

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: 236P190C

Luminaire Tested: **I8-332-G-UNV-EB81-UPL**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-41-14  
Report Number: 236P190C  
Test Lab: METALUX LABORATORIES  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: I8-332-G-UNV-EB81-UPL  
Description: I8 SERIES LUMINAIRE WITH HIGH REFLECTANCE WHITE WIDE  
DISTRIBUTION REFLECTOR AND UPLIGHT  
Light Source: THREE 32-WATT T8 LAMPS - 3000 LUMENS EA - PHILIPS - F32T8/TL835  
Ballast/Driver: GE PROLINE GE-432-MV-N

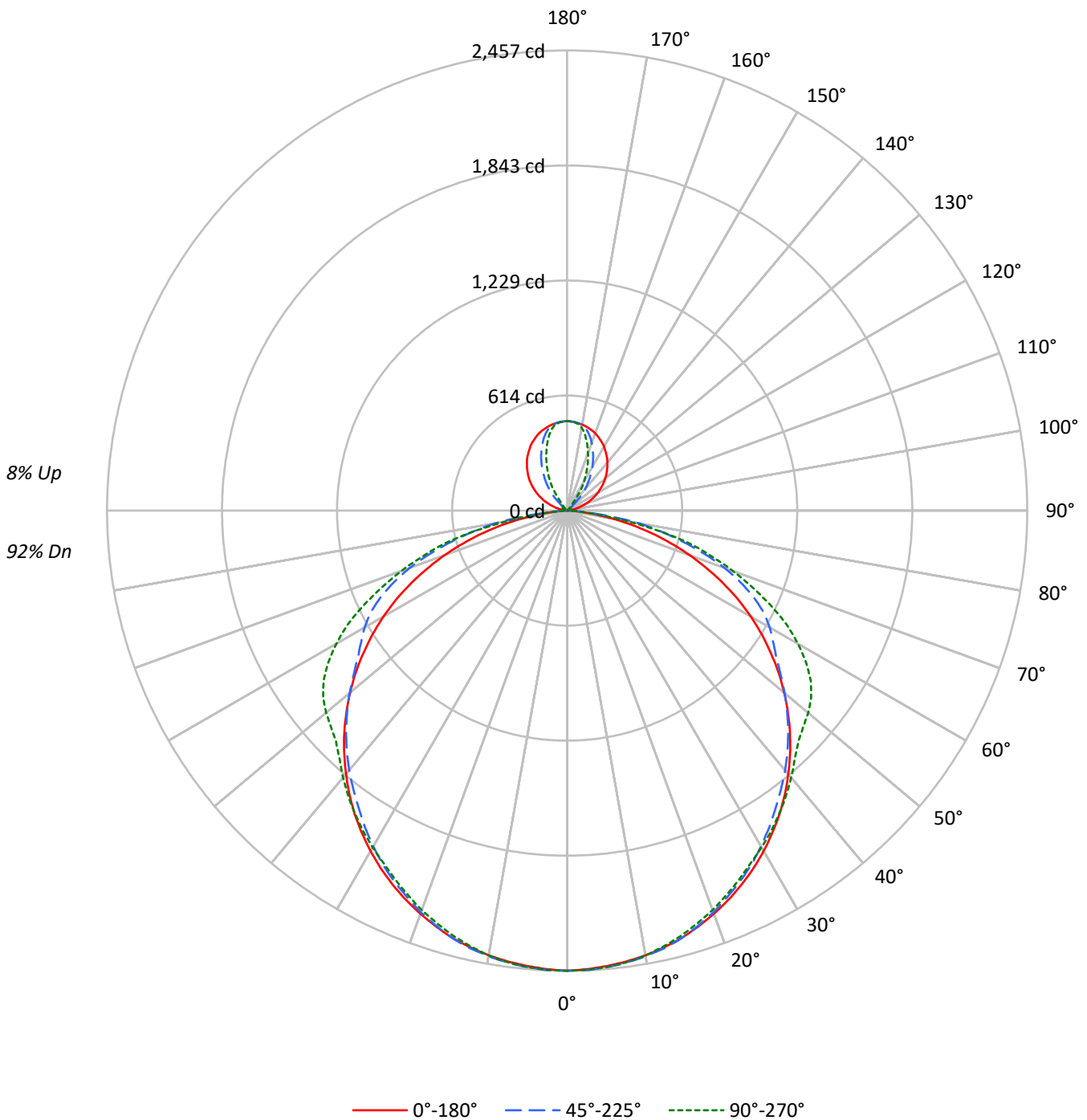
**Summary**

Lumens per Lamp: 3000 (3 lamps)  
Luminaire Lumens: 8156.9 lumens  
Efficiency: 90.6%  
Efficacy: 87.7 lumens/watt  
Spacing Criteria (0/90/45): 1.27 / 1.26 / 1.39  
Luminous Opening: Rectangular (W 0.84' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 93  
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   | 106 | 106 | 106 | 106 | 103 | 103 | 103 | 103 | 97 | 97 | 97 |  | 91 | 91 | 91 |  | 86 | 86 | 86 | 83 |
| 1   | 97  | 92  | 88  | 85  | 93  | 89  | 86  | 83  | 84 | 81 | 79 |  | 79 | 77 | 75 |  | 75 | 73 | 71 | 69 |
| 2   | 87  | 80  | 73  | 68  | 84  | 77  | 72  | 67  | 73 | 68 | 64 |  | 69 | 65 | 61 |  | 65 | 62 | 59 | 57 |
| 3   | 79  | 70  | 62  | 56  | 76  | 68  | 61  | 55  | 64 | 58 | 53 |  | 60 | 55 | 51 |  | 57 | 53 | 50 | 47 |
