

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: 109P156

Luminaire Tested: **2PGX-317S33I-PAF**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-41-14  
Report Number: 109P156  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 2PGX-317S33I-PAF  
Description: 2 X 2 Recessed Troffer with a 4" deep  
9 cell semi-specular low iridescent  
parabolic louver.  
Light Source: Three-F17T8/735 - 1325 Lumens ea. - 17 Watts ea.  
Ballast/Driver: Triad-Utrad B332I120 Electronic

**Summary**

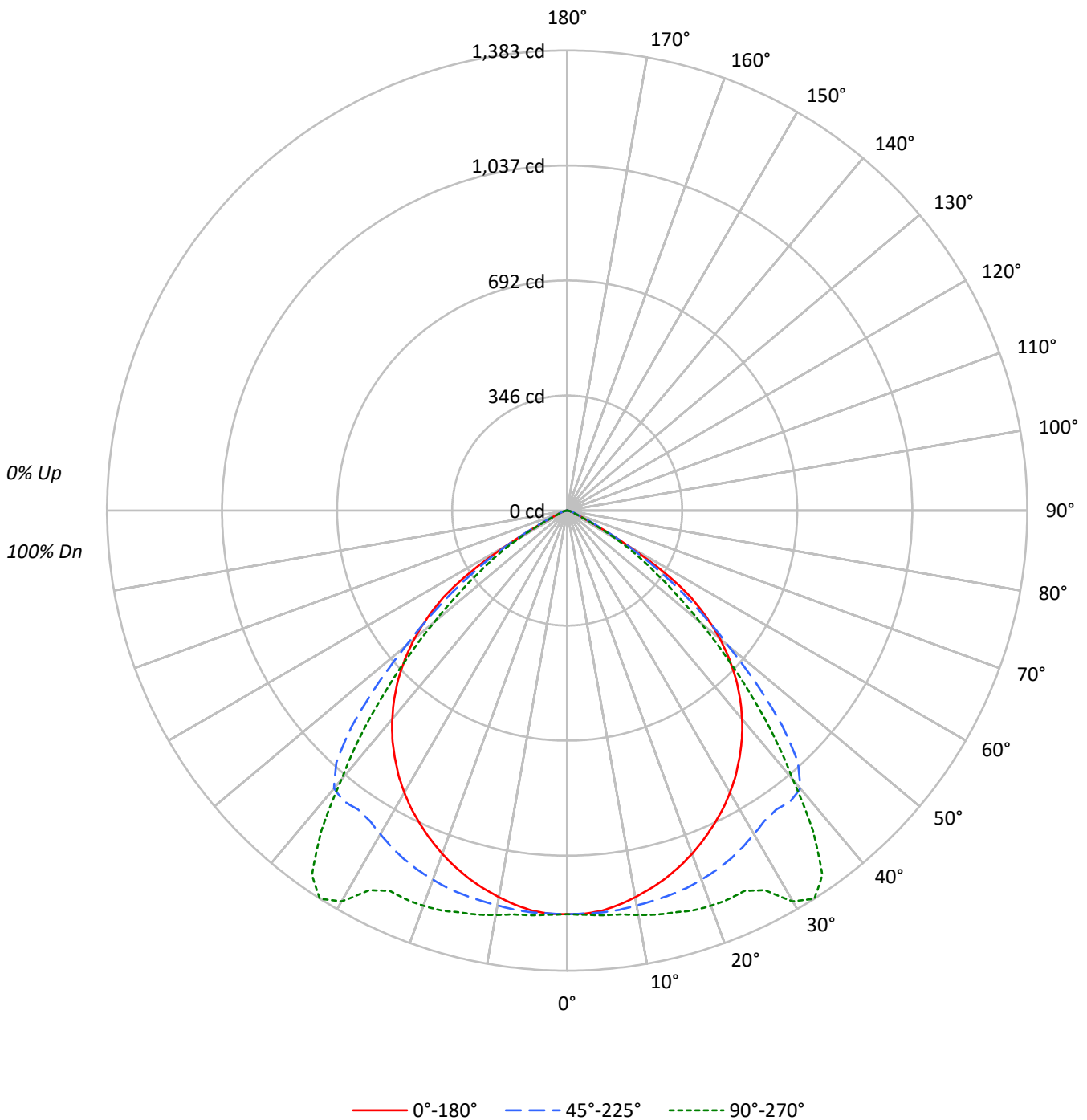
Lumens per Lamp: 1325 (3 lamps)  
Luminaire Lumens: 2761.0 lumens  
Efficiency: 69.5%  
Efficacy: 55.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.53 / 1.44  
Luminous Opening: Rectangular (W 1.74' x L: 1.76' x H: 0')  
CIE Type: Direct

