

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: BALLABS TEST NO. 6925.0

Luminaire Tested: **FCC-X13-240--277-80/86-ESB-SF1 WATTS=79**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: BALLABS TEST NO. 6925.0  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FCC-X13-240--277-80/86-ESB-SF1 WATTS=79  
Description: 2/40W 50x12.5x12.5 CORNER MNT SECURITY LUMINAIRE  
Light Source: -  
F40T12/WW/RS  
Ballast/Driver: -

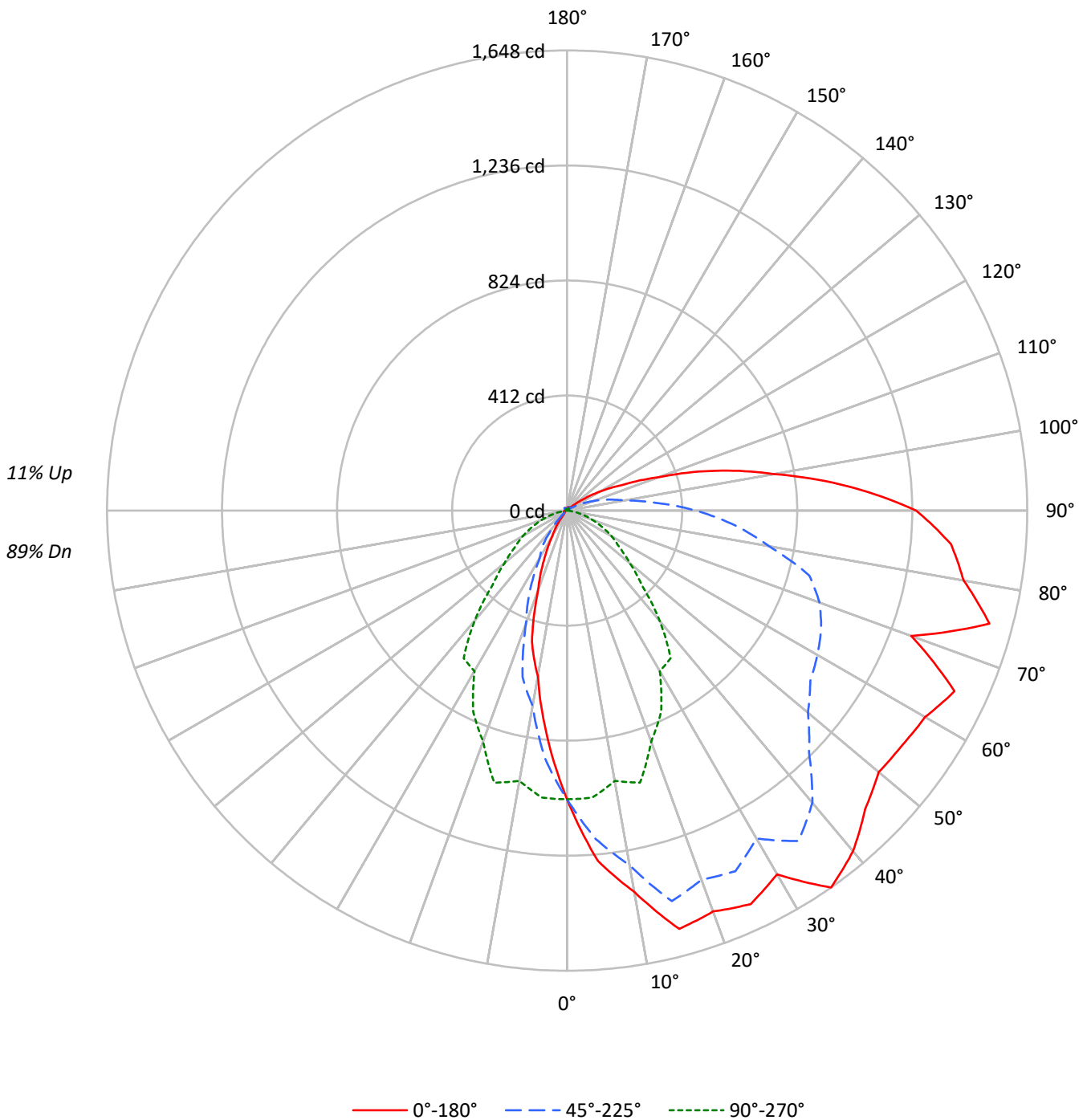
**Summary**

Lumens per Lamp: 3200 (2 lamps)  
Luminaire Lumens: 3884.5 lumens  
Efficiency: 60.7%  
Efficacy: 49.2 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.03 / 1.34  
Luminous Opening: Rectangular w/ Sides (W: 3.92' x L: 0.72' x H: 0.72')  
CIE Type: Semi-Direct

