

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: P276993

Luminaire Tested: **24CZ2-40-RDP-UNV-L82765-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P276993  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-40-RDP-UNV-L82765-W2A1-U-4000K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RDP LENS  
Light Source: (168) 80 CRI LEDS TUNED TO 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2571.1 lumens  
Efficiency: N/A  
Efficacy: 83.5 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

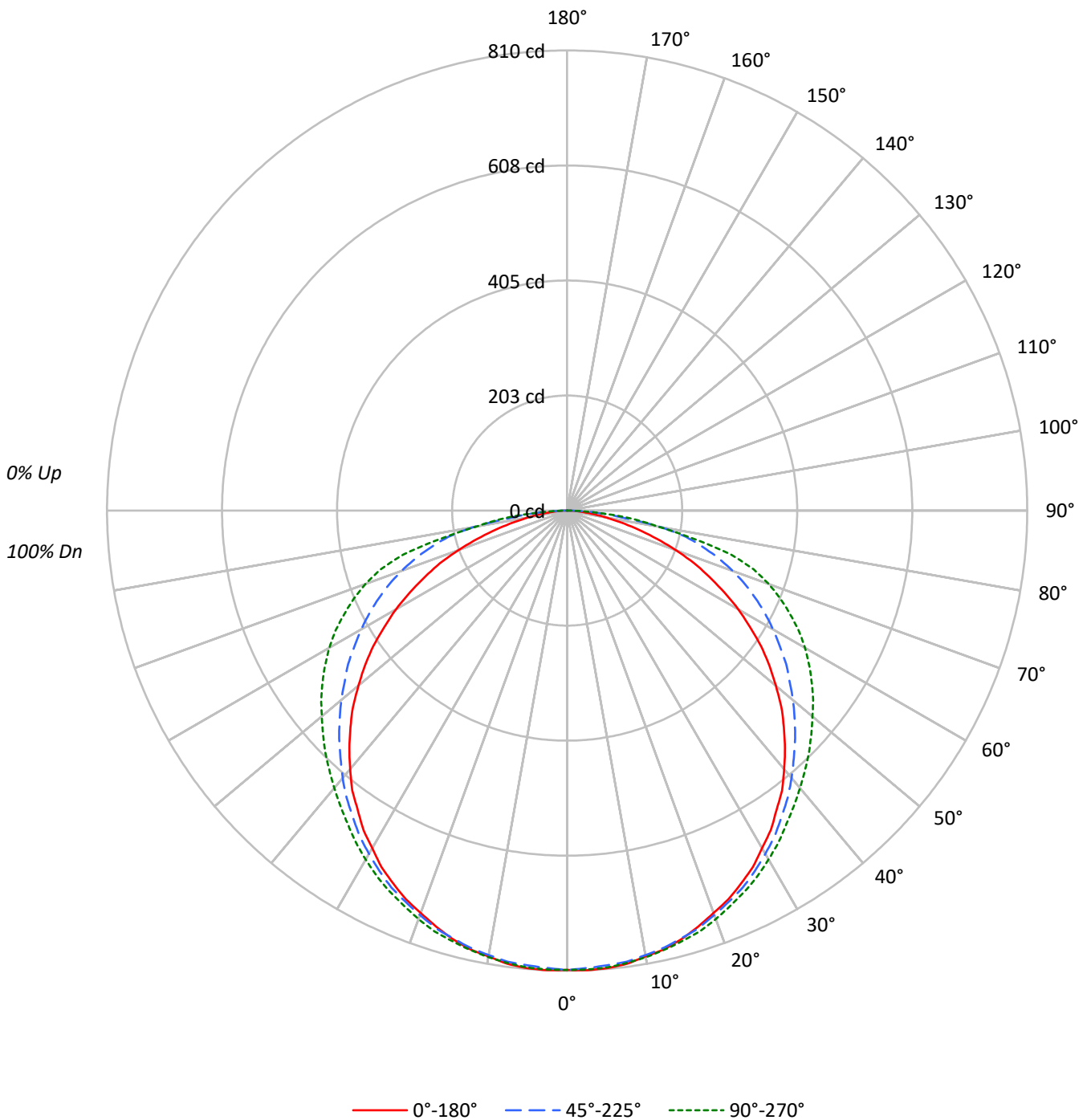
Input Watts (W): 30.783  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 100 | 96  | 92  | 96  | 93  | 89  | 92  | 89  | 87  | 88  | 86  | 84  | 82  |
| 2   | 97  | 89  | 81  | 75  | 95  | 87  | 80  | 74  | 83  | 77  | 72  | 80  | 75  | 71  | 77  | 73  | 69  | 67  |
| 3   | 88  | 77  | 68  | 62  | 86  | 76  | 67  | 61  | 72  | 66  | 60  | 70  | 64  | 59  | 67  | 62  | 58  | 56  |
| 4   | 81  | 68  | 59  | 52  | 78  | 67  | 58  | 51  | 64  | 57  | 51  | 62  | 55  | 50  | 59  | 54  | 49  | 47  |
| 5   | 74  | 60  | 51  | 44  | 72  | 59  | 51  | 44  | 57  | 49  | 43  | 55  | 48  | 43  | 53  | 47  | 42  | 40  |
| 6   | 68  | 54  | 45  | 38  | 66  | 53  | 45  | 38  | 51  | 44  | 38  | 50  | 43  | 37  | 48  | 42  | 37  | 35  |
| 7   | 63  | 49  | 40  | 34  | 61  | 48  | 40  | 34  | 47  | 39  | 33  | 45  | 38  | 33  | 44  | 38  | 33  | 31  |
| 8   | 59  | 45  | 36  | 30  | 57  | 44  | 36  | 30  | 43  | 35  | 30  | 41  | 34  | 29  | 40  | 34  | 29  | 27  |
| 9   | 55  | 41  | 33  | 27  | 53  | 40  | 32  | 27  | 39  | 32  | 27  | 38  | 31  | 26  | 37  | 31  | 26  | 24  |
| 10  | 51  | 38  | 30  | 24  | 50  | 37  | 29  | 24  | 36  | 29  | 24  | 35  | 29  | 24  | 34  | 28  | 24  | 22  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1088 | 1088 | 1088 |
