

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: P291495

Luminaire Tested: **14GR-LD5-28-A19/156-UNV-L92765-W2A1-U-4000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291495  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33288)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 14GR-LD5-28-A19/156-UNV-L92765-W2A1-U-4000K  
Description: GRLED 1x4 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 4000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2474.0 lumens  
Efficiency: N/A  
Efficacy: 109.9 lumens/watt  
Spacing Criteria (0/90/45): 1.22 / 1.23 / 1.18  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

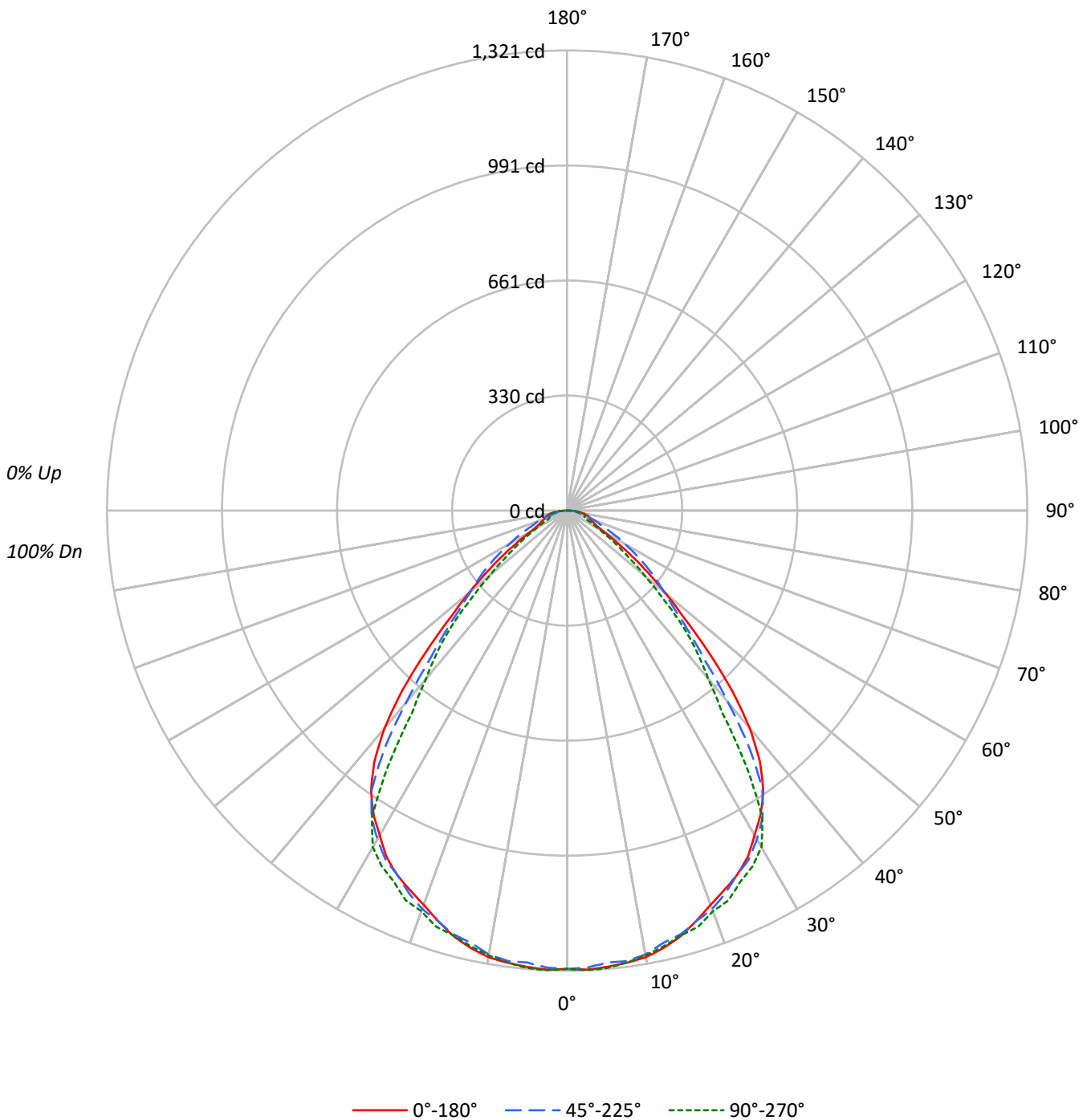
Input Watts (W): 22.506  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 111 | 107 | 104 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 92  | 90  | 88  |    |    |    |    | 88  |   |  |   |
| 2   | 103 | 96  | 90  | 86  | 100 | 94  | 89  | 85  | 91  | 87  | 83  | 88  | 84  | 81  | 85  | 82  | 79  | 77  |    |    |    |    | 77  |   |  |   |
| 3   | 95  | 87  | 80  | 74  | 93  | 85  | 79  | 74  | 82  | 77  | 73  | 80  | 75  | 71  | 77  | 73  | 70  | 68  |    |    |    |    | 68  |   |  |   |
| 4   | 89  | 79  | 71  | 65  | 87  | 77  | 70  | 65  | 75  | 69  | 64  | 73  | 68  | 63  | 71  | 66  | 63  | 61  |    |    |    |    | 61  |   |  |   |
| 5   | 83  | 71  | 64  | 58  | 81  | 70  | 63  | 58  | 68  | 62  | 57  | 67  | 61  | 57  | 65  | 60  | 56  | 54  |    |    |    |    | 54  |   |  |   |
| 6   | 77  | 65  | 58  | 52  | 75  | 64  | 57  | 52  | 63  | 56  | 51  | 61  | 55  | 51  | 60  | 55  | 51  | 49  |    |    |    |    | 49  |   |  |   |
| 7   | 72  | 60  | 52  | 47  | 70  | 59  | 52  | 47  | 58  | 51  | 46  | 56  | 51  | 46  | 55  | 50  | 46  | 44  |    |    |    |    | 44  |   |  |   |
| 8   | 67  | 55  | 48  | 43  | 66  | 55  | 47  | 42  | 53  | 47  | 42  | 52  | 46  | 42  | 51  | 46  | 42  | 40  |    |    |    |    | 40  |   |  |   |
