

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: P545439

Luminaire Tested: **FMR-12-2-LD4-1STD-35-UNV-81-84-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: P545439  
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-LD4-1STD-35-UNV-81-84-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

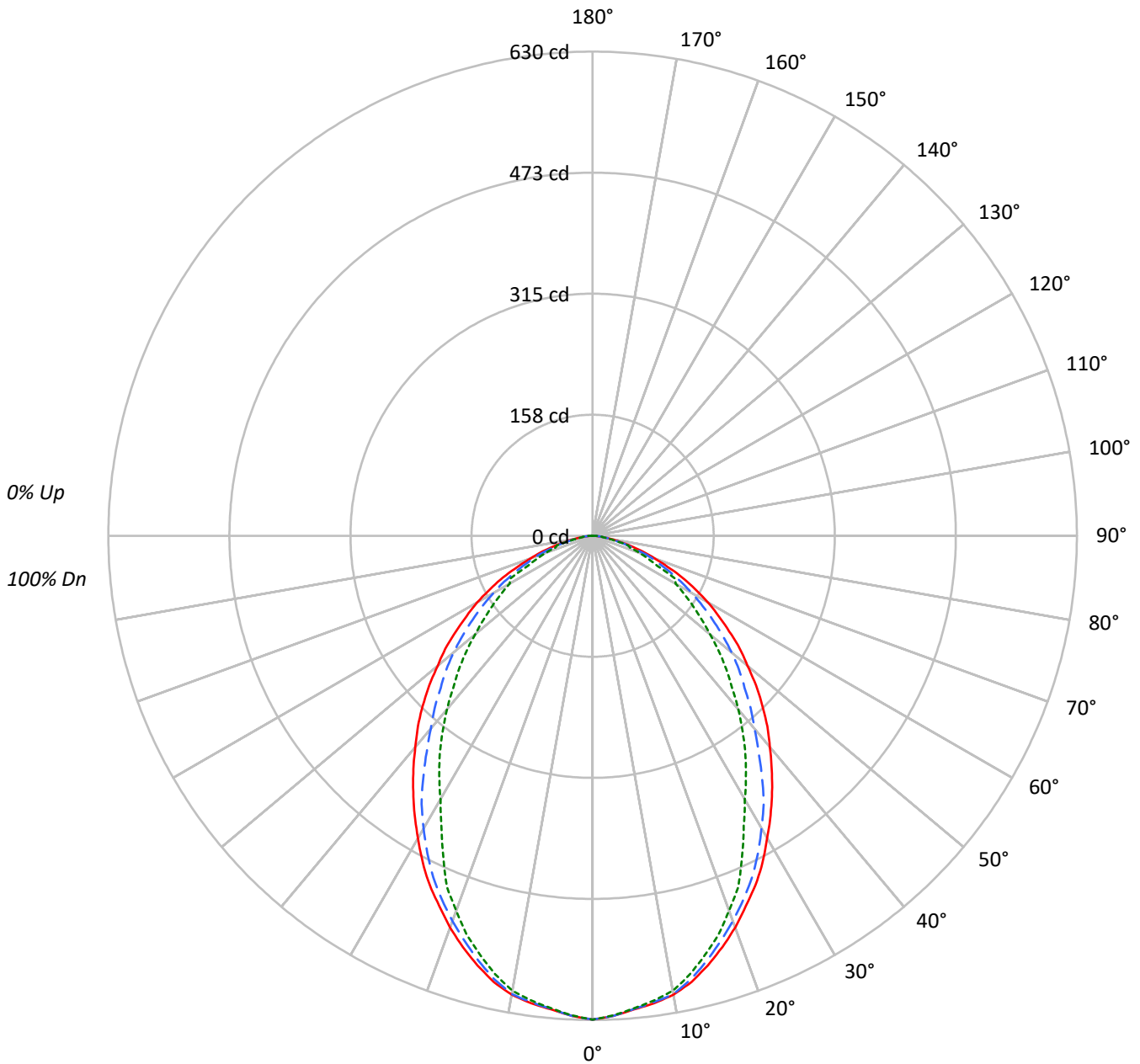
Lumens per Lamp: N/A  
Luminaire Lumens: 1236.0 lumens  
Efficiency: N/A  
Efficacy: 74.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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°	3388	3388	3388
5°	3343	3339	3334
10°	3313	3310	3286
15°	3224	3192	3147
20°	3106	3056	2972
25°	2978	2913	2732
30°	2823	2732	2461
35°	2673	2525	2277
40°	2521	2301	2071
45°	2377	2127	1872
50°	2200	1974	1670
55°	2035	1789	1496
60°	1864	1598	1340
65°	1640	1400	1187
70°	1352	1226	1009
75°	1075	938	984
80°	722	676	632
85°	451	537	630



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.6	4.7
10°-20°	160.8	13.0
20°-30°	222.7	18.0
30°-40°	237.4	19.2
40°-50°	216.6	17.5
50°-60°	169.7	13.7
60°-70°	110.6	8.9
70°-80°	49.0	4.0
80°-90°	10.5	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°	442.1	35.8
0°-40°	679.6	55.0
0°-60°	1065.9	86.2
0°-90°	1236.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1236.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	630	630	630	630	630	
5°	619	618	618	617	617	59
15°	579	579	573	567	565	163
25°	502	499	491	473	460	230
35°	407	404	384	355	346	254
45°	312	306	280	256	246	241
55°	217	210	191	168	159	195
65°	129	122	110	112	93	127
75°	52	48	45	43	47	55
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	629.6	629.6	629.6	629.6	629.6
2.5°	625.2	625.2	625.2	624.5	624.5
5°	618.7	618.0	618.0	617.2	617.2
7.5°	613.6	612.9	612.1	611.4	609.9
10°	606.3	606.3	605.6	601.9	601.2
12.5°	594.7	593.9	591.0	585.9	584.5
15°	578.7	578.7	572.8	567.0	564.8
17.5°	561.2	560.5	553.2	547.4	544.4
20°	542.3	540.8	533.5	524.1	519.0
22.5°	521.2	521.2	512.4	500.0	494.9
25°	501.5	498.6	490.6	473.1	460.0
27.5°	478.9	474.6	465.8	441.1	425.8
30°	454.2	452.0	439.6	407.6	396.0
32.5°	430.9	427.3	414.2	380.7	371.2
35°	406.9	404.0	384.3	355.2	346.5
37.5°	382.9	379.2	354.5	331.2	320.3
40°	358.8	354.5	327.5	306.4	294.8
42.5°	336.3	330.5	304.2	281.7	268.6
45°	312.3	305.7	279.5	256.2	246.0
47.5°	288.2	282.4	258.4	234.4	222.7
50°	262.8	257.7	235.8	211.8	199.4
52.5°	241.7	233.6	212.5	188.5	178.3
55°	216.9	210.4	190.7	168.1	159.4
57.5°	194.3	187.8	169.6	148.5	141.2
60°	173.2	163.8	148.5	130.3	124.5
62.5°	149.9	142.7	129.6	114.3	121.6
65°	128.8	121.6	109.9	112.1	93.2
67.5°	105.5	101.9	91.7	81.5	78.6
70°	85.9	81.5	77.9	67.0	64.1
72.5°	68.4	64.1	59.0	53.1	51.0
75°	51.7	48.0	45.1	42.9	47.3
77.5°	35.7	34.2	32.0	29.8	29.1
80°	23.3	22.6	21.8	21.1	20.4
82.5°	13.8	13.8	13.8	13.8	13.8
85°	7.3	8.0	8.7	9.5	10.2
87.5°	4.4	4.4	5.1	5.8	6.6
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)