

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: P213687

Luminaire Tested: **22GR-LD5-43-F1-UNV-L940-CD1-U**

Issue Date: 3/12/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P213687  
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-LD5-43-F1-UNV-L940-CD1-U  
Description: METALUX GR 2X2 LED TROFFER WITH F1 LENS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3749.7 lumens  
Efficiency: N/A  
Efficacy: 93.5 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

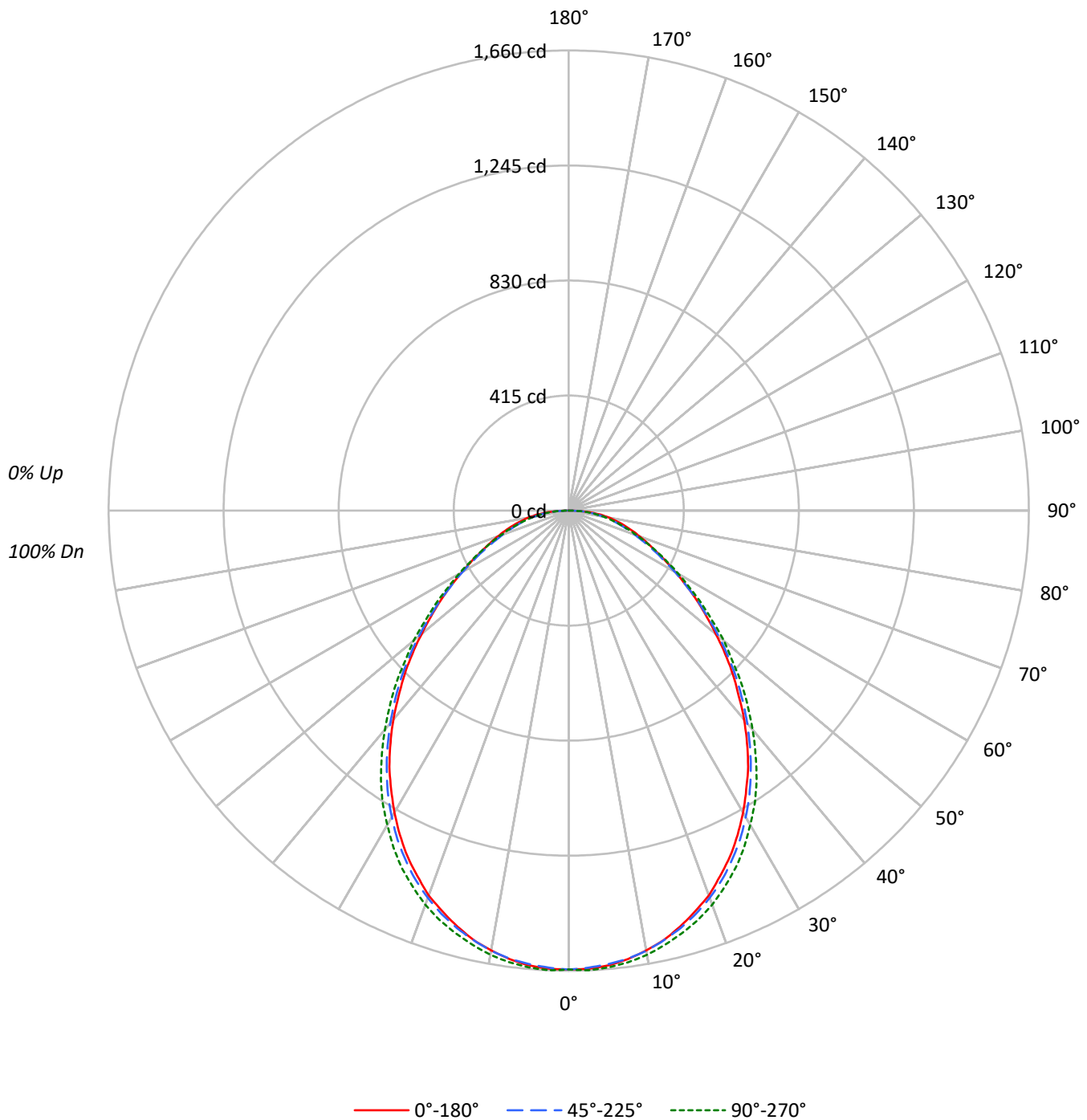
Input Watts (W): 40.1  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  |  |  | 95  | 92  | 90  |  |  | 91  |
| 2   | 100 | 93  | 86  | 81  | 98  | 91  | 85  | 80  |  | 87  | 82  | 78  |  |  | 84  | 80  | 76  |  |  | 81  |
| 3   | 92  | 82  | 74  | 68  | 90  | 81  | 73  | 68  |  | 78  | 72  | 67  |  |  | 75  | 70  | 65  |  |  | 72  |
| 4   | 85  | 73  | 65  | 59  | 83  | 72  | 64  | 58  |  | 70  | 63  | 58  |  |  | 67  | 62  | 57  |  |  | 65  |
| 5   | 78  | 66  | 58  | 51  | 76  | 65  | 57  | 51  |  | 63  | 56  | 51  |  |  | 61  | 55  | 50  |  |  | 59  |
| 6   | 73  | 60  | 51  | 45  | 71  | 59  | 51  | 45  |  | 57  | 50  | 45  |  |  | 56  | 49  | 44  |  |  | 54  |
| 7   | 68  | 55  | 46  | 40  | 66  | 54  | 46  | 40  |  | 52  | 45  | 40  |  |  | 51  | 45  | 40  |  |  | 50  |
| 8   | 63  | 50  | 42  | 36  | 62  | 49  | 42  | 36  |  | 48  | 41  | 36  |  |  | 47  | 41  | 36  |  |  | 46  |
| 9   | 59  | 46  | 38  | 33  | 58  | 46  | 38  | 33  |  | 45  | 38  | 33  |  |  | 43  | 37  | 33  |  |  | 42  |
| 10  | 56  | 43  | 35  | 30  | 54  | 42  | 35  | 30  |  | 41  | 35  | 30  |  |  | 40  | 34  | 30  |  |  | 40  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 5302 | 5302 | 5302 |
| 5°  | 5294 | 5281 | 5317 |
| 10° | 5238 | 5244 | 5291 |
| 15° | 5150 | 5169 | 5232 |
