

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: 134p125

Luminaire Tested: **WN-332A-UNV-EB81-PAF**

Issue Date: 3/3/2020



Test Information

Test Method: LM-41-14
Report Number: 134p125
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: WN-332A-UNV-EB81-PAF
Description: WRAPAROUND SERIES, 3 LAMP T8, WITH PRISMATIC WRAP LENS
ONE BALLAST COVER, PAF FINISH
Light Source: THREE LINEAR FLUORESCENT LAMPS, F32T8 32W - 3100 LUMENS EA
Ballast/Driver: -

Summary

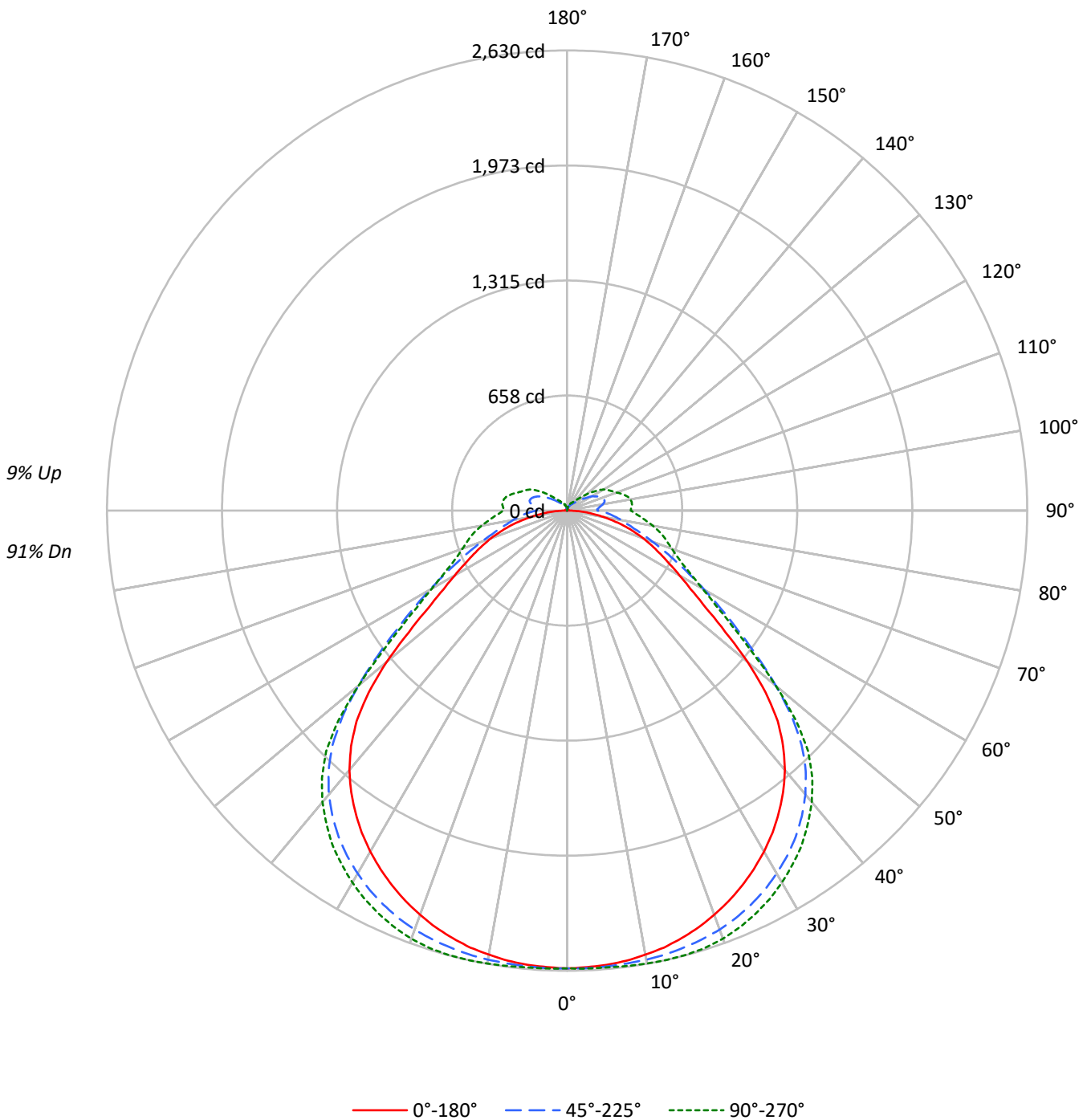
Lumens per Lamp: 3100 (3 lamps)
Luminaire Lumens: 8126.7 lumens
Efficiency: 87.4%
Efficacy: 100.3 lumens/watt
Spacing Criteria (0/90/45): 1.28 / 1.38 / 1.43
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 81
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 | 102 | 102 | 102 | 102 | 99 | 99 | 99 | 99 | 92 | 92 | 92 | 87 | 87 | 87 | 82 | 82 | 82 | 79 |
| 1 | 93 | 89 | 85 | 82 | 90 | 86 | 83 | 80 | 81 | 78 | 76 | 76 | 74 | 72 | 72 | 70 | 68 | 66 |
| 2 | 85 | 78 | 72 | 67 | 82 | 76 | 70 | 66 | 71 | 67 | 63 | 67 | 63 | 60 | 63 | 60 | 58 | 55 |
| 3 | 78 | 69 | 62 | 56 | 75 | 67 | 60 | 55 | 63 | 58 | 53 | 60 | 55 | 51 | 56 | 53 | 49 | 47 |
