

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: 185P106

Luminaire Tested: **2EP3MX-332S48I**

Issue Date: 3/3/2020



**Test Information**

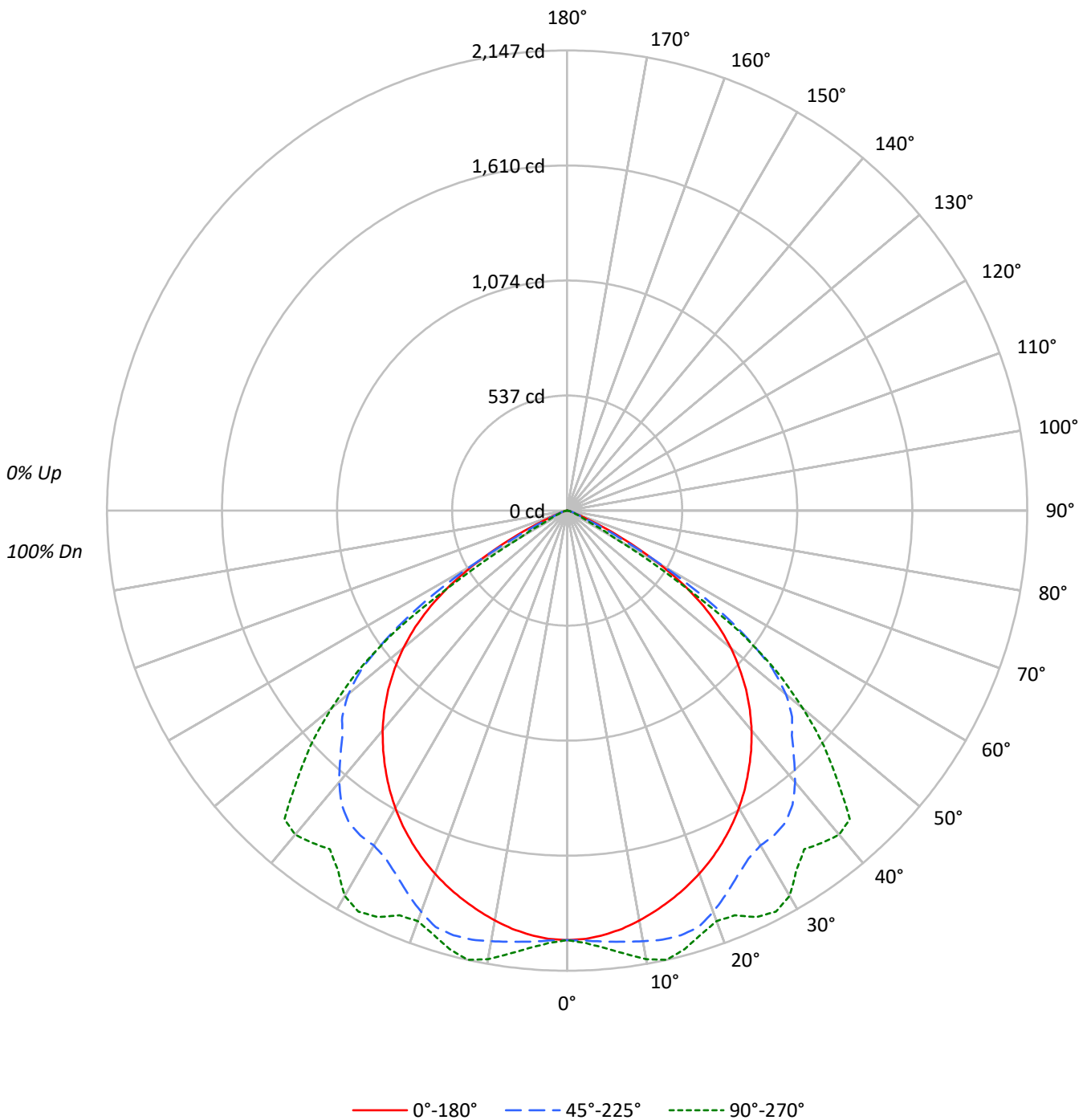
Test Method: LM-41-14  
Report Number: 185P106  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 2EP3MX-332S48I  
Description: 2 X 4 Surface Mount Luminaire with a 3" deep 32 cell  
semi-specular low iridescent parabolic louver  
Light Source: Three - FO32T8/35K - 2800 Lumens ea. - 32 Watts ea.  
Ballast/Driver: Magnetek B332I120RH Electronic - L.O.B.F. = 88.9

