

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: P545731

Luminaire Tested: **FMR-12-2-LD4-2STD-35-UNV-81-88-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P545731  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-12-2-LD4-2STD-35-UNV-81-88-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

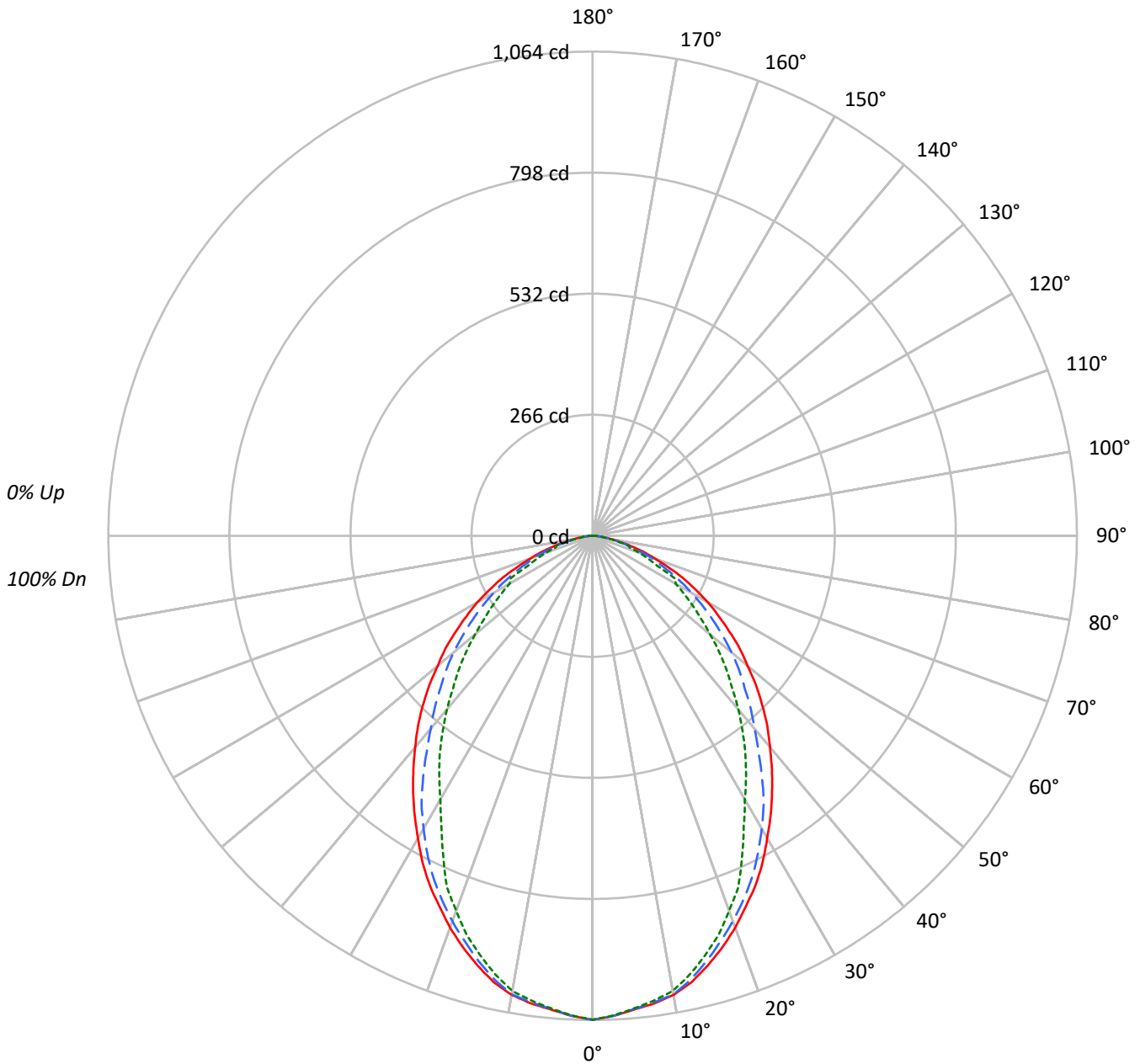
Lumens per Lamp: N/A  
Luminaire Lumens: 2088.0 lumens  
Efficiency: N/A  
Efficacy: 62.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	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	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

