

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: P544819

Luminaire Tested: **FMR-12-1-LD4-1LO-40-UNV-93-88-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: P544819  
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-LD4-1LO-40-UNV-93-88-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

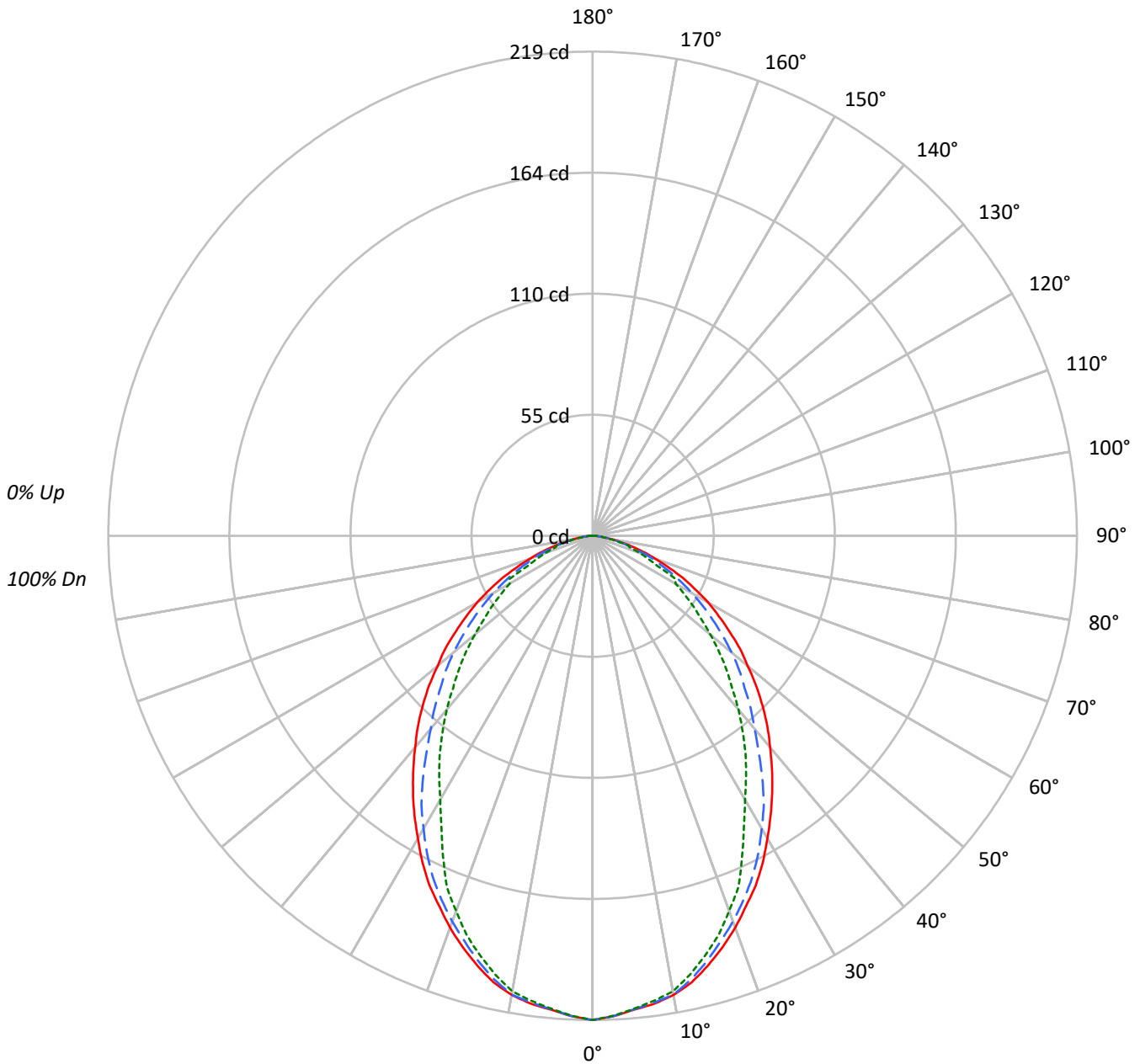
Lumens per Lamp: N/A  
Luminaire Lumens: 430.0 lumens  
Efficiency: N/A  
Efficacy: 74.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 5.8  
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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	2357	2357	2357
5°	2325	2323	2320
10°	2305	2303	2287
15°	2243	2221	2190
20°	2160	2126	2068
25°	2072	2027	1900
30°	1964	1900	1713
35°	1861	1757	1583
40°	1754	1600	1442
45°	1653	1480	1303
50°	1531	1373	1162
55°	1417	1244	1042
60°	1298	1113	932
65°	1141	973	825
70°	941	853	702
75°	749	653	686
80°	502	471	440
85°	309	371	432



