

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: P230849

Luminaire Tested: **22CZ-LD5-29-RDP-UNV-L935-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P230849  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25714)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ-LD5-29-RDP-UNV-L935-CD1-U  
Description: CRUZE 2x2 LED TROFFER  
WITH RDP LENS  
Light Source: (84) 3500K CCT, 90 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1644.0 lumens  
Efficiency: N/A  
Efficacy: 70.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.28 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

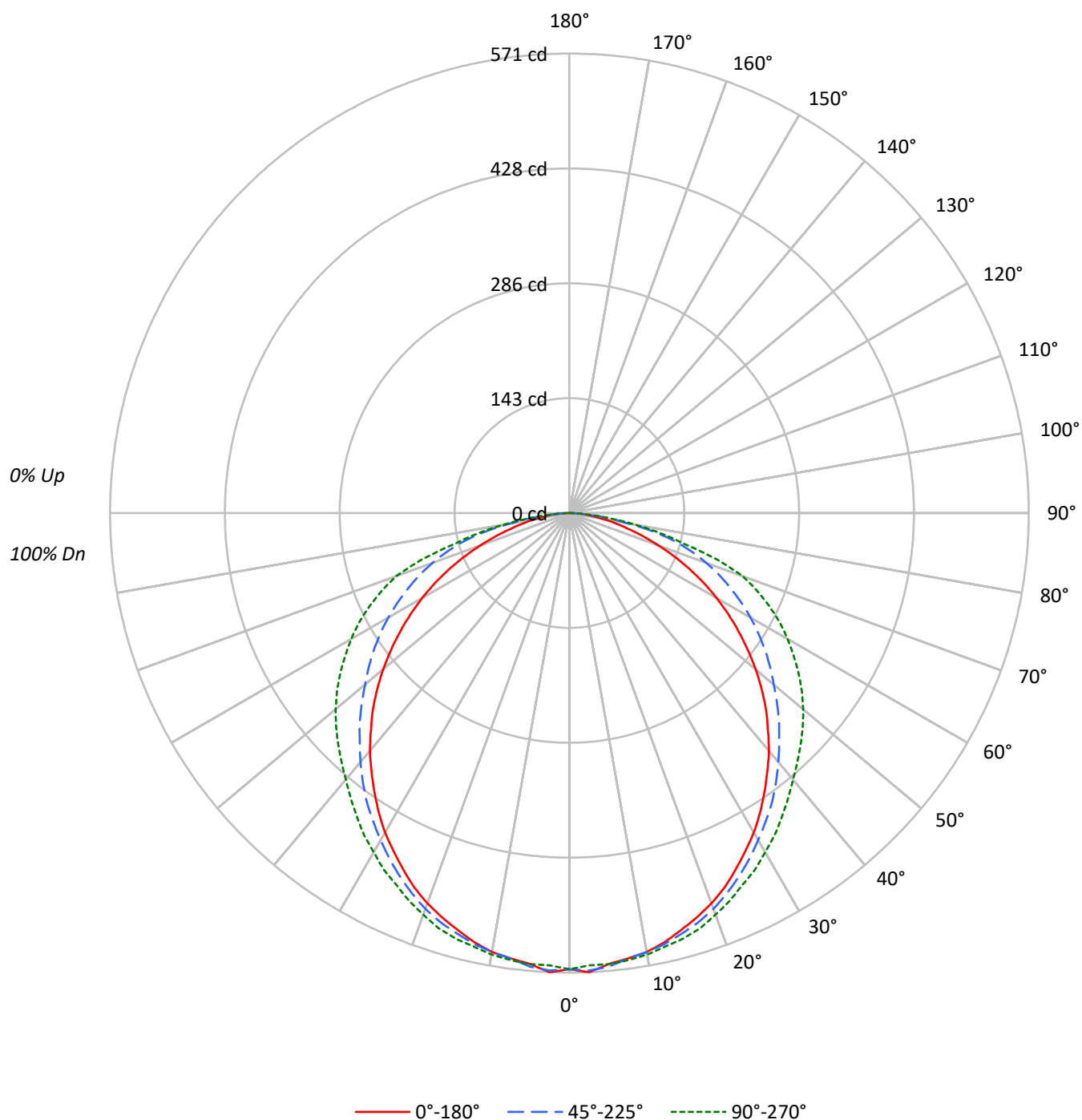
Input Watts (W): 23.5  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |  | 50  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 |
| 1   | 108 | 104 | 99  | 95  | 106 | 101 | 97  | 94  |  | 97  | 94  | 91  |  | 93  | 90  | 88  |  | 89  | 87  | 85  |
| 2   | 98  | 90  | 83  | 77  | 96  | 88  | 81  | 76  |  | 84  | 79  | 74  |  | 81  | 77  | 73  |  | 78  | 74  | 71  |
| 3   | 89  | 79  | 70  | 64  | 87  | 77  | 69  | 63  |  | 74  | 67  | 62  |  | 71  | 66  | 61  |  | 69  | 64  | 60  |
| 4   | 82  | 69  | 60  | 54  | 79  | 68  | 60  | 53  |  | 66  | 58  | 52  |  | 63  | 57  | 52  |  | 61  | 56  | 51  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 52  | 46  |  | 59  | 51  | 45  |  | 57  | 50  | 45  |  | 55  | 49  | 44  |
| 6   | 69  | 56  | 47  | 40  | 67  | 55  | 46  | 40  |  | 53  | 45  | 40  |  | 51  | 44  | 39  |  | 50  | 44  | 39  |
| 7   | 64  | 50  | 42  | 35  | 62  | 50  | 41  | 35  |  | 48  | 40  | 35  |  | 47  | 40  | 35  |  | 45  | 39  | 34  |
| 8   | 60  | 46  | 37  | 31  | 58  | 45  | 37  | 31  |  | 44  | 37  | 31  |  | 43  | 36  | 31  |  | 42  | 35  | 31  |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  |  | 40  | 33  | 28  |  | 39  | 33  | 28  |  | 38  | 32  | 28  |