| 20° | 5035 | 5067 | 5155 |
| 25° | 4865 | 4920 | 5029 |
| 30° | 4653 | 4723 | 4840 |
| 35° | 4411 | 4475 | 4619 |
| 40° | 4117 | 4185 | 4314 |
| 45° | 3798 | 3871 | 3988 |
| 50° | 3454 | 3518 | 3642 |
| 55° | 3140 | 3164 | 3260 |
| 60° | 2848 | 2826 | 2930 |
| 65° | 2620 | 2548 | 2652 |
| 70° | 2545 | 2360 | 2448 |
| 75° | 2575 | 2309 | 2341 |
| 80° | 2744 | 2362 | 2396 |
| 85° | 3035 | 2528 | 2495 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 156.2  | 4.2       |
| 10°-20°   | 440.1  | 11.7      |
| 20°-30°   | 641.6  | 17.1      |
| 30°-40°   | 717.2  | 19.1      |
| 40°-50°   | 659.6  | 17.6      |
| 50°-60°   | 511.0  | 13.6      |
| 60°-70°   | 342.5  | 9.1       |
| 70°-80°   | 204.9  | 5.5       |
| 80°-90°   | 76.6   | 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°    | 1237.8 | 33.0      |
| 0°-40°    | 1955.0 | 52.1      |
| 0°-60°    | 3125.6 | 83.4      |
| 0°-90°    | 3749.7 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3749.7 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1656 | 1656  | 1656 | 1656  | 1656 |      |
| 5°  | 1647 | 1644  | 1643 | 1650  | 1654 | 156  |
| 15° | 1553 | 1555  | 1559 | 1571  | 1578 | 437  |
| 25° | 1377 | 1380  | 1392 | 1412  | 1423 | 632  |
| 35° | 1128 | 1130  | 1145 | 1167  | 1182 | 703  |
| 45° | 838  | 841   | 855  | 868   | 881  | 646  |
| 55° | 562  | 563   | 567  | 575   | 584  | 505  |
| 65° | 346  | 343   | 336  | 340   | 350  | 348  |
| 75° | 208  | 200   | 187  | 185   | 189  | 221  |
| 85° | 83   | 83    | 69   | 64    | 68   | 86   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1655.5 | 1655.5 | 1655.5 | 1655.5 | 1655.5 |
| 2.5°  | 1654.6 | 1651.2 | 1650.3 | 1655.5 | 1659.8 |
| 5°    | 1646.9 | 1643.5 | 1642.6 | 1649.5 | 1653.8 |
| 7.5°  | 1632.3 | 1629.7 | 1630.6 | 1637.4 | 1643.5 |
