

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: P233231

Luminaire Tested: **FCB-24-4-LD4-40-40-UNV-EDD1-WDP12**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233231  
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-WDP12  
Description: FAILSAFE 2X4 FCB LED TROFFER  
.125 POLYCARBONATE LENS  
Light Source: (168)4000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

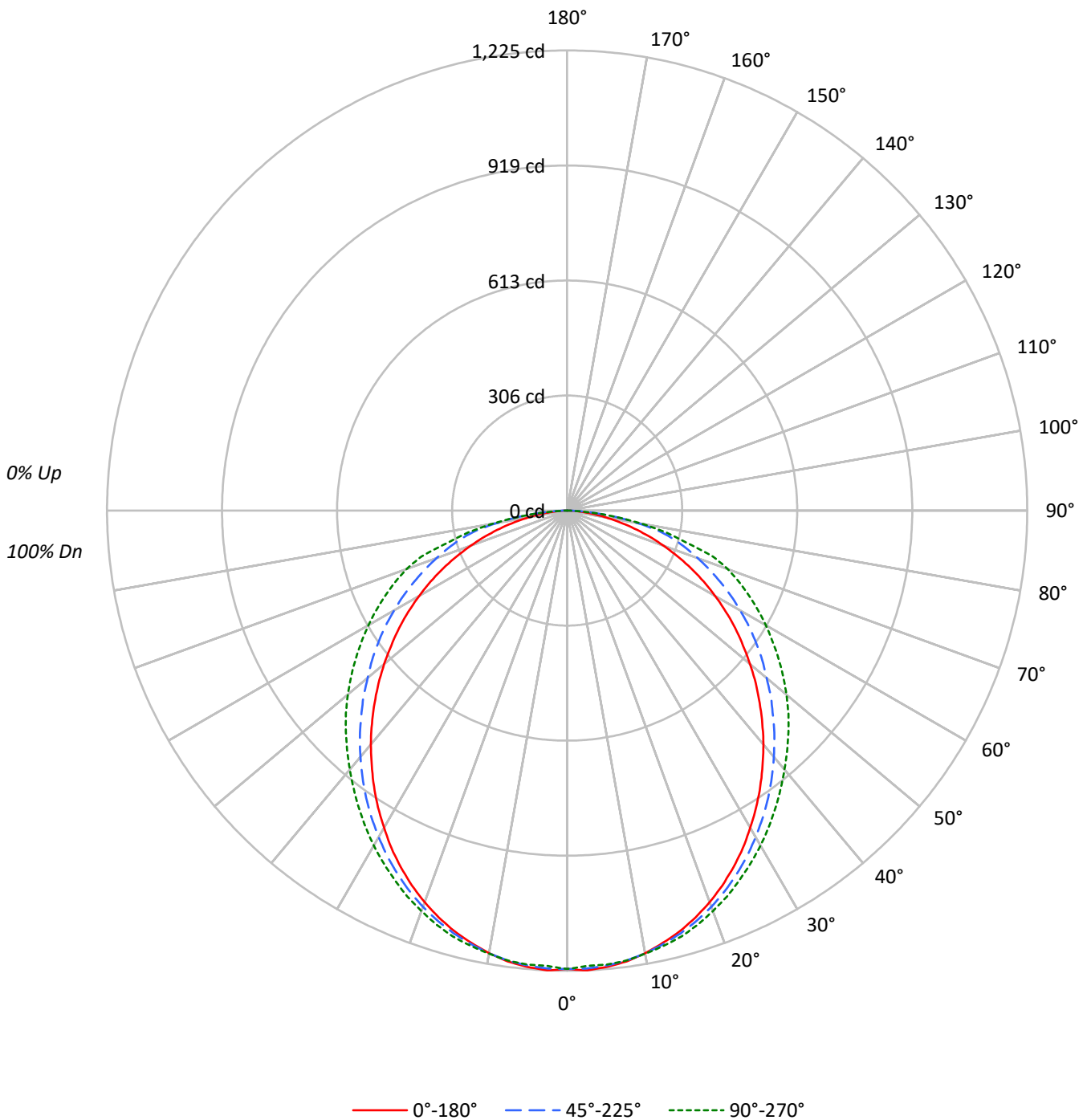
Lumens per Lamp: N/A  
Luminaire Lumens: 3477.0 lumens  
Efficiency: N/A  
Efficacy: 119.9 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.25 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	1642	1642	1642
5°	1647	1642	1638
10°	1635	1635	1636
15°	1615	1623	1635
20°	1589	1607	1624
25°	1555	1585	1612
30°	1515	1559	1600
35°	1472	1533	1588
40°	1428	1503	1581
45°	1380	1475	1586
50°	1331	1450	1595
55°	1282	1441	1611
60°	1224	1432	1643
65°	1160	1433	1698
70°	1072	1456	1789
75°	959	1523	1702
80°	803	1457	1559
85°	607	1121	1065



