

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: METALUX

Report Number: P412520

Luminaire Tested: **24PD-45-PB1-L930**

Issue Date: 9/15/2020



**Test Information**

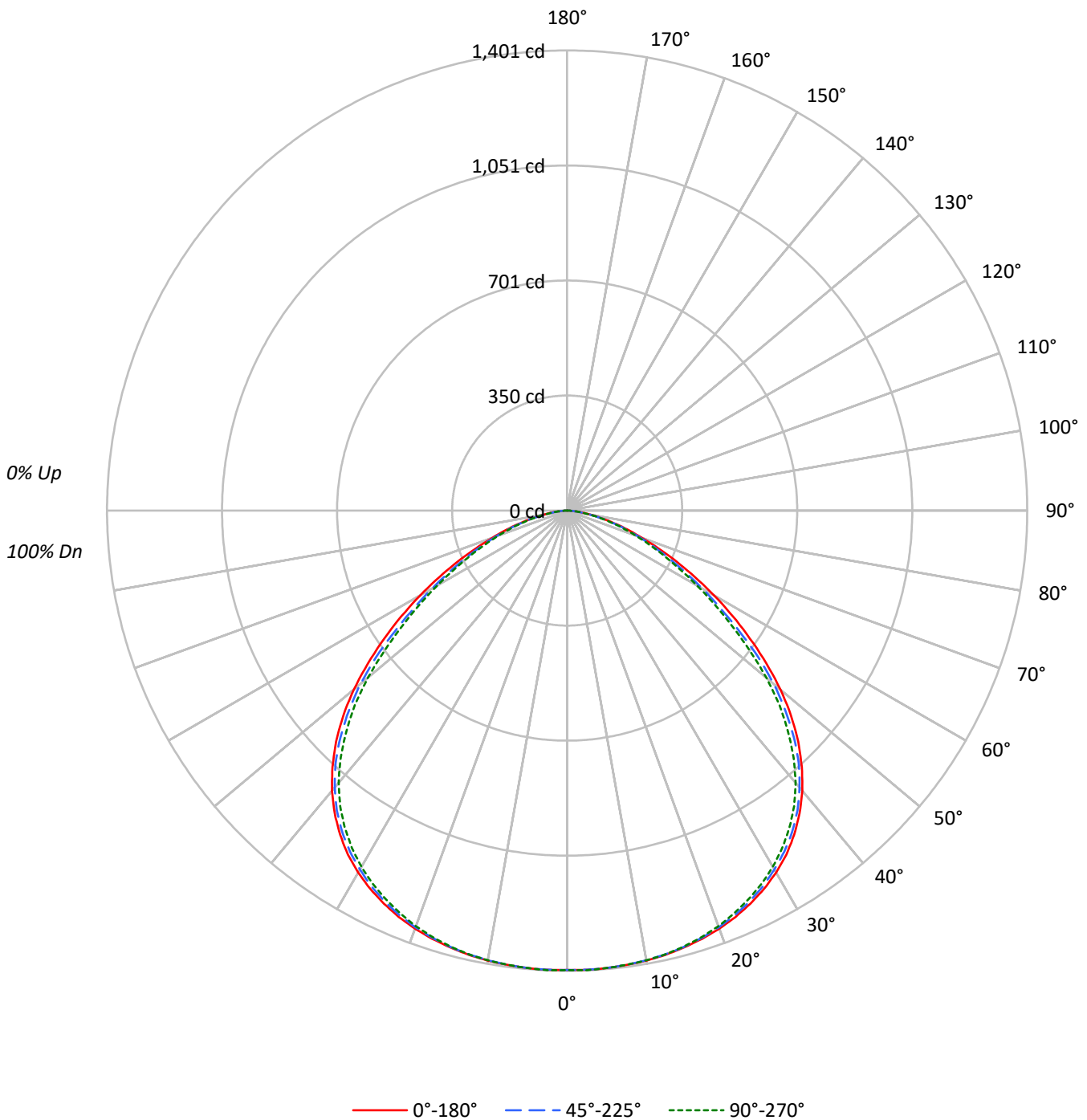
Test Method: LM-79-08  
Report Number: P412520  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2008-911-45)  
Test Lab: INNOVATION CENTER  
Issue Date: 9/15/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24PD-45-PB1-L930  
Description: 4500 LUMEN 2X4 PERCEIVE LED TROFFER WITH BEVEL PATTERN OPTICS AND 90 CRI, 3000 CCT LEDS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3722.0 lumens  
Efficiency: N/A  
Efficacy: 111.4 lumens/watt  
Spacing Criteria (0/90/45): 1.34 / 1.32 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.4  
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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CATALOG NUMBER: 24PD-45-PB1-L930

