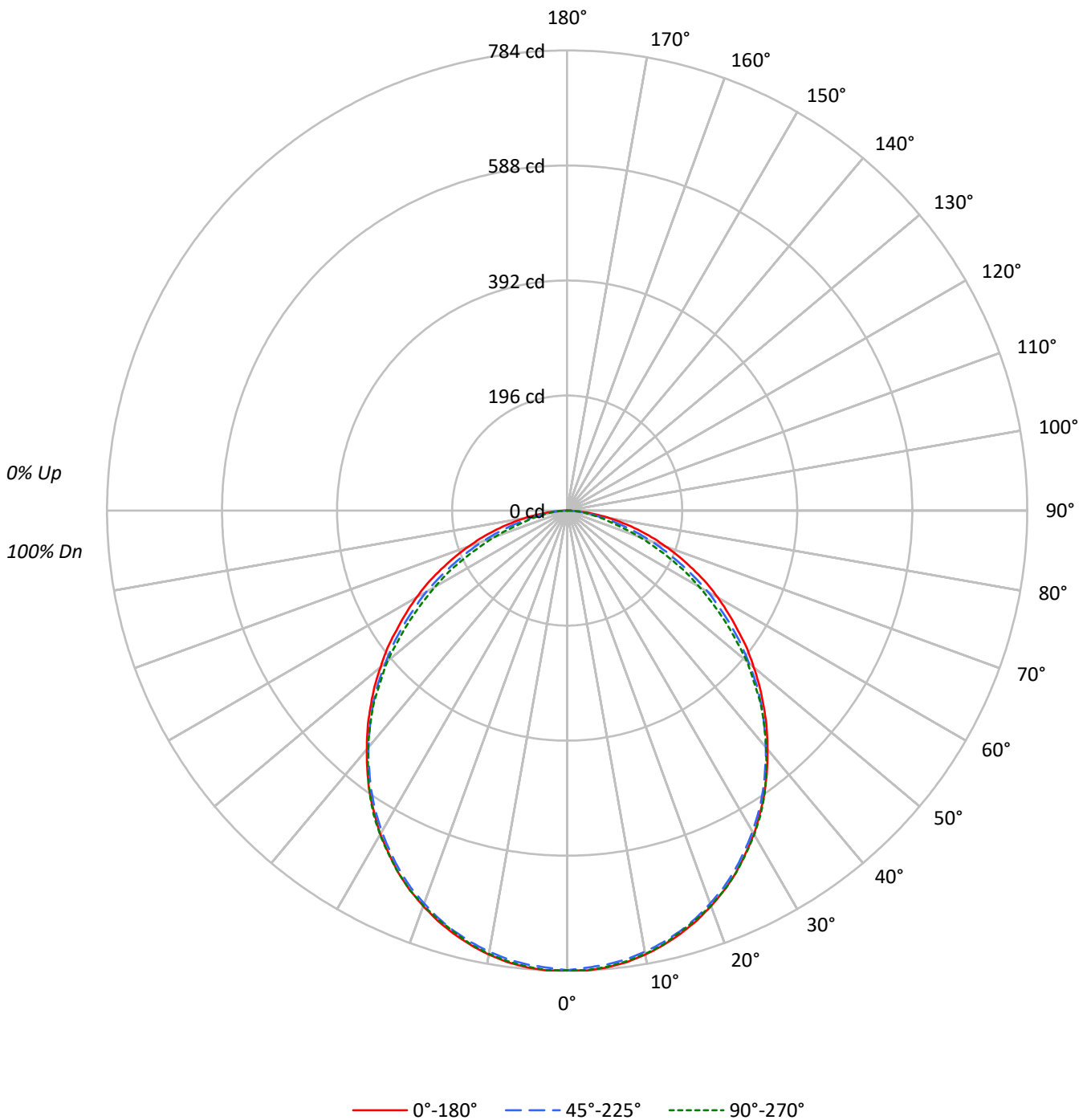
Lumens per Lamp: N/A
Luminaire Lumens: 1970.0 lumens
Efficiency: N/A
Efficacy: 90.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.31
Luminous Opening: Rectangular (W 0.83' x L: 3.83' x H: 0')
CIE Type: Direct

Input Watts (W): 21.9
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





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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 | 105 | 101 | 97 | 107 | 103 | 99 | 96 | 98 | 95 | 93 | 95 | 92 | 90 | 91 | 89 | 87 | 85 |
| 2 | 100 | 92 | 86 | 80 | 97 | 90 | 84 | 79 | 87 | 82 | 77 | 84 | 79 | 76 | 81 | 77 | 74 | 72 |
| 3 | 91 | 81 | 74 | 67 | 89 | 80 | 73 | 67 | 77 | 71 | 66 | 74 | 69 | 64 | 72 | 67 | 63 | 61 |
| 4 | 84 | 72 | 64 | 57 | 82 | 71 | 63 | 57 | 69 | 62 | 56 | 66 | 60 | 56 | 64 | 59 | 55 | 53 |
| 5 | 77 | 65 | 56 | 50 | 75 | 64 | 56 | 50 | 62 | 55 | 49 | 60 | 53 | 48 | 58 | 52 | 48 | 46 |
| 6 | 72 | 59 | 50 | 44 | 70 | 58 | 49 | 43 | 56 | 49 | 43 | 54 | 48 | 43 | 53 | 47 | 42 | 40 |
| 7 | 66 | 53 | 45 | 39 | 65 | 52 | 44 | 39 | 51 | 44 | 38 | 50 | 43 | 38 | 48 | 42 | 38 | 36 |
| 8 | 62 | 49 | 40 | 35 | 60 | 48 | 40 | 35 | 47 | 40 | 34 | 45 | 39 | 34 | 44 | 38 | 34 | 32 |
| 9 | 58 | 45 | 37 | 31 | 57 | 44 | 36 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 41 | 35 | 31 | 29 |
| 10 | 54 | 41 | 34 | 28 | 53 | 41 | 33 | 28 | 40 | 33 | 28 | 39 | 33 | 28 | 38 | 32 | 28 | 26 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2639 | 2639 | 2639 |
| 5° | 2643 | 2626 | 2638 |
| 10° | 2628 | 2612 | 2624 |
| 15° | 2604 | 2589 | 2594 |
