

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: 190P104

Luminaire Tested: **2PGX-2BXH40S33I-PAF**

Issue Date: 3/3/2020

Test Information

Test Method: LM-41-14
Report Number: 190P104
Test Lab:
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 2PGX-2BXH40S33I-PAF
Description: 2 X 2 Recessed Convertible Body Troffer with a 4"
deep 9 cell semi-specular low iridescent precision
cell parabolic louver with 8.25" between lamp centers.
Light Source: Two - F40BX/SPX35/RS - 3150 Lumens ea. - 40 Watts ea.
Ballast/Driver: Magnetek C340I120RH Electronic - L.O.B.F. = 101.2%

Summary

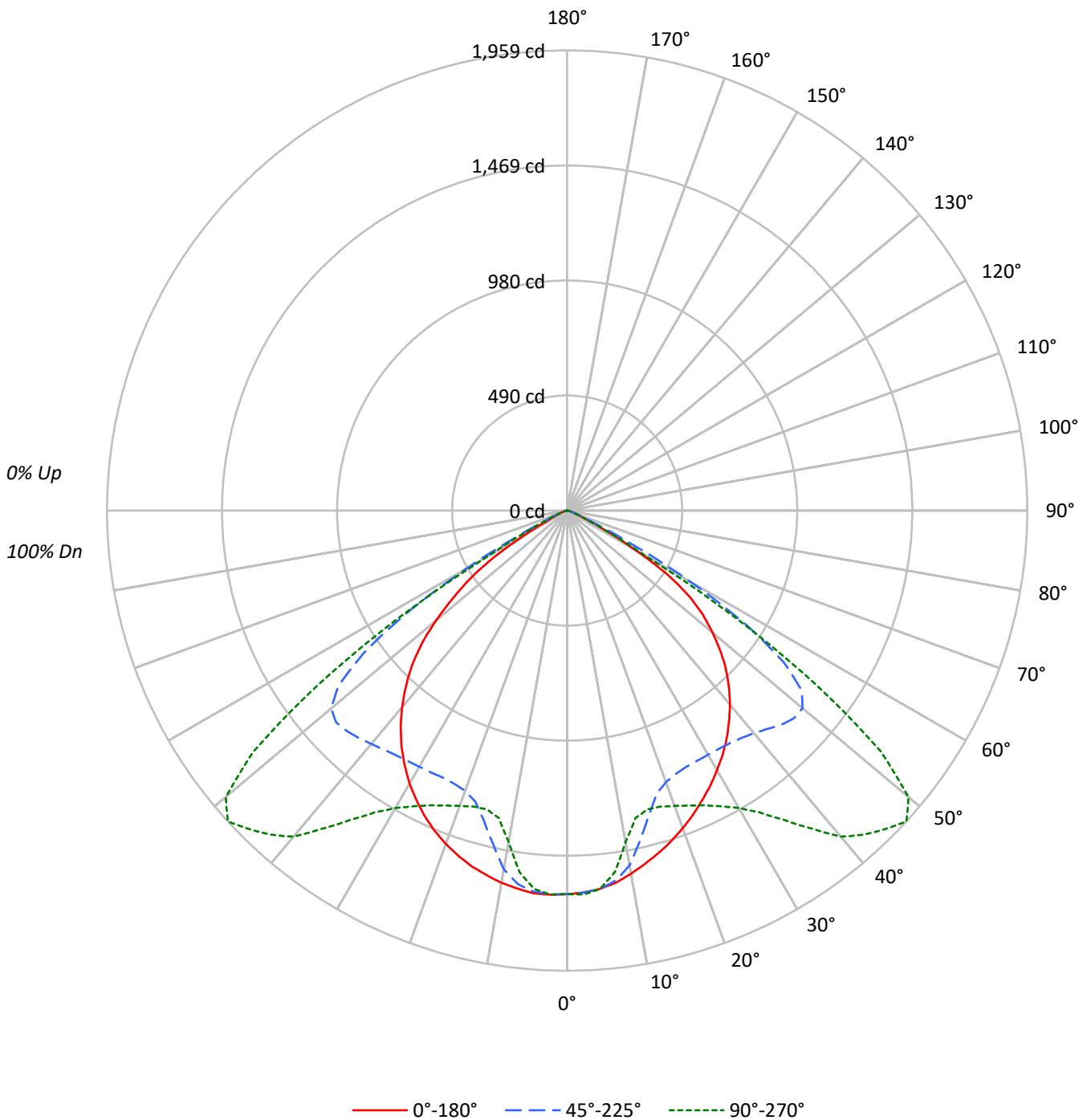
Lumens per Lamp: 3150 (2 lamps)
Luminaire Lumens: 4027.7 lumens
Efficiency: 63.9%
Efficacy: 53.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.67 / 1.57
Luminous Opening: Rectangular (W 1.73' x L: 1.76' x H: 0')
CIE Type: Direct

