

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: P263131

Luminaire Tested: **24CZ-LD5-35SE-SQP-UNV-L83050-W2A1-U-5000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P263131  
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-LD5-35SE-SQP-UNV-L83050-W2A1-U-5000K  
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER WITH SQP LENS  
Light Source: (168) 80 CRI LEDS TUNED AT 5000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2496.0 lumens  
Efficiency: N/A  
Efficacy: 91.4 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

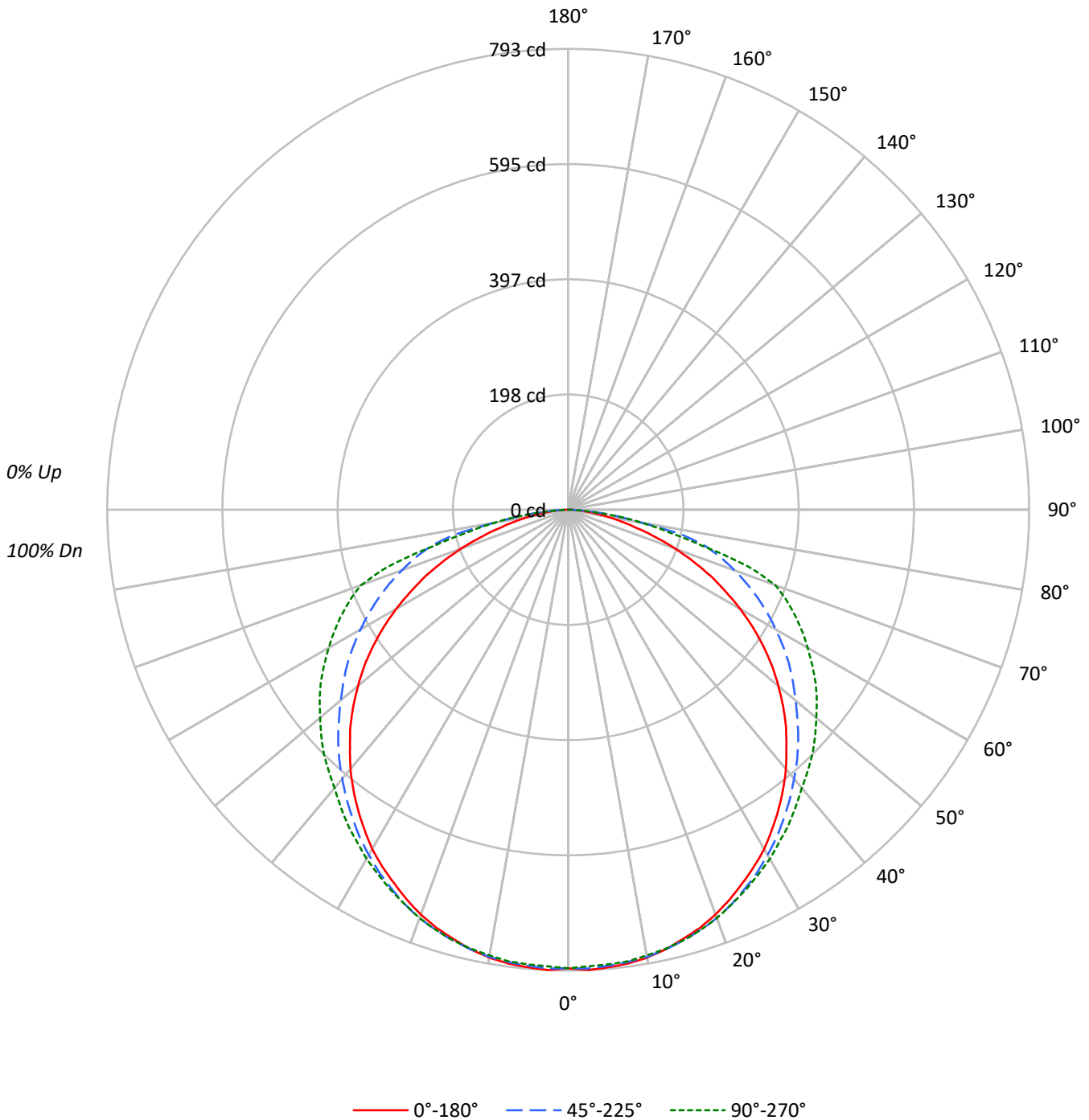
Input Watts (W): 27.31596  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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°  | 1062 | 1062 | 1062 |
| 5°  | 1067 | 1064 | 1061 |
| 10° | 1069 | 1067 | 1064 |
| 15° | 1065 | 1069 | 1069 |
| 20° | 1061 | 1071 | 1071 |
| 25° | 1053 | 1068 | 1072 |
| 30° | 1048 | 1066 | 1078 |
| 35° | 1036 | 1063 | 1086 |
| 40° | 1023 | 1062 | 1098 |
| 45° | 1008 | 1065 | 1131 |
| 50° | 988  | 1069 | 1166 |
| 55° | 962  | 1089 | 1219 |
| 60° | 920  | 1110 | 1280 |
| 65° | 862  | 1145 | 1371 |
| 70° | 771  | 1197 | 1491 |
| 75° | 637  | 1280 | 1233 |
| 80° | 519  | 989  | 999  |
| 85° | 418  | 656  | 618  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 74.9   | 3.0       |
| 10°-20°   | 216.2  | 8.7       |
| 20°-30°   | 330.5  | 13.2      |
| 30°-40°   | 404.2  | 16.2      |
| 40°-50°   | 432.5  | 17.3      |
| 50°-60°   | 414.1  | 16.6      |
| 60°-70°   | 350.3  | 14.0      |
| 70°-80°   | 222.1  | 8.9       |
| 80°-90°   | 51.1   | 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°    | 621.7  | 24.9      |
| 0°-40°    | 1025.9 | 41.1      |
| 0°-60°    | 1872.5 | 75.0      |
| 0°-90°    | 2496.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2496.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 789 | 789   | 789 | 789   | 789 |      |
| 5°  | 790 | 786   | 788 | 786   | 785 | 75   |
| 15° | 764 | 763   | 767 | 767   | 767 | 216  |
| 25° | 709 | 709   | 719 | 722   | 722 | 327  |
| 35° | 630 | 634   | 647 | 656   | 661 | 394  |