| 5°  | 1092 | 1085 | 1090 |
| 10° | 1089 | 1085 | 1091 |
| 15° | 1087 | 1085 | 1092 |
| 20° | 1079 | 1085 | 1096 |
| 25° | 1075 | 1087 | 1098 |
| 30° | 1066 | 1084 | 1102 |
| 35° | 1056 | 1081 | 1106 |
| 40° | 1044 | 1080 | 1120 |
| 45° | 1026 | 1080 | 1145 |
| 50° | 1004 | 1086 | 1180 |
| 55° | 978  | 1104 | 1232 |
| 60° | 937  | 1126 | 1301 |
| 65° | 877  | 1165 | 1380 |
| 70° | 798  | 1219 | 1485 |
| 75° | 676  | 1286 | 1551 |
| 80° | 534  | 1295 | 1255 |
| 85° | 394  | 985  | 1102 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 76.7   | 3.0       |
| 10°-20°   | 220.7  | 8.6       |
| 20°-30°   | 337.5  | 13.1      |
| 30°-40°   | 412.6  | 16.0      |
| 40°-50°   | 439.8  | 17.1      |
| 50°-60°   | 420.5  | 16.4      |
| 60°-70°   | 356.2  | 13.9      |
| 70°-80°   | 239.4  | 9.3       |
| 80°-90°   | 67.5   | 2.6       |
| 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°    | 635.0  | 24.7      |
| 0°-40°    | 1047.6 | 40.7      |
| 0°-60°    | 1907.9 | 74.2      |
| 0°-90°    | 2571.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2571.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 808 | 808   | 808 | 808   | 808 |      |
| 5°  | 808 | 807   | 803 | 807   | 807 | 77   |
| 15° | 780 | 780   | 779 | 786   | 784 | 220  |
| 25° | 724 | 727   | 732 | 738   | 740 | 334  |
| 35° | 643 | 648   | 658 | 671   | 673 | 403  |
| 45° | 539 | 548   | 568 | 592   | 602 | 416  |
| 55° | 417 | 432   | 471 | 508   | 525 | 371  |
| 65° | 276 | 304   | 366 | 414   | 434 | 273  |
| 75° | 130 | 177   | 247 | 290   | 298 | 139  |
| 85° | 26  | 52    | 64  | 69    | 71  | 32   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 808.5 | 808.5 | 808.5 | 808.5 | 808.5 |
