

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: P291921

Luminaire Tested: **22GR-LD5-43-F1-UNV-L92765-W2A1-U-3000K**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P291921
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-LD5-43-F1-UNV-L92765-W2A1-U-3000K
Description: GRLED 2x2 TUNABLE WHITE TROFFER
WITH F1 LENS
Light Source: (168) 90 CRI LEDS TUNED TO 3000K CCT
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3548.0 lumens
Efficiency: N/A
Efficacy: 102.0 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

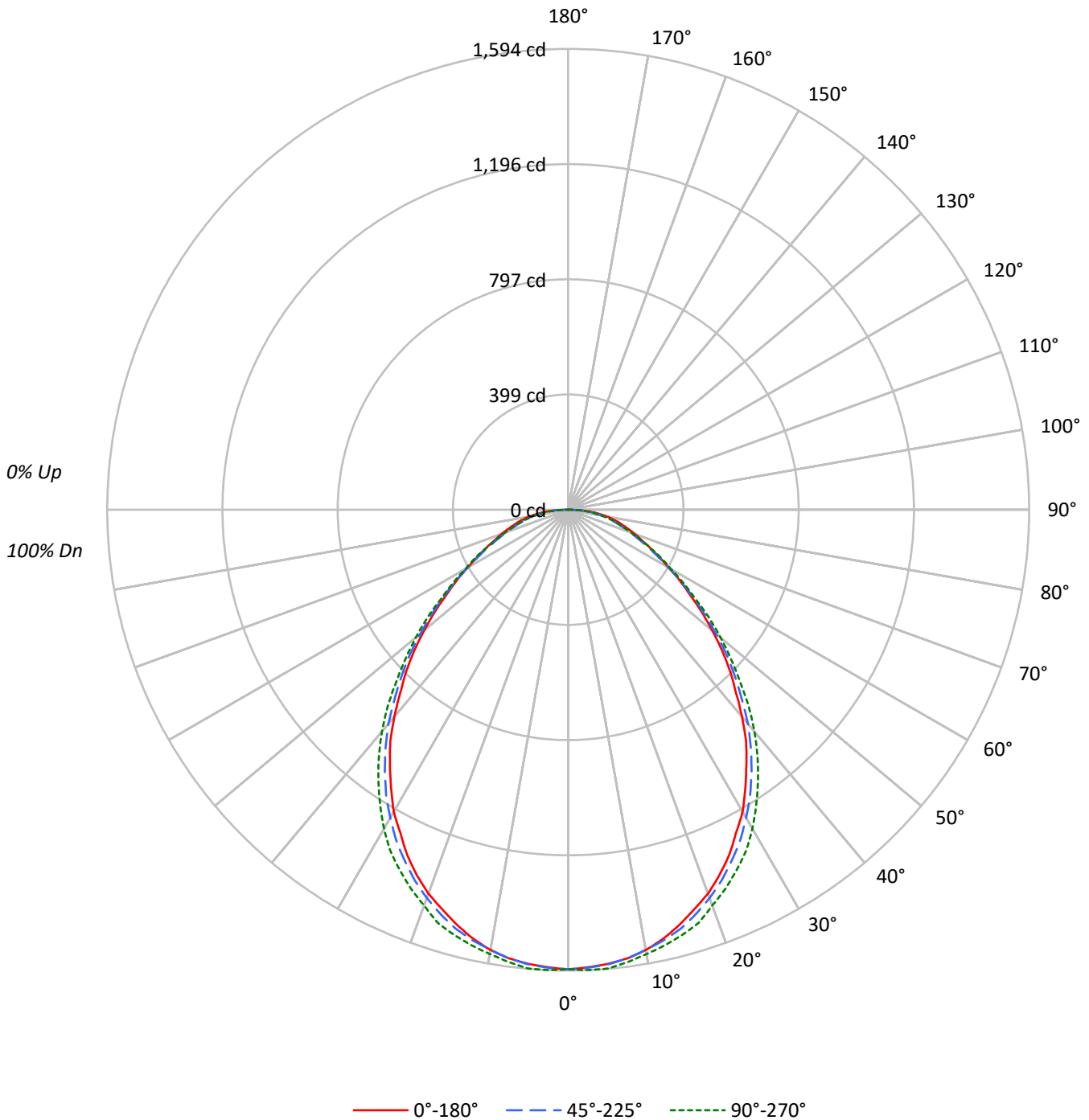
Input Watts (W): 34.782
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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° | 4278 | 4278 | 4278 |
| 5° | 4260 | 4264 | 4304 |
| 10° | 4226 | 4224 | 4264 |
| 15° | 4141 | 4182 | 4243 |
| 20° | 4047 | 4093 | 4173 |
| 25° | 3912 | 3975 | 4087 |
| 30° | 3748 | 3824 | 3958 |
| 35° | 3529 | 3630 | 3759 |
| 40° | 3283 | 3395 | 3518 |
| 45° | 3014 | 3101 | 3197 |
| 50° | 2719 | 2787 | 2876 |
| 55° | 2412 | 2470 | 2512 |
| 60° | 2162 | 2167 | 2210 |
| 65° | 1992 | 1925 | 1992 |
| 70° | 1924 | 1783 | 1834 |
| 75° | 1957 | 1746 | 1779 |
| 80° | 2109 | 1832 | 1832 |
| 85° | 2340 | 1936 | 1911 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 150.0 | 4.2 |
| 10°-20° | 423.0 | 11.9 |
| 20°-30° | 617.4 | 17.4 |
| 30°-40° | 691.2 | 19.5 |
| 40°-50° | 629.1 | 17.7 |
| 50°-60° | 473.5 | 13.3 |
| 60°-70° | 309.0 | 8.7 |
| 70°-80° | 185.3 | 5.2 |
| 80°-90° | 69.5 | 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° | 1190.4 | 33.6 |
| 0°-40° | 1881.6 | 53.0 |
| 0°-60° | 2984.2 | 84.1 |
| 0°-90° | 3548.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 3548.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1590 | 1590 | 1590 | 1590 | 1590 | |
| 5° | 1577 | 1574 | 1578 | 1584 | 1593 | 150 |
| 15° | 1486 | 1488 | 1501 | 1513 | 1523 | 419 |
| 25° | 1318 | 1322 | 1339 | 1363 | 1376 | 605 |
| 35° | 1074 | 1084 | 1105 | 1131 | 1144 | 671 |
| 45° | 792 | 800 | 815 | 832 | 840 | 610 |
| 55° | 514 | 522 | 526 | 534 | 535 | 465 |
| 65° | 313 | 310 | 302 | 307 | 313 | 313 |
| 75° | 188 | 182 | 168 | 169 | 171 | 200 |
| 85° | 76 | 73 | 63 | 60 | 62 | 78 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P291921

