

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: P546000

Luminaire Tested: **FMR-12-4-LD4-1LO-50-UNV-93-85-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: P546000
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-93-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

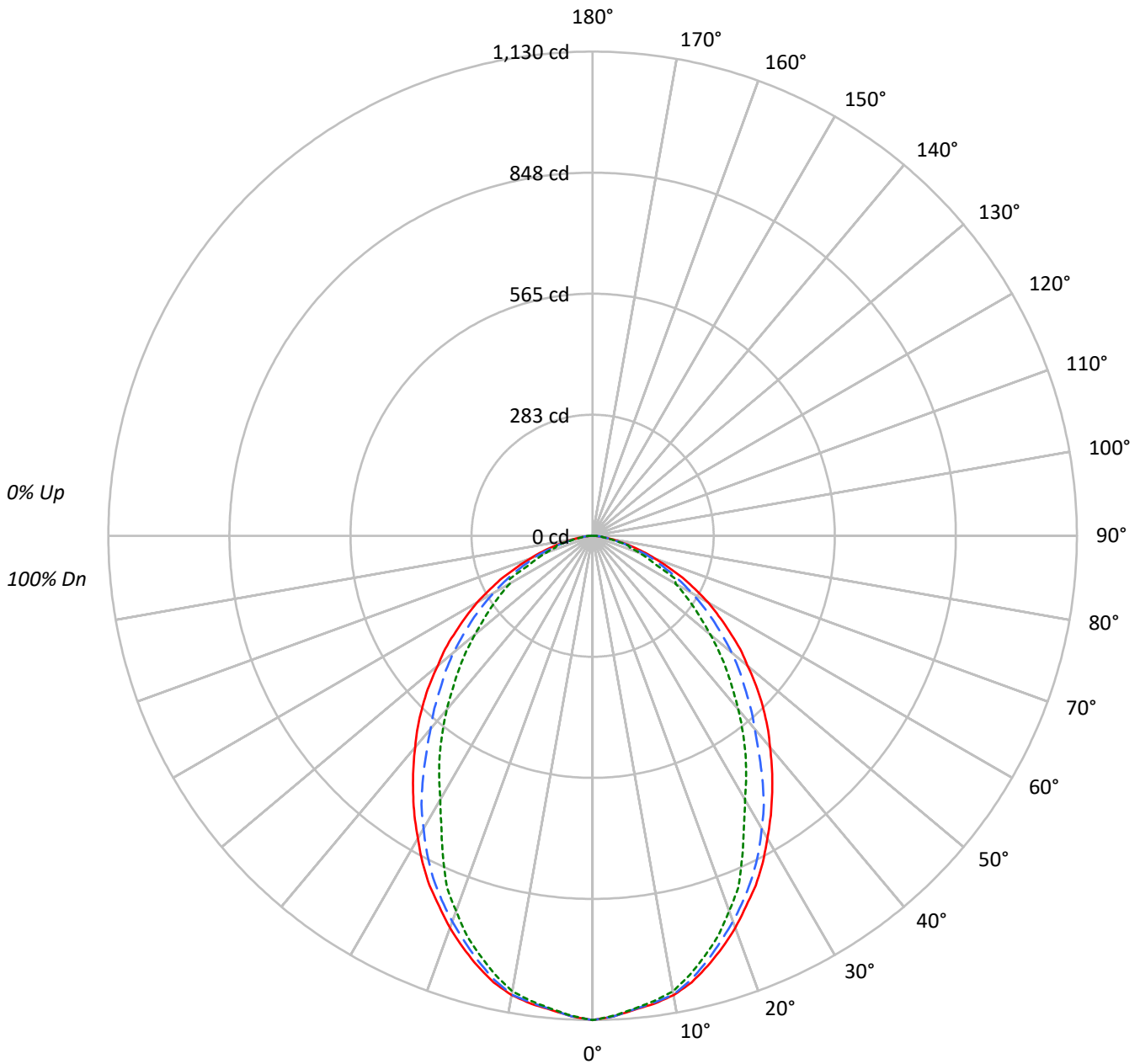
Lumens per Lamp: N/A
Luminaire Lumens: 2219.0 lumens
Efficiency: N/A
Efficacy: 94.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3042	3042	3042
5°	3000	2997	2993
10°	2974	2971	2949
15°	2894	2865	2825
20°	2788	2743	2668
25°	2673	2615	2452
30°	2534	2453	2209
35°	2400	2267	2043
40°	2263	2066	1859
45°	2133	1910	1681
50°	1975	1773	1499
55°	1827	1606	1343
60°	1674	1435	1203
65°	1473	1256	1065
70°	1213	1100	905
75°	965	842	883
80°	648	607	567
85°	404	485	565



