

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: P545810

Luminaire Tested: **FMR-12-2-LD4-2STD-50-UNV-93-87-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: P545810  
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-50-UNV-93-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

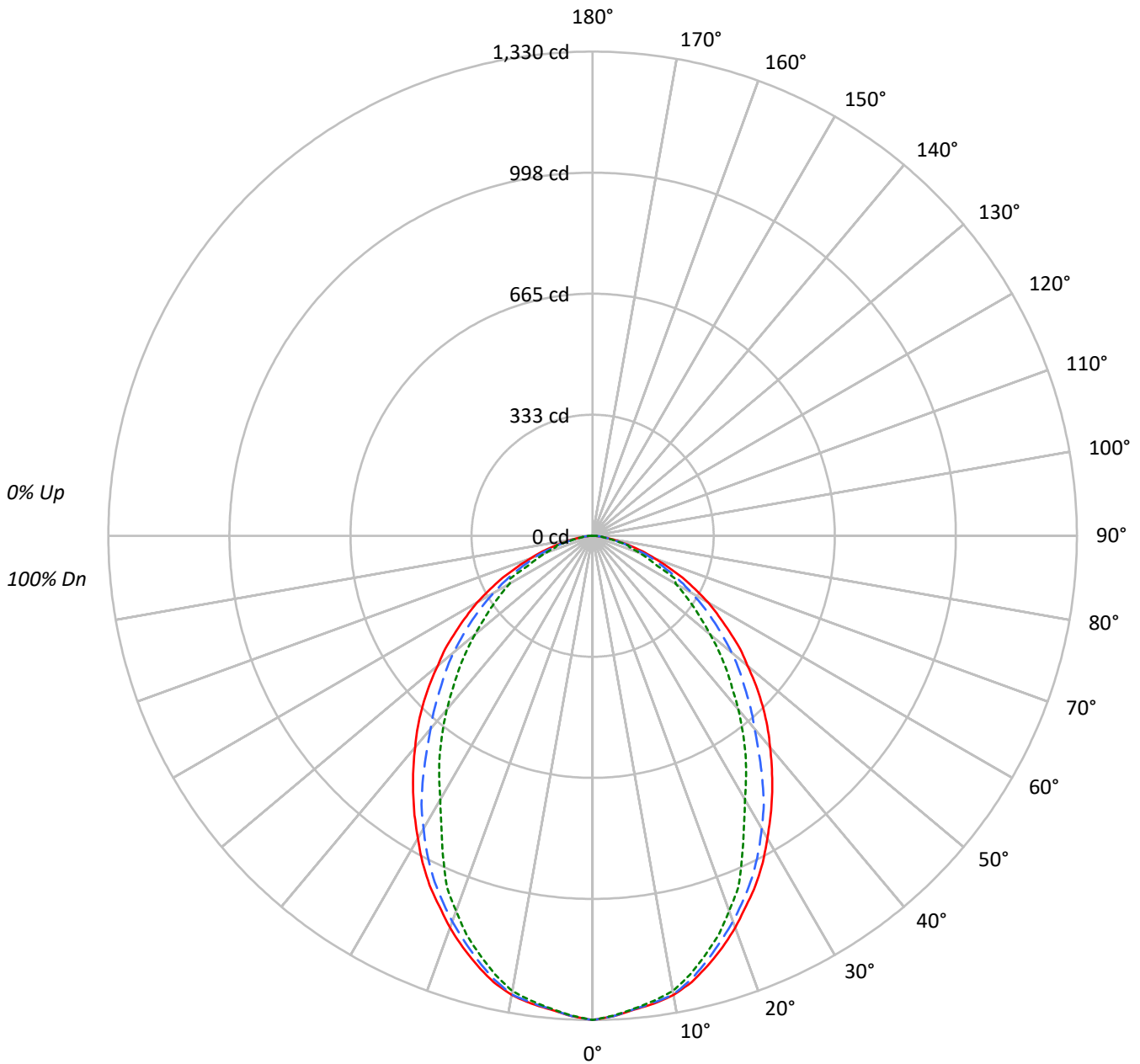
Lumens per Lamp: N/A  
Luminaire Lumens: 2611.0 lumens  
Efficiency: N/A  
Efficacy: 78.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	7158	7158	7158
5°	7061	7052	7044
10°	7000	6991	6941
15°	6811	6742	6648
20°	6561	6455	6279
25°	6291	6154	5771
30°	5963	5771	5198
35°	5647	5334	4809
40°	5325	4861	4375
45°	5020	4494	3956
50°	4648	4171	3527
55°	4299	3780	3159
60°	3939	3377	2830
65°	3466	2957	2506
70°	2854	2589	2129
75°	2271	1982	2077
80°	1525	1429	1336
85°	951	1142	1328