| 4 | 71 | 61 | 54 | 48 | 69 | 59 | 53 | 47 | 56 | 50 | 46 | 53 | 48 | 44 | 51 | 46 | 43 | 41 |
| 5 | 66 | 55 | 47 | 42 | 63 | 53 | 46 | 41 | 51 | 44 | 40 | 48 | 43 | 39 | 46 | 41 | 37 | 35 |
| 6 | 61 | 49 | 42 | 36 | 59 | 48 | 41 | 36 | 46 | 40 | 35 | 44 | 38 | 34 | 41 | 37 | 33 | 31 |
| 7 | 56 | 45 | 37 | 32 | 54 | 44 | 37 | 32 | 42 | 36 | 31 | 40 | 34 | 30 | 38 | 33 | 29 | 28 |
| 8 | 52 | 41 | 34 | 29 | 51 | 40 | 33 | 28 | 38 | 32 | 28 | 36 | 31 | 27 | 35 | 30 | 26 | 25 |
| 9 | 49 | 38 | 31 | 26 | 47 | 37 | 30 | 26 | 35 | 29 | 25 | 34 | 28 | 24 | 32 | 27 | 24 | 22 |
| 10 | 46 | 35 | 28 | 23 | 44 | 34 | 27 | 23 | 32 | 27 | 23 | 31 | 26 | 22 | 30 | 25 | 22 | 20 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|-------|
| 0° | 7042 | 7042 | 7042 |
| 5° | 7039 | 7064 | 7080 |
| 10° | 7042 | 7121 | 7184 |
| 15° | 7048 | 7202 | 7321 |
| 20° | 7039 | 7300 | 7457 |
| 25° | 7022 | 7378 | 7554 |
| 30° | 6991 | 7442 | 7628 |
| 35° | 6928 | 7480 | 7677 |
| 40° | 6801 | 7440 | 7640 |
| 45° | 6473 | 7215 | 7413 |
| 50° | 5635 | 6522 | 6514 |
| 55° | 4532 | 5592 | 5405 |
| 60° | 3993 | 4881 | 4801 |
| 65° | 3750 | 4362 | 4661 |
| 70° | 3643 | 4076 | 5004 |
| 75° | 3493 | 4107 | 5926 |
| 80° | 3301 | 4866 | 7702 |
| 85° | 3180 | 7657 | 13029 |



