

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: P545930

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-82-87-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: P545930
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-35-UNV-82-87-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

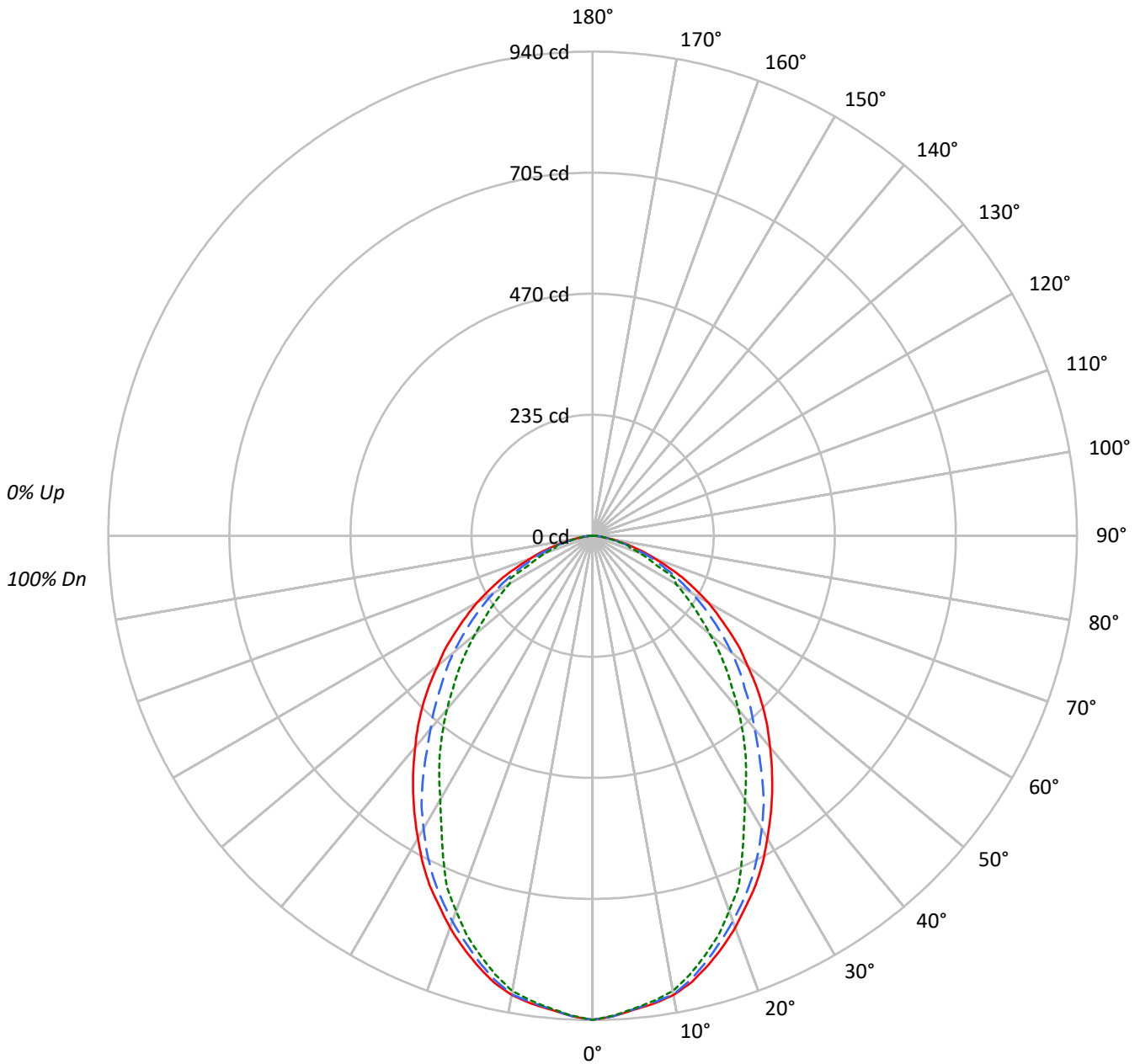
Lumens per Lamp: N/A
Luminaire Lumens: 1845.0 lumens
Efficiency: N/A
Efficacy: 78.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P545930