| 4   | 72  | 61  | 53  | 47  | 70  | 60  | 52  | 46  | 56 | 50 | 45 |  | 53 | 48 | 44 |  | 51 | 46 | 42 | 40 |
| 5   | 66  | 55  | 46  | 40  | 64  | 53  | 45  | 40  | 50 | 44 | 39 |  | 48 | 42 | 38 |  | 45 | 40 | 36 | 34 |
| 6   | 61  | 49  | 41  | 35  | 59  | 48  | 40  | 34  | 45 | 39 | 34 |  | 43 | 37 | 33 |  | 41 | 36 | 32 | 30 |
| 7   | 57  | 44  | 36  | 31  | 55  | 43  | 36  | 30  | 41 | 34 | 30 |  | 39 | 33 | 29 |  | 37 | 32 | 28 | 26 |
| 8   | 53  | 40  | 33  | 27  | 51  | 39  | 32  | 27  | 38 | 31 | 26 |  | 36 | 30 | 26 |  | 34 | 29 | 25 | 23 |
| 9   | 49  | 37  | 29  | 24  | 48  | 36  | 29  | 24  | 35 | 28 | 24 |  | 33 | 27 | 23 |  | 32 | 26 | 23 | 21 |
| 10  | 46  | 34  | 27  | 22  | 45  | 33  | 26  | 22  | 32 | 26 | 21 |  | 31 | 25 | 21 |  | 29 | 24 | 21 | 19 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 7836 | 7836 | 7836 |
| 5°  | 7815 | 7834 | 7831 |
| 10° | 7808 | 7824 | 7811 |
| 15° | 7802 | 7805 | 7759 |
| 20° | 7776 | 7748 | 7704 |
| 25° | 7756 | 7686 | 7647 |
| 30° | 7730 | 7623 | 7649 |
| 35° | 7701 | 7553 | 7690 |
| 40° | 7648 | 7536 | 7748 |
| 45° | 7591 | 7528 | 7871 |
| 50° | 7507 | 7522 | 8336 |
| 55° | 7390 | 7579 | 8830 |
| 60° | 7227 | 7967 | 9083 |
| 65° | 6943 | 8309 | 9063 |
| 70° | 6490 | 8336 | 8775 |
| 75° | 5755 | 7874 | 8342 |
| 80° | 4481 | 7034 | 5969 |
| 85° | 2122 | 3257 | 2342 |



