

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: P291868

Luminaire Tested: **22GR-LD5-20-F1-UNV-L92765-W2A1-U-3500K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291868  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1901-084-23)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-20-F1-UNV-L92765-W2A1-U-3500K  
Description: GRLED 2x2 TUNABLE WHITE TROFFER  
WITH F1 LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 3500K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1779.0 lumens  
Efficiency: N/A  
Efficacy: 115.2 lumens/watt  
Spacing Criteria (0/90/45): 1.14 / 1.19 / 1.24  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

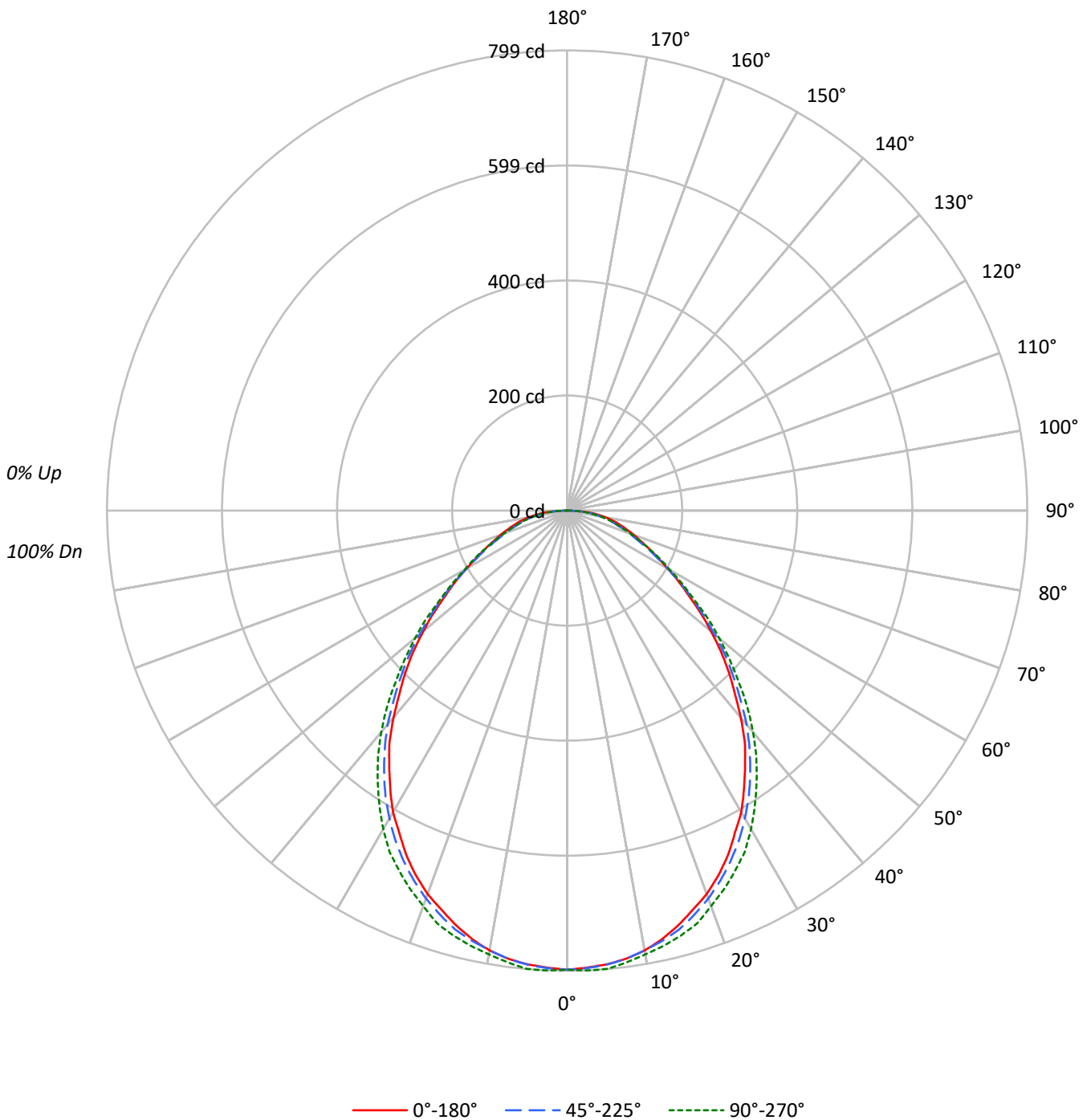
Input Watts (W): 15.438  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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  | 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 |    |    |    |    | 100 |   |  |   |
| 1   | 110 | 105 | 101 | 98  | 107 | 103 | 99  | 96  | 99  | 96  | 93  | 95  | 92  | 90  | 91  | 89  | 87  | 85  |    |    |    |    | 85  |   |  |   |
| 2   | 101 | 93  | 87  | 81  | 98  | 91  | 85  | 80  | 87  | 83  | 78  | 84  | 80  | 77  | 81  | 78  | 75  | 73  |    |    |    |    | 73  |   |  |   |
| 3   | 92  | 83  | 75  | 69  | 90  | 81  | 74  | 68  | 78  | 72  | 67  | 75  | 70  | 66  | 73  | 69  | 65  | 63  |    |    |    |    | 63  |   |  |   |
| 4   | 85  | 74  | 66  | 59  | 83  | 73  | 65  | 59  | 70  | 63  | 58  | 68  | 62  | 57  | 66  | 61  | 57  | 55  |    |    |    |    | 55  |   |  |   |
| 5   | 79  | 67  | 58  | 52  | 77  | 66  | 58  | 52  | 63  | 56  | 51  | 62  | 55  | 51  | 60  | 54  | 50  | 48  |    |    |    |    | 48  |   |  |   |
| 6   | 73  | 60  | 52  | 46  | 71  | 59  | 51  | 46  | 58  | 51  | 45  | 56  | 50  | 45  | 55  | 49  | 45  | 43  |    |    |    |    | 43  |   |  |   |
| 7   | 68  | 55  | 47  | 41  | 66  | 54  | 46  | 41  | 53  | 46  | 41  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |    |    |    |    | 38  |   |  |   |