TEST NUMBER: 134p125

CATALOG NUMBER: WN-332A-UNV-EB81-PAF

ZONAL LUMENS:

CANDELA DISTRIBUTION:

| Zone | Lumens | % Fixture | % Lamp | | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----------|--------|-----------|--------|------|------|-------|------|-------|------|------|
| 0°-10° | 249.2 | 3.1 | 2.7 | 0° | 2617 | 2617 | 2617 | 2617 | 2617 | |
| 10°-20° | 730.0 | 9.0 | 7.8 | 5° | 2606 | 2609 | 2615 | 2619 | 2621 | 248 |
| 20°-30° | 1138.9 | 14.0 | 12.2 | 15° | 2530 | 2547 | 2585 | 2617 | 2628 | 714 |
| 30°-40° | 1406.0 | 17.3 | 15.1 | 25° | 2365 | 2410 | 2485 | 2530 | 2544 | 1090 |
| 40°-50° | 1420.1 | 17.5 | 15.3 | 35° | 2109 | 2181 | 2277 | 2324 | 2337 | 1318 |
| 50°-60° | 1032.0 | 12.7 | 11.1 | 45° | 1701 | 1796 | 1896 | 1944 | 1948 | 1293 |
| 60°-70° | 664.9 | 8.2 | 7.1 | 55° | 966 | 1105 | 1192 | 1184 | 1152 | 889 |
| 70°-80° | 437.8 | 5.4 | 4.7 | 65° | 589 | 590 | 685 | 713 | 732 | 587 |
| 80°-90° | 276.3 | 3.4 | 3.0 | 75° | 336 | 313 | 395 | 481 | 570 | 355 |
| 90°-100° | 204.7 | 2.5 | 2.2 | 85° | 103 | 149 | 248 | 356 | 422 | 106 |
| 100°-110° | 205.6 | 2.5 | 2.2 | 90° | 7 | 62 | 173 | 306 | 364 | 9 |
| 110°-120° | 163.3 | 2.0 | 1.8 | 95° | 1 | 58 | 182 | 324 | 372 | 1 |
| 120°-130° | 103.2 | 1.3 | 1.1 | 105° | 3 | 75 | 222 | 317 | 341 | 4 |
| 130°-140° | 50.2 | 0.6 | 0.5 | 115° | 6 | 79 | 190 | 251 | 270 | 6 |
| 140°-150° | 25.6 | 0.3 | 0.3 | 125° | 7 | 57 | 121 | 177 | 193 | 6 |
| 150°-160° | 13.4 | 0.2 | 0.1 | 135° | 8 | 35 | 69 | 91 | 101 | 6 |
| 160°-170° | 5.3 | 0.1 | 0.1 | 145° | 9 | 24 | 45 | 56 | 60 | 6 |
| 170°-180° | 0.3 | 0.0 | 0.0 | 155° | 11 | 18 | 30 | 40 | 43 | 5 |
| 0°-30° | 2118.1 | 26.1 | 22.8 | 165° | 12 | 14 | 18 | 23 | 26 | 3 |
| 0°-40° | 3524.1 | 43.4 | 37.9 | 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 0°-60° | 5976.2 | 73.5 | 64.3 | 180° | 0 | 0 | 0 | 0 | 0 | |
| 0°-90° | 7355.1 | 90.5 | 79.1 | | | | | | | |
| 90°-120° | 573.5 | 7.1 | 6.2 | | | | | | | |
| 90°-150° | 752.6 | 9.3 | 8.1 | | | | | | | |
| 90°-180° | 772.0 | 9.5 | 8.3 | | | | | | | |
| 0°-180° | 8126.7 | 100.0 | 87.4 | | | | | | | |



