

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: P233123

Luminaire Tested: **FCB-24-2-LD4-24-40-UNV-EDD1-WDA12**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233123  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P25706)  
Test Lab: INNOVATION CENTER-P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FCB-24-2-LD4-24-40-UNV-EDD1-WDA12  
Description: FAILSAFE 2X2 FCB LED TROFFER  
.125 ACRYLIC LENS  
Light Source: (84)4000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

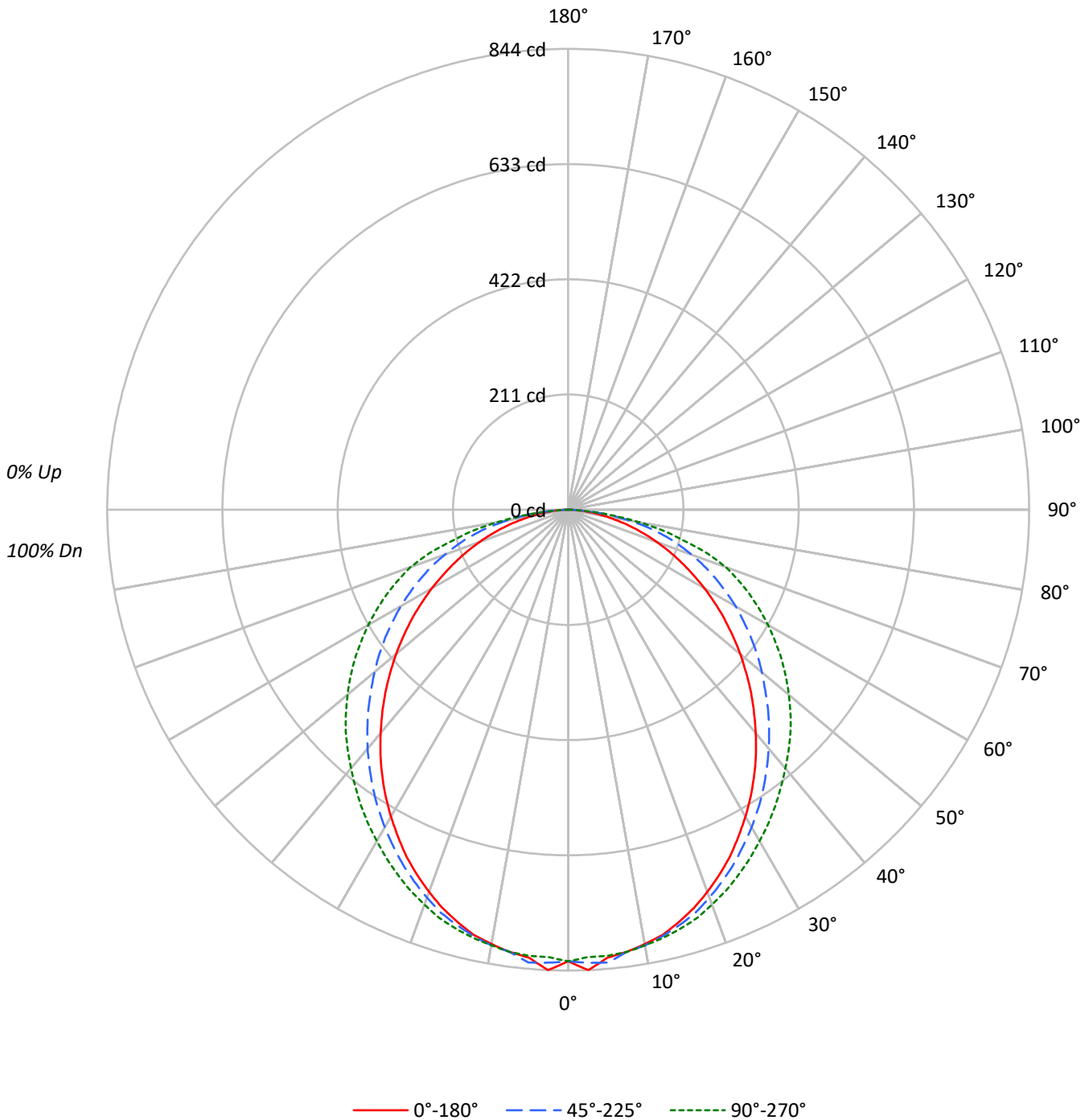
Lumens per Lamp: N/A  
Luminaire Lumens: 2317.0 lumens  
Efficiency: N/A  
Efficacy: 118.2 lumens/watt  
Spacing Criteria (0/90/45): 1.17 / 1.26 / 1.34  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 19.6  
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	104	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	70	64	87	77	69	63	74	68	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	64	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43
6	70	56	47	41	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	48	41	35	47	40	35	46	40	35	33
8	60	46	38	32	58	46	38	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