| 9   | 63  | 51  | 44  | 39  | 62  | 51  | 44  | 39  | 50  | 43  | 39  | 49  | 43  | 38  | 48  | 42  | 38  | 37  |    |    |    |    | 37  |   |  |   |
| 10  | 60  | 48  | 40  | 36  | 58  | 47  | 40  | 36  | 46  | 40  | 35  | 45  | 39  | 35  | 44  | 39  | 35  | 34  |    |    |    |    | 34  |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3540 | 3540 | 3540 |
| 5°  | 3552 | 3519 | 3560 |
| 10° | 3558 | 3536 | 3542 |
| 15° | 3521 | 3509 | 3517 |
| 20° | 3448 | 3485 | 3505 |
| 25° | 3427 | 3425 | 3491 |
| 30° | 3343 | 3384 | 3467 |
| 35° | 3224 | 3211 | 2951 |
| 40° | 2863 | 2526 | 2212 |
| 45° | 2173 | 1890 | 1789 |
| 50° | 1541 | 1513 | 1214 |
| 55° | 1055 | 1291 | 834  |
| 60° | 652  | 1030 | 558  |
| 65° | 537  | 793  | 404  |
| 70° | 535  | 691  | 415  |
| 75° | 642  | 495  | 553  |
| 80° | 738  | 456  | 693  |
| 85° | 701  | 806  | 787  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 124.8  | 5.0       |
| 10°-20°   | 356.3  | 14.4      |
| 20°-30°   | 535.8  | 21.7      |
| 30°-40°   | 584.1  | 23.6      |
| 40°-50°   | 409.0  | 16.5      |
| 50°-60°   | 231.5  | 9.4       |
| 60°-70°   | 126.7  | 5.1       |
| 70°-80°   | 76.8   | 3.1       |
| 80°-90°   | 29.1   | 1.2       |
| 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°    | 1016.9 | 41.1      |
| 0°-40°    | 1601.0 | 64.7      |
| 0°-60°    | 2241.4 | 90.6      |
| 0°-90°    | 2474.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2474.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1316 | 1316  | 1316 | 1316  | 1316 |      |
| 5°  | 1315 | 1313  | 1303 | 1318  | 1318 | 125  |
| 15° | 1264 | 1261  | 1260 | 1278  | 1262 | 355  |
| 25° | 1154 | 1156  | 1154 | 1180  | 1176 | 530  |
| 35° | 981  | 977   | 978  | 928   | 898  | 605  |
| 45° | 571  | 596   | 497  | 490   | 470  | 443  |
| 55° | 225  | 269   | 275  | 273   | 178  | 206  |
| 65° | 84   | 139   | 125  | 157   | 63   | 87   |
| 75° | 62   | 89    | 48   | 93    | 53   | 64   |
| 85° | 23   | 37    | 26   | 32    | 26   | 25   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1315.6 | 1315.6 | 1315.6 | 1315.6 | 1315.6 |
