

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: P545988

Luminaire Tested: **FMR-12-4-LD4-1LO-50-UNV-81-94-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: P545988
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-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 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

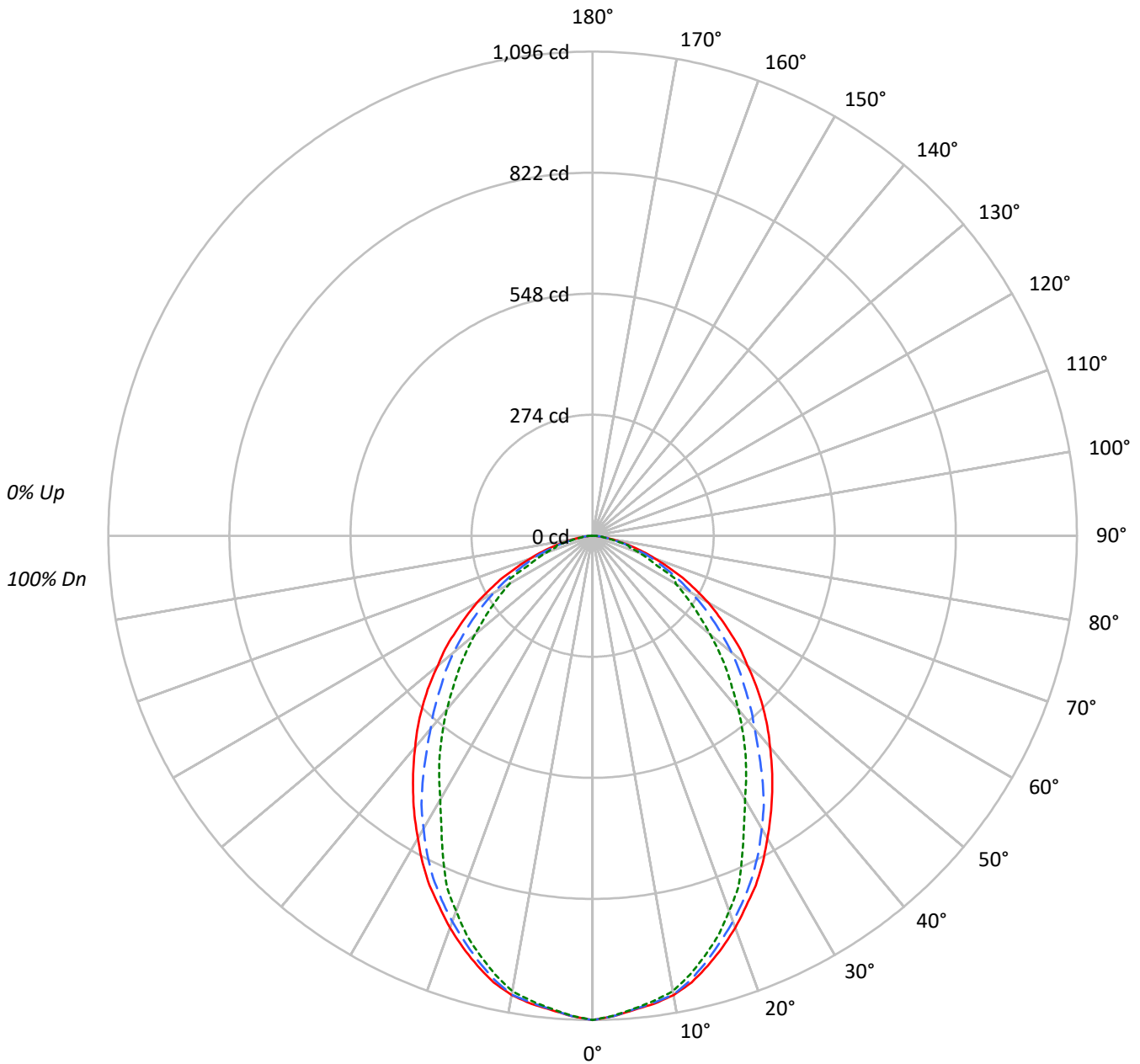
Lumens per Lamp: N/A
Luminaire Lumens: 2152.0 lumens
Efficiency: N/A
Efficacy: 92.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2950	2950	2950
5°	2910	2906	2903
10°	2884	2881	2860
15°	2807	2779	2740
20°	2704	2660	2588
25°	2593	2536	2378
30°	2457	2378	2142
35°	2327	2198	1982
40°	2195	2003	1803
45°	2069	1852	1630
50°	1915	1719	1454
55°	1772	1558	1302
60°	1623	1391	1166
65°	1428	1219	1033
70°	1176	1067	877
75°	936	817	857
80°	629	589	550
85°	392	469	546



