

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: P545950

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-80-97-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: P545950  
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-12-4-LD4-1LO-40-UNV-80-97-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

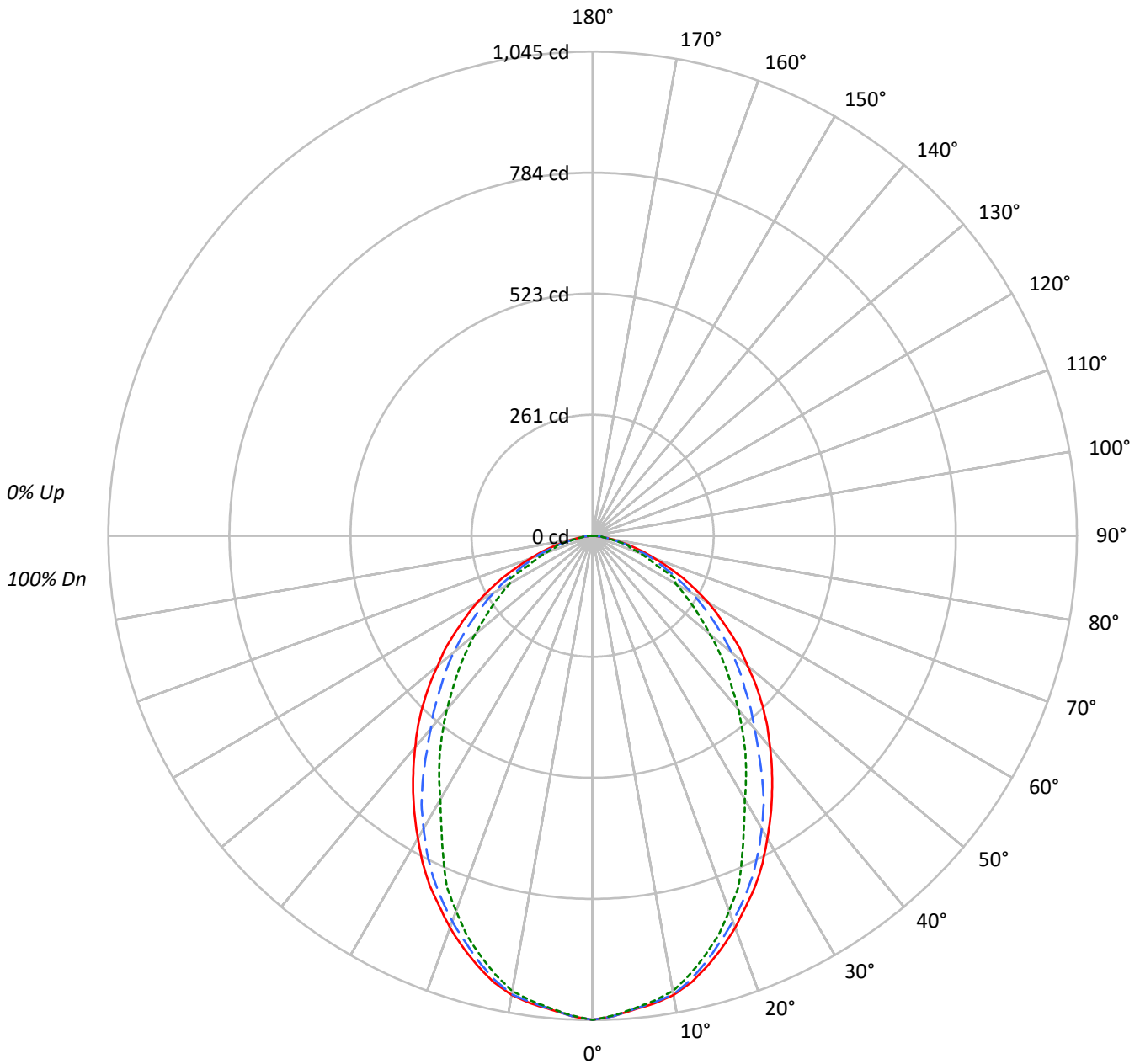
Lumens per Lamp: N/A  
Luminaire Lumens: 2051.0 lumens  
Efficiency: N/A  
Efficacy: 87.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	2812	2812	2812
5°	2773	2770	2767
10°	2749	2746	2726
15°	2675	2648	2611
20°	2577	2535	2466
25°	2471	2417	2266
30°	2342	2267	2041
35°	2218	2095	1889
40°	2092	1909	1718
45°	1972	1765	1553
50°	1825	1638	1385
55°	1688	1484	1241
60°	1547	1326	1111
65°	1361	1161	984
70°	1121	1017	836
75°	892	779	816
80°	598	561	524
85°	374	448	522



