

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: P263377

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P263377  
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-L92765-W2A1-U-3500K  
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH SQP LENS  
Light Source: (336) 90 CRI LEDS TUNED AT 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2307.0 lumens  
Efficiency: N/A  
Efficacy: 81.3 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

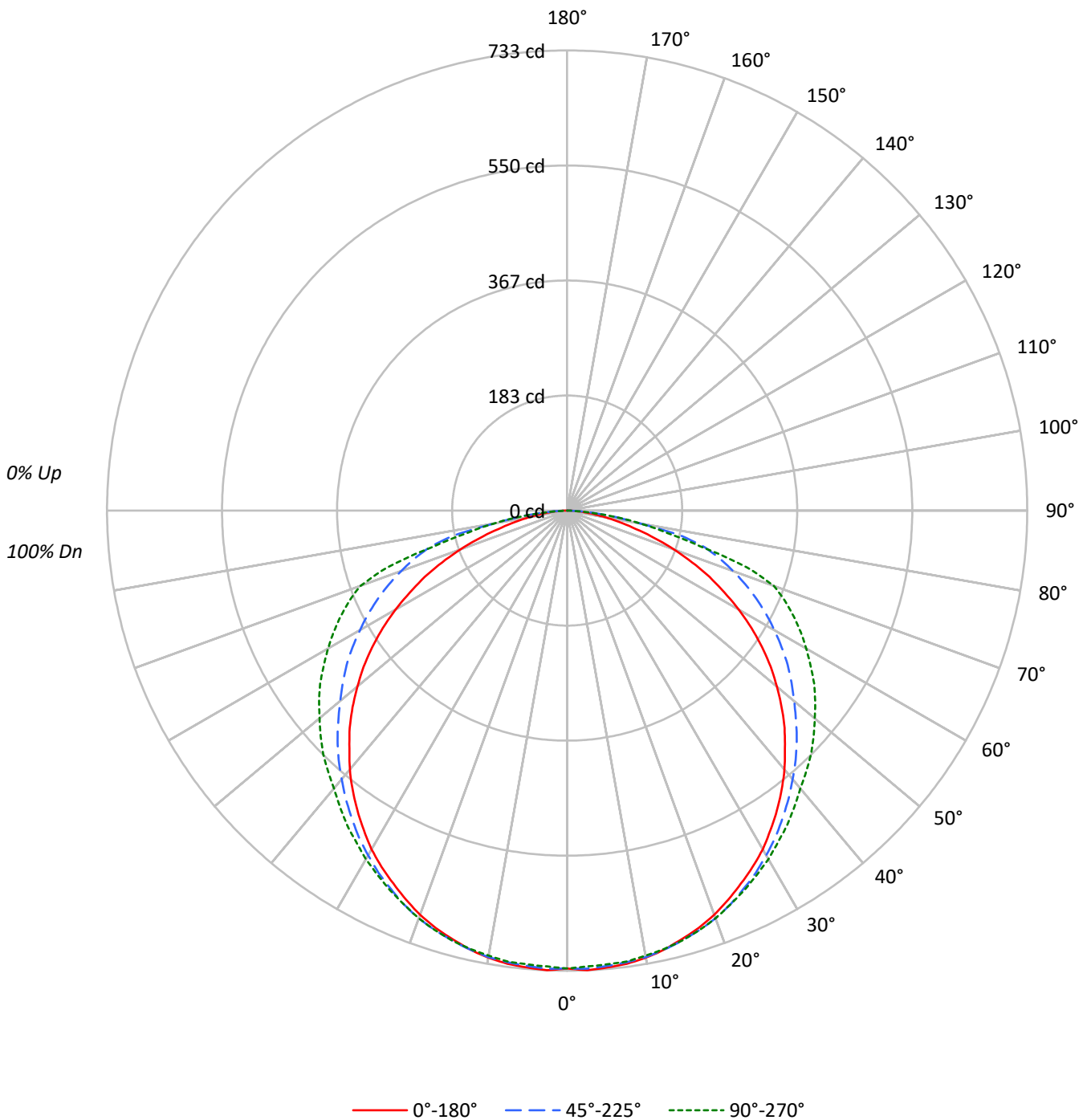
Input Watts (W): 28.365  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 981 | 981  | 981  |
| 5°  | 987 | 983  | 980  |
| 10° | 988 | 987  | 983  |
| 15° | 984 | 988  | 988  |
| 20° | 981 | 990  | 990  |
| 25° | 973 | 987  | 991  |
| 30° | 968 | 985  | 996  |
| 35° | 957 | 983  | 1004 |
| 40° | 946 | 982  | 1015 |
| 45° | 932 | 984  | 1045 |
| 50° | 913 | 988  | 1078 |
| 55° | 889 | 1006 | 1126 |
| 60° | 850 | 1026 | 1183 |
| 65° | 797 | 1059 | 1267 |
| 70° | 712 | 1106 | 1378 |
| 75° | 588 | 1183 | 1140 |
| 80° | 480 | 914  | 924  |
| 85° | 386 | 607  | 570  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 69.3   | 3.0       |
| 10°-20°   | 199.9  | 8.7       |
| 20°-30°   | 305.5  | 13.2      |
| 30°-40°   | 373.6  | 16.2      |
| 40°-50°   | 399.7  | 17.3      |
| 50°-60°   | 382.8  | 16.6      |
| 60°-70°   | 323.8  | 14.0      |
| 70°-80°   | 205.3  | 8.9       |
| 80°-90°   | 47.2   | 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°    | 574.6  | 24.9      |
| 0°-40°    | 948.2  | 41.1      |
| 0°-60°    | 1730.7 | 75.0      |
| 0°-90°    | 2307.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2307.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 729 | 729   | 729 | 729   | 729 |      |
| 5°  | 730 | 727   | 728 | 727   | 726 | 70   |
| 15° | 707 | 706   | 709 | 709   | 709 | 200  |
| 25° | 655 | 655   | 665 | 667   | 667 | 302  |
| 35° | 583 | 586   | 598 | 606   | 611 | 365  |
| 45° | 490 | 498   | 517 | 539   | 549 | 377  |
| 55° | 379 | 391   | 429 | 465   | 480 | 338  |