| 20° | 2571 | 2553 | 2567 |
| 25° | 2530 | 2513 | 2530 |
| 30° | 2477 | 2458 | 2480 |
| 35° | 2413 | 2394 | 2413 |
| 40° | 2336 | 2317 | 2319 |
| 45° | 2258 | 2228 | 2222 |
| 50° | 2174 | 2119 | 2096 |
| 55° | 2084 | 1999 | 1925 |
| 60° | 1997 | 1866 | 1752 |
| 65° | 1887 | 1686 | 1544 |
| 70° | 1760 | 1498 | 1298 |
| 75° | 1613 | 1254 | 1002 |
| 80° | 1389 | 939 | 864 |
| 85° | 1121 | 785 | 804 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 74.0 | 3.8 |
| 10°-20° | 209.9 | 10.7 |
| 20°-30° | 312.5 | 15.9 |
| 30°-40° | 365.2 | 18.5 |
| 40°-50° | 361.0 | 18.3 |
| 50°-60° | 304.8 | 15.5 |
| 60°-70° | 211.1 | 10.7 |
| 70°-80° | 105.3 | 5.3 |
| 80°-90° | 26.2 | 1.3 |
| 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° | 596.4 | 30.3 |
| 0°-40° | 961.6 | 48.8 |
| 0°-60° | 1627.3 | 82.6 |
| 0°-90° | 1970.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 1970.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 783 | 783 | 783 | 783 | 783 | |
| 5° | 781 | 780 | 776 | 780 | 780 | 74 |
| 15° | 746 | 746 | 742 | 746 | 744 | 210 |
| 25° | 681 | 679 | 676 | 680 | 681 | 313 |
| 35° | 587 | 584 | 582 | 586 | 587 | 366 |
| 45° | 474 | 469 | 468 | 467 | 466 | 366 |
| 55° | 355 | 348 | 340 | 333 | 328 | 318 |
| 65° | 237 | 226 | 212 | 200 | 194 | 235 |
| 75° | 124 | 113 | 96 | 83 | 77 | 131 |
| 85° | 29 | 22 | 20 | 20 | 21 | 34 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 783.2 | 783.2 | 783.2 | 783.2 | 783.2 |
| 2.5° | 784.2 | 782.7 | 779.4 | 783.2 | 783.7 |
| 5° | 781.3 | 779.8 | 776.4 | 780.3 | 779.8 |
| 7.5° | 776.0 | 774.0 | 771.1 | 774.5 | 774.5 |
