

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: P230437

Luminaire Tested: **24CZ-LD5-40SE-SQP-UNV-L935-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230437  
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-LD5-40SE-SQP-UNV-L935-CD1-U  
Description: CRUZE 2x4 LED TROFFER  
WITH SQP LENS  
Light Source: (84) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2390.2 lumens  
Efficiency: N/A  
Efficacy: 73.4 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

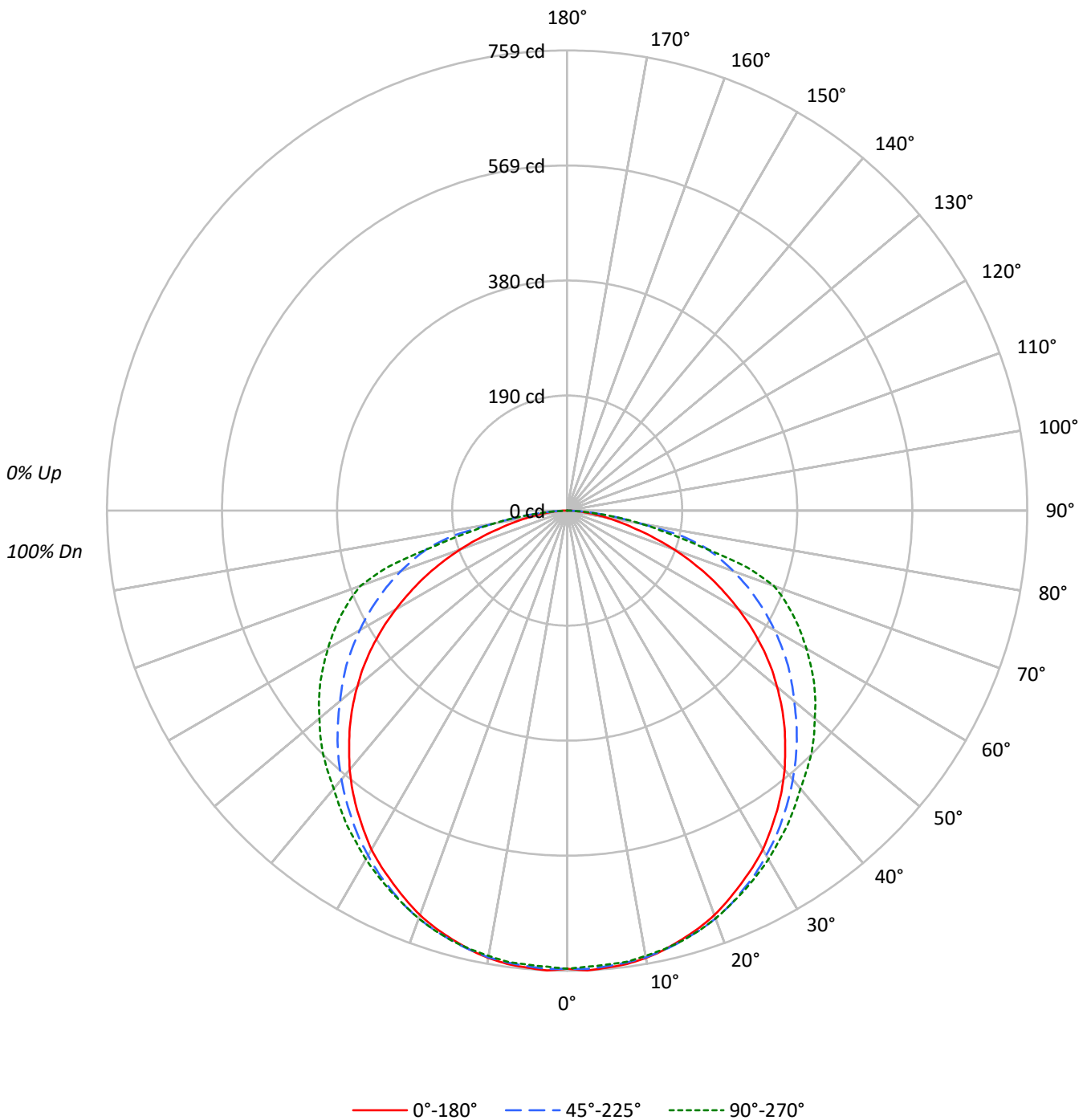
Input Watts (W): 32.55  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 1017 | 1017 | 1017 |
| 5°  | 1022 | 1019 | 1016 |
| 10° | 1024 | 1022 | 1019 |
| 15° | 1020 | 1023 | 1023 |
| 20° | 1016 | 1025 | 1025 |
| 25° | 1008 | 1023 | 1026 |
| 30° | 1003 | 1020 | 1032 |
| 35° | 992  | 1018 | 1040 |
| 40° | 980  | 1017 | 1052 |
| 45° | 965  | 1020 | 1083 |
| 50° | 946  | 1023 | 1116 |
| 55° | 921  | 1043 | 1167 |
| 60° | 880  | 1063 | 1226 |
| 65° | 826  | 1097 | 1313 |
| 70° | 738  | 1146 | 1428 |
| 75° | 610  | 1226 | 1181 |
| 80° | 497  | 947  | 957  |
| 85° | 400  | 628  | 591  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 71.8   | 3.0       |
| 10°-20°   | 207.1  | 8.7       |
| 20°-30°   | 316.5  | 13.2      |
| 30°-40°   | 387.1  | 16.2      |
| 40°-50°   | 414.2  | 17.3      |
| 50°-60°   | 396.6  | 16.6      |
| 60°-70°   | 335.5  | 14.0      |
| 70°-80°   | 212.7  | 8.9       |
| 80°-90°   | 48.9   | 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°    | 595.3  | 24.9      |
| 0°-40°    | 982.4  | 41.1      |
| 0°-60°    | 1793.1 | 75.0      |
| 0°-90°    | 2390.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2390.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 756 | 756   | 756 | 756   | 756 |      |
| 5°  | 757 | 753   | 754 | 753   | 752 | 72   |
| 15° | 732 | 731   | 735 | 735   | 735 | 207  |
| 25° | 679 | 679   | 689 | 691   | 691 | 313  |
| 35° | 604 | 607   | 620 | 628   | 633 | 378  |
| 45° | 507 | 516   | 536 | 558   | 569 | 391  |
| 55° | 393 | 405   | 444 | 482   | 498 | 350  |
