

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: P545329

Luminaire Tested: **FMR-12-2-LD4-1HI-50-UNV-93-86-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: P545329  
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-LD4-1HI-50-UNV-93-86-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

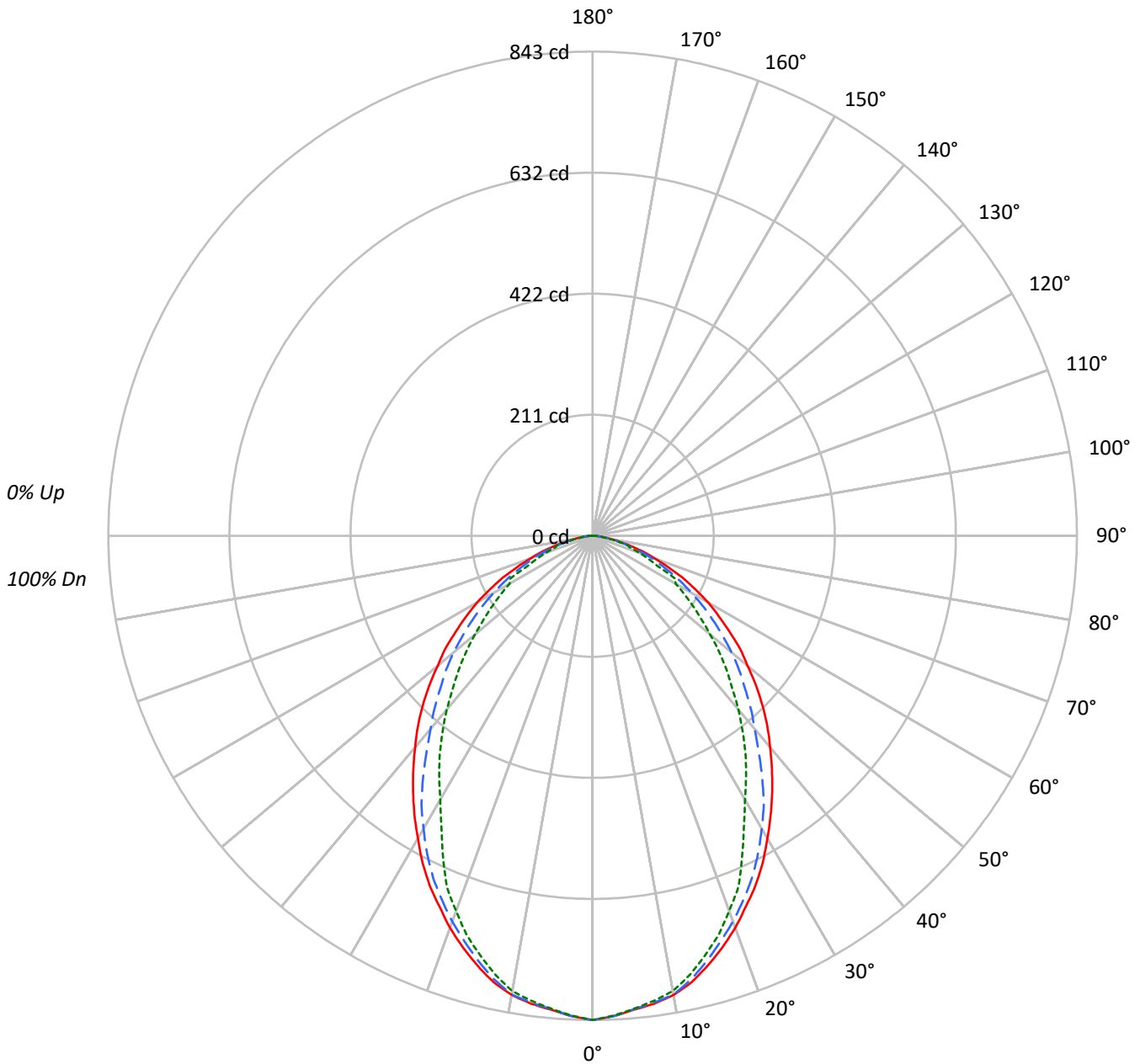
Lumens per Lamp: N/A  
Luminaire Lumens: 1655.0 lumens  
Efficiency: N/A  
Efficacy: 76.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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°	4537	4537	4537
5°	4475	4470	4465
10°	4436	4432	4399
15°	4317	4274	4214
20°	4159	4092	3980
25°	3988	3901	3658
30°	3780	3659	3295
35°	3579	3381	3048
40°	3376	3081	2773
45°	3182	2848	2507
50°	2946	2644	2236
55°	2725	2396	2002
60°	2497	2140	1794
65°	2197	1875	1588
70°	1810	1641	1350
75°	1439	1256	1316
80°	967	905	846
85°	599	722	840



