

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: P233209

Luminaire Tested: **FCB-24-4-LD4-40-30-UNV-EDD1-WDA12**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233209  
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-LD4-40-30-UNV-EDD1-WDA12  
Description: FAILSAFE 2X4 FCB LED TROFFER  
.125 ACRYLIC LENS  
Light Source: (168)3000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

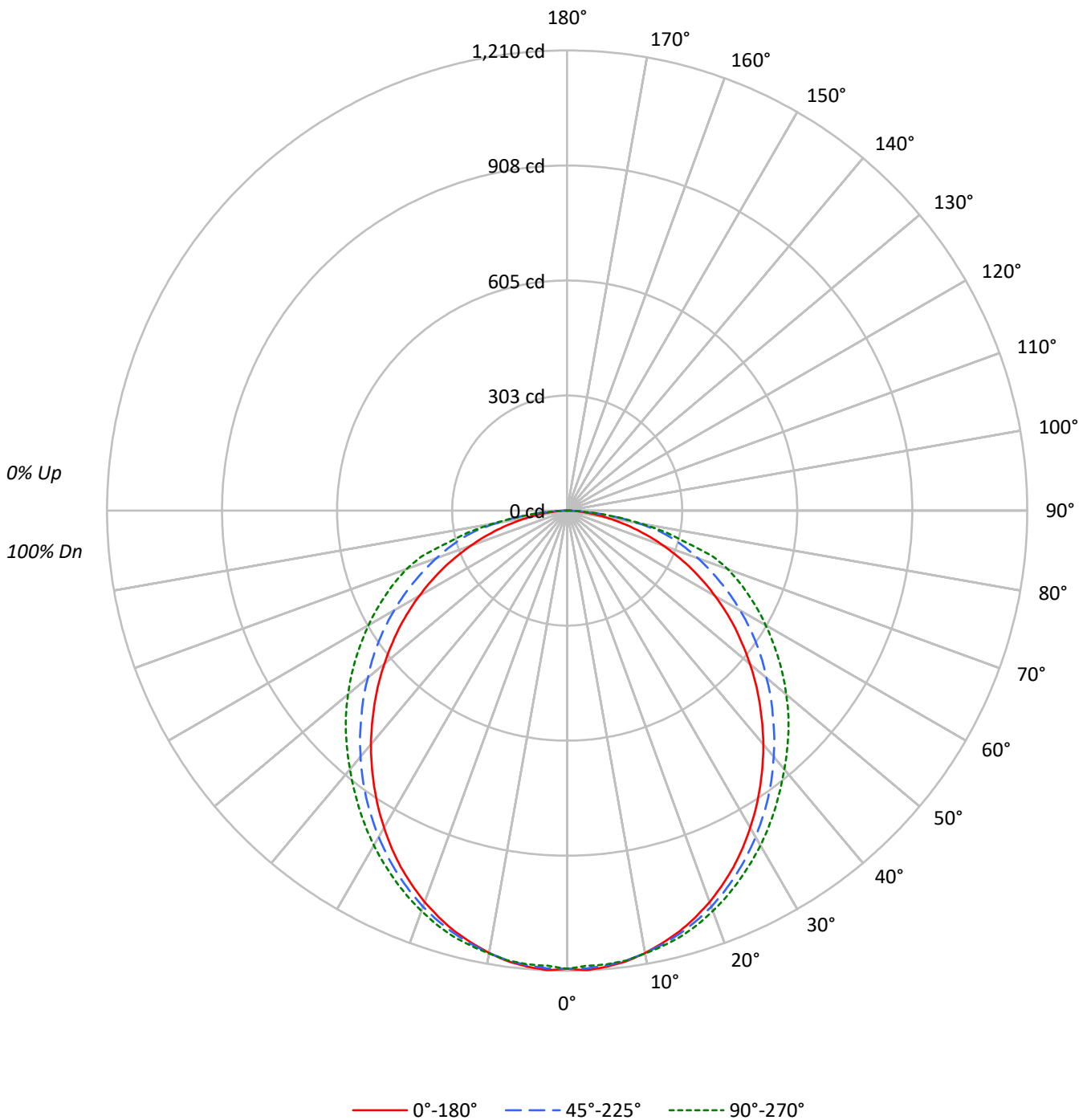
Lumens per Lamp: N/A  
Luminaire Lumens: 3433.0 lumens  
Efficiency: N/A  
Efficacy: 118.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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	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°	1621	1621	1621
5°	1626	1621	1618
10°	1614	1614	1616
15°	1595	1603	1614
20°	1569	1587	1604
25°	1536	1565	1591
30°	1496	1539	1580
35°	1454	1514	1568
40°	1410	1484	1561
45°	1362	1456	1566
50°	1314	1432	1575
55°	1266	1423	1591
60°	1208	1414	1623
65°	1145	1415	1677
70°	1059	1438	1766
75°	947	1503	1680
80°	793	1439	1539
85°	599	1107	1053



