

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: 10896.0

Luminaire Tested: **TRO15-C-1100MH**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: 10896.0  
Test Lab:  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: TRO15-C-1100MH  
Description: FAIL-SAFE 1/100W CLEAR ED17 MH LAMP 15"DIA WALL MOUNT LUMINAIRE  
WHITE FLAT REFLECTOR w/INTERNAL RADIAL RIBBED LENS  
Light Source: -  
M90 M100/U/MED  
Ballast/Driver: -

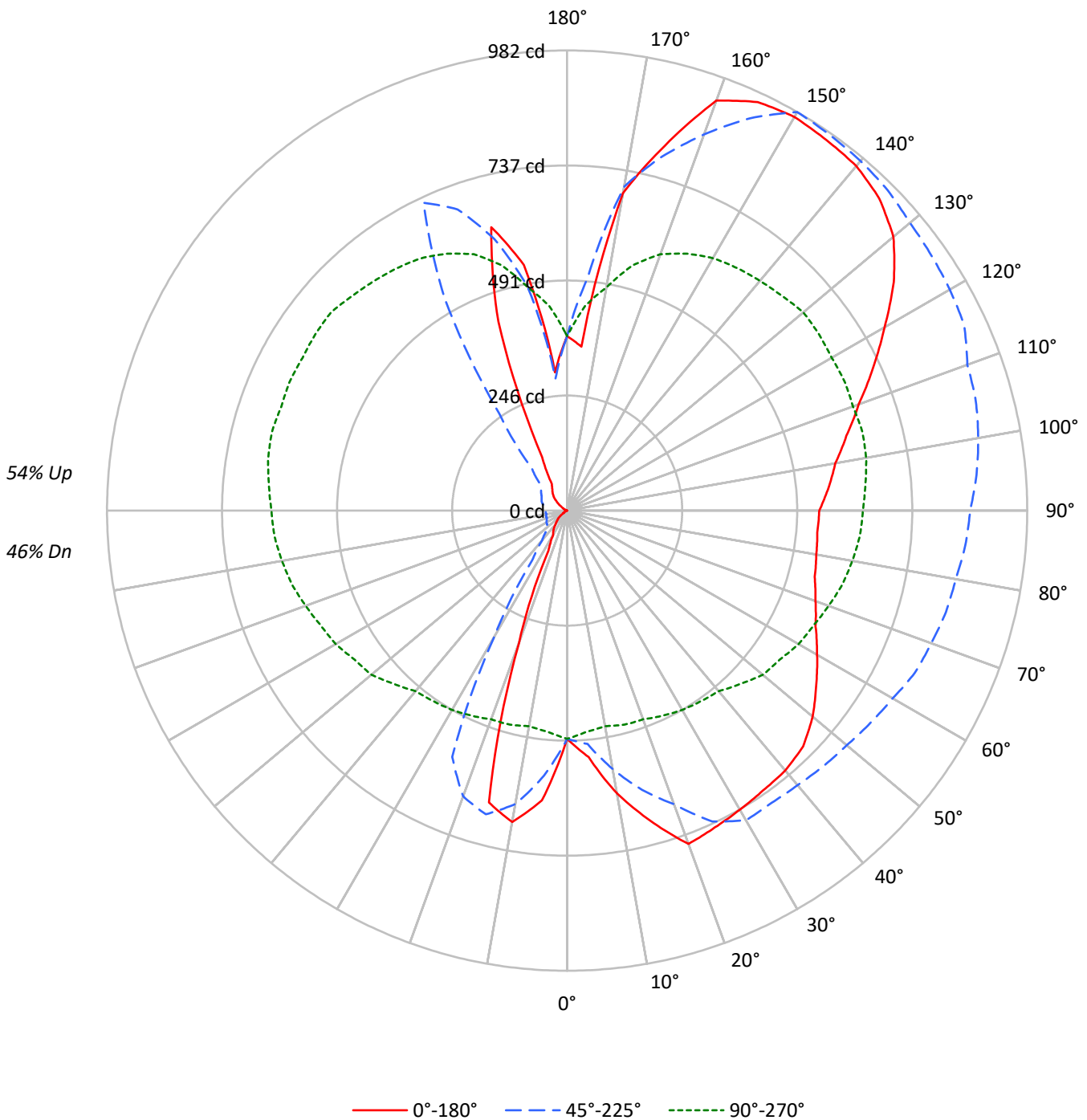
**Summary**

Lumens per Lamp: 8500 (1 lamp)  
Luminaire Lumens: 6624.6 lumens  
Efficiency: 77.9%  
Efficacy: 66.2 lumens/watt  
Spacing Criteria (0/90/45): 1.24 / 1.57 / 1.75  
Luminous Opening: Rectangular w/ Sides (W: 1.21' x L: 0.43' x H: 1.21')  
CIE Type: General Diffuse

