

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: P545296

Luminaire Tested: **FMR-12-2-LD4-1HI-40-UNV-93-85-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: P545296  
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-40-UNV-93-85-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

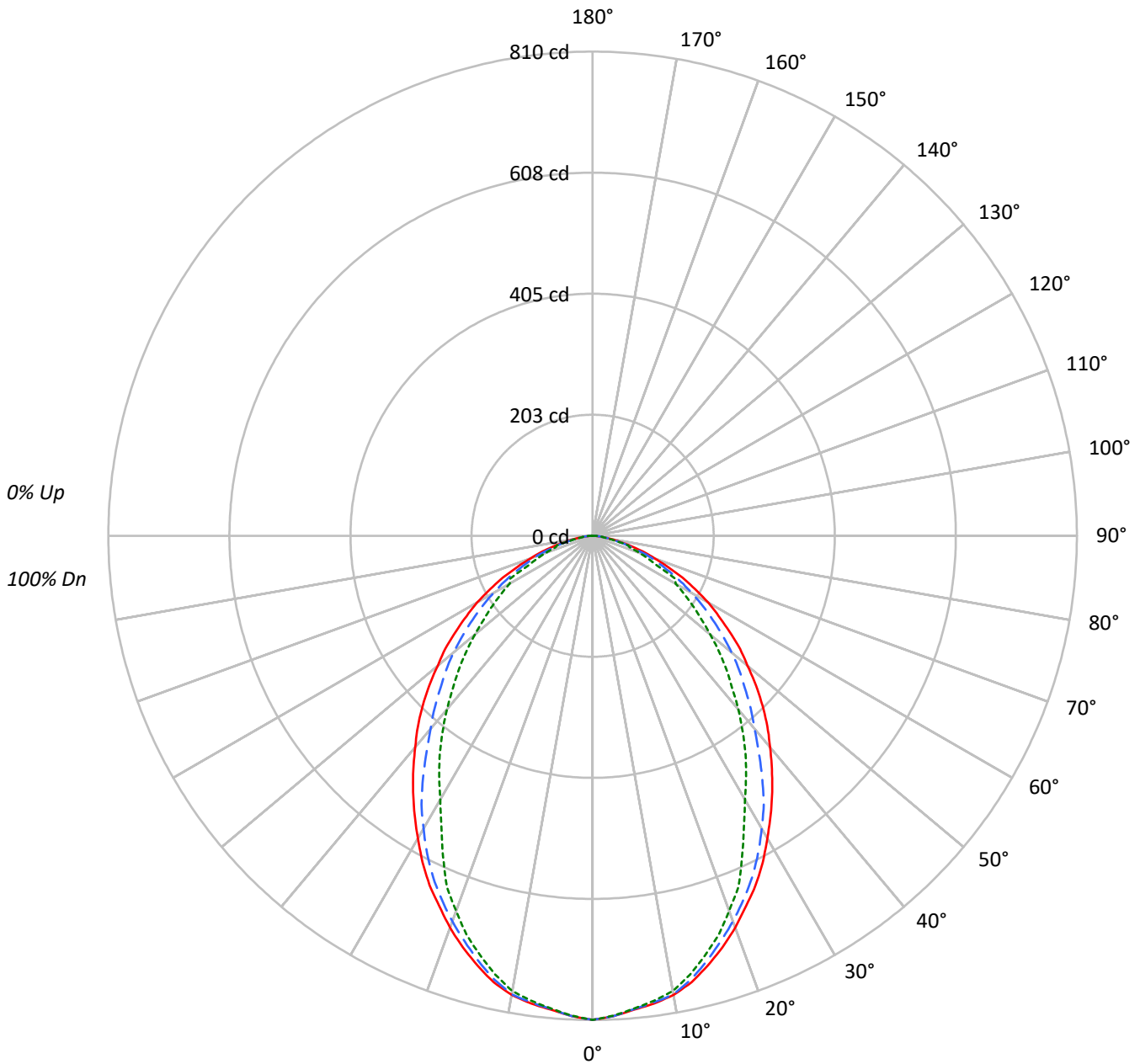
Lumens per Lamp: N/A  
Luminaire Lumens: 1590.0 lumens  
Efficiency: N/A  
Efficacy: 73.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	4359	4359	4359
5°	4300	4294	4290
10°	4263	4257	4227
15°	4148	4106	4048
20°	3995	3931	3824
25°	3831	3748	3514
30°	3631	3514	3166
35°	3439	3248	2928
40°	3243	2960	2664
45°	3057	2737	2409
50°	2830	2540	2148
55°	2618	2302	1924
60°	2398	2056	1723
65°	2110	1801	1527
70°	1739	1577	1297
75°	1383	1208	1266
80°	930	871	812
85°	580	692	809



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.4	4.7
10°-20°	206.9	13.0
20°-30°	286.5	18.0
30°-40°	305.4	19.2
40°-50°	278.7	17.5
50°-60°	218.3	13.7
60°-70°	142.3	8.9
70°-80°	63.0	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°	568.8	35.8
0°-40°	874.2	55.0
0°-60°	1371.2	86.2
0°-90°	1590.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1590.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	810	810	810	810	810	
5°	796	795	795	794	794	76
15°	744	744	737	729	727	209
25°	645	641	631	609	592	296
35°	523	520	494	457	446	327
45°	402	393	360	330	316	309
55°	279	271	245	216	205	250
65°	166	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°	809.9	809.9	809.9	809.9	809.9
2.5°	804.3	804.3	804.3	803.4	803.4
5°	795.9	794.9	794.9	794.0	794.0
7.5°	789.3	788.4	787.5	786.5	784.6
10°	780.0	780.0	779.0	774.3	773.4
12.5°	765.0	764.0	760.3	753.7	751.9
15°	744.4	744.4	736.9	729.4	726.6
17.5°	721.9	721.0	711.6	704.1	700.4
20°	697.6	695.7	686.3	674.2	667.6
22.5°	670.4	670.4	659.2	643.3	636.7
25°	645.1	641.4	631.1	608.6	591.8
27.5°	616.1	610.5	599.3	567.4	547.8
30°	584.3	581.5	565.5	524.3	509.4
32.5°	554.3	549.6	532.8	489.7	477.5
35°	523.4	519.7	494.4	456.9	445.7
37.5°	492.5	487.8	456.0	426.0	412.0
40°	461.6	456.0	421.3	394.2	379.2
42.5°	432.6	425.1	391.4	362.4	345.5
45°	401.7	393.3	359.6	329.6	316.5
47.5°	370.8	363.3	332.4	301.5	286.5
50°	338.0	331.5	303.4	272.5	256.6
52.5°	310.9	300.6	273.4	242.5	229.4
55°	279.0	270.6	245.3	216.3	205.1
57.5°	250.0	241.6	218.2	191.0	181.6
60°	222.8	210.7	191.0	167.6	160.1
62.5°	192.9	183.5	166.7	147.0	156.4
65°	165.7	156.4	141.4	144.2	119.9
67.5°	135.8	131.1	118.0	104.9	101.1
70°	110.5	104.9	100.2	86.1	82.4
72.5°	88.0	82.4	75.8	68.4	65.5
75°	66.5	61.8	58.1	55.2	60.9
77.5°	45.9	44.0	41.2	38.4	37.5
80°	30.0	29.0	28.1	27.2	26.2
82.5°	17.8	17.8	17.8	17.8	17.8
85°	9.4	10.3	11.2	12.2	13.1
87.5°	5.6	5.6	6.6	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)