Input Watts (W): 75.3
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 | 76 | 76 | 76 | 76 | 74 | 74 | 74 | 74 | 71 | 71 | 71 | | 68 | 68 | 68 | | 65 | 65 | 65 | 64 |
| 1 | 71 | 69 | 66 | 64 | 69 | 67 | 65 | 63 | 64 | 63 | 61 | | 62 | 61 | 59 | | 60 | 59 | 58 | 57 |
| 2 | 65 | 61 | 57 | 54 | 64 | 60 | 56 | 54 | 58 | 55 | 52 | | 56 | 53 | 51 | | 54 | 52 | 50 | 49 |
| 3 | 60 | 54 | 50 | 46 | 59 | 53 | 49 | 46 | 51 | 48 | 45 | | 50 | 47 | 44 | | 48 | 46 | 43 | 42 |
| 4 | 55 | 48 | 43 | 39 | 54 | 47 | 43 | 39 | 46 | 42 | 39 | | 44 | 41 | 38 | | 43 | 40 | 38 | 36 |
| 5 | 51 | 43 | 38 | 34 | 50 | 43 | 38 | 34 | 41 | 37 | 33 | | 40 | 36 | 33 | | 39 | 35 | 33 | 31 |
| 6 | 47 | 39 | 33 | 30 | 46 | 38 | 33 | 29 | 37 | 33 | 29 | | 36 | 32 | 29 | | 35 | 32 | 29 | 27 |
| 7 | 43 | 35 | 30 | 26 | 42 | 35 | 30 | 26 | 34 | 29 | 26 | | 33 | 29 | 26 | | 32 | 28 | 25 | 24 |
| 8 | 40 | 32 | 27 | 23 | 39 | 32 | 27 | 23 | 31 | 26 | 23 | | 30 | 26 | 23 | | 29 | 25 | 23 | 21 |
| 9 | 38 | 29 | 24 | 21 | 37 | 29 | 24 | 21 | 28 | 24 | 21 | | 27 | 23 | 20 | | 27 | 23 | 20 | 19 |
| 10 | 35 | 27 | 22 | 19 | 34 | 27 | 22 | 19 | 26 | 22 | 19 | | 25 | 21 | 18 | | 25 | 21 | 18 | 17 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 90° | 180° |
|-----|------|-------|------|
| 0° | 5774 | 5774 | 5774 |
| 5° | 5736 | 5736 | 5807 |
| 10° | 5633 | 5145 | 5777 |
| 15° | 5520 | 4821 | 5740 |
| 20° | 5415 | 5035 | 5682 |
| 25° | 5306 | 5400 | 5598 |
| 30° | 5210 | 5969 | 5475 |
| 35° | 5111 | 6937 | 5301 |
| 40° | 4976 | 8364 | 5045 |
| 45° | 4780 | 9586 | 4675 |
| 50° | 4439 | 10435 | 4010 |
| 55° | 3890 | 8014 | 3095 |
| 60° | 2334 | 2716 | 1457 |
| 65° | 803 | 803 | 519 |
| 70° | 362 | 383 | 310 |
| 75° | 232 | 232 | 205 |
| 80° | 163 | 143 | 143 |
| 85° | 122 | 81 | 81 |



TEST NUMBER: 190P104

CATALOG NUMBER: 2PGX-2BXH40S33I-PAF

ZONAL LUMENS:

CANDELA DISTRIBUTION:

| Zone | Lumens | % Fixture | % Lamp | | 0° | 45° | 90° | 135° | 180° | Flux |
|-----------|--------|-----------|--------|------|------|------|------|------|------|------|
| 0°-10° | 151.7 | 3.8 | 2.4 | 0° | 1633 | 1633 | 1633 | 1633 | 1633 | |
| 10°-20° | 397.7 | 9.9 | 6.3 | 5° | 1616 | 1616 | 1616 | 1628 | 1636 | 153 |
| 20°-30° | 602.3 | 15.0 | 9.6 | 15° | 1508 | 1342 | 1317 | 1368 | 1568 | 425 |
| 30°-40° | 814.6 | 20.2 | 12.9 | 25° | 1360 | 1203 | 1384 | 1254 | 1435 | 627 |
| 40°-50° | 1032.2 | 25.6 | 16.4 | 35° | 1184 | 1209 | 1607 | 1271 | 1228 | 740 |
| 50°-60° | 846.0 | 21.0 | 13.4 | 45° | 956 | 1289 | 1917 | 1327 | 935 | 734 |
| 60°-70° | 158.1 | 3.9 | 2.5 | 55° | 631 | 1125 | 1300 | 1058 | 502 | 542 |
| 70°-80° | 21.7 | 0.5 | 0.3 | 65° | 96 | 133 | 96 | 101 | 62 | 127 |
| 80°-90° | 3.3 | 0.1 | 0.1 | 75° | 17 | 21 | 17 | 19 | 15 | 20 |
| 90°-100° | 0.0 | 0.0 | 0.0 | 85° | 3 | 3 | 2 | 2 | 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° | 1151.8 | 28.6 | 18.3 | 165° | 0 | 0 | 0 | 0 | 0 | 0 |
| 0°-40° | 1966.4 | 48.8 | 31.2 | 175° | 0 | 0 | 0 | 0 | 0 | 0 |
| 0°-60° | 3844.7 | 95.5 | 61.0 | 180° | 0 | 0 | 0 | 0 | 0 | 0 |
| 0°-90° | 4027.7 | 100.0 | 63.9 | | | | | | | |
| 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° | 4027.7 | 100.0 | 63.9 | | | | | | | |