| 2.5°  | 1319.0 | 1317.3 | 1313.3 | 1321.2 | 1320.7 |
| 5°    | 1315.0 | 1312.7 | 1302.6 | 1317.8 | 1317.8 |
| 7.5°  | 1309.3 | 1303.7 | 1304.3 | 1312.7 | 1308.8 |
| 10°   | 1302.0 | 1292.4 | 1294.1 | 1296.3 | 1296.3 |
| 12.5° | 1285.0 | 1275.9 | 1271.4 | 1278.8 | 1281.0 |
| 15°   | 1264.0 | 1260.6 | 1259.5 | 1277.6 | 1262.3 |
| 17.5° | 1234.6 | 1242.0 | 1235.2 | 1249.9 | 1252.1 |
| 20°   | 1204.0 | 1218.2 | 1217.0 | 1227.2 | 1223.8 |
| 22.5° | 1179.1 | 1188.2 | 1188.2 | 1200.6 | 1210.8 |
| 25°   | 1154.2 | 1156.4 | 1153.6 | 1180.2 | 1175.7 |
| 27.5° | 1121.9 | 1120.2 | 1129.3 | 1142.8 | 1151.9 |
| 30°   | 1076.0 | 1076.6 | 1089.0 | 1107.2 | 1115.7 |
| 32.5° | 1034.1 | 1029.0 | 1044.3 | 1052.2 | 1043.2 |
| 35°   | 981.4  | 976.9  | 977.5  | 927.6  | 898.2  |
| 37.5° | 909.5  | 913.5  | 861.4  | 770.2  | 731.7  |
| 40°   | 814.9  | 822.9  | 719.2  | 651.3  | 629.8  |
| 42.5° | 700.5  | 702.8  | 589.5  | 567.5  | 553.3  |
| 45°   | 570.9  | 595.8  | 496.7  | 490.4  | 470.1  |
| 47.5° | 452.5  | 498.9  | 416.3  | 420.2  | 371.5  |
| 50°   | 368.1  | 414.6  | 361.3  | 363.0  | 290.0  |
| 52.5° | 291.1  | 336.4  | 318.8  | 313.7  | 227.7  |
| 55°   | 224.8  | 269.0  | 275.2  | 273.0  | 177.8  |
| 57.5° | 165.4  | 212.9  | 231.1  | 239.6  | 137.1  |
| 60°   | 121.2  | 173.9  | 191.4  | 208.4  | 103.6  |
| 62.5° | 96.3   | 150.6  | 156.9  | 181.8  | 80.4   |
| 65°   | 84.4   | 138.8  | 124.6  | 157.4  | 63.4   |
| 67.5° | 75.3   | 132.0  | 101.4  | 139.3  | 55.5   |
| 70°   | 68.0   | 118.9  | 87.8   | 124.6  | 52.7   |
| 72.5° | 68.0   | 104.2  | 69.1   | 110.4  | 53.2   |
| 75°   | 61.7   | 88.9   | 47.6   | 93.4   | 53.2   |
| 77.5° | 54.9   | 75.9   | 35.7   | 75.9   | 49.8   |
| 80°   | 47.6   | 59.5   | 29.4   | 58.3   | 44.7   |
| 82.5° | 35.1   | 44.7   | 25.5   | 43.6   | 36.2   |
| 85°   | 22.7   | 36.8   | 26.1   | 31.7   | 25.5   |
| 87.5° | 10.8   | 18.7   | 16.4   | 15.9   | 13.0   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)