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	97.3	4.7
10°-20°	266.9	13.0
20°-30°	369.5	18.0
30°-40°	394.0	19.2
40°-50°	359.4	17.5
50°-60°	281.6	13.7
60°-70°	183.5	8.9
70°-80°	81.3	4.0
80°-90°	17.4	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°	733.7	35.8
0°-40°	1127.7	55.0
0°-60°	1768.7	86.2
0°-90°	2051.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2051.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1045	1045	1045	1045	1045	
5°	1027	1025	1025	1024	1024	97
15°	960	960	950	941	937	270
25°	832	827	814	785	763	382
35°	675	670	638	589	575	422
45°	518	507	464	425	408	399
55°	360	349	316	279	264	323
65°	214	202	182	186	155	211
75°	86	80	75	71	78	92
85°	12	13	14	16	17	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1044.8	1044.8	1044.8	1044.8	1044.8
2.5°	1037.5	1037.5	1037.5	1036.3	1036.3
5°	1026.6	1025.4	1025.4	1024.2	1024.2
7.5°	1018.2	1017.0	1015.8	1014.6	1012.1
10°	1006.1	1006.1	1004.9	998.9	997.6
12.5°	986.8	985.6	980.7	972.3	969.9
15°	960.2	960.2	950.5	940.9	937.3
17.5°	931.2	930.0	917.9	908.3	903.4
20°	899.8	897.4	885.3	869.6	861.2
22.5°	864.8	864.8	850.3	829.8	821.3
25°	832.2	827.3	814.1	785.1	763.3
27.5°	794.7	787.5	773.0	731.9	706.6
30°	753.7	750.0	729.5	676.4	657.0
32.5°	715.0	709.0	687.2	631.7	616.0
35°	675.2	670.3	637.7	589.4	574.9
37.5°	635.3	629.3	588.2	549.6	531.4
40°	595.4	588.2	543.5	508.5	489.2
42.5°	558.0	548.3	504.9	467.4	445.7
45°	518.1	507.3	463.8	425.1	408.2
47.5°	478.3	468.6	428.8	388.9	369.6
50°	436.0	427.6	391.3	351.5	330.9
52.5°	401.0	387.7	352.7	312.8	295.9
55°	359.9	349.1	316.4	279.0	264.5
57.5°	322.5	311.6	281.4	246.4	234.3
60°	287.5	271.8	246.4	216.2	206.5
62.5°	248.8	236.7	215.0	189.6	201.7
65°	213.8	201.7	182.4	186.0	154.6
67.5°	175.1	169.1	152.2	135.3	130.4
70°	142.5	135.3	129.2	111.1	106.3
72.5°	113.5	106.3	97.8	88.2	84.5
75°	85.8	79.7	74.9	71.3	78.5
77.5°	59.2	56.8	53.1	49.5	48.3
80°	38.6	37.4	36.2	35.0	33.8
82.5°	22.9	22.9	22.9	22.9	22.9
85°	12.1	13.3	14.5	15.7	16.9
87.5°	7.2	7.2	8.5	9.7	10.9
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)