

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: P263467

Luminaire Tested: **24CZ-LD5-40SE-SQP-UNV-L92765-W2A1-U-3500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P263467  
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-L92765-W2A1-U-3500K  
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH SQP LENS  
Light Source: (168) 90 CRI LEDS TUNED AT 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2293.0 lumens  
Efficiency: N/A  
Efficacy: 75.2 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

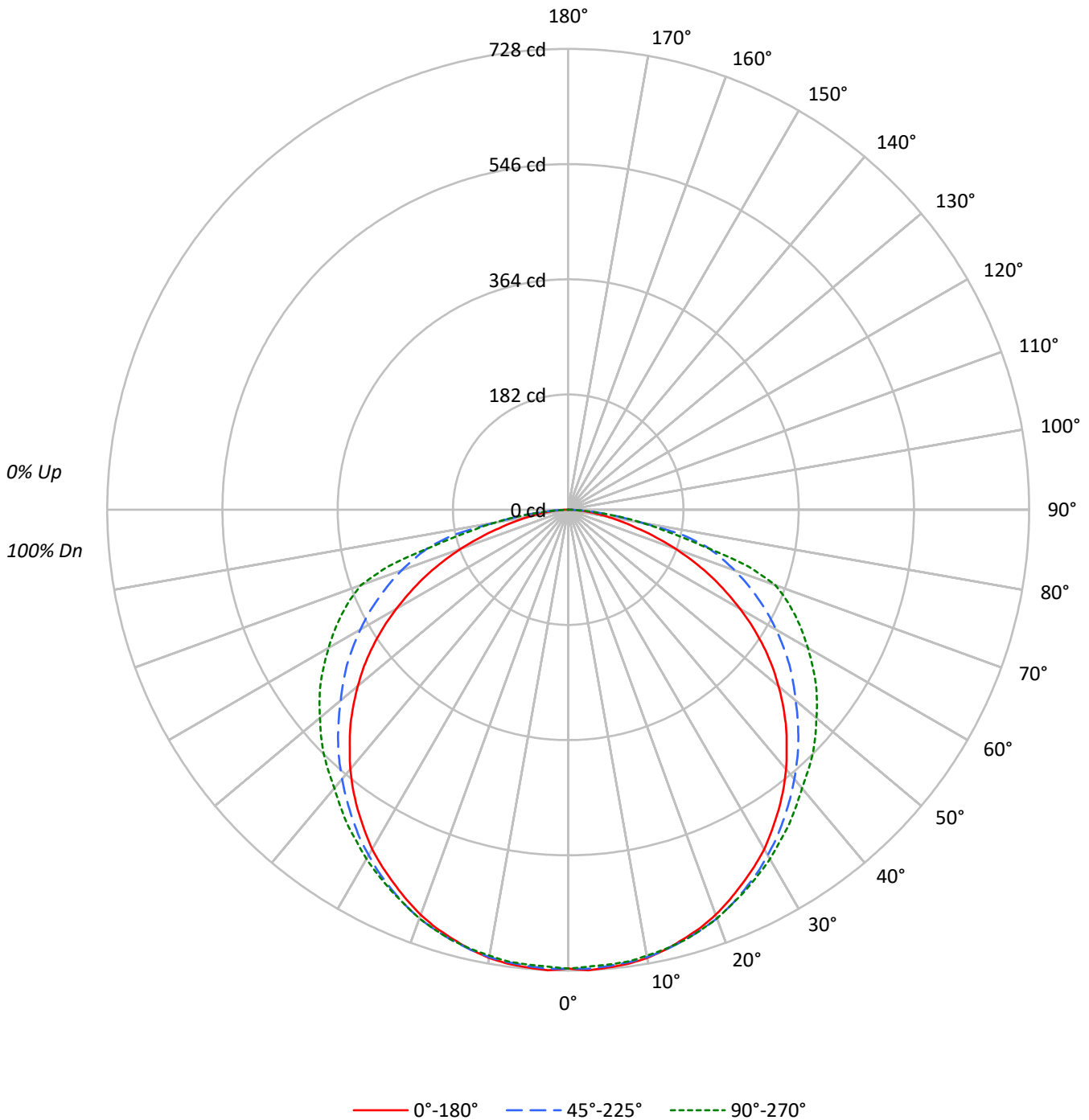
Input Watts (W): 30.504  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 975 | 975  | 975  |
| 5°  | 981 | 977  | 974  |
| 10° | 982 | 981  | 977  |
| 15° | 978 | 982  | 982  |
| 20° | 975 | 984  | 984  |
| 25° | 967 | 981  | 985  |
| 30° | 962 | 979  | 990  |
| 35° | 951 | 977  | 998  |
| 40° | 940 | 976  | 1009 |
| 45° | 926 | 978  | 1039 |
| 50° | 907 | 982  | 1071 |
| 55° | 883 | 1000 | 1120 |
| 60° | 845 | 1020 | 1176 |
| 65° | 792 | 1052 | 1259 |
| 70° | 708 | 1100 | 1370 |
| 75° | 585 | 1176 | 1133 |
| 80° | 477 | 909  | 917  |
| 85° | 384 | 604  | 567  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 68.8   | 3.0       |
| 10°-20°   | 198.7  | 8.7       |
| 20°-30°   | 303.6  | 13.2      |
| 30°-40°   | 371.3  | 16.2      |
| 40°-50°   | 397.3  | 17.3      |
| 50°-60°   | 380.5  | 16.6      |
| 60°-70°   | 321.8  | 14.0      |
| 70°-80°   | 204.0  | 8.9       |
| 80°-90°   | 46.9   | 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°    | 571.1  | 24.9      |
| 0°-40°    | 942.4  | 41.1      |
| 0°-60°    | 1720.2 | 75.0      |
| 0°-90°    | 2293.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2293.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 725 | 725   | 725 | 725   | 725 |      |
| 5°  | 726 | 722   | 724 | 722   | 721 | 69   |
| 15° | 702 | 701   | 705 | 705   | 705 | 198  |
| 25° | 651 | 651   | 661 | 663   | 663 | 301  |
| 35° | 579 | 583   | 595 | 603   | 608 | 362  |
| 45° | 487 | 495   | 514 | 535   | 546 | 375  |