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	20.4	4.7
10°-20°	56.0	13.0
20°-30°	77.5	18.0
30°-40°	82.6	19.2
40°-50°	75.3	17.5
50°-60°	59.0	13.7
60°-70°	38.5	9.0
70°-80°	17.0	4.0
80°-90°	3.6	0.8
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°	153.8	35.8
0°-40°	236.4	55.0
0°-60°	370.8	86.2
0°-90°	430.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	430.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	219	219	219	219	219	
5°	215	215	215	215	215	20
15°	201	201	199	197	196	57
25°	174	174	171	165	160	80
35°	142	140	134	124	120	88
45°	109	106	97	89	86	84
55°	76	73	66	58	56	68
65°	45	42	38	39	32	44
75°	18	17	16	15	16	19
85°	2	3	3	3	4	3
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	219.0	219.0	219.0	219.0	219.0
2.5°	217.5	217.5	217.5	217.3	217.3
5°	215.2	215.0	215.0	214.7	214.7
7.5°	213.5	213.2	213.0	212.7	212.2
10°	210.9	210.9	210.7	209.4	209.2
12.5°	206.9	206.6	205.6	203.8	203.3
15°	201.3	201.3	199.3	197.3	196.5
17.5°	195.2	195.0	192.4	190.4	189.4
20°	188.6	188.1	185.6	182.3	180.5
22.5°	181.3	181.3	178.3	174.0	172.2
25°	174.5	173.5	170.7	164.6	160.0
27.5°	166.6	165.1	162.1	153.5	148.1
30°	158.0	157.3	152.9	141.8	137.8
32.5°	149.9	148.6	144.1	132.4	129.1
35°	141.6	140.5	133.7	123.6	120.5
37.5°	133.2	131.9	123.3	115.2	111.4
40°	124.8	123.3	113.9	106.6	102.6
42.5°	117.0	115.0	105.8	98.0	93.4
45°	108.6	106.4	97.2	89.1	85.6
47.5°	100.3	98.2	89.9	81.5	77.5
50°	91.4	89.6	82.0	73.7	69.4
52.5°	84.1	81.3	73.9	65.6	62.0
55°	75.5	73.2	66.3	58.5	55.5
57.5°	67.6	65.3	59.0	51.7	49.1
60°	60.3	57.0	51.7	45.3	43.3
62.5°	52.2	49.6	45.1	39.8	42.3
65°	44.8	42.3	38.2	39.0	32.4
67.5°	36.7	35.5	31.9	28.4	27.3
70°	29.9	28.4	27.1	23.3	22.3
72.5°	23.8	22.3	20.5	18.5	17.7
75°	18.0	16.7	15.7	14.9	16.5
77.5°	12.4	11.9	11.1	10.4	10.1
80°	8.1	7.8	7.6	7.3	7.1
82.5°	4.8	4.8	4.8	4.8	4.8
85°	2.5	2.8	3.0	3.3	3.5
87.5°	1.5	1.5	1.8	2.0	2.3
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)