

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: FAIL-SAFE

Report Number: P233234

Luminaire Tested: **FCB-24-4-LD4-50-35-UNV-EDD1-WDP12**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P233234
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25697)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FCB-24-4-LD4-50-35-UNV-EDD1-WDP12
Description: FAILSAFE 2X4 FCB LED TROFFER
.125 POLYCARBONATE LENS
Light Source: (168)3500K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

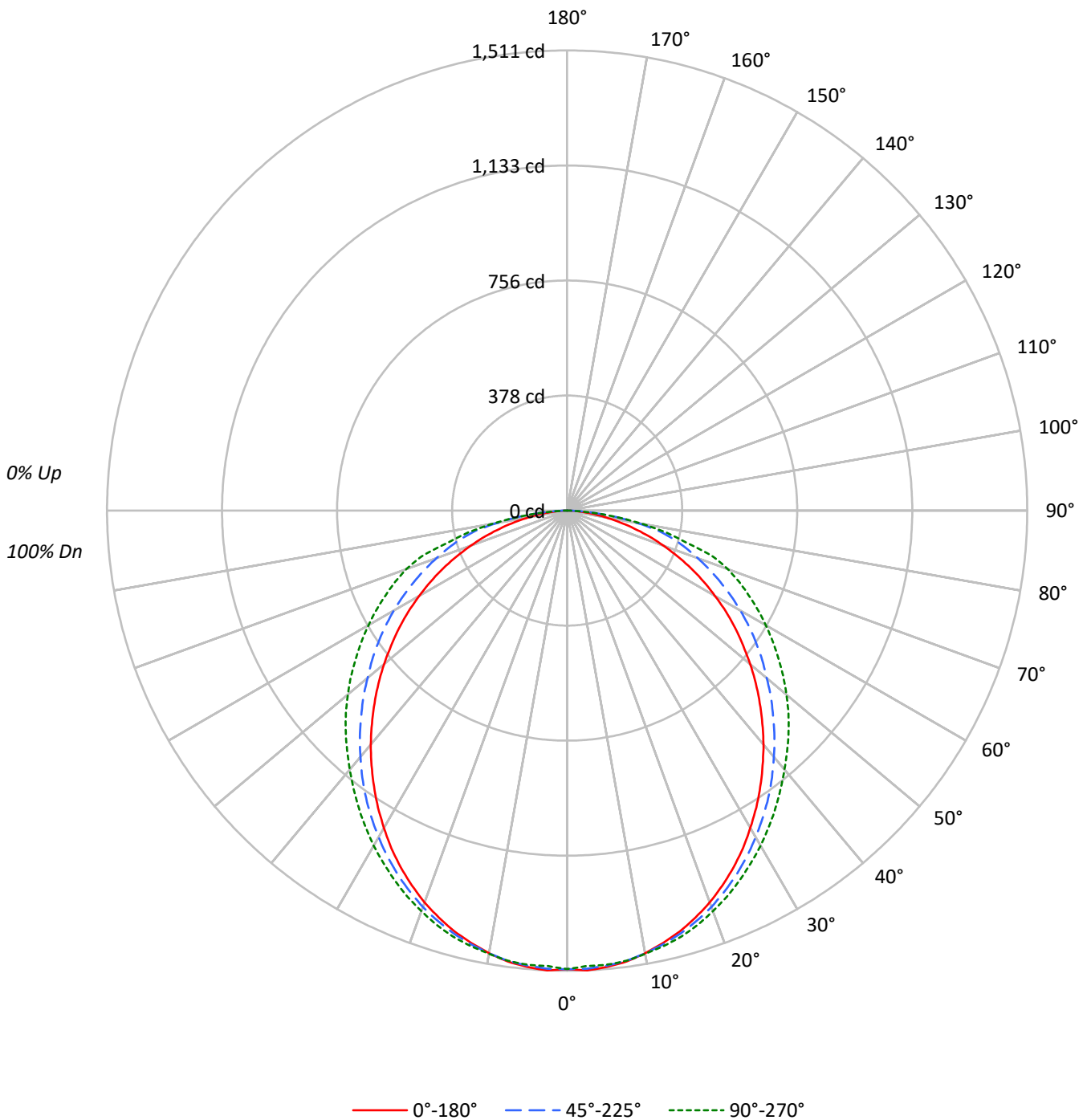
Lumens per Lamp: N/A
Luminaire Lumens: 4290.0 lumens
Efficiency: N/A
Efficacy: 105.4 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 40.7
Input Voltage (V): 120
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





