

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: P225811

Luminaire Tested: **22GR-LD5-28-F1-UNV-L940-CD1-U**

Issue Date: 3/12/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P225811  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35595)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/12/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-28-F1-UNV-L940-CD1-U  
Description: METALUX GR 2X2 LED TROFFER WITH F1 LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2534.4 lumens  
Efficiency: N/A  
Efficacy: 110.3 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.18 / 1.24  
Luminous Opening: Rectangular (W 1.83' x L: 1.83' x H: 0')  
CIE Type: Direct

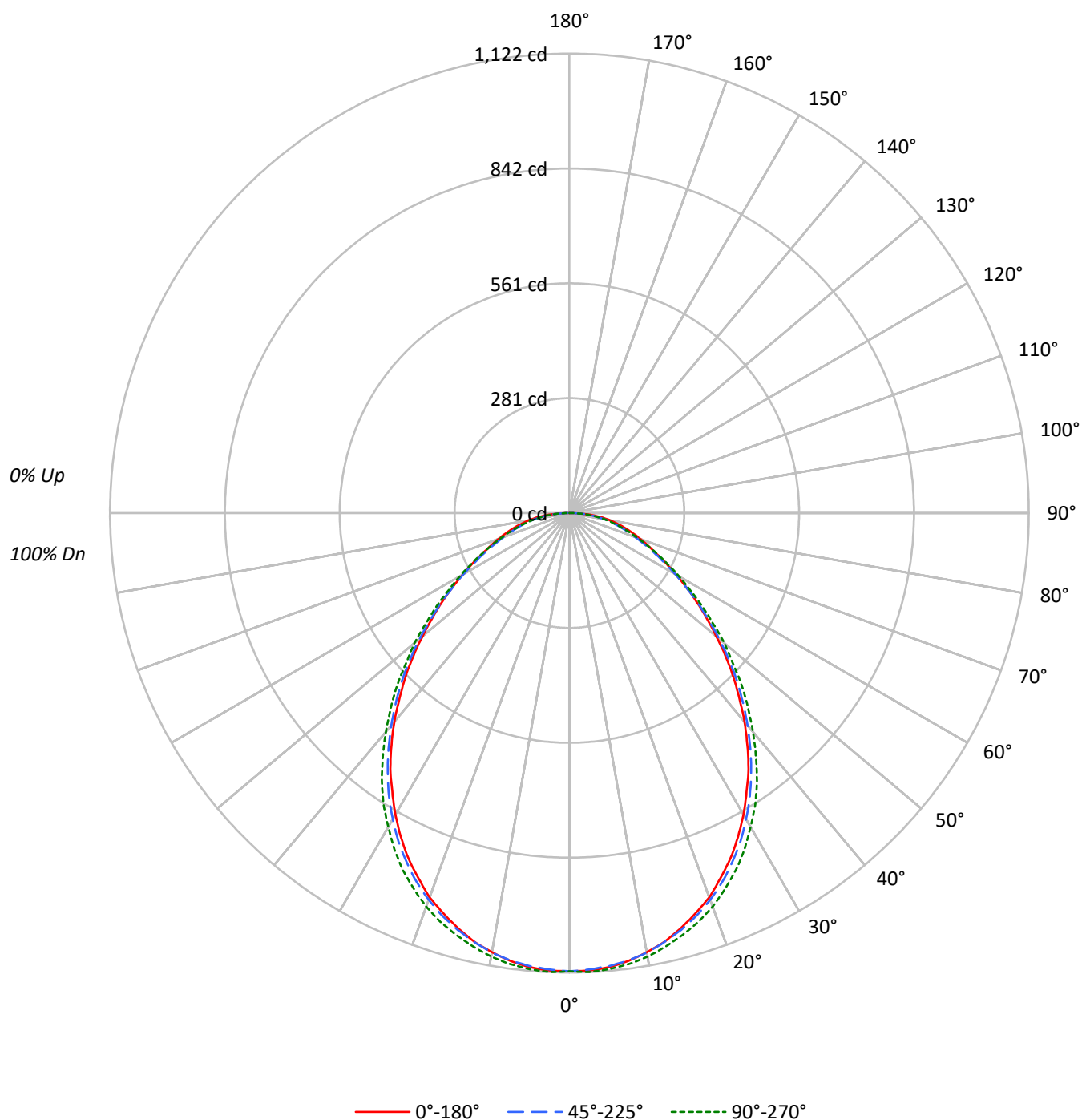
Input Watts (W): 22.986  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 30  | 10  |
| RCR |     |     |     |     |     |     |     |     |  |     |     |     |  |     |     |     |  |     |     |     |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 |  | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 |
| 1   | 109 | 105 | 101 | 97  | 107 | 103 | 99  | 96  |  | 98  | 95  | 93  |  | 95  | 92  | 90  |  | 91  | 89  | 87  |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  |  | 87  | 82  | 78  |  | 84  | 80  | 76  |  | 81  | 78  | 74  |
| 3   | 92  | 82  | 74  | 68  | 90  | 81  | 73  | 68  |  | 78  | 72  | 67  |  | 75  | 70  | 65  |  | 72  | 68  | 64  |
| 4   | 85  | 73  | 65  | 59  | 83  | 72  | 64  | 58  |  | 70  | 63  | 58  |  | 67  | 62  | 57  |  | 65  | 60  | 56  |
| 5   | 78  | 66  | 58  | 51  | 76  | 65  | 57  | 51  |  | 63  | 56  | 51  |  | 61  | 55  | 50  |  | 59  | 54  | 49  |
| 6   | 73  | 60  | 51  | 45  | 71  | 59  | 51  | 45  |  | 57  | 50  | 45  |  | 56  | 49  | 44  |  | 54  | 48  | 44  |
| 7   | 68  | 55  | 46  | 40  | 66  | 54  | 46  | 40  |  | 52  | 45  | 40  |  | 51  | 45  | 40  |  | 50  | 44  | 39  |
| 8   | 63  | 50  | 42  | 36  | 62  | 49  | 42  | 36  |  | 48  | 41  | 36  |  | 47  | 41  | 36  |  | 46  | 40  | 36  |
