

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: P233159

Luminaire Tested: **FCB-24-4-LD4-60-40-UNV-EDD1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233159  
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-LD4-60-40-UNV-EDD1  
Description: FAILSAFE 2X4 FCB LED TROFFER  
OPAL DIFFUSER, NO LENS  
Light Source: (168)4000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

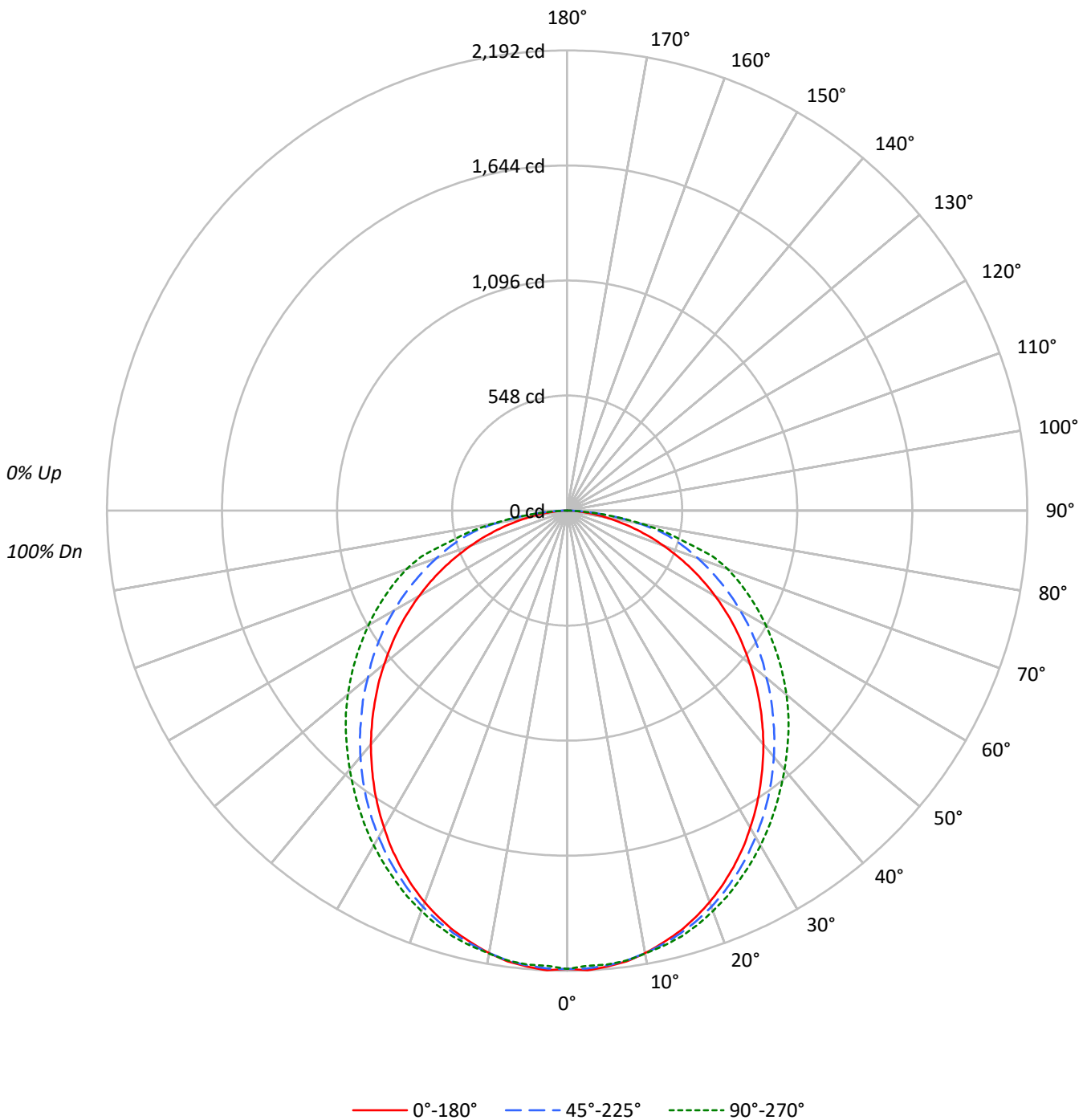
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6221.0 lumens  
Efficiency: N/A  
Efficacy: 119.2 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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### 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°	2937	2937	2937
5°	2946	2937	2932
10°	2925	2925	2928
15°	2890	2905	2925
20°	2842	2876	2906
25°	2783	2836	2884
30°	2710	2790	2862
35°	2634	2743	2841
40°	2555	2690	2828
45°	2468	2638	2837
50°	2381	2595	2853
55°	2293	2578	2883
60°	2190	2562	2940
65°	2075	2563	3038
70°	1919	2606	3201
75°	1716	2724	3045
80°	1436	2607	2789
85°	1085	2005	1907



