

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: P545996

Luminaire Tested: **FMR-12-4-LD4-1LO-50-UNV-82-94-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: P545996
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-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

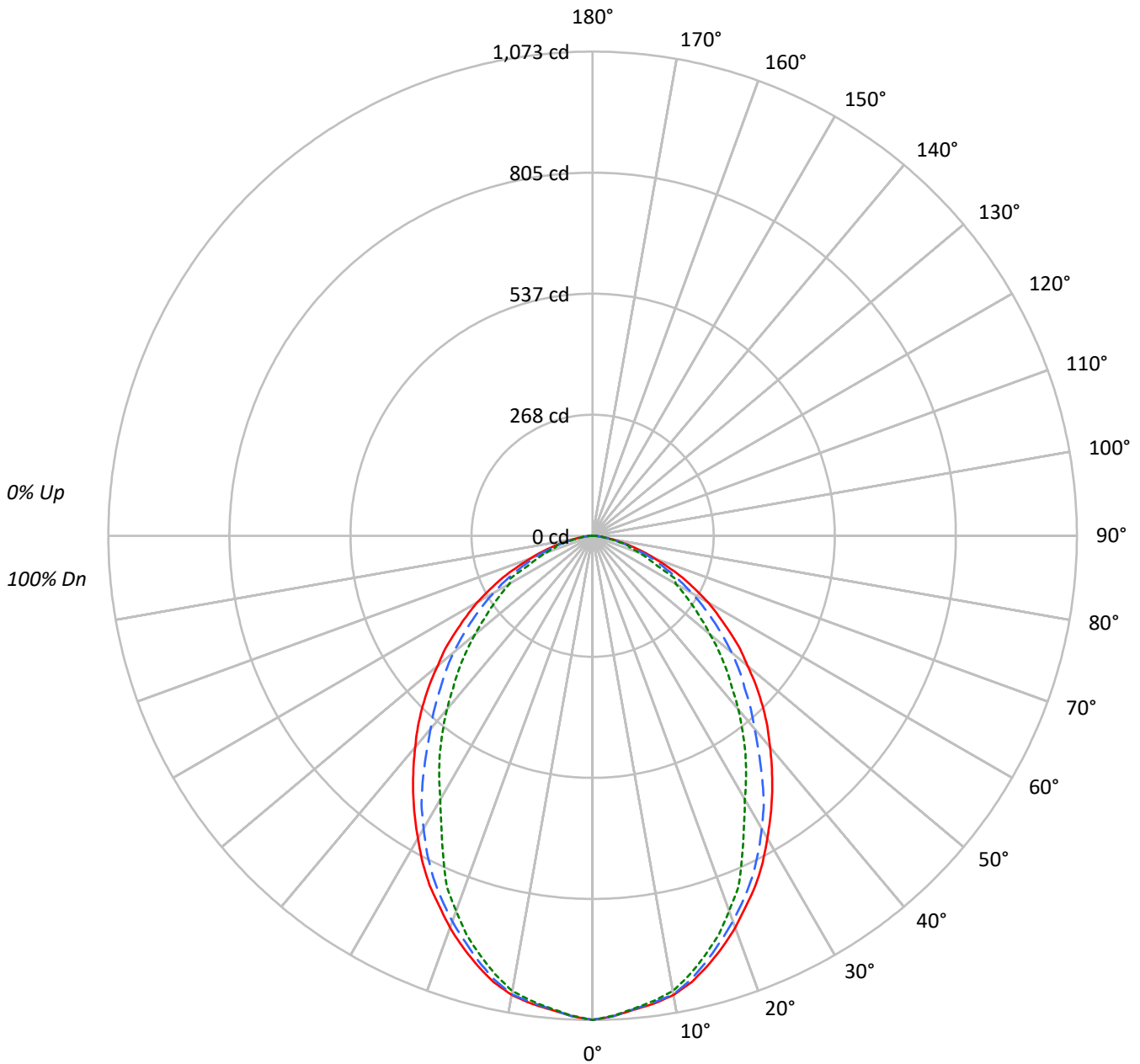
Lumens per Lamp: N/A
Luminaire Lumens: 2106.0 lumens
Efficiency: N/A
Efficacy: 90.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P545996

