

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: P545967

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-93-84-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: P545967
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-40-UNV-93-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

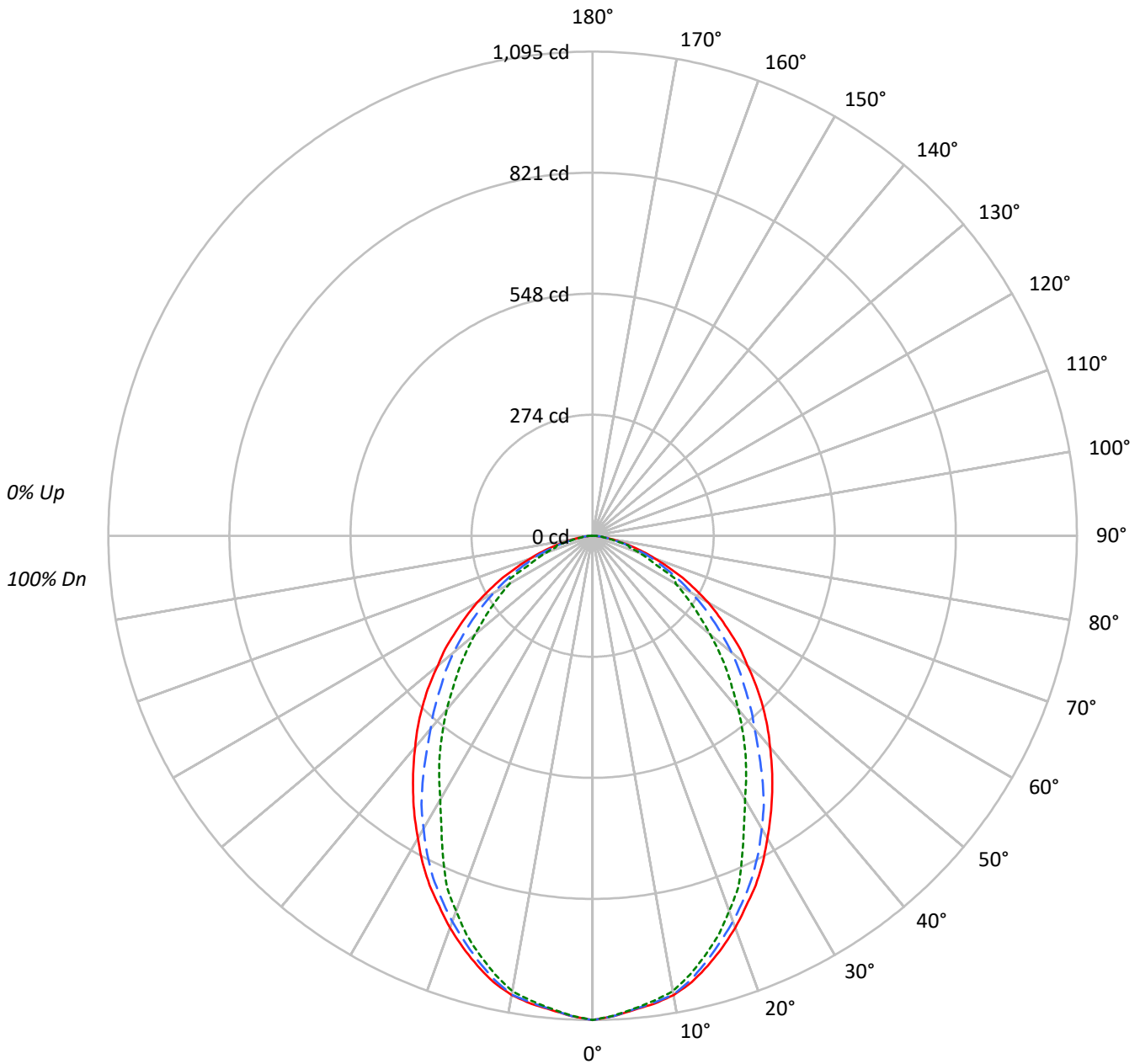
Lumens per Lamp: N/A
Luminaire Lumens: 2150.0 lumens
Efficiency: N/A
Efficacy: 91.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	2947	2947	2947
5°	2907	2904	2900
10°	2882	2878	2858
15°	2804	2776	2737
20°	2701	2658	2585
25°	2590	2534	2376
30°	2455	2376	2140
35°	2325	2196	1980
40°	2193	2001	1801
45°	2067	1850	1628
50°	1914	1717	1452
55°	1770	1556	1301
60°	1622	1390	1165
65°	1427	1217	1032
70°	1175	1066	876
75°	935	816	856
80°	628	589	550
85°	392	469	546



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.9	4.7
10°-20°	279.8	13.0
20°-30°	387.3	18.0
30°-40°	413.0	19.2
40°-50°	376.8	17.5
50°-60°	295.2	13.7
60°-70°	192.4	8.9
70°-80°	85.2	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°	769.1	35.8
0°-40°	1182.1	55.0
0°-60°	1854.1	86.2
0°-90°	2150.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2150.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1095	1095	1095	1095	1095	
5°	1076	1075	1075	1074	1074	102
15°	1007	1007	996	986	982	283
25°	872	867	853	823	800	400
35°	708	703	668	618	603	442
45°	543	532	486	446	428	418
55°	377	366	332	292	277	338
65°	224	211	191	195	162	221
75°	90	84	78	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°	1095.2	1095.2	1095.2	1095.2	1095.2
2.5°	1087.6	1087.6	1087.6	1086.3	1086.3
5°	1076.2	1074.9	1074.9	1073.7	1073.7
7.5°	1067.3	1066.1	1064.8	1063.5	1061.0
10°	1054.7	1054.7	1053.4	1047.1	1045.8
12.5°	1034.4	1033.1	1028.1	1019.2	1016.7
15°	1006.6	1006.6	996.4	986.3	982.5
17.5°	976.2	974.9	962.2	952.1	947.0
20°	943.2	940.7	928.1	911.6	902.7
22.5°	906.5	906.5	891.3	869.8	861.0
25°	872.3	867.3	853.4	823.0	800.2
27.5°	833.1	825.5	810.3	767.3	740.7
30°	790.0	786.3	764.7	709.0	688.8
32.5°	749.5	743.2	720.4	662.2	645.7
35°	707.8	702.7	668.5	617.9	602.7
37.5°	666.0	659.6	616.6	576.1	557.1
40°	624.2	616.6	569.7	533.0	512.8
42.5°	584.9	574.8	529.2	490.0	467.2
45°	543.2	531.8	486.2	445.7	427.9
47.5°	501.4	491.2	449.5	407.7	387.4
50°	457.1	448.2	410.2	368.4	346.9
52.5°	420.3	406.4	369.7	327.9	310.2
55°	377.3	365.9	331.7	292.5	277.3
57.5°	338.1	326.7	295.0	258.3	245.6
60°	301.3	284.9	258.3	226.6	216.5
62.5°	260.8	248.2	225.4	198.8	211.4
65°	224.1	211.4	191.2	195.0	162.1
67.5°	183.6	177.3	159.5	141.8	136.7
70°	149.4	141.8	135.5	116.5	111.4
72.5°	119.0	111.4	102.6	92.4	88.6
75°	89.9	83.6	78.5	74.7	82.3
77.5°	62.0	59.5	55.7	51.9	50.6
80°	40.5	39.2	38.0	36.7	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)