

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: 210P101

Luminaire Tested: **G CXRD-232A-PAF**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 210P101
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: GCXRD-232A-PAF
Description: 1 X 4 Recessed Troffer with a .095 pattern 12
acrylic lens.
Light Source: Two-F32T8/35K - 2850 Lumens ea. - 32 Watts ea.
Ballast/Driver: Magnetek B232I120RH Electronic: L.O.B.F. = 87.16

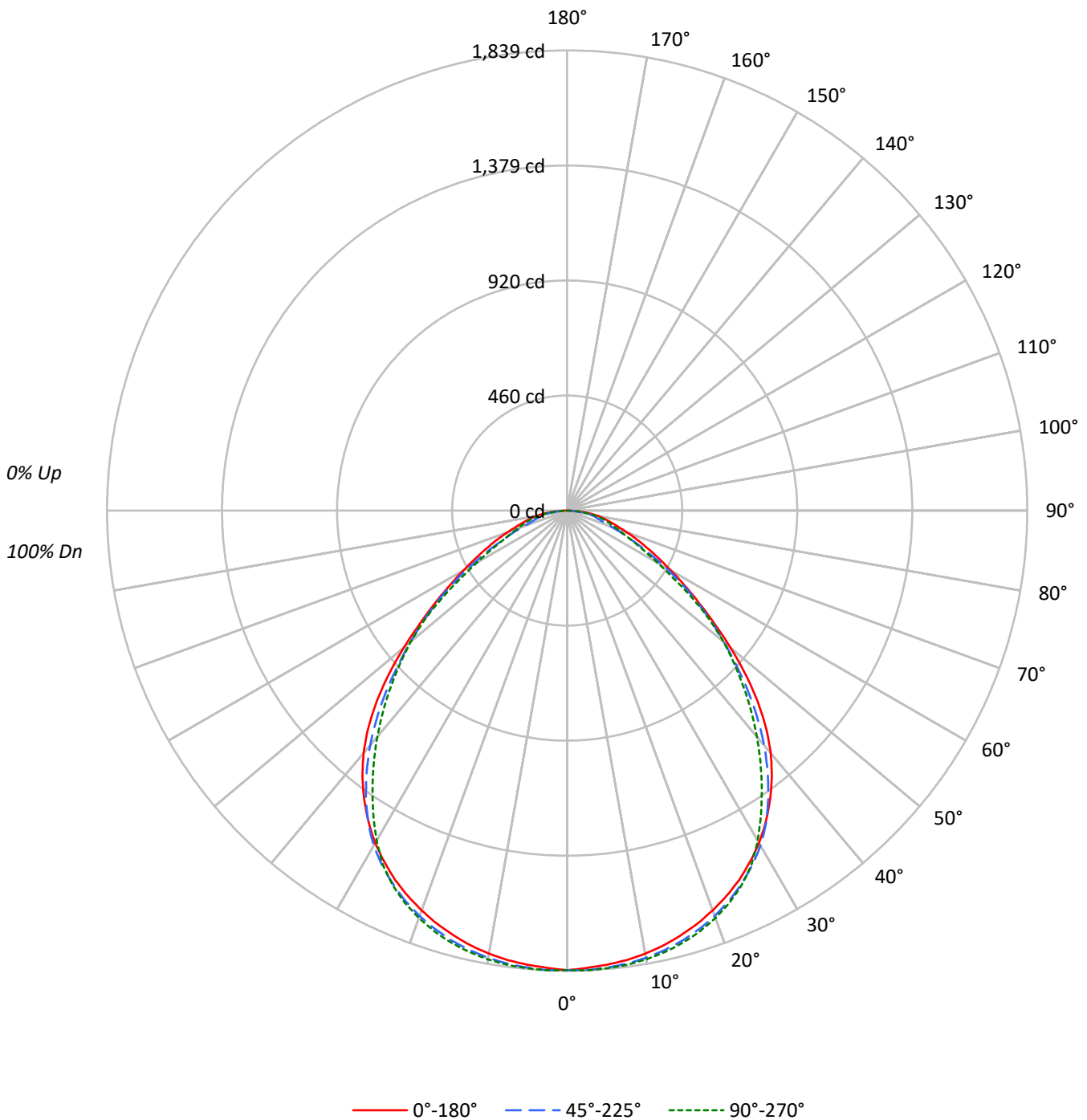
Summary

Lumens per Lamp: 2850 (2 lamps)
Luminaire Lumens: 4186.8 lumens
Efficiency: 73.5%
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 1.24 / 1.22 / 1.28
Luminous Opening: Rectangular (W 0.75' x L: 3.77' x H: 0')
CIE Type: Direct

