

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: P544981

Luminaire Tested: **FMR-12-1-LD4-2HI-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: P544981  
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-12-1-LD4-2HI-35-UNV-93-96-EDD  
Description: 1X1 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**

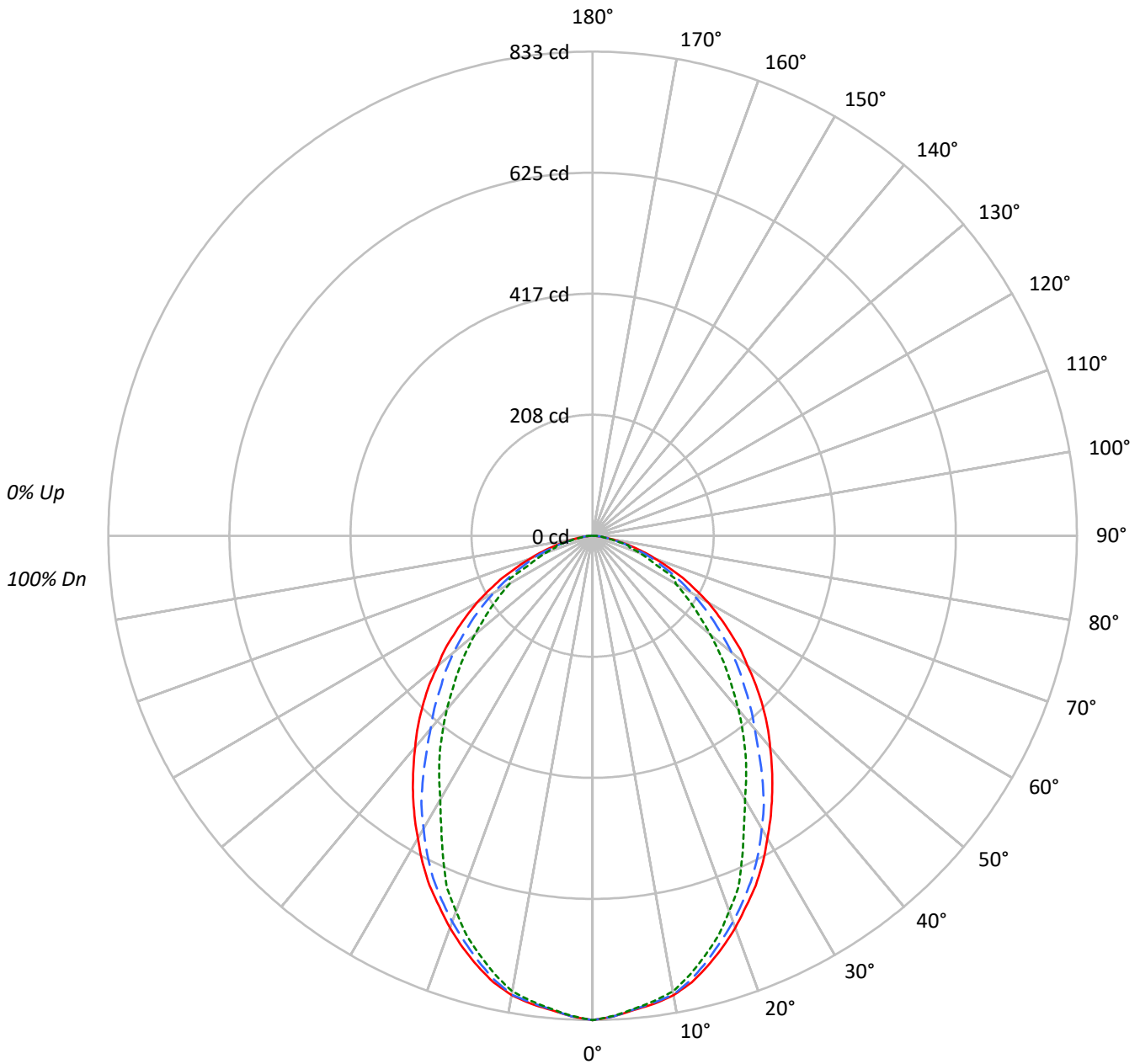
Lumens per Lamp: N/A  
Luminaire Lumens: 1636.0 lumens  
Efficiency: N/A  
Efficacy: 75.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	8971	8971	8971
5°	8848	8837	8828
10°	8771	8761	8698
15°	8535	8449	8331
20°	8221	8089	7868
25°	7884	7712	7232
30°	7472	7232	6514
35°	7077	6684	6026
40°	6674	6091	5483
45°	6291	5632	4956
50°	5824	5226	4421
55°	5388	4737	3960
60°	4936	4230	3546
65°	4343	3706	3140
70°	3578	3245	2669
75°	2845	2483	2603
80°	1909	1791	1674
85°	1186	1433	1667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.6	4.7
10°-20°	212.9	13.0
20°-30°	294.7	18.0
30°-40°	314.3	19.2
40°-50°	286.7	17.5
50°-60°	224.6	13.7
60°-70°	146.4	8.9
70°-80°	64.9	4.0
80°-90°	13.9	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°	585.2	35.8
0°-40°	899.5	55.0
0°-60°	1410.8	86.2
0°-90°	1636.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1636.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	833	833	833	833	833	
5°	819	818	818	817	817	78
15°	766	766	758	750	748	215
25°	664	660	649	626	609	305
35°	539	535	509	470	459	337
45°	413	405	370	339	326	318
