

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: P233222

Luminaire Tested: **FCB-24-4-LD4-75-35-UNV-EDD1-WDA12**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P233222
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-LD4-75-35-UNV-EDD1-WDA12
Description: FAILSAFE 2X4 FCB LED TROFFER
.125 ACRYLIC LENS
Light Source: (168)3500K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

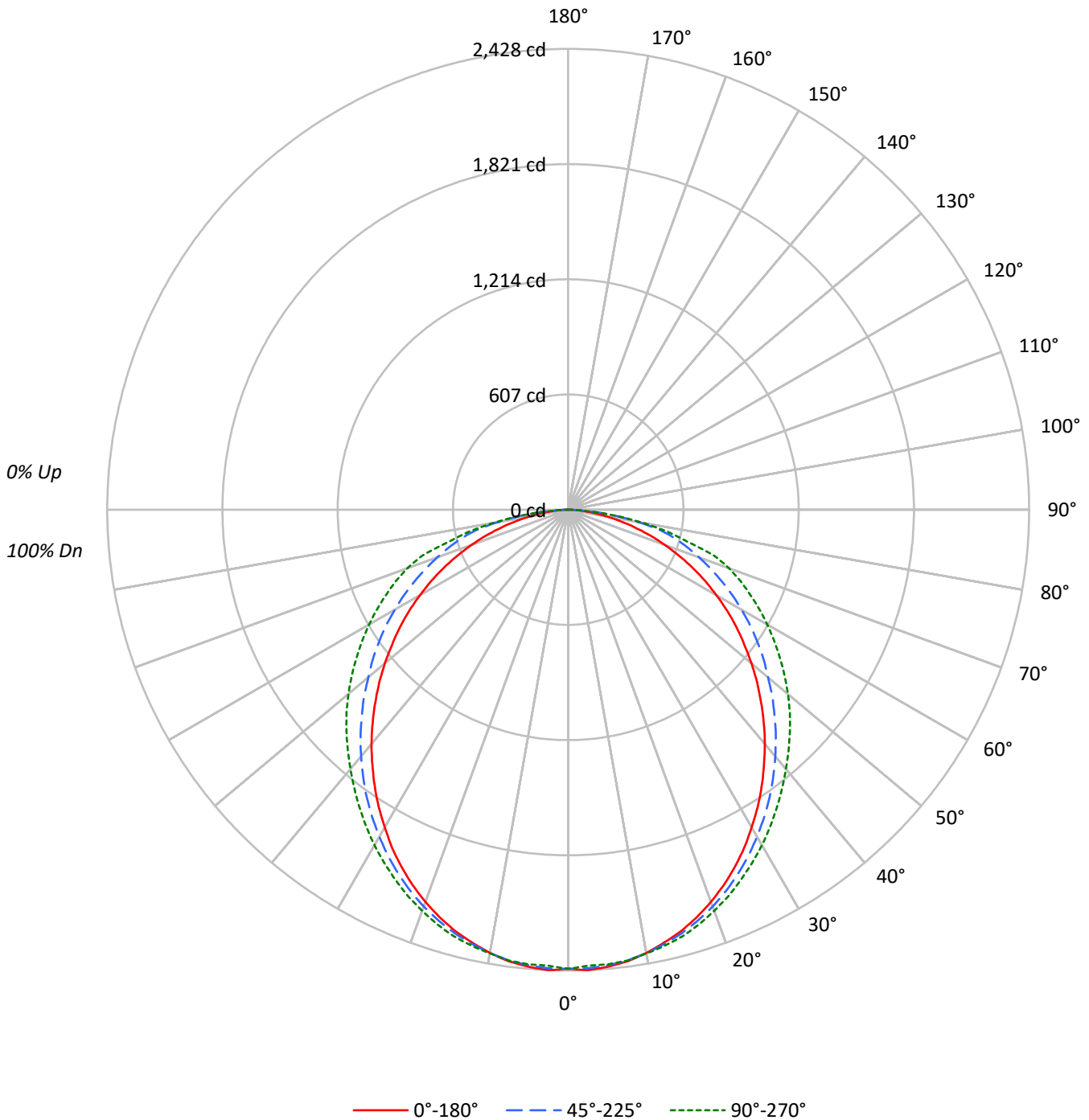
Lumens per Lamp: N/A
Luminaire Lumens: 6892.0 lumens
Efficiency: N/A
Efficacy: 99.7 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 69.1
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: P233222

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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° | 3254 | 3254 | 3254 |
| 5° | 3264 | 3254 | 3248 |
| 10° | 3240 | 3240 | 3243 |
| 15° | 3202 | 3218 | 3241 |
| 20° | 3149 | 3186 | 3220 |
| 25° | 3083 | 3142 | 3195 |
| 30° | 3003 | 3091 | 3171 |
| 35° | 2919 | 3039 | 3147 |
| 40° | 2831 | 2980 | 3133 |
| 45° | 2735 | 2923 | 3143 |
| 50° | 2638 | 2875 | 3161 |
| 55° | 2541 | 2856 | 3194 |
| 60° | 2426 | 2838 | 3257 |
| 65° | 2299 | 2840 | 3366 |
| 70° | 2126 | 2887 | 3546 |
| 75° | 1902 | 3018 | 3373 |
| 80° | 1591 | 2889 | 3090 |
| 85° | 1203 | 2221 | 2113 |



