

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: P545761

Luminaire Tested: **FMR-12-2-LD4-2STD-40-UNV-81-86-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: P545761  
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-81-86-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

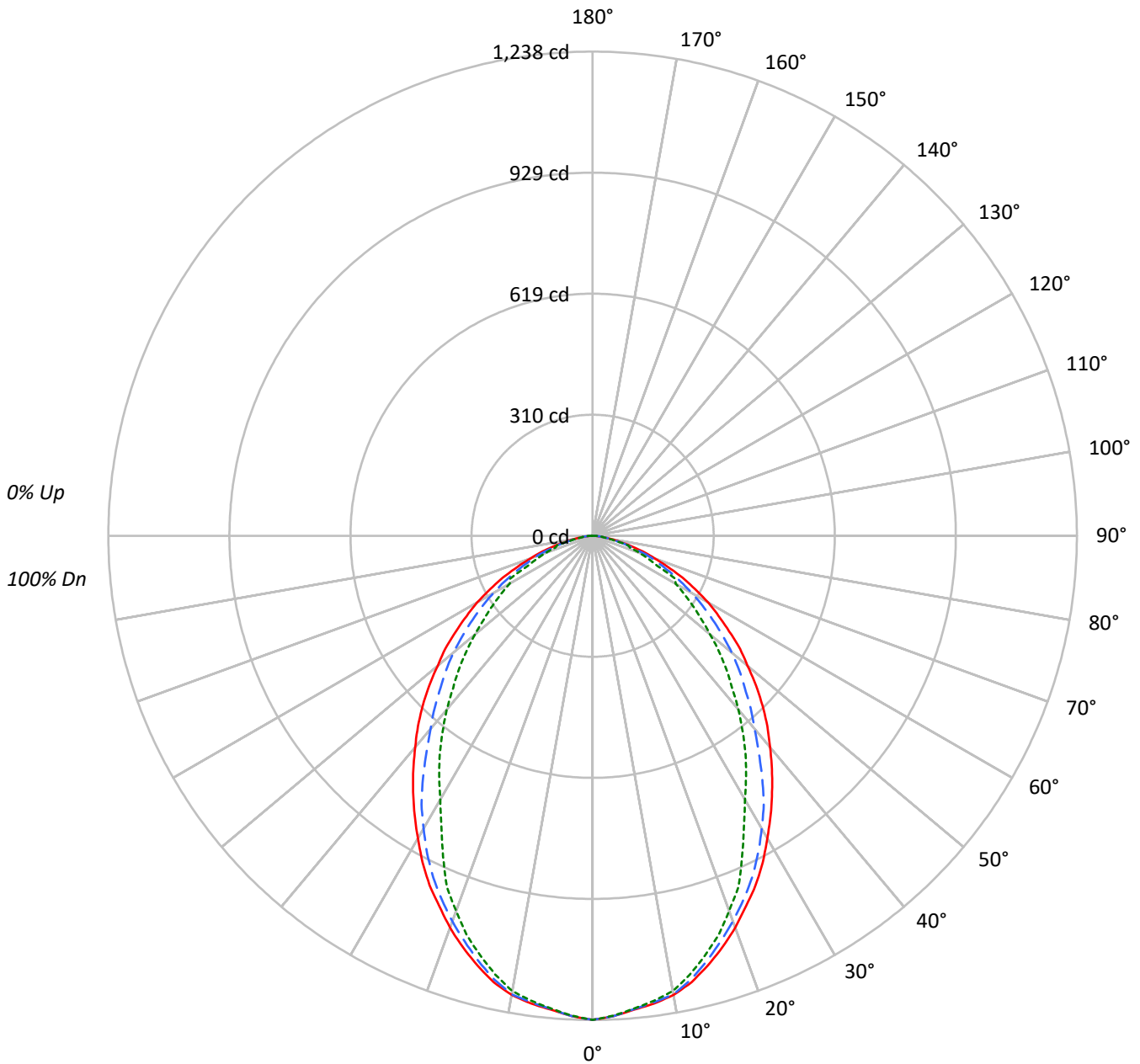
Lumens per Lamp: N/A  
Luminaire Lumens: 2430.0 lumens  
Efficiency: N/A  
Efficacy: 73.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	6662	6662	6662
5°	6571	6564	6556
10°	6514	6507	6460
15°	6338	6275	6187
20°	6106	6007	5844
25°	5855	5728	5371
30°	5549	5371	4838
35°	5255	4964	4476
40°	4957	4524	4072
45°	4673	4182	3682
50°	4325	3882	3283
55°	4001	3518	2941
60°	3666	3142	2634
65°	3226	2752	2333
70°	2658	2409	1981
75°	2113	1844	1934
80°	1420	1330	1243
85°	883	1062	1235