Input Watts (W): 49.8  
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   | 83 | 83 | 83 | 83 | 81 | 81 | 81 | 81 | 77 | 77 | 77 | 74 | 74 | 74 | 71 | 71 | 71 | 69 |
| 1   | 78 | 75 | 73 | 71 | 76 | 73 | 71 | 70 | 71 | 69 | 67 | 68 | 67 | 65 | 66 | 65 | 64 | 62 |
| 2   | 72 | 68 | 64 | 61 | 70 | 66 | 63 | 60 | 64 | 61 | 59 | 62 | 59 | 57 | 60 | 58 | 56 | 55 |
| 3   | 67 | 61 | 56 | 52 | 65 | 60 | 55 | 52 | 58 | 54 | 51 | 56 | 53 | 50 | 54 | 52 | 49 | 48 |
| 4   | 62 | 55 | 50 | 46 | 60 | 54 | 49 | 45 | 52 | 48 | 45 | 51 | 47 | 44 | 49 | 46 | 44 | 42 |
| 5   | 57 | 50 | 44 | 40 | 56 | 49 | 44 | 40 | 47 | 43 | 40 | 46 | 42 | 39 | 45 | 42 | 39 | 37 |
| 6   | 53 | 45 | 39 | 36 | 52 | 44 | 39 | 35 | 43 | 39 | 35 | 42 | 38 | 35 | 41 | 37 | 35 | 33 |
| 7   | 49 | 41 | 36 | 32 | 48 | 40 | 35 | 32 | 39 | 35 | 31 | 39 | 34 | 31 | 38 | 34 | 31 | 30 |
| 8   | 46 | 38 | 32 | 28 | 45 | 37 | 32 | 28 | 36 | 32 | 28 | 35 | 31 | 28 | 35 | 31 | 28 | 27 |
| 9   | 43 | 35 | 29 | 26 | 42 | 34 | 29 | 26 | 33 | 29 | 26 | 33 | 28 | 25 | 32 | 28 | 25 | 24 |
| 10  | 40 | 32 | 27 | 23 | 40 | 32 | 27 | 23 | 31 | 26 | 23 | 30 | 26 | 23 | 30 | 26 | 23 | 22 |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 4264 | 4264 | 4264 |
| 5°  | 4259 | 4276 | 4308 |
| 10° | 4212 | 4301 | 4404 |
| 15° | 4163 | 4352 | 4549 |
| 20° | 4107 | 4414 | 4728 |
| 25° | 4041 | 4487 | 4890 |
| 30° | 3973 | 4558 | 5503 |
| 35° | 3879 | 4703 | 5737 |
| 40° | 3753 | 5001 | 4850 |
| 45° | 3569 | 4548 | 3862 |
| 50° | 3275 | 3461 | 2849 |
| 55° | 2782 | 2476 | 1961 |
| 60° | 1455 | 1427 | 1181 |
| 65° | 441  | 507  | 391  |
| 70° | 236  | 277  | 226  |
| 75° | 163  | 204  | 149  |
| 80° | 121  | 142  | 101  |
| 85° | 40   | 81   | 40   |



