

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: P261218

Luminaire Tested: **24CZ-LD5-30SE-S-UNV-L82765-W2A1-U-5500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P261218  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25694)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ-LD5-30SE-S-UNV-L82765-W2A1-U-5500K  
Description: CRUZE 2x4 TUNABLE WHITE LED TROFFER  
WITH SMOOTH LENS  
Light Source: (168) 80 CRI LEDS TUNED AT 5500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3217.0 lumens  
Efficiency: N/A  
Efficacy: 143.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

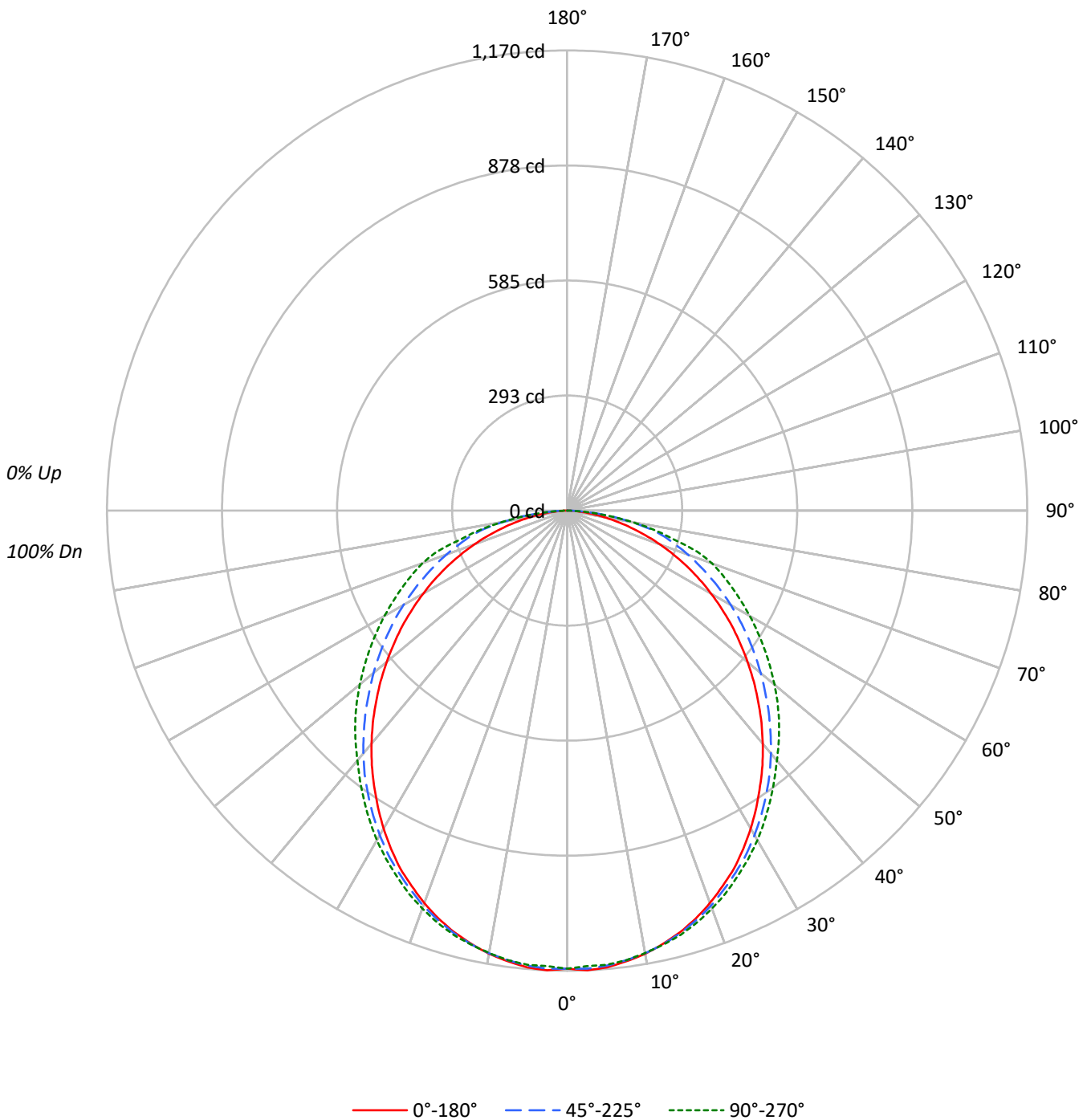
Input Watts (W): 22.413  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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 | 104 | 99  | 95  | 106 | 101 | 97  | 94  | 97  | 94  | 91  | 93  | 90  | 88  | 89  | 87  | 85  | 83  |
| 2   | 99  | 90  | 83  | 77  | 96  | 88  | 82  | 76  | 85  | 79  | 75  | 81  | 77  | 73  | 78  | 75  | 71  | 69  |
| 3   | 90  | 79  | 71  | 64  | 87  | 77  | 70  | 64  | 74  | 68  | 62  | 72  | 66  | 61  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 80  | 69  | 60  | 54  | 66  | 59  | 53  | 64  | 58  | 52  | 62  | 56  | 52  | 50  |
| 5   | 76  | 63  | 53  | 47  | 73  | 61  | 53  | 47  | 59  | 52  | 46  | 57  | 51  | 45  | 55  | 50  | 45  | 43  |
| 6   | 70  | 56  | 47  | 41  | 68  | 55  | 47  | 41  | 54  | 46  | 40  | 52  | 45  | 40  | 50  | 44  | 40  | 38  |
| 7   | 65  | 51  | 42  | 36  | 63  | 50  | 42  | 36  | 49  | 41  | 36  | 47  | 41  | 35  | 46  | 40  | 35  | 33  |
| 8   | 60  | 47  | 38  | 32  | 59  | 46  | 38  | 32  | 45  | 37  | 32  | 43  | 37  | 32  | 42  | 36  | 32  | 30  |
| 9   | 56  | 43  | 35  | 29  | 55  | 42  | 34  | 29  | 41  | 34  | 29  | 40  | 33  | 29  | 39  | 33  | 29  | 27  |
| 10  | 53  | 40  | 32  | 26  | 52  | 39  | 31  | 26  | 38  | 31  | 26  | 37  | 31  | 26  | 36  | 30  | 26  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1567 | 1567 | 1567 |
