

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: P233071

Luminaire Tested: **FCB-12-4-LD4-44-40-UNV-EDD1-WDA12**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P233071
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-LD4-44-40-UNV-EDD1-WDA12
Description: FAILSAFE 1X4 FCB LED TROFFER
.125 ACRYLIC LENS
Light Source: (84)4000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

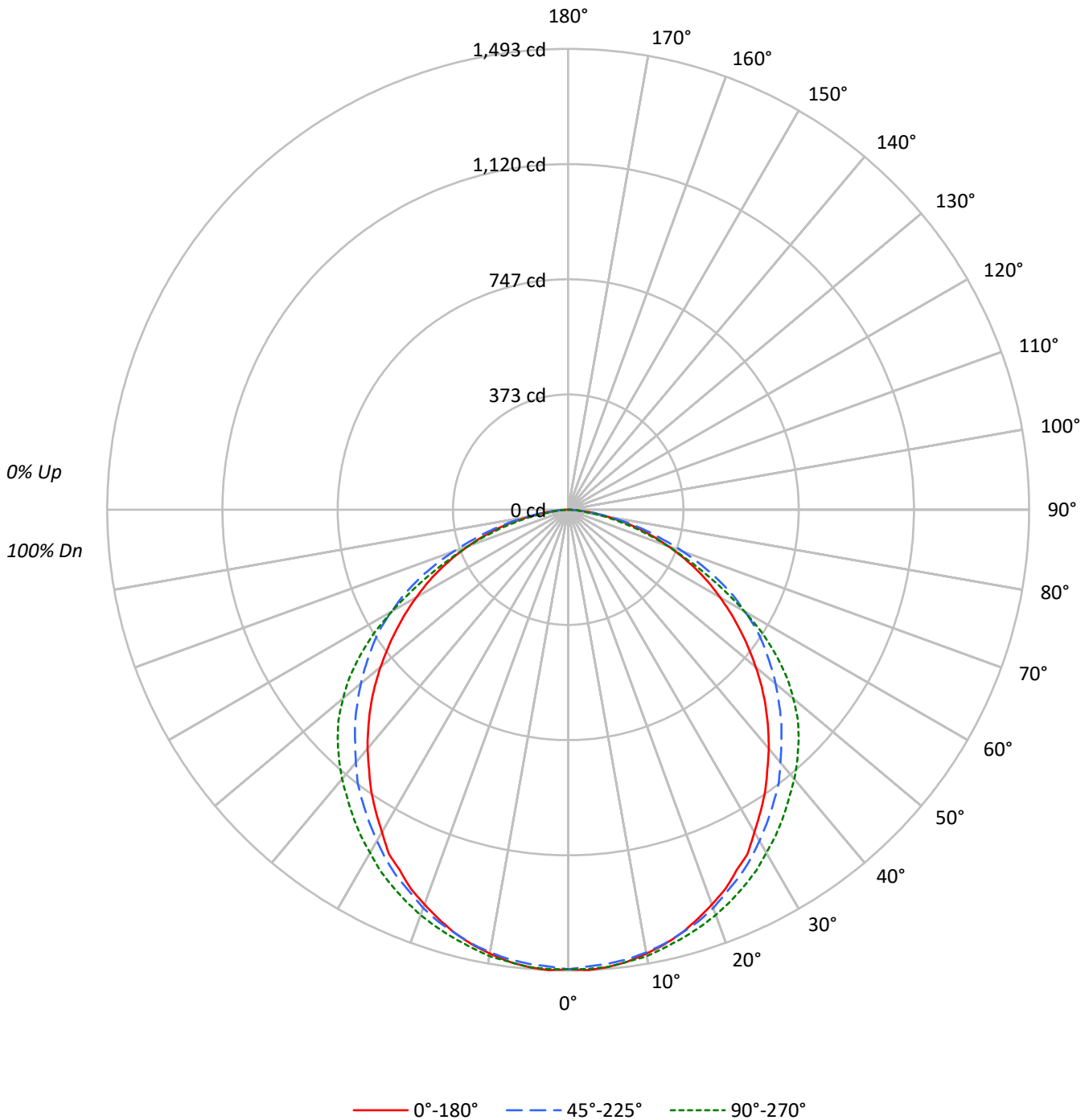
Lumens per Lamp: N/A
Luminaire Lumens: 4126.0 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.28 / 1.37
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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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CATALOG NUMBER: FCB-12-4-LD4-44-40-UNV-EDD1-WDA12