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

| Zone      | Lumens | % Fixture | % Lamp |      | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----------|--------|-----------|--------|------|------|-------|------|-------|------|------|
| 0°-10°    | 115.5  | 4.2       | 2.9    | 0°   | 1213 | 1213  | 1213 | 1213  | 1213 |      |
| 10°-20°   | 338.6  | 12.3      | 8.5    | 5°   | 1207 | 1208  | 1212 | 1217  | 1221 | 114  |
| 20°-30°   | 534.8  | 19.4      | 13.5   | 15°  | 1144 | 1157  | 1196 | 1237  | 1250 | 323  |
| 30°-40°   | 690.4  | 25.0      | 17.4   | 25°  | 1042 | 1080  | 1157 | 1227  | 1261 | 480  |
| 40°-50°   | 624.4  | 22.6      | 15.7   | 35°  | 904  | 968   | 1096 | 1292  | 1337 | 565  |
| 50°-60°   | 362.3  | 13.1      | 9.1    | 45°  | 718  | 811   | 915  | 791   | 777  | 551  |
| 60°-70°   | 77.2   | 2.8       | 1.9    | 55°  | 454  | 526   | 404  | 329   | 320  | 385  |
| 70°-80°   | 15.5   | 0.6       | 0.4    | 65°  | 53   | 62    | 61   | 60    | 47   | 75   |
| 80°-90°   | 2.4    | 0.1       | 0.1    | 75°  | 12   | 15    | 15   | 14    | 11   | 14   |
| 90°-100°  | 0.0    | 0.0       | 0.0    | 85°  | 1    | 2     | 2    | 2     | 1    | 2    |
| 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°    | 988.9  | 35.8      | 24.9   | 165° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-40°    | 1679.2 | 60.8      | 42.2   | 175° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-60°    | 2665.9 | 96.6      | 67.1   | 180° | 0    | 0     | 0    | 0     | 0    | 0    |
| 0°-90°    | 2761.0 | 100.0     | 69.5   |      |      |       |      |       |      |      |
| 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°   | 2761.0 | 100.0     | 69.5   |      |      |       |      |       |      |      |



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**CANDELA DISTRIBUTION (FULL):**

|        | 0°   | 22.5° | 45°  | 67.5° | 90°  |
|--------|------|-------|------|-------|------|
| 0°     | 1213 | 1213  | 1213 | 1213  | 1213 |
| 2.5°   | 1213 | 1212  | 1212 | 1214  | 1216 |
| 5°     | 1207 | 1208  | 1212 | 1217  | 1221 |
| 7.5°   | 1195 | 1200  | 1210 | 1220  | 1224 |
| 10°    | 1180 | 1187  | 1205 | 1226  | 1234 |
| 12.5°  | 1163 | 1173  | 1201 | 1233  | 1244 |
| 15°    | 1144 | 1157  | 1196 | 1237  | 1250 |
| 17.5°  | 1122 | 1141  | 1190 | 1239  | 1260 |
| 20°    | 1098 | 1122  | 1180 | 1238  | 1264 |
| 22.5°  | 1071 | 1102  | 1170 | 1236  | 1265 |
| 25°    | 1042 | 1080  | 1157 | 1227  | 1261 |
| 27.5°  | 1012 | 1056  | 1141 | 1221  | 1286 |
| 30°    | 979  | 1030  | 1123 | 1253  | 1356 |
| 32.5°  | 943  | 1001  | 1105 | 1301  | 1383 |
| 35°    | 904  | 968   | 1096 | 1292  | 1337 |
| 37.5°  | 863  | 933   | 1102 | 1219  | 1215 |
| 40°    | 818  | 895   | 1090 | 1080  | 1057 |
| 42.5°  | 770  | 854   | 1027 | 925   | 920  |
| 45°    | 718  | 811   | 915  | 791   | 777  |
| 47.5°  | 661  | 765   | 772  | 660   | 645  |
| 50°    | 599  | 708   | 633  | 536   | 521  |
| 52.5°  | 530  | 632   | 514  | 425   | 413  |
| 55°    | 454  | 526   | 404  | 329   | 320  |
| 57.5°  | 346  | 380   | 301  | 246   | 248  |
| 60°    | 207  | 219   | 203  | 178   | 168  |
| 62.5°  | 107  | 114   | 116  | 108   | 91   |
| 65°    | 53   | 62    | 61   | 60    | 47   |
| 67.5°  | 33   | 39    | 38   | 37    | 30   |
| 70°    | 23   | 28    | 27   | 26    | 22   |
| 72.5°  | 17   | 20    | 20   | 19    | 16   |
| 75°    | 12   | 15    | 15   | 14    | 11   |
| 77.5°  | 9    | 11    | 10   | 10    | 8    |
| 80°    | 6    | 7     | 7    | 7     | 5    |
| 82.5°  | 3    | 4     | 4    | 4     | 3    |
| 85°    | 1    | 2     | 2    | 2     | 1    |
| 87.5°  | 0    | 0     | 0    | 0     | 0    |
| 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)