| 45° | 530 | 539   | 560 | 583   | 594 | 408  |
| 55° | 410 | 423   | 464 | 503   | 520 | 366  |
| 65° | 271 | 296   | 360 | 409   | 431 | 267  |
| 75° | 122 | 173   | 246 | 245   | 237 | 133  |
| 85° | 27  | 41    | 42  | 39    | 40  | 32   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 789.0 | 789.0 | 789.0 | 789.0 | 789.0 |
| 2.5°  | 792.9 | 789.0 | 790.3 | 789.0 | 786.5 |
| 5°    | 790.3 | 786.5 | 787.7 | 786.5 | 785.2 |
| 7.5°  | 787.7 | 783.9 | 785.2 | 783.9 | 783.9 |
| 10°   | 782.6 | 778.7 | 781.3 | 780.0 | 778.7 |
| 12.5° | 774.9 | 772.3 | 774.9 | 773.6 | 773.6 |
| 15°   | 764.5 | 763.2 | 767.1 | 767.1 | 767.1 |
| 17.5° | 754.2 | 752.9 | 758.1 | 758.1 | 758.1 |
| 20°   | 741.3 | 740.0 | 747.8 | 747.8 | 747.8 |
| 22.5° | 725.9 | 724.6 | 734.9 | 734.9 | 734.9 |
| 25°   | 709.1 | 709.1 | 719.4 | 722.0 | 722.0 |
| 27.5° | 692.3 | 692.3 | 703.9 | 707.8 | 707.8 |
| 30°   | 674.3 | 674.3 | 685.9 | 691.0 | 693.6 |
| 32.5° | 652.4 | 654.9 | 667.8 | 674.3 | 676.9 |
| 35°   | 630.5 | 634.3 | 647.2 | 656.2 | 661.4 |
| 37.5° | 607.2 | 611.1 | 626.6 | 636.9 | 643.3 |
| 40°   | 582.7 | 587.9 | 604.7 | 617.6 | 625.3 |
| 42.5° | 555.7 | 563.4 | 582.7 | 599.5 | 609.8 |
| 45°   | 529.9 | 538.9 | 559.5 | 582.7 | 594.4 |
| 47.5° | 501.5 | 511.8 | 535.0 | 564.7 | 576.3 |
| 50°   | 471.9 | 482.2 | 510.6 | 544.1 | 557.0 |
| 52.5° | 442.2 | 453.8 | 487.3 | 523.4 | 538.9 |
| 55°   | 410.0 | 422.9 | 464.1 | 502.8 | 519.6 |
| 57.5° | 376.5 | 391.9 | 438.4 | 479.6 | 497.7 |
| 60°   | 341.7 | 361.0 | 412.6 | 456.4 | 475.7 |
| 62.5° | 305.6 | 328.8 | 386.8 | 433.2 | 453.8 |
| 65°   | 270.7 | 296.5 | 359.7 | 408.7 | 430.6 |
| 67.5° | 233.4 | 265.6 | 332.6 | 385.5 | 406.1 |
| 70°   | 196.0 | 233.4 | 304.3 | 358.4 | 379.0 |
| 72.5° | 158.6 | 203.7 | 275.9 | 324.9 | 324.9 |
| 75°   | 122.5 | 172.8 | 246.3 | 245.0 | 237.2 |
| 77.5° | 92.8  | 144.4 | 202.4 | 172.8 | 174.1 |
| 80°   | 67.0  | 116.0 | 127.6 | 127.6 | 128.9 |
| 82.5° | 45.1  | 89.0  | 82.5  | 81.2  | 83.8  |
| 85°   | 27.1  | 41.3  | 42.5  | 38.7  | 40.0  |
| 87.5° | 12.9  | 14.2  | 11.6  | 7.7   | 7.7   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)