Input Watts (W): 79  
Input Voltage (V): NR  
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	71	71	71	71	68	68	68	68	64	64	64	59	59	59	56	56	56	54
1	62	58	55	52	60	56	53	50	52	50	47	49	47	45	45	44	42	40
2	56	50	45	40	53	48	43	39	45	41	37	41	38	36	39	36	34	32
3	50	43	37	33	48	42	36	32	39	34	31	36	32	29	34	31	28	26
4	46	38	32	28	44	37	31	27	34	29	26	32	28	25	30	26	24	22
5	42	34	28	23	40	33	27	23	31	26	22	29	24	21	27	23	20	19
6	39	30	25	20	37	29	24	20	28	23	19	26	22	19	24	21	18	16
7	36	27	22	18	35	27	21	18	25	20	17	24	19	16	22	19	16	14
8	34	25	20	16	32	24	19	16	23	18	15	22	18	15	20	17	14	13
9	31	23	18	14	30	22	17	14	21	17	14	20	16	13	19	15	13	12
10	29	21	16	13	28	21	16	13	20	15	12	19	15	12	18	14	12	11

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

	0°	90°	180°
0°	3963	3963	3963
5°	4454	3908	2880
10°	4589	3706	1995
15°	4854	3816	1524
20°	4569	3365	909
25°	4485	3101	571
30°	4220	2658	300
35°	4535	2679	173
40°	4334	2238	57
45°	4092	1732	35
50°	3964	1434	33
55°	4032	1202	33
60°	4152	1071	34
65°	4415	886	29
70°	3923	708	39
75°	4901	519	28
80°	4771	238	23
85°	4882	57	25



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	97.5	2.5	1.5	0°	1034	1034	1034	1034	1034	
10°-20°	279.1	7.2	4.4	5°	1259	1181	1032	894	814	122
20°-30°	389.5	10.0	6.1	15°	1551	1448	1009	617	487	428
30°-40°	470.4	12.1	7.3	25°	1555	1425	796	314	198	710
40°-50°	472.6	12.2	7.4	35°	1648	1445	646	151	63	1005
50°-60°	462.9	11.9	7.2	45°	1510	1225	378	37	13	1174
60°-70°	470.2	12.1	7.3	55°	1465	1063	227	10	12	1316
70°-80°	446.4	11.5	7.0	65°	1531	1004	136	10	10	1452
80°-90°	358.3	9.2	5.6	75°	1566	898	59	7	9	1557
90°-100°	232.9	6.0	3.6	85°	1380	603	4	6	7	1135
100°-110°	116.3	3.0	1.8	90°	1250	460	0	4	6	670
110°-120°	47.0	1.2	0.7	95°	1007	319	0	3	3	768
120°-130°	18.0	0.5	0.3	105°	552	151	3	6	6	584
130°-140°	9.5	0.2	0.1	115°	216	60	4	9	9	229
140°-150°	6.9	0.2	0.1	125°	72	13	6	10	10	70
150°-160°	4.4	0.1	0.1	135°	16	10	9	13	13	15
160°-170°	2.2	0.1	0.0	145°	15	15	7	10	10	9
170°-180°	0.6	0.0	0.0	155°	12	9	7	9	10	6
0°-30°	766.1	19.7	12.0	165°	12	6	4	7	7	3
0°-40°	1236.5	31.8	19.3	175°	6	6	4	6	6	1
0°-60°	2172.0	55.9	33.9	180°	5	5	5	5	5	
0°-90°	3446.9	88.7	53.9							
90°-120°	396.1	10.2	6.2							
90°-150°	430.6	11.1	6.7							
90°-180°	438.0	11.3	6.8							
0°-180°	3884.5	100.0	60.7							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	1034	1034	1034	1034	1034	1034	1034	1034	1034
5°	1259	1248	1181	1115	1032	961	894	841	814
10°	1387	1360	1290	1153	983	838	711	629	603
15°	1551	1524	1448	1259	1009	791	617	516	487
20°	1528	1507	1407	1201	880	620	432	332	304
25°	1555	1527	1425	1175	796	508	314	227	198
30°	1504	1461	1356	1082	664	360	195	127	107
35°	1648	1580	1445	1126	646	311	151	83	63
40°	1593	1537	1366	1001	516	205	83	31	21
45°	1510	1439	1225	842	378	130	37	15	13
50°	1457	1374	1126	729	293	93	16	12	12
55°	1465	1356	1063	635	227	55	10	12	12
60°	1480	1368	1035	569	184	30	10	12	12
65°	1531	1402	1004	484	136	12	10	10	10
70°	1312	1405	962	396	95	10	12	12	13
75°	1566	1399	898	319	59	7	7	9	9
80°	1442	1259	734	225	22	6	6	7	7
85°	1380	1162	603	171	4	6	6	7	7
90°	1250	1000	460	122	0	3	4	6	6
95°	1007	777	319	89	0	3	3	3	3
100°	752	555	207	52	1	4	4	4	4
105°	552	399	151	27	3	6	6	6	6
110°	349	243	99	10	3	6	6	6	6
115°	216	152	60	7	4	7	9	7	9
120°	136	96	27	9	6	10	10	10	10
125°	72	46	13	9	6	10	10	10	10
130°	31	19	9	9	9	13	13	13	13
135°	16	12	10	10	9	13	13	13	13
140°	13	13	13	12	9	12	12	12	12
145°	15	15	15	12	7	10	10	10	10
150°	12	12	12	9	6	9	7	9	7
155°	12	12	9	10	7	10	9	10	10
160°	12	12	7	9	6	9	9	9	9
165°	12	12	6	9	4	7	7	7	7
170°	7	7	6	6	4	7	7	7	7
175°	6	6	6	6	4	6	6	6	6
180°	5	5	5	5	5	5	5	5	5

(END OF REPORT)