| 9   | 59  | 46  | 38  | 33  | 58  | 46  | 38  | 33  |  | 45  | 38  | 33  |  | 43  | 37  | 33  |  | 42  | 37  | 32  |
| 10  | 56  | 43  | 35  | 30  | 54  | 42  | 35  | 30  |  | 41  | 35  | 30  |  | 40  | 34  | 30  |  | 40  | 34  | 30  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3583 | 3583 | 3583 |
| 5°  | 3579 | 3569 | 3593 |
| 10° | 3541 | 3544 | 3576 |
| 15° | 3481 | 3494 | 3537 |
| 20° | 3403 | 3425 | 3485 |
| 25° | 3288 | 3325 | 3399 |
| 30° | 3145 | 3192 | 3272 |
| 35° | 2981 | 3025 | 3123 |
| 40° | 2783 | 2829 | 2916 |
| 45° | 2567 | 2616 | 2696 |
| 50° | 2334 | 2377 | 2462 |
| 55° | 2122 | 2138 | 2204 |
| 60° | 1925 | 1910 | 1981 |
| 65° | 1771 | 1722 | 1793 |
| 70° | 1720 | 1595 | 1655 |
| 75° | 1741 | 1562 | 1583 |
| 80° | 1853 | 1597 | 1619 |
| 85° | 2050 | 1709 | 1687 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 105.6  | 4.2       |
| 10°-20°   | 297.5  | 11.7      |
| 20°-30°   | 433.6  | 17.1      |
| 30°-40°   | 484.7  | 19.1      |
| 40°-50°   | 445.8  | 17.6      |
| 50°-60°   | 345.4  | 13.6      |
| 60°-70°   | 231.5  | 9.1       |
| 70°-80°   | 138.5  | 5.5       |
| 80°-90°   | 51.8   | 2.0       |
| 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°    | 836.7  | 33.0      |
| 0°-40°    | 1321.4 | 52.1      |
| 0°-60°    | 2112.6 | 83.4      |
| 0°-90°    | 2534.4 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2534.4 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1119 | 1119  | 1119 | 1119  | 1119 |      |
| 5°  | 1113 | 1111  | 1110 | 1115  | 1118 | 105  |
| 15° | 1050 | 1051  | 1054 | 1062  | 1067 | 296  |
| 25° | 931  | 933   | 941  | 954   | 962  | 427  |
| 35° | 763  | 764   | 774  | 789   | 799  | 475  |
| 45° | 567  | 568   | 578  | 586   | 595  | 436  |
| 55° | 380  | 381   | 383  | 389   | 395  | 341  |
| 65° | 234  | 232   | 227  | 230   | 237  | 235  |
| 75° | 141  | 135   | 126  | 125   | 128  | 149  |
| 85° | 56   | 56    | 46   | 44    | 46   | 58   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1118.9 | 1118.9 | 1118.9 | 1118.9 | 1118.9 |
