

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: P230399

Luminaire Tested: **24CZ-LD5-40-SQP-UNV-L950-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230399  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25695)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ-LD5-40-SQP-UNV-L950-CD1-U  
Description: CRUZE 2x4 LED TROFFER  
WITH SQP LENS  
Light Source: (168) 5000K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2628.5 lumens  
Efficiency: N/A  
Efficacy: 90.5 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.31 / 1.42  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

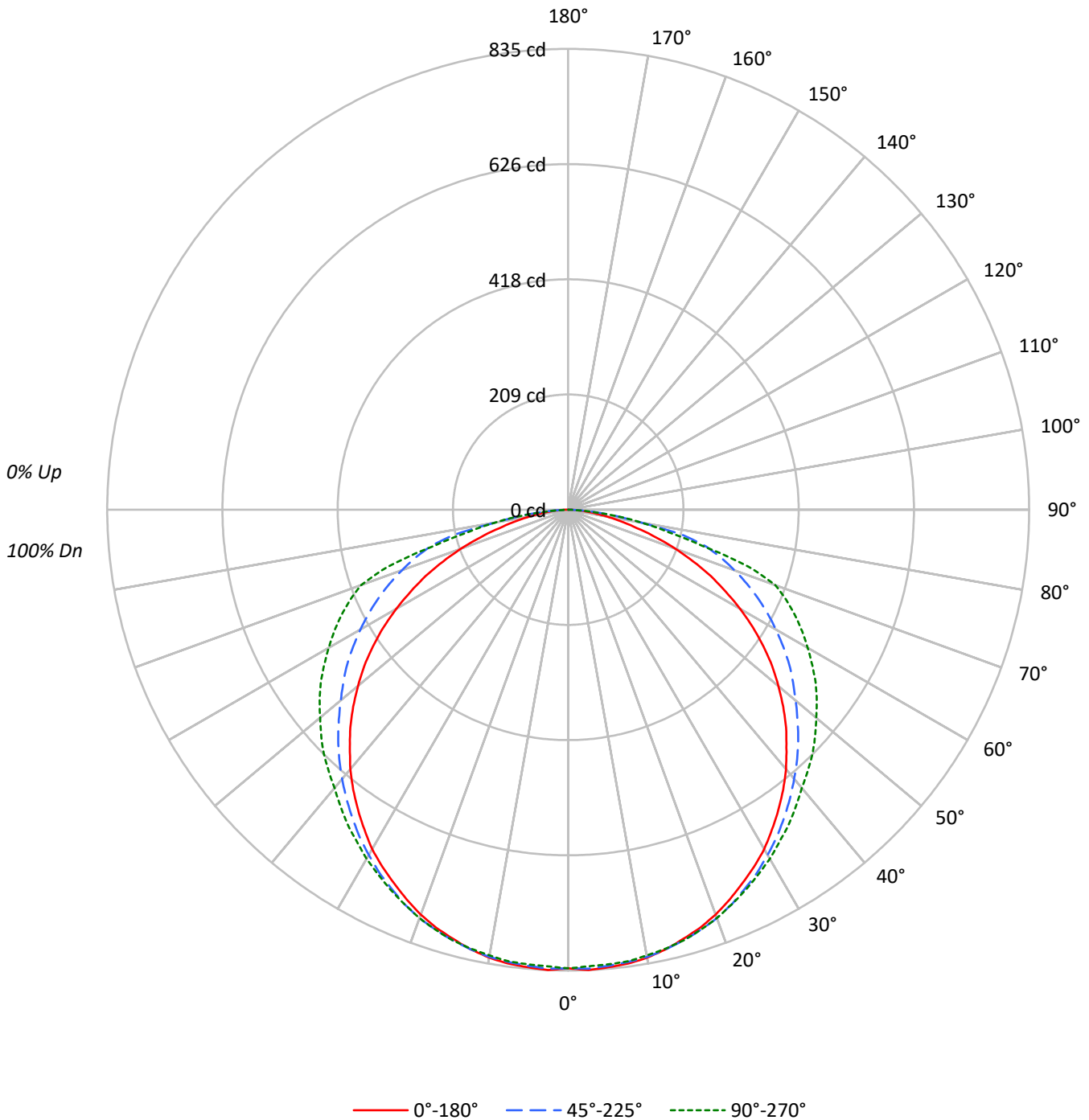
Input Watts (W): 29.04  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 108 | 103 | 98  | 94  | 105 | 101 | 97  | 93  | 96  | 93  | 90  | 92  | 90  | 87  | 89  | 87  | 84  | 82  |
| 2   | 98  | 89  | 82  | 76  | 95  | 87  | 80  | 75  | 83  | 78  | 73  | 80  | 75  | 71  | 77  | 73  | 70  | 67  |
| 3   | 89  | 78  | 69  | 62  | 86  | 76  | 68  | 62  | 73  | 66  | 60  | 70  | 64  | 59  | 67  | 63  | 58  | 56  |
| 4   | 81  | 68  | 59  | 52  | 79  | 67  | 58  | 52  | 64  | 57  | 51  | 62  | 56  | 50  | 60  | 54  | 50  | 47  |
| 5   | 74  | 61  | 51  | 45  | 72  | 60  | 51  | 44  | 57  | 50  | 44  | 55  | 49  | 43  | 54  | 48  | 43  | 41  |
| 6   | 68  | 55  | 45  | 39  | 66  | 54  | 45  | 38  | 52  | 44  | 38  | 50  | 43  | 38  | 48  | 42  | 37  | 35  |
| 7   | 63  | 49  | 40  | 34  | 62  | 49  | 40  | 34  | 47  | 39  | 34  | 45  | 39  | 33  | 44  | 38  | 33  | 31  |
| 8   | 59  | 45  | 36  | 30  | 57  | 44  | 36  | 30  | 43  | 35  | 30  | 42  | 35  | 30  | 40  | 34  | 29  | 28  |
| 9   | 55  | 41  | 33  | 27  | 54  | 41  | 33  | 27  | 39  | 32  | 27  | 38  | 32  | 27  | 37  | 31  | 27  | 25  |