| 2.5°  | 809.8 | 809.8 | 806.0 | 808.5 | 808.5 |
| 5°    | 808.5 | 807.3 | 803.4 | 807.3 | 807.3 |
| 7.5°  | 804.7 | 803.4 | 800.9 | 804.7 | 803.4 |
| 10°   | 797.0 | 797.0 | 794.5 | 798.3 | 798.3 |
| 12.5° | 790.7 | 789.4 | 788.1 | 793.2 | 791.9 |
| 15°   | 780.5 | 780.5 | 779.2 | 785.6 | 784.3 |
| 17.5° | 767.7 | 769.0 | 770.3 | 775.4 | 776.6 |
| 20°   | 753.7 | 756.2 | 757.5 | 765.2 | 765.2 |
| 22.5° | 740.9 | 742.2 | 744.8 | 752.4 | 752.4 |
| 25°   | 724.4 | 726.9 | 732.0 | 738.4 | 739.7 |
| 27.5° | 707.8 | 709.1 | 715.4 | 724.4 | 725.6 |
| 30°   | 686.1 | 689.9 | 697.6 | 707.8 | 709.1 |
| 32.5° | 667.0 | 670.8 | 679.7 | 689.9 | 692.5 |
| 35°   | 642.7 | 647.8 | 658.0 | 670.8 | 673.3 |
| 37.5° | 621.1 | 624.9 | 637.6 | 651.7 | 655.5 |
| 40°   | 594.3 | 601.9 | 614.7 | 631.3 | 637.6 |
| 42.5° | 567.5 | 575.2 | 590.5 | 612.1 | 619.8 |
| 45°   | 539.4 | 548.4 | 567.5 | 591.7 | 601.9 |
| 47.5° | 511.4 | 521.6 | 543.3 | 571.3 | 582.8 |
| 50°   | 479.5 | 492.3 | 519.0 | 550.9 | 563.7 |
| 52.5° | 448.9 | 464.2 | 493.5 | 529.2 | 545.8 |
| 55°   | 417.0 | 432.3 | 470.6 | 507.6 | 525.4 |
| 57.5° | 381.3 | 401.7 | 443.8 | 485.9 | 505.0 |
| 60°   | 348.2 | 367.3 | 418.3 | 464.2 | 483.3 |
| 62.5° | 312.4 | 337.9 | 392.8 | 441.2 | 460.4 |
| 65°   | 275.5 | 303.5 | 366.0 | 414.5 | 433.6 |
| 67.5° | 242.3 | 272.9 | 339.2 | 387.7 | 406.8 |
| 70°   | 202.8 | 241.0 | 309.9 | 358.4 | 377.5 |
| 72.5° | 165.8 | 207.9 | 279.3 | 326.5 | 344.3 |
| 75°   | 130.1 | 177.3 | 247.4 | 289.5 | 298.4 |
| 77.5° | 96.9  | 146.7 | 214.2 | 232.1 | 225.7 |
| 80°   | 68.9  | 117.3 | 167.1 | 158.1 | 162.0 |
| 82.5° | 44.6  | 89.3  | 103.3 | 117.3 | 121.2 |
| 85°   | 25.5  | 52.3  | 63.8  | 68.9  | 71.4  |
| 87.5° | 11.5  | 19.1  | 25.5  | 25.5  | 24.2  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)