| 65° | 250 | 274   | 332 | 378   | 398 | 247  |
| 75° | 113 | 160   | 228 | 226   | 219 | 123  |
| 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°    | 729.3 | 729.3 | 729.3 | 729.3 | 729.3 |
| 2.5°  | 732.9 | 729.3 | 730.5 | 729.3 | 726.9 |
| 5°    | 730.5 | 726.9 | 728.1 | 726.9 | 725.7 |
| 7.5°  | 728.1 | 724.5 | 725.7 | 724.5 | 724.5 |
| 10°   | 723.3 | 719.8 | 722.1 | 720.9 | 719.8 |
| 12.5° | 716.2 | 713.8 | 716.2 | 715.0 | 715.0 |
| 15°   | 706.6 | 705.5 | 709.0 | 709.0 | 709.0 |
| 17.5° | 697.1 | 695.9 | 700.7 | 700.7 | 700.7 |
| 20°   | 685.2 | 684.0 | 691.2 | 691.2 | 691.2 |
| 22.5° | 670.9 | 669.7 | 679.2 | 679.2 | 679.2 |
| 25°   | 655.4 | 655.4 | 664.9 | 667.3 | 667.3 |
| 27.5° | 639.9 | 639.9 | 650.6 | 654.2 | 654.2 |
| 30°   | 623.2 | 623.2 | 634.0 | 638.7 | 641.1 |
| 32.5° | 603.0 | 605.4 | 617.3 | 623.2 | 625.6 |
| 35°   | 582.7 | 586.3 | 598.2 | 606.5 | 611.3 |
| 37.5° | 561.3 | 564.8 | 579.1 | 588.7 | 594.6 |
| 40°   | 538.6 | 543.4 | 558.9 | 570.8 | 577.9 |
| 42.5° | 513.6 | 520.7 | 538.6 | 554.1 | 563.6 |
| 45°   | 489.8 | 498.1 | 517.2 | 538.6 | 549.3 |
| 47.5° | 463.5 | 473.1 | 494.5 | 521.9 | 532.7 |
| 50°   | 436.1 | 445.7 | 471.9 | 502.9 | 514.8 |
| 52.5° | 408.7 | 419.5 | 450.4 | 483.8 | 498.1 |
| 55°   | 378.9 | 390.9 | 429.0 | 464.7 | 480.2 |
| 57.5° | 348.0 | 362.3 | 405.2 | 443.3 | 460.0 |
| 60°   | 315.8 | 333.7 | 381.3 | 421.8 | 439.7 |
| 62.5° | 282.4 | 303.9 | 357.5 | 400.4 | 419.5 |
| 65°   | 250.2 | 274.1 | 332.5 | 377.8 | 398.0 |
| 67.5° | 215.7 | 245.5 | 307.4 | 356.3 | 375.4 |
| 70°   | 181.1 | 215.7 | 281.2 | 331.3 | 350.3 |
| 72.5° | 146.6 | 188.3 | 255.0 | 300.3 | 300.3 |
| 75°   | 113.2 | 159.7 | 227.6 | 226.4 | 219.3 |
| 77.5° | 85.8  | 133.5 | 187.1 | 159.7 | 160.9 |
| 80°   | 62.0  | 107.2 | 118.0 | 118.0 | 119.2 |
| 82.5° | 41.7  | 82.2  | 76.3  | 75.1  | 77.5  |
| 85°   | 25.0  | 38.1  | 39.3  | 35.7  | 36.9  |
| 87.5° | 11.9  | 13.1  | 10.7  | 7.1   | 7.1   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)