| 10  | 51  | 38  | 30  | 24  | 50  | 37  | 30  | 24  | 36  | 29  | 24  | 35  | 29  | 24  | 35  | 28  | 24  | 22  |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1118 | 1118 | 1118 |
| 5°  | 1124 | 1120 | 1117 |
| 10° | 1126 | 1124 | 1120 |
| 15° | 1121 | 1125 | 1125 |
| 20° | 1118 | 1128 | 1128 |
| 25° | 1109 | 1125 | 1129 |
| 30° | 1103 | 1122 | 1135 |
| 35° | 1090 | 1120 | 1144 |
| 40° | 1078 | 1118 | 1157 |
| 45° | 1062 | 1121 | 1191 |
| 50° | 1040 | 1126 | 1228 |
| 55° | 1013 | 1147 | 1284 |
| 60° | 968  | 1169 | 1348 |
| 65° | 908  | 1206 | 1444 |
| 70° | 812  | 1260 | 1570 |
| 75° | 671  | 1348 | 1299 |
| 80° | 547  | 1041 | 1052 |
| 85° | 440  | 692  | 650  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 78.9   | 3.0       |
| 10°-20°   | 227.7  | 8.7       |
| 20°-30°   | 348.0  | 13.2      |
| 30°-40°   | 425.7  | 16.2      |
| 40°-50°   | 455.4  | 17.3      |
| 50°-60°   | 436.1  | 16.6      |
| 60°-70°   | 368.9  | 14.0      |
| 70°-80°   | 233.9  | 8.9       |
| 80°-90°   | 53.8   | 2.0       |
| 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°    | 654.7  | 24.9      |
| 0°-40°    | 1080.3 | 41.1      |
| 0°-60°    | 1971.9 | 75.0      |
| 0°-90°    | 2628.5 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2628.5 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 831 | 831   | 831 | 831   | 831 |      |
| 5°  | 832 | 828   | 830 | 828   | 827 | 79   |
| 15° | 805 | 804   | 808 | 808   | 808 | 227  |
| 25° | 747 | 747   | 758 | 760   | 760 | 345  |
| 35° | 664 | 668   | 682 | 691   | 696 | 415  |
| 45° | 558 | 568   | 589 | 614   | 626 | 430  |
| 55° | 432 | 445   | 489 | 530   | 547 | 385  |
| 65° | 285 | 312   | 379 | 430   | 454 | 281  |
| 75° | 129 | 182   | 259 | 258   | 250 | 140  |
| 85° | 28  | 43    | 45  | 41    | 42  | 34   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 830.9 | 830.9 | 830.9 | 830.9 | 830.9 |