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.0	4.7
10°-20°	280.0	13.0
20°-30°	387.7	18.0
30°-40°	413.4	19.2
40°-50°	377.1	17.5
50°-60°	295.5	13.7
60°-70°	192.6	8.9
70°-80°	85.3	4.0
80°-90°	18.3	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°	769.8	35.8
0°-40°	1183.2	55.0
0°-60°	1855.8	86.2
0°-90°	2152.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2152.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1096	1096	1096	1096	1096	
5°	1077	1076	1076	1075	1075	102
15°	1008	1008	997	987	983	283
25°	873	868	854	824	801	401
35°	708	703	669	618	603	443
45°	544	532	487	446	428	419
55°	378	366	332	293	278	339
65°	224	212	191	195	162	221
75°	90	84	79	75	82	96
85°	13	14	15	16	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1096.2	1096.2	1096.2	1096.2	1096.2
2.5°	1088.6	1088.6	1088.6	1087.3	1087.3
5°	1077.2	1075.9	1075.9	1074.7	1074.7
7.5°	1068.3	1067.1	1065.8	1064.5	1062.0
10°	1055.6	1055.6	1054.4	1048.0	1046.8
12.5°	1035.4	1034.1	1029.0	1020.2	1017.6
15°	1007.5	1007.5	997.4	987.2	983.4
17.5°	977.1	975.8	963.1	953.0	947.9
20°	944.1	941.6	928.9	912.4	903.6
22.5°	907.4	907.4	892.2	870.6	861.8
25°	873.2	868.1	854.1	823.7	800.9
27.5°	833.9	826.3	811.1	768.0	741.4
30°	790.8	787.0	765.4	709.7	689.4
32.5°	750.2	743.9	721.1	662.8	646.3
35°	708.4	703.3	669.1	618.4	603.2
37.5°	666.6	660.3	617.2	576.6	557.6
40°	624.8	617.2	570.3	533.5	513.2
42.5°	585.5	575.3	529.7	490.4	467.6
45°	543.7	532.3	486.6	446.1	428.3
47.5°	501.8	491.7	449.9	408.1	387.8
50°	457.5	448.6	410.6	368.8	347.2
52.5°	420.7	406.8	370.0	328.2	310.5
55°	377.7	366.2	332.0	292.7	277.5
57.5°	338.4	327.0	295.3	258.5	245.9
60°	301.6	285.1	258.5	226.8	216.7
62.5°	261.1	248.4	225.6	199.0	211.6
65°	224.3	211.6	191.4	195.2	162.2
67.5°	183.8	177.4	159.7	141.9	136.9
70°	149.5	141.9	135.6	116.6	111.5
72.5°	119.1	111.5	102.6	92.5	88.7
75°	90.0	83.6	78.6	74.8	82.4
77.5°	62.1	59.6	55.8	52.0	50.7
80°	40.6	39.3	38.0	36.8	35.5
82.5°	24.1	24.1	24.1	24.1	24.1
85°	12.7	13.9	15.2	16.5	17.7
87.5°	7.6	7.6	8.9	10.1	11.4
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)