

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: P292580

Luminaire Tested: **22GR-LD5-32-A19/156-UNV-L82765-W2A1-U-3000K**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P292580  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P33284)  
Test Lab: INNOVATION CENTER-P3  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 22GR-LD5-32-A19/156-UNV-L82765-W2A1-U-3000K  
Description: GRLED 2x2 TUNABLE WHITE TROFFER  
WITH A19/156 LENS  
Light Source: (168) 80 CRI LEDS TUNED TO 3000K CCT  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2996.0 lumens  
Efficiency: N/A  
Efficacy: 123.0 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.24 / 1.21  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

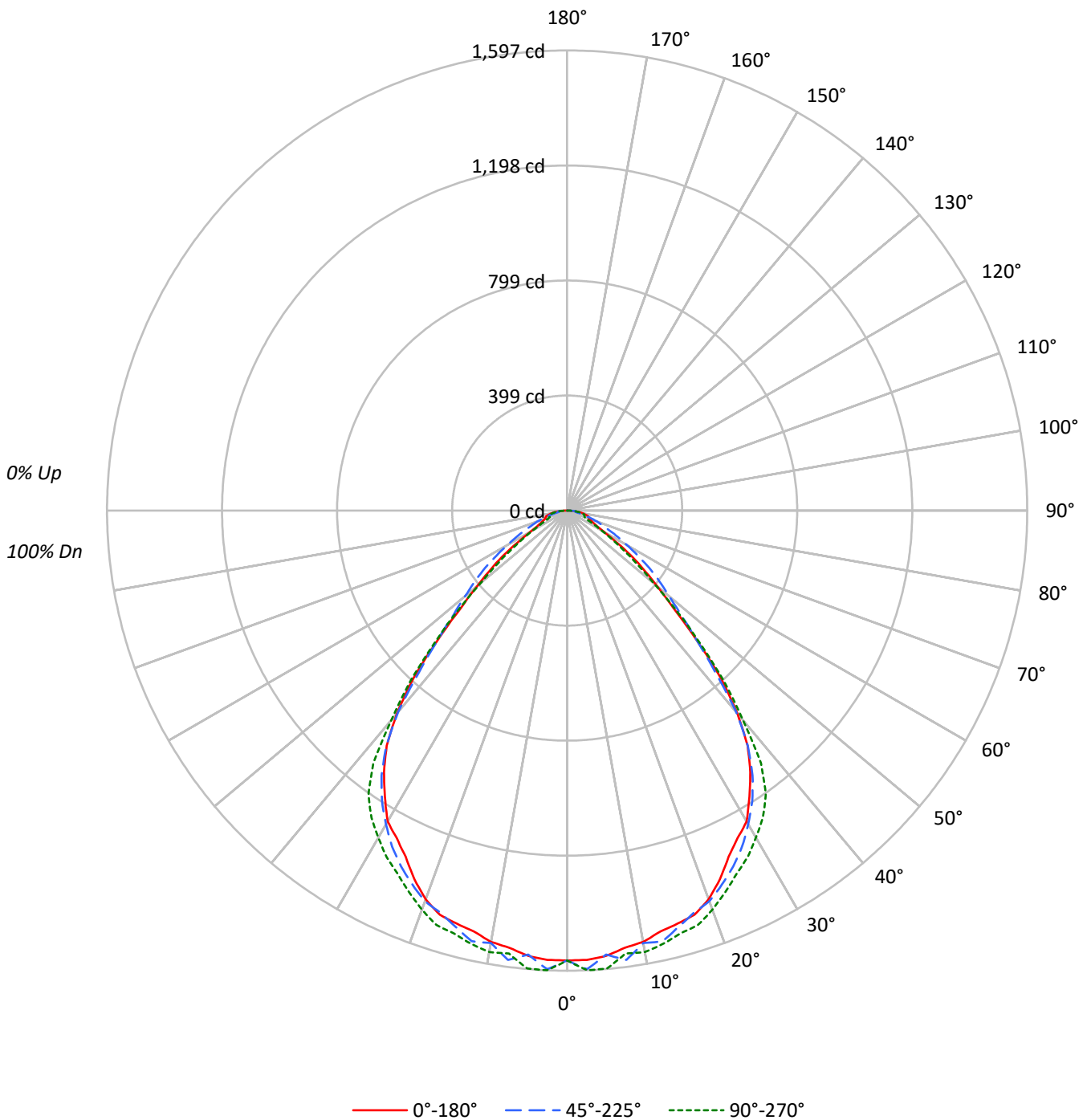
Input Watts (W): 24.366  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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   | 111 | 107 | 103 | 100 | 108 | 105 | 102 | 99  | 101 | 98  | 96  | 97  | 95  | 93  | 93  | 91  | 90  |     |    |    |    | 88 |     |   |  |   |
| 2   | 103 | 96  | 90  | 85  | 100 | 94  | 89  | 85  | 91  | 86  | 83  | 88  | 84  | 81  | 85  | 82  | 79  |     |    |    |    | 77 |     |   |  |   |
| 3   | 95  | 86  | 79  | 74  | 93  | 85  | 79  | 73  | 82  | 77  | 72  | 79  | 75  | 71  | 77  | 73  | 70  |     |    |    |    | 68 |     |   |  |   |
| 4   | 88  | 78  | 71  | 65  | 86  | 77  | 70  | 64  | 75  | 68  | 64  | 72  | 67  | 63  | 70  | 66  | 62  |     |    |    |    | 60 |     |   |  |   |
| 5   | 82  | 71  | 63  | 58  | 80  | 70  | 63  | 57  | 68  | 62  | 57  | 66  | 61  | 56  | 64  | 59  | 56  |     |    |    |    | 54 |     |   |  |   |
| 6   | 77  | 65  | 57  | 51  | 75  | 64  | 57  | 51  | 62  | 56  | 51  | 61  | 55  | 50  | 59  | 54  | 50  |     |    |    |    | 48 |     |   |  |   |
| 7   | 72  | 60  | 52  | 46  | 70  | 59  | 51  | 46  | 57  | 51  | 46  | 56  | 50  | 46  | 55  | 49  | 45  |     |    |    |    | 44 |     |   |  |   |
| 8   | 67  | 55  | 47  | 42  | 66  | 54  | 47  | 42  | 53  | 46  | 42  | 52  | 46  | 41  | 51  | 45  | 41  |     |    |    |    | 40 |     |   |  |   |