### 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   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 |  | 106 | 106 | 106 |  | 102 | 102 | 102 | 100 |
| 1   | 110 | 106 | 102 | 98  | 107 | 103 | 100 | 97  | 99  | 96  | 94  |  | 95  | 93  | 91  |  | 92  | 90  | 88  | 86  |
| 2   | 101 | 93  | 87  | 82  | 98  | 91  | 86  | 81  | 88  | 83  | 79  |  | 85  | 81  | 77  |  | 82  | 78  | 75  | 73  |
| 3   | 92  | 83  | 75  | 69  | 90  | 81  | 74  | 68  | 78  | 72  | 67  |  | 75  | 70  | 66  |  | 73  | 69  | 65  | 63  |
| 4   | 85  | 74  | 65  | 59  | 83  | 72  | 65  | 59  | 70  | 63  | 58  |  | 68  | 62  | 57  |  | 65  | 60  | 56  | 54  |
| 5   | 78  | 66  | 57  | 51  | 76  | 65  | 57  | 51  | 63  | 56  | 50  |  | 61  | 55  | 50  |  | 59  | 54  | 49  | 47  |
| 6   | 72  | 60  | 51  | 45  | 70  | 59  | 51  | 45  | 57  | 50  | 44  |  | 55  | 49  | 44  |  | 54  | 48  | 43  | 41  |
| 7   | 67  | 54  | 46  | 40  | 65  | 53  | 45  | 40  | 52  | 45  | 39  |  | 50  | 44  | 39  |  | 49  | 43  | 39  | 37  |
| 8   | 63  | 49  | 41  | 35  | 61  | 49  | 41  | 35  | 47  | 40  | 35  |  | 46  | 40  | 35  |  | 45  | 39  | 35  | 33  |
| 9   | 58  | 45  | 37  | 32  | 57  | 45  | 37  | 32  | 44  | 37  | 32  |  | 43  | 36  | 32  |  | 42  | 36  | 31  | 30  |
| 10  | 55  | 42  | 34  | 29  | 53  | 41  | 34  | 29  | 40  | 33  | 29  |  | 39  | 33  | 29  |  | 39  | 33  | 29  | 27  |

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

|     | 0°   | 45°  | 90°  |
|-----|------|------|------|
| 0°  | 1882 | 1882 | 1882 |
| 5°  | 1888 | 1888 | 1888 |
| 10° | 1901 | 1899 | 1899 |
| 15° | 1918 | 1915 | 1914 |
| 20° | 1940 | 1933 | 1928 |
| 25° | 1960 | 1950 | 1939 |
| 30° | 1977 | 1961 | 1946 |
| 35° | 1979 | 1962 | 1938 |
| 40° | 1956 | 1933 | 1901 |
| 45° | 1893 | 1858 | 1810 |
| 50° | 1775 | 1720 | 1657 |
| 55° | 1595 | 1500 | 1438 |
| 60° | 1389 | 1278 | 1229 |
| 65° | 1168 | 1081 | 1034 |
| 70° | 952  | 904  | 868  |
| 75° | 763  | 736  | 705  |
| 80° | 586  | 540  | 525  |
| 85° | 366  | 355  | 355  |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 133.2  | 3.6       |
| 10°-20°   | 388.7  | 10.4      |
| 20°-30°   | 605.6  | 16.3      |
| 30°-40°   | 745.0  | 20.0      |
| 40°-50°   | 748.3  | 20.1      |
| 50°-60°   | 576.7  | 15.5      |
| 60°-70°   | 342.4  | 9.2       |
| 70°-80°   | 152.4  | 4.1       |
| 80°-90°   | 29.8   | 0.8       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 1127.5 | 30.3      |
| 0°-40°    | 1872.4 | 50.3      |
| 0°-60°    | 3197.4 | 85.9      |
| 0°-90°    | 3722.0 | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 3722.0 | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°   | 22.5° | 45°  | 67.5° | 90°  | Flux |
|-----|------|-------|------|-------|------|------|
| 0°  | 1399 | 1399  | 1399 | 1399  | 1399 |      |
| 5°  | 1398 | 1398  | 1398 | 1397  | 1398 | 133  |
| 15° | 1377 | 1377  | 1375 | 1373  | 1374 | 389  |
| 25° | 1320 | 1320  | 1314 | 1308  | 1306 | 609  |
| 35° | 1205 | 1203  | 1194 | 1184  | 1180 | 752  |
| 45° | 995  | 992   | 976  | 960   | 951  | 763  |
| 55° | 680  | 667   | 640  | 620   | 613  | 608  |
| 65° | 367  | 351   | 340  | 327   | 325  | 367  |
| 75° | 147  | 144   | 142  | 137   | 136  | 159  |
| 85° | 24   | 23    | 23   | 22    | 23   | 32   |
| 90° | 0    | 0     | 0    | 0     | 0    |      |



