

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: P233028

Luminaire Tested: **FCB-12-4-LD4-25-50-UNV-EDD1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P233028
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-LD4-25-50-UNV-EDD1
Description: FAILSAFE 1X4 FCB LED TROFFER
OPAL DIFFUSER, NO LENS
Light Source: (84)5000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

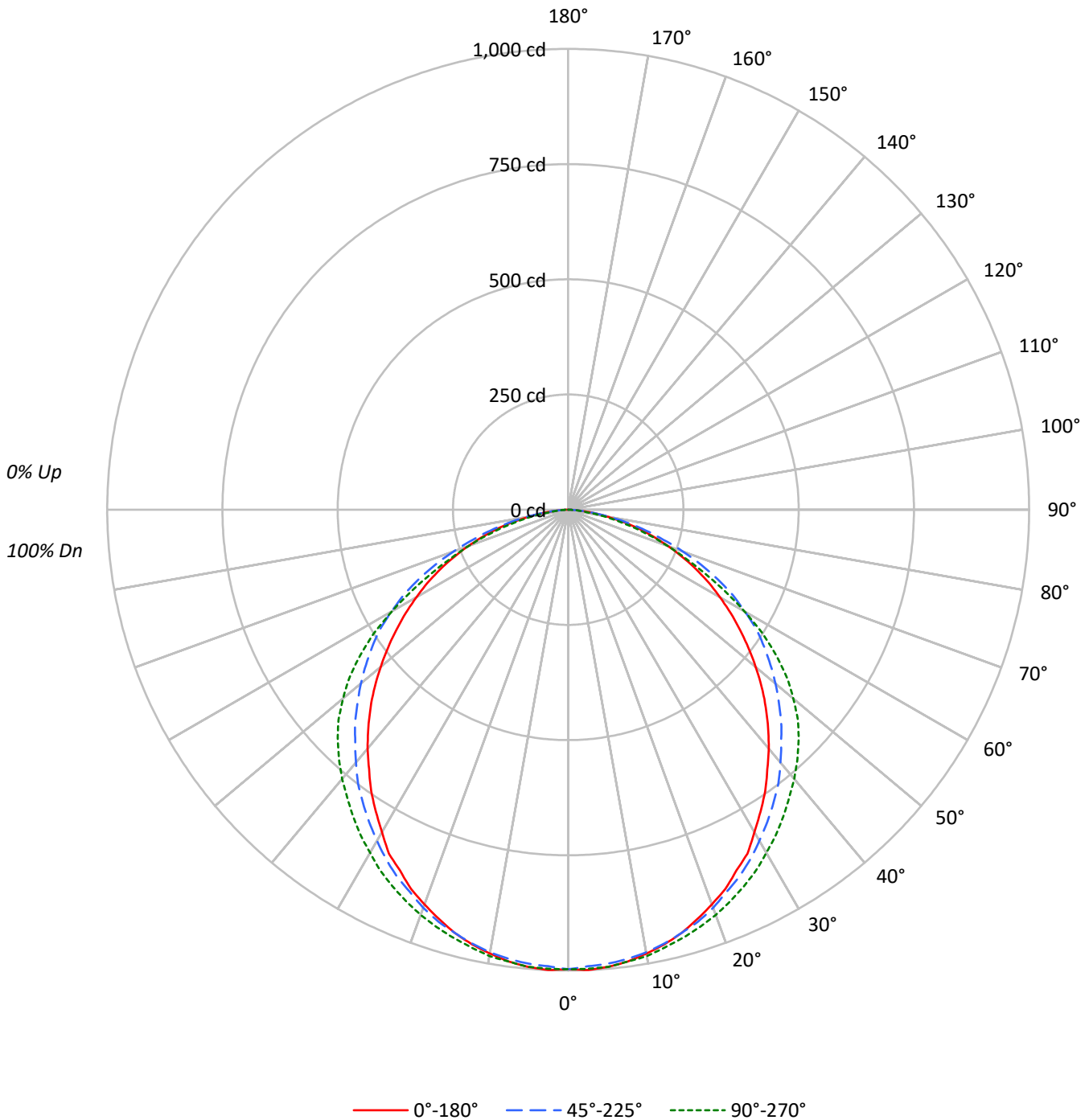
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2763.0 lumens
Efficiency: N/A
Efficacy: 134.8 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): 20.5
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: P233028