| 5°  | 1574 | 1569 | 1566 |
| 10° | 1563 | 1562 | 1560 |
| 15° | 1546 | 1549 | 1555 |
| 20° | 1520 | 1531 | 1542 |
| 25° | 1491 | 1507 | 1522 |
| 30° | 1450 | 1480 | 1503 |
| 35° | 1405 | 1449 | 1479 |
| 40° | 1359 | 1416 | 1457 |
| 45° | 1308 | 1379 | 1450 |
| 50° | 1255 | 1344 | 1441 |
| 55° | 1200 | 1316 | 1436 |
| 60° | 1138 | 1293 | 1443 |
| 65° | 1070 | 1278 | 1472 |
| 70° | 985  | 1284 | 1541 |
| 75° | 874  | 1330 | 1436 |
| 80° | 730  | 1261 | 1294 |
| 85° | 545  | 1008 | 925  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 110.1  | 3.4       |
| 10°-20°   | 313.2  | 9.7       |
| 20°-30°   | 466.7  | 14.5      |
| 30°-40°   | 549.4  | 17.1      |
| 40°-50°   | 558.3  | 17.4      |
| 50°-60°   | 501.9  | 15.6      |
| 60°-70°   | 396.5  | 12.3      |
| 70°-80°   | 251.6  | 7.8       |
| 80°-90°   | 69.4   | 2.2       |
| 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°    | 890.0  | 27.7      |
| 0°-40°    | 1439.3 | 44.7      |
| 0°-60°    | 2499.5 | 77.7      |
| 0°-90°    | 3217.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3217.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1165 | 1165  | 1165 | 1165  | 1165 |      |
| 5°  | 1166 | 1156  | 1161 | 1159  | 1159 | 111  |
| 15° | 1110 | 1105  | 1112 | 1115  | 1116 | 313  |
| 25° | 1004 | 1003  | 1015 | 1021  | 1026 | 462  |
| 35° | 855  | 861   | 882  | 892   | 900  | 535  |
| 45° | 687  | 697   | 725  | 746   | 762  | 530  |
| 55° | 512  | 524   | 561  | 597   | 612  | 457  |
| 65° | 336  | 353   | 401  | 445   | 462  | 333  |
| 75° | 168  | 197   | 256  | 278   | 276  | 179  |
| 85° | 35   | 61    | 65   | 60    | 60   | 43   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1164.6 | 1164.6 | 1164.6 | 1164.6 | 1164.6 |
| 2.5°  | 1170.0 | 1161.4 | 1165.7 | 1163.5 | 1159.3 |