TEST NUMBER: P233234

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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 | 108 | 103 | 99 | 95 | 106 | 101 | 97 | 93 | 97 | 93 | 90 | 93 | 90 | 88 | 89 | 87 | 85 | 83 |
| 2 | 98 | 90 | 83 | 77 | 95 | 88 | 81 | 76 | 84 | 79 | 74 | 81 | 76 | 72 | 78 | 74 | 71 | 68 |
| 3 | 89 | 78 | 70 | 63 | 87 | 77 | 69 | 63 | 74 | 67 | 62 | 71 | 65 | 61 | 68 | 64 | 60 | 57 |
| 4 | 82 | 69 | 60 | 54 | 79 | 68 | 60 | 53 | 66 | 58 | 52 | 63 | 57 | 52 | 61 | 56 | 51 | 49 |
| 5 | 75 | 62 | 53 | 46 | 73 | 61 | 52 | 46 | 59 | 51 | 45 | 57 | 50 | 45 | 55 | 49 | 44 | 42 |
| 6 | 69 | 56 | 47 | 40 | 67 | 55 | 46 | 40 | 53 | 45 | 40 | 51 | 44 | 39 | 50 | 44 | 39 | 37 |
| 7 | 64 | 51 | 42 | 35 | 63 | 50 | 41 | 35 | 48 | 41 | 35 | 47 | 40 | 35 | 45 | 39 | 35 | 32 |
| 8 | 60 | 46 | 38 | 32 | 58 | 45 | 37 | 32 | 44 | 37 | 31 | 43 | 36 | 31 | 42 | 36 | 31 | 29 |
| 9 | 56 | 42 | 34 | 28 | 54 | 42 | 34 | 28 | 41 | 33 | 28 | 40 | 33 | 28 | 38 | 32 | 28 | 26 |
| 10 | 52 | 39 | 31 | 26 | 51 | 39 | 31 | 26 | 38 | 31 | 26 | 37 | 30 | 25 | 36 | 30 | 25 | 24 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 2026 | 2026 | 2026 |
| 5° | 2031 | 2026 | 2022 |
| 10° | 2017 | 2017 | 2019 |
| 15° | 1993 | 2003 | 2017 |
| 20° | 1960 | 1983 | 2004 |
| 25° | 1919 | 1956 | 1989 |
| 30° | 1869 | 1924 | 1974 |
| 35° | 1817 | 1892 | 1959 |
| 40° | 1762 | 1855 | 1950 |
| 45° | 1702 | 1819 | 1956 |
| 50° | 1642 | 1789 | 1968 |
| 55° | 1582 | 1778 | 1988 |
| 60° | 1510 | 1767 | 2028 |
| 65° | 1431 | 1768 | 2095 |
| 70° | 1323 | 1797 | 2207 |
| 75° | 1184 | 1878 | 2100 |
| 80° | 990 | 1798 | 1923 |
| 85° | 749 | 1383 | 1315 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 142.3 | 3.3 |
| 10°-20° | 404.9 | 9.4 |
| 20°-30° | 605.3 | 14.1 |
| 30°-40° | 718.1 | 16.7 |
| 40°-50° | 739.1 | 17.2 |
| 50°-60° | 678.1 | 15.8 |
| 60°-70° | 548.2 | 12.8 |
| 70°-80° | 355.8 | 8.3 |
| 80°-90° | 98.1 | 2.3 |
| 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° | 1152.5 | 26.9 |
| 0°-40° | 1870.7 | 43.6 |
| 0°-60° | 3287.8 | 76.6 |
| 0°-90° | 4290.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4290.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1506 | 1506 | 1506 | 1506 | 1506 | |
| 5° | 1504 | 1494 | 1500 | 1498 | 1497 | 143 |
| 15° | 1431 | 1425 | 1438 | 1444 | 1448 | 403 |
| 25° | 1293 | 1294 | 1318 | 1329 | 1340 | 595 |
| 35° | 1106 | 1115 | 1152 | 1176 | 1193 | 692 |
| 45° | 894 | 909 | 956 | 1002 | 1028 | 690 |
| 55° | 674 | 695 | 758 | 820 | 848 | 602 |
| 65° | 450 | 476 | 555 | 629 | 658 | 444 |
| 75° | 228 | 270 | 361 | 404 | 404 | 242 |
| 85° | 48 | 82 | 90 | 87 | 85 | 59 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P233234