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ZONAL LUMENS:

| Zone | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10° | 228.6 | 3.3 |
| 10°-20° | 650.5 | 9.4 |
| 20°-30° | 972.5 | 14.1 |
| 30°-40° | 1153.7 | 16.7 |
| 40°-50° | 1187.4 | 17.2 |
| 50°-60° | 1089.3 | 15.8 |
| 60°-70° | 880.8 | 12.8 |
| 70°-80° | 571.6 | 8.3 |
| 80°-90° | 157.6 | 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° | 1851.6 | 26.9 |
| 0°-40° | 3005.2 | 43.6 |
| 0°-60° | 5282.0 | 76.6 |
| 0°-90° | 6892.0 | 100.0 |
| 90°-120° | 0.0 | 0.0 |
| 90°-150° | 0.0 | 0.0 |
| 90°-180° | 0.0 | 0.0 |
| 0°-180° | 6892.0 | 100.0 |

CANDELA DISTRIBUTION:

| | 0° | 22.5° | 45° | 67.5° | 90° | Flux |
|-----|------|-------|------|-------|------|------|
| 0° | 2419 | 2419 | 2419 | 2419 | 2419 | |
| 5° | 2416 | 2400 | 2409 | 2407 | 2405 | 229 |
| 15° | 2298 | 2289 | 2310 | 2320 | 2327 | 647 |
| 25° | 2077 | 2079 | 2117 | 2136 | 2152 | 956 |
| 35° | 1777 | 1791 | 1850 | 1890 | 1916 | 1111 |
| 45° | 1437 | 1461 | 1536 | 1609 | 1652 | 1109 |
| 55° | 1083 | 1116 | 1218 | 1317 | 1362 | 968 |
| 65° | 722 | 765 | 892 | 1010 | 1057 | 714 |
| 75° | 366 | 434 | 580 | 649 | 649 | 389 |
| 85° | 78 | 132 | 144 | 139 | 137 | 95 |
| 90° | 0 | 0 | 0 | 0 | 0 | |



TEST NUMBER: P233222

CATALOG NUMBER: FCB-24-4-LD4-75-35-UNV-EDD1-WDA12

CANDELA DISTRIBUTION (FULL):

| | 0° | 22.5° | 45° | 67.5° | 90° |
|-------|--------|--------|--------|--------|--------|
| 0° | 2418.7 | 2418.7 | 2418.7 | 2418.7 | 2418.7 |
| 2.5° | 2428.2 | 2409.3 | 2418.7 | 2416.4 | 2404.6 |
| 5° | 2416.4 | 2399.9 | 2409.3 | 2406.9 | 2404.6 |
| 7.5° | 2399.9 | 2383.3 | 2395.1 | 2392.8 | 2395.1 |
| 10° | 2371.5 | 2357.4 | 2371.5 | 2373.9 | 2373.9 |
| 12.5° | 2336.1 | 2324.3 | 2343.2 | 2347.9 | 2352.7 |
| 15° | 2298.4 | 2288.9 | 2310.2 | 2319.6 | 2326.7 |
| 17.5° | 2251.2 | 2244.1 | 2270.1 | 2281.9 | 2291.3 |
| 20° | 2199.3 | 2196.9 | 2225.2 | 2237.0 | 2248.8 |
| 22.5° | 2140.3 | 2140.3 | 2173.3 | 2187.5 | 2204.0 |
| 25° | 2076.6 | 2078.9 | 2116.7 | 2135.6 | 2152.1 |
| 27.5° | 2008.1 | 2010.5 | 2055.3 | 2078.9 | 2097.8 |
| 30° | 1932.6 | 1942.1 | 1989.3 | 2019.9 | 2041.2 |
| 32.5° | 1857.1 | 1868.9 | 1920.8 | 1956.2 | 1979.8 |
| 35° | 1776.9 | 1791.0 | 1850.0 | 1890.2 | 1916.1 |
| 37.5° | 1694.3 | 1710.8 | 1774.5 | 1819.4 | 1850.0 |
| 40° | 1611.7 | 1630.6 | 1696.7 | 1748.6 | 1784.0 |
| 42.5° | 1524.4 | 1545.6 | 1618.8 | 1680.1 | 1717.9 |
| 45° | 1437.1 | 1460.7 | 1536.2 | 1609.3 | 1651.8 |
| 47.5° | 1349.8 | 1378.1 | 1458.3 | 1538.6 | 1583.4 |
| 50° | 1260.1 | 1288.4 | 1373.4 | 1465.4 | 1510.2 |
| 52.5° | 1170.4 | 1203.5 | 1297.9 | 1392.2 | 1437.1 |
| 55° | 1083.1 | 1116.2 | 1217.6 | 1316.7 | 1361.6 |
| 57.5° | 993.5 | 1026.5 | 1137.4 | 1241.2 | 1286.1 |
| 60° | 901.4 | 939.2 | 1054.8 | 1161.0 | 1210.5 |
| 62.5° | 811.8 | 851.9 | 974.6 | 1087.8 | 1135.0 |
| 65° | 722.1 | 764.6 | 892.0 | 1010.0 | 1057.2 |
| 67.5° | 630.1 | 679.6 | 811.8 | 932.1 | 981.7 |
| 70° | 540.4 | 594.7 | 733.9 | 854.2 | 901.4 |
| 72.5° | 453.1 | 512.1 | 656.0 | 778.7 | 807.0 |
| 75° | 365.8 | 434.2 | 580.5 | 648.9 | 648.9 |
| 77.5° | 283.2 | 358.7 | 495.5 | 521.5 | 535.7 |
| 80° | 205.3 | 287.9 | 372.8 | 403.5 | 398.8 |
| 82.5° | 136.9 | 219.5 | 266.7 | 266.7 | 259.6 |
| 85° | 77.9 | 132.1 | 143.9 | 139.2 | 136.9 |
| 87.5° | 33.0 | 49.6 | 44.8 | 35.4 | 30.7 |
| 90° | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

(END OF REPORT)