| 8   | 63  | 51  | 42  | 37  | 62  | 50  | 42  | 37  | 49  | 42  | 37  | 47  | 41  | 36  | 46  | 40  | 36  | 34  |    |    |    |    | 34  |   |  |   |
| 9   | 59  | 47  | 39  | 33  | 58  | 46  | 39  | 33  | 45  | 38  | 33  | 44  | 38  | 33  | 43  | 37  | 33  | 31  |    |    |    |    | 31  |   |  |   |
| 10  | 56  | 43  | 36  | 31  | 55  | 43  | 35  | 30  | 42  | 35  | 30  | 41  | 35  | 30  | 40  | 34  | 30  | 28  |    |    |    |    | 28  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 2145 | 2145 | 2145 |
| 5°  | 2136 | 2138 | 2158 |
| 10° | 2119 | 2118 | 2138 |
| 15° | 2076 | 2097 | 2128 |
| 20° | 2029 | 2052 | 2092 |
| 25° | 1962 | 1993 | 2049 |
| 30° | 1879 | 1917 | 1985 |
| 35° | 1769 | 1820 | 1885 |
| 40° | 1646 | 1702 | 1764 |
| 45° | 1512 | 1555 | 1603 |
| 50° | 1364 | 1397 | 1442 |
| 55° | 1209 | 1239 | 1260 |
| 60° | 1084 | 1087 | 1108 |
| 65° | 999  | 965  | 999  |
| 70° | 965  | 894  | 920  |
| 75° | 981  | 875  | 892  |
| 80° | 1057 | 917  | 917  |
| 85° | 1173 | 973  | 960  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 75.2   | 4.2       |
| 10°-20°   | 212.1  | 11.9      |
| 20°-30°   | 309.6  | 17.4      |
| 30°-40°   | 346.6  | 19.5      |
| 40°-50°   | 315.4  | 17.7      |
| 50°-60°   | 237.4  | 13.3      |
| 60°-70°   | 154.9  | 8.7       |
| 70°-80°   | 92.9   | 5.2       |
| 80°-90°   | 34.8   | 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°    | 596.9  | 33.6      |
| 0°-40°    | 943.5  | 53.0      |
| 0°-60°    | 1496.3 | 84.1      |
| 0°-90°    | 1779.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 1779.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0°  | 797 | 797   | 797 | 797   | 797 |      |
| 5°  | 791 | 789   | 792 | 794   | 799 | 75   |
| 15° | 745 | 746   | 753 | 759   | 764 | 210  |
| 25° | 661 | 663   | 671 | 684   | 690 | 303  |
| 35° | 539 | 544   | 554 | 567   | 574 | 337  |
| 45° | 397 | 401   | 409 | 417   | 421 | 306  |
| 55° | 258 | 262   | 264 | 268   | 268 | 233  |
| 65° | 157 | 155   | 152 | 154   | 157 | 157  |
| 75° | 94  | 91    | 84  | 85    | 86  | 100  |
