

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: P277560

Luminaire Tested: **22CZ2-24HE-RDP-UNV-L82765-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P277560  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-24)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-24HE-RDP-UNV-L82765-W2A1-U-4000K  
Description: CRUZE 2.0 2x2 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: 1518.0 lumens  
Efficiency: N/A  
Efficacy: 85.5 lumens/watt  
Spacing Criteria (0/90/45): 1.25 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

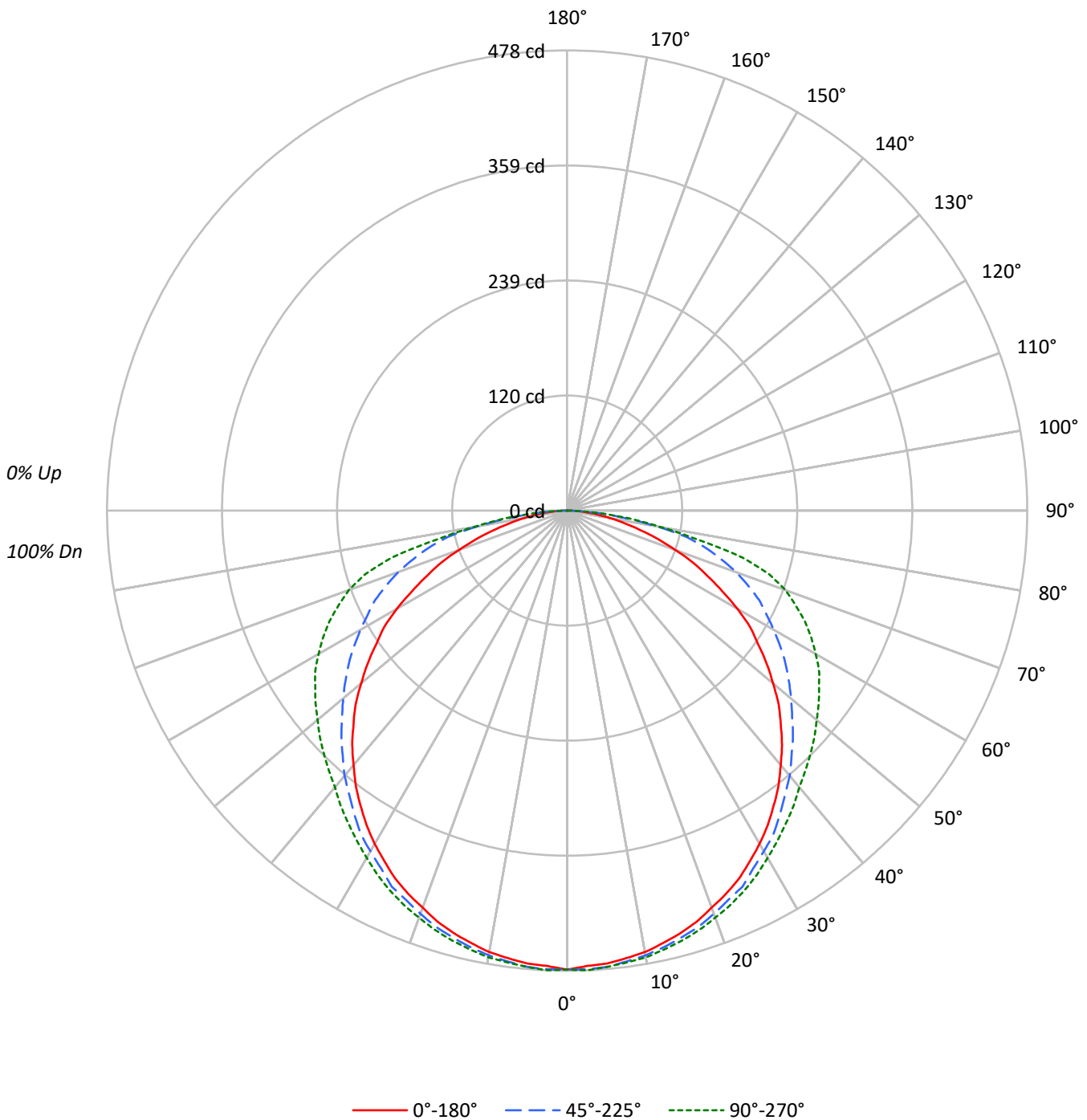
Input Watts (W): 17.763  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 92  | 89  | 92  | 89  | 86  | 88  | 86  | 84  | 82  |
| 2   | 97  | 88  | 81  | 75  | 95  | 86  | 80  | 74  | 83  | 77  | 72  | 80  | 75  | 71  | 76  | 72  | 69  | 67  |
| 3   | 88  | 77  | 68  | 61  | 86  | 75  | 67  | 61  | 72  | 65  | 60  | 70  | 64  | 59  | 67  | 62  | 58  | 55  |
| 4   | 80  | 68  | 59  | 51  | 78  | 66  | 58  | 51  | 64  | 56  | 50  | 61  | 55  | 50  | 59  | 54  | 49  | 47  |
| 5   | 74  | 60  | 51  | 44  | 72  | 59  | 50  | 44  | 57  | 49  | 43  | 55  | 48  | 43  | 53  | 47  | 42  | 40  |
| 6   | 68  | 54  | 45  | 38  | 66  | 53  | 44  | 38  | 51  | 43  | 38  | 50  | 43  | 37  | 48  | 42  | 37  | 35  |
| 7   | 63  | 49  | 40  | 33  | 61  | 48  | 39  | 33  | 47  | 39  | 33  | 45  | 38  | 33  | 44  | 37  | 33  | 31  |
| 8   | 59  | 45  | 36  | 30  | 57  | 44  | 35  | 30  | 43  | 35  | 29  | 41  | 34  | 29  | 40  | 34  | 29  | 27  |
| 9   | 55  | 41  | 32  | 27  | 53  | 40  | 32  | 27  | 39  | 32  | 26  | 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°  | 1283 | 1283 | 1283 |
| 5°  | 1276 | 1285 | 1285 |