**Summary**

Lumens per Lamp: 2800 (3 lamps)  
Luminaire Lumens: 4887.1 lumens  
Efficiency: 58.2%  
Efficacy: 56.5 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.49 / 1.46  
Luminous Opening: Rectangular (W 1.73' x L: 3.75' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 86.5  
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   | 69 | 69 | 69 | 69 | 68 | 68 | 68 | 68 | 65 | 65 | 65 | 62 | 62 | 62 | 59 | 59 | 59 | 58 |
| 1   | 65 | 63 | 61 | 59 | 63 | 61 | 60 | 58 | 59 | 58 | 56 | 57 | 56 | 55 | 55 | 54 | 53 | 52 |
| 2   | 60 | 56 | 53 | 50 | 59 | 55 | 52 | 50 | 53 | 51 | 48 | 51 | 49 | 47 | 50 | 48 | 46 | 45 |
| 3   | 55 | 50 | 46 | 43 | 54 | 49 | 46 | 43 | 48 | 45 | 42 | 46 | 44 | 41 | 45 | 43 | 41 | 39 |
| 4   | 51 | 45 | 41 | 37 | 50 | 44 | 40 | 37 | 43 | 39 | 37 | 42 | 39 | 36 | 40 | 38 | 36 | 34 |
| 5   | 47 | 41 | 36 | 33 | 46 | 40 | 36 | 32 | 39 | 35 | 32 | 38 | 34 | 32 | 37 | 34 | 31 | 30 |
| 6   | 44 | 37 | 32 | 29 | 43 | 36 | 32 | 29 | 35 | 31 | 28 | 34 | 31 | 28 | 33 | 30 | 28 | 27 |
| 7   | 41 | 33 | 29 | 25 | 40 | 33 | 29 | 25 | 32 | 28 | 25 | 31 | 28 | 25 | 31 | 27 | 25 | 24 |
| 8   | 38 | 31 | 26 | 23 | 37 | 30 | 26 | 23 | 29 | 25 | 23 | 29 | 25 | 22 | 28 | 25 | 22 | 21 |
| 9   | 35 | 28 | 24 | 21 | 35 | 28 | 23 | 20 | 27 | 23 | 20 | 26 | 23 | 20 | 26 | 23 | 20 | 19 |
| 10  | 33 | 26 | 22 | 19 | 32 | 26 | 21 | 19 | 25 | 21 | 18 | 24 | 21 | 18 | 24 | 21 | 18 | 17 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 3327 | 3327 | 3327 |
| 5°  | 3311 | 3364 | 3414 |
| 10° | 3273 | 3439 | 3582 |
| 15° | 3229 | 3525 | 3640 |
| 20° | 3185 | 3519 | 3600 |
| 25° | 3134 | 3443 | 3832 |
| 30° | 3073 | 3458 | 3979 |
| 35° | 2993 | 3599 | 3909 |
| 40° | 2901 | 3586 | 4277 |
| 45° | 2770 | 3481 | 4188 |
| 50° | 2575 | 3442 | 3708 |
| 55° | 2246 | 2903 | 2825 |
| 60° | 1637 | 1713 | 857  |
| 65° | 782  | 475  | 283  |
| 70° | 238  | 209  | 160  |
| 75° | 128  | 135  | 103  |
| 80° | 76   | 96   | 67   |
| 85° | 57   | 57   | 38   |