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	113.9	3.3
10°-20°	324.0	9.4
20°-30°	484.4	14.1
30°-40°	574.7	16.7
40°-50°	591.5	17.2
50°-60°	542.6	15.8
60°-70°	438.7	12.8
70°-80°	284.7	8.3
80°-90°	78.5	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°	922.3	26.9
0°-40°	1497.0	43.6
0°-60°	2631.0	76.6
0°-90°	3433.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3433.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1205	1205	1205	1205	1205	
5°	1204	1195	1200	1199	1198	114
15°	1145	1140	1151	1155	1159	323
25°	1034	1036	1054	1064	1072	476
35°	885	892	922	942	954	554
45°	716	728	765	802	823	552
55°	540	556	606	656	678	482
65°	360	381	444	503	527	355
75°	182	216	289	323	323	194
85°	39	66	72	69	68	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1204.8	1204.8	1204.8	1204.8	1204.8
2.5°	1209.5	1200.1	1204.8	1203.6	1197.8
5°	1203.6	1195.4	1200.1	1198.9	1197.8
7.5°	1195.4	1187.2	1193.1	1191.9	1193.1
10°	1181.3	1174.2	1181.3	1182.5	1182.5
12.5°	1163.7	1157.8	1167.2	1169.5	1171.9
15°	1144.9	1140.2	1150.7	1155.4	1159.0
17.5°	1121.3	1117.8	1130.8	1136.6	1141.3
20°	1095.5	1094.3	1108.4	1114.3	1120.2
22.5°	1066.1	1066.1	1082.6	1089.6	1097.8
25°	1034.4	1035.5	1054.4	1063.8	1072.0
27.5°	1000.3	1001.5	1023.8	1035.5	1044.9
30°	962.7	967.4	990.9	1006.2	1016.7
32.5°	925.1	930.9	956.8	974.4	986.2
35°	885.1	892.1	921.5	941.5	954.4
37.5°	844.0	852.2	883.9	906.2	921.5
40°	802.8	812.2	845.1	871.0	888.6
42.5°	759.3	769.9	806.3	836.9	855.7
45°	715.8	727.6	765.2	801.6	822.8
47.5°	672.3	686.4	726.4	766.4	788.7
50°	627.7	641.8	684.1	729.9	752.3
52.5°	583.0	599.5	646.5	693.5	715.8
55°	539.5	556.0	606.5	655.9	678.2
57.5°	494.9	511.3	566.6	618.3	640.6
60°	449.0	467.8	525.4	578.3	603.0
62.5°	404.3	424.3	485.4	541.9	565.4
65°	359.7	380.8	444.3	503.1	526.6
67.5°	313.8	338.5	404.3	464.3	489.0
70°	269.2	296.2	365.6	425.5	449.0
72.5°	225.7	255.1	326.8	387.9	402.0
75°	182.2	216.3	289.2	323.2	323.2
77.5°	141.1	178.7	246.8	259.8	266.8
80°	102.3	143.4	185.7	201.0	198.6
82.5°	68.2	109.3	132.8	132.8	129.3
85°	38.8	65.8	71.7	69.3	68.2
87.5°	16.5	24.7	22.3	17.6	15.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)