

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: P545779

Luminaire Tested: **FMR-12-2-LD4-2STD-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: P545779  
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-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**

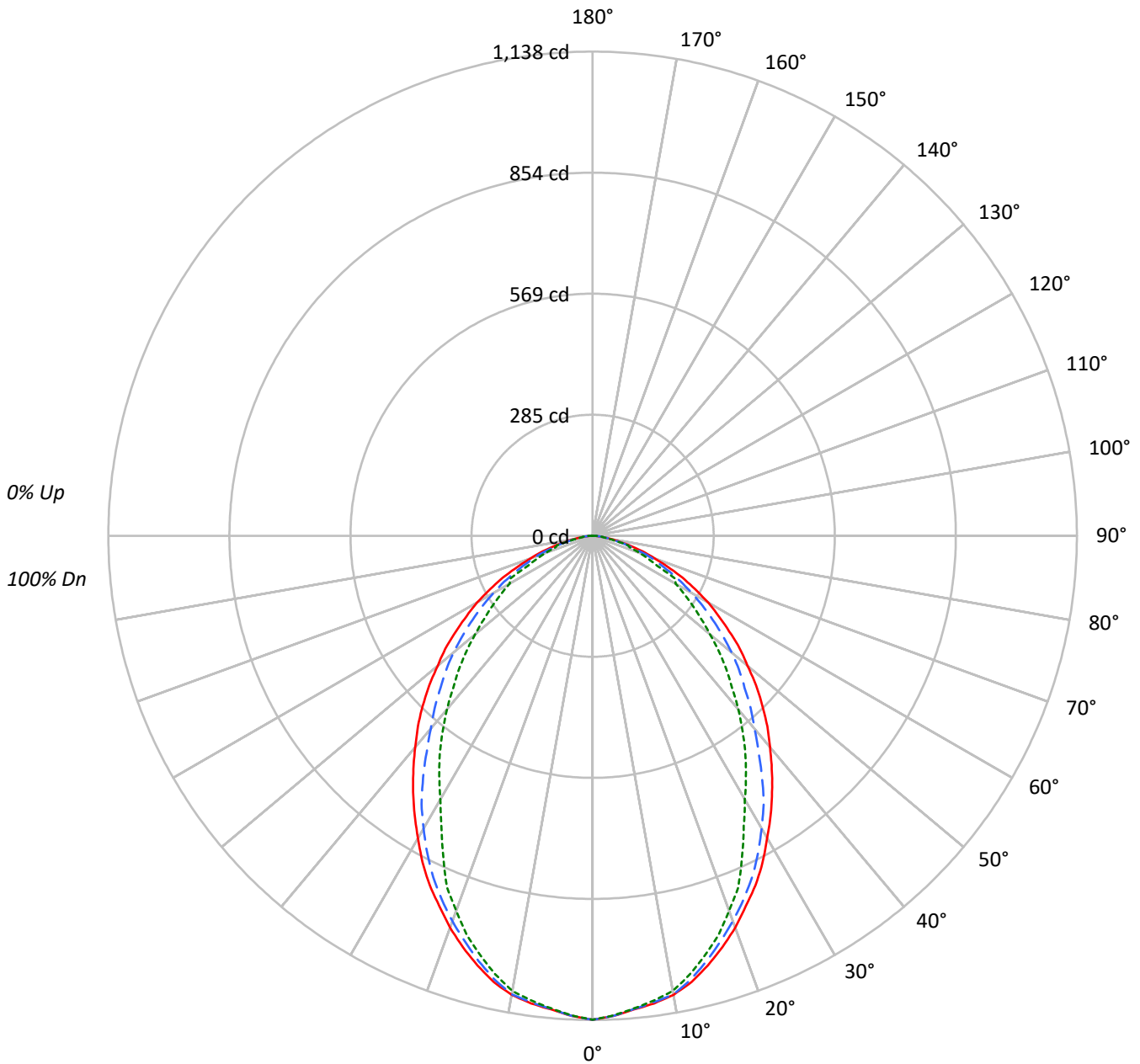
Lumens per Lamp: N/A  
Luminaire Lumens: 2233.0 lumens  
Efficiency: N/A  
Efficacy: 67.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	6122	6122	6122
5°	6038	6031	6024
10°	5986	5979	5936
15°	5825	5766	5685
20°	5611	5521	5370
25°	5380	5263	4935
30°	5099	4936	4446
35°	4830	4562	4112
40°	4555	4157	3742
45°	4293	3844	3383
50°	3975	3568	3017
55°	3677	3232	2702
60°	3369	2888	2421
65°	2965	2529	2143
70°	2442	2214	1821
75°	1942	1695	1778
80°	1305	1221	1141
85°	809	976	1136