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CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1589.9 | 1589.9 | 1589.9 | 1589.9 | 1589.9 |
| 2.5° | 1584.2 | 1583.4 | 1585.9 | 1589.9 | 1594.0 |
| 5° | 1576.9 | 1574.5 | 1578.5 | 1584.2 | 1593.2 |
| 7.5° | 1565.5 | 1565.5 | 1565.5 | 1576.1 | 1577.7 |
| 10° | 1546.7 | 1548.4 | 1545.9 | 1556.5 | 1560.6 |
| 12.5° | 1519.9 | 1520.7 | 1525.6 | 1536.1 | 1543.5 |
| 15° | 1486.4 | 1488.1 | 1501.1 | 1513.3 | 1523.1 |
| 17.5° | 1449.0 | 1454.7 | 1466.9 | 1486.4 | 1498.7 |
| 20° | 1413.1 | 1419.6 | 1429.4 | 1450.6 | 1457.1 |
| 22.5° | 1367.5 | 1374.8 | 1387.0 | 1405.8 | 1419.6 |
| 25° | 1317.7 | 1321.8 | 1338.9 | 1363.4 | 1376.4 |
| 27.5° | 1258.3 | 1267.2 | 1288.4 | 1313.7 | 1331.6 |
| 30° | 1206.1 | 1211.0 | 1230.5 | 1259.9 | 1273.7 |
| 32.5° | 1140.1 | 1154.8 | 1171.1 | 1197.1 | 1210.2 |
| 35° | 1074.1 | 1083.9 | 1105.0 | 1131.1 | 1144.2 |
| 37.5° | 1010.5 | 1016.2 | 1037.4 | 1059.4 | 1075.7 |
| 40° | 934.7 | 945.3 | 966.5 | 990.1 | 1001.6 |
| 42.5° | 858.9 | 874.4 | 888.3 | 911.9 | 924.1 |
| 45° | 792.1 | 800.3 | 814.9 | 832.0 | 840.2 |
| 47.5° | 722.0 | 726.1 | 743.2 | 753.8 | 762.8 |
| 50° | 649.5 | 654.4 | 665.8 | 676.4 | 687.0 |
| 52.5° | 582.7 | 586.8 | 594.1 | 603.9 | 614.5 |
| 55° | 514.2 | 521.6 | 526.4 | 533.8 | 535.4 |
| 57.5° | 458.8 | 458.0 | 461.3 | 467.0 | 472.7 |
| 60° | 401.8 | 403.4 | 402.6 | 408.3 | 410.7 |
| 62.5° | 354.5 | 353.7 | 348.8 | 356.9 | 363.5 |
| 65° | 312.9 | 309.7 | 302.3 | 307.2 | 312.9 |
| 67.5° | 274.6 | 273.0 | 260.8 | 264.9 | 269.7 |
| 70° | 244.5 | 238.8 | 226.6 | 229.0 | 233.1 |
| 72.5° | 215.1 | 208.6 | 196.4 | 197.2 | 199.7 |
| 75° | 188.2 | 181.7 | 167.9 | 168.7 | 171.1 |
| 77.5° | 163.0 | 154.8 | 142.6 | 141.0 | 142.6 |
| 80° | 136.1 | 128.8 | 118.2 | 113.3 | 118.2 |
| 82.5° | 108.4 | 104.3 | 92.1 | 87.2 | 88.8 |
| 85° | 75.8 | 73.3 | 62.7 | 59.5 | 61.9 |
| 87.5° | 35.0 | 37.5 | 31.8 | 29.3 | 30.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)