

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: P277020

Luminaire Tested: **24CZ2-30HE-RDP-UNV-L92765-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P277020  
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: 24CZ2-30HE-RDP-UNV-L92765-W2A1-U-4000K  
Description: CRUZE 2.0 2x4 TUNABLE WHITE LED TROFFER WITH RDP LENS  
Light Source: (336) 90 CRI LEDS TUNED TO 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1724.9 lumens  
Efficiency: N/A  
Efficacy: 87.1 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

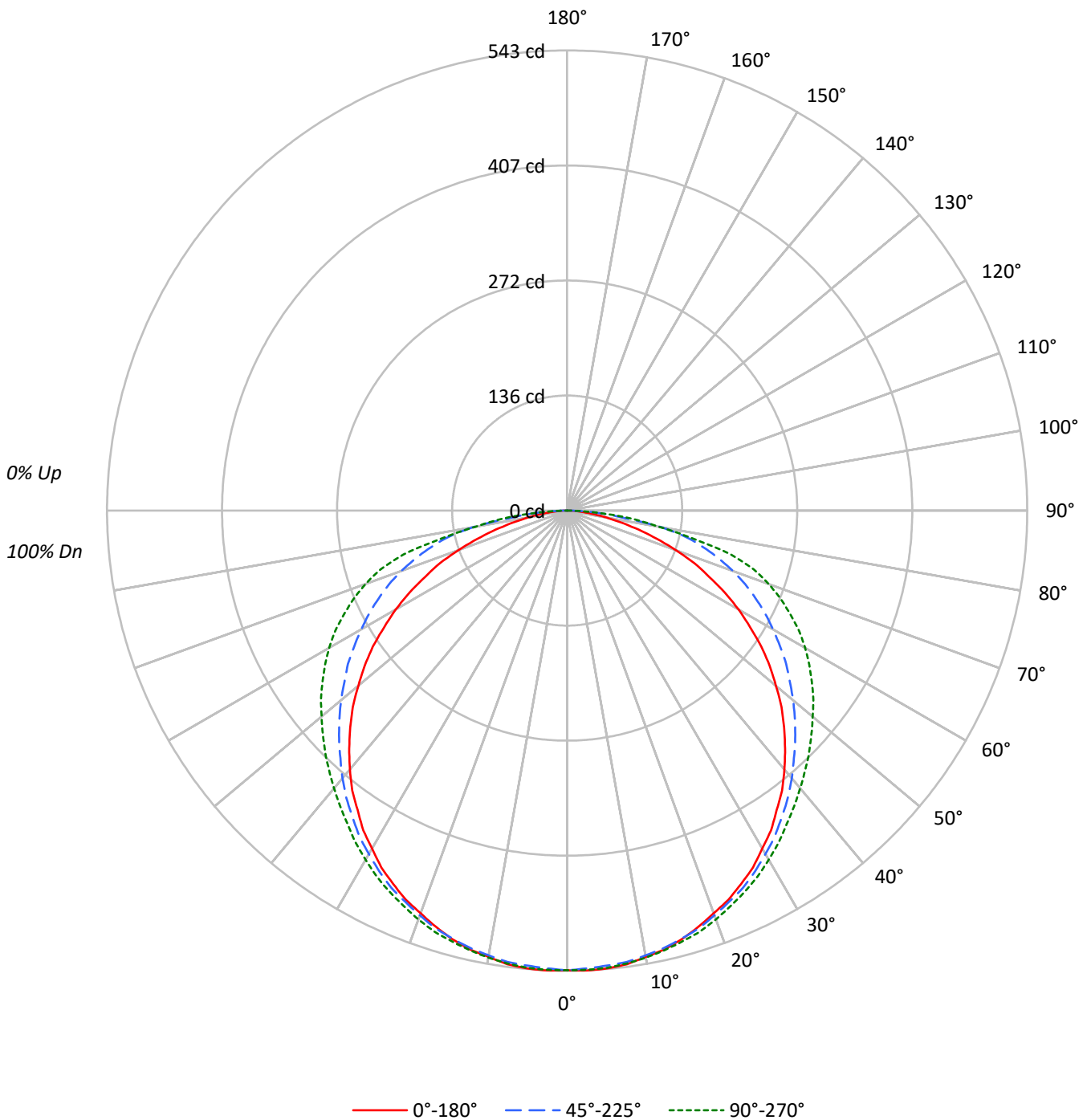
Input Watts (W): 19.809  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF  | 20  |     |     |     | 20  |     |     |     | 20  |     |     | 20  |     |     | 20  |     |     | 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°  | 730 | 730 | 730  |
| 5°  | 733 | 728 | 732  |
| 10° | 731 | 728 | 732  |
| 15° | 729 | 728 | 733  |
| 20° | 724 | 728 | 735  |
| 25° | 722 | 729 | 737  |
| 30° | 715 | 727 | 739  |
| 35° | 708 | 725 | 742  |
| 40° | 700 | 724 | 751  |
| 45° | 689 | 724 | 768  |
| 50° | 673 | 729 | 792  |
| 55° | 656 | 741 | 827  |
| 60° | 629 | 755 | 873  |
| 65° | 588 | 782 | 926  |
| 70° | 535 | 818 | 996  |
| 75° | 454 | 863 | 1041 |
| 80° | 358 | 869 | 842  |
| 85° | 264 | 661 | 739  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 51.5   | 3.0       |
| 10°-20°   | 148.1  | 8.6       |
| 20°-30°   | 226.5  | 13.1      |
| 30°-40°   | 276.8  | 16.0      |
| 40°-50°   | 295.1  | 17.1      |
| 50°-60°   | 282.1  | 16.4      |
| 60°-70°   | 239.0  | 13.9      |
| 70°-80°   | 160.6  | 9.3       |
| 80°-90°   | 45.3   | 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°    | 426.0  | 24.7      |
| 0°-40°    | 702.8  | 40.7      |
| 0°-60°    | 1280.0 | 74.2      |
| 0°-90°    | 1724.9 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1724.9 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 542 | 542   | 542 | 542   | 542 |      |
| 5°  | 542 | 542   | 539 | 542   | 542 | 52   |
| 15° | 524 | 524   | 523 | 527   | 526 | 148  |
| 25° | 486 | 488   | 491 | 495   | 496 | 224  |
| 35° | 431 | 435   | 442 | 450   | 452 | 270  |