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	105.2	4.7
10°-20°	288.8	13.0
20°-30°	399.8	18.0
30°-40°	426.3	19.2
40°-50°	388.9	17.5
50°-60°	304.7	13.7
60°-70°	198.6	8.9
70°-80°	88.0	4.0
80°-90°	18.9	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°	793.8	35.8
0°-40°	1220.0	55.0
0°-60°	1913.6	86.2
0°-90°	2219.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2219.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1130	1130	1130	1130	1130	
5°	1111	1109	1109	1108	1108	105
15°	1039	1039	1028	1018	1014	292
25°	900	895	881	849	826	413
35°	730	725	690	638	622	457
45°	561	549	502	460	442	432
55°	389	378	342	302	286	349
65°	231	218	197	201	167	228
75°	93	86	81	77	85	99
85°	13	14	16	17	18	18
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1130.3	1130.3	1130.3	1130.3	1130.3
2.5°	1122.5	1122.5	1122.5	1121.2	1121.2
5°	1110.7	1109.4	1109.4	1108.1	1108.1
7.5°	1101.6	1100.3	1099.0	1097.7	1095.0
10°	1088.5	1088.5	1087.2	1080.7	1079.4
12.5°	1067.6	1066.3	1061.1	1051.9	1049.3
15°	1038.9	1038.9	1028.4	1017.9	1014.0
17.5°	1007.5	1006.2	993.1	982.7	977.4
20°	973.5	970.9	957.8	940.9	931.7
22.5°	935.6	935.6	919.9	897.7	888.6
25°	900.3	895.1	880.7	849.4	825.9
27.5°	859.8	852.0	836.3	791.9	764.4
30°	815.4	811.5	789.3	731.8	710.9
32.5°	773.6	767.1	743.5	683.4	666.4
35°	730.5	725.2	690.0	637.7	622.0
37.5°	687.3	680.8	636.4	594.6	575.0
40°	644.2	636.4	588.0	550.1	529.2
42.5°	603.7	593.3	546.2	505.7	482.2
45°	560.6	548.8	501.8	460.0	441.7
47.5°	517.5	507.0	463.9	420.8	399.9
50°	471.7	462.6	423.4	380.3	358.0
52.5°	433.8	419.5	381.6	338.4	320.2
55°	389.4	377.6	342.4	301.9	286.2
57.5°	348.9	337.1	304.5	266.6	253.5
60°	311.0	294.0	266.6	233.9	223.5
62.5°	269.2	256.1	232.6	205.2	218.2
65°	231.3	218.2	197.3	201.2	167.3
67.5°	189.5	182.9	164.6	146.4	141.1
70°	154.2	146.4	139.8	120.2	115.0
72.5°	122.8	115.0	105.8	95.4	91.5
75°	92.8	86.2	81.0	77.1	84.9
77.5°	64.0	61.4	57.5	53.6	52.3
80°	41.8	40.5	39.2	37.9	36.6
82.5°	24.8	24.8	24.8	24.8	24.8
85°	13.1	14.4	15.7	17.0	18.3
87.5°	7.8	7.8	9.1	10.5	11.8
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)