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

	0°	45°	90°
0°	5724	5724	5724
5°	5647	5640	5633
10°	5598	5591	5550
15°	5446	5392	5317
20°	5246	5162	5021
25°	5031	4921	4615
30°	4768	4616	4157
35°	4516	4265	3846
40°	4259	3887	3499
45°	4015	3594	3163
50°	3717	3336	2821
55°	3438	3023	2527
60°	3150	2700	2264
65°	2771	2365	2004
70°	2283	2071	1703
75°	1815	1585	1661
80°	1218	1144	1066
85°	760	914	1062



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.0	4.7
10°-20°	271.7	13.0
20°-30°	376.2	18.0
30°-40°	401.1	19.2
40°-50°	365.9	17.5
50°-60°	286.7	13.7
60°-70°	186.8	8.9
70°-80°	82.8	4.0
80°-90°	17.8	0.9
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°	746.9	35.8
0°-40°	1148.0	55.0
0°-60°	1800.6	86.2
0°-90°	2088.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2088.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1064	1064	1064	1064	1064	
5°	1045	1044	1044	1043	1043	99
15°	978	978	968	958	954	275
25°	847	842	829	799	777	389
35°	687	682	649	600	585	430
45°	528	516	472	433	416	406
55°	366	355	322	284	269	329
65°	218	205	186	189	157	214
75°	87	81	76	72	80	94
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1063.6	1063.6	1063.6	1063.6	1063.6
2.5°	1056.2	1056.2	1056.2	1055.0	1055.0
5°	1045.2	1043.9	1043.9	1042.7	1042.7
7.5°	1036.5	1035.3	1034.1	1032.9	1030.4
10°	1024.3	1024.3	1023.0	1016.9	1015.6
12.5°	1004.6	1003.3	998.4	989.8	987.4
15°	977.5	977.5	967.7	957.9	954.2
17.5°	948.0	946.8	934.5	924.7	919.7
20°	916.0	913.6	901.3	885.3	876.7
22.5°	880.4	880.4	865.6	844.7	836.1
25°	847.2	842.3	828.7	799.2	777.1
27.5°	809.1	801.7	786.9	745.1	719.3
30°	767.3	763.6	742.7	688.6	668.9
32.5°	727.9	721.8	699.6	643.1	627.1
35°	687.3	682.4	649.2	600.0	585.3
37.5°	646.8	640.6	598.8	559.5	541.0
40°	606.2	598.8	553.3	517.7	498.0
42.5°	568.1	558.2	514.0	475.9	453.7
45°	527.5	516.4	472.2	432.8	415.6
47.5°	486.9	477.1	436.5	395.9	376.3
50°	443.9	435.3	398.4	357.8	336.9
52.5°	408.2	394.7	359.0	318.5	301.3
55°	366.4	355.4	322.2	284.0	269.3
57.5°	328.3	317.2	286.5	250.8	238.5
60°	292.6	276.7	250.8	220.1	210.3
62.5°	253.3	241.0	218.9	193.0	205.3
65°	217.6	205.3	185.7	189.4	157.4
67.5°	178.3	172.1	154.9	137.7	132.8
70°	145.1	137.7	131.6	113.1	108.2
72.5°	115.6	108.2	99.6	89.8	86.1
75°	87.3	81.2	76.2	72.5	79.9
77.5°	60.3	57.8	54.1	50.4	49.2
80°	39.3	38.1	36.9	35.7	34.4
82.5°	23.4	23.4	23.4	23.4	23.4
85°	12.3	13.5	14.8	16.0	17.2
87.5°	7.4	7.4	8.6	9.8	11.1
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)