

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: P545769

Luminaire Tested: **FMR-12-2-LD4-2STD-40-UNV-82-86-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: P545769  
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-82-86-EDD  
Description: 1X2 FMR TROFFER WITH .187 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**

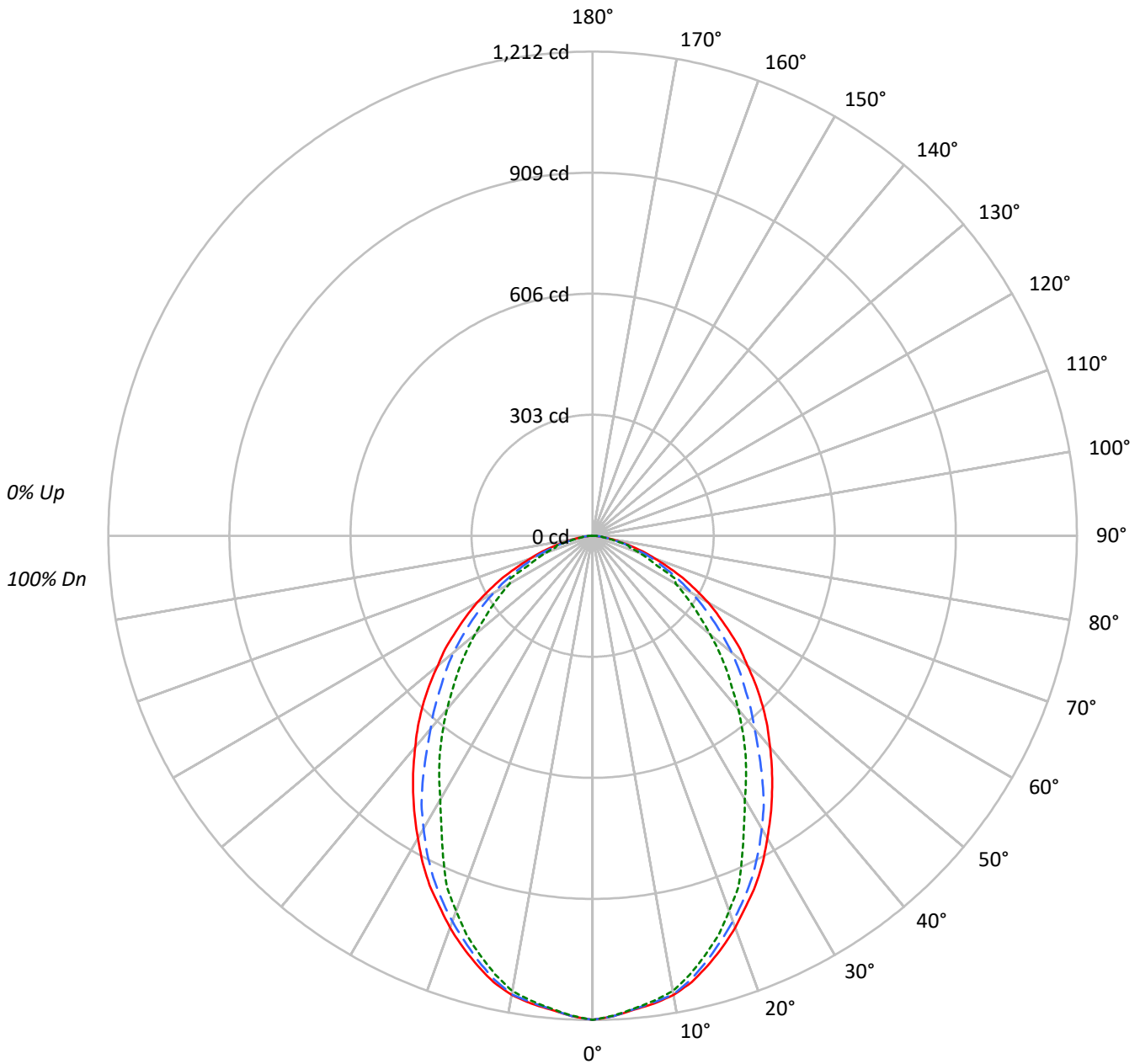
Lumens per Lamp: N/A  
Luminaire Lumens: 2379.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	6522	6522	6522
5°	6433	6426	6418
10°	6378	6370	6324
15°	6206	6143	6057
20°	5978	5881	5721
25°	5732	5607	5258
30°	5433	5259	4736
35°	5145	4860	4382
40°	4853	4429	3986
45°	4574	4095	3604
50°	4234	3800	3214
55°	3917	3445	2879
60°	3589	3076	2579
65°	3158	2693	2283
70°	2601	2359	1940
75°	2069	1807	1894
80°	1389	1302	1215
85°	865	1037	1210



