

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: P545389

Luminaire Tested: **FMR-12-2-LD4-1LO-40-UNV-82-96-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: P545389
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-12-2-LD4-1LO-40-UNV-82-96-EDD
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

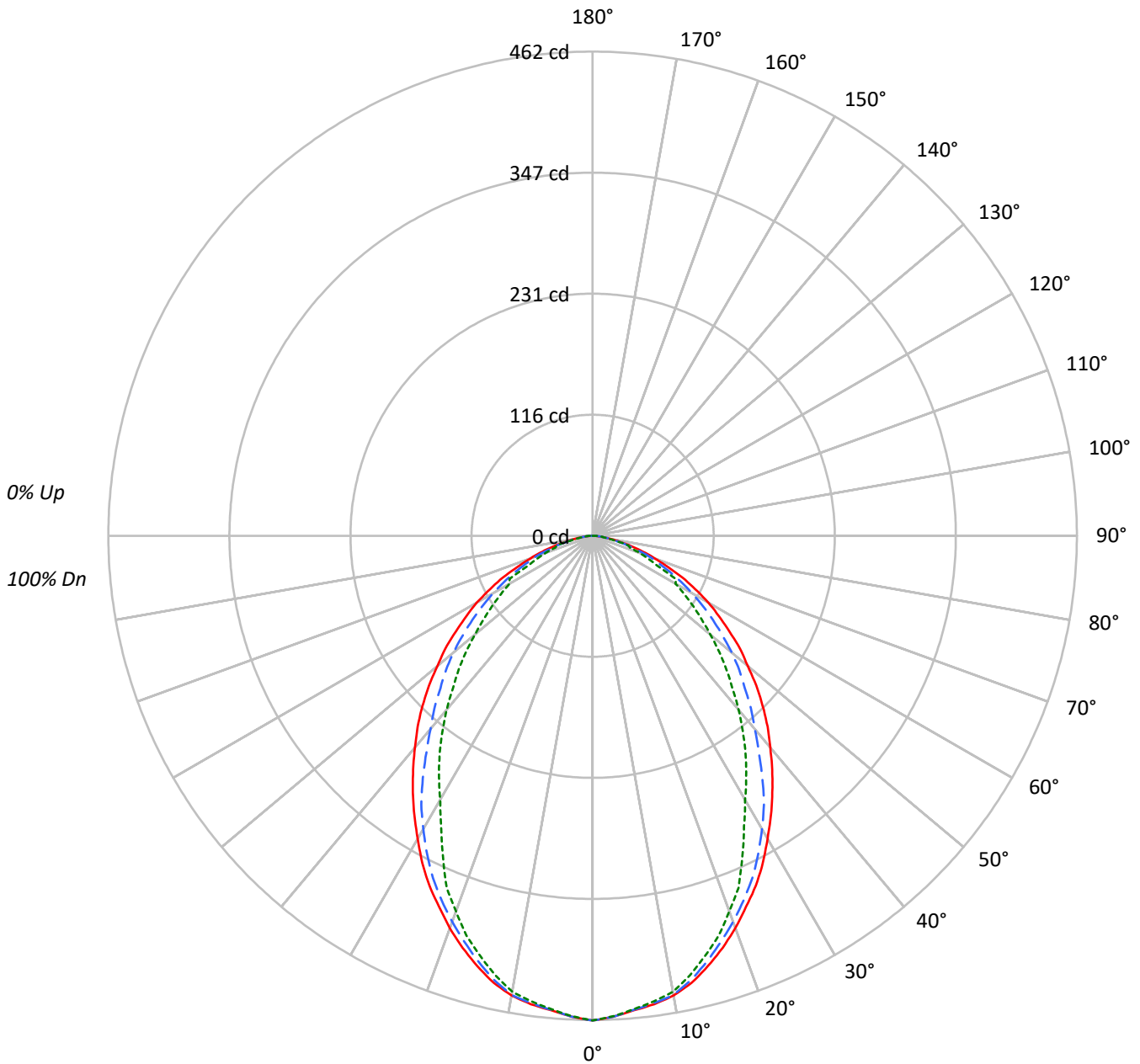
Lumens per Lamp: N/A
Luminaire Lumens: 908.0 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 11.7
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: P545389