| 85° | 38  | 37    | 32  | 30    | 31  | 39   |
| 90° | 0   | 0     | 0   | 0     | 0   |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   |
|-------|-------|-------|-------|-------|-------|
| 0°    | 797.2 | 797.2 | 797.2 | 797.2 | 797.2 |
| 2.5°  | 794.3 | 793.9 | 795.2 | 797.2 | 799.3 |
| 5°    | 790.7 | 789.4 | 791.5 | 794.3 | 798.8 |
| 7.5°  | 784.9 | 784.9 | 784.9 | 790.3 | 791.1 |
| 10°   | 775.6 | 776.4 | 775.1 | 780.5 | 782.5 |
| 12.5° | 762.1 | 762.5 | 764.9 | 770.2 | 773.9 |
| 15°   | 745.3 | 746.1 | 752.7 | 758.8 | 763.7 |
| 17.5° | 726.5 | 729.4 | 735.5 | 745.3 | 751.4 |
| 20°   | 708.5 | 711.8 | 716.7 | 727.3 | 730.6 |
| 22.5° | 685.7 | 689.3 | 695.5 | 704.9 | 711.8 |
| 25°   | 660.7 | 662.8 | 671.4 | 683.6 | 690.2 |
| 27.5° | 630.9 | 635.4 | 646.0 | 658.7 | 667.7 |
| 30°   | 604.8 | 607.2 | 617.0 | 631.7 | 638.7 |
| 32.5° | 571.7 | 579.0 | 587.2 | 600.3 | 606.8 |
| 35°   | 538.6 | 543.5 | 554.1 | 567.2 | 573.7 |
| 37.5° | 506.7 | 509.5 | 520.2 | 531.2 | 539.4 |
| 40°   | 468.7 | 474.0 | 484.6 | 496.5 | 502.2 |
| 42.5° | 430.7 | 438.4 | 445.4 | 457.2 | 463.4 |
| 45°   | 397.2 | 401.3 | 408.6 | 417.2 | 421.3 |
| 47.5° | 362.0 | 364.1 | 372.7 | 378.0 | 382.5 |
| 50°   | 325.7 | 328.1 | 333.8 | 339.2 | 344.5 |
| 52.5° | 292.2 | 294.2 | 297.9 | 302.8 | 308.1 |
| 55°   | 257.8 | 261.5 | 264.0 | 267.6 | 268.5 |
| 57.5° | 230.1 | 229.6 | 231.3 | 234.1 | 237.0 |
| 60°   | 201.4 | 202.3 | 201.9 | 204.7 | 205.9 |
| 62.5° | 177.7 | 177.3 | 174.9 | 179.0 | 182.2 |
| 65°   | 156.9 | 155.3 | 151.6 | 154.0 | 156.9 |
| 67.5° | 137.7 | 136.9 | 130.8 | 132.8 | 135.3 |
| 70°   | 122.6 | 119.7 | 113.6 | 114.8 | 116.9 |
| 72.5° | 107.9 | 104.6 | 98.5  | 98.9  | 100.1 |
| 75°   | 94.4  | 91.1  | 84.2  | 84.6  | 85.8  |
| 77.5° | 81.7  | 77.6  | 71.5  | 70.7  | 71.5  |
| 80°   | 68.2  | 64.6  | 59.2  | 56.8  | 59.2  |
| 82.5° | 54.3  | 52.3  | 46.2  | 43.7  | 44.5  |
| 85°   | 38.0  | 36.8  | 31.5  | 29.8  | 31.1  |
| 87.5° | 17.6  | 18.8  | 15.9  | 14.7  | 15.1  |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |

(END OF REPORT)