| 10  | 52  | 39  | 31  | 26  | 51  | 38  | 31  | 26  |  | 37  | 30  | 25  |  | 36  | 30  | 25  |  | 36  | 30  | 25  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1525 | 1525 | 1525 |
| 5°  | 1519 | 1528 | 1519 |
| 10° | 1513 | 1513 | 1522 |
| 15° | 1494 | 1507 | 1525 |
| 20° | 1477 | 1499 | 1521 |
| 25° | 1451 | 1480 | 1512 |
| 30° | 1424 | 1458 | 1512 |
| 35° | 1389 | 1442 | 1513 |
| 40° | 1355 | 1420 | 1519 |
| 45° | 1316 | 1402 | 1547 |
| 50° | 1266 | 1388 | 1588 |
| 55° | 1205 | 1393 | 1632 |
| 60° | 1137 | 1400 | 1686 |
| 65° | 1049 | 1408 | 1746 |
| 70° | 929  | 1424 | 1799 |
| 75° | 789  | 1419 | 1533 |
| 80° | 656  | 1142 | 1277 |
| 85° | 568  | 769  | 735  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 53.6   | 3.3       |
| 10°-20°   | 152.7  | 9.3       |
| 20°-30°   | 229.8  | 14.0      |
| 30°-40°   | 275.4  | 16.8      |
| 40°-50°   | 287.2  | 17.5      |
| 50°-60°   | 267.4  | 16.3      |
| 60°-70°   | 217.1  | 13.2      |
| 70°-80°   | 130.8  | 8.0       |
| 80°-90°   | 30.0   | 1.8       |
| 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°    | 436.1  | 26.5      |
| 0°-40°    | 711.5  | 43.3      |
| 0°-60°    | 1266.1 | 77.0      |
| 0°-90°    | 1644.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1644.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 567 | 567   | 567 | 567   | 567 |      |
| 5°  | 562 | 562   | 566 | 567   | 562 | 53   |
| 15° | 536 | 539   | 541 | 544   | 547 | 151  |
| 25° | 489 | 492   | 498 | 505   | 509 | 225  |
| 35° | 423 | 428   | 439 | 452   | 461 | 265  |
| 45° | 346 | 352   | 368 | 392   | 406 | 266  |
| 55° | 257 | 268   | 297 | 330   | 348 | 230  |
| 65° | 165 | 182   | 221 | 256   | 274 | 163  |
| 75° | 76  | 101   | 136 | 145   | 147 | 82   |
| 85° | 18  | 23    | 25  | 24    | 24  | 21   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 566.8 | 566.8 | 566.8 | 566.8 | 566.8 |