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	123.8	4.7
10°-20°	339.8	13.0
20°-30°	470.4	18.0
30°-40°	501.6	19.2
40°-50°	457.6	17.5
50°-60°	358.5	13.7
60°-70°	233.6	8.9
70°-80°	103.5	4.0
80°-90°	22.2	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°	934.0	35.8
0°-40°	1435.6	55.0
0°-60°	2251.6	86.2
0°-90°	2611.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2611.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1330	1330	1330	1330	1330	
5°	1307	1305	1305	1304	1304	124
15°	1222	1222	1210	1198	1193	344
25°	1059	1053	1036	999	972	486
35°	860	853	812	750	732	537
45°	660	646	590	541	520	508
55°	458	444	403	355	337	411
65°	272	257	232	237	197	268
75°	109	102	95	91	100	117
85°	15	17	18	20	22	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1330.0	1330.0	1330.0	1330.0	1330.0
2.5°	1320.8	1320.8	1320.8	1319.2	1319.2
5°	1306.9	1305.4	1305.4	1303.9	1303.9
7.5°	1296.2	1294.6	1293.1	1291.6	1288.5
10°	1280.8	1280.8	1279.3	1271.6	1270.0
12.5°	1256.2	1254.7	1248.5	1237.8	1234.7
15°	1222.4	1222.4	1210.1	1197.8	1193.2
17.5°	1185.5	1183.9	1168.6	1156.3	1150.1
20°	1145.5	1142.4	1127.0	1107.1	1096.3
22.5°	1100.9	1100.9	1082.5	1056.3	1045.6
25°	1059.4	1053.2	1036.3	999.4	971.8
27.5°	1011.7	1002.5	984.1	931.8	899.5
30°	959.5	954.8	928.7	861.0	836.4
32.5°	910.2	902.6	874.9	804.2	784.2
35°	859.5	853.4	811.8	750.3	731.9
37.5°	808.8	801.1	748.8	699.6	676.5
40°	758.0	748.8	691.9	647.3	622.7
42.5°	710.4	698.1	642.7	595.0	567.4
45°	659.6	645.8	590.4	541.2	519.7
47.5°	608.9	596.6	545.8	495.1	470.5
50°	555.1	544.3	498.2	447.4	421.3
52.5°	510.5	493.6	449.0	398.2	376.7
55°	458.2	444.4	402.8	355.2	336.7
57.5°	410.5	396.7	358.3	313.7	298.3
60°	365.9	346.0	313.7	275.2	262.9
62.5°	316.7	301.4	273.7	241.4	256.8
65°	272.2	256.8	232.2	236.8	196.8
67.5°	222.9	215.3	193.7	172.2	166.1
70°	181.4	172.2	164.5	141.5	135.3
72.5°	144.5	135.3	124.5	112.2	107.6
75°	109.2	101.5	95.3	90.7	99.9
77.5°	75.3	72.3	67.7	63.0	61.5
80°	49.2	47.7	46.1	44.6	43.1
82.5°	29.2	29.2	29.2	29.2	29.2
85°	15.4	16.9	18.5	20.0	21.5
87.5°	9.2	9.2	10.8	12.3	13.8
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)