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.3	3.3
10°-20°	328.2	9.4
20°-30°	490.6	14.1
30°-40°	582.0	16.7
40°-50°	599.1	17.2
50°-60°	549.6	15.8
60°-70°	444.3	12.8
70°-80°	288.4	8.3
80°-90°	79.5	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°	934.1	26.9
0°-40°	1516.1	43.6
0°-60°	2664.8	76.6
0°-90°	3477.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3477.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1220	1220	1220	1220	1220	
5°	1219	1211	1216	1214	1213	116
15°	1160	1155	1166	1170	1174	327
25°	1048	1049	1068	1077	1086	482
35°	896	904	933	954	967	561
45°	725	737	775	812	833	560
55°	546	563	614	664	687	488
65°	364	386	450	510	533	360
75°	184	219	293	327	327	196
85°	39	67	73	70	69	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1220.2	1220.2	1220.2	1220.2	1220.2
2.5°	1225.0	1215.5	1220.2	1219.1	1213.1
5°	1219.1	1210.7	1215.5	1214.3	1213.1
7.5°	1210.7	1202.4	1208.3	1207.2	1208.3
10°	1196.4	1189.3	1196.4	1197.6	1197.6
12.5°	1178.6	1172.6	1182.2	1184.5	1186.9
15°	1159.5	1154.8	1165.5	1170.2	1173.8
17.5°	1135.7	1132.2	1145.2	1151.2	1156.0
20°	1109.5	1108.3	1122.6	1128.6	1134.5
22.5°	1079.8	1079.8	1096.4	1103.6	1111.9
25°	1047.6	1048.8	1067.9	1077.4	1085.7
27.5°	1013.1	1014.3	1036.9	1048.8	1058.3
30°	975.0	979.8	1003.6	1019.1	1029.8
32.5°	936.9	942.9	969.1	986.9	998.8
35°	896.4	903.6	933.3	953.6	966.7
37.5°	854.8	863.1	895.2	917.9	933.3
40°	813.1	822.6	856.0	882.1	900.0
42.5°	769.1	779.8	816.7	847.6	866.7
45°	725.0	736.9	775.0	811.9	833.3
47.5°	681.0	695.2	735.7	776.2	798.8
50°	635.7	650.0	692.9	739.3	761.9
52.5°	590.5	607.1	654.8	702.4	725.0
55°	546.4	563.1	614.3	664.3	686.9
57.5°	501.2	517.9	573.8	626.2	648.8
60°	454.8	473.8	532.1	585.7	610.7
62.5°	409.5	429.8	491.7	548.8	572.6
65°	364.3	385.7	450.0	509.5	533.3
67.5°	317.9	342.9	409.5	470.2	495.2
70°	272.6	300.0	370.2	431.0	454.8
72.5°	228.6	258.3	331.0	392.9	407.1
75°	184.5	219.0	292.9	327.4	327.4
77.5°	142.9	181.0	250.0	263.1	270.2
80°	103.6	145.2	188.1	203.6	201.2
82.5°	69.0	110.7	134.5	134.5	131.0
85°	39.3	66.7	72.6	70.2	69.0
87.5°	16.7	25.0	22.6	17.9	15.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)