

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: P277199

Luminaire Tested: **22CZ2-34HE-UNV-L93050-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P277199  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-27)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22CZ2-34HE-UNV-L93050-W2A1-U-4000K  
Description: CRUZE 2.0 2x2 TUNABLE WHITE LED TROFFER  
WITH RIBBED LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2940.0 lumens  
Efficiency: N/A  
Efficacy: 111.6 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.27 / 1.36  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

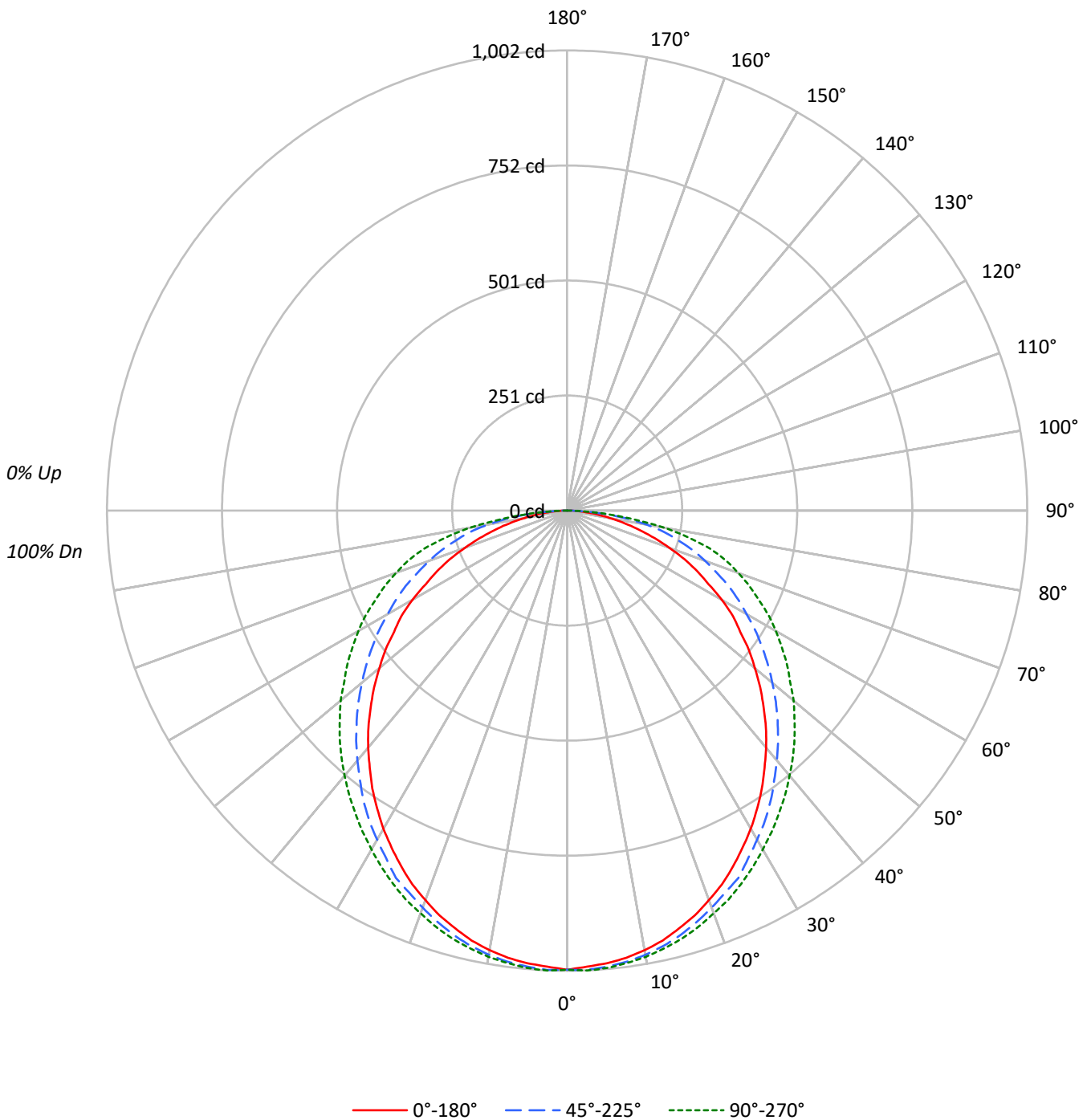
Input Watts (W): 26.335368  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P277199