| 9   | 63  | 51  | 43  | 38  | 62  | 50  | 43  | 38  | 49  | 43  | 38  | 48  | 42  | 38  | 47  | 42  | 38  |     |    |    |    | 36 |     |   |  |   |
| 10  | 59  | 47  | 40  | 35  | 58  | 47  | 40  | 35  | 46  | 39  | 35  | 45  | 39  | 35  | 44  | 39  | 35  |     |    |    |    | 33 |     |   |  |   |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4202 | 4202 | 4202 |
| 5°  | 4191 | 4178 | 4309 |
| 10° | 4153 | 4164 | 4251 |
| 15° | 4134 | 4165 | 4232 |
| 20° | 4112 | 4132 | 4221 |
| 25° | 3936 | 4047 | 4131 |
| 30° | 3871 | 3906 | 4073 |
| 35° | 3641 | 3687 | 3949 |
| 40° | 3226 | 3204 | 3330 |
| 45° | 2410 | 2415 | 2482 |
| 50° | 1696 | 1930 | 1643 |
| 55° | 1252 | 1629 | 1123 |
| 60° | 783  | 1288 | 733  |
| 65° | 638  | 1020 | 513  |
| 70° | 633  | 850  | 505  |
| 75° | 785  | 624  | 653  |
| 80° | 876  | 493  | 798  |
| 85° | 871  | 914  | 892  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 148.6  | 5.0       |
| 10°-20°   | 423.4  | 14.1      |
| 20°-30°   | 627.1  | 20.9      |
| 30°-40°   | 702.4  | 23.4      |
| 40°-50°   | 516.1  | 17.2      |
| 50°-60°   | 288.5  | 9.6       |
| 60°-70°   | 160.8  | 5.4       |
| 70°-80°   | 94.5   | 3.2       |
| 80°-90°   | 34.7   | 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°    | 1199.1 | 40.0      |
| 0°-40°    | 1901.5 | 63.5      |
| 0°-60°    | 2706.0 | 90.3      |
| 0°-90°    | 2996.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 2996.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1561 | 1561  | 1561 | 1561  | 1561 |      |
| 5°  | 1552 | 1580  | 1547 | 1578  | 1595 | 147  |
| 15° | 1484 | 1493  | 1495 | 1518  | 1519 | 419  |
| 25° | 1326 | 1336  | 1363 | 1382  | 1391 | 614  |
| 35° | 1108 | 1109  | 1122 | 1173  | 1202 | 687  |
| 45° | 633  | 685   | 635  | 680   | 652  | 495  |
| 55° | 267  | 325   | 347  | 347   | 239  | 238  |
| 65° | 100  | 178   | 160  | 205   | 80   | 104  |
| 75° | 76   | 107   | 60   | 121   | 63   | 76   |
