

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: P547511

Luminaire Tested: **FMR-24-4-LD4-4STD-50-UNV-80-84-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: P547511  
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-24-4-LD4-4STD-50-UNV-80-84-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

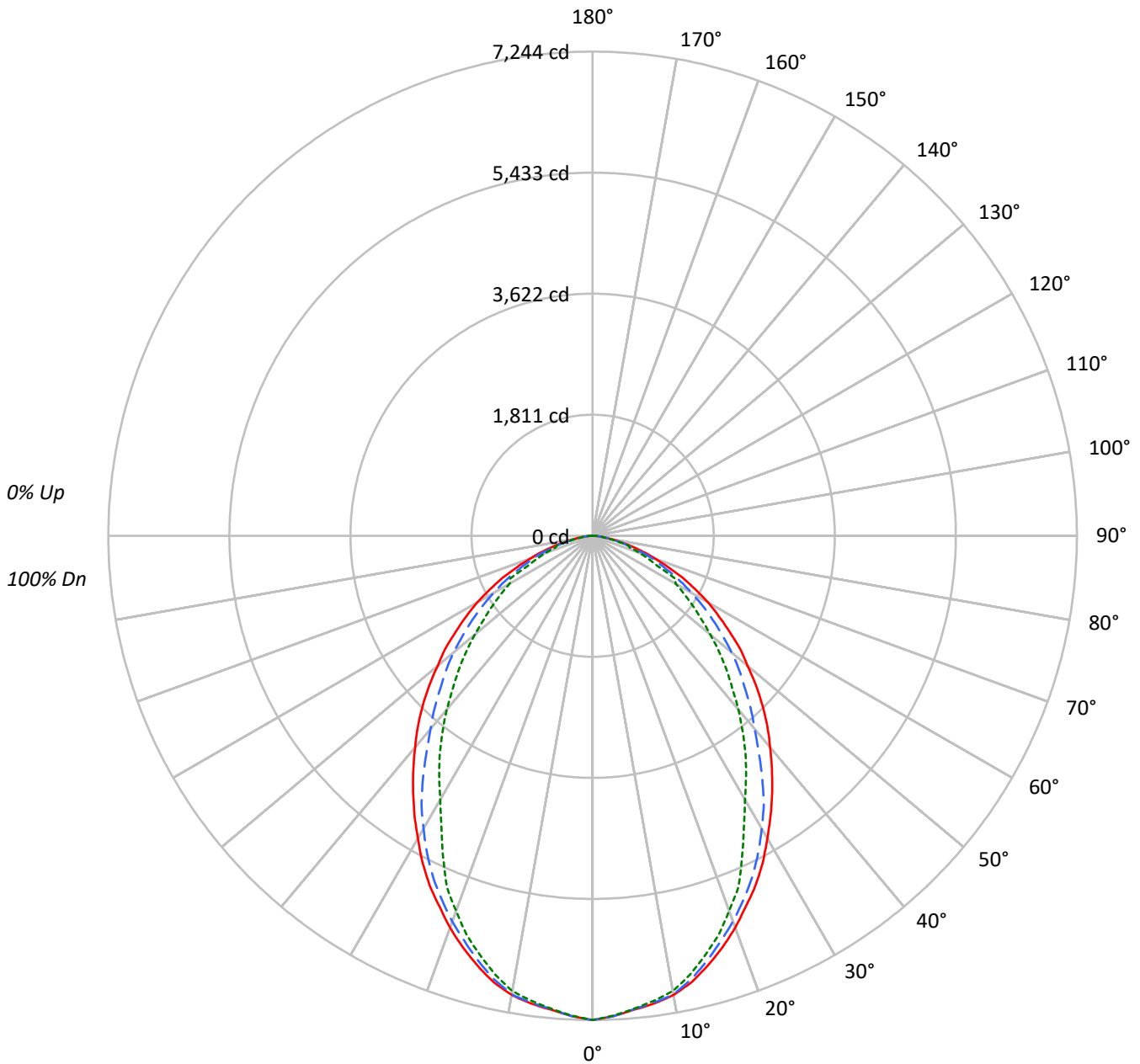
Lumens per Lamp: N/A  
Luminaire Lumens: 14221.0 lumens  
Efficiency: N/A  
Efficacy: 106.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 133.2  
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°	9747	9747	9747
5°	9614	9603	9592
10°	9531	9519	9451
15°	9274	9181	9052
20°	8933	8789	8550
25°	8566	8380	7857
30°	8119	7859	7078
35°	7689	7263	6548
40°	7252	6619	5957
45°	6836	6119	5386
50°	6328	5680	4803
55°	5854	5147	4302
60°	5363	4597	3853
65°	4719	4026	3413
70°	3888	3525	2899
75°	3091	2699	2830
80°	2077	1946	1817
85°	1292	1551	1809



