

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: P238839

Luminaire Tested: **22EN-LD2-30-UNV-L940-CD1-U**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P238839  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-118-11)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22EN-LD2-30-UNV-L940-CD1-U  
Description: METALUX ENCOUNTER 2X2 LED TROFFER  
STANDARD OPTION  
Light Source: (168)4000K CCT, 90 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2772.1 lumens  
Efficiency: N/A  
Efficacy: 111.3 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.29 / 1.39  
Luminous Opening: Rectangular (W 1.83' x L: 1.83' x H: 0')  
CIE Type: Direct

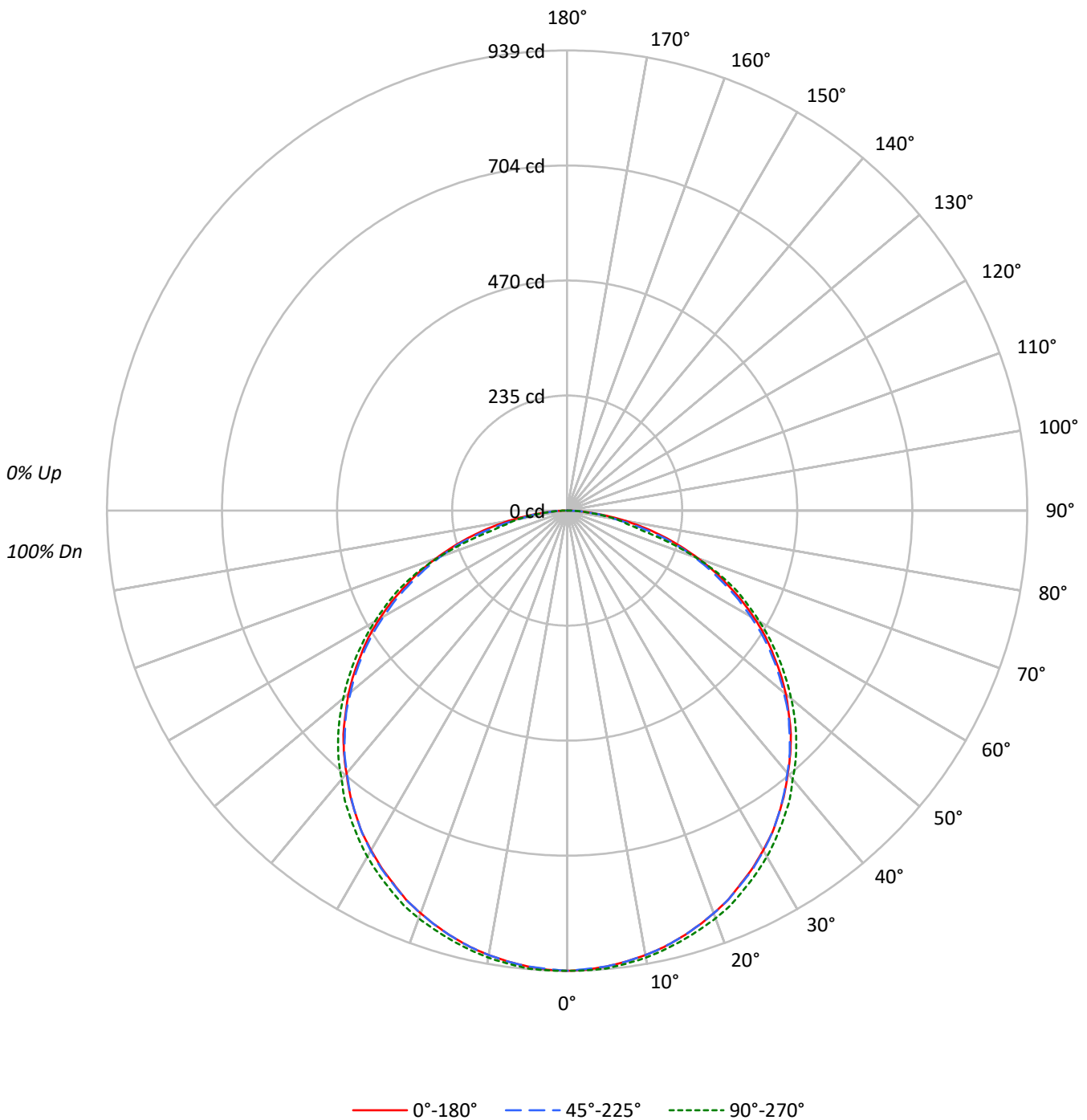
Input Watts (W): 24.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 109 | 104 | 99  | 95  | 106 | 101 | 98  | 94  | 97  | 94  | 91  | 93  | 91  | 88  | 90  | 88  | 86  | 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  | 63  | 74  | 68  | 62  | 72  | 66  | 61  | 69  | 64  | 60  | 58  |
| 4   | 82  | 70  | 61  | 54  | 80  | 68  | 60  | 54  | 66  | 59  | 53  | 64  | 57  | 52  | 61  | 56  | 51  | 49  |
| 5   | 75  | 62  | 53  | 46  | 73  | 61  | 53  | 46  | 59  | 51  | 46  | 57  | 50  | 45  | 55  | 49  | 45  | 42  |
| 6   | 69  | 56  | 47  | 40  | 68  | 55  | 46  | 40  | 53  | 46  | 40  | 51  | 45  | 39  | 50  | 44  | 39  | 37  |
| 7   | 64  | 51  | 42  | 36  | 63  | 50  | 41  | 35  | 48  | 41  | 35  | 47  | 40  | 35  | 45  | 39  | 35  | 33  |
| 8   | 60  | 46  | 38  | 32  | 58  | 45  | 37  | 32  | 44  | 37  | 31  | 43  | 36  | 31  | 42  | 36  | 31  | 29  |
| 9   | 56  | 42  | 34  | 28  | 54  | 42  | 34  | 28  | 41  | 33  | 28  | 39  | 33  | 28  | 38  | 32  | 28  | 26  |
