

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: P545289

Luminaire Tested: **FMR-12-2-LD4-1HI-40-UNV-82-86-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: P545289  
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-LD4-1HI-40-UNV-82-86-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

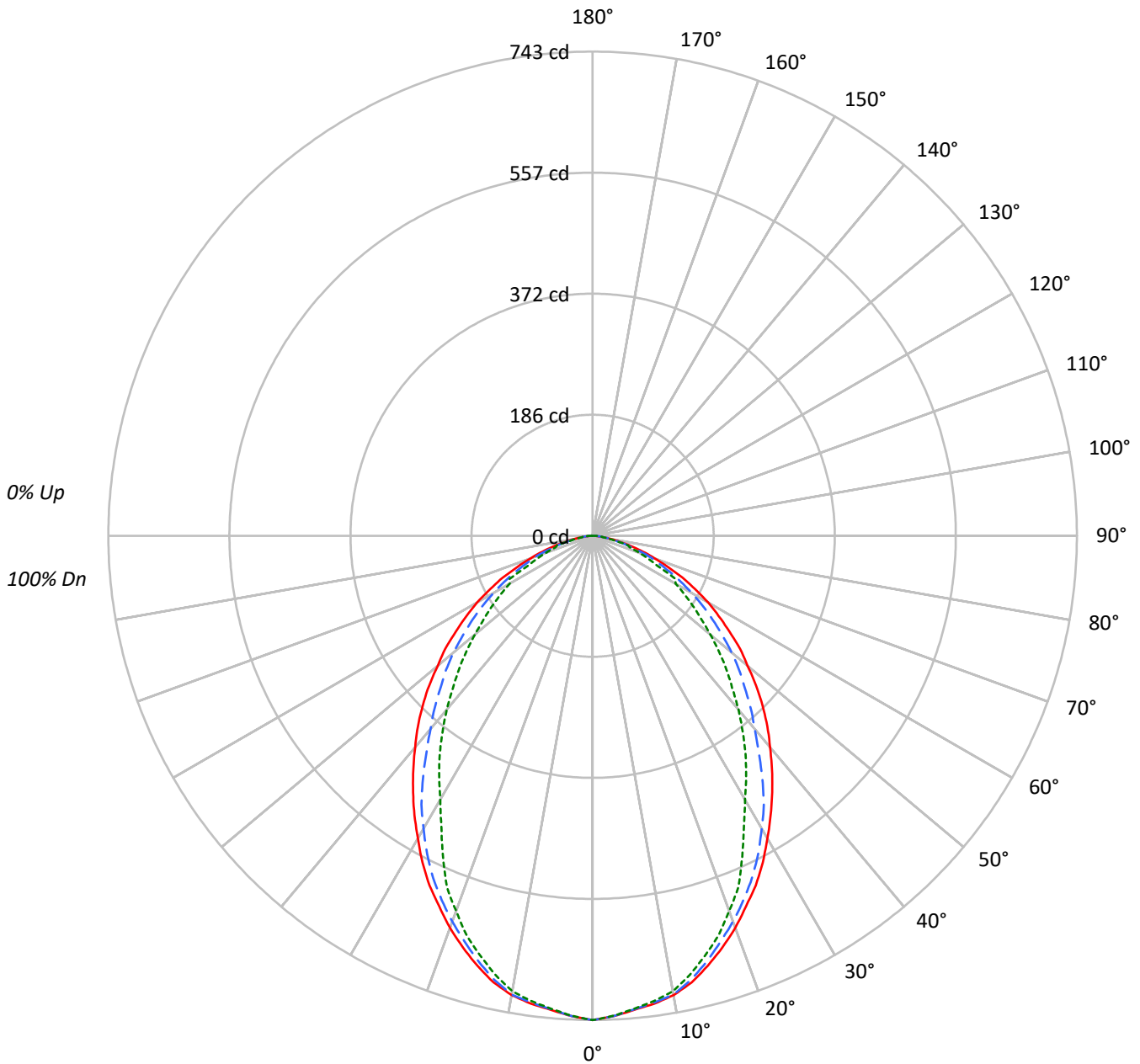
Lumens per Lamp: N/A  
Luminaire Lumens: 1459.0 lumens  
Efficiency: N/A  
Efficacy: 67.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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				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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