| 55° | 377 | 388   | 426 | 462   | 477 | 336  |
| 65° | 249 | 272   | 330 | 376   | 396 | 245  |
| 75° | 112 | 159   | 226 | 225   | 218 | 122  |
| 85° | 25  | 38    | 39  | 36    | 37  | 30   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 724.9 | 724.9 | 724.9 | 724.9 | 724.9 |
| 2.5°  | 728.4 | 724.9 | 726.0 | 724.9 | 722.5 |
| 5°    | 726.0 | 722.5 | 723.7 | 722.5 | 721.3 |
| 7.5°  | 723.7 | 720.1 | 721.3 | 720.1 | 720.1 |
| 10°   | 718.9 | 715.4 | 717.8 | 716.6 | 715.4 |
| 12.5° | 711.8 | 709.5 | 711.8 | 710.6 | 710.6 |
| 15°   | 702.4 | 701.2 | 704.7 | 704.7 | 704.7 |
| 17.5° | 692.9 | 691.7 | 696.4 | 696.4 | 696.4 |
| 20°   | 681.0 | 679.9 | 687.0 | 687.0 | 687.0 |
| 22.5° | 666.8 | 665.6 | 675.1 | 675.1 | 675.1 |
| 25°   | 651.4 | 651.4 | 660.9 | 663.3 | 663.3 |
| 27.5° | 636.0 | 636.0 | 646.7 | 650.2 | 650.2 |
| 30°   | 619.4 | 619.4 | 630.1 | 634.8 | 637.2 |
| 32.5° | 599.3 | 601.7 | 613.5 | 619.4 | 621.8 |
| 35°   | 579.2 | 582.7 | 594.6 | 602.9 | 607.6 |
| 37.5° | 557.9 | 561.4 | 575.6 | 585.1 | 591.0 |
| 40°   | 535.4 | 540.1 | 555.5 | 567.3 | 574.4 |
| 42.5° | 510.5 | 517.6 | 535.4 | 550.8 | 560.2 |
| 45°   | 486.8 | 495.1 | 514.0 | 535.4 | 546.0 |
| 47.5° | 460.7 | 470.2 | 491.5 | 518.8 | 529.4 |
| 50°   | 433.5 | 443.0 | 469.0 | 499.8 | 511.7 |
| 52.5° | 406.3 | 416.9 | 447.7 | 480.9 | 495.1 |
| 55°   | 376.6 | 388.5 | 426.4 | 461.9 | 477.3 |
| 57.5° | 345.8 | 360.1 | 402.7 | 440.6 | 457.2 |
| 60°   | 313.9 | 331.6 | 379.0 | 419.3 | 437.0 |
| 62.5° | 280.7 | 302.0 | 355.3 | 398.0 | 416.9 |
| 65°   | 248.7 | 272.4 | 330.5 | 375.5 | 395.6 |
| 67.5° | 214.4 | 244.0 | 305.6 | 354.1 | 373.1 |
| 70°   | 180.0 | 214.4 | 279.5 | 329.3 | 348.2 |
| 72.5° | 145.7 | 187.1 | 253.5 | 298.5 | 298.5 |
| 75°   | 112.5 | 158.7 | 226.2 | 225.0 | 217.9 |
| 77.5° | 85.3  | 132.7 | 186.0 | 158.7 | 159.9 |
| 80°   | 61.6  | 106.6 | 117.3 | 117.3 | 118.4 |
| 82.5° | 41.5  | 81.7  | 75.8  | 74.6  | 77.0  |
| 85°   | 24.9  | 37.9  | 39.1  | 35.5  | 36.7  |
| 87.5° | 11.8  | 13.0  | 10.7  | 7.1   | 7.1   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)