

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: P233151

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

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233151  
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-LD4-40-40-UNV-EDD1  
Description: FAILSAFE 2X4 FCB LED TROFFER  
OPAL DIFFUSER, NO LENS  
Light Source: (168)4000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

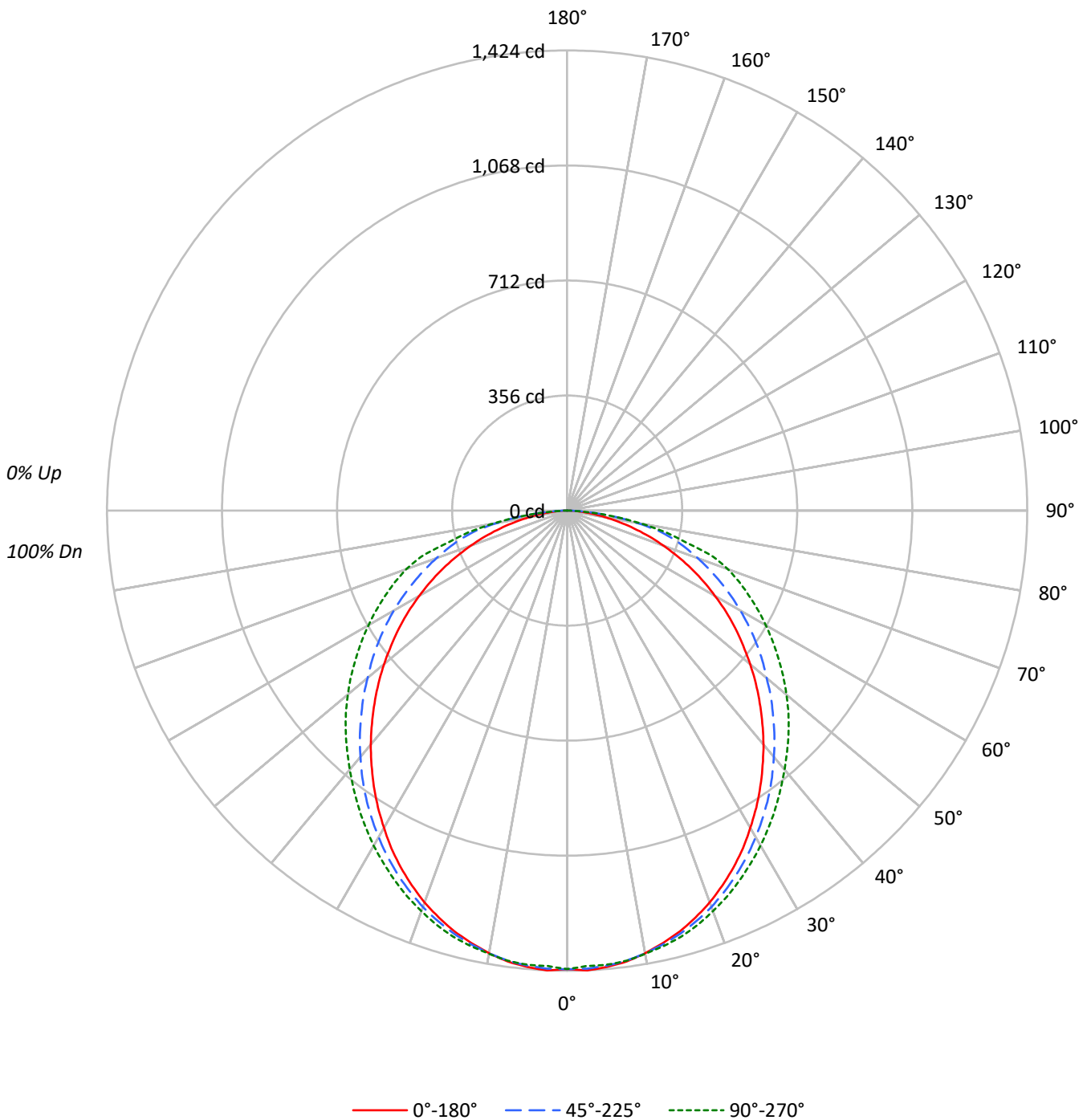
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4043.0 lumens  
Efficiency: N/A  
Efficacy: 139.4 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): 29  
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	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					100			
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83					83			
2	98	90	83	77	95	88	81	76	84	79	74	81	76	72	78	74	71	68					68			
3	89	78	70	63	87	77	69	63	74	67	62	71	65	61	68	64	60	57					57			
4	82	69	60	54	79	68	60	53	66	58	52	63	57	52	61	56	51	49					49			
5	75	62	53	46	73	61	52	46	59	51	45	57	50	45	55	49	44	42					42			
6	69	56	47	40	67	55	46	40	53	45	40	51	44	39	50	44	39	37					37			
7	64	51	42	35	63	50	41	35	48	41	35	47	40	35	45	39	35	32					32			
8	60	46	38	32	58	45	37	32	44	37	31	43	36	31	42	36	31	29					29			
9	56	42	34	28	54	42	34	28	41	33	28	40	33	28	38	32	28	26					26			
10	52	39	31	26	51	39	31	26	38	31	26	37	30	25	36	30	25	24					24			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1909	1909	1909
5°	1915	1909	1905
10°	1901	1901	1903
15°	1878	1888	1901
20°	1847	1869	1889
25°	1809	1843	1874
30°	1761	1813	1860
35°	1712	1783	1846
40°	1661	1748	1838
45°	1604	1715	1844
50°	1547	1686	1854
55°	1491	1676	1874
60°	1423	1665	1911
65°	1349	1666	1975
70°	1247	1694	2080
75°	1116	1770	1979
80°	933	1695	1812
85°	706	1303	1240



