

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: P545993

Luminaire Tested: **FMR-12-4-LD4-1LO-50-UNV-82-86-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: P545993
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-50-UNV-82-86-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

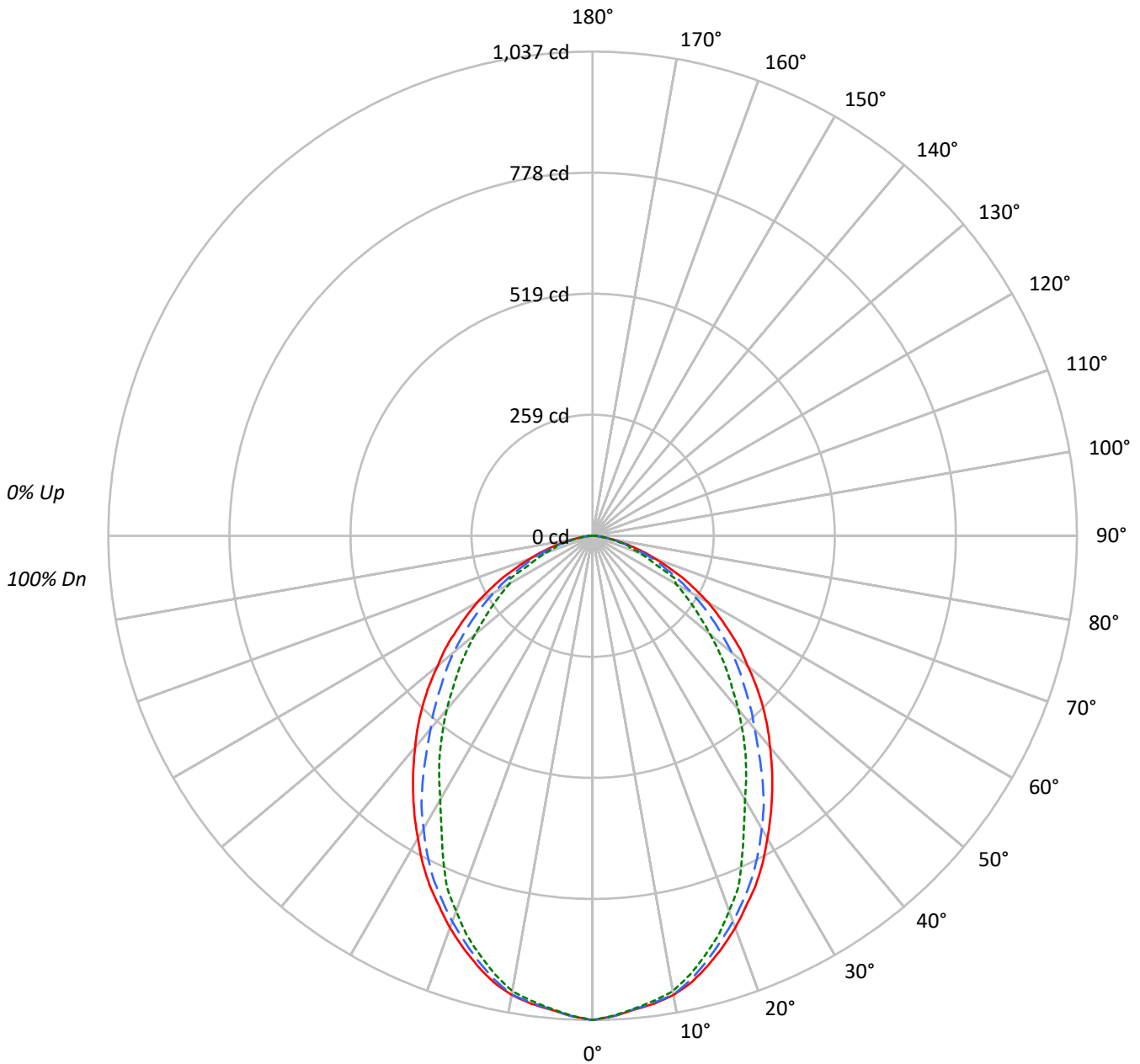
Lumens per Lamp: N/A
Luminaire Lumens: 2036.0 lumens
Efficiency: N/A
Efficacy: 87.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (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°	2791	2791	2791
5°	2753	2750	2746
10°	2729	2726	2706
15°	2656	2629	2592
20°	2558	2517	2448
25°	2453	2399	2250
30°	2325	2250	2027
35°	2202	2080	1875
40°	2076	1895	1706
45°	1958	1752	1542
50°	1812	1626	1375
55°	1676	1474	1232
60°	1536	1316	1103
65°	1351	1152	977
70°	1113	1009	830
75°	885	773	810
80°	595	558	521
85°	371	445	519



