

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: P545491

Luminaire Tested: **FMR-12-2-LD4-1STD-40-UNV-93-88-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: P545491  
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-LD4-1STD-40-UNV-93-88-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

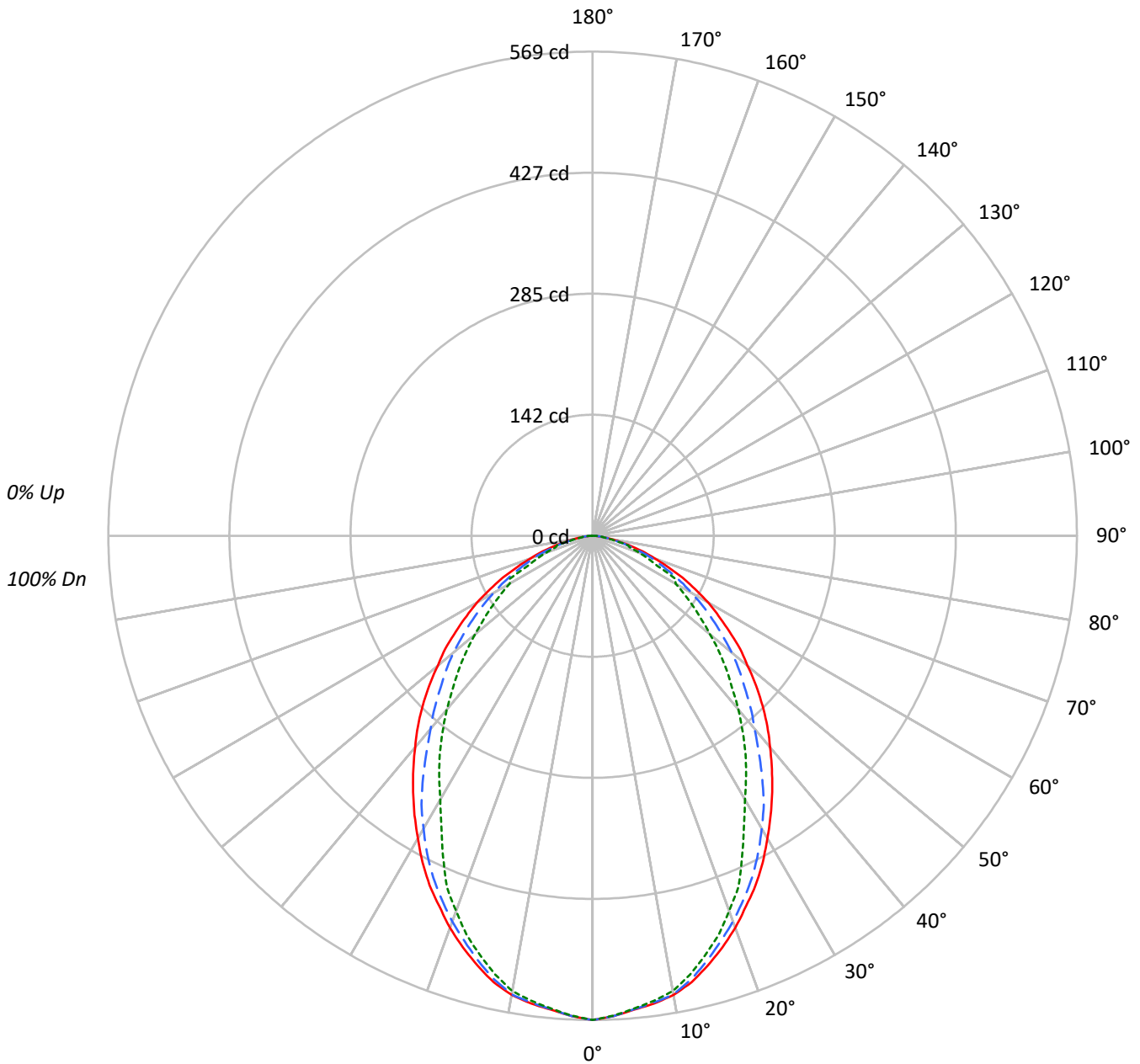
Lumens per Lamp: N/A  
Luminaire Lumens: 1117.0 lumens  
Efficiency: N/A  
Efficacy: 67.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 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									
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°	3062	3062	3062
5°	3021	3017	3014
10°	2994	2991	2969
15°	2914	2885	2844
20°	2807	2762	2686
25°	2691	2632	2469
30°	2551	2469	2224
35°	2416	2282	2057
40°	2278	2080	1872
45°	2148	1923	1692
50°	1989	1784	1509
55°	1839	1617	1352
60°	1686	1445	1211
65°	1482	1265	1072
70°	1221	1108	911
75°	971	848	890
80°	651	611	570
85°	408	488	568



