

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: P545963

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-82-88-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: P545963
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-82-88-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

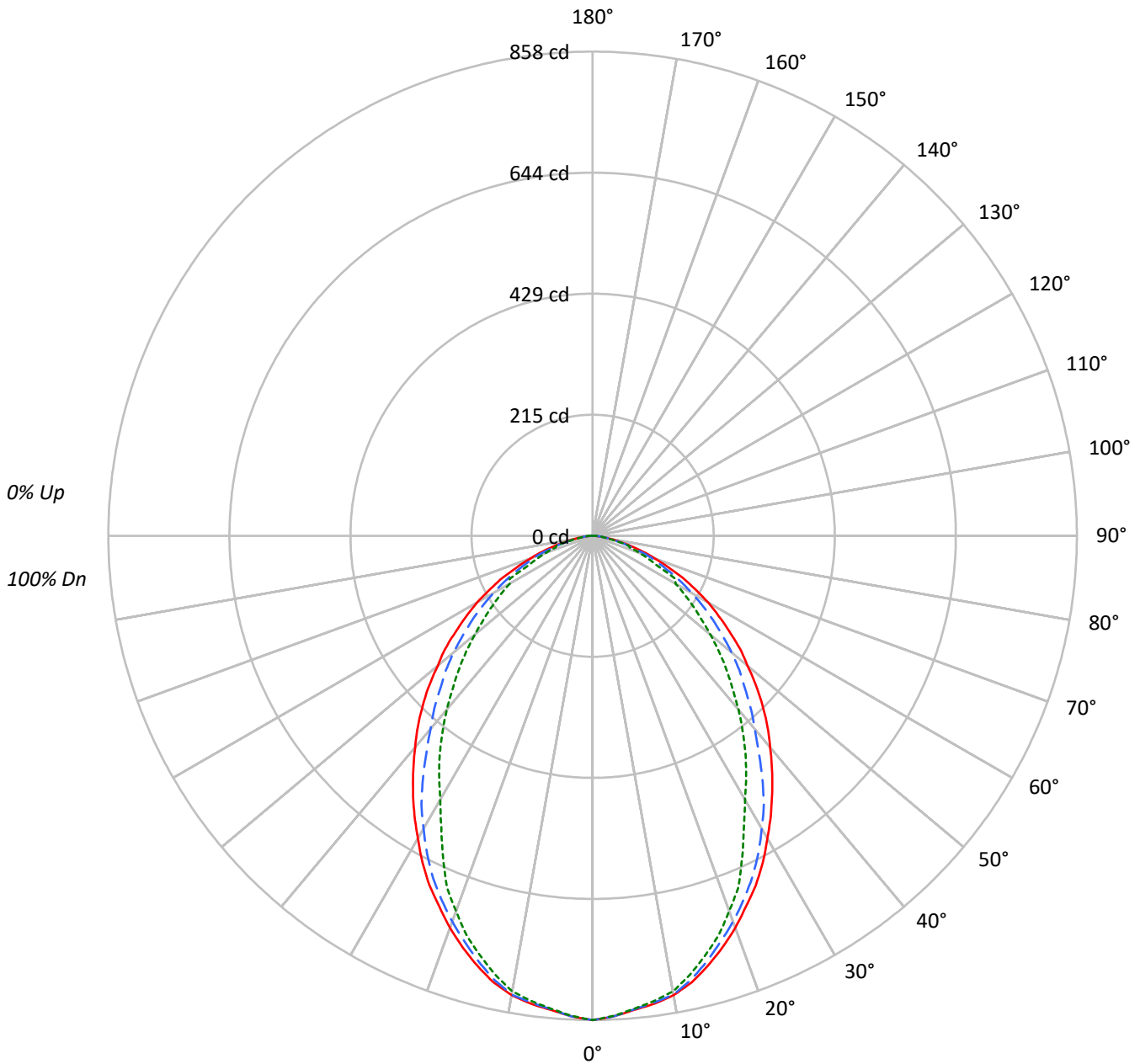
Lumens per Lamp: N/A
Luminaire Lumens: 1685.0 lumens
Efficiency: N/A
Efficacy: 72.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (A_{in}): 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°	2310	2310	2310
5°	2278	2276	2273
10°	2259	2256	2240
15°	2198	2176	2145
20°	2117	2083	2026
25°	2030	1986	1862
30°	1924	1862	1677
35°	1822	1721	1552
40°	1718	1568	1412
45°	1620	1450	1276
50°	1500	1346	1138
55°	1387	1220	1019
60°	1271	1089	913
65°	1118	954	809
70°	921	836	687
75°	733	639	671
80°	493	462	431
85°	306	367	429



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	79.9	4.7
10°-20°	219.3	13.0
20°-30°	303.6	18.0
30°-40°	323.7	19.2
40°-50°	295.3	17.5
50°-60°	231.3	13.7
60°-70°	150.8	8.9
70°-80°	66.8	4.0
80°-90°	14.4	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°	602.7	35.8
0°-40°	926.4	55.0
0°-60°	1453.1	86.2
0°-90°	1685.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1685.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	858	858	858	858	858	
5°	843	842	842	841	841	80
15°	789	789	781	773	770	222
25°	684	680	669	645	627	314
35°	555	551	524	484	472	347
45°	426	417	381	349	335	328
55°	296	287	260	229	217	265
65°	176	166	150	153	127	173
75°	70	66	62	58	64	76
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	858.3	858.3	858.3	858.3	858.3
2.5°	852.4	852.4	852.4	851.4	851.4
5°	843.4	842.4	842.4	841.4	841.4
7.5°	836.5	835.5	834.5	833.5	831.5
10°	826.6	826.6	825.6	820.6	819.6
12.5°	810.7	809.7	805.7	798.8	796.8
15°	788.9	788.9	780.9	773.0	770.0
17.5°	765.0	764.1	754.1	746.2	742.2
20°	739.2	737.3	727.3	714.4	707.5
22.5°	710.5	710.5	698.6	681.7	674.7
25°	683.7	679.7	668.8	645.0	627.1
27.5°	652.9	647.0	635.1	601.3	580.5
30°	619.2	616.2	599.3	555.7	539.8
32.5°	587.4	582.5	564.6	519.0	506.1
35°	554.7	550.7	523.9	484.2	472.3
37.5°	521.9	517.0	483.2	451.5	436.6
40°	489.2	483.2	446.5	417.7	401.9
42.5°	458.4	450.5	414.8	384.0	366.1
45°	425.7	416.8	381.0	349.3	335.4
47.5°	392.9	385.0	352.3	319.5	303.6
50°	358.2	351.3	321.5	288.8	271.9
52.5°	329.4	318.5	289.7	257.0	243.1
55°	295.7	286.8	260.0	229.2	217.3
57.5°	264.9	256.0	231.2	202.4	192.5
60°	236.2	223.3	202.4	177.6	169.7
62.5°	204.4	194.5	176.6	155.8	165.7
65°	175.6	165.7	149.8	152.8	127.0
67.5°	143.9	138.9	125.0	111.1	107.2
70°	117.1	111.1	106.2	91.3	87.3
72.5°	93.3	87.3	80.4	72.4	69.5
75°	70.5	65.5	61.5	58.5	64.5
77.5°	48.6	46.6	43.7	40.7	39.7
80°	31.8	30.8	29.8	28.8	27.8
82.5°	18.9	18.9	18.9	18.9	18.9
85°	9.9	10.9	11.9	12.9	13.9
87.5°	6.0	6.0	6.9	7.9	8.9
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)