| 2.5°  | 1118.3 | 1116.0 | 1115.5 | 1118.9 | 1121.9 |
| 5°    | 1113.2 | 1110.9 | 1110.3 | 1114.9 | 1117.8 |
| 7.5°  | 1103.3 | 1101.5 | 1102.1 | 1106.7 | 1110.9 |
| 10°   | 1088.8 | 1088.2 | 1089.9 | 1095.7 | 1099.8 |
| 12.5° | 1072.4 | 1071.3 | 1073.0 | 1080.6 | 1084.6 |
| 15°   | 1049.8 | 1050.9 | 1053.8 | 1062.0 | 1066.7 |
| 17.5° | 1024.8 | 1026.0 | 1031.2 | 1039.3 | 1046.9 |
| 20°   | 998.6  | 998.0  | 1005.0 | 1016.1 | 1022.5 |
| 22.5° | 964.3  | 967.2  | 975.4  | 987.0  | 993.4  |
| 25°   | 930.6  | 932.9  | 941.1  | 954.4  | 962.0  |
| 27.5° | 891.6  | 895.8  | 904.5  | 917.3  | 926.0  |
| 30°   | 850.4  | 853.9  | 863.2  | 877.7  | 884.7  |
| 32.5° | 805.6  | 810.3  | 820.2  | 835.9  | 844.6  |
| 35°   | 762.6  | 763.8  | 773.7  | 788.8  | 798.7  |
| 37.5° | 713.8  | 716.7  | 726.0  | 742.9  | 748.1  |
| 40°   | 665.6  | 667.9  | 676.6  | 690.6  | 697.5  |
| 42.5° | 613.9  | 617.9  | 627.2  | 637.7  | 645.8  |
| 45°   | 566.7  | 568.5  | 577.7  | 586.5  | 595.2  |
| 47.5° | 517.4  | 519.1  | 527.2  | 536.6  | 540.0  |
| 50°   | 468.5  | 470.8  | 477.2  | 486.5  | 494.1  |
| 52.5° | 423.2  | 424.3  | 427.2  | 437.7  | 441.2  |
| 55°   | 380.1  | 380.7  | 383.0  | 388.9  | 394.7  |
| 57.5° | 339.4  | 338.9  | 338.3  | 343.6  | 348.7  |
| 60°   | 300.5  | 299.4  | 298.2  | 302.3  | 309.3  |
| 62.5° | 266.3  | 265.1  | 260.4  | 265.1  | 270.9  |
| 65°   | 233.7  | 231.9  | 227.3  | 229.6  | 236.6  |
| 67.5° | 208.1  | 204.6  | 197.0  | 200.0  | 205.2  |
| 70°   | 183.7  | 179.1  | 170.3  | 172.6  | 176.7  |
| 72.5° | 162.2  | 155.2  | 147.7  | 148.3  | 152.3  |
| 75°   | 140.7  | 134.8  | 126.2  | 125.0  | 127.9  |
| 77.5° | 120.3  | 115.7  | 106.4  | 104.7  | 107.0  |
| 80°   | 100.5  | 95.9   | 86.6   | 83.2   | 87.8   |
| 82.5° | 79.0   | 77.3   | 66.8   | 64.5   | 66.3   |
| 85°   | 55.8   | 56.4   | 46.5   | 43.6   | 45.9   |
| 87.5° | 28.5   | 29.7   | 23.8   | 23.2   | 23.2   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)