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	78.5	4.7
10°-20°	215.4	13.0
20°-30°	298.2	18.0
30°-40°	317.9	19.2
40°-50°	290.0	17.5
50°-60°	227.2	13.7
60°-70°	148.1	8.9
70°-80°	65.6	4.0
80°-90°	14.1	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°	592.0	35.8
0°-40°	909.9	55.0
0°-60°	1427.2	86.2
0°-90°	1655.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1655.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	843	843	843	843	843	
5°	828	827	827	826	826	79
15°	775	775	767	759	756	218
25°	672	668	657	634	616	308
35°	545	541	515	476	464	341
45°	418	409	374	343	329	322
55°	290	282	255	225	213	260
65°	172	163	147	150	125	170
75°	69	64	60	58	63	74
85°	10	11	12	13	14	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	843.0	843.0	843.0	843.0	843.0
2.5°	837.2	837.2	837.2	836.2	836.2
5°	828.4	827.4	827.4	826.5	826.5
7.5°	821.6	820.6	819.6	818.7	816.7
10°	811.8	811.8	810.9	806.0	805.0
12.5°	796.3	795.3	791.4	784.6	782.6
15°	774.8	774.8	767.0	759.2	756.3
17.5°	751.4	750.4	740.7	732.9	729.0
20°	726.1	724.1	714.4	701.7	694.9
22.5°	697.8	697.8	686.1	669.6	662.7
25°	671.5	667.6	656.9	633.5	616.0
27.5°	641.3	635.4	623.7	590.6	570.1
30°	608.2	605.2	588.7	545.8	530.2
32.5°	577.0	572.1	554.6	509.7	497.0
35°	544.8	540.9	514.6	475.6	463.9
37.5°	512.6	507.8	474.6	443.4	428.8
40°	480.5	474.6	438.6	410.3	394.7
42.5°	450.3	442.5	407.4	377.2	359.6
45°	418.1	409.3	374.2	343.1	329.4
47.5°	385.9	378.1	346.0	313.8	298.2
50°	351.8	345.0	315.8	283.6	267.0
52.5°	323.6	312.8	284.6	252.4	238.8
55°	290.4	281.7	255.3	225.1	213.4
57.5°	260.2	251.4	227.1	198.8	189.1
60°	232.0	219.3	198.8	174.5	166.7
62.5°	200.8	191.0	173.5	153.0	162.8
65°	172.5	162.8	147.2	150.1	124.7
67.5°	141.3	136.4	122.8	109.2	105.3
70°	115.0	109.2	104.3	89.7	85.8
72.5°	91.6	85.8	78.9	71.1	68.2
75°	69.2	64.3	60.4	57.5	63.3
77.5°	47.8	45.8	42.9	40.0	39.0
80°	31.2	30.2	29.2	28.3	27.3
82.5°	18.5	18.5	18.5	18.5	18.5
85°	9.7	10.7	11.7	12.7	13.6
87.5°	5.8	5.8	6.8	7.8	8.8
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)