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	206.3	3.3
10°-20°	587.2	9.4
20°-30°	877.8	14.1
30°-40°	1041.4	16.7
40°-50°	1071.8	17.2
50°-60°	983.3	15.8
60°-70°	795.0	12.8
70°-80°	516.0	8.3
80°-90°	142.3	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°	1671.3	26.9
0°-40°	2712.7	43.6
0°-60°	4767.8	76.6
0°-90°	6221.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6221.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2183	2183	2183	2183	2183	
5°	2181	2166	2175	2173	2170	207
15°	2075	2066	2085	2094	2100	584
25°	1874	1876	1911	1928	1943	863
35°	1604	1617	1670	1706	1730	1003
45°	1297	1318	1387	1453	1491	1001
55°	978	1008	1099	1188	1229	873
65°	652	690	805	912	954	644
75°	330	392	524	586	586	351
85°	70	119	130	126	124	86
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2183.2	2183.2	2183.2	2183.2	2183.2
2.5°	2191.8	2174.7	2183.2	2181.1	2170.5
5°	2181.1	2166.2	2174.7	2172.6	2170.5
7.5°	2166.2	2151.3	2161.9	2159.8	2161.9
10°	2140.6	2127.9	2140.6	2142.8	2142.8
12.5°	2108.7	2098.0	2115.1	2119.3	2123.6
15°	2074.6	2066.1	2085.3	2093.8	2100.2
17.5°	2032.0	2025.6	2049.1	2059.7	2068.2
20°	1985.2	1983.0	2008.6	2019.2	2029.9
22.5°	1931.9	1931.9	1961.7	1974.5	1989.4
25°	1874.4	1876.5	1910.6	1927.6	1942.6
27.5°	1812.6	1814.8	1855.2	1876.5	1893.6
30°	1744.5	1753.0	1795.6	1823.3	1842.4
32.5°	1676.3	1687.0	1733.8	1765.8	1787.1
35°	1603.9	1616.7	1669.9	1706.1	1729.6
37.5°	1529.3	1544.2	1601.8	1642.2	1669.9
40°	1454.8	1471.8	1531.5	1578.3	1610.3
42.5°	1376.0	1395.1	1461.2	1516.6	1550.6
45°	1297.2	1318.5	1386.6	1452.7	1491.0
47.5°	1218.4	1243.9	1316.3	1388.8	1429.2
50°	1137.4	1163.0	1239.7	1322.7	1363.2
52.5°	1056.5	1086.3	1171.5	1256.7	1297.2
55°	977.7	1007.5	1099.1	1188.5	1229.0
57.5°	896.7	926.5	1026.7	1120.4	1160.8
60°	813.7	847.7	952.1	1048.0	1092.7
62.5°	732.7	768.9	879.7	981.9	1024.5
65°	651.8	690.1	805.1	911.6	954.2
67.5°	568.7	613.4	732.7	841.3	886.1
70°	487.8	536.8	662.4	771.1	813.7
72.5°	409.0	462.2	592.1	702.9	728.5
75°	330.1	391.9	524.0	585.7	585.7
77.5°	255.6	323.8	447.3	470.7	483.5
80°	185.3	259.9	336.5	364.2	360.0
82.5°	123.5	198.1	240.7	240.7	234.3
85°	70.3	119.3	129.9	125.7	123.5
87.5°	29.8	44.7	40.5	31.9	27.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)