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	674.3	4.7
10°-20°	1850.6	13.0
20°-30°	2562.0	18.0
30°-40°	2731.9	19.2
40°-50°	2492.3	17.5
50°-60°	1952.5	13.7
60°-70°	1272.5	8.9
70°-80°	563.8	4.0
80°-90°	121.0	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°	5087.0	35.8
0°-40°	7818.9	55.0
0°-60°	12263.6	86.2
0°-90°	14221.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	14221.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	7244	7244	7244	7244	7244	
5°	7118	7110	7110	7102	7102	676
15°	6658	6658	6591	6524	6499	1872
25°	5770	5737	5644	5444	5293	2649
35°	4681	4648	4422	4087	3986	2927
45°	3593	3517	3216	2948	2831	2767
55°	2496	2420	2194	1934	1834	2238
65°	1482	1399	1265	1290	1072	1461
75°	595	553	519	494	544	637
85°	84	92	100	109	117	116
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	7244.0	7244.0	7244.0	7244.0	7244.0
2.5°	7193.7	7193.7	7193.7	7185.4	7185.4
5°	7118.4	7110.0	7110.0	7101.6	7101.6
7.5°	7059.7	7051.4	7043.0	7034.6	7017.9
10°	6976.0	6976.0	6967.6	6925.8	6917.4
12.5°	6842.0	6833.6	6800.1	6741.5	6724.8
15°	6657.8	6657.8	6590.8	6523.8	6498.7
17.5°	6456.8	6448.4	6364.7	6297.7	6264.2
20°	6239.0	6222.3	6138.5	6029.7	5971.1
22.5°	5996.2	5996.2	5895.7	5753.3	5694.7
25°	5770.1	5736.6	5644.4	5443.5	5292.7
27.5°	5510.5	5460.2	5359.7	5075.0	4899.1
30°	5225.7	5200.6	5058.2	4689.7	4555.8
32.5°	4957.7	4915.9	4765.1	4379.9	4271.0
35°	4681.4	4647.9	4421.8	4086.8	3986.3
37.5°	4405.0	4363.1	4078.4	3810.4	3684.8
40°	4128.7	4078.4	3768.5	3525.7	3391.7
42.5°	3869.0	3802.0	3500.6	3241.0	3090.2
45°	3592.7	3517.3	3215.8	2947.8	2830.6
47.5°	3316.3	3249.3	2973.0	2696.6	2562.6
50°	3023.2	2964.6	2713.4	2437.0	2294.6
52.5°	2780.4	2688.2	2445.4	2169.0	2051.8
55°	2495.6	2420.2	2194.1	1934.5	1834.0
57.5°	2236.0	2160.6	1951.3	1708.4	1624.7
60°	1993.1	1884.3	1708.4	1499.0	1432.0
62.5°	1725.2	1641.4	1490.7	1314.8	1398.6
65°	1482.3	1398.6	1264.6	1289.7	1071.9
67.5°	1214.3	1172.4	1055.2	937.9	904.5
70°	988.2	937.9	896.1	770.5	737.0
72.5°	787.2	737.0	678.3	611.3	586.2
75°	594.6	552.7	519.2	494.1	544.3
77.5°	410.4	393.6	368.5	343.4	335.0
80°	268.0	259.6	251.2	242.9	234.5
82.5°	159.1	159.1	159.1	159.1	159.1
85°	83.7	92.1	100.5	108.9	117.2
87.5°	50.2	50.2	58.6	67.0	75.4
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)