CATALOG NUMBER: FMR-12-4-LD4-1LO-35-UNV-82-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545930

CATALOG NUMBER: FMR-12-4-LD4-1LO-35-UNV-82-87-EDD

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°	2529	2529	2529
5°	2495	2492	2489
10°	2473	2470	2452
15°	2406	2382	2349
20°	2318	2281	2218
25°	2223	2174	2039
30°	2107	2039	1837
35°	1995	1885	1699
40°	1881	1717	1546
45°	1774	1588	1397
50°	1642	1474	1246
55°	1519	1336	1116
60°	1392	1193	1000
65°	1224	1045	886
70°	1009	915	752
75°	802	701	734
80°	539	505	471
85°	337	401	469



TEST NUMBER: P545930

CATALOG NUMBER: FMR-12-4-LD4-1LO-35-UNV-82-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	87.5	4.7
10°-20°	240.1	13.0
20°-30°	332.4	18.0
30°-40°	354.4	19.2
40°-50°	323.3	17.5
50°-60°	253.3	13.7
60°-70°	165.1	8.9
70°-80°	73.1	4.0
80°-90°	15.7	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°	660.0	35.8
0°-40°	1014.4	55.0
0°-60°	1591.1	86.2
0°-90°	1845.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1845.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	940	940	940	940	940	
5°	924	922	922	921	921	88
15°	864	864	855	846	843	243
25°	749	744	732	706	687	344
35°	607	603	574	530	517	380
45°	466	456	417	382	367	359
55°	324	314	285	251	238	290
65°	192	181	164	167	139	190
75°	77	72	67	64	71	83
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



TEST NUMBER: P545930

CATALOG NUMBER: FMR-12-4-LD4-1LO-35-UNV-82-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	939.8	939.8	939.8	939.8	939.8
2.5°	933.3	933.3	933.3	932.2	932.2
5°	923.5	922.4	922.4	921.3	921.3
7.5°	915.9	914.8	913.7	912.7	910.5
10°	905.1	905.1	904.0	898.5	897.4
12.5°	887.7	886.6	882.2	874.6	872.5
15°	863.8	863.8	855.1	846.4	843.1
17.5°	837.7	836.6	825.7	817.0	812.7
20°	809.4	807.3	796.4	782.3	774.7
22.5°	777.9	777.9	764.9	746.4	738.8
25°	748.6	744.2	732.3	706.2	686.7
27.5°	714.9	708.4	695.4	658.4	635.6
30°	678.0	674.7	656.2	608.4	591.1
32.5°	643.2	637.8	618.2	568.2	554.1
35°	607.4	603.0	573.7	530.2	517.2
37.5°	571.5	566.1	529.1	494.4	478.1
40°	535.6	529.1	488.9	457.4	440.0
42.5°	502.0	493.3	454.2	420.5	400.9
45°	466.1	456.3	417.2	382.4	367.2
47.5°	430.3	421.6	385.7	349.9	332.5
50°	392.2	384.6	352.0	316.2	297.7
52.5°	360.7	348.8	317.3	281.4	266.2
55°	323.8	314.0	284.7	251.0	237.9
57.5°	290.1	280.3	253.2	221.6	210.8
60°	258.6	244.5	221.6	194.5	185.8
62.5°	223.8	213.0	193.4	170.6	181.4
65°	192.3	181.4	164.1	167.3	139.1
67.5°	157.5	152.1	136.9	121.7	117.3
70°	128.2	121.7	116.3	100.0	95.6
72.5°	102.1	95.6	88.0	79.3	76.1
75°	77.1	71.7	67.4	64.1	70.6
77.5°	53.2	51.1	47.8	44.5	43.5
80°	34.8	33.7	32.6	31.5	30.4
82.5°	20.6	20.6	20.6	20.6	20.6
85°	10.9	12.0	13.0	14.1	15.2
87.5°	6.5	6.5	7.6	8.7	9.8
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)