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	53.0	4.7
10°-20°	145.4	13.0
20°-30°	201.2	18.0
30°-40°	214.6	19.2
40°-50°	195.8	17.5
50°-60°	153.4	13.7
60°-70°	100.0	8.9
70°-80°	44.3	4.0
80°-90°	9.5	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°	399.6	35.8
0°-40°	614.1	55.0
0°-60°	963.3	86.2
0°-90°	1117.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1117.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	569	569	569	569	569	
5°	559	558	558	558	558	53
15°	523	523	518	512	510	147
25°	453	451	443	428	416	208
35°	368	365	347	321	313	230
45°	282	276	253	232	222	217
55°	196	190	172	152	144	176
65°	116	110	99	101	84	115
75°	47	43	41	39	43	50
85°	7	7	8	9	9	9
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	569.0	569.0	569.0	569.0	569.0
2.5°	565.0	565.0	565.0	564.4	564.4
5°	559.1	558.5	558.5	557.8	557.8
7.5°	554.5	553.9	553.2	552.5	551.2
10°	547.9	547.9	547.3	544.0	543.3
12.5°	537.4	536.8	534.1	529.5	528.2
15°	522.9	522.9	517.7	512.4	510.4
17.5°	507.2	506.5	499.9	494.7	492.0
20°	490.1	488.7	482.2	473.6	469.0
22.5°	471.0	471.0	463.1	451.9	447.3
25°	453.2	450.6	443.3	427.6	415.7
27.5°	432.8	428.9	421.0	398.6	384.8
30°	410.5	408.5	397.3	368.4	357.8
32.5°	389.4	386.1	374.3	344.0	335.5
35°	367.7	365.1	347.3	321.0	313.1
37.5°	346.0	342.7	320.3	299.3	289.4
40°	324.3	320.3	296.0	276.9	266.4
42.5°	303.9	298.6	275.0	254.6	242.7
45°	282.2	276.3	252.6	231.5	222.3
47.5°	260.5	255.2	233.5	211.8	201.3
50°	237.5	232.9	213.1	191.4	180.2
52.5°	218.4	211.1	192.1	170.4	161.2
55°	196.0	190.1	172.3	151.9	144.1
57.5°	175.6	169.7	153.3	134.2	127.6
60°	156.6	148.0	134.2	117.7	112.5
62.5°	135.5	128.9	117.1	103.3	109.9
65°	116.4	109.9	99.3	101.3	84.2
67.5°	95.4	92.1	82.9	73.7	71.0
70°	77.6	73.7	70.4	60.5	57.9
72.5°	61.8	57.9	53.3	48.0	46.0
75°	46.7	43.4	40.8	38.8	42.8
77.5°	32.2	30.9	28.9	27.0	26.3
80°	21.0	20.4	19.7	19.1	18.4
82.5°	12.5	12.5	12.5	12.5	12.5
85°	6.6	7.2	7.9	8.6	9.2
87.5°	3.9	3.9	4.6	5.3	5.9
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)