| 85° | 28   | 42    | 30   | 38    | 29   | 31   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1561.4 | 1561.4 | 1561.4 | 1561.4 | 1561.4 |
| 2.5°  | 1560.7 | 1574.8 | 1593.2 | 1595.3 | 1596.7 |
| 5°    | 1551.5 | 1580.5 | 1546.6 | 1578.4 | 1595.3 |
| 7.5°  | 1530.4 | 1548.0 | 1572.7 | 1541.0 | 1550.1 |
| 10°   | 1519.8 | 1524.0 | 1524.0 | 1563.5 | 1555.8 |
| 12.5° | 1495.8 | 1524.0 | 1531.1 | 1523.3 | 1540.3 |
| 15°   | 1483.8 | 1493.0 | 1495.1 | 1517.7 | 1519.1 |
| 17.5° | 1470.4 | 1468.3 | 1463.3 | 1479.5 | 1508.5 |
| 20°   | 1435.8 | 1428.0 | 1442.8 | 1462.6 | 1473.9 |
| 22.5° | 1385.0 | 1387.1 | 1404.7 | 1421.0 | 1433.7 |
| 25°   | 1325.7 | 1336.3 | 1363.1 | 1382.1 | 1391.3 |
| 27.5° | 1281.2 | 1296.7 | 1315.1 | 1337.7 | 1356.0 |
| 30°   | 1245.9 | 1244.5 | 1257.2 | 1289.7 | 1310.8 |
| 32.5° | 1177.4 | 1182.4 | 1195.8 | 1234.6 | 1264.3 |
| 35°   | 1108.2 | 1109.0 | 1122.4 | 1173.2 | 1202.1 |
| 37.5° | 1028.5 | 1022.8 | 1030.6 | 1085.7 | 1104.7 |
| 40°   | 918.4  | 919.8  | 912.0  | 950.8  | 948.0  |
| 42.5° | 789.9  | 801.2  | 761.0  | 811.8  | 808.2  |
| 45°   | 633.2  | 684.7  | 634.6  | 679.8  | 652.2  |
| 47.5° | 499.8  | 576.0  | 534.4  | 567.5  | 516.0  |
| 50°   | 405.2  | 483.5  | 460.9  | 475.8  | 392.5  |
| 52.5° | 332.5  | 396.0  | 403.1  | 406.6  | 306.4  |
| 55°   | 266.8  | 324.7  | 347.3  | 346.6  | 239.3  |
| 57.5° | 196.9  | 264.0  | 290.1  | 300.7  | 181.4  |
| 60°   | 145.4  | 219.5  | 239.3  | 262.6  | 136.2  |
| 62.5° | 117.2  | 192.7  | 197.6  | 230.1  | 103.8  |
| 65°   | 100.2  | 177.9  | 160.2  | 205.4  | 80.5   |
| 67.5° | 88.9   | 165.9  | 130.6  | 183.5  | 68.5   |
| 70°   | 80.5   | 147.5  | 108.0  | 164.5  | 64.2   |
| 72.5° | 78.4   | 125.6  | 83.3   | 146.8  | 63.5   |
| 75°   | 75.5   | 106.6  | 60.0   | 120.7  | 62.8   |
| 77.5° | 64.9   | 91.1   | 43.1   | 93.2   | 58.6   |
| 80°   | 56.5   | 72.7   | 31.8   | 69.9   | 51.5   |
| 82.5° | 43.8   | 55.1   | 28.2   | 52.9   | 41.6   |
| 85°   | 28.2   | 41.6   | 29.6   | 38.1   | 28.9   |
| 87.5° | 13.4   | 23.3   | 21.2   | 20.5   | 14.8   |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)