

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: P233095

Luminaire Tested: **FCB-24-2-LD4-44-40-UNV-EDD1**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P233095  
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-LD4-44-40-UNV-EDD1  
Description: FAILSAFE 2X2 FCB LED TROFFER  
OPAL DIFFUSER, NO LENS  
Light Source: (84)4000K CCT, 80 CRI LEDs  
Ballast/Driver: ELECTRONIC DRIVER

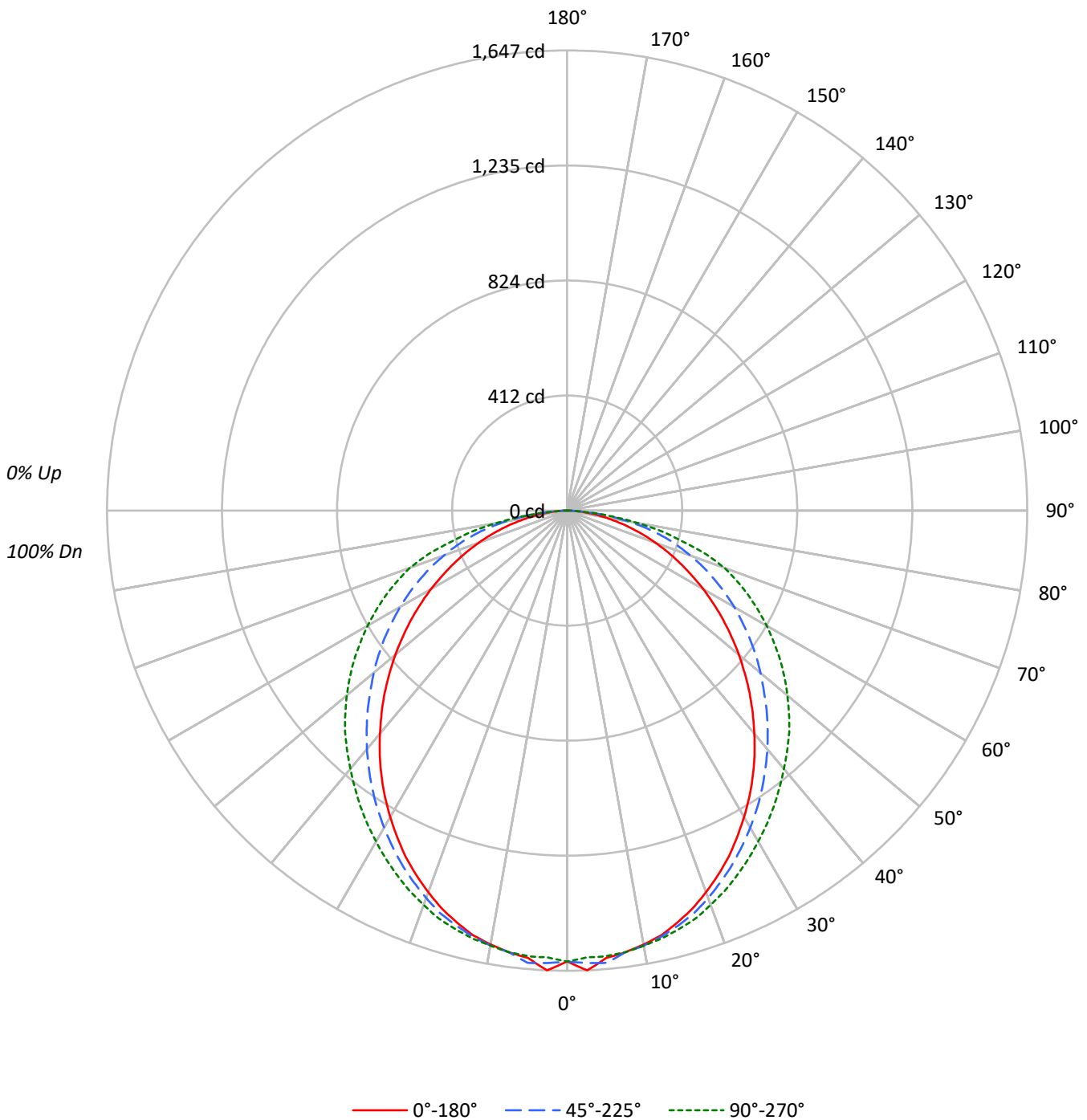
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4522.0 lumens  
Efficiency: N/A  
Efficacy: 108.2 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): 41.8  
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

