

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: P233070

Luminaire Tested: **FCB-12-4-LD4-44-35-UNV-EDD1-WDA12**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P233070
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P35573)
Test Lab: INNOVATION CENTER-P3
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FCB-12-4-LD4-44-35-UNV-EDD1-WDA12
Description: FAILSAFE 1X4 FCB LED TROFFER
.125 ACRYLIC LENS
Light Source: (84)3500K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

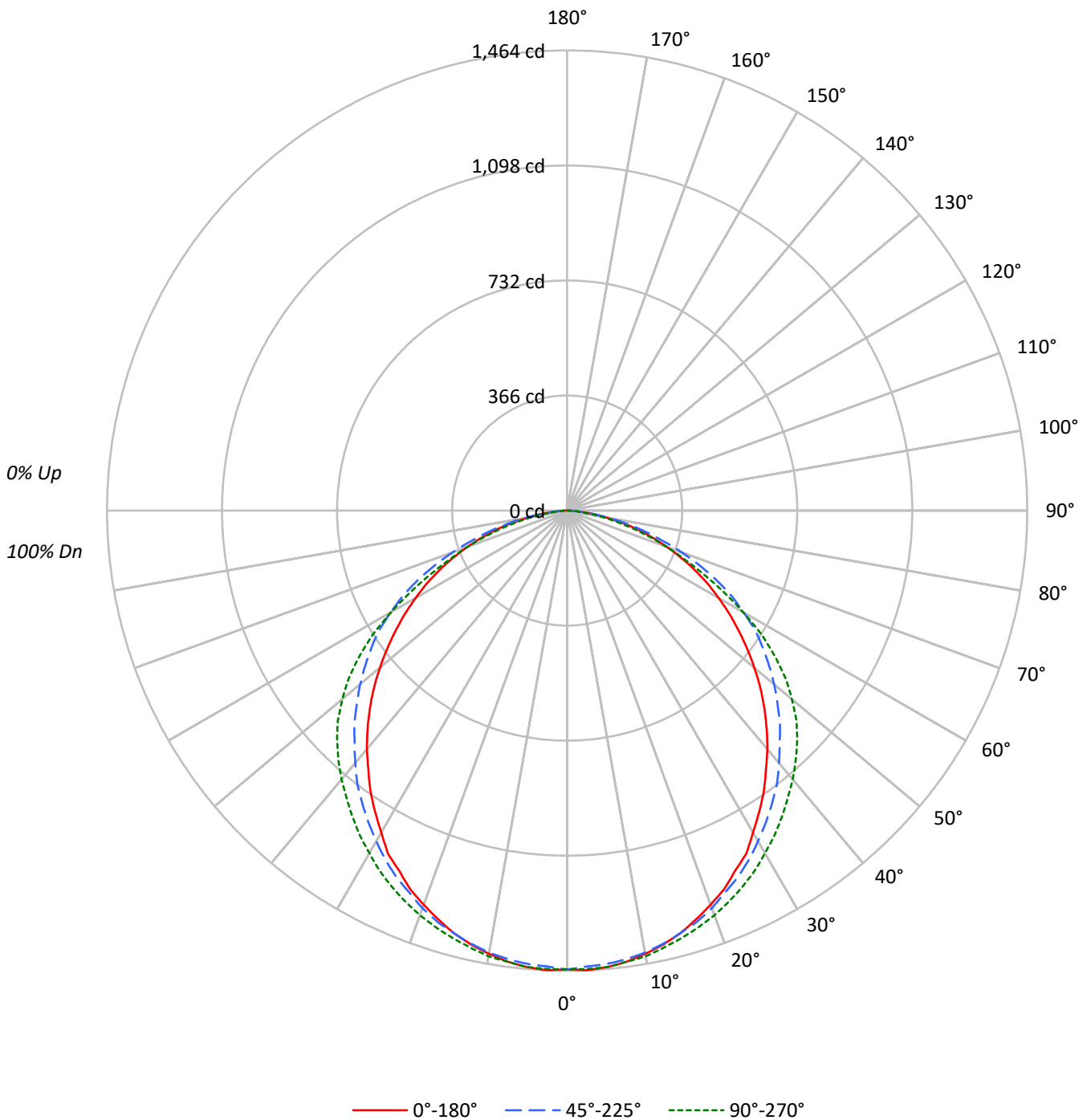
Lumens per Lamp: N/A
Luminaire Lumens: 4045.0 lumens
Efficiency: N/A
Efficacy: 98.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.28 / 1.37
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 41.1
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: P233070