Luminous Intensity Polar Plot





TEST NUMBER: P233071

CATALOG NUMBER: FCB-12-4-LD4-44-40-UNV-EDD1-WDA12

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° | 4007 | 4007 | 4007 |
| 5° | 4017 | 3989 | 4017 |
| 10° | 3991 | 3980 | 4013 |
| 15° | 3955 | 3955 | 4001 |
| 20° | 3897 | 3932 | 4002 |
| 25° | 3829 | 3896 | 3998 |
| 30° | 3748 | 3849 | 3988 |
| 35° | 3655 | 3809 | 3989 |
| 40° | 3551 | 3758 | 4001 |
| 45° | 3445 | 3716 | 4018 |
| 50° | 3321 | 3670 | 3985 |
| 55° | 3187 | 3636 | 3856 |
| 60° | 3054 | 3558 | 3547 |
| 65° | 2914 | 3407 | 3109 |
| 70° | 2705 | 3105 | 2688 |
| 75° | 2454 | 2707 | 2221 |
| 80° | 1954 | 2143 | 1640 |
| 85° | 1383 | 1192 | 942 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 140.9 | 3.4 |
| 10°-20° | 402.5 | 9.8 |
| 20°-30° | 606.8 | 14.7 |
| 30°-40° | 727.4 | 17.6 |
| 40°-50° | 754.8 | 18.3 |
| 50°-60° | 680.8 | 16.5 |
| 60°-70° | 496.6 | 12.0 |
| 70°-80° | 260.6 | 6.3 |
| 80°-90° | 55.6 | 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° | 1150.2 | 27.9 |
| 0°-40° | 1877.5 | 45.5 |
| 0°-60° | 3313.2 | 80.3 |
| 0°-90° | 4126.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 4126.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 1489 | 1489 | 1489 | 1489 | 1489 | |
| 5° | 1487 | 1483 | 1477 | 1487 | 1487 | 141 |
| 15° | 1420 | 1420 | 1420 | 1436 | 1436 | 400 |
| 25° | 1290 | 1296 | 1312 | 1340 | 1347 | 595 |
| 35° | 1113 | 1125 | 1159 | 1202 | 1214 | 695 |
| 45° | 905 | 924 | 976 | 1035 | 1056 | 698 |
| 55° | 679 | 704 | 775 | 826 | 822 | 608 |
| 65° | 458 | 484 | 535 | 515 | 488 | 452 |
| 75° | 236 | 268 | 260 | 226 | 214 | 247 |
| 85° | 45 | 55 | 39 | 32 | 30 | 57 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P233071

CATALOG NUMBER: FCB-12-4-LD4-44-40-UNV-EDD1-WDA12

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 1489.0 | 1489.0 | 1489.0 | 1489.0 | 1489.0 |
| 2.5° | 1493.0 | 1489.0 | 1480.8 | 1489.0 | 1489.0 |
| 5° | 1486.9 | 1482.9 | 1476.8 | 1486.9 | 1486.9 |
| 7.5° | 1476.8 | 1472.7 | 1468.6 | 1478.8 | 1476.8 |
| 10° | 1460.5 | 1458.4 | 1456.4 | 1468.6 | 1468.6 |
| 12.5° | 1442.2 | 1442.2 | 1440.1 | 1454.4 | 1452.3 |
| 15° | 1419.8 | 1419.8 | 1419.8 | 1436.1 | 1436.1 |
| 17.5° | 1391.3 | 1395.4 | 1399.5 | 1417.8 | 1417.8 |
| 20° | 1360.8 | 1364.9 | 1373.0 | 1395.4 | 1397.4 |
| 22.5° | 1330.3 | 1332.3 | 1340.5 | 1366.9 | 1373.0 |
| 25° | 1289.6 | 1295.7 | 1312.0 | 1340.5 | 1346.6 |
| 27.5° | 1257.1 | 1259.1 | 1277.4 | 1310.0 | 1318.1 |
| 30° | 1206.2 | 1220.5 | 1238.8 | 1275.4 | 1283.5 |
| 32.5° | 1159.4 | 1171.6 | 1200.1 | 1238.8 | 1251.0 |
| 35° | 1112.6 | 1124.9 | 1159.4 | 1202.1 | 1214.4 |
| 37.5° | 1059.8 | 1078.1 | 1118.8 | 1161.5 | 1175.7 |
| 40° | 1010.9 | 1027.2 | 1069.9 | 1122.8 | 1139.1 |
| 42.5° | 958.1 | 974.3 | 1021.1 | 1080.1 | 1098.4 |
| 45° | 905.2 | 923.5 | 976.4 | 1035.4 | 1055.7 |
| 47.5° | 850.3 | 870.6 | 925.5 | 990.6 | 1008.9 |
| 50° | 793.3 | 815.7 | 876.7 | 943.8 | 952.0 |
| 52.5° | 736.3 | 760.8 | 825.8 | 884.8 | 893.0 |
| 55° | 679.4 | 703.8 | 775.0 | 825.8 | 821.8 |
| 57.5° | 624.5 | 650.9 | 724.1 | 750.6 | 746.5 |
| 60° | 567.5 | 596.0 | 661.1 | 673.3 | 659.0 |
| 62.5° | 514.6 | 541.1 | 602.1 | 591.9 | 573.6 |
| 65° | 457.7 | 484.1 | 535.0 | 514.6 | 488.2 |
| 67.5° | 400.7 | 433.3 | 465.8 | 431.2 | 410.9 |
| 70° | 343.8 | 380.4 | 394.6 | 360.0 | 341.7 |
| 72.5° | 288.8 | 327.5 | 323.4 | 288.8 | 276.6 |
| 75° | 236.0 | 268.5 | 260.4 | 225.8 | 213.6 |
| 77.5° | 179.0 | 215.6 | 197.3 | 168.8 | 158.7 |
| 80° | 126.1 | 158.7 | 138.3 | 113.9 | 105.8 |
| 82.5° | 83.4 | 105.8 | 85.4 | 67.1 | 61.0 |
| 85° | 44.8 | 54.9 | 38.6 | 32.5 | 30.5 |
| 87.5° | 18.3 | 16.3 | 14.2 | 14.2 | 12.2 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)