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

| Zone      | Lumens | % Fixture | % Lamp |      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----------|--------|-----------|--------|------|------|-------|------|-------|------|------|
| 0°-10°    | 193.2  | 4.0       | 2.3    | 0°   | 2004 | 2004  | 2004 | 2004  | 2004 |      |
| 10°-20°   | 569.6  | 11.7      | 6.8    | 5°   | 1987 | 1996  | 2019 | 2039  | 2049 | 188  |
| 20°-30°   | 879.2  | 18.0      | 10.5   | 15°  | 1879 | 1940  | 2051 | 2106  | 2118 | 530  |
| 30°-40°   | 1092.0 | 22.3      | 13.0   | 25°  | 1711 | 1836  | 1880 | 1992  | 2092 | 788  |
| 40°-50°   | 1144.5 | 23.4      | 13.6   | 35°  | 1477 | 1611  | 1776 | 1862  | 1929 | 923  |
| 50°-60°   | 805.1  | 16.5      | 9.6    | 45°  | 1180 | 1304  | 1483 | 1724  | 1784 | 907  |
| 60°-70°   | 176.2  | 3.6       | 2.1    | 55°  | 776  | 924   | 1003 | 930   | 976  | 681  |
| 70°-80°   | 23.5   | 0.5       | 0.3    | 65°  | 199  | 213   | 121  | 84    | 72   | 221  |
| 80°-90°   | 3.8    | 0.1       | 0.0    | 75°  | 20   | 22    | 21   | 19    | 16   | 24   |
| 90°-100°  | 0.0    | 0.0       | 0.0    | 85°  | 3    | 3     | 3    | 3     | 2    | 3    |
| 100°-110° | 0.0    | 0.0       | 0.0    | 90°  | 0    | 0     | 0    | 0     | 0    | 0    |
| 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°    | 1642.1 | 33.6      | 19.5   | 165° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-40°    | 2734.1 | 55.9      | 32.5   | 175° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-60°    | 4683.7 | 95.8      | 55.8   | 180° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-90°    | 4887.1 | 100.0     | 58.2   |      |      |       |      |       |      |      |
| 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°   | 4887.1 | 100.0     | 58.2   |      |      |       |      |       |      |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°   | 22.5° | 45°  | 67.5° | 90°  |
|--------|------|-------|------|-------|------|
| 0°     | 2004 | 2004  | 2004 | 2004  | 2004 |
| 2.5°   | 2000 | 2001  | 2008 | 2015  | 2020 |
| 5°     | 1987 | 1996  | 2019 | 2039  | 2049 |
| 7.5°   | 1968 | 1988  | 2029 | 2068  | 2086 |
| 10°    | 1942 | 1976  | 2040 | 2101  | 2125 |
| 12.5°  | 1912 | 1959  | 2051 | 2122  | 2147 |
| 15°    | 1879 | 1940  | 2051 | 2106  | 2118 |
| 17.5°  | 1843 | 1919  | 2038 | 2061  | 2074 |
| 20°    | 1803 | 1898  | 1992 | 2011  | 2038 |
| 22.5°  | 1760 | 1870  | 1938 | 1982  | 2044 |
| 25°    | 1711 | 1836  | 1880 | 1992  | 2092 |
| 27.5°  | 1659 | 1794  | 1831 | 2020  | 2109 |
| 30°    | 1603 | 1744  | 1804 | 2006  | 2076 |
| 32.5°  | 1542 | 1680  | 1797 | 1951  | 1990 |
| 35°    | 1477 | 1611  | 1776 | 1862  | 1929 |
| 37.5°  | 1410 | 1537  | 1728 | 1801  | 1954 |
| 40°    | 1339 | 1460  | 1655 | 1807  | 1974 |
| 42.5°  | 1262 | 1381  | 1566 | 1791  | 1952 |
| 45°    | 1180 | 1304  | 1483 | 1724  | 1784 |
| 47.5°  | 1091 | 1230  | 1424 | 1548  | 1625 |
| 50°    | 997  | 1149  | 1333 | 1384  | 1436 |
| 52.5°  | 893  | 1053  | 1205 | 1173  | 1231 |
| 55°    | 776  | 924   | 1003 | 930   | 976  |
| 57.5°  | 643  | 765   | 776  | 650   | 597  |
| 60°    | 493  | 577   | 516  | 343   | 258  |
| 62.5°  | 336  | 380   | 275  | 153   | 117  |
| 65°    | 199  | 213   | 121  | 84    | 72   |
| 67.5°  | 96   | 106   | 65   | 55    | 48   |
| 70°    | 49   | 55    | 43   | 38    | 33   |
| 72.5°  | 31   | 34    | 30   | 26    | 23   |
| 75°    | 20   | 22    | 21   | 19    | 16   |
| 77.5°  | 13   | 15    | 14   | 13    | 11   |
| 80°    | 8    | 10    | 10   | 9     | 7    |
| 82.5°  | 5    | 6     | 6    | 5     | 4    |
| 85°    | 3    | 3     | 3    | 3     | 2    |
| 87.5°  | 1    | 1     | 1    | 1     | 1    |
| 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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**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)