

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: P219048

Luminaire Tested: **24GR-LD5-90-F1-UNV-L935-CD1-U**

Issue Date: 3/12/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P219048  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35585)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/12/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24GR-LD5-90-F1-UNV-L935-CD1-U  
Description: METALUX GR 2X4 LED TROFFER WITH F1 LENS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7728.2 lumens  
Efficiency: N/A  
Efficacy: 111.8 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.18 / 1.26  
Luminous Opening: Rectangular (W 1.83' x L: 3.83' x H: 0')  
CIE Type: Direct

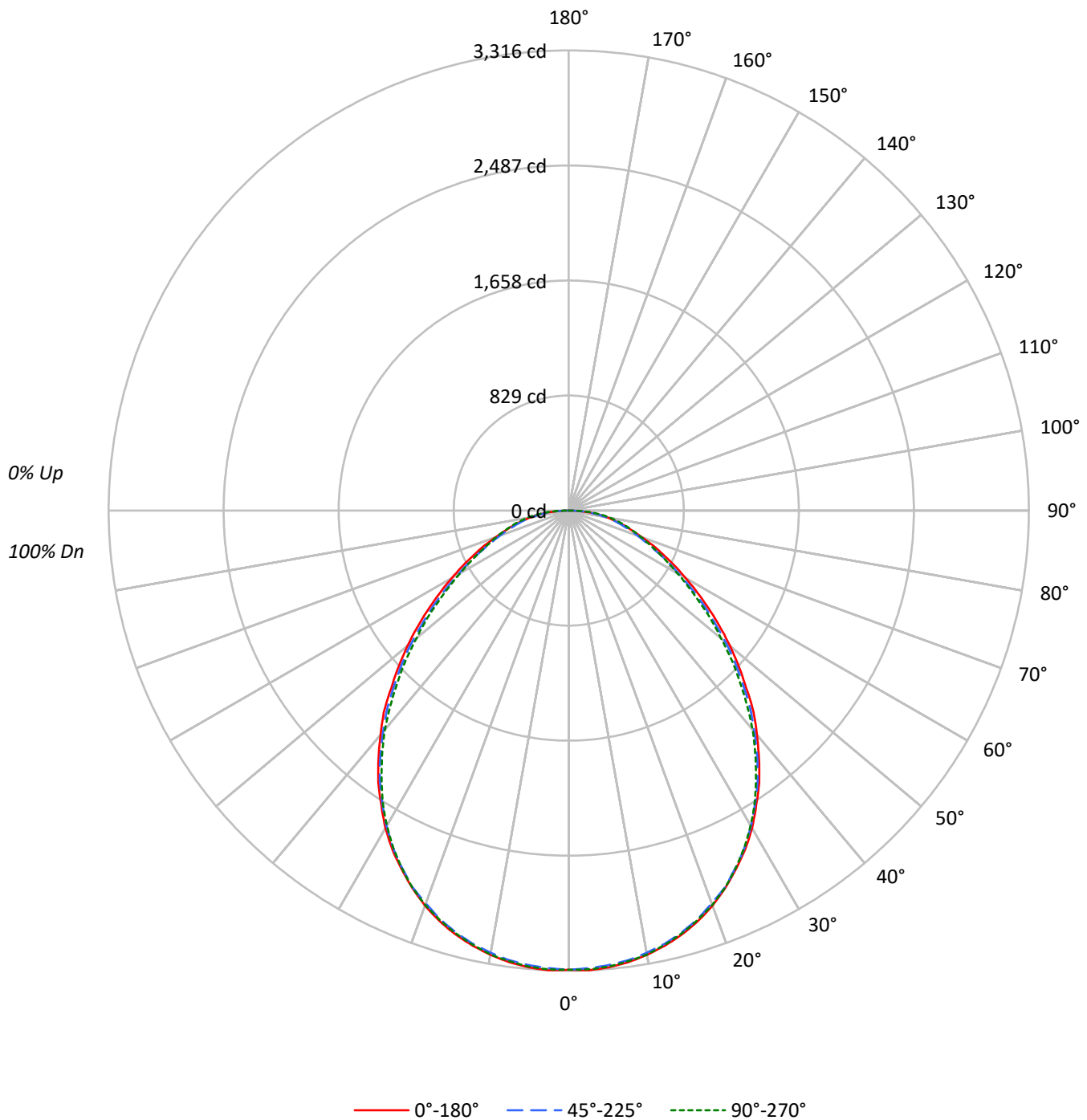
Input Watts (W): 69.117  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |  |     |     |     |  |  |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  |  | 106 | 106 | 106 |  |  | 102 |
| 1   | 109 | 105 | 101 | 97  | 107 | 103 | 99  | 96  |  | 98  | 95  | 93  |  |  | 94  | 92  | 90  |  |  | 91  |
| 2   | 100 | 92  | 86  | 80  | 98  | 90  | 85  | 80  |  | 87  | 82  | 78  |  |  | 84  | 80  | 76  |  |  | 81  |
| 3   | 92  | 82  | 74  | 68  | 89  | 80  | 73  | 67  |  | 77  | 71  | 66  |  |  | 75  | 69  | 65  |  |  | 72  |
| 4   | 85  | 73  | 65  | 58  | 82  | 72  | 64  | 58  |  | 69  | 63  | 57  |  |  | 67  | 61  | 57  |  |  | 65  |
| 5   | 78  | 66  | 57  | 51  | 76  | 65  | 57  | 51  |  | 63  | 56  | 50  |  |  | 61  | 55  | 50  |  |  | 59  |
| 6   | 72  | 60  | 51  | 45  | 71  | 59  | 51  | 45  |  | 57  | 50  | 44  |  |  | 55  | 49  | 44  |  |  | 54  |
| 7   | 67  | 54  | 46  | 40  | 66  | 54  | 46  | 40  |  | 52  | 45  | 40  |  |  | 51  | 44  | 39  |  |  | 49  |
| 8   | 63  | 50  | 42  | 36  | 61  | 49  | 41  | 36  |  | 48  | 41  | 36  |  |  | 47  | 40  | 36  |  |  | 46  |
| 9   | 59  | 46  | 38  | 33  | 58  | 45  | 38  | 33  |  | 44  | 37  | 32  |  |  | 43  | 37  | 32  |  |  | 42  |