| 5°    | 1165.7 | 1156.0 | 1161.4 | 1159.3 | 1159.3 |
| 7.5°  | 1156.0 | 1148.6 | 1152.8 | 1151.8 | 1152.8 |
| 10°   | 1144.3 | 1136.8 | 1143.2 | 1143.2 | 1142.1 |
| 12.5° | 1128.2 | 1121.8 | 1129.3 | 1129.3 | 1130.4 |
| 15°   | 1110.0 | 1104.7 | 1112.2 | 1115.4 | 1116.4 |
| 17.5° | 1087.5 | 1082.2 | 1091.8 | 1095.0 | 1098.2 |
| 20°   | 1061.9 | 1059.7 | 1069.3 | 1072.6 | 1076.8 |
| 22.5° | 1033.0 | 1033.0 | 1042.6 | 1046.9 | 1053.3 |
| 25°   | 1004.1 | 1003.0 | 1014.8 | 1021.2 | 1025.5 |
| 27.5° | 969.8  | 970.9  | 985.9  | 992.3  | 997.6  |
| 30°   | 933.4  | 935.5  | 952.7  | 960.2  | 967.7  |
| 32.5° | 894.9  | 899.1  | 918.4  | 927.0  | 934.5  |
| 35°   | 855.3  | 860.6  | 882.0  | 891.7  | 900.2  |
| 37.5° | 815.7  | 823.2  | 845.6  | 855.3  | 864.9  |
| 40°   | 773.9  | 780.3  | 806.0  | 817.8  | 829.6  |
| 42.5° | 731.1  | 739.7  | 765.3  | 782.5  | 796.4  |
| 45°   | 687.2  | 696.8  | 724.7  | 746.1  | 762.1  |
| 47.5° | 643.3  | 656.2  | 682.9  | 711.8  | 725.7  |
| 50°   | 599.4  | 612.3  | 642.2  | 674.4  | 688.3  |
| 52.5° | 554.5  | 567.3  | 601.6  | 634.8  | 649.7  |
| 55°   | 511.7  | 524.5  | 560.9  | 597.3  | 612.3  |
| 57.5° | 466.7  | 480.6  | 521.3  | 558.8  | 573.7  |
| 60°   | 422.8  | 436.7  | 480.6  | 520.2  | 536.3  |
| 62.5° | 380.0  | 395.0  | 441.0  | 482.8  | 498.8  |
| 65°   | 336.1  | 353.2  | 401.4  | 445.3  | 462.4  |
| 67.5° | 293.3  | 312.6  | 362.9  | 408.9  | 427.1  |
| 70°   | 250.5  | 273.0  | 326.5  | 373.6  | 391.8  |
| 72.5° | 208.7  | 233.4  | 290.1  | 337.2  | 346.8  |
| 75°   | 168.1  | 197.0  | 255.8  | 278.3  | 276.2  |
| 77.5° | 129.5  | 161.6  | 217.3  | 221.6  | 228.0  |
| 80°   | 94.2   | 129.5  | 162.7  | 171.3  | 167.0  |
| 82.5° | 62.1   | 97.4   | 116.7  | 112.4  | 111.3  |
| 85°   | 35.3   | 61.0   | 65.3   | 59.9   | 59.9   |
| 87.5° | 15.0   | 24.6   | 21.4   | 16.1   | 15.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)