| 10  | 52  | 39  | 31  | 26  | 51  | 39  | 31  | 26  | 38  | 30  | 26  | 37  | 30  | 25  | 36  | 30  | 25  | 24  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3007 | 3007 | 3007 |
| 5°  | 3001 | 3001 | 3014 |
| 10° | 2994 | 2994 | 3013 |
| 15° | 2988 | 2988 | 3011 |
| 20° | 2980 | 2980 | 3018 |
| 25° | 2966 | 2971 | 3016 |
| 30° | 2959 | 2964 | 3016 |
| 35° | 2947 | 2947 | 3007 |
| 40° | 2928 | 2923 | 2993 |
| 45° | 2924 | 2905 | 2995 |
| 50° | 2902 | 2874 | 2972 |
| 55° | 2869 | 2837 | 2947 |
| 60° | 2832 | 2769 | 2904 |
| 65° | 2755 | 2680 | 2861 |
| 70° | 2655 | 2576 | 2615 |
| 75° | 2501 | 2345 | 1997 |
| 80° | 2200 | 1839 | 1916 |
| 85° | 1598 | 1547 | 1495 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 88.8   | 3.2       |
| 10°-20°   | 254.9  | 9.2       |
| 20°-30°   | 389.2  | 14.0      |
| 30°-40°   | 474.0  | 17.1      |
| 40°-50°   | 498.9  | 18.0      |
| 50°-60°   | 459.4  | 16.6      |
| 60°-70°   | 357.5  | 12.9      |
| 70°-80°   | 198.4  | 7.2       |
| 80°-90°   | 51.0   | 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°    | 732.9  | 26.4      |
| 0°-40°    | 1206.9 | 43.5      |
| 0°-60°    | 2165.2 | 78.1      |
| 0°-90°    | 2772.1 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2772.1 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 939 | 939   | 939 | 939   | 939 |      |
| 5°  | 934 | 934   | 934 | 936   | 938 | 89   |
| 15° | 901 | 901   | 901 | 905   | 908 | 254  |
| 25° | 839 | 841   | 841 | 848   | 854 | 387  |
| 35° | 754 | 754   | 754 | 762   | 769 | 472  |
| 45° | 646 | 642   | 642 | 651   | 661 | 497  |
| 55° | 514 | 512   | 508 | 517   | 528 | 460  |
| 65° | 364 | 359   | 354 | 365   | 378 | 360  |
| 75° | 202 | 198   | 190 | 168   | 161 | 213  |
| 85° | 44  | 41    | 42  | 41    | 41  | 55   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 939.1 | 939.1 | 939.1 | 939.1 | 939.1 |