CATALOG NUMBER: FCB-24-4-LD4-50-35-UNV-EDD1-WDP12

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1505.6 | 1505.6 | 1505.6 | 1505.6 | 1505.6 |
| 2.5° | 1511.4 | 1499.7 | 1505.6 | 1504.1 | 1496.8 |
| 5° | 1504.1 | 1493.8 | 1499.7 | 1498.2 | 1496.8 |
| 7.5° | 1493.8 | 1483.5 | 1490.9 | 1489.4 | 1490.9 |
| 10° | 1476.2 | 1467.4 | 1476.2 | 1477.7 | 1477.7 |
| 12.5° | 1454.2 | 1446.8 | 1458.6 | 1461.5 | 1464.4 |
| 15° | 1430.7 | 1424.8 | 1438.0 | 1443.9 | 1448.3 |
| 17.5° | 1401.3 | 1396.9 | 1413.0 | 1420.4 | 1426.2 |
| 20° | 1369.0 | 1367.5 | 1385.1 | 1392.5 | 1399.8 |
| 22.5° | 1332.2 | 1332.2 | 1352.8 | 1361.6 | 1371.9 |
| 25° | 1292.6 | 1294.1 | 1317.6 | 1329.3 | 1339.6 |
| 27.5° | 1250.0 | 1251.5 | 1279.4 | 1294.1 | 1305.8 |
| 30° | 1203.0 | 1208.9 | 1238.2 | 1257.3 | 1270.6 |
| 32.5° | 1156.0 | 1163.3 | 1195.6 | 1217.7 | 1232.4 |
| 35° | 1106.0 | 1114.9 | 1151.6 | 1176.5 | 1192.7 |
| 37.5° | 1054.6 | 1064.9 | 1104.6 | 1132.5 | 1151.6 |
| 40° | 1003.2 | 1015.0 | 1056.1 | 1088.4 | 1110.4 |
| 42.5° | 948.9 | 962.1 | 1007.6 | 1045.8 | 1069.3 |
| 45° | 894.5 | 909.2 | 956.2 | 1001.8 | 1028.2 |
| 47.5° | 840.2 | 857.8 | 907.7 | 957.7 | 985.6 |
| 50° | 784.4 | 802.0 | 854.9 | 912.2 | 940.1 |
| 52.5° | 728.5 | 749.1 | 807.9 | 866.6 | 894.5 |
| 55° | 674.2 | 694.8 | 757.9 | 819.6 | 847.5 |
| 57.5° | 618.4 | 638.9 | 708.0 | 772.6 | 800.5 |
| 60° | 561.1 | 584.6 | 656.6 | 722.7 | 753.5 |
| 62.5° | 505.3 | 530.3 | 606.6 | 677.1 | 706.5 |
| 65° | 449.5 | 475.9 | 555.2 | 628.7 | 658.0 |
| 67.5° | 392.2 | 423.0 | 505.3 | 580.2 | 611.0 |
| 70° | 336.4 | 370.1 | 456.8 | 531.7 | 561.1 |
| 72.5° | 282.0 | 318.7 | 408.3 | 484.7 | 502.3 |
| 75° | 227.7 | 270.3 | 361.3 | 403.9 | 403.9 |
| 77.5° | 176.3 | 223.3 | 308.5 | 324.6 | 333.4 |
| 80° | 127.8 | 179.2 | 232.1 | 251.2 | 248.2 |
| 82.5° | 85.2 | 136.6 | 166.0 | 166.0 | 161.6 |
| 85° | 48.5 | 82.3 | 89.6 | 86.7 | 85.2 |
| 87.5° | 20.6 | 30.8 | 27.9 | 22.0 | 19.1 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)