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.5	4.7
10°-20°	264.9	13.0
20°-30°	366.8	18.0
30°-40°	391.1	19.2
40°-50°	356.8	17.5
50°-60°	279.5	13.7
60°-70°	182.2	8.9
70°-80°	80.7	4.0
80°-90°	17.3	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°	728.3	35.8
0°-40°	1119.4	55.0
0°-60°	1755.8	86.2
0°-90°	2036.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2036.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1037	1037	1037	1037	1037	
5°	1019	1018	1018	1017	1017	97
15°	953	953	944	934	930	268
25°	826	821	808	779	758	379
35°	670	665	633	585	571	419
45°	514	504	460	422	405	396
55°	357	346	314	277	263	320
65°	212	200	181	185	154	209
75°	85	79	74	71	78	91
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°	1037.1	1037.1	1037.1	1037.1	1037.1
2.5°	1029.9	1029.9	1029.9	1028.7	1028.7
5°	1019.1	1017.9	1017.9	1016.7	1016.7
7.5°	1010.7	1009.5	1008.3	1007.1	1004.7
10°	998.7	998.7	997.5	991.6	990.4
12.5°	979.6	978.4	973.6	965.2	962.8
15°	953.2	953.2	943.6	934.0	930.4
17.5°	924.4	923.2	911.2	901.6	896.8
20°	893.2	890.8	878.8	863.3	854.9
22.5°	858.5	858.5	844.1	823.7	815.3
25°	826.1	821.3	808.1	779.3	757.8
27.5°	788.9	781.7	767.3	726.6	701.4
30°	748.2	744.6	724.2	671.4	652.2
32.5°	709.8	703.8	682.2	627.1	611.5
35°	670.2	665.4	633.1	585.1	570.7
37.5°	630.7	624.7	583.9	545.5	527.5
40°	591.1	583.9	539.5	504.8	485.6
42.5°	553.9	544.3	501.2	464.0	442.4
45°	514.4	503.6	460.4	422.0	405.3
47.5°	474.8	465.2	425.6	386.1	366.9
50°	432.8	424.4	388.5	348.9	328.5
52.5°	398.1	384.9	350.1	310.5	293.7
55°	357.3	346.5	314.1	277.0	262.6
57.5°	320.1	309.3	279.4	244.6	232.6
60°	285.4	269.8	244.6	214.6	205.0
62.5°	247.0	235.0	213.4	188.2	200.2
65°	212.2	200.2	181.0	184.6	153.5
67.5°	173.9	167.9	151.1	134.3	129.5
70°	141.5	134.3	128.3	110.3	105.5
72.5°	112.7	105.5	97.1	87.5	83.9
75°	85.1	79.1	74.3	70.7	77.9
77.5°	58.7	56.4	52.8	49.2	48.0
80°	38.4	37.2	36.0	34.8	33.6
82.5°	22.8	22.8	22.8	22.8	22.8
85°	12.0	13.2	14.4	15.6	16.8
87.5°	7.2	7.2	8.4	9.6	10.8
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)