

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: P233156

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233156  
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-LD4-50-50-UNV-EDD1  
Description: FAILSAFE 2X4 FCB LED TROFFER  
OPAL DIFFUSER, NO LENS  
Light Source: (168)5000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

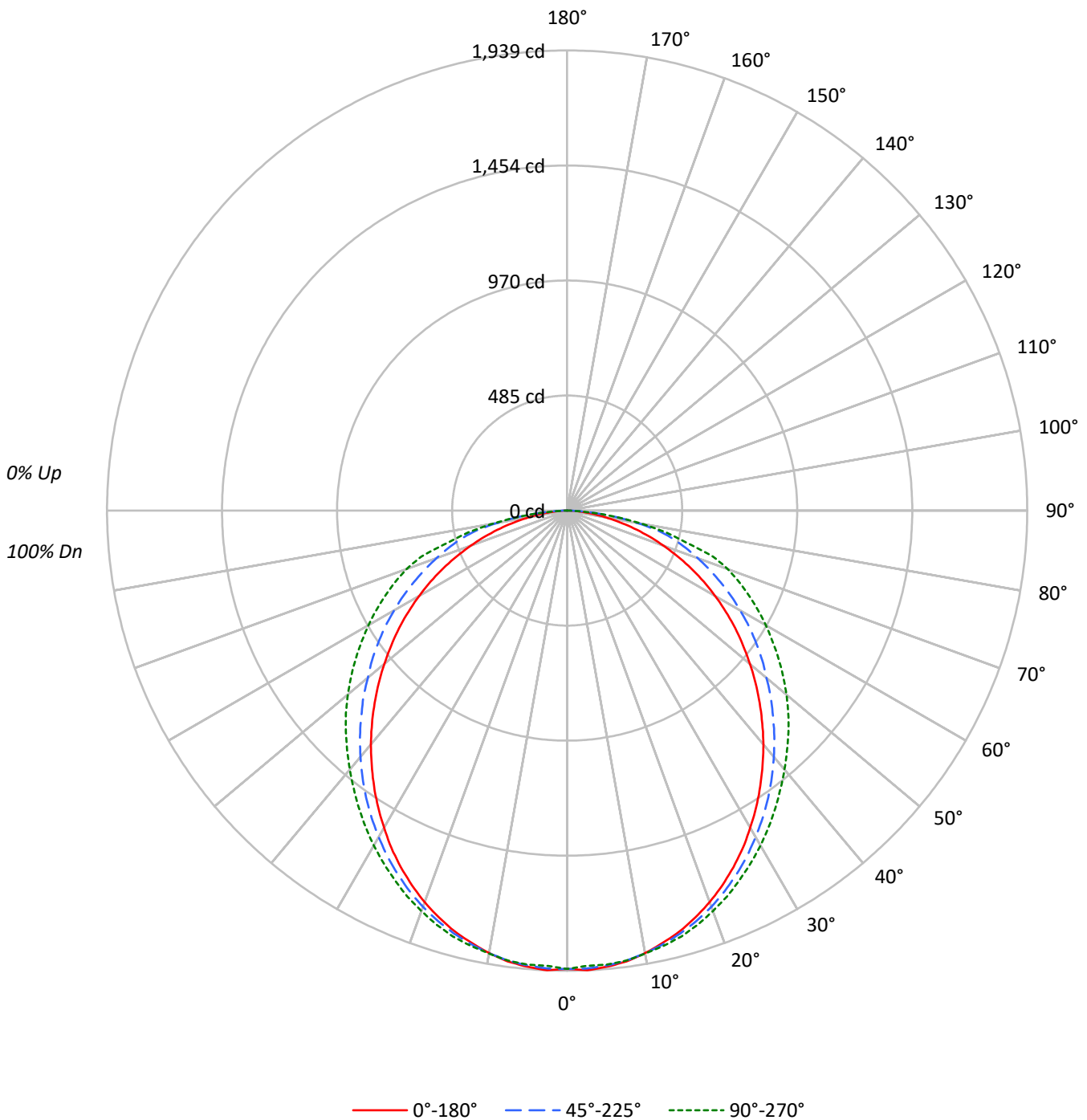
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5503.0 lumens  
Efficiency: N/A  
Efficacy: 135.2 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): 40.7  
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°	2599	2599	2599
5°	2606	2598	2593
10°	2587	2587	2590
15°	2556	2569	2588
20°	2514	2544	2571
25°	2462	2509	2551
30°	2397	2468	2532
35°	2330	2426	2513
40°	2260	2379	2502
45°	2183	2334	2510
50°	2106	2295	2524
55°	2029	2281	2550
60°	1937	2266	2601
65°	1836	2267	2687
70°	1697	2305	2832
75°	1518	2410	2693
80°	1270	2307	2467
85°	960	1774	1687



