

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: P291510

Luminaire Tested: **14GR-LD5-36-A19/156-UNV-L92765-W2A1-U-2700K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P291510  
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-LD5-36-A19/156-UNV-L92765-W2A1-U-2700K  
Description: GRLED 1x4 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (168) 90 CRI LEDS TUNED TO 2700K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2785.0 lumens  
Efficiency: N/A  
Efficacy: 95.4 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

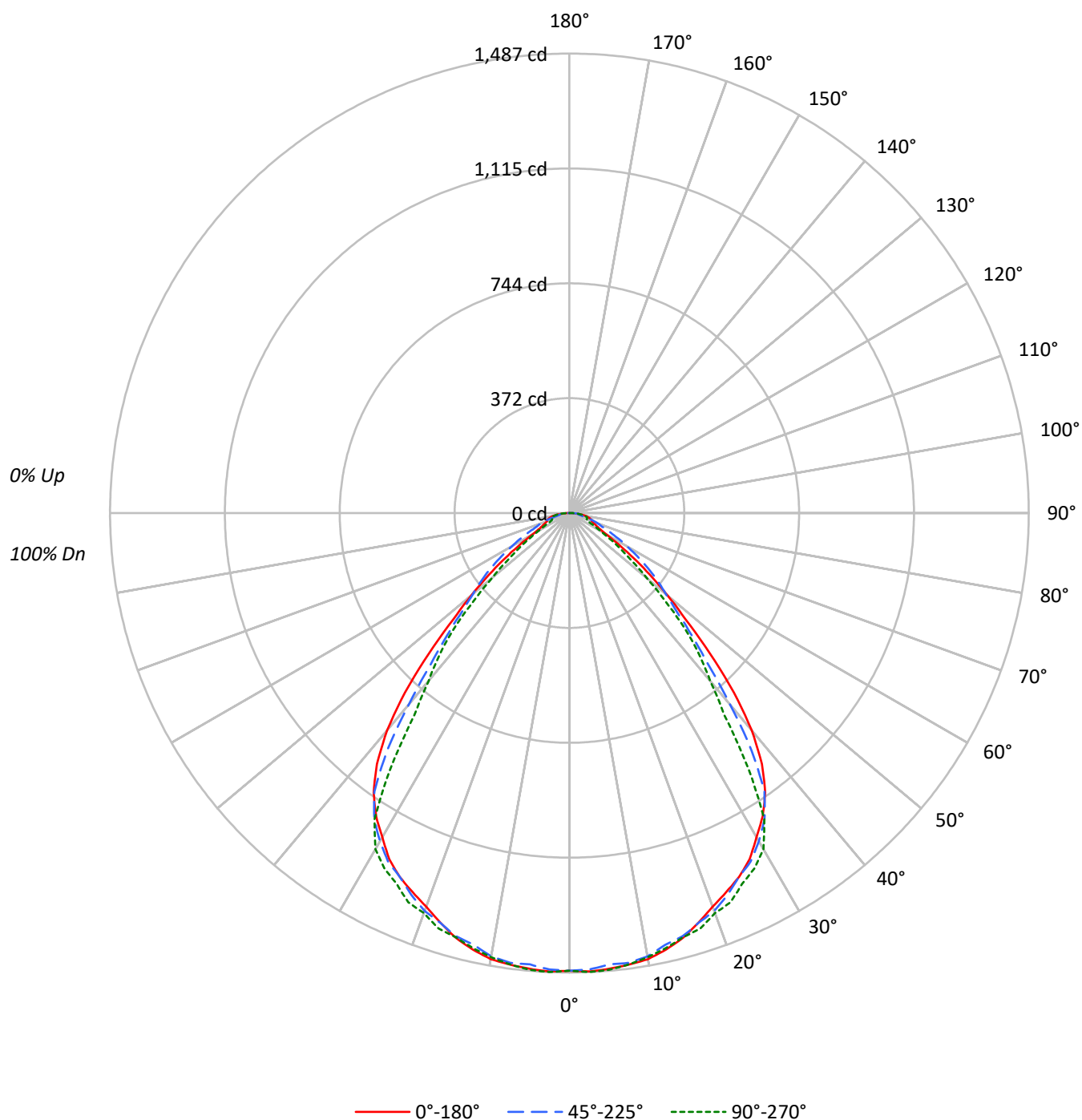
Input Watts (W): 29.202  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3985 | 3985 | 3985 |
| 5°  | 3999 | 3961 | 4007 |
| 10° | 4005 | 3980 | 3988 |
| 15° | 3964 | 3950 | 3959 |
| 20° | 3881 | 3923 | 3945 |
| 25° | 3858 | 3856 | 3930 |
| 30° | 3764 | 3809 | 3902 |
| 35° | 3629 | 3615 | 3322 |
| 40° | 3223 | 2844 | 2490 |
| 45° | 2445 | 2128 | 2014 |
| 50° | 1735 | 1703 | 1366 |
| 55° | 1187 | 1453 | 939  |
| 60° | 734  | 1160 | 628  |
| 65° | 605  | 893  | 455  |
| 70° | 602  | 777  | 467  |
| 75° | 723  | 557  | 623  |
| 80° | 831  | 514  | 781  |
| 85° | 787  | 905  | 886  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 140.5  | 5.0       |
| 10°-20°   | 401.1  | 14.4      |
| 20°-30°   | 603.1  | 21.7      |
| 30°-40°   | 657.5  | 23.6      |
| 40°-50°   | 460.4  | 16.5      |
| 50°-60°   | 260.6  | 9.4       |
| 60°-70°   | 142.6  | 5.1       |
| 70°-80°   | 86.4   | 3.1       |
| 80°-90°   | 32.8   | 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°    | 1144.7 | 41.1      |
| 0°-40°    | 1802.2 | 64.7      |
| 0°-60°    | 2523.2 | 90.6      |
| 0°-90°    | 2785.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2785.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1481 | 1481  | 1481 | 1481  | 1481 |      |
| 5°  | 1480 | 1478  | 1466 | 1484  | 1484 | 141  |
| 15° | 1423 | 1419  | 1418 | 1438  | 1421 | 400  |
| 25° | 1299 | 1302  | 1299 | 1329  | 1324 | 597  |
| 35° | 1105 | 1100  | 1100 | 1044  | 1011 | 681  |
| 45° | 643  | 671   | 559  | 552   | 529  | 499  |
| 55° | 253  | 303   | 310  | 307   | 200  | 231  |
| 65° | 95   | 156   | 140  | 177   | 71   | 98   |