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

| Zone      | Lumens | % Fixture | % Lamp |      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----------|--------|-----------|--------|------|------|-------|------|-------|------|------|
| 0°-10°    | 232.5  | 2.9       | 2.6    | 0°   | 2457 | 2457  | 2457 | 2457  | 2457 |      |
| 10°-20°   | 665.9  | 8.2       | 7.4    | 5°   | 2441 | 2443  | 2447 | 2451  | 2446 | 232  |
| 20°-30°   | 1008.9 | 12.4      | 11.2   | 15°  | 2363 | 2364  | 2364 | 2359  | 2350 | 667  |
| 30°-40°   | 1227.0 | 15.0      | 13.6   | 25°  | 2204 | 2203  | 2184 | 2178  | 2173 | 1016 |
| 40°-50°   | 1303.6 | 16.0      | 14.5   | 35°  | 1978 | 1959  | 1940 | 1966  | 1975 | 1237 |
| 50°-60°   | 1257.2 | 15.4      | 14.0   | 45°  | 1683 | 1644  | 1669 | 1716  | 1745 | 1298 |
| 60°-70°   | 1040.2 | 12.8      | 11.6   | 55°  | 1329 | 1272  | 1363 | 1534  | 1588 | 1187 |
| 70°-80°   | 626.4  | 7.7       | 7.0    | 65°  | 920  | 878   | 1101 | 1190  | 1201 | 909  |
| 80°-90°   | 129.5  | 1.6       | 1.4    | 75°  | 467  | 525   | 639  | 671   | 677  | 493  |
| 90°-100°  | 7.9    | 0.1       | 0.1    | 85°  | 58   | 116   | 89   | 72    | 64   | 89   |
| 100°-110° | 17.3   | 0.2       | 0.2    | 90°  | 1    | 6     | 7    | 6     | 5    | 3    |
| 110°-120° | 35.6   | 0.4       | 0.4    | 95°  | 12   | 5     | 6    | 7     | 6    | 15   |
| 120°-130° | 59.4   | 0.7       | 0.7    | 105° | 66   | 8     | 10   | 9     | 8    | 72   |
| 130°-140° | 90.7   | 1.1       | 1.0    | 115° | 146  | 20    | 17   | 20    | 19   | 145  |
| 140°-150° | 136.9  | 1.7       | 1.5    | 125° | 227  | 115   | 9    | 12    | 18   | 203  |
| 150°-160° | 153.2  | 1.9       | 1.7    | 135° | 300  | 213   | 73   | 17    | 10   | 232  |
| 160°-170° | 119.8  | 1.5       | 1.3    | 145° | 365  | 311   | 208  | 137   | 95   | 228  |
| 170°-180° | 44.8   | 0.5       | 0.5    | 155° | 417  | 399   | 328  | 275   | 255  | 193  |
| 0°-30°    | 1907.4 | 23.4      | 21.2   | 165° | 454  | 452   | 432  | 407   | 394  | 128  |
| 0°-40°    | 3134.4 | 38.4      | 34.8   | 175° | 474  | 474   | 474  | 475   | 472  | 45   |
| 0°-60°    | 5695.2 | 69.8      | 63.3   | 180° | 478  | 478   | 478  | 478   | 478  |      |
| 0°-90°    | 7491.4 | 91.8      | 83.2   |      |      |       |      |       |      |      |
| 90°-120°  | 60.8   | 0.7       | 0.7    |      |      |       |      |       |      |      |
| 90°-150°  | 347.8  | 4.3       | 3.9    |      |      |       |      |       |      |      |
| 90°-180°  | 666.0  | 8.2       | 7.4    |      |      |       |      |       |      |      |
| 0°-180°   | 8156.9 | 100.0     | 90.6   |      |      |       |      |       |      |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°   | 22.5° | 45°  | 67.5° | 90°  |
|--------|------|-------|------|-------|------|
| 0°     | 2457 | 2457  | 2457 | 2457  | 2457 |
| 2.5°   | 2451 | 2452  | 2456 | 2459  | 2454 |
| 5°     | 2441 | 2443  | 2447 | 2451  | 2446 |
| 7.5°   | 2428 | 2431  | 2434 | 2437  | 2433 |
| 10°    | 2411 | 2414  | 2416 | 2418  | 2412 |
| 12.5°  | 2389 | 2392  | 2394 | 2391  | 2383 |
| 15°    | 2363 | 2364  | 2364 | 2359  | 2350 |
| 17.5°  | 2329 | 2331  | 2325 | 2317  | 2311 |
| 20°    | 2291 | 2294  | 2283 | 2276  | 2270 |
| 22.5°  | 2250 | 2251  | 2234 | 2229  | 2222 |
| 25°    | 2204 | 2203  | 2184 | 2178  | 2173 |
| 27.5°  | 2154 | 2149  | 2131 | 2124  | 2122 |
| 30°    | 2099 | 2091  | 2070 | 2070  | 2077 |
| 32.5°  | 2040 | 2027  | 2007 | 2020  | 2028 |
| 35°    | 1978 | 1959  | 1940 | 1966  | 1975 |
| 37.5°  | 1910 | 1886  | 1875 | 1907  | 1920 |
| 40°    | 1837 | 1809  | 1810 | 1847  | 1861 |
| 42.5°  | 1762 | 1729  | 1742 | 1783  | 1799 |
| 45°    | 1683 | 1644  | 1669 | 1716  | 1745 |
| 47.5°  | 1600 | 1555  | 1594 | 1659  | 1710 |
| 50°    | 1513 | 1461  | 1516 | 1618  | 1680 |
| 52.5°  | 1424 | 1367  | 1436 | 1582  | 1642 |
| 55°    | 1329 | 1272  | 1363 | 1534  | 1588 |
| 57.5°  | 1233 | 1176  | 1304 | 1473  | 1514 |
| 60°    | 1133 | 1079  | 1249 | 1392  | 1424 |
| 62.5°  | 1029 | 980   | 1184 | 1296  | 1323 |
| 65°    | 920  | 878   | 1101 | 1190  | 1201 |
| 67.5°  | 809  | 776   | 1003 | 1062  | 1070 |
| 70°    | 696  | 686   | 894  | 931   | 941  |
| 72.5°  | 582  | 607   | 767  | 801   | 806  |
| 75°    | 467  | 525   | 639  | 671   | 677  |
| 77.5°  | 352  | 430   | 512  | 523   | 503  |
| 80°    | 244  | 324   | 383  | 348   | 325  |
| 82.5°  | 141  | 219   | 221  | 185   | 169  |
| 85°    | 58   | 116   | 89   | 72    | 64   |
| 87.5°  | 16   | 28    | 29   | 29    | 27   |
| 90°    | 1    | 6     | 7    | 6     | 5    |
| 92.5°  | 6    | 5     | 7    | 7     | 6    |
| 95°    | 12   | 5     | 6    | 7     | 6    |
| 97.5°  | 22   | 6     | 6    | 6     | 6    |
| 100°   | 36   | 7     | 7    | 6     | 6    |
| 102.5° | 49   | 9     | 8    | 7     | 7    |
| 105°   | 66   | 8     | 10   | 9     | 8    |
| 107.5° | 86   | 7     | 13   | 10    | 10   |
| 110°   | 105  | 8     | 16   | 13    | 12   |