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	182.5	3.3
10°-20°	519.4	9.4
20°-30°	776.5	14.1
30°-40°	921.2	16.7
40°-50°	948.1	17.2
50°-60°	869.8	15.8
60°-70°	703.3	12.8
70°-80°	456.4	8.3
80°-90°	125.9	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°	1478.4	26.9
0°-40°	2399.6	43.6
0°-60°	4217.5	76.6
0°-90°	5503.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5503.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1931	1931	1931	1931	1931	
5°	1929	1916	1924	1922	1920	183
15°	1835	1828	1845	1852	1858	517
25°	1658	1660	1690	1705	1718	763
35°	1419	1430	1477	1509	1530	887
45°	1148	1166	1227	1285	1319	886
55°	865	891	972	1051	1087	773
65°	577	610	712	806	844	570
75°	292	347	464	518	518	310
85°	62	106	115	111	109	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1931.3	1931.3	1931.3	1931.3	1931.3
2.5°	1938.8	1923.7	1931.3	1929.4	1920.0
5°	1929.4	1916.2	1923.7	1921.8	1920.0
7.5°	1916.2	1903.0	1912.4	1910.5	1912.4
10°	1893.6	1882.3	1893.6	1895.5	1895.5
12.5°	1865.3	1855.9	1871.0	1874.7	1878.5
15°	1835.2	1827.6	1844.6	1852.1	1857.8
17.5°	1797.5	1791.8	1812.6	1822.0	1829.5
20°	1756.0	1754.2	1776.8	1786.2	1795.6
22.5°	1708.9	1708.9	1735.3	1746.6	1759.8
25°	1658.1	1659.9	1690.1	1705.2	1718.4
27.5°	1603.4	1605.3	1641.1	1659.9	1675.0
30°	1543.1	1550.7	1588.3	1612.8	1629.8
32.5°	1482.8	1492.3	1533.7	1562.0	1580.8
35°	1418.8	1430.1	1477.2	1509.2	1529.9
37.5°	1352.8	1366.0	1416.9	1452.7	1477.2
40°	1286.9	1302.0	1354.7	1396.2	1424.4
42.5°	1217.2	1234.1	1292.5	1341.5	1371.7
45°	1147.5	1166.3	1226.6	1285.0	1318.9
47.5°	1077.7	1100.4	1164.4	1228.5	1264.3
50°	1006.1	1028.8	1096.6	1170.1	1205.9
52.5°	934.5	960.9	1036.3	1111.7	1147.5
55°	864.8	891.2	972.2	1051.4	1087.2
57.5°	793.2	819.6	908.2	991.1	1026.9
60°	719.8	749.9	842.2	927.0	966.6
62.5°	648.2	680.2	778.2	868.6	906.3
65°	576.6	610.5	712.2	806.4	844.1
67.5°	503.1	542.6	648.2	744.2	783.8
70°	431.5	474.8	586.0	682.1	719.8
72.5°	361.8	408.9	523.8	621.8	644.4
75°	292.0	346.7	463.5	518.1	518.1
77.5°	226.1	286.4	395.7	416.4	427.7
80°	163.9	229.9	297.7	322.2	318.4
82.5°	109.3	175.2	212.9	212.9	207.3
85°	62.2	105.5	114.9	111.2	109.3
87.5°	26.4	39.6	35.8	28.3	24.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)