

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: P545233

Luminaire Tested: **FMR-12-1-LD4-2STD-50-UNV-93-86-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: P545233  
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-LD4-2STD-50-UNV-93-86-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

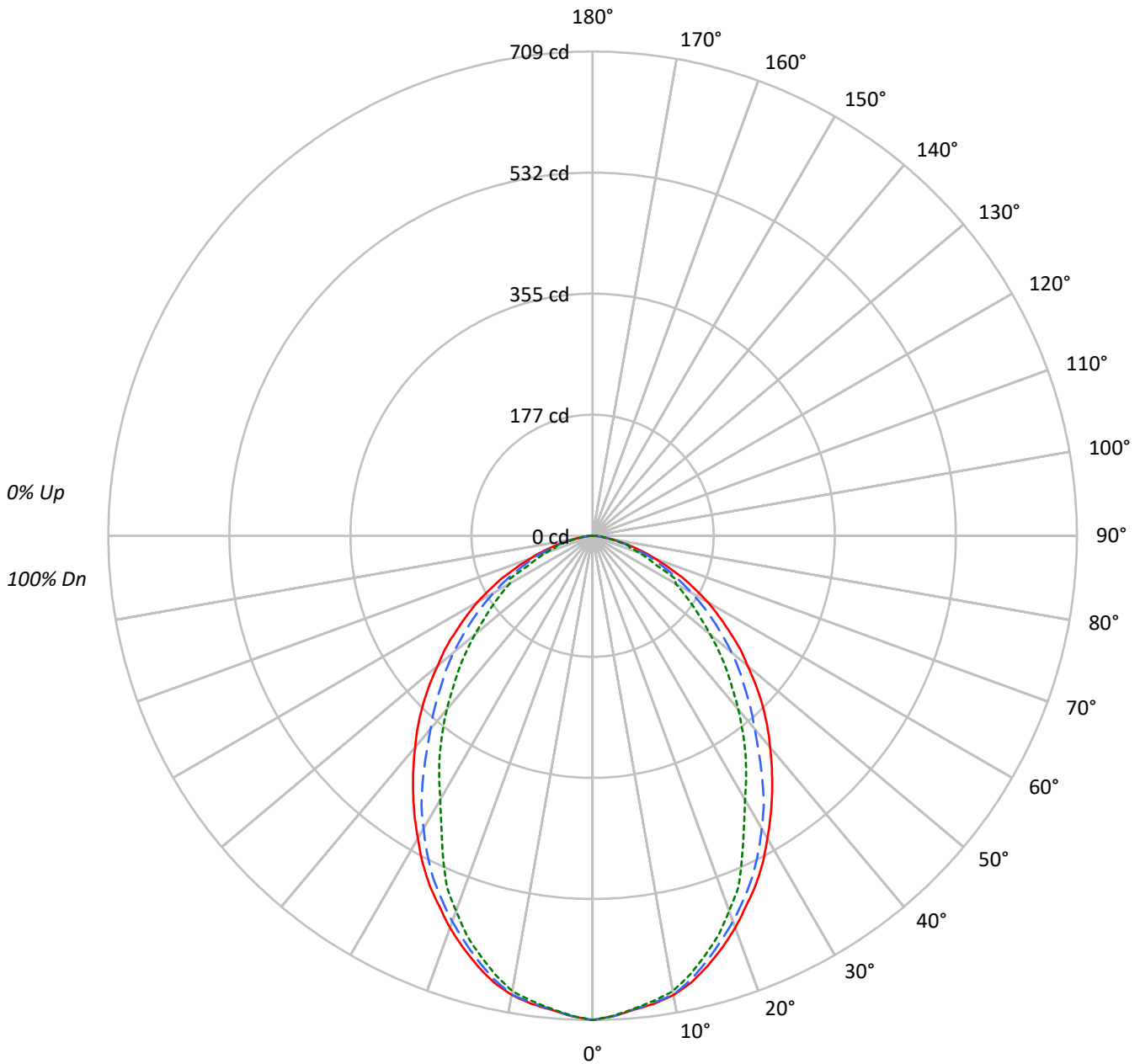
Lumens per Lamp: N/A  
Luminaire Lumens: 1392.0 lumens  
Efficiency: N/A  
Efficacy: 83.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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					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°	7633	7633	7633
5°	7529	7520	7511
10°	7463	7454	7401
15°	7262	7189	7088
20°	6995	6883	6695
25°	6708	6562	6153
30°	6357	6154	5542
35°	6021	5687	5127
40°	5678	5184	4665
45°	5354	4792	4218
50°	4955	4448	3761
55°	4585	4031	3369
60°	4200	3599	3018
65°	3696	3153	2672
70°	3043	2760	2269
75°	2420	2113	2217
80°	1624	1525	1426
85°	1013	1210	1420