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**CANDELA DISTRIBUTION (FULL):**

|       | 0°     | 22.5°  | 45°    | 67.5°  | 90°    |
|-------|--------|--------|--------|--------|--------|
| 0°    | 1398.8 | 1398.8 | 1398.8 | 1398.8 | 1398.8 |
| 2.5°  | 1399.5 | 1399.1 | 1399.1 | 1397.7 | 1400.6 |
| 5°    | 1398.0 | 1398.4 | 1398.0 | 1396.6 | 1398.0 |
| 7.5°  | 1395.1 | 1395.4 | 1394.7 | 1393.2 | 1394.7 |
| 10°   | 1391.4 | 1391.4 | 1389.9 | 1389.1 | 1390.2 |
| 12.5° | 1385.1 | 1385.1 | 1383.6 | 1382.5 | 1383.6 |
| 15°   | 1376.9 | 1376.9 | 1375.0 | 1372.8 | 1373.9 |
| 17.5° | 1366.9 | 1366.9 | 1363.9 | 1361.0 | 1361.7 |
| 20°   | 1354.7 | 1354.3 | 1350.2 | 1346.1 | 1346.5 |
| 22.5° | 1339.1 | 1338.7 | 1333.5 | 1328.7 | 1327.2 |
| 25°   | 1320.2 | 1319.8 | 1313.5 | 1307.6 | 1306.1 |
| 27.5° | 1298.3 | 1296.8 | 1289.8 | 1283.1 | 1281.6 |
| 30°   | 1272.4 | 1271.2 | 1262.0 | 1255.3 | 1252.3 |
| 32.5° | 1242.3 | 1239.4 | 1230.8 | 1222.7 | 1218.6 |
| 35°   | 1204.9 | 1203.0 | 1194.5 | 1184.5 | 1179.7 |
| 37.5° | 1162.6 | 1160.8 | 1151.5 | 1140.4 | 1134.8 |
| 40°   | 1113.7 | 1112.2 | 1100.7 | 1089.2 | 1082.2 |
| 42.5° | 1057.3 | 1056.2 | 1044.0 | 1028.0 | 1020.6 |
| 45°   | 994.7  | 992.1  | 976.5  | 960.2  | 951.3  |
| 47.5° | 925.0  | 920.5  | 901.6  | 886.1  | 876.4  |
| 50°   | 847.9  | 841.9  | 821.5  | 801.5  | 791.5  |
| 52.5° | 764.5  | 754.1  | 732.9  | 710.0  | 700.3  |
| 55°   | 679.9  | 666.9  | 639.5  | 620.2  | 613.2  |
| 57.5° | 597.3  | 578.3  | 552.4  | 538.7  | 531.6  |
| 60°   | 516.1  | 495.3  | 474.9  | 461.6  | 456.7  |
| 62.5° | 438.6  | 421.2  | 403.7  | 390.4  | 387.4  |
| 65°   | 367.0  | 351.1  | 339.6  | 326.6  | 324.8  |
| 67.5° | 300.3  | 292.9  | 282.5  | 271.4  | 269.9  |
| 70°   | 242.1  | 239.1  | 229.9  | 223.2  | 220.6  |
| 72.5° | 193.2  | 190.2  | 183.5  | 178.7  | 178.0  |
| 75°   | 146.8  | 143.8  | 141.6  | 136.8  | 135.7  |
| 77.5° | 104.5  | 104.9  | 103.1  | 100.5  | 101.2  |
| 80°   | 75.6   | 71.2   | 69.7   | 68.2   | 67.8   |
| 82.5° | 46.3   | 43.7   | 42.6   | 42.3   | 43.0   |
| 85°   | 23.7   | 22.6   | 23.0   | 21.9   | 23.0   |
| 87.5° | 8.2    | 8.2    | 8.5    | 8.2    | 8.9    |
| 90°   | 0.0    | 0.0    | 0.0    | 0.0    | 0.0    |

(END OF REPORT)