

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: P233225

Luminaire Tested: **FCB-24-4-LD4-30-30-UNV-EDD1-WDP12**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P233225
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-LD4-30-30-UNV-EDD1-WDP12
Description: FAILSAFE 2X4 FCB LED TROFFER
.125 POLYCARBONATE LENS
Light Source: (168)3000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

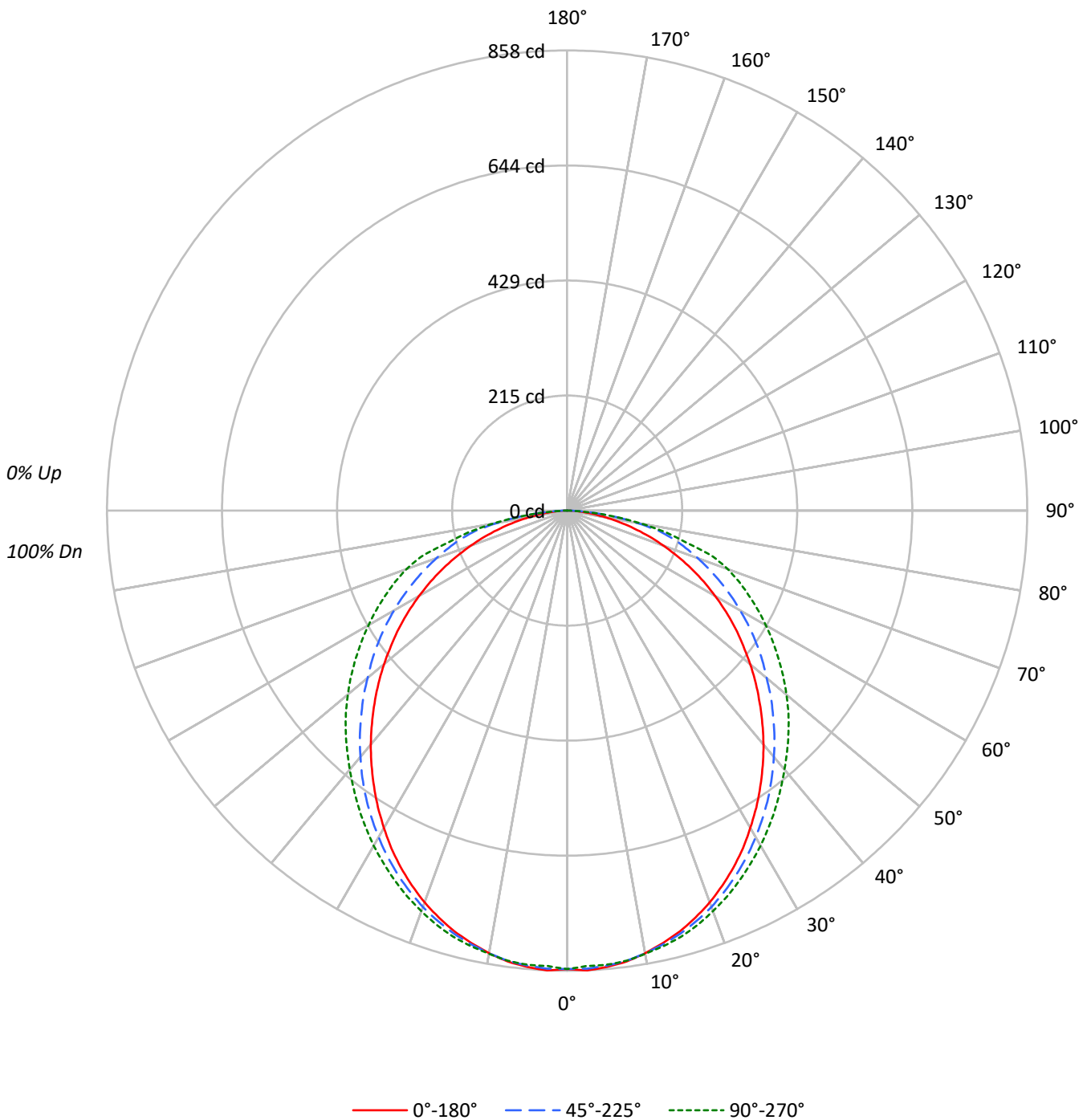
Lumens per Lamp: N/A
Luminaire Lumens: 2436.0 lumens
Efficiency: N/A
Efficacy: 112.8 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 21.6
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





