

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: P545795

Luminaire Tested: **FMR-12-2-LD4-2STD-50-UNV-81-88-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: P545795  
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-81-88-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

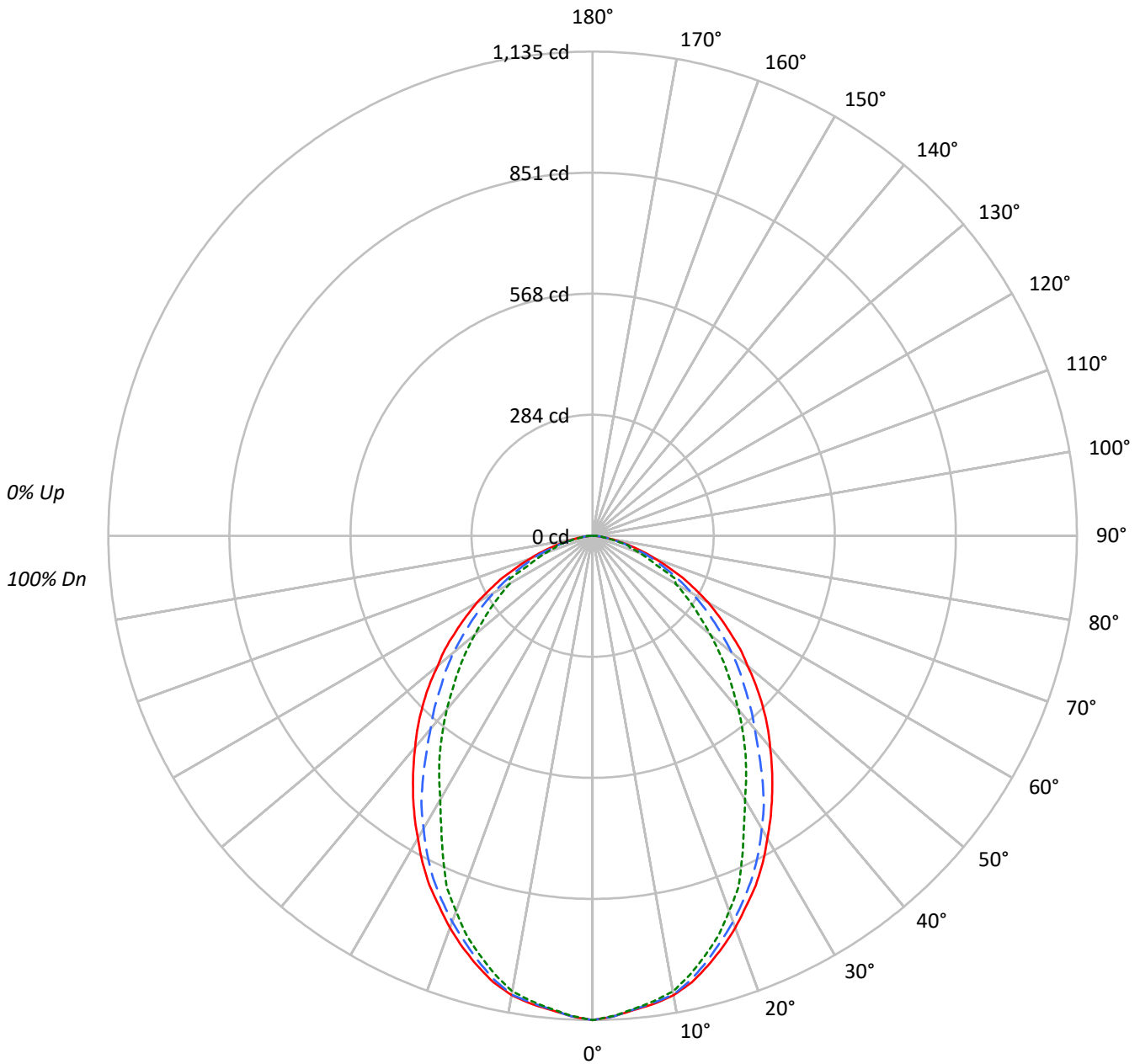
Lumens per Lamp: N/A  
Luminaire Lumens: 2229.0 lumens  
Efficiency: N/A  
Efficacy: 66.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	6111	6111	6111
5°	6028	6021	6014
10°	5975	5968	5925
15°	5814	5756	5675
20°	5601	5511	5360
25°	5371	5254	4926
30°	5090	4927	4438
35°	4821	4554	4105
40°	4546	4150	3735
45°	4286	3836	3377
50°	3968	3561	3012
55°	3671	3227	2698
60°	3363	2883	2416
65°	2958	2524	2139
70°	2437	2211	1817
75°	1938	1693	1774
80°	1302	1221	1141
85°	809	976	1136



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	105.7	4.7
10°-20°	290.1	13.0
20°-30°	401.6	18.0
30°-40°	428.2	19.2
40°-50°	390.6	17.5
50°-60°	306.0	13.7
60°-70°	199.5	8.9
70°-80°	88.4	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°	797.3	35.8
0°-40°	1225.5	55.0
0°-60°	1922.2	86.2
0°-90°	2229.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2229.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1135	1135	1135	1135	1135	
5°	1116	1114	1114	1113	1113	106
15°	1044	1044	1033	1022	1019	293
25°	904	899	885	853	830	415
35°	734	728	693	641	625	459
45°	563	551	504	462	444	434
55°	391	379	344	303	288	351
65°	232	219	198	202	168	229
75°	93	87	81	77	85	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°	1135.4	1135.4	1135.4	1135.4	1135.4
2.5°	1127.5	1127.5	1127.5	1126.2	1126.2
5°	1115.7	1114.4	1114.4	1113.1	1113.1
7.5°	1106.5	1105.2	1103.9	1102.6	1100.0
10°	1093.4	1093.4	1092.1	1085.5	1084.2
12.5°	1072.4	1071.1	1065.9	1056.7	1054.0
15°	1043.5	1043.5	1033.0	1022.5	1018.6
17.5°	1012.0	1010.7	997.6	987.1	981.8
20°	977.9	975.3	962.2	945.1	935.9
22.5°	939.8	939.8	924.1	901.8	892.6
25°	904.4	899.1	884.7	853.2	829.6
27.5°	863.7	855.8	840.1	795.5	767.9
30°	819.1	815.1	792.8	735.1	714.1
32.5°	777.1	770.5	746.9	686.5	669.4
35°	733.8	728.5	693.1	640.6	624.8
37.5°	690.4	683.9	639.2	597.2	577.6
40°	647.1	639.2	590.7	552.6	531.6
42.5°	606.4	595.9	548.7	508.0	484.4
45°	563.1	551.3	504.0	462.0	443.7
47.5°	519.8	509.3	466.0	422.7	401.7
50°	473.9	464.7	425.3	382.0	359.7
52.5°	435.8	421.4	383.3	340.0	321.6
55°	391.2	379.3	343.9	303.2	287.5
57.5°	350.5	338.7	305.8	267.8	254.6
60°	312.4	295.3	267.8	235.0	224.5
62.5°	270.4	257.3	233.6	206.1	219.2
65°	232.3	219.2	198.2	202.1	168.0
67.5°	190.3	183.8	165.4	147.0	141.8
70°	154.9	147.0	140.5	120.8	115.5
72.5°	123.4	115.5	106.3	95.8	91.9
75°	93.2	86.6	81.4	77.4	85.3
77.5°	64.3	61.7	57.8	53.8	52.5
80°	42.0	40.7	39.4	38.1	36.8
82.5°	24.9	24.9	24.9	24.9	24.9
85°	13.1	14.4	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)