

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: P545029

Luminaire Tested: **FMR-12-1-LD4-2HI-50-UNV-81-96-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: P545029  
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-12-1-LD4-2HI-50-UNV-81-96-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

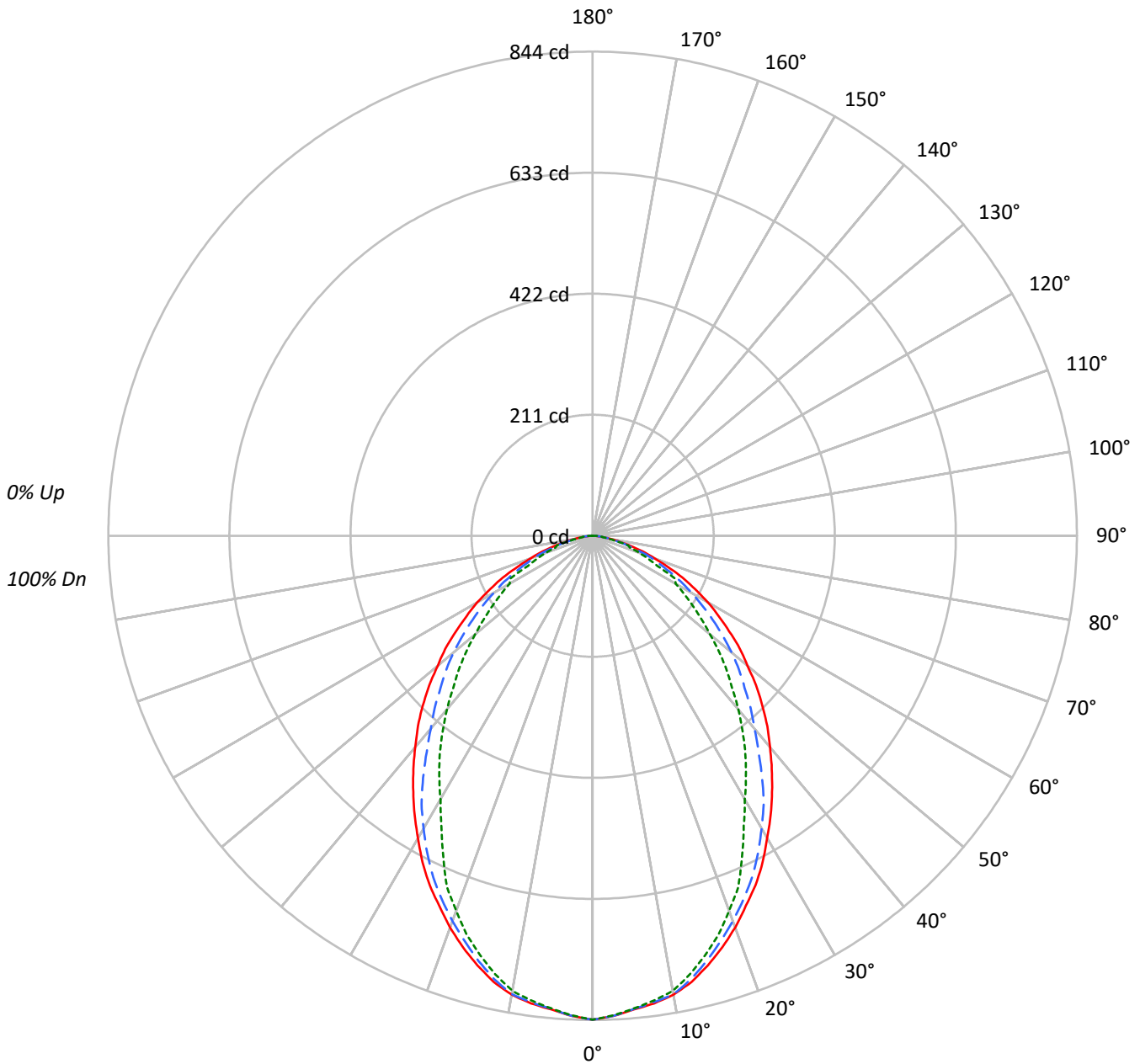
Lumens per Lamp: N/A  
Luminaire Lumens: 1656.0 lumens  
Efficiency: N/A  
Efficacy: 76.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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°	9079	9079	9079
5°	8956	8945	8936
10°	8878	8869	8804
15°	8640	8553	8433
20°	8322	8188	7964
25°	7980	7807	7320
30°	7563	7321	6594
35°	7163	6766	6100
40°	6756	6166	5550
45°	6369	5701	5017
50°	5894	5292	4474
55°	5453	4795	4008
60°	4997	4282	3591
65°	4396	3752	3179
70°	3622	3282	2700
75°	2878	2516	2637
80°	1934	1816	1692
85°	1210	1445	1692