Input Watts (W): 56.4
Input Voltage (V): NR
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 | 0 |
| RCR | | | | | | | | | | | | | | | | | | | | |
| 0 | 87 | 87 | 87 | 87 | 85 | 85 | 85 | 85 | 82 | 82 | 82 | | 78 | 78 | 78 | | 75 | 75 | 75 | 73 |
| 1 | 81 | 78 | 75 | 73 | 79 | 76 | 74 | 71 | 73 | 71 | 69 | | 70 | 69 | 67 | | 68 | 66 | 65 | 64 |
| 2 | 74 | 69 | 65 | 61 | 73 | 68 | 64 | 60 | 65 | 62 | 59 | | 63 | 60 | 57 | | 61 | 58 | 56 | 55 |
| 3 | 69 | 62 | 56 | 52 | 67 | 60 | 55 | 51 | 58 | 54 | 50 | | 56 | 53 | 50 | | 54 | 51 | 49 | 47 |
| 4 | 63 | 55 | 49 | 45 | 62 | 54 | 49 | 44 | 52 | 48 | 44 | | 51 | 47 | 43 | | 49 | 46 | 43 | 41 |
| 5 | 58 | 50 | 44 | 39 | 57 | 49 | 43 | 39 | 47 | 42 | 39 | | 46 | 42 | 38 | | 45 | 41 | 38 | 36 |
| 6 | 54 | 45 | 39 | 35 | 53 | 44 | 39 | 35 | 43 | 38 | 34 | | 42 | 37 | 34 | | 41 | 37 | 34 | 32 |
| 7 | 51 | 41 | 35 | 31 | 49 | 41 | 35 | 31 | 40 | 34 | 31 | | 38 | 34 | 30 | | 38 | 33 | 30 | 29 |
| 8 | 47 | 38 | 32 | 28 | 46 | 37 | 32 | 28 | 36 | 31 | 28 | | 35 | 31 | 27 | | 35 | 30 | 27 | 26 |
| 9 | 44 | 35 | 29 | 25 | 43 | 34 | 29 | 25 | 34 | 29 | 25 | | 33 | 28 | 25 | | 32 | 28 | 25 | 24 |
| 10 | 41 | 32 | 27 | 23 | 41 | 32 | 27 | 23 | 31 | 26 | 23 | | 30 | 26 | 23 | | 30 | 26 | 23 | 21 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 6992 | 6992 | 6992 |
| 5° | 6961 | 7003 | 7015 |
| 10° | 6949 | 7015 | 7038 |
| 15° | 6923 | 7010 | 7045 |
| 20° | 6886 | 6983 | 7019 |
| 25° | 6837 | 6917 | 6933 |
| 30° | 6742 | 6794 | 6693 |
| 35° | 6570 | 6514 | 6300 |
| 40° | 6290 | 6086 | 5863 |
| 45° | 5786 | 5506 | 5366 |
| 50° | 5045 | 4844 | 4826 |
| 55° | 4267 | 4194 | 4054 |
| 60° | 3639 | 3441 | 3174 |
| 65° | 3170 | 2657 | 2594 |
| 70° | 2827 | 2070 | 2348 |
| 75° | 2632 | 1868 | 2368 |
| 80° | 2827 | 2126 | 2389 |
| 85° | 2664 | 1878 | 1790 |



TEST NUMBER: 210P101

CATALOG NUMBER: GCXRD-232A-PAF

ZONAL LUMENS:

CANDELA DISTRIBUTION:

| Zone | Lumens | % Fixture | % Lamp | | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----------|--------|-----------|--------|------|------|-------|------|-------|------|------|
| 0°-10° | 174.3 | 4.2 | 3.1 | 0° | 1837 | 1837 | 1837 | 1837 | 1837 | |
| 10°-20° | 501.3 | 12.0 | 8.8 | 5° | 1822 | 1827 | 1833 | 1838 | 1836 | 173 |
| 20°-30° | 756.1 | 18.1 | 13.3 | 15° | 1757 | 1766 | 1779 | 1789 | 1788 | 496 |
| 30°-40° | 868.1 | 20.7 | 15.2 | 25° | 1628 | 1638 | 1647 | 1653 | 1651 | 749 |
| 40°-50° | 790.6 | 18.9 | 13.9 | 35° | 1414 | 1416 | 1402 | 1369 | 1356 | 882 |
| 50°-60° | 560.5 | 13.4 | 9.8 | 45° | 1075 | 1059 | 1023 | 996 | 997 | 823 |
| 60°-70° | 315.3 | 7.5 | 5.5 | 55° | 643 | 638 | 632 | 607 | 611 | 581 |
| 70°-80° | 168.8 | 4.0 | 3.0 | 65° | 352 | 325 | 295 | 304 | 288 | 353 |
| 80°-90° | 51.9 | 1.2 | 0.9 | 75° | 179 | 171 | 127 | 162 | 161 | 194 |
| 90°-100° | 0.0 | 0.0 | 0.0 | 85° | 61 | 50 | 43 | 41 | 41 | 64 |
| 100°-110° | 0.0 | 0.0 | 0.0 | 90° | 0 | 0 | 0 | 0 | 0 | 4 |
| 110°-120° | 0.0 | 0.0 | 0.0 | 95° | 0 | 0 | 0 | 0 | 0 | 0 |
| 120°-130° | 0.0 | 0.0 | 0.0 | 105° | 0 | 0 | 0 | 0 | 0 | 0 |
| 130°-140° | 0.0 | 0.0 | 0.0 | 115° | 0 | 0 | 0 | 0 | 0 | 0 |
| 140°-150° | 0.0 | 0.0 | 0.0 | 125° | 0 | 0 | 0 | 0 | 0 | 0 |
| 150°-160° | 0.0 | 0.0 | 0.0 | 135° | 0 | 0 | 0 | 0 | 0 | 0 |
| 160°-170° | 0.0 | 0.0 | 0.0 | 145° | 0 | 0 | 0 | 0 | 0 | 0 |
| 170°-180° | 0.0 | 0.0 | 0.0 | 155° | 0 | 0 | 0 | 0 | 0 | 0 |
| 0°-30° | 1431.6 | 34.2 | 25.1 | 165° | 0 | 0 | 0 | 0 | 0 | 0 |
| 0°-40° | 2299.7 | 54.9 | 40.3 | 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 0°-60° | 3650.8 | 87.2 | 64.0 | 180° | 0 | 0 | 0 | 0 | 0 | 0 |
| 0°-90° | 4186.8 | 100.0 | 73.5 | | | | | | | |
| 90°-120° | 0.0 | 0.0 | 0.0 | | | | | | | |
| 90°-150° | 0.0 | 0.0 | 0.0 | | | | | | | |
| 90°-180° | 0.0 | 0.0 | 0.0 | | | | | | | |
| 0°-180° | 4186.8 | 100.0 | 73.5 | | | | | | | |