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**CANDELA DISTRIBUTION (continued):**

|        | 0°  | 22.5° | 45° | 67.5° | 90° |
|--------|-----|-------|-----|-------|-----|
| 112.5° | 127 | 12    | 19  | 18    | 16  |
| 115°   | 146 | 20    | 17  | 20    | 19  |
| 117.5° | 167 | 36    | 10  | 23    | 23  |
| 120°   | 188 | 66    | 9   | 28    | 26  |
| 122.5° | 207 | 91    | 8   | 19    | 29  |
| 125°   | 227 | 115   | 9   | 12    | 18  |
| 127.5° | 247 | 140   | 16  | 10    | 12  |
| 130°   | 265 | 164   | 27  | 9     | 10  |
| 132.5° | 283 | 189   | 42  | 10    | 9   |
| 135°   | 300 | 213   | 73  | 17    | 10  |
| 137.5° | 318 | 239   | 119 | 31    | 19  |
| 140°   | 334 | 263   | 148 | 47    | 33  |
| 142.5° | 351 | 287   | 178 | 85    | 49  |
| 145°   | 365 | 311   | 208 | 137   | 95  |
| 147.5° | 379 | 335   | 238 | 171   | 147 |
| 150°   | 394 | 359   | 269 | 205   | 182 |
| 152.5° | 407 | 380   | 299 | 242   | 219 |
| 155°   | 417 | 399   | 328 | 275   | 255 |
| 157.5° | 429 | 416   | 357 | 309   | 290 |
| 160°   | 439 | 431   | 384 | 342   | 325 |
| 162.5° | 447 | 443   | 410 | 375   | 360 |
| 165°   | 454 | 452   | 432 | 407   | 394 |
| 167.5° | 461 | 459   | 451 | 434   | 424 |
| 170°   | 466 | 466   | 464 | 456   | 449 |
| 172.5° | 470 | 470   | 470 | 469   | 466 |
| 175°   | 474 | 474   | 474 | 475   | 472 |
| 177.5° | 475 | 476   | 477 | 478   | 476 |
| 180°   | 478 | 478   | 478 | 478   | 478 |

(END OF REPORT)