

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: P233160

Luminaire Tested: **FCB-24-4-LD4-60-50-UNV-EDD1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233160  
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-LD4-60-50-UNV-EDD1  
Description: FAILSAFE 2X4 FCB LED TROFFER  
OPAL DIFFUSER, NO LENS  
Light Source: (168)5000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

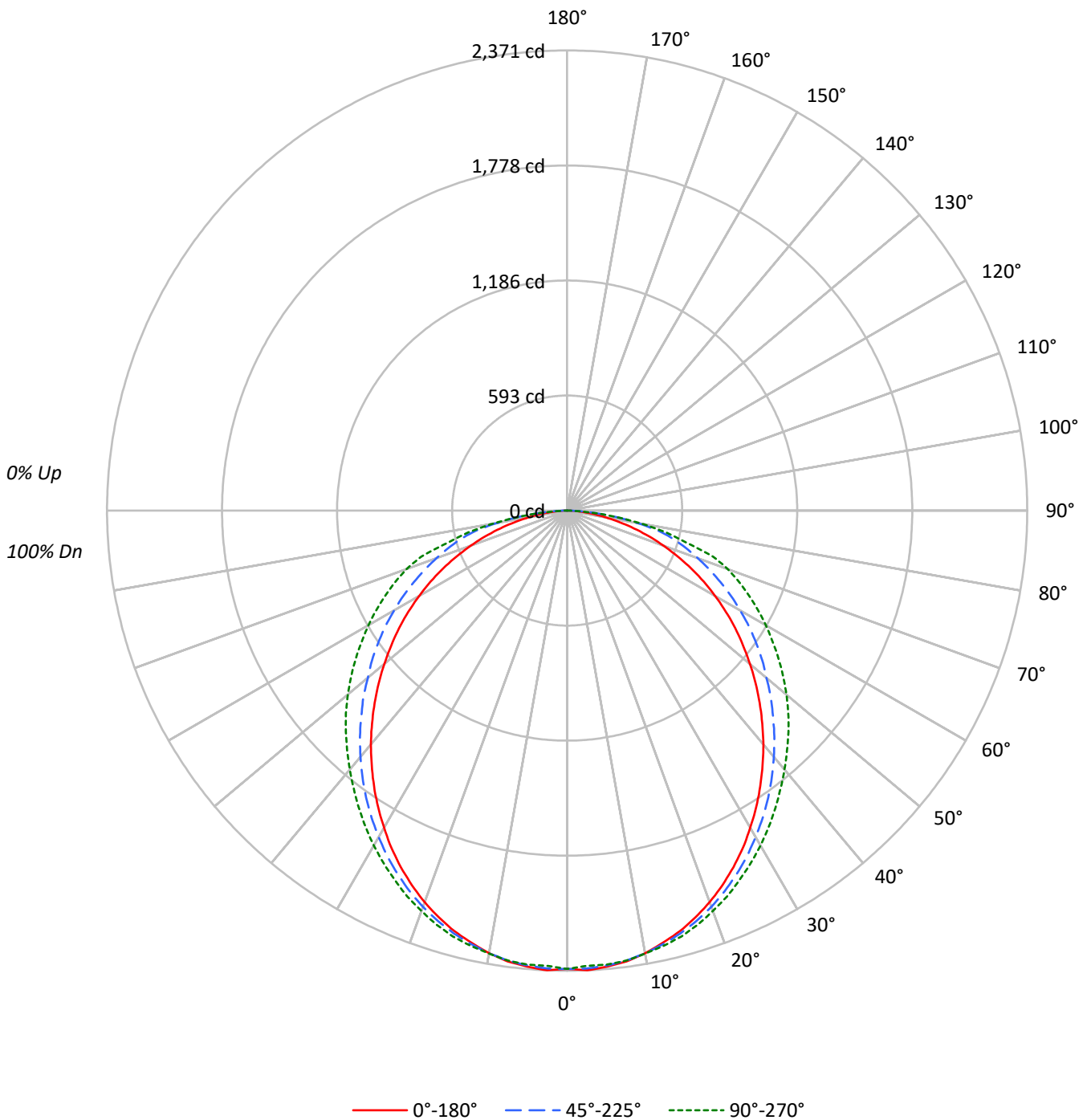
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6729.0 lumens  
Efficiency: N/A  
Efficacy: 128.9 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): 52.2  
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-24-4-LD4-60-50-UNV-EDD1