TEST NUMBER: 190P104

CATALOG NUMBER: 2PGX-2BXH40S33I-PAF

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° | 112.5° | 135° | 157.5° | 180° |
|--------|------|-------|------|-------|------|--------|------|--------|------|
| 0° | 1633 | 1633 | 1633 | 1633 | 1633 | 1633 | 1633 | 1633 | 1633 |
| 2.5° | 1627 | 1626 | 1628 | 1630 | 1636 | 1632 | 1634 | 1635 | 1637 |
| 5° | 1616 | 1616 | 1616 | 1615 | 1616 | 1620 | 1628 | 1633 | 1636 |
| 7.5° | 1597 | 1598 | 1588 | 1565 | 1552 | 1571 | 1604 | 1621 | 1623 |
| 10° | 1569 | 1570 | 1533 | 1454 | 1433 | 1463 | 1551 | 1601 | 1609 |
| 12.5° | 1539 | 1532 | 1436 | 1355 | 1341 | 1366 | 1455 | 1572 | 1589 |
| 15° | 1508 | 1486 | 1342 | 1304 | 1317 | 1318 | 1368 | 1535 | 1568 |
| 17.5° | 1475 | 1434 | 1264 | 1293 | 1321 | 1309 | 1299 | 1486 | 1541 |
| 20° | 1439 | 1367 | 1230 | 1296 | 1338 | 1316 | 1270 | 1418 | 1510 |
| 22.5° | 1401 | 1291 | 1212 | 1305 | 1359 | 1330 | 1258 | 1341 | 1475 |
| 25° | 1360 | 1220 | 1203 | 1317 | 1384 | 1349 | 1254 | 1269 | 1435 |
| 27.5° | 1320 | 1158 | 1200 | 1334 | 1419 | 1373 | 1256 | 1202 | 1390 |
| 30° | 1276 | 1102 | 1200 | 1357 | 1462 | 1404 | 1259 | 1145 | 1341 |
| 32.5° | 1232 | 1064 | 1202 | 1390 | 1523 | 1444 | 1264 | 1102 | 1287 |
| 35° | 1184 | 1032 | 1209 | 1435 | 1607 | 1501 | 1271 | 1063 | 1228 |
| 37.5° | 1132 | 1006 | 1220 | 1497 | 1706 | 1574 | 1282 | 1027 | 1164 |
| 40° | 1078 | 982 | 1237 | 1567 | 1812 | 1655 | 1297 | 993 | 1093 |
| 42.5° | 1020 | 959 | 1261 | 1629 | 1871 | 1728 | 1313 | 957 | 1016 |
| 45° | 956 | 936 | 1289 | 1658 | 1917 | 1763 | 1327 | 919 | 935 |
| 47.5° | 885 | 909 | 1309 | 1660 | 1959 | 1769 | 1334 | 878 | 841 |
| 50° | 807 | 878 | 1308 | 1639 | 1897 | 1724 | 1311 | 829 | 729 |
| 52.5° | 728 | 840 | 1259 | 1496 | 1681 | 1559 | 1227 | 759 | 613 |
| 55° | 631 | 789 | 1125 | 1224 | 1300 | 1267 | 1058 | 670 | 502 |
| 57.5° | 505 | 696 | 903 | 857 | 855 | 864 | 801 | 550 | 369 |
| 60° | 330 | 523 | 605 | 500 | 384 | 468 | 499 | 365 | 206 |
| 62.5° | 189 | 305 | 315 | 228 | 195 | 218 | 235 | 185 | 101 |
| 65° | 96 | 154 | 133 | 119 | 96 | 112 | 101 | 91 | 62 |
| 67.5° | 53 | 78 | 69 | 67 | 58 | 63 | 58 | 57 | 42 |
| 70° | 35 | 46 | 45 | 42 | 37 | 40 | 39 | 38 | 30 |
| 72.5° | 24 | 31 | 31 | 28 | 25 | 27 | 27 | 26 | 21 |
| 75° | 17 | 20 | 21 | 19 | 17 | 18 | 19 | 18 | 15 |
| 77.5° | 12 | 14 | 15 | 13 | 11 | 12 | 13 | 12 | 10 |
| 80° | 8 | 9 | 10 | 8 | 7 | 8 | 8 | 8 | 7 |
| 82.5° | 5 | 6 | 6 | 5 | 4 | 5 | 5 | 5 | 4 |
| 85° | 3 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| 87.5° | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 90° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 92.5° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97.5° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102.5° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 107.5° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 110° | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |



TEST NUMBER: 190P104

CATALOG NUMBER: 2PGX-2BXH40S33I-PAF

CANDELA DISTRIBUTION (continued):

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

(END OF REPORT)