

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: P544991

Luminaire Tested: **FMR-12-1-LD4-2HI-40-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: P544991  
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-40-UNV-81-84-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

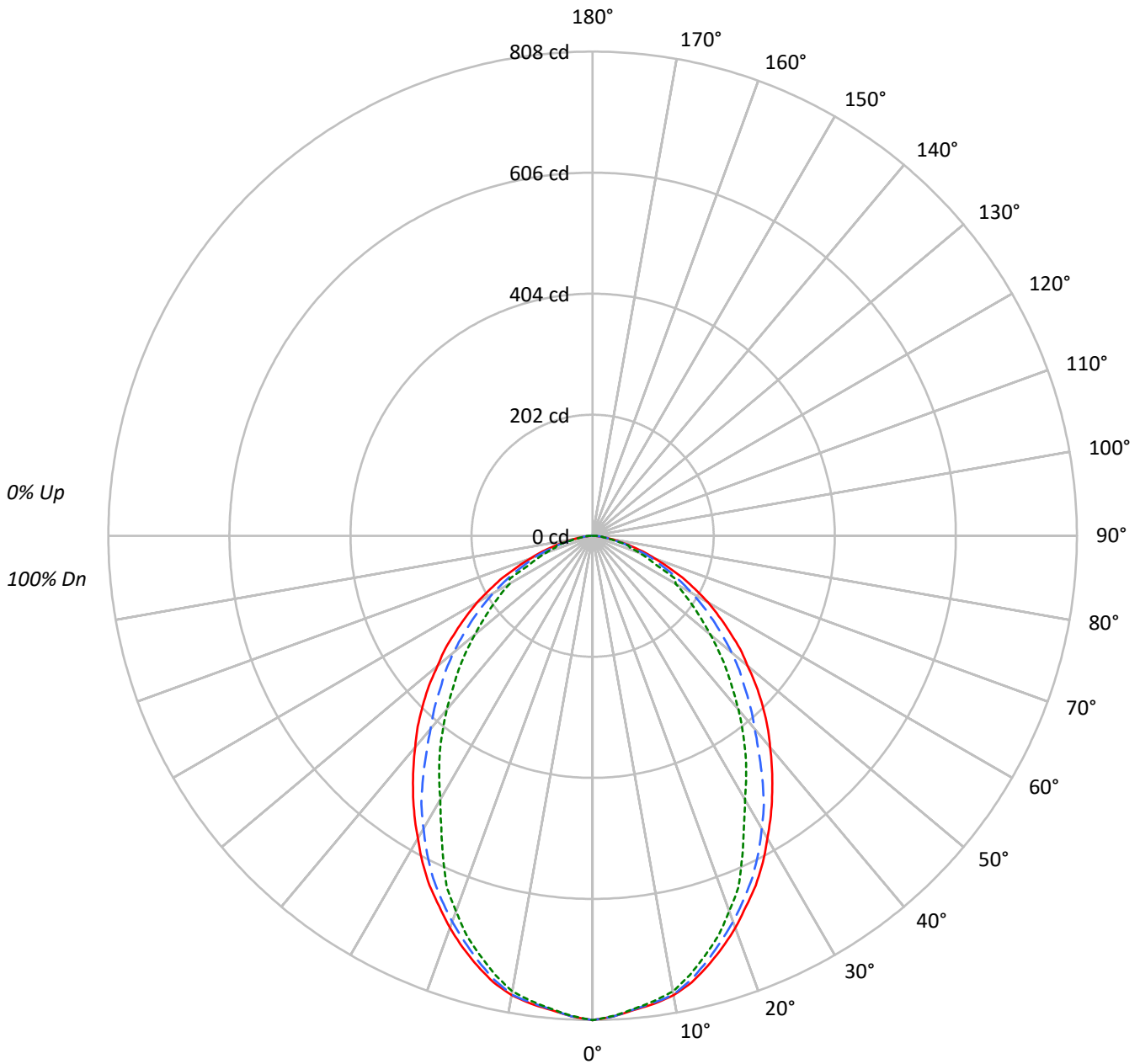
Lumens per Lamp: N/A  
Luminaire Lumens: 1587.0 lumens  
Efficiency: N/A  
Efficacy: 73.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
Input Voltage (V): NR  
Input Current (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°	8702	8702	8702
5°	8584	8573	8563
10°	8509	8499	8437
15°	8280	8196	8081
20°	7975	7846	7632
25°	7647	7481	7014
30°	7249	7016	6319
35°	6865	6483	5846
40°	6473	5910	5318
45°	6103	5463	4809
50°	5650	5071	4289
55°	5226	4596	3841
60°	4788	4105	3440
65°	4213	3594	3046
70°	3471	3147	2587
75°	2761	2408	2524
80°	1853	1736	1624
85°	1149	1383	1618



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	75.3	4.7
10°-20°	206.5	13.0
20°-30°	285.9	18.0
30°-40°	304.9	19.2
40°-50°	278.1	17.5
50°-60°	217.9	13.7
60°-70°	142.0	8.9
70°-80°	62.9	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°	567.7	35.8
0°-40°	872.5	55.0
0°-60°	1368.6	86.2
0°-90°	1587.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1587.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	808	808	808	808	808	
5°	794	793	793	792	792	75
15°	743	743	736	728	725	209
25°	644	640	630	608	591	296
35°	522	519	493	456	445	327
45°	401	392	359	329	316	309
55°	278	270	245	216	205	250
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°	808.4	808.4	808.4	808.4	808.4
2.5°	802.8	802.8	802.8	801.9	801.9
5°	794.4	793.4	793.4	792.5	792.5
7.5°	787.8	786.9	786.0	785.0	783.2
10°	778.5	778.5	777.6	772.9	771.9
12.5°	763.5	762.6	758.9	752.3	750.5
15°	743.0	743.0	735.5	728.0	725.2
17.5°	720.5	719.6	710.3	702.8	699.1
20°	696.2	694.4	685.0	672.9	666.3
22.5°	669.1	669.1	657.9	642.0	635.5
25°	643.9	640.2	629.9	607.5	590.6
27.5°	614.9	609.3	598.1	566.3	546.7
30°	583.2	580.4	564.5	523.4	508.4
32.5°	553.3	548.6	531.8	488.8	476.6
35°	522.4	518.7	493.4	456.1	444.9
37.5°	491.6	486.9	455.1	425.2	411.2
40°	460.7	455.1	420.6	393.5	378.5
42.5°	431.8	424.3	390.6	361.7	344.9
45°	400.9	392.5	358.9	329.0	315.9
47.5°	370.1	362.6	331.8	300.9	286.0
50°	337.4	330.8	302.8	272.0	256.1
52.5°	310.3	300.0	272.9	242.1	229.0
55°	278.5	270.1	244.9	215.9	204.7
57.5°	249.5	241.1	217.8	190.7	181.3
60°	222.4	210.3	190.7	167.3	159.8
62.5°	192.5	183.2	166.4	146.7	156.1
65°	165.4	156.1	141.1	143.9	119.6
67.5°	135.5	130.8	117.8	104.7	100.9
70°	110.3	104.7	100.0	86.0	82.2
72.5°	87.8	82.2	75.7	68.2	65.4
75°	66.4	61.7	57.9	55.1	60.7
77.5°	45.8	43.9	41.1	38.3	37.4
80°	29.9	29.0	28.0	27.1	26.2
82.5°	17.8	17.8	17.8	17.8	17.8
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)