CATALOG NUMBER: 22CZ2-34HE-UNV-L93050-W2A1-U-4000K

### Luminous Intensity Polar Plot





TEST NUMBER: P277199

CATALOG NUMBER: 22CZ2-34HE-UNV-L93050-W2A1-U-4000K

**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 | 101 | 96  | 93  | 96  | 93  | 90  | 92  | 90  | 87  | 89  | 86  | 84  | 82  |
| 2   | 98  | 89  | 82  | 76  | 95  | 87  | 81  | 75  | 84  | 78  | 73  | 80  | 76  | 71  | 77  | 73  | 70  | 68  |
| 3   | 89  | 78  | 69  | 63  | 86  | 76  | 68  | 62  | 73  | 66  | 61  | 70  | 65  | 60  | 68  | 63  | 59  | 56  |
| 4   | 81  | 69  | 60  | 53  | 79  | 67  | 59  | 52  | 65  | 57  | 52  | 63  | 56  | 51  | 60  | 55  | 50  | 48  |
| 5   | 75  | 61  | 52  | 45  | 72  | 60  | 52  | 45  | 58  | 50  | 44  | 56  | 49  | 44  | 54  | 48  | 44  | 41  |
| 6   | 69  | 55  | 46  | 39  | 67  | 54  | 46  | 39  | 52  | 45  | 39  | 51  | 44  | 39  | 49  | 43  | 38  | 36  |
| 7   | 64  | 50  | 41  | 35  | 62  | 49  | 41  | 35  | 48  | 40  | 34  | 46  | 39  | 34  | 45  | 39  | 34  | 32  |
| 8   | 59  | 46  | 37  | 31  | 58  | 45  | 37  | 31  | 44  | 36  | 31  | 42  | 35  | 30  | 41  | 35  | 30  | 28  |
| 9   | 56  | 42  | 34  | 28  | 54  | 41  | 33  | 28  | 40  | 33  | 28  | 39  | 32  | 27  | 38  | 32  | 27  | 25  |
| 10  | 52  | 39  | 31  | 25  | 51  | 38  | 30  | 25  | 37  | 30  | 25  | 36  | 30  | 25  | 35  | 29  | 25  | 23  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2690 | 2690 | 2690 |
| 5°  | 2673 | 2693 | 2700 |
| 10° | 2657 | 2684 | 2696 |
| 15° | 2624 | 2664 | 2688 |
| 20° | 2585 | 2635 | 2672 |
| 25° | 2539 | 2620 | 2663 |
| 30° | 2486 | 2571 | 2648 |
| 35° | 2429 | 2538 | 2643 |
| 40° | 2368 | 2495 | 2648 |
| 45° | 2301 | 2466 | 2665 |
| 50° | 2235 | 2441 | 2695 |
| 55° | 2158 | 2430 | 2742 |
| 60° | 2095 | 2429 | 2826 |
| 65° | 1990 | 2469 | 2929 |
| 70° | 1855 | 2515 | 3119 |
| 75° | 1700 | 2602 | 3370 |
| 80° | 1480 | 2712 | 3318 |
| 85° | 1297 | 2411 | 2637 |



TEST NUMBER: P277199

CATALOG NUMBER: 22CZ2-34HE-UNV-L93050-W2A1-U-4000K

**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 94.5   | 3.2       |
| 10°-20°   | 269.3  | 9.2       |
| 20°-30°   | 404.2  | 13.7      |
| 30°-40°   | 483.0  | 16.4      |
| 40°-50°   | 502.3  | 17.1      |
| 50°-60°   | 465.5  | 15.8      |
| 60°-70°   | 381.8  | 13.0      |
| 70°-80°   | 258.1  | 8.8       |
| 80°-90°   | 81.1   | 2.8       |
| 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°    | 768.1  | 26.1      |
| 0°-40°    | 1251.1 | 42.6      |
| 0°-60°    | 2218.9 | 75.5      |
| 0°-90°    | 2940.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2940.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1000 | 1000  | 1000 | 1000  | 1000 |      |
| 5°  | 990  | 991   | 997  | 998   | 1000 | 94   |
| 15° | 942  | 946   | 956  | 962   | 965  | 266  |
| 25° | 855  | 862   | 882  | 893   | 897  | 394  |
| 35° | 739  | 749   | 772  | 796   | 804  | 462  |
| 45° | 605  | 616   | 648  | 686   | 700  | 467  |
| 55° | 460  | 474   | 518  | 564   | 584  | 413  |
| 65° | 312  | 330   | 388  | 438   | 460  | 309  |
| 75° | 164  | 191   | 250  | 301   | 324  | 173  |
| 85° | 42   | 58    | 78   | 87    | 85   | 48   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