| 10°   | 1610.8 | 1609.9 | 1612.5 | 1621.1 | 1627.1 |
| 12.5° | 1586.7 | 1585.0 | 1587.6 | 1598.7 | 1604.8 |
| 15°   | 1553.2 | 1554.9 | 1559.2 | 1571.2 | 1578.1 |
| 17.5° | 1516.2 | 1517.9 | 1525.6 | 1537.7 | 1548.9 |
| 20°   | 1477.5 | 1476.6 | 1486.9 | 1503.3 | 1512.7 |
| 22.5° | 1426.7 | 1431.0 | 1443.1 | 1460.3 | 1469.7 |
| 25°   | 1376.9 | 1380.3 | 1392.3 | 1412.1 | 1423.3 |
| 27.5° | 1319.2 | 1325.3 | 1338.2 | 1357.1 | 1370.0 |
| 30°   | 1258.2 | 1263.3 | 1277.1 | 1298.6 | 1308.9 |
| 32.5° | 1192.0 | 1198.8 | 1213.5 | 1236.7 | 1249.6 |
| 35°   | 1128.3 | 1130.0 | 1144.7 | 1167.0 | 1181.6 |
| 37.5° | 1056.1 | 1060.4 | 1074.1 | 1099.1 | 1106.8 |
| 40°   | 984.7  | 988.1  | 1001.0 | 1021.7 | 1032.0 |
| 42.5° | 908.2  | 914.2  | 927.9  | 943.4  | 955.5  |
| 45°   | 838.5  | 841.1  | 854.8  | 867.7  | 880.6  |
| 47.5° | 765.4  | 768.0  | 780.0  | 793.8  | 798.9  |
| 50°   | 693.2  | 696.6  | 706.1  | 719.8  | 731.0  |
| 52.5° | 626.1  | 627.8  | 632.1  | 647.6  | 652.7  |
| 55°   | 562.4  | 563.3  | 566.7  | 575.3  | 583.9  |
| 57.5° | 502.2  | 501.4  | 500.5  | 508.3  | 516.0  |
| 60°   | 444.6  | 442.9  | 441.2  | 447.2  | 457.5  |
| 62.5° | 393.9  | 392.2  | 385.3  | 392.2  | 400.8  |
| 65°   | 345.7  | 343.1  | 336.3  | 339.7  | 350.0  |
| 67.5° | 307.9  | 302.7  | 291.5  | 295.8  | 303.6  |
| 70°   | 271.8  | 264.9  | 252.0  | 255.4  | 261.4  |
| 72.5° | 239.9  | 229.6  | 218.4  | 219.3  | 225.3  |
| 75°   | 208.1  | 199.5  | 186.6  | 184.9  | 189.2  |
| 77.5° | 178.0  | 171.1  | 157.4  | 154.8  | 158.2  |
| 80°   | 148.8  | 141.9  | 128.1  | 123.0  | 129.9  |
| 82.5° | 117.0  | 114.4  | 98.9   | 95.5   | 98.0   |
| 85°   | 82.6   | 83.4   | 68.8   | 64.5   | 67.9   |
| 87.5° | 42.1   | 43.9   | 35.3   | 34.4   | 34.4   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)