| 75° | 70   | 100   | 54   | 105   | 60   | 72   |
| 85° | 26   | 41    | 29   | 36    | 29   | 28   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1481.0 | 1481.0 | 1481.0 | 1481.0 | 1481.0 |
| 2.5°  | 1484.8 | 1482.9 | 1478.4 | 1487.3 | 1486.7 |
| 5°    | 1480.3 | 1477.8 | 1466.3 | 1483.5 | 1483.5 |
| 7.5°  | 1473.9 | 1467.6 | 1468.2 | 1477.8 | 1473.3 |
| 10°   | 1465.7 | 1454.8 | 1456.7 | 1459.3 | 1459.3 |
| 12.5° | 1446.5 | 1436.3 | 1431.2 | 1439.5 | 1442.1 |
| 15°   | 1422.9 | 1419.1 | 1417.8 | 1438.2 | 1421.0 |
| 17.5° | 1389.8 | 1398.1 | 1390.4 | 1407.0 | 1409.6 |
| 20°   | 1355.4 | 1371.3 | 1370.0 | 1381.5 | 1377.7 |
| 22.5° | 1327.3 | 1337.5 | 1337.5 | 1351.5 | 1363.0 |
| 25°   | 1299.3 | 1301.8 | 1298.6 | 1328.6 | 1323.5 |
| 27.5° | 1262.9 | 1261.0 | 1271.2 | 1286.5 | 1296.7 |
| 30°   | 1211.3 | 1211.9 | 1225.9 | 1246.3 | 1255.9 |
| 32.5° | 1164.1 | 1158.4 | 1175.6 | 1184.5 | 1174.3 |
| 35°   | 1104.8 | 1099.7 | 1100.4 | 1044.3 | 1011.1 |
| 37.5° | 1023.9 | 1028.3 | 969.7  | 867.0  | 823.7  |
| 40°   | 917.4  | 926.3  | 809.6  | 733.1  | 708.9  |
| 42.5° | 788.6  | 791.2  | 663.7  | 638.8  | 622.9  |
| 45°   | 642.6  | 670.7  | 559.1  | 552.1  | 529.1  |
| 47.5° | 509.4  | 561.7  | 468.6  | 473.0  | 418.2  |
| 50°   | 414.4  | 466.7  | 406.7  | 408.6  | 326.4  |
| 52.5° | 327.7  | 378.7  | 358.9  | 353.2  | 256.3  |
| 55°   | 253.1  | 302.8  | 309.8  | 307.3  | 200.2  |
| 57.5° | 186.2  | 239.7  | 260.1  | 269.7  | 154.3  |
| 60°   | 136.4  | 195.7  | 215.5  | 234.6  | 116.7  |
| 62.5° | 108.4  | 169.6  | 176.6  | 204.6  | 90.5   |
| 65°   | 95.0   | 156.2  | 140.3  | 177.2  | 71.4   |
| 67.5° | 84.8   | 148.5  | 114.1  | 156.8  | 62.5   |
| 70°   | 76.5   | 133.9  | 98.8   | 140.3  | 59.3   |
| 72.5° | 76.5   | 117.3  | 77.8   | 124.3  | 59.9   |
| 75°   | 69.5   | 100.1  | 53.6   | 105.2  | 59.9   |
| 77.5° | 61.8   | 85.4   | 40.2   | 85.4   | 56.1   |
| 80°   | 53.6   | 66.9   | 33.2   | 65.7   | 50.4   |
| 82.5° | 39.5   | 50.4   | 28.7   | 49.1   | 40.8   |
| 85°   | 25.5   | 41.4   | 29.3   | 35.7   | 28.7   |
| 87.5° | 12.1   | 21.0   | 18.5   | 17.9   | 14.7   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)