

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: P545269

Luminaire Tested: **FMR-12-2-LD4-1HI-35-UNV-93-96-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: P545269  
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-35-UNV-93-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

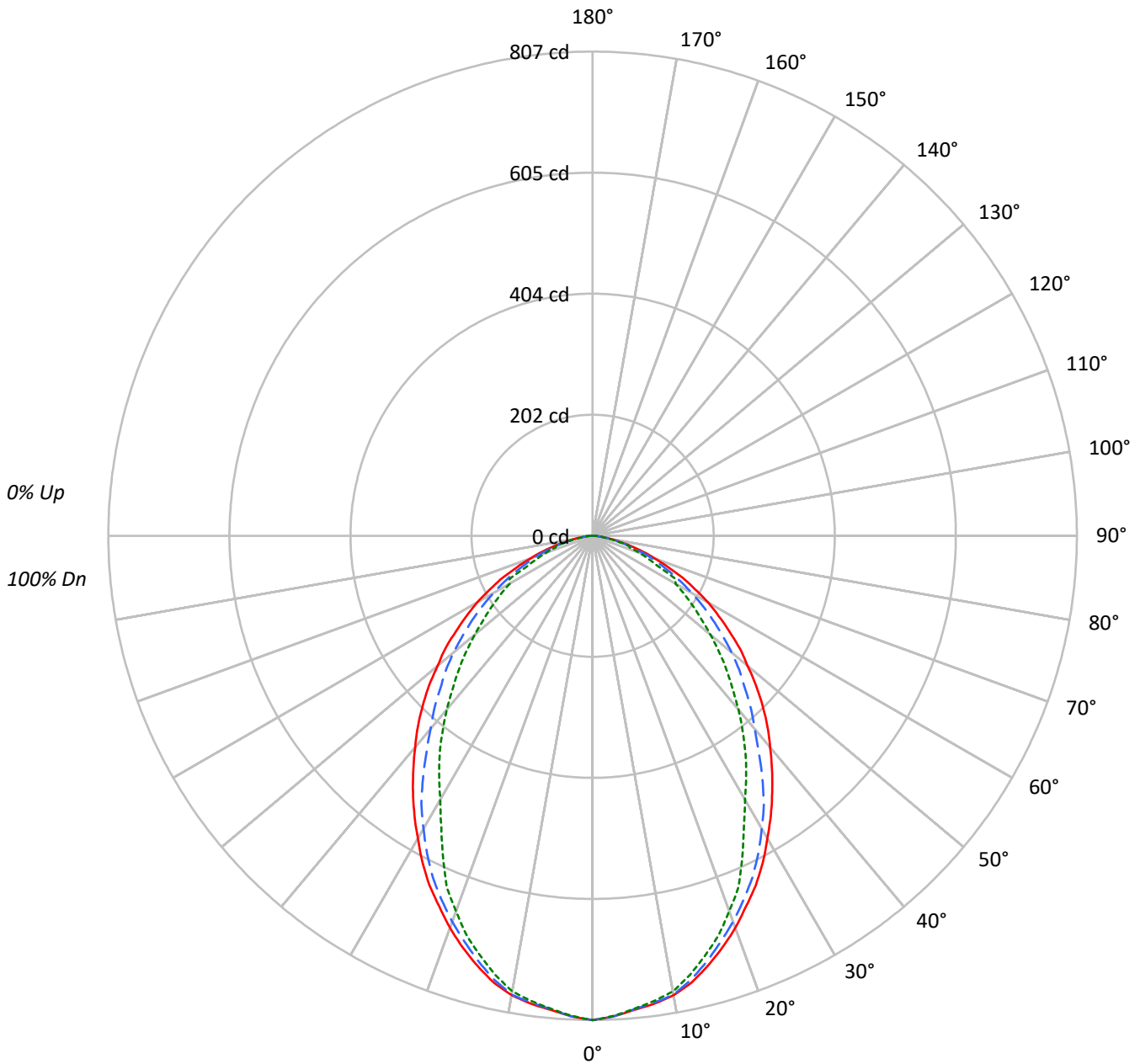
Lumens per Lamp: N/A  
Luminaire Lumens: 1585.0 lumens  
Efficiency: N/A  
Efficacy: 73.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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°	4345	4345	4345
5°	4286	4281	4276
10°	4249	4244	4214
15°	4134	4093	4036
20°	3983	3919	3812
25°	3819	3736	3503
30°	3619	3504	3156
35°	3428	3238	2919
40°	3233	2951	2656
45°	3048	2728	2401
50°	2822	2532	2141
55°	2609	2294	1918
60°	2391	2049	1718
65°	2104	1794	1522
70°	1733	1572	1292
75°	1379	1204	1262
80°	927	868	809
85°	574	692	809



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.2	4.7
10°-20°	206.3	13.0
20°-30°	285.6	18.0
30°-40°	304.5	19.2
40°-50°	277.8	17.5
50°-60°	217.6	13.7
60°-70°	141.8	8.9
70°-80°	62.8	4.0
80°-90°	13.5	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°	567.0	35.8
0°-40°	871.5	55.0
0°-60°	1366.8	86.2
0°-90°	1585.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1585.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	807	807	807	807	807	
5°	793	792	792	792	792	75
15°	742	742	735	727	724	209
25°	643	639	629	607	590	295
35°	522	518	493	456	444	326
45°	400	392	358	329	316	308
55°	278	270	244	216	204	249
65°	165	156	141	144	120	163
75°	66	62	58	55	61	71
85°	9	10	11	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	807.4	807.4	807.4	807.4	807.4
2.5°	801.8	801.8	801.8	800.8	800.8
5°	793.4	792.4	792.4	791.5	791.5
7.5°	786.8	785.9	785.0	784.0	782.2
10°	777.5	777.5	776.6	771.9	771.0
12.5°	762.6	761.6	757.9	751.4	749.5
15°	742.0	742.0	734.6	727.1	724.3
17.5°	719.6	718.7	709.4	701.9	698.2
20°	695.4	693.5	684.2	672.0	665.5
22.5°	668.3	668.3	657.1	641.2	634.7
25°	643.1	639.4	629.1	606.7	589.9
27.5°	614.2	608.6	597.4	565.6	546.0
30°	582.4	579.6	563.8	522.7	507.8
32.5°	552.6	547.9	531.1	488.2	476.0
35°	521.8	518.0	492.8	455.5	444.3
37.5°	491.0	486.3	454.6	424.7	410.7
40°	460.2	454.6	420.0	393.0	378.0
42.5°	431.2	423.8	390.2	361.2	344.4
45°	400.4	392.0	358.4	328.6	315.5
47.5°	369.6	362.2	331.4	300.5	285.6
50°	337.0	330.4	302.4	271.6	255.7
52.5°	309.9	299.6	272.5	241.7	228.7
55°	278.1	269.7	244.5	215.6	204.4
57.5°	249.2	240.8	217.5	190.4	181.1
60°	222.1	210.0	190.4	167.1	159.6
62.5°	192.3	182.9	166.1	146.5	155.9
65°	165.2	155.9	140.9	143.7	119.5
67.5°	135.3	130.7	117.6	104.5	100.8
70°	110.1	104.5	99.9	85.9	82.1
72.5°	87.7	82.1	75.6	68.1	65.3
75°	66.3	61.6	57.9	55.1	60.7
77.5°	45.7	43.9	41.1	38.3	37.3
80°	29.9	28.9	28.0	27.1	26.1
82.5°	17.7	17.7	17.7	17.7	17.7
85°	9.3	10.3	11.2	12.1	13.1
87.5°	5.6	5.6	6.5	7.5	8.4
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)