TEST NUMBER: P233095  
CATALOG NUMBER: FCB-24-2-LD4-44-40-UNV-EDD1

### Luminous Intensity Polar Plot





TEST NUMBER: P233095

CATALOG NUMBER: FCB-24-2-LD4-44-40-UNV-EDD1

**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°	4344	4344	4344
5°	4342	4390	4324
10°	4308	4320	4320
15°	4252	4282	4319
20°	4162	4225	4301
25°	4061	4153	4276
30°	3936	4072	4250
35°	3807	3995	4240
40°	3661	3916	4241
45°	3515	3841	4276
50°	3360	3784	4308
55°	3198	3745	4364
60°	3030	3716	4438
65°	2842	3696	4551
70°	2647	3685	4706
75°	2401	3681	4458
80°	2078	3408	3953
85°	1766	2581	2513



TEST NUMBER: P233095

CATALOG NUMBER: FCB-24-2-LD4-44-40-UNV-EDD1

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.1	3.4
10°-20°	433.6	9.6
20°-30°	645.1	14.3
30°-40°	762.9	16.9
40°-50°	784.2	17.3
50°-60°	716.5	15.8
60°-70°	573.2	12.7
70°-80°	359.7	8.0
80°-90°	93.7	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°	1231.8	27.2
0°-40°	1994.7	44.1
0°-60°	3495.4	77.3
0°-90°	4522.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4522.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1614	1614	1614	1614	1614	
5°	1608	1608	1625	1614	1601	153
15°	1526	1528	1537	1546	1550	430
25°	1368	1377	1399	1423	1440	629
35°	1159	1174	1216	1262	1291	724
45°	924	948	1009	1084	1124	712
55°	682	715	798	886	930	610
65°	446	486	580	668	715	443
75°	231	275	354	407	429	245
85°	57	73	84	81	81	66
90°	0	0	0	0	0	



TEST NUMBER: P233095

CATALOG NUMBER: FCB-24-2-LD4-44-40-UNV-EDD1

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1614.1	1614.1	1614.1	1614.1	1614.1
2.5°	1647.0	1640.4	1620.7	1607.5	1600.9
5°	1607.5	1607.5	1625.0	1614.1	1600.9
7.5°	1594.3	1594.3	1594.3	1627.2	1594.3
10°	1576.7	1578.9	1581.1	1594.3	1581.1
12.5°	1556.9	1556.9	1561.3	1565.7	1567.9
15°	1526.1	1528.3	1537.1	1545.9	1550.3
17.5°	1493.1	1499.7	1510.7	1521.7	1530.5
20°	1453.5	1462.3	1475.5	1493.1	1501.9
22.5°	1411.7	1420.5	1438.1	1457.9	1473.3
25°	1367.8	1376.6	1398.6	1422.7	1440.3
27.5°	1317.2	1328.2	1354.6	1387.6	1405.2
30°	1266.6	1279.8	1310.6	1348.0	1367.8
32.5°	1213.8	1229.2	1264.4	1306.2	1330.4
35°	1158.9	1174.3	1216.0	1262.2	1290.8
37.5°	1101.7	1119.3	1165.5	1218.2	1249.0
40°	1042.3	1062.1	1114.9	1172.1	1207.2
42.5°	982.9	1004.9	1062.1	1130.3	1165.5
45°	923.6	947.8	1009.3	1084.1	1123.7
47.5°	862.0	890.6	954.4	1037.9	1077.5
50°	802.6	831.2	903.8	989.5	1029.1
52.5°	741.1	774.0	851.0	939.0	980.7
55°	681.7	714.7	798.2	886.2	930.2
57.5°	622.3	655.3	743.3	833.4	877.4
60°	562.9	598.1	690.5	778.4	824.6
62.5°	503.6	541.0	635.5	725.7	769.6
65°	446.4	486.0	580.5	668.5	714.7
67.5°	391.4	433.2	525.6	611.3	657.5
70°	336.4	378.2	468.4	551.9	598.1
72.5°	283.7	325.4	413.4	488.2	523.4
75°	230.9	274.9	354.0	406.8	428.8
77.5°	180.3	224.3	292.5	327.6	351.8
80°	134.1	171.5	219.9	246.3	255.1
82.5°	92.4	123.1	153.9	160.5	164.9
85°	57.2	72.6	83.6	81.4	81.4
87.5°	26.4	28.6	24.2	17.6	11.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)