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.1	3.3
10°-20°	381.6	9.4
20°-30°	570.5	14.1
30°-40°	676.8	16.7
40°-50°	696.6	17.2
50°-60°	639.0	15.8
60°-70°	516.7	12.8
70°-80°	335.3	8.3
80°-90°	92.5	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°	1086.2	26.9
0°-40°	1762.9	43.6
0°-60°	3098.5	76.6
0°-90°	4043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4043.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1419	1419	1419	1419	1419	
5°	1418	1408	1413	1412	1411	134
15°	1348	1343	1355	1361	1365	380
25°	1218	1220	1242	1253	1262	561
35°	1042	1051	1085	1109	1124	652
45°	843	857	901	944	969	651
55°	635	655	714	772	799	568
65°	424	448	523	592	620	419
75°	215	255	340	381	381	228
85°	46	78	84	82	80	56
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1418.9	1418.9	1418.9	1418.9	1418.9
2.5°	1424.4	1413.3	1418.9	1417.5	1410.6
5°	1417.5	1407.8	1413.3	1412.0	1410.6
7.5°	1407.8	1398.1	1405.0	1403.7	1405.0
10°	1391.2	1382.9	1391.2	1392.6	1392.6
12.5°	1370.4	1363.5	1374.6	1377.4	1380.1
15°	1348.3	1342.7	1355.2	1360.7	1364.9
17.5°	1320.6	1316.4	1331.7	1338.6	1344.1
20°	1290.1	1288.8	1305.4	1312.3	1319.2
22.5°	1255.5	1255.5	1274.9	1283.2	1292.9
25°	1218.2	1219.5	1241.7	1252.8	1262.5
27.5°	1178.0	1179.4	1205.7	1219.5	1230.6
30°	1133.7	1139.3	1166.9	1184.9	1197.4
32.5°	1089.4	1096.3	1126.8	1147.6	1161.4
35°	1042.4	1050.7	1085.3	1108.8	1124.0
37.5°	993.9	1003.6	1041.0	1067.3	1085.3
40°	945.5	956.5	995.3	1025.7	1046.5
42.5°	894.2	906.7	949.6	985.6	1007.8
45°	843.0	856.9	901.2	944.1	969.0
47.5°	791.8	808.4	855.5	902.5	928.8
50°	739.2	755.8	805.6	859.6	885.9
52.5°	686.6	706.0	761.4	816.7	843.0
55°	635.4	654.8	714.3	772.4	798.7
57.5°	582.8	602.2	667.2	728.1	754.4
60°	528.8	550.9	618.8	681.1	710.1
62.5°	476.2	499.7	571.7	638.2	665.8
65°	423.6	448.5	523.3	592.5	620.2
67.5°	369.6	398.7	476.2	546.8	575.9
70°	317.0	348.8	430.5	501.1	528.8
72.5°	265.8	300.4	384.8	456.8	473.4
75°	214.6	254.7	340.5	380.7	380.7
77.5°	166.1	210.4	290.7	305.9	314.2
80°	120.4	168.9	218.7	236.7	233.9
82.5°	80.3	128.7	156.4	156.4	152.3
85°	45.7	77.5	84.4	81.7	80.3
87.5°	19.4	29.1	26.3	20.8	18.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)