| 10° | 1273 | 1282 | 1288 |
| 15° | 1266 | 1279 | 1288 |
| 20° | 1257 | 1276 | 1289 |
| 25° | 1253 | 1280 | 1293 |
| 30° | 1242 | 1270 | 1294 |
| 35° | 1229 | 1266 | 1302 |
| 40° | 1212 | 1263 | 1318 |
| 45° | 1194 | 1262 | 1360 |
| 50° | 1169 | 1271 | 1417 |
| 55° | 1137 | 1299 | 1498 |
| 60° | 1100 | 1334 | 1605 |
| 65° | 1024 | 1401 | 1735 |
| 70° | 940  | 1467 | 1898 |
| 75° | 824  | 1544 | 1962 |
| 80° | 710  | 1471 | 1540 |
| 85° | 621  | 1068 | 1173 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 45.1   | 3.0       |
| 10°-20°   | 129.5  | 8.5       |
| 20°-30°   | 197.6  | 13.0      |
| 30°-40°   | 241.3  | 15.9      |
| 40°-50°   | 258.0  | 17.0      |
| 50°-60°   | 249.0  | 16.4      |
| 60°-70°   | 214.3  | 14.1      |
| 70°-80°   | 145.0  | 9.6       |
| 80°-90°   | 38.3   | 2.5       |
| 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°    | 372.2  | 24.5      |
| 0°-40°    | 613.4  | 40.4      |
| 0°-60°    | 1120.4 | 73.8      |
| 0°-90°    | 1518.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1518.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 477 | 477   | 477 | 477   | 477 |      |
| 5°  | 472 | 474   | 476 | 476   | 476 | 45   |
| 15° | 454 | 456   | 459 | 461   | 462 | 128  |
| 25° | 422 | 424   | 431 | 433   | 436 | 194  |
| 35° | 374 | 377   | 385 | 393   | 396 | 234  |
| 45° | 314 | 319   | 332 | 348   | 357 | 242  |
| 55° | 242 | 250   | 277 | 305   | 319 | 217  |
| 65° | 161 | 176   | 220 | 255   | 272 | 160  |
| 75° | 79  | 105   | 148 | 179   | 189 | 85   |
| 85° | 20  | 28    | 35  | 36    | 38  | 23   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 476.8 | 476.8 | 476.8 | 476.8 | 476.8 |
| 2.5°  | 473.5 | 474.6 | 476.8 | 476.8 | 477.9 |