TEST NUMBER: 210P101

CATALOG NUMBER: GCXRD-232A-PAF

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|------|
| 0° | 1837 | 1837 | 1837 | 1837 | 1837 |
| 2.5° | 1829 | 1833 | 1838 | 1841 | 1839 |
| 5° | 1822 | 1827 | 1833 | 1838 | 1836 |
| 7.5° | 1812 | 1817 | 1826 | 1832 | 1831 |
| 10° | 1798 | 1804 | 1815 | 1822 | 1821 |
| 12.5° | 1780 | 1787 | 1799 | 1808 | 1807 |
| 15° | 1757 | 1766 | 1779 | 1789 | 1788 |
| 17.5° | 1731 | 1741 | 1754 | 1764 | 1763 |
| 20° | 1700 | 1711 | 1724 | 1733 | 1733 |
| 22.5° | 1666 | 1677 | 1689 | 1696 | 1696 |
| 25° | 1628 | 1638 | 1647 | 1653 | 1651 |
| 27.5° | 1583 | 1592 | 1600 | 1601 | 1595 |
| 30° | 1534 | 1541 | 1546 | 1535 | 1523 |
| 32.5° | 1477 | 1482 | 1480 | 1454 | 1441 |
| 35° | 1414 | 1416 | 1402 | 1369 | 1356 |
| 37.5° | 1344 | 1340 | 1316 | 1280 | 1269 |
| 40° | 1266 | 1254 | 1225 | 1188 | 1180 |
| 42.5° | 1176 | 1160 | 1126 | 1094 | 1089 |
| 45° | 1075 | 1059 | 1023 | 996 | 997 |
| 47.5° | 966 | 952 | 918 | 897 | 906 |
| 50° | 852 | 845 | 818 | 797 | 815 |
| 52.5° | 741 | 739 | 724 | 701 | 719 |
| 55° | 643 | 638 | 632 | 607 | 611 |
| 57.5° | 556 | 541 | 540 | 510 | 504 |
| 60° | 478 | 453 | 452 | 426 | 417 |
| 62.5° | 410 | 382 | 368 | 358 | 345 |
| 65° | 352 | 325 | 295 | 304 | 288 |
| 67.5° | 301 | 277 | 236 | 261 | 244 |
| 70° | 254 | 235 | 186 | 225 | 211 |
| 72.5° | 213 | 201 | 149 | 193 | 184 |
| 75° | 179 | 171 | 127 | 162 | 161 |
| 77.5° | 153 | 142 | 114 | 132 | 138 |
| 80° | 129 | 113 | 97 | 101 | 109 |
| 82.5° | 96 | 81 | 73 | 74 | 79 |
| 85° | 61 | 50 | 43 | 41 | 41 |
| 87.5° | 28 | 18 | 9 | 5 | 4 |
| 90° | 0 | 0 | 0 | 0 | 0 |
| 92.5° | 0 | 0 | 0 | 0 | 0 |
| 95° | 0 | 0 | 0 | 0 | 0 |
| 97.5° | 0 | 0 | 0 | 0 | 0 |
| 100° | 0 | 0 | 0 | 0 | 0 |
| 102.5° | 0 | 0 | 0 | 0 | 0 |
| 105° | 0 | 0 | 0 | 0 | 0 |
| 107.5° | 0 | 0 | 0 | 0 | 0 |
| 110° | 0 | 0 | 0 | 0 | 0 |



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CATALOG NUMBER: GCXRD-232A-PAF

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|----|-------|-----|-------|-----|
| 112.5° | 0 | 0 | 0 | 0 | 0 |
| 115° | 0 | 0 | 0 | 0 | 0 |
| 117.5° | 0 | 0 | 0 | 0 | 0 |
| 120° | 0 | 0 | 0 | 0 | 0 |
| 122.5° | 0 | 0 | 0 | 0 | 0 |
| 125° | 0 | 0 | 0 | 0 | 0 |
| 127.5° | 0 | 0 | 0 | 0 | 0 |
| 130° | 0 | 0 | 0 | 0 | 0 |
| 132.5° | 0 | 0 | 0 | 0 | 0 |
| 135° | 0 | 0 | 0 | 0 | 0 |
| 137.5° | 0 | 0 | 0 | 0 | 0 |
| 140° | 0 | 0 | 0 | 0 | 0 |
| 142.5° | 0 | 0 | 0 | 0 | 0 |
| 145° | 0 | 0 | 0 | 0 | 0 |
| 147.5° | 0 | 0 | 0 | 0 | 0 |
| 150° | 0 | 0 | 0 | 0 | 0 |
| 152.5° | 0 | 0 | 0 | 0 | 0 |
| 155° | 0 | 0 | 0 | 0 | 0 |
| 157.5° | 0 | 0 | 0 | 0 | 0 |
| 160° | 0 | 0 | 0 | 0 | 0 |
| 162.5° | 0 | 0 | 0 | 0 | 0 |
| 165° | 0 | 0 | 0 | 0 | 0 |
| 167.5° | 0 | 0 | 0 | 0 | 0 |
| 170° | 0 | 0 | 0 | 0 | 0 |
| 172.5° | 0 | 0 | 0 | 0 | 0 |
| 175° | 0 | 0 | 0 | 0 | 0 |
| 177.5° | 0 | 0 | 0 | 0 | 0 |
| 180° | 0 | 0 | 0 | 0 | 0 |

(END OF REPORT)