### 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°	3177	3177	3177
5°	3186	3177	3171
10°	3164	3164	3167
15°	3126	3142	3164
20°	3075	3111	3144
25°	3010	3068	3119
30°	2932	3017	3096
35°	2850	2967	3073
40°	2764	2909	3059
45°	2670	2854	3069
50°	2575	2807	3086
55°	2481	2789	3118
60°	2368	2771	3180
65°	2245	2773	3286
70°	2076	2819	3462
75°	1856	2947	3294
80°	1553	2820	3017
85°	1173	2169	2062



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	223.2	3.3
10°-20°	635.1	9.4
20°-30°	949.5	14.1
30°-40°	1126.4	16.7
40°-50°	1159.4	17.2
50°-60°	1063.6	15.8
60°-70°	859.9	12.8
70°-80°	558.1	8.3
80°-90°	153.9	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°	1807.8	26.9
0°-40°	2934.2	43.6
0°-60°	5157.1	76.6
0°-90°	6729.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6729.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2362	2362	2362	2362	2362	
5°	2359	2343	2352	2350	2348	224
15°	2244	2235	2256	2265	2272	632
25°	2028	2030	2067	2085	2101	933
35°	1735	1749	1806	1845	1871	1085
45°	1403	1426	1500	1571	1613	1083
55°	1058	1090	1189	1286	1329	945
65°	705	746	871	986	1032	697
75°	357	424	567	634	634	380
85°	76	129	140	136	134	93
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2361.5	2361.5	2361.5	2361.5	2361.5
2.5°	2370.7	2352.3	2361.5	2359.2	2347.7
5°	2359.2	2343.1	2352.3	2350.0	2347.7
7.5°	2343.1	2327.0	2338.5	2336.2	2338.5
10°	2315.5	2301.6	2315.5	2317.8	2317.8
12.5°	2280.9	2269.4	2287.8	2292.4	2297.0
15°	2244.0	2234.8	2255.5	2264.8	2271.7
17.5°	2198.0	2191.0	2216.4	2227.9	2237.1
20°	2147.3	2145.0	2172.6	2184.1	2195.6
22.5°	2089.7	2089.7	2121.9	2135.7	2151.9
25°	2027.5	2029.8	2066.6	2085.1	2101.2
27.5°	1960.6	1962.9	2006.7	2029.8	2048.2
30°	1886.9	1896.1	1942.2	1972.2	1992.9
32.5°	1813.2	1824.7	1875.4	1910.0	1933.0
35°	1734.9	1748.7	1806.3	1845.4	1870.8
37.5°	1654.2	1670.3	1732.6	1776.3	1806.3
40°	1573.6	1592.0	1656.5	1707.2	1741.8
42.5°	1488.3	1509.1	1580.5	1640.4	1677.3
45°	1403.1	1426.1	1499.9	1571.3	1612.8
47.5°	1317.8	1345.5	1423.8	1502.2	1545.9
50°	1230.3	1257.9	1340.9	1430.7	1474.5
52.5°	1142.7	1175.0	1267.2	1359.3	1403.1
55°	1057.5	1089.8	1188.8	1285.6	1329.4
57.5°	970.0	1002.2	1110.5	1211.9	1255.6
60°	880.1	917.0	1029.9	1133.5	1181.9
62.5°	792.6	831.7	951.5	1062.1	1108.2
65°	705.0	746.5	870.9	986.1	1032.2
67.5°	615.1	663.5	792.6	910.1	958.4
70°	527.6	580.6	716.5	834.0	880.1
72.5°	442.4	500.0	640.5	760.3	787.9
75°	357.1	423.9	566.8	633.6	633.6
77.5°	276.5	350.2	483.8	509.2	523.0
80°	200.4	281.1	364.0	394.0	389.4
82.5°	133.6	214.3	260.3	260.3	253.4
85°	76.0	129.0	140.5	135.9	133.6
87.5°	32.3	48.4	43.8	34.6	30.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)