| 5°    | 472.4 | 473.5 | 475.7 | 475.7 | 475.7 |
| 7.5°  | 469.0 | 470.1 | 472.4 | 473.5 | 473.5 |
| 10°   | 465.7 | 466.8 | 469.0 | 470.1 | 471.2 |
| 12.5° | 460.1 | 461.2 | 464.5 | 466.8 | 466.8 |
| 15°   | 454.5 | 455.6 | 459.0 | 461.2 | 462.3 |
| 17.5° | 447.8 | 450.0 | 453.4 | 455.6 | 456.7 |
| 20°   | 438.9 | 441.1 | 445.6 | 448.9 | 450.0 |
| 22.5° | 431.0 | 433.3 | 437.7 | 441.1 | 443.3 |
| 25°   | 422.1 | 424.3 | 431.0 | 433.3 | 435.5 |
| 27.5° | 410.9 | 413.2 | 418.8 | 423.2 | 426.6 |
| 30°   | 399.8 | 402.0 | 408.7 | 414.3 | 416.5 |
| 32.5° | 387.5 | 390.8 | 398.7 | 403.1 | 406.5 |
| 35°   | 374.1 | 377.4 | 385.3 | 393.1 | 396.4 |
| 37.5° | 360.7 | 364.0 | 371.9 | 381.9 | 386.4 |
| 40°   | 345.1 | 349.5 | 359.6 | 373.0 | 375.2 |
| 42.5° | 330.5 | 336.1 | 345.1 | 360.7 | 366.3 |
| 45°   | 313.8 | 319.4 | 331.7 | 348.4 | 357.3 |
| 47.5° | 298.2 | 303.7 | 317.1 | 337.2 | 348.4 |
| 50°   | 279.2 | 287.0 | 303.7 | 327.2 | 338.4 |
| 52.5° | 261.3 | 268.0 | 290.3 | 316.0 | 329.4 |
| 55°   | 242.3 | 250.1 | 276.9 | 304.9 | 319.4 |
| 57.5° | 225.6 | 232.3 | 262.4 | 293.7 | 310.4 |
| 60°   | 204.4 | 213.3 | 247.9 | 281.4 | 298.2 |
| 62.5° | 182.0 | 195.4 | 233.4 | 268.0 | 285.9 |
| 65°   | 160.8 | 176.4 | 220.0 | 254.6 | 272.5 |
| 67.5° | 141.8 | 158.6 | 203.2 | 240.1 | 256.8 |
| 70°   | 119.5 | 140.7 | 186.5 | 222.2 | 241.2 |
| 72.5° | 99.4  | 122.8 | 167.5 | 203.2 | 220.0 |
| 75°   | 79.3  | 105.0 | 148.5 | 178.7 | 188.7 |
| 77.5° | 61.4  | 86.0  | 127.3 | 136.2 | 137.4 |
| 80°   | 45.8  | 68.1  | 94.9  | 96.0  | 99.4  |
| 82.5° | 31.3  | 48.0  | 61.4  | 67.0  | 68.1  |
| 85°   | 20.1  | 27.9  | 34.6  | 35.7  | 38.0  |
| 87.5° | 8.9   | 10.1  | 12.3  | 11.2  | 11.2  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)