TEST NUMBER: 134p125

CATALOG NUMBER: WN-332A-UNV-EB81-PAF

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|------|-------|------|-------|------|
| 0° | 2617 | 2617 | 2617 | 2617 | 2617 |
| 2.5° | 2612 | 2615 | 2618 | 2617 | 2620 |
| 5° | 2606 | 2609 | 2615 | 2619 | 2621 |
| 7.5° | 2595 | 2600 | 2611 | 2621 | 2625 |
| 10° | 2577 | 2587 | 2606 | 2623 | 2629 |
| 12.5° | 2558 | 2569 | 2598 | 2620 | 2630 |
| 15° | 2530 | 2547 | 2585 | 2617 | 2628 |
| 17.5° | 2498 | 2520 | 2569 | 2608 | 2621 |
| 20° | 2458 | 2489 | 2549 | 2589 | 2604 |
| 22.5° | 2415 | 2451 | 2521 | 2564 | 2578 |
| 25° | 2365 | 2410 | 2485 | 2530 | 2544 |
| 27.5° | 2311 | 2361 | 2445 | 2490 | 2504 |
| 30° | 2250 | 2309 | 2395 | 2443 | 2455 |
| 32.5° | 2184 | 2249 | 2340 | 2387 | 2398 |
| 35° | 2109 | 2181 | 2277 | 2324 | 2337 |
| 37.5° | 2028 | 2104 | 2203 | 2250 | 2259 |
| 40° | 1936 | 2017 | 2118 | 2164 | 2175 |
| 42.5° | 1828 | 1916 | 2019 | 2064 | 2074 |
| 45° | 1701 | 1796 | 1896 | 1944 | 1948 |
| 47.5° | 1539 | 1651 | 1742 | 1787 | 1772 |
| 50° | 1346 | 1476 | 1558 | 1592 | 1556 |
| 52.5° | 1140 | 1285 | 1367 | 1376 | 1337 |
| 55° | 966 | 1105 | 1192 | 1184 | 1152 |
| 57.5° | 838 | 948 | 1040 | 1030 | 1005 |
| 60° | 742 | 813 | 907 | 906 | 892 |
| 62.5° | 660 | 694 | 788 | 800 | 802 |
| 65° | 589 | 590 | 685 | 713 | 732 |
| 67.5° | 523 | 500 | 596 | 638 | 678 |
| 70° | 463 | 427 | 518 | 574 | 636 |
| 72.5° | 399 | 365 | 452 | 522 | 601 |
| 75° | 336 | 313 | 395 | 481 | 570 |
| 77.5° | 272 | 265 | 350 | 445 | 535 |
| 80° | 213 | 223 | 314 | 414 | 497 |
| 82.5° | 153 | 185 | 280 | 384 | 457 |
| 85° | 103 | 149 | 248 | 356 | 422 |
| 87.5° | 55 | 107 | 211 | 328 | 390 |
| 90° | 7 | 62 | 173 | 306 | 364 |
| 92.5° | 0 | 55 | 172 | 311 | 365 |
| 95° | 1 | 58 | 182 | 324 | 372 |
| 97.5° | 2 | 61 | 193 | 331 | 372 |
| 100° | 2 | 66 | 207 | 333 | 368 |
| 102.5° | 3 | 71 | 218 | 329 | 358 |
| 105° | 3 | 75 | 222 | 317 | 341 |
| 107.5° | 4 | 80 | 219 | 301 | 322 |
| 110° | 5 | 81 | 213 | 283 | 301 |



TEST NUMBER: 134p125

CATALOG NUMBER: WN-332A-UNV-EB81-PAF

CANDELA DISTRIBUTION (continued):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|--------|----|-------|-----|-------|-----|
| 112.5° | 5 | 80 | 203 | 266 | 284 |
| 115° | 6 | 79 | 190 | 251 | 270 |
| 117.5° | 6 | 75 | 176 | 239 | 257 |
| 120° | 6 | 69 | 163 | 225 | 241 |
| 122.5° | 7 | 63 | 143 | 203 | 219 |
| 125° | 7 | 57 | 121 | 177 | 193 |
| 127.5° | 7 | 50 | 104 | 153 | 168 |
| 130° | 8 | 44 | 91 | 129 | 143 |
| 132.5° | 8 | 40 | 79 | 108 | 121 |
| 135° | 8 | 35 | 69 | 91 | 101 |
| 137.5° | 9 | 32 | 61 | 80 | 87 |
| 140° | 9 | 29 | 54 | 70 | 76 |
| 142.5° | 9 | 27 | 49 | 62 | 67 |
| 145° | 9 | 24 | 45 | 56 | 60 |
| 147.5° | 9 | 23 | 41 | 51 | 55 |
| 150° | 10 | 21 | 37 | 48 | 52 |
| 152.5° | 10 | 19 | 34 | 44 | 48 |
| 155° | 11 | 18 | 30 | 40 | 43 |
| 157.5° | 10 | 16 | 27 | 36 | 39 |
| 160° | 11 | 15 | 23 | 32 | 34 |
| 162.5° | 11 | 14 | 20 | 27 | 31 |
| 165° | 12 | 14 | 18 | 23 | 26 |
| 167.5° | 12 | 13 | 15 | 19 | 22 |
| 170° | 11 | 13 | 13 | 16 | 17 |
| 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)