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.5	4.7
10°-20°	215.5	13.0
20°-30°	298.3	18.0
30°-40°	318.1	19.2
40°-50°	290.2	17.5
50°-60°	227.4	13.7
60°-70°	148.2	8.9
70°-80°	65.7	4.0
80°-90°	14.1	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°	592.4	35.8
0°-40°	910.5	55.0
0°-60°	1428.1	86.2
0°-90°	1656.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1656.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	844	844	844	844	844	
5°	829	828	828	827	827	79
15°	775	775	768	760	757	218
25°	672	668	657	634	616	308
35°	545	541	515	476	464	341
45°	418	410	374	343	330	322
55°	291	282	256	225	214	261
65°	173	163	147	150	125	170
75°	69	64	60	58	63	74
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	843.5	843.5	843.5	843.5	843.5
2.5°	837.7	837.7	837.7	836.7	836.7
5°	828.9	827.9	827.9	827.0	827.0
7.5°	822.1	821.1	820.1	819.2	817.2
10°	812.3	812.3	811.4	806.5	805.5
12.5°	796.7	795.8	791.9	785.0	783.1
15°	775.3	775.3	767.5	759.7	756.8
17.5°	751.9	750.9	741.1	733.3	729.4
20°	726.5	724.6	714.8	702.1	695.3
22.5°	698.2	698.2	686.5	670.0	663.1
25°	671.9	668.0	657.3	633.9	616.3
27.5°	641.7	635.8	624.1	591.0	570.5
30°	608.5	605.6	589.0	546.1	530.5
32.5°	577.3	572.4	554.9	510.0	497.3
35°	545.1	541.2	514.9	475.9	464.2
37.5°	513.0	508.1	474.9	443.7	429.1
40°	480.8	474.9	438.8	410.6	395.0
42.5°	450.5	442.7	407.6	377.4	359.8
45°	418.4	409.6	374.5	343.3	329.6
47.5°	386.2	378.4	346.2	314.0	298.4
50°	352.0	345.2	316.0	283.8	267.2
52.5°	323.8	313.0	284.8	252.6	238.9
55°	290.6	281.8	255.5	225.3	213.6
57.5°	260.4	251.6	227.2	198.9	189.2
60°	232.1	219.4	198.9	174.6	166.8
62.5°	200.9	191.1	173.6	153.1	162.9
65°	172.6	162.9	147.3	150.2	124.8
67.5°	141.4	136.5	122.9	109.2	105.3
70°	115.1	109.2	104.3	89.7	85.8
72.5°	91.7	85.8	79.0	71.2	68.3
75°	69.2	64.4	60.5	57.5	63.4
77.5°	47.8	45.8	42.9	40.0	39.0
80°	31.2	30.2	29.3	28.3	27.3
82.5°	18.5	18.5	18.5	18.5	18.5
85°	9.8	10.7	11.7	12.7	13.7
87.5°	5.9	5.9	6.8	7.8	8.8
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)