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

	0°	45°	90°
0°	2225	2225	2225
5°	2225	2249	2216
10°	2208	2214	2214
15°	2178	2194	2213
20°	2133	2165	2204
25°	2081	2128	2191
30°	2017	2087	2178
35°	1951	2047	2173
40°	1876	2007	2173
45°	1801	1968	2191
50°	1722	1939	2207
55°	1639	1919	2236
60°	1552	1904	2274
65°	1456	1894	2332
70°	1356	1888	2412
75°	1230	1886	2284
80°	1065	1746	2025
85°	905	1321	1288



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.4	3.4
10°-20°	222.2	9.6
20°-30°	330.5	14.3
30°-40°	390.9	16.9
40°-50°	401.8	17.3
50°-60°	367.1	15.8
60°-70°	293.7	12.7
70°-80°	184.3	8.0
80°-90°	48.0	2.1
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°	631.1	27.2
0°-40°	1022.1	44.1
0°-60°	1791.0	77.3
0°-90°	2317.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2317.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	827	827	827	827	827	
5°	824	824	833	827	820	78
15°	782	783	788	792	794	220
25°	701	705	717	729	738	322
35°	594	602	623	647	661	371
45°	473	486	517	556	576	365
55°	349	366	409	454	477	312
65°	229	249	298	342	366	227
75°	118	141	181	208	220	126
85°	29	37	43	42	42	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	827.0	827.0	827.0	827.0	827.0
2.5°	843.9	840.5	830.4	823.6	820.3
5°	823.6	823.6	832.6	827.0	820.3
7.5°	816.9	816.9	816.9	833.8	816.9
10°	807.9	809.0	810.1	816.9	810.1
12.5°	797.7	797.7	800.0	802.2	803.4
15°	781.9	783.1	787.6	792.1	794.3
17.5°	765.0	768.4	774.1	779.7	784.2
20°	744.8	749.3	756.0	765.0	769.6
22.5°	723.4	727.9	736.9	747.0	754.9
25°	700.8	705.3	716.6	729.0	738.0
27.5°	674.9	680.5	694.1	711.0	720.0
30°	649.0	655.8	671.5	690.7	700.8
32.5°	622.0	629.8	647.9	669.3	681.7
35°	593.8	601.7	623.1	646.7	661.4
37.5°	564.5	573.5	597.2	624.2	640.0
40°	534.1	544.2	571.2	600.5	618.6
42.5°	503.6	514.9	544.2	579.1	597.2
45°	473.2	485.6	517.2	555.5	575.8
47.5°	441.7	456.3	489.0	531.8	552.1
50°	411.3	425.9	463.1	507.0	527.3
52.5°	379.7	396.6	436.0	481.1	502.5
55°	349.3	366.2	409.0	454.1	476.6
57.5°	318.9	335.8	380.8	427.0	449.6
60°	288.4	306.5	353.8	398.9	422.5
62.5°	258.0	277.2	325.6	371.8	394.4
65°	228.7	249.0	297.5	342.5	366.2
67.5°	200.6	222.0	269.3	313.2	336.9
70°	172.4	193.8	240.0	282.8	306.5
72.5°	145.3	166.8	211.8	250.1	268.2
75°	118.3	140.8	181.4	208.4	219.7
77.5°	92.4	114.9	149.9	167.9	180.3
80°	68.7	87.9	112.7	126.2	130.7
82.5°	47.3	63.1	78.9	82.3	84.5
85°	29.3	37.2	42.8	41.7	41.7
87.5°	13.5	14.6	12.4	9.0	5.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)