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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° | 2683 | 2683 | 2683 |
| 5° | 2690 | 2671 | 2690 |
| 10° | 2672 | 2665 | 2687 |
| 15° | 2649 | 2649 | 2679 |
| 20° | 2610 | 2633 | 2680 |
| 25° | 2564 | 2609 | 2677 |
| 30° | 2510 | 2577 | 2671 |
| 35° | 2448 | 2551 | 2671 |
| 40° | 2378 | 2517 | 2680 |
| 45° | 2307 | 2488 | 2691 |
| 50° | 2224 | 2458 | 2669 |
| 55° | 2135 | 2435 | 2582 |
| 60° | 2045 | 2383 | 2375 |
| 65° | 1952 | 2281 | 2082 |
| 70° | 1811 | 2079 | 1800 |
| 75° | 1643 | 1813 | 1487 |
| 80° | 1309 | 1435 | 1097 |
| 85° | 926 | 800 | 630 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 94.3 | 3.4 |
| 10°-20° | 269.5 | 9.8 |
| 20°-30° | 406.4 | 14.7 |
| 30°-40° | 487.1 | 17.6 |
| 40°-50° | 505.5 | 18.3 |
| 50°-60° | 455.9 | 16.5 |
| 60°-70° | 332.6 | 12.0 |
| 70°-80° | 174.5 | 6.3 |
| 80°-90° | 37.2 | 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° | 770.2 | 27.9 |
| 0°-40° | 1257.3 | 45.5 |
| 0°-60° | 2218.7 | 80.3 |
| 0°-90° | 2763.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 2763.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|-----|-------|-----|-------|-----|------|
| 0° | 997 | 997 | 997 | 997 | 997 | |
| 5° | 996 | 993 | 989 | 996 | 996 | 94 |
| 15° | 951 | 951 | 951 | 962 | 962 | 268 |
| 25° | 864 | 868 | 879 | 898 | 902 | 399 |
| 35° | 745 | 753 | 776 | 805 | 813 | 465 |
| 45° | 606 | 618 | 654 | 693 | 707 | 467 |
| 55° | 455 | 471 | 519 | 553 | 550 | 407 |
| 65° | 306 | 324 | 358 | 345 | 327 | 303 |
| 75° | 158 | 180 | 174 | 151 | 143 | 166 |
| 85° | 30 | 37 | 26 | 22 | 20 | 38 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P233028

CATALOG NUMBER: FCB-12-4-LD4-25-50-UNV-EDD1

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|-------|-------|-------|-------|-------|
| 0° | 997.1 | 997.1 | 997.1 | 997.1 | 997.1 |
| 2.5° | 999.8 | 997.1 | 991.6 | 997.1 | 997.1 |
| 5° | 995.7 | 993.0 | 988.9 | 995.7 | 995.7 |
| 7.5° | 988.9 | 986.2 | 983.5 | 990.3 | 988.9 |
| 10° | 978.0 | 976.7 | 975.3 | 983.5 | 983.5 |
| 12.5° | 965.8 | 965.8 | 964.4 | 973.9 | 972.6 |
| 15° | 950.8 | 950.8 | 950.8 | 961.7 | 961.7 |
| 17.5° | 931.7 | 934.4 | 937.2 | 949.4 | 949.4 |
| 20° | 911.3 | 914.0 | 919.4 | 934.4 | 935.8 |
| 22.5° | 890.8 | 892.2 | 897.7 | 915.4 | 919.4 |
| 25° | 863.6 | 867.7 | 878.6 | 897.7 | 901.7 |
| 27.5° | 841.8 | 843.2 | 855.4 | 877.2 | 882.7 |
| 30° | 807.8 | 817.3 | 829.5 | 854.1 | 859.5 |
| 32.5° | 776.4 | 784.6 | 803.7 | 829.5 | 837.7 |
| 35° | 745.1 | 753.3 | 776.4 | 805.0 | 813.2 |
| 37.5° | 709.7 | 721.9 | 749.2 | 777.8 | 787.3 |
| 40° | 677.0 | 687.9 | 716.5 | 751.9 | 762.8 |
| 42.5° | 641.6 | 652.5 | 683.8 | 723.3 | 735.6 |
| 45° | 606.2 | 618.4 | 653.8 | 693.3 | 707.0 |
| 47.5° | 569.4 | 583.0 | 619.8 | 663.4 | 675.6 |
| 50° | 531.2 | 546.2 | 587.1 | 632.0 | 637.5 |
| 52.5° | 493.1 | 509.4 | 553.0 | 592.5 | 598.0 |
| 55° | 455.0 | 471.3 | 519.0 | 553.0 | 550.3 |
| 57.5° | 418.2 | 435.9 | 484.9 | 502.6 | 499.9 |
| 60° | 380.0 | 399.1 | 442.7 | 450.9 | 441.3 |
| 62.5° | 344.6 | 362.3 | 403.2 | 396.4 | 384.1 |
| 65° | 306.5 | 324.2 | 358.2 | 344.6 | 326.9 |
| 67.5° | 268.3 | 290.1 | 311.9 | 288.8 | 275.2 |
| 70° | 230.2 | 254.7 | 264.3 | 241.1 | 228.8 |
| 72.5° | 193.4 | 219.3 | 216.6 | 193.4 | 185.3 |
| 75° | 158.0 | 179.8 | 174.4 | 151.2 | 143.0 |
| 77.5° | 119.9 | 144.4 | 132.1 | 113.1 | 106.2 |
| 80° | 84.5 | 106.2 | 92.6 | 76.3 | 70.8 |
| 82.5° | 55.8 | 70.8 | 57.2 | 45.0 | 40.9 |
| 85° | 30.0 | 36.8 | 25.9 | 21.8 | 20.4 |
| 87.5° | 12.3 | 10.9 | 9.5 | 9.5 | 8.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)