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

	0°	45°	90°
0°	4000	4000	4000
5°	3945	3941	3936
10°	3911	3906	3878
15°	3806	3768	3715
20°	3666	3607	3509
25°	3515	3439	3225
30°	3332	3225	2905
35°	3156	2980	2687
40°	2976	2716	2445
45°	2806	2511	2210
50°	2597	2331	1971
55°	2402	2112	1766
60°	2201	1887	1581
65°	1937	1652	1401
70°	1596	1446	1190
75°	1268	1108	1160
80°	852	800	747
85°	531	636	741



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	69.2	4.7
10°-20°	189.9	13.0
20°-30°	262.9	18.0
30°-40°	280.3	19.2
40°-50°	255.7	17.5
50°-60°	200.3	13.7
60°-70°	130.6	8.9
70°-80°	57.8	4.0
80°-90°	12.4	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°	521.9	35.8
0°-40°	802.2	55.0
0°-60°	1258.2	86.2
0°-90°	1459.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1459.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	743	743	743	743	743	
5°	730	729	729	729	729	69
15°	683	683	676	669	667	192
25°	592	588	579	558	543	272
35°	480	477	454	419	409	300
45°	369	361	330	302	290	284
55°	256	248	225	198	188	230
65°	152	144	130	132	110	150
75°	61	57	53	51	56	65
85°	9	10	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	743.2	743.2	743.2	743.2	743.2
2.5°	738.0	738.0	738.0	737.2	737.2
5°	730.3	729.4	729.4	728.6	728.6
7.5°	724.3	723.4	722.6	721.7	720.0
10°	715.7	715.7	714.8	710.5	709.7
12.5°	702.0	701.1	697.7	691.6	689.9
15°	683.1	683.1	676.2	669.3	666.7
17.5°	662.4	661.6	653.0	646.1	642.7
20°	640.1	638.4	629.8	618.6	612.6
22.5°	615.2	615.2	604.9	590.3	584.2
25°	592.0	588.5	579.1	558.5	543.0
27.5°	565.3	560.2	549.9	520.7	502.6
30°	536.1	533.6	518.9	481.1	467.4
32.5°	508.6	504.3	488.9	449.4	438.2
35°	480.3	476.8	453.6	419.3	409.0
37.5°	451.9	447.6	418.4	390.9	378.0
40°	423.6	418.4	386.6	361.7	348.0
42.5°	396.9	390.1	359.1	332.5	317.0
45°	368.6	360.9	329.9	302.4	290.4
47.5°	340.2	333.4	305.0	276.7	262.9
50°	310.2	304.2	278.4	250.0	235.4
52.5°	285.2	275.8	250.9	222.5	210.5
55°	256.0	248.3	225.1	198.5	188.2
57.5°	229.4	221.7	200.2	175.3	166.7
60°	204.5	193.3	175.3	153.8	146.9
62.5°	177.0	168.4	152.9	134.9	143.5
65°	152.1	143.5	129.7	132.3	110.0
67.5°	124.6	120.3	108.3	96.2	92.8
70°	101.4	96.2	91.9	79.0	75.6
72.5°	80.8	75.6	69.6	62.7	60.1
75°	61.0	56.7	53.3	50.7	55.8
77.5°	42.1	40.4	37.8	35.2	34.4
80°	27.5	26.6	25.8	24.9	24.1
82.5°	16.3	16.3	16.3	16.3	16.3
85°	8.6	9.5	10.3	11.2	12.0
87.5°	5.2	5.2	6.0	6.9	7.7
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)