| 2.5°  | 835.0 | 830.9 | 832.3 | 830.9 | 828.2 |
| 5°    | 832.3 | 828.2 | 829.6 | 828.2 | 826.8 |
| 7.5°  | 829.6 | 825.5 | 826.8 | 825.5 | 825.5 |
| 10°   | 824.1 | 820.1 | 822.8 | 821.4 | 820.1 |
| 12.5° | 816.0 | 813.3 | 816.0 | 814.6 | 814.6 |
| 15°   | 805.1 | 803.8 | 807.8 | 807.8 | 807.8 |
| 17.5° | 794.3 | 792.9 | 798.3 | 798.3 | 798.3 |
| 20°   | 780.7 | 779.3 | 787.5 | 787.5 | 787.5 |
| 22.5° | 764.4 | 763.0 | 773.9 | 773.9 | 773.9 |
| 25°   | 746.7 | 746.7 | 757.6 | 760.3 | 760.3 |
| 27.5° | 729.1 | 729.1 | 741.3 | 745.4 | 745.4 |
| 30°   | 710.1 | 710.1 | 722.3 | 727.7 | 730.4 |
| 32.5° | 687.0 | 689.7 | 703.3 | 710.1 | 712.8 |
| 35°   | 663.9 | 668.0 | 681.6 | 691.1 | 696.5 |
| 37.5° | 639.5 | 643.6 | 659.8 | 670.7 | 677.5 |
| 40°   | 613.7 | 619.1 | 636.8 | 650.3 | 658.5 |
| 42.5° | 585.2 | 593.3 | 613.7 | 631.3 | 642.2 |
| 45°   | 558.0 | 567.5 | 589.2 | 613.7 | 625.9 |
| 47.5° | 528.1 | 539.0 | 563.4 | 594.7 | 606.9 |
| 50°   | 496.9 | 507.8 | 537.7 | 573.0 | 586.5 |
| 52.5° | 465.7 | 477.9 | 513.2 | 551.2 | 567.5 |
| 55°   | 431.8 | 445.3 | 488.8 | 529.5 | 547.2 |
| 57.5° | 396.5 | 412.7 | 461.6 | 505.1 | 524.1 |
| 60°   | 359.8 | 380.2 | 434.5 | 480.6 | 501.0 |
| 62.5° | 321.8 | 346.2 | 407.3 | 456.2 | 477.9 |
| 65°   | 285.1 | 312.3 | 378.8 | 430.4 | 453.5 |
| 67.5° | 245.7 | 279.7 | 350.3 | 406.0 | 427.7 |
| 70°   | 206.4 | 245.7 | 320.4 | 377.4 | 399.2 |
| 72.5° | 167.0 | 214.5 | 290.5 | 342.1 | 342.1 |
| 75°   | 129.0 | 181.9 | 259.3 | 258.0 | 249.8 |
| 77.5° | 97.8  | 152.1 | 213.2 | 181.9 | 183.3 |
| 80°   | 70.6  | 122.2 | 134.4 | 134.4 | 135.8 |
| 82.5° | 47.5  | 93.7  | 86.9  | 85.5  | 88.3  |
| 85°   | 28.5  | 43.4  | 44.8  | 40.7  | 42.1  |
| 87.5° | 13.6  | 14.9  | 12.2  | 8.1   | 8.1   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)