

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: P545997

Luminaire Tested: **FMR-12-4-LD4-1LO-50-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: P545997
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-82-96-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

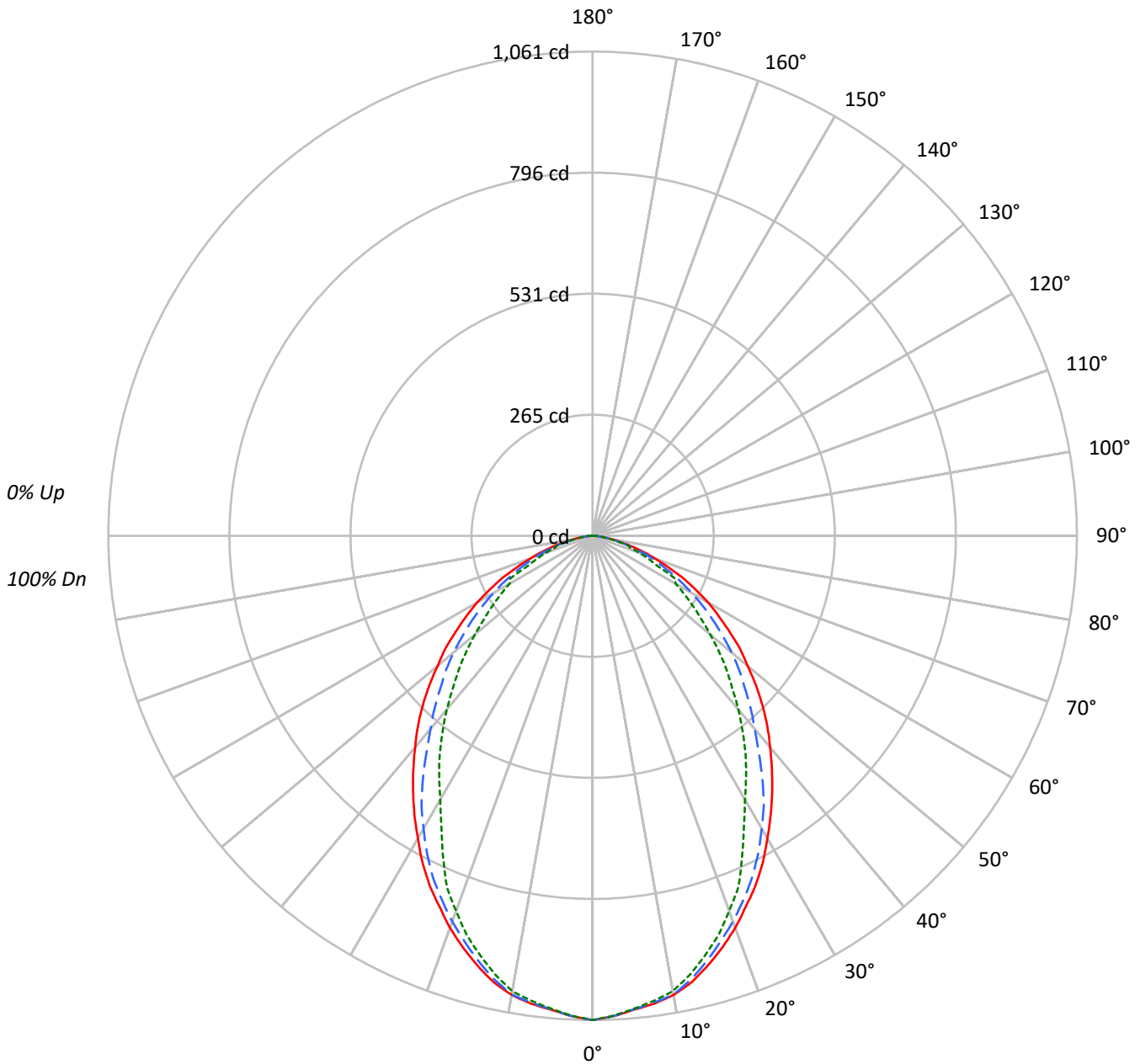
Lumens per Lamp: N/A
Luminaire Lumens: 2083.0 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2855	2855	2855
5°	2817	2813	2810
10°	2792	2789	2769
15°	2717	2690	2652
20°	2617	2575	2505
25°	2510	2455	2302
30°	2378	2302	2073
35°	2253	2128	1918
40°	2124	1939	1745
45°	2003	1792	1578
50°	1854	1664	1407
55°	1715	1508	1260
60°	1571	1347	1129
65°	1382	1179	1000
70°	1138	1033	849
75°	906	791	829
80°	609	570	532
85°	380	454	531



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	98.8	4.7
10°-20°	271.1	13.0
20°-30°	375.3	18.0
30°-40°	400.1	19.2
40°-50°	365.0	17.5
50°-60°	286.0	13.7
60°-70°	186.4	8.9
70°-80°	82.6	4.0
80°-90°	17.7	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°	745.1	35.8
0°-40°	1145.3	55.0
0°-60°	1796.3	86.2
0°-90°	2083.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2083.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1061	1061	1061	1061	1061	
5°	1043	1041	1041	1040	1040	99
15°	975	975	965	956	952	274
25°	845	840	827	797	775	388
35°	686	681	648	599	584	429
45°	526	515	471	432	415	405
55°	366	354	321	283	269	328
65°	217	205	185	189	157	214
75°	87	81	76	72	80	93
85°	12	14	15	16	17	17
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1061.1	1061.1	1061.1	1061.1	1061.1
2.5°	1053.7	1053.7	1053.7	1052.5	1052.5
5°	1042.7	1041.4	1041.4	1040.2	1040.2
7.5°	1034.1	1032.8	1031.6	1030.4	1027.9
10°	1021.8	1021.8	1020.6	1014.4	1013.2
12.5°	1002.2	1000.9	996.0	987.5	985.0
15°	975.2	975.2	965.4	955.6	951.9
17.5°	945.7	944.5	932.3	922.4	917.5
20°	913.9	911.4	899.1	883.2	874.6
22.5°	878.3	878.3	863.6	842.7	834.1
25°	845.2	840.3	826.8	797.3	775.2
27.5°	807.1	799.8	785.1	743.3	717.6
30°	765.4	761.7	740.9	686.9	667.3
32.5°	726.2	720.0	698.0	641.5	625.6
35°	685.7	680.8	647.7	598.6	583.9
37.5°	645.2	639.1	597.4	558.1	539.7
40°	604.7	597.4	552.0	516.4	496.8
42.5°	566.7	556.9	512.7	474.7	452.6
45°	526.2	515.2	471.0	431.8	414.6
47.5°	485.8	475.9	435.5	395.0	375.4
50°	442.8	434.2	397.4	357.0	336.1
52.5°	407.2	393.8	358.2	317.7	300.5
55°	365.5	354.5	321.4	283.4	268.6
57.5°	327.5	316.5	285.8	250.2	238.0
60°	291.9	276.0	250.2	219.6	209.8
62.5°	252.7	240.4	218.3	192.6	204.9
65°	217.1	204.9	185.2	188.9	157.0
67.5°	177.9	171.7	154.6	137.4	132.5
70°	144.7	137.4	131.3	112.9	107.9
72.5°	115.3	107.9	99.4	89.5	85.9
75°	87.1	81.0	76.1	72.4	79.7
77.5°	60.1	57.7	54.0	50.3	49.1
80°	39.3	38.0	36.8	35.6	34.3
82.5°	23.3	23.3	23.3	23.3	23.3
85°	12.3	13.5	14.7	15.9	17.2
87.5°	7.4	7.4	8.6	9.8	11.0
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)