| 45° | 362 | 368   | 381 | 397   | 404 | 279  |
| 55° | 280 | 290   | 316 | 340   | 352 | 249  |
| 65° | 185 | 204   | 246 | 278   | 291 | 183  |
| 75° | 87  | 119   | 166 | 194   | 200 | 93   |
| 85° | 17  | 35    | 43  | 46    | 48  | 21   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 542.4 | 542.4 | 542.4 | 542.4 | 542.4 |
| 2.5°  | 543.3 | 543.3 | 540.7 | 542.4 | 542.4 |
| 5°    | 542.4 | 541.6 | 539.0 | 541.6 | 541.6 |
| 7.5°  | 539.9 | 539.0 | 537.3 | 539.9 | 539.0 |
| 10°   | 534.7 | 534.7 | 533.0 | 535.6 | 535.6 |
| 12.5° | 530.4 | 529.6 | 528.7 | 532.2 | 531.3 |
| 15°   | 523.6 | 523.6 | 522.7 | 527.0 | 526.2 |
| 17.5° | 515.0 | 515.9 | 516.8 | 520.2 | 521.0 |
| 20°   | 505.6 | 507.3 | 508.2 | 513.3 | 513.3 |
| 22.5° | 497.1 | 497.9 | 499.6 | 504.8 | 504.8 |
| 25°   | 486.0 | 487.7 | 491.1 | 495.4 | 496.2 |
| 27.5° | 474.8 | 475.7 | 480.0 | 486.0 | 486.8 |
| 30°   | 460.3 | 462.9 | 468.0 | 474.8 | 475.7 |
| 32.5° | 447.5 | 450.0 | 456.0 | 462.9 | 464.6 |
| 35°   | 431.2 | 434.6 | 441.5 | 450.0 | 451.7 |
| 37.5° | 416.7 | 419.2 | 427.8 | 437.2 | 439.8 |
| 40°   | 398.7 | 403.8 | 412.4 | 423.5 | 427.8 |
| 42.5° | 380.7 | 385.9 | 396.1 | 410.7 | 415.8 |
| 45°   | 361.9 | 367.9 | 380.7 | 397.0 | 403.8 |
| 47.5° | 343.1 | 349.9 | 364.5 | 383.3 | 391.0 |
| 50°   | 321.7 | 330.2 | 348.2 | 369.6 | 378.2 |
| 52.5° | 301.2 | 311.4 | 331.1 | 355.1 | 366.2 |
| 55°   | 279.8 | 290.0 | 315.7 | 340.5 | 352.5 |
| 57.5° | 255.8 | 269.5 | 297.7 | 326.0 | 338.8 |
| 60°   | 233.6 | 246.4 | 280.6 | 311.4 | 324.3 |
| 62.5° | 209.6 | 226.7 | 263.5 | 296.0 | 308.9 |
| 65°   | 184.8 | 203.6 | 245.5 | 278.1 | 290.9 |
| 67.5° | 162.6 | 183.1 | 227.6 | 260.1 | 272.9 |
| 70°   | 136.0 | 161.7 | 207.9 | 240.4 | 253.2 |
| 72.5° | 111.2 | 139.5 | 187.4 | 219.0 | 231.0 |
| 75°   | 87.3  | 118.9 | 166.0 | 194.2 | 200.2 |
| 77.5° | 65.0  | 98.4  | 143.7 | 155.7 | 151.4 |
| 80°   | 46.2  | 78.7  | 112.1 | 106.1 | 108.7 |
| 82.5° | 29.9  | 59.9  | 69.3  | 78.7  | 81.3  |
| 85°   | 17.1  | 35.1  | 42.8  | 46.2  | 47.9  |
| 87.5° | 7.7   | 12.8  | 17.1  | 17.1  | 16.3  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)