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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 | 109 | 104 | 100 | 96 | 106 | 102 | 98 | 95 | 98 | 95 | 92 | 94 | 91 | 89 | 90 | 88 | 86 | 84 |
| 2 | 99 | 91 | 84 | 79 | 97 | 89 | 83 | 78 | 86 | 80 | 76 | 82 | 78 | 74 | 79 | 76 | 73 | 70 |
| 3 | 90 | 80 | 72 | 66 | 88 | 78 | 71 | 65 | 75 | 69 | 64 | 73 | 67 | 63 | 70 | 66 | 62 | 59 |
| 4 | 83 | 71 | 62 | 56 | 81 | 70 | 61 | 55 | 67 | 60 | 54 | 65 | 59 | 54 | 63 | 57 | 53 | 51 |
| 5 | 76 | 63 | 54 | 48 | 74 | 62 | 54 | 48 | 60 | 53 | 47 | 58 | 52 | 46 | 56 | 51 | 46 | 44 |
| 6 | 70 | 57 | 48 | 42 | 68 | 56 | 48 | 42 | 54 | 47 | 41 | 53 | 46 | 41 | 51 | 45 | 40 | 38 |
| 7 | 65 | 52 | 43 | 37 | 63 | 51 | 43 | 37 | 49 | 42 | 36 | 48 | 41 | 36 | 47 | 40 | 36 | 34 |
| 8 | 61 | 47 | 39 | 33 | 59 | 46 | 38 | 33 | 45 | 38 | 33 | 44 | 37 | 32 | 43 | 37 | 32 | 30 |
| 9 | 57 | 43 | 35 | 30 | 55 | 43 | 35 | 29 | 42 | 34 | 29 | 40 | 34 | 29 | 39 | 33 | 29 | 27 |
| 10 | 53 | 40 | 32 | 27 | 52 | 39 | 32 | 27 | 38 | 31 | 27 | 37 | 31 | 26 | 37 | 31 | 26 | 25 |

AVERAGE LUMINANCE (cd/sqm):

| | 0° | 45° | 90° |
|-----|------|------|------|
| 0° | 3928 | 3928 | 3928 |
| 5° | 3938 | 3911 | 3938 |
| 10° | 3912 | 3901 | 3934 |
| 15° | 3878 | 3878 | 3922 |
| 20° | 3820 | 3855 | 3923 |
| 25° | 3754 | 3819 | 3920 |
| 30° | 3674 | 3773 | 3910 |
| 35° | 3583 | 3734 | 3911 |
| 40° | 3482 | 3685 | 3923 |
| 45° | 3377 | 3643 | 3939 |
| 50° | 3256 | 3598 | 3907 |
| 55° | 3125 | 3565 | 3780 |
| 60° | 2995 | 3488 | 3477 |
| 65° | 2857 | 3340 | 3047 |
| 70° | 2651 | 3044 | 2636 |
| 75° | 2405 | 2654 | 2177 |
| 80° | 1915 | 2101 | 1607 |
| 85° | 1355 | 1170 | 923 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 138.1 | 3.4 |
| 10°-20° | 394.6 | 9.8 |
| 20°-30° | 594.9 | 14.7 |
| 30°-40° | 713.1 | 17.6 |
| 40°-50° | 740.0 | 18.3 |
| 50°-60° | 667.5 | 16.5 |
| 60°-70° | 486.9 | 12.0 |
| 70°-80° | 255.5 | 6.3 |
| 80°-90° | 54.5 | 1.3 |
| 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° | 1127.6 | 27.9 |
| 0°-40° | 1840.7 | 45.5 |
| 0°-60° | 3248.2 | 80.3 |
| 0°-90° | 4045.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4045.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1460 | 1460 | 1460 | 1460 | 1460 | |
| 5° | 1458 | 1454 | 1448 | 1458 | 1458 | 138 |
| 15° | 1392 | 1392 | 1392 | 1408 | 1408 | 392 |
| 25° | 1264 | 1270 | 1286 | 1314 | 1320 | 583 |
| 35° | 1091 | 1103 | 1137 | 1178 | 1190 | 681 |
| 45° | 887 | 905 | 957 | 1015 | 1035 | 684 |
| 55° | 666 | 690 | 760 | 810 | 806 | 596 |
| 65° | 449 | 475 | 524 | 504 | 479 | 443 |
| 75° | 231 | 263 | 255 | 221 | 209 | 243 |
| 85° | 44 | 54 | 38 | 32 | 30 | 56 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P233070