| 10  | 55  | 43  | 35  | 30  | 54  | 42  | 35  | 30  |  | 41  | 34  | 30  |  |  | 40  | 34  | 29  |  |  | 39  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5068 | 5068 | 5068 |
| 5°  | 5080 | 5056 | 5071 |
| 10° | 5055 | 5033 | 5052 |
| 15° | 5013 | 4990 | 5001 |
| 20° | 4939 | 4909 | 4929 |
| 25° | 4819 | 4803 | 4807 |
| 30° | 4672 | 4645 | 4636 |
| 35° | 4474 | 4438 | 4398 |
| 40° | 4217 | 4162 | 4121 |
| 45° | 3918 | 3848 | 3776 |
| 50° | 3611 | 3518 | 3413 |
| 55° | 3284 | 3169 | 3070 |
| 60° | 2975 | 2818 | 2767 |
| 65° | 2720 | 2539 | 2556 |
| 70° | 2502 | 2359 | 2470 |
| 75° | 2433 | 2306 | 2517 |
| 80° | 2438 | 2375 | 2680 |
| 85° | 2680 | 2534 | 2952 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 312.6  | 4.0       |
| 10°-20°   | 887.2  | 11.5      |
| 20°-30°   | 1307.4 | 16.9      |
| 30°-40°   | 1478.5 | 19.1      |
| 40°-50°   | 1371.4 | 17.7      |
| 50°-60°   | 1065.5 | 13.8      |
| 60°-70°   | 714.5  | 9.2       |
| 70°-80°   | 428.2  | 5.5       |
| 80°-90°   | 162.9  | 2.1       |
| 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°    | 2507.2 | 32.4      |
| 0°-40°    | 3985.8 | 51.6      |
| 0°-60°    | 6422.7 | 83.1      |
| 0°-90°    | 7728.2 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 7728.2 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 3309 | 3309  | 3309 | 3309  | 3309 |      |
| 5°  | 3304 | 3295  | 3289 | 3286  | 3298 | 314  |
| 15° | 3161 | 3148  | 3147 | 3141  | 3154 | 891  |
| 25° | 2851 | 2848  | 2842 | 2837  | 2844 | 1312 |
| 35° | 2393 | 2383  | 2374 | 2359  | 2352 | 1491 |
| 45° | 1809 | 1802  | 1777 | 1749  | 1743 | 1399 |
| 55° | 1230 | 1215  | 1187 | 1157  | 1150 | 1104 |
| 65° | 751  | 727   | 701  | 698   | 705  | 749  |
| 75° | 411  | 397   | 390  | 409   | 425  | 434  |
| 85° | 152  | 143   | 144  | 169   | 168  | 160  |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 3308.9 | 3308.9 | 3308.9 | 3308.9 | 3308.9 |