55°	287	278	252	222	211	258
65°	170	161	146	148	123	168
75°	68	64	60	57	63	73
85°	10	11	12	12	14	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	833.4	833.4	833.4	833.4	833.4
2.5°	827.6	827.6	827.6	826.6	826.6
5°	818.9	817.9	817.9	817.0	817.0
7.5°	812.2	811.2	810.2	809.3	807.3
10°	802.5	802.5	801.6	796.7	795.8
12.5°	787.1	786.1	782.3	775.6	773.6
15°	765.9	765.9	758.2	750.5	747.6
17.5°	742.8	741.8	732.2	724.5	720.6
20°	717.7	715.8	706.2	693.7	686.9
22.5°	689.8	689.8	678.2	661.9	655.1
25°	663.8	659.9	649.3	626.2	608.9
27.5°	633.9	628.1	616.6	583.8	563.6
30°	601.2	598.3	581.9	539.5	524.1
32.5°	570.3	565.5	548.2	503.9	491.3
35°	538.6	534.7	508.7	470.1	458.6
37.5°	506.8	501.9	469.2	438.4	423.9
40°	475.0	469.2	433.5	405.6	390.2
42.5°	445.1	437.4	402.7	372.8	355.5
45°	413.3	404.6	370.0	339.1	325.6
47.5°	381.5	373.8	342.0	310.2	294.8
50°	347.8	341.0	312.1	280.4	264.0
52.5°	319.9	309.3	281.3	249.5	236.0
55°	287.1	278.4	252.4	222.5	211.0
57.5°	257.2	248.6	224.5	196.5	186.9
60°	229.3	216.8	196.5	172.5	164.7
62.5°	198.5	188.8	171.5	151.3	160.9
65°	170.5	160.9	145.5	148.4	123.3
67.5°	139.7	134.9	121.4	107.9	104.0
70°	113.7	107.9	103.1	88.6	84.8
72.5°	90.6	84.8	78.0	70.3	67.4
75°	68.4	63.6	59.7	56.8	62.6
77.5°	47.2	45.3	42.4	39.5	38.5
80°	30.8	29.9	28.9	27.9	27.0
82.5°	18.3	18.3	18.3	18.3	18.3
85°	9.6	10.6	11.6	12.5	13.5
87.5°	5.8	5.8	6.7	7.7	8.7
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)