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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° | 1150 | 1150 | 1150 |
| 5° | 1154 | 1150 | 1148 |
| 10° | 1145 | 1145 | 1146 |
| 15° | 1132 | 1137 | 1146 |
| 20° | 1113 | 1126 | 1138 |
| 25° | 1090 | 1111 | 1129 |
| 30° | 1061 | 1092 | 1121 |
| 35° | 1032 | 1074 | 1112 |
| 40° | 1001 | 1053 | 1107 |
| 45° | 966 | 1033 | 1111 |
| 50° | 932 | 1016 | 1117 |
| 55° | 898 | 1010 | 1129 |
| 60° | 857 | 1003 | 1151 |
| 65° | 812 | 1004 | 1190 |
| 70° | 751 | 1020 | 1253 |
| 75° | 672 | 1067 | 1193 |
| 80° | 563 | 1021 | 1093 |
| 85° | 425 | 786 | 747 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 80.8 | 3.3 |
| 10°-20° | 229.9 | 9.4 |
| 20°-30° | 343.7 | 14.1 |
| 30°-40° | 407.8 | 16.7 |
| 40°-50° | 419.7 | 17.2 |
| 50°-60° | 385.0 | 15.8 |
| 60°-70° | 311.3 | 12.8 |
| 70°-80° | 202.0 | 8.3 |
| 80°-90° | 55.7 | 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° | 654.4 | 26.9 |
| 0°-40° | 1062.2 | 43.6 |
| 0°-60° | 1866.9 | 76.6 |
| 0°-90° | 2436.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2436.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 855 | 855 | 855 | 855 | 855 | |
| 5° | 854 | 848 | 852 | 851 | 850 | 81 |
| 15° | 812 | 809 | 816 | 820 | 822 | 229 |
| 25° | 734 | 735 | 748 | 755 | 761 | 338 |
| 35° | 628 | 633 | 654 | 668 | 677 | 393 |
| 45° | 508 | 516 | 543 | 569 | 584 | 392 |
| 55° | 383 | 394 | 430 | 465 | 481 | 342 |
| 65° | 255 | 270 | 315 | 357 | 374 | 252 |
| 75° | 129 | 154 | 205 | 229 | 229 | 137 |
| 85° | 28 | 47 | 51 | 49 | 48 | 34 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P233225

CATALOG NUMBER: FCB-24-4-LD4-30-30-UNV-EDD1-WDP12

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 854.9 | 854.9 | 854.9 | 854.9 | 854.9 |
| 2.5° | 858.2 | 851.6 | 854.9 | 854.1 | 849.9 |
| 5° | 854.1 | 848.2 | 851.6 | 850.7 | 849.9 |
| 7.5° | 848.2 | 842.4 | 846.6 | 845.7 | 846.6 |
| 10° | 838.2 | 833.2 | 838.2 | 839.1 | 839.1 |
| 12.5° | 825.7 | 821.5 | 828.2 | 829.9 | 831.6 |
| 15° | 812.4 | 809.0 | 816.5 | 819.9 | 822.4 |
| 17.5° | 795.7 | 793.2 | 802.4 | 806.5 | 809.9 |
| 20° | 777.3 | 776.5 | 786.5 | 790.7 | 794.9 |
| 22.5° | 756.5 | 756.5 | 768.2 | 773.2 | 779.0 |
| 25° | 734.0 | 734.8 | 748.1 | 754.8 | 760.7 |
| 27.5° | 709.8 | 710.6 | 726.5 | 734.8 | 741.5 |
| 30° | 683.1 | 686.4 | 703.1 | 714.0 | 721.5 |
| 32.5° | 656.4 | 660.6 | 678.9 | 691.4 | 699.8 |
| 35° | 628.0 | 633.0 | 653.9 | 668.1 | 677.3 |
| 37.5° | 598.9 | 604.7 | 627.2 | 643.1 | 653.9 |
| 40° | 569.7 | 576.3 | 599.7 | 618.0 | 630.5 |
| 42.5° | 538.8 | 546.3 | 572.2 | 593.8 | 607.2 |
| 45° | 507.9 | 516.3 | 543.0 | 568.8 | 583.8 |
| 47.5° | 477.1 | 487.1 | 515.4 | 543.8 | 559.7 |
| 50° | 445.4 | 455.4 | 485.4 | 517.9 | 533.8 |
| 52.5° | 413.7 | 425.4 | 458.7 | 492.1 | 507.9 |
| 55° | 382.8 | 394.5 | 430.4 | 465.4 | 481.3 |
| 57.5° | 351.1 | 362.8 | 402.0 | 438.7 | 454.6 |
| 60° | 318.6 | 332.0 | 372.8 | 410.4 | 427.9 |
| 62.5° | 286.9 | 301.1 | 344.5 | 384.5 | 401.2 |
| 65° | 255.2 | 270.2 | 315.3 | 357.0 | 373.7 |
| 67.5° | 222.7 | 240.2 | 286.9 | 329.5 | 347.0 |
| 70° | 191.0 | 210.2 | 259.4 | 301.9 | 318.6 |
| 72.5° | 160.1 | 181.0 | 231.9 | 275.2 | 285.2 |
| 75° | 129.3 | 153.5 | 205.2 | 229.4 | 229.4 |
| 77.5° | 100.1 | 126.8 | 175.2 | 184.3 | 189.3 |
| 80° | 72.6 | 101.8 | 131.8 | 142.6 | 141.0 |
| 82.5° | 48.4 | 77.6 | 94.2 | 94.2 | 91.7 |
| 85° | 27.5 | 46.7 | 50.9 | 49.2 | 48.4 |
| 87.5° | 11.7 | 17.5 | 15.8 | 12.5 | 10.8 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)