| 65° | 259 | 284   | 344 | 391   | 412 | 255  |
| 75° | 117 | 165   | 236 | 235   | 227 | 128  |
| 85° | 26  | 40    | 41  | 37    | 38  | 31   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 755.6 | 755.6 | 755.6 | 755.6 | 755.6 |
| 2.5°  | 759.3 | 755.6 | 756.8 | 755.6 | 753.1 |
| 5°    | 756.8 | 753.1 | 754.3 | 753.1 | 751.9 |
| 7.5°  | 754.3 | 750.6 | 751.9 | 750.6 | 750.6 |
| 10°   | 749.4 | 745.7 | 748.2 | 746.9 | 745.7 |
| 12.5° | 742.0 | 739.5 | 742.0 | 740.8 | 740.8 |
| 15°   | 732.1 | 730.9 | 734.6 | 734.6 | 734.6 |
| 17.5° | 722.2 | 721.0 | 725.9 | 725.9 | 725.9 |
| 20°   | 709.9 | 708.7 | 716.1 | 716.1 | 716.1 |
| 22.5° | 695.1 | 693.8 | 703.7 | 703.7 | 703.7 |
| 25°   | 679.0 | 679.0 | 688.9 | 691.4 | 691.4 |
| 27.5° | 663.0 | 663.0 | 674.1 | 677.8 | 677.8 |
| 30°   | 645.7 | 645.7 | 656.8 | 661.7 | 664.2 |
| 32.5° | 624.7 | 627.2 | 639.5 | 645.7 | 648.2 |
| 35°   | 603.7 | 607.4 | 619.8 | 628.4 | 633.4 |
| 37.5° | 581.5 | 585.2 | 600.0 | 609.9 | 616.1 |
| 40°   | 558.0 | 563.0 | 579.0 | 591.4 | 598.8 |
| 42.5° | 532.1 | 539.5 | 558.0 | 574.1 | 584.0 |
| 45°   | 507.4 | 516.1 | 535.8 | 558.0 | 569.2 |
| 47.5° | 480.3 | 490.1 | 512.4 | 540.8 | 551.9 |
| 50°   | 451.9 | 461.7 | 488.9 | 521.0 | 533.3 |
| 52.5° | 423.5 | 434.6 | 466.7 | 501.2 | 516.1 |
| 55°   | 392.6 | 404.9 | 444.5 | 481.5 | 497.5 |
| 57.5° | 360.5 | 375.3 | 419.8 | 459.3 | 476.6 |
| 60°   | 327.2 | 345.7 | 395.1 | 437.0 | 455.6 |
| 62.5° | 292.6 | 314.8 | 370.4 | 414.8 | 434.6 |
| 65°   | 259.3 | 284.0 | 344.5 | 391.4 | 412.4 |
| 67.5° | 223.5 | 254.3 | 318.5 | 369.1 | 388.9 |
| 70°   | 187.7 | 223.5 | 291.4 | 343.2 | 363.0 |
| 72.5° | 151.9 | 195.1 | 264.2 | 311.1 | 311.1 |
| 75°   | 117.3 | 165.4 | 235.8 | 234.6 | 227.2 |
| 77.5° | 88.9  | 138.3 | 193.8 | 165.4 | 166.7 |
| 80°   | 64.2  | 111.1 | 122.2 | 122.2 | 123.5 |
| 82.5° | 43.2  | 85.2  | 79.0  | 77.8  | 80.2  |
| 85°   | 25.9  | 39.5  | 40.7  | 37.0  | 38.3  |
| 87.5° | 12.3  | 13.6  | 11.1  | 7.4   | 7.4   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)