CATALOG NUMBER: FMR-12-4-LD4-1LO-50-UNV-82-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545996

CATALOG NUMBER: FMR-12-4-LD4-1LO-50-UNV-82-94-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°	2887	2887	2887
5°	2848	2844	2841
10°	2823	2819	2799
15°	2747	2719	2681
20°	2646	2603	2532
25°	2537	2482	2327
30°	2405	2328	2096
35°	2278	2151	1939
40°	2148	1961	1764
45°	2025	1812	1595
50°	1874	1682	1423
55°	1734	1524	1274
60°	1589	1362	1142
65°	1398	1193	1011
70°	1151	1044	858
75°	916	800	838
80°	615	576	538
85°	383	460	537



TEST NUMBER: P545996

CATALOG NUMBER: FMR-12-4-LD4-1LO-50-UNV-82-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	99.9	4.7
10°-20°	274.1	13.0
20°-30°	379.4	18.0
30°-40°	404.6	19.2
40°-50°	369.1	17.5
50°-60°	289.1	13.7
60°-70°	188.5	8.9
70°-80°	83.5	4.0
80°-90°	17.9	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°	753.3	35.8
0°-40°	1157.9	55.0
0°-60°	1816.1	86.2
0°-90°	2106.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2106.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1073	1073	1073	1073	1073	
5°	1054	1053	1053	1052	1052	100
15°	986	986	976	966	962	277
25°	854	850	836	806	784	392
35°	693	688	655	605	590	433
45°	532	521	476	436	419	410
55°	370	358	325	286	272	331
65°	220	207	187	191	159	216
75°	88	82	77	73	81	94
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



TEST NUMBER: P545996

CATALOG NUMBER: FMR-12-4-LD4-1LO-50-UNV-82-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1072.8	1072.8	1072.8	1072.8	1072.8
2.5°	1065.3	1065.3	1065.3	1064.1	1064.1
5°	1054.2	1052.9	1052.9	1051.7	1051.7
7.5°	1045.5	1044.2	1043.0	1041.8	1039.3
10°	1033.1	1033.1	1031.8	1025.6	1024.4
12.5°	1013.2	1012.0	1007.0	998.4	995.9
15°	986.0	986.0	976.0	966.1	962.4
17.5°	956.2	954.9	942.5	932.6	927.7
20°	923.9	921.5	909.1	892.9	884.3
22.5°	888.0	888.0	873.1	852.0	843.3
25°	854.5	849.5	835.9	806.1	783.8
27.5°	816.0	808.6	793.7	751.6	725.5
30°	773.9	770.2	749.1	694.5	674.7
32.5°	734.2	728.0	705.7	648.6	632.5
35°	693.3	688.3	654.8	605.2	590.3
37.5°	652.3	646.1	604.0	564.3	545.7
40°	611.4	604.0	558.1	522.1	502.3
42.5°	573.0	563.0	518.4	480.0	457.6
45°	532.0	520.9	476.2	436.5	419.2
47.5°	491.1	481.2	440.3	399.3	379.5
50°	447.7	439.0	401.8	360.9	339.8
52.5°	411.7	398.1	362.1	321.2	303.8
55°	369.6	358.4	324.9	286.5	271.6
57.5°	331.1	320.0	289.0	253.0	240.6
60°	295.2	279.0	253.0	222.0	212.1
62.5°	255.5	243.1	220.8	194.7	207.1
65°	219.5	207.1	187.3	191.0	158.7
67.5°	179.8	173.6	156.3	138.9	133.9
70°	146.3	138.9	132.7	114.1	109.1
72.5°	116.6	109.1	100.5	90.5	86.8
75°	88.1	81.9	76.9	73.2	80.6
77.5°	60.8	58.3	54.6	50.8	49.6
80°	39.7	38.4	37.2	36.0	34.7
82.5°	23.6	23.6	23.6	23.6	23.6
85°	12.4	13.6	14.9	16.1	17.4
87.5°	7.4	7.4	8.7	9.9	11.2
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)