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	112.8	4.7
10°-20°	309.6	13.0
20°-30°	428.6	18.0
30°-40°	457.0	19.2
40°-50°	416.9	17.5
50°-60°	326.6	13.7
60°-70°	212.9	8.9
70°-80°	94.3	4.0
80°-90°	20.2	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°	851.0	35.8
0°-40°	1308.0	55.0
0°-60°	2051.5	86.2
0°-90°	2379.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2379.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1212	1212	1212	1212	1212	
5°	1191	1189	1189	1188	1188	113
15°	1114	1114	1103	1091	1087	313
25°	965	960	944	911	885	443
35°	783	778	740	684	667	490
45°	601	588	538	493	474	463
55°	418	405	367	324	307	374
65°	248	234	212	216	179	244
75°	100	92	87	83	91	107
85°	14	15	17	18	20	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1211.8	1211.8	1211.8	1211.8	1211.8
2.5°	1203.4	1203.4	1203.4	1202.0	1202.0
5°	1190.8	1189.4	1189.4	1188.0	1188.0
7.5°	1181.0	1179.6	1178.2	1176.8	1174.0
10°	1167.0	1167.0	1165.6	1158.6	1157.2
12.5°	1144.6	1143.2	1137.6	1127.8	1125.0
15°	1113.8	1113.8	1102.6	1091.3	1087.1
17.5°	1080.1	1078.7	1064.7	1053.5	1047.9
20°	1043.7	1040.9	1026.9	1008.7	998.9
22.5°	1003.1	1003.1	986.3	962.5	952.7
25°	965.3	959.7	944.2	910.6	885.4
27.5°	921.8	913.4	896.6	849.0	819.6
30°	874.2	870.0	846.2	784.5	762.1
32.5°	829.4	822.4	797.1	732.7	714.5
35°	783.1	777.5	739.7	683.7	666.9
37.5°	736.9	729.9	682.3	637.4	616.4
40°	690.7	682.3	630.4	589.8	567.4
42.5°	647.2	636.0	585.6	542.2	517.0
45°	601.0	588.4	538.0	493.1	473.5
47.5°	554.8	543.6	497.3	451.1	428.7
50°	505.7	495.9	453.9	407.7	383.9
52.5°	465.1	449.7	409.1	362.8	343.2
55°	417.5	404.9	367.1	323.6	306.8
57.5°	374.1	361.4	326.4	285.8	271.8
60°	333.4	315.2	285.8	250.8	239.6
62.5°	288.6	274.6	249.4	220.0	234.0
65°	248.0	234.0	211.5	215.7	179.3
67.5°	203.1	196.1	176.5	156.9	151.3
70°	165.3	156.9	149.9	128.9	123.3
72.5°	131.7	123.3	113.5	102.3	98.1
75°	99.5	92.5	86.9	82.7	91.1
77.5°	68.6	65.8	61.6	57.4	56.0
80°	44.8	43.4	42.0	40.6	39.2
82.5°	26.6	26.6	26.6	26.6	26.6
85°	14.0	15.4	16.8	18.2	19.6
87.5°	8.4	8.4	9.8	11.2	12.6
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)