CATALOG NUMBER: FCB-12-4-LD4-44-35-UNV-EDD1-WDA12

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1459.7 | 1459.7 | 1459.7 | 1459.7 | 1459.7 |
| 2.5° | 1463.7 | 1459.7 | 1451.7 | 1459.7 | 1459.7 |
| 5° | 1457.7 | 1453.7 | 1447.8 | 1457.7 | 1457.7 |
| 7.5° | 1447.8 | 1443.8 | 1439.8 | 1449.8 | 1447.8 |
| 10° | 1431.8 | 1429.8 | 1427.8 | 1439.8 | 1439.8 |
| 12.5° | 1413.9 | 1413.9 | 1411.9 | 1425.8 | 1423.8 |
| 15° | 1391.9 | 1391.9 | 1391.9 | 1407.9 | 1407.9 |
| 17.5° | 1364.0 | 1368.0 | 1372.0 | 1389.9 | 1389.9 |
| 20° | 1334.1 | 1338.1 | 1346.1 | 1368.0 | 1370.0 |
| 22.5° | 1304.2 | 1306.2 | 1314.2 | 1340.1 | 1346.1 |
| 25° | 1264.3 | 1270.3 | 1286.2 | 1314.2 | 1320.1 |
| 27.5° | 1232.4 | 1234.4 | 1252.3 | 1284.2 | 1292.2 |
| 30° | 1182.5 | 1196.5 | 1214.4 | 1250.3 | 1258.3 |
| 32.5° | 1136.7 | 1148.6 | 1176.6 | 1214.4 | 1226.4 |
| 35° | 1090.8 | 1102.8 | 1136.7 | 1178.5 | 1190.5 |
| 37.5° | 1039.0 | 1056.9 | 1096.8 | 1138.7 | 1152.6 |
| 40° | 991.1 | 1007.1 | 1048.9 | 1100.8 | 1116.7 |
| 42.5° | 939.2 | 955.2 | 1001.1 | 1058.9 | 1076.8 |
| 45° | 887.4 | 905.3 | 957.2 | 1015.0 | 1035.0 |
| 47.5° | 833.6 | 853.5 | 907.3 | 971.2 | 989.1 |
| 50° | 777.7 | 799.7 | 859.5 | 925.3 | 933.3 |
| 52.5° | 721.9 | 745.8 | 809.6 | 867.5 | 875.4 |
| 55° | 666.0 | 690.0 | 759.8 | 809.6 | 805.6 |
| 57.5° | 612.2 | 638.1 | 709.9 | 735.8 | 731.9 |
| 60° | 556.4 | 584.3 | 648.1 | 660.1 | 646.1 |
| 62.5° | 504.5 | 530.4 | 590.3 | 580.3 | 562.4 |
| 65° | 448.7 | 474.6 | 524.5 | 504.5 | 478.6 |
| 67.5° | 392.8 | 424.8 | 456.7 | 422.8 | 402.8 |
| 70° | 337.0 | 372.9 | 386.9 | 353.0 | 335.0 |
| 72.5° | 283.2 | 321.1 | 317.1 | 283.2 | 271.2 |
| 75° | 231.3 | 263.2 | 255.3 | 221.4 | 209.4 |
| 77.5° | 175.5 | 211.4 | 193.4 | 165.5 | 155.5 |
| 80° | 123.6 | 155.5 | 135.6 | 111.7 | 103.7 |
| 82.5° | 81.8 | 103.7 | 83.8 | 65.8 | 59.8 |
| 85° | 43.9 | 53.8 | 37.9 | 31.9 | 29.9 |
| 87.5° | 17.9 | 16.0 | 14.0 | 14.0 | 12.0 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)