CATALOG NUMBER: FMR-12-2-LD4-1LO-40-UNV-82-96-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545389

CATALOG NUMBER: FMR-12-2-LD4-1LO-40-UNV-82-96-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°	2489	2489	2489
5°	2455	2453	2450
10°	2434	2431	2414
15°	2369	2345	2312
20°	2282	2245	2183
25°	2188	2140	2007
30°	2074	2007	1808
35°	1964	1855	1672
40°	1852	1690	1522
45°	1746	1563	1375
50°	1616	1450	1227
55°	1495	1315	1099
60°	1370	1174	984
65°	1205	1028	871
70°	993	900	741
75°	790	690	724
80°	530	496	465
85°	327	395	463



TEST NUMBER: P545389

CATALOG NUMBER: FMR-12-2-LD4-1LO-40-UNV-82-96-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	43.1	4.7
10°-20°	118.2	13.0
20°-30°	163.6	18.0
30°-40°	174.4	19.2
40°-50°	159.1	17.5
50°-60°	124.7	13.7
60°-70°	81.2	8.9
70°-80°	36.0	4.0
80°-90°	7.7	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°	324.8	35.8
0°-40°	499.2	55.0
0°-60°	783.0	86.2
0°-90°	908.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	908.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	462	462	462	462	462	
5°	454	454	454	453	453	43
15°	425	425	421	416	415	120
25°	368	366	360	348	338	169
35°	299	297	282	261	254	187
45°	229	225	205	188	181	177
55°	159	154	140	124	117	143
65°	95	89	81	82	68	93
75°	38	35	33	32	35	41
85°	5	6	6	7	8	7
90°	0	0	0	0	0	



TEST NUMBER: P545389

CATALOG NUMBER: FMR-12-2-LD4-1LO-40-UNV-82-96-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	462.5	462.5	462.5	462.5	462.5
2.5°	459.3	459.3	459.3	458.8	458.8
5°	454.5	454.0	454.0	453.4	453.4
7.5°	450.8	450.2	449.7	449.2	448.1
10°	445.4	445.4	444.9	442.2	441.7
12.5°	436.9	436.3	434.2	430.4	429.4
15°	425.1	425.1	420.8	416.5	414.9
17.5°	412.3	411.7	406.4	402.1	400.0
20°	398.4	397.3	391.9	385.0	381.2
22.5°	382.9	382.9	376.4	367.3	363.6
25°	368.4	366.3	360.4	347.6	337.9
27.5°	351.8	348.6	342.2	324.0	312.8
30°	333.7	332.1	323.0	299.4	290.9
32.5°	316.5	313.9	304.2	279.7	272.7
35°	298.9	296.8	282.3	260.9	254.5
37.5°	281.3	278.6	260.4	243.3	235.3
40°	263.6	260.4	240.6	225.1	216.6
42.5°	247.0	242.8	223.5	206.9	197.3
45°	229.4	224.6	205.3	188.2	180.7
47.5°	211.7	207.5	189.8	172.2	163.6
50°	193.0	189.3	173.2	155.6	146.5
52.5°	177.5	171.6	156.1	138.5	131.0
55°	159.3	154.5	140.1	123.5	117.1
57.5°	142.8	138.0	124.6	109.1	103.7
60°	127.3	120.3	109.1	95.7	91.4
62.5°	110.2	104.8	95.2	83.9	89.3
65°	94.6	89.3	80.7	82.3	68.4
67.5°	77.5	74.9	67.4	59.9	57.7
70°	63.1	59.9	57.2	49.2	47.1
72.5°	50.3	47.1	43.3	39.0	37.4
75°	38.0	35.3	33.2	31.5	34.8
77.5°	26.2	25.1	23.5	21.9	21.4
80°	17.1	16.6	16.0	15.5	15.0
82.5°	10.2	10.2	10.2	10.2	10.2
85°	5.3	5.9	6.4	7.0	7.5
87.5°	3.2	3.2	3.7	4.3	4.8
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)