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.2	4.7
10°-20°	316.2	13.0
20°-30°	437.8	18.0
30°-40°	466.8	19.2
40°-50°	425.9	17.5
50°-60°	333.6	13.7
60°-70°	217.5	8.9
70°-80°	96.3	4.0
80°-90°	20.7	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°	869.2	35.8
0°-40°	1336.0	55.0
0°-60°	2095.5	86.2
0°-90°	2430.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2430.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1238	1238	1238	1238	1238	
5°	1216	1215	1215	1214	1214	115
15°	1138	1138	1126	1115	1110	320
25°	986	980	964	930	904	453
35°	800	794	756	698	681	500
45°	614	601	550	504	484	473
55°	426	414	375	331	313	382
65°	253	239	216	220	183	250
75°	102	94	89	84	93	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1237.8	1237.8	1237.8	1237.8	1237.8
2.5°	1229.2	1229.2	1229.2	1227.8	1227.8
5°	1216.3	1214.9	1214.9	1213.5	1213.5
7.5°	1206.3	1204.9	1203.5	1202.0	1199.2
10°	1192.0	1192.0	1190.6	1183.4	1182.0
12.5°	1169.1	1167.7	1162.0	1151.9	1149.1
15°	1137.6	1137.6	1126.2	1114.7	1110.5
17.5°	1103.3	1101.9	1087.6	1076.1	1070.4
20°	1066.1	1063.2	1048.9	1030.3	1020.3
22.5°	1024.6	1024.6	1007.4	983.1	973.1
25°	986.0	980.2	964.5	930.1	904.4
27.5°	941.6	933.0	915.8	867.2	837.1
30°	892.9	888.6	864.3	801.4	778.5
32.5°	847.1	840.0	814.2	748.4	729.8
35°	799.9	794.2	755.6	698.3	681.2
37.5°	752.7	745.5	696.9	651.1	629.6
40°	705.5	696.9	643.9	602.4	579.6
42.5°	661.1	649.7	598.2	553.8	528.0
45°	613.9	601.0	549.5	503.7	483.7
47.5°	566.7	555.2	508.0	460.8	437.9
50°	516.6	506.6	463.6	416.4	392.1
52.5°	475.1	459.3	417.9	370.6	350.6
55°	426.4	413.6	374.9	330.6	313.4
57.5°	382.1	369.2	333.4	291.9	277.6
60°	340.6	322.0	291.9	256.1	244.7
62.5°	294.8	280.5	254.7	224.7	239.0
65°	253.3	239.0	216.1	220.4	183.2
67.5°	207.5	200.3	180.3	160.3	154.5
70°	168.9	160.3	153.1	131.7	125.9
72.5°	134.5	125.9	115.9	104.5	100.2
75°	101.6	94.4	88.7	84.4	93.0
77.5°	70.1	67.3	63.0	58.7	57.2
80°	45.8	44.4	42.9	41.5	40.1
82.5°	27.2	27.2	27.2	27.2	27.2
85°	14.3	15.7	17.2	18.6	20.0
87.5°	8.6	8.6	10.0	11.4	12.9
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)