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.9	4.7
10°-20°	290.6	13.0
20°-30°	402.3	18.0
30°-40°	429.0	19.2
40°-50°	391.3	17.5
50°-60°	306.6	13.7
60°-70°	199.8	8.9
70°-80°	88.5	4.0
80°-90°	19.0	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°	798.8	35.8
0°-40°	1227.7	55.0
0°-60°	1925.7	86.2
0°-90°	2233.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2233.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1138	1138	1138	1138	1138	
5°	1118	1116	1116	1115	1115	106
15°	1045	1045	1035	1024	1020	294
25°	906	901	886	855	831	416
35°	735	730	694	642	626	460
45°	564	552	505	463	444	435
55°	392	380	344	304	288	351
65°	233	220	199	202	168	229
75°	93	87	82	78	86	100
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1137.5	1137.5	1137.5	1137.5	1137.5
2.5°	1129.6	1129.6	1129.6	1128.3	1128.3
5°	1117.7	1116.4	1116.4	1115.1	1115.1
7.5°	1108.5	1107.2	1105.9	1104.6	1102.0
10°	1095.4	1095.4	1094.1	1087.5	1086.2
12.5°	1074.3	1073.0	1067.8	1058.6	1055.9
15°	1045.4	1045.4	1034.9	1024.4	1020.4
17.5°	1013.9	1012.5	999.4	988.9	983.6
20°	979.7	977.0	963.9	946.8	937.6
22.5°	941.5	941.5	925.7	903.4	894.2
25°	906.0	900.8	886.3	854.7	831.1
27.5°	865.3	857.4	841.6	796.9	769.3
30°	820.5	816.6	794.2	736.4	715.4
32.5°	778.5	771.9	748.2	687.7	670.6
35°	735.1	729.8	694.3	641.7	625.9
37.5°	691.7	685.1	640.4	598.3	578.6
40°	648.3	640.4	591.7	553.6	532.6
42.5°	607.5	597.0	549.7	508.9	485.2
45°	564.1	552.3	505.0	462.9	444.5
47.5°	520.7	510.2	466.8	423.4	402.4
50°	474.7	465.5	426.1	382.7	360.3
52.5°	436.6	422.1	384.0	340.6	322.2
55°	391.9	380.0	344.5	303.8	288.0
57.5°	351.1	339.3	306.4	268.3	255.1
60°	313.0	295.9	268.3	235.4	224.9
62.5°	270.9	257.7	234.1	206.5	219.6
65°	232.8	219.6	198.6	202.5	168.3
67.5°	190.7	184.1	165.7	147.3	142.0
70°	155.2	147.3	140.7	121.0	115.7
72.5°	123.6	115.7	106.5	96.0	92.0
75°	93.4	86.8	81.5	77.6	85.5
77.5°	64.4	61.8	57.9	53.9	52.6
80°	42.1	40.8	39.4	38.1	36.8
82.5°	25.0	25.0	25.0	25.0	25.0
85°	13.1	14.5	15.8	17.1	18.4
87.5°	7.9	7.9	9.2	10.5	11.8
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)