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.0	4.7
10°-20°	181.1	13.0
20°-30°	250.8	18.0
30°-40°	267.4	19.2
40°-50°	244.0	17.5
50°-60°	191.1	13.7
60°-70°	124.6	8.9
70°-80°	55.2	4.0
80°-90°	11.9	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°	497.9	35.8
0°-40°	765.3	55.0
0°-60°	1200.4	86.2
0°-90°	1392.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1392.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	709	709	709	709	709	
5°	697	696	696	695	695	66
15°	652	652	645	639	636	183
25°	565	562	552	533	518	259
35°	458	455	433	400	390	286
45°	352	344	315	288	277	271
55°	244	237	215	189	180	219
65°	145	137	124	126	105	143
75°	58	54	51	48	53	62
85°	8	9	10	11	12	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	709.1	709.1	709.1	709.1	709.1
2.5°	704.1	704.1	704.1	703.3	703.3
5°	696.8	696.0	696.0	695.1	695.1
7.5°	691.0	690.2	689.4	688.6	686.9
10°	682.8	682.8	682.0	677.9	677.1
12.5°	669.7	668.9	665.6	659.9	658.2
15°	651.7	651.7	645.1	638.6	636.1
17.5°	632.0	631.2	623.0	616.4	613.2
20°	610.7	609.1	600.9	590.2	584.5
22.5°	586.9	586.9	577.1	563.2	557.4
25°	564.8	561.5	552.5	532.8	518.1
27.5°	539.4	534.5	524.6	496.8	479.5
30°	511.5	509.1	495.1	459.0	445.9
32.5°	485.3	481.2	466.4	428.7	418.1
35°	458.2	454.9	432.8	400.0	390.2
37.5°	431.2	427.1	399.2	373.0	360.7
40°	404.1	399.2	368.9	345.1	332.0
42.5°	378.7	372.2	342.6	317.2	302.5
45°	351.7	344.3	314.8	288.5	277.1
47.5°	324.6	318.1	291.0	264.0	250.8
50°	295.9	290.2	265.6	238.5	224.6
52.5°	272.2	263.1	239.4	212.3	200.8
55°	244.3	236.9	214.8	189.4	179.5
57.5°	218.9	211.5	191.0	167.2	159.0
60°	195.1	184.4	167.2	146.7	140.2
62.5°	168.9	160.7	145.9	128.7	136.9
65°	145.1	136.9	123.8	126.2	104.9
67.5°	118.9	114.8	103.3	91.8	88.5
70°	96.7	91.8	87.7	75.4	72.1
72.5°	77.1	72.1	66.4	59.8	57.4
75°	58.2	54.1	50.8	48.4	53.3
77.5°	40.2	38.5	36.1	33.6	32.8
80°	26.2	25.4	24.6	23.8	23.0
82.5°	15.6	15.6	15.6	15.6	15.6
85°	8.2	9.0	9.8	10.7	11.5
87.5°	4.9	4.9	5.7	6.6	7.4
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)