| 2.5°  | 571.1 | 570.0 | 569.0 | 565.7 | 562.5 |
| 5°    | 562.5 | 562.5 | 565.7 | 566.8 | 562.5 |
| 7.5°  | 558.1 | 558.1 | 558.1 | 562.5 | 560.3 |
| 10°   | 553.8 | 553.8 | 553.8 | 557.0 | 557.0 |
| 12.5° | 546.2 | 547.3 | 548.4 | 549.4 | 551.6 |
| 15°   | 536.4 | 538.6 | 540.8 | 544.0 | 547.3 |
| 17.5° | 526.7 | 528.9 | 533.2 | 536.4 | 540.8 |
| 20°   | 515.9 | 518.0 | 523.4 | 526.7 | 531.0 |
| 22.5° | 503.9 | 505.0 | 511.5 | 515.9 | 521.3 |
| 25°   | 488.8 | 492.0 | 498.5 | 505.0 | 509.4 |
| 27.5° | 473.6 | 476.8 | 484.4 | 493.1 | 499.6 |
| 30°   | 458.4 | 461.7 | 469.3 | 480.1 | 486.6 |
| 32.5° | 441.1 | 445.4 | 454.1 | 467.1 | 474.7 |
| 35°   | 422.7 | 428.1 | 438.9 | 451.9 | 460.6 |
| 37.5° | 404.2 | 409.6 | 421.6 | 437.8 | 446.5 |
| 40°   | 385.8 | 391.2 | 404.2 | 421.6 | 432.4 |
| 42.5° | 365.2 | 371.7 | 385.8 | 406.4 | 419.4 |
| 45°   | 345.7 | 352.2 | 368.5 | 392.3 | 406.4 |
| 47.5° | 324.0 | 331.6 | 350.0 | 377.1 | 393.4 |
| 50°   | 302.4 | 311.0 | 331.6 | 362.0 | 379.3 |
| 52.5° | 279.6 | 289.4 | 314.3 | 345.7 | 364.1 |
| 55°   | 256.8 | 267.7 | 296.9 | 329.5 | 347.9 |
| 57.5° | 234.1 | 246.0 | 278.5 | 312.1 | 330.5 |
| 60°   | 211.3 | 224.3 | 260.1 | 294.8 | 313.2 |
| 62.5° | 188.6 | 202.7 | 240.6 | 275.3 | 294.8 |
| 65°   | 164.7 | 182.1 | 221.1 | 255.8 | 274.2 |
| 67.5° | 140.9 | 161.5 | 201.6 | 235.2 | 252.5 |
| 70°   | 118.1 | 140.9 | 181.0 | 212.4 | 228.7 |
| 72.5° | 96.5  | 120.3 | 159.3 | 186.4 | 192.9 |
| 75°   | 75.9  | 100.8 | 136.5 | 145.2 | 147.4 |
| 77.5° | 58.5  | 81.3  | 108.4 | 110.5 | 116.0 |
| 80°   | 42.3  | 61.8  | 73.7  | 80.2  | 82.4  |
| 82.5° | 29.3  | 42.3  | 48.8  | 49.9  | 50.9  |
| 85°   | 18.4  | 22.8  | 24.9  | 23.8  | 23.8  |
| 87.5° | 9.8   | 8.7   | 7.6   | 5.4   | 4.3   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)