| 2.5°  | 3316.0 | 3305.3 | 3300.6 | 3298.2 | 3308.9 |
| 5°    | 3304.1 | 3294.6 | 3288.6 | 3286.3 | 3298.2 |
| 7.5°  | 3282.6 | 3271.9 | 3268.3 | 3263.6 | 3275.5 |
| 10°   | 3250.5 | 3241.0 | 3236.2 | 3232.6 | 3248.1 |
| 12.5° | 3209.9 | 3201.6 | 3196.8 | 3194.5 | 3204.0 |
| 15°   | 3161.2 | 3148.0 | 3146.8 | 3140.8 | 3154.0 |
| 17.5° | 3100.4 | 3088.5 | 3086.1 | 3083.6 | 3092.0 |
| 20°   | 3030.1 | 3018.1 | 3012.1 | 3011.0 | 3024.1 |
| 22.5° | 2945.4 | 2937.1 | 2939.5 | 2932.3 | 2941.8 |
| 25°   | 2851.3 | 2847.8 | 2841.8 | 2837.0 | 2844.2 |
| 27.5° | 2753.6 | 2741.7 | 2741.7 | 2732.2 | 2739.3 |
| 30°   | 2641.6 | 2633.3 | 2626.2 | 2616.6 | 2621.4 |
| 32.5° | 2515.3 | 2511.8 | 2501.0 | 2491.5 | 2493.9 |
| 35°   | 2392.6 | 2383.1 | 2373.5 | 2359.3 | 2352.0 |
| 37.5° | 2252.0 | 2242.5 | 2230.6 | 2210.3 | 2207.9 |
| 40°   | 2109.0 | 2100.7 | 2081.6 | 2060.1 | 2061.3 |
| 42.5° | 1973.2 | 1960.1 | 1936.2 | 1907.7 | 1901.7 |
| 45°   | 1808.7 | 1801.6 | 1776.6 | 1749.1 | 1743.2 |
| 47.5° | 1662.2 | 1657.4 | 1626.5 | 1597.8 | 1590.7 |
| 50°   | 1515.6 | 1502.5 | 1476.3 | 1447.7 | 1432.2 |
| 52.5° | 1371.5 | 1354.7 | 1321.4 | 1302.4 | 1295.2 |
| 55°   | 1229.7 | 1215.3 | 1186.8 | 1156.9 | 1149.8 |
| 57.5° | 1097.4 | 1081.9 | 1047.4 | 1025.9 | 1022.3 |
| 60°   | 971.1  | 956.8  | 919.9  | 904.4  | 903.2  |
| 62.5° | 859.1  | 835.3  | 810.2  | 799.5  | 800.7  |
| 65°   | 750.6  | 726.8  | 700.7  | 698.3  | 705.4  |
| 67.5° | 655.4  | 630.3  | 604.1  | 613.6  | 620.8  |
| 70°   | 558.8  | 540.9  | 526.7  | 542.1  | 551.6  |
| 72.5° | 476.6  | 465.9  | 452.8  | 474.2  | 486.1  |
| 75°   | 411.1  | 396.8  | 389.6  | 408.7  | 425.3  |
| 77.5° | 340.8  | 328.9  | 328.9  | 349.1  | 367.0  |
| 80°   | 276.4  | 268.1  | 269.3  | 293.1  | 303.9  |
| 82.5° | 216.8  | 204.9  | 206.1  | 236.0  | 243.1  |
| 85°   | 152.5  | 143.0  | 144.2  | 169.2  | 168.0  |
| 87.5° | 79.8   | 76.2   | 79.8   | 97.7   | 92.9   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)