| 2.5°  | 937.7 | 936.3 | 936.3 | 939.1 | 939.1 |
| 5°    | 933.5 | 933.5 | 933.5 | 936.3 | 937.7 |
| 7.5°  | 927.9 | 927.9 | 927.9 | 932.1 | 932.1 |
| 10°   | 920.8 | 919.4 | 920.8 | 923.6 | 926.5 |
| 12.5° | 912.4 | 911.0 | 912.4 | 915.2 | 918.0 |
| 15°   | 901.2 | 901.2 | 901.2 | 905.4 | 908.2 |
| 17.5° | 888.6 | 887.2 | 888.6 | 892.8 | 897.0 |
| 20°   | 874.5 | 874.5 | 874.5 | 880.1 | 885.7 |
| 22.5° | 859.1 | 857.7 | 859.1 | 866.1 | 871.7 |
| 25°   | 839.4 | 840.8 | 840.8 | 847.8 | 853.5 |
| 27.5° | 821.2 | 819.8 | 822.6 | 828.2 | 835.2 |
| 30°   | 800.1 | 800.1 | 801.5 | 808.5 | 815.6 |
| 32.5° | 779.1 | 777.7 | 779.1 | 786.1 | 793.1 |
| 35°   | 753.8 | 753.8 | 753.8 | 762.2 | 769.2 |
| 37.5° | 728.5 | 727.1 | 727.1 | 735.6 | 745.4 |
| 40°   | 700.5 | 699.1 | 699.1 | 708.9 | 715.9 |
| 42.5° | 673.8 | 672.4 | 672.4 | 680.8 | 690.6 |
| 45°   | 645.7 | 641.5 | 641.5 | 651.3 | 661.2 |
| 47.5° | 613.4 | 610.6 | 612.0 | 620.4 | 630.3 |
| 50°   | 582.5 | 578.3 | 576.9 | 586.8 | 596.6 |
| 52.5° | 548.9 | 547.5 | 543.2 | 551.7 | 562.9 |
| 55°   | 513.8 | 512.4 | 508.1 | 516.6 | 527.8 |
| 57.5° | 480.1 | 475.9 | 471.7 | 478.7 | 491.3 |
| 60°   | 442.2 | 438.0 | 432.3 | 442.2 | 453.4 |
| 62.5° | 404.3 | 398.7 | 394.4 | 402.9 | 415.5 |
| 65°   | 363.6 | 359.4 | 353.7 | 365.0 | 377.6 |
| 67.5° | 325.7 | 321.5 | 314.4 | 324.3 | 332.7 |
| 70°   | 283.6 | 277.9 | 275.1 | 276.5 | 279.3 |
| 72.5° | 242.8 | 240.0 | 235.8 | 224.6 | 221.8 |
| 75°   | 202.1 | 197.9 | 189.5 | 168.4 | 161.4 |
| 77.5° | 161.4 | 158.6 | 143.2 | 124.9 | 124.9 |
| 80°   | 119.3 | 117.9 | 99.7  | 102.5 | 103.9 |
| 82.5° | 81.4  | 78.6  | 73.0  | 71.6  | 71.6  |
| 85°   | 43.5  | 40.7  | 42.1  | 40.7  | 40.7  |
| 87.5° | 16.8  | 16.8  | 18.2  | 16.8  | 16.8  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)