Input Watts (W): 100  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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	83	83	83	83	76	76	76	76	63	63	63	52	52	52	41	41	41	36
1	73	68	64	60	66	62	59	56	51	49	46	41	39	37	32	30	29	25
2	65	58	52	47	59	53	48	44	44	40	36	35	32	29	27	24	23	19
3	59	50	44	38	53	46	40	35	38	33	29	30	27	24	23	20	18	15
4	54	44	37	32	49	40	34	29	33	28	24	26	23	20	20	17	15	12
5	49	39	32	27	44	36	29	25	29	24	21	23	20	17	18	15	13	10
6	45	35	28	23	41	32	26	21	26	21	18	21	17	14	16	13	11	9
7	41	31	24	20	38	29	23	18	24	19	15	19	15	12	14	12	10	7
8	38	28	22	17	35	26	20	16	21	17	13	17	14	11	13	10	8	6
9	36	26	19	15	32	23	18	14	19	15	12	16	12	10	12	10	8	6
10	33	23	17	14	30	21	16	13	18	14	11	15	11	9	11	9	7	5

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

	0°	90°	180°
0°	10045	10045	10045
5°	8783	9025	10331
10°	8599	8315	9469
15°	8362	7966	7874
20°	8235	7628	3274
25°	7369	7497	929
30°	6714	7414	547
35°	6206	7361	434
40°	5825	7364	314
45°	5471	7628	231
50°	5066	7979	170
55°	4674	8205	79
60°	4349	8607	49
65°	4081	9002	7
70°	3917	9559	0
75°	3812	10239	0
80°	3805	11003	0
85°	3848	11938	0



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**ZONAL LUMENS:**

**CANDELA DISTRIBUTION:**

Zone	Lumens	% Fixture	% Lamp		0°	45°	90°	135°	180°	Flux
0°-10°	51.7	0.8	0.6	0°	487	487	487	487	487	
10°-20°	169.7	2.6	2.0	5°	528	500	474	568	621	53
20°-30°	254.9	3.8	3.0	15°	685	617	473	671	645	196
30°-40°	313.8	4.7	3.7	25°	746	732	483	580	94	345
40°-50°	382.1	5.8	4.5	35°	729	761	497	130	51	458
50°-60°	441.7	6.7	5.2	45°	712	772	523	65	30	548
60°-70°	465.7	7.0	5.5	55°	649	790	554	52	11	582
70°-80°	479.2	7.2	5.6	65°	585	819	580	48	1	583
80°-90°	494.8	7.5	5.8	75°	547	837	608	47	0	581
90°-100°	513.8	7.8	6.0	85°	536	853	627	46	0	439
100°-110°	531.9	8.0	6.3	90°	538	860	631	46	0	298
110°-120°	547.7	8.3	6.4	95°	560	877	639	47	1	462
120°-130°	533.4	8.1	6.3	105°	617	903	652	54	1	655
130°-140°	480.6	7.3	5.7	115°	720	935	653	60	7	715
140°-150°	405.0	6.1	4.8	125°	851	949	656	68	18	760
150°-160°	325.9	4.9	3.8	135°	942	967	648	85	39	726
160°-170°	188.9	2.9	2.2	145°	965	978	632	253	55	606
170°-180°	43.6	0.7	0.5	155°	962	924	605	725	126	443
0°-30°	476.4	7.2	5.6	165°	806	782	542	600	626	232
0°-40°	790.3	11.9	9.3	175°	351	498	438	283	296	46
0°-60°	1614.0	24.4	19.0	180°	372	372	372	372	372	
0°-90°	3053.7	46.1	35.9							
90°-120°	1593.4	24.1	18.7							
90°-150°	3012.4	45.5	35.4							
90°-180°	3571.0	53.9	42.0							
0°-180°	6624.6	100.0	77.9							



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°
0°	487	487	487	487	487	487	487	487	487
5°	528	524	500	482	474	515	568	600	621
10°	613	598	560	505	467	559	636	648	675
15°	685	666	617	543	473	607	671	648	645
20°	757	739	667	583	474	645	649	457	301
25°	746	741	732	619	483	686	580	141	94
30°	737	730	763	653	491	715	311	74	60
35°	729	732	761	689	497	717	130	58	51
40°	724	728	765	734	503	676	83	46	39
45°	712	723	772	779	523	662	65	39	30
50°	684	712	779	818	545	696	63	32	23
55°	649	698	790	853	554	640	52	23	11
60°	616	679	802	880	570	570	51	16	7
65°	585	654	819	888	580	451	48	12	1
70°	564	635	827	897	594	359	46	10	0
75°	547	618	837	909	608	319	47	7	0
80°	540	608	842	920	618	297	45	7	0
85°	536	604	853	929	627	290	46	5	0
90°	538	612	860	938	631	299	46	7	0
95°	560	630	877	951	639	335	47	9	1
100°	581	656	891	957	648	369	50	10	1
105°	617	693	903	966	652	427	54	11	1
110°	662	744	909	982	649	498	58	18	2
115°	720	795	935	984	653	608	60	21	7
120°	782	848	943	989	652	719	63	27	10
125°	851	897	949	970	656	764	68	34	18
130°	909	930	955	952	658	773	72	41	28
135°	942	953	967	918	648	886	85	47	39
140°	960	955	974	886	640	897	117	54	48
145°	965	964	978	855	632	868	253	65	55
150°	970	969	982	819	622	845	522	101	65
155°	962	979	924	784	605	793	725	329	126
160°	931	934	854	741	582	683	684	675	429
165°	806	817	782	677	542	582	600	641	626
170°	688	714	702	600	484	456	484	524	532
175°	351	467	498	488	438	358	283	275	296
180°	372	372	372	372	372	372	372	372	372

(END OF REPORT)