| 10° | 768.2 | 766.8 | 763.4 | 767.2 | 766.8 |
| 12.5° | 758.1 | 757.1 | 753.7 | 757.6 | 757.1 |
| 15° | 746.4 | 745.5 | 742.1 | 745.5 | 743.5 |
| 17.5° | 732.9 | 732.4 | 728.5 | 730.9 | 730.5 |
| 20° | 716.9 | 715.9 | 712.1 | 716.9 | 715.9 |
| 22.5° | 700.0 | 698.0 | 695.6 | 699.5 | 700.0 |
| 25° | 680.6 | 678.7 | 675.8 | 680.1 | 680.6 |
| 27.5° | 658.3 | 656.9 | 654.0 | 660.3 | 659.3 |
| 30° | 636.6 | 635.1 | 631.7 | 637.0 | 637.5 |
| 32.5° | 611.4 | 609.9 | 607.5 | 612.8 | 613.8 |
| 35° | 586.7 | 583.8 | 581.9 | 586.2 | 586.7 |
| 37.5° | 559.1 | 556.2 | 554.3 | 558.6 | 557.6 |
| 40° | 531.0 | 527.6 | 526.7 | 530.1 | 527.2 |
| 42.5° | 503.4 | 499.1 | 497.1 | 499.1 | 497.1 |
| 45° | 473.9 | 468.6 | 467.6 | 466.6 | 466.2 |
| 47.5° | 445.3 | 439.5 | 437.1 | 433.7 | 431.3 |
| 50° | 414.8 | 408.6 | 404.2 | 400.8 | 399.8 |
| 52.5° | 386.3 | 379.0 | 372.7 | 369.8 | 362.1 |
| 55° | 354.8 | 348.5 | 340.3 | 333.0 | 327.7 |
| 57.5° | 325.3 | 317.1 | 307.4 | 299.6 | 292.9 |
| 60° | 296.3 | 285.6 | 276.9 | 264.8 | 259.9 |
| 62.5° | 267.7 | 255.6 | 243.5 | 230.4 | 228.0 |
| 65° | 236.7 | 225.6 | 211.5 | 200.4 | 193.6 |
| 67.5° | 207.2 | 195.6 | 182.0 | 166.5 | 160.2 |
| 70° | 178.6 | 166.0 | 152.0 | 137.0 | 131.7 |
| 72.5° | 151.0 | 138.4 | 123.9 | 107.9 | 101.7 |
| 75° | 123.9 | 112.8 | 96.3 | 83.3 | 77.0 |
| 77.5° | 96.3 | 87.1 | 71.2 | 60.5 | 59.5 |
| 80° | 71.6 | 63.4 | 48.4 | 46.0 | 44.5 |
| 82.5° | 49.4 | 41.6 | 34.4 | 32.9 | 31.9 |
| 85° | 29.0 | 22.3 | 20.3 | 20.3 | 20.8 |
| 87.5° | 11.1 | 9.7 | 9.7 | 9.7 | 10.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)