TEST NUMBER: P277199

CATALOG NUMBER: 22CZ2-34HE-UNV-L93050-W2A1-U-4000K

**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°    | 67.5°  | 90°    |
|-------|-------|-------|--------|--------|--------|
| 0°    | 999.7 | 999.7 | 999.7  | 999.7  | 999.7  |
| 2.5°  | 993.9 | 996.8 | 1001.1 | 1002.5 | 1002.5 |
| 5°    | 989.5 | 991.0 | 996.8  | 998.2  | 999.7  |
| 7.5°  | 982.3 | 985.2 | 991.0  | 992.4  | 993.9  |
| 10°   | 972.2 | 975.1 | 982.3  | 985.2  | 986.6  |
| 12.5° | 959.1 | 962.0 | 970.7  | 975.1  | 976.5  |
| 15°   | 941.8 | 946.1 | 956.3  | 962.0  | 964.9  |
| 17.5° | 924.4 | 928.8 | 938.9  | 947.6  | 950.5  |
| 20°   | 902.7 | 912.9 | 920.1  | 931.7  | 933.1  |
| 22.5° | 881.0 | 886.8 | 899.8  | 911.4  | 917.2  |
| 25°   | 855.0 | 862.2 | 882.5  | 892.6  | 896.9  |
| 27.5° | 827.5 | 837.6 | 853.5  | 869.5  | 875.2  |
| 30°   | 800.0 | 807.2 | 827.5  | 846.3  | 852.1  |
| 32.5° | 769.6 | 779.8 | 801.5  | 820.3  | 828.9  |
| 35°   | 739.3 | 749.4 | 772.5  | 795.7  | 804.4  |
| 37.5° | 706.0 | 717.6 | 740.7  | 768.2  | 779.8  |
| 40°   | 674.2 | 682.8 | 710.3  | 743.6  | 753.7  |
| 42.5° | 640.9 | 651.0 | 679.9  | 716.1  | 727.7  |
| 45°   | 604.7 | 616.3 | 648.1  | 685.7  | 700.2  |
| 47.5° | 570.0 | 581.6 | 616.3  | 653.9  | 671.3  |
| 50°   | 533.8 | 548.3 | 583.0  | 626.4  | 643.8  |
| 52.5° | 499.1 | 512.1 | 551.2  | 596.0  | 611.9  |
| 55°   | 460.0 | 474.5 | 517.9  | 564.2  | 584.5  |
| 57.5° | 428.2 | 438.3 | 486.1  | 533.8  | 554.1  |
| 60°   | 389.2 | 402.2 | 451.4  | 502.0  | 525.1  |
| 62.5° | 347.2 | 368.9 | 419.5  | 471.6  | 494.8  |
| 65°   | 312.5 | 329.8 | 387.7  | 438.3  | 460.0  |
| 67.5° | 276.3 | 295.1 | 351.5  | 405.1  | 429.7  |
| 70°   | 235.8 | 260.4 | 319.7  | 373.2  | 396.4  |
| 72.5° | 199.6 | 225.7 | 286.4  | 338.5  | 363.1  |
| 75°   | 163.5 | 191.0 | 250.3  | 300.9  | 324.1  |
| 77.5° | 128.8 | 159.1 | 217.0  | 256.1  | 270.5  |
| 80°   | 95.5  | 124.4 | 175.0  | 202.5  | 214.1  |
| 82.5° | 66.5  | 91.1  | 128.8  | 143.2  | 146.1  |
| 85°   | 42.0  | 57.9  | 78.1   | 86.8   | 85.4   |
| 87.5° | 18.8  | 23.1  | 28.9   | 31.8   | 30.4   |
| 90°   | 0.0   | 0.0   | 0.0    | 0.0    | 0.0    |

(END OF REPORT)