

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: P546029

Luminaire Tested: **FMR-12-4-LD4-1STD-35-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: P546029
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-LD4-1STD-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

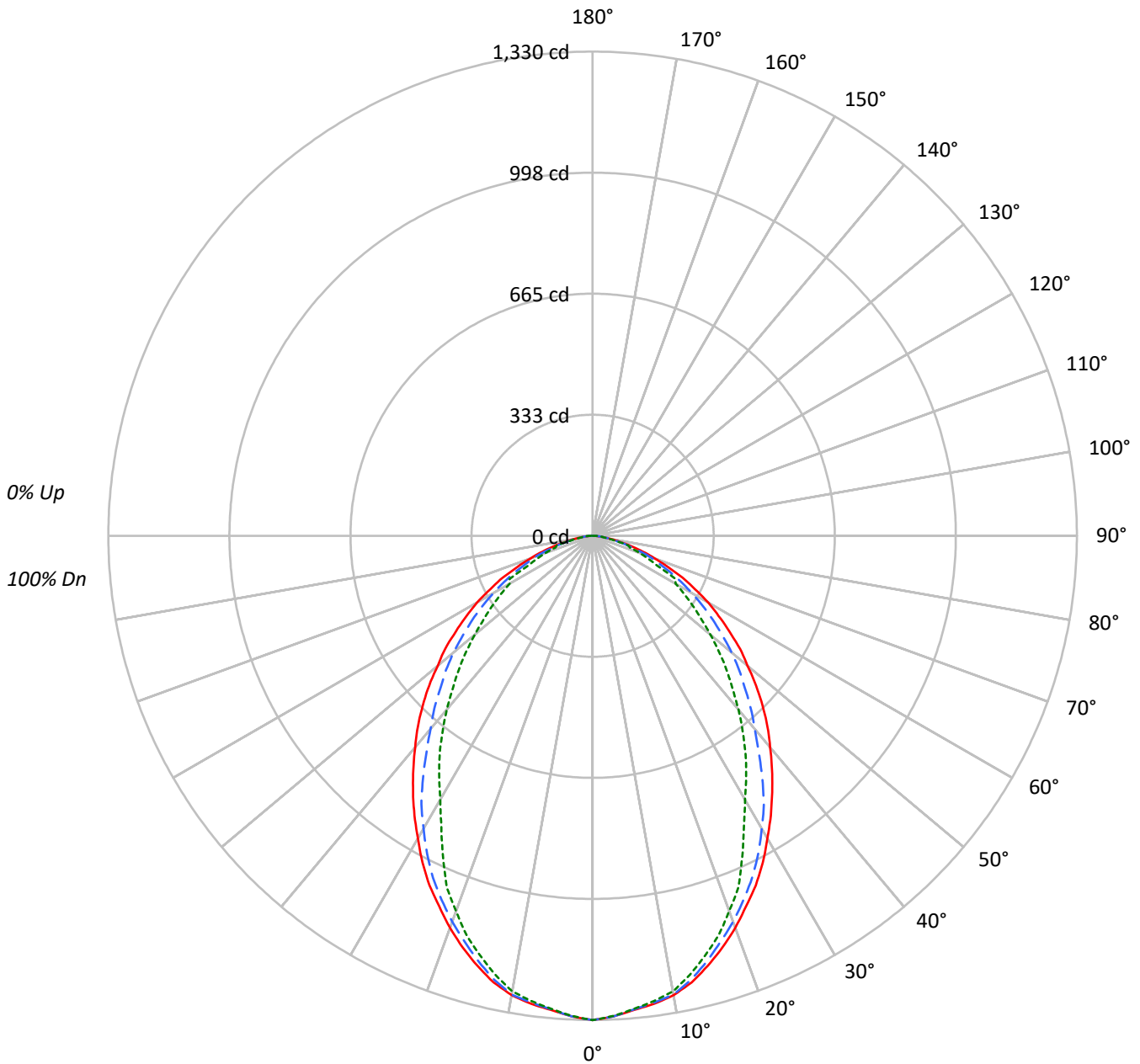
Lumens per Lamp: N/A
Luminaire Lumens: 2612.0 lumens
Efficiency: N/A
Efficacy: 78.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	3580	3580	3580
5°	3532	3528	3524
10°	3501	3497	3472
15°	3407	3372	3325
20°	3281	3229	3141
25°	3147	3078	2886
30°	2982	2887	2600
35°	2825	2668	2405
40°	2664	2432	2188
45°	2511	2248	1979
50°	2325	2087	1765
55°	2151	1891	1581
60°	1970	1689	1415
65°	1734	1479	1254
70°	1428	1295	1065
75°	1135	992	1040
80°	762	714	668
85°	475	571	664



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.9	4.7
10°-20°	339.9	13.0
20°-30°	470.6	18.0
30°-40°	501.8	19.2
40°-50°	457.8	17.5
50°-60°	358.6	13.7
60°-70°	233.7	8.9
70°-80°	103.6	4.0
80°-90°	22.2	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°	934.3	35.8
0°-40°	1436.1	55.0
0°-60°	2252.5	86.2
0°-90°	2612.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2612.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1330	1330	1330	1330	1330	
5°	1307	1306	1306	1304	1304	124
15°	1223	1223	1210	1198	1194	344
25°	1060	1054	1037	1000	972	487
35°	860	854	812	751	732	538
45°	660	646	591	541	520	508
55°	458	444	403	355	337	411
65°	272	257	232	237	197	268
75°	109	102	95	91	100	117
85°	15	17	18	20	22	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1330.5	1330.5	1330.5	1330.5	1330.5
2.5°	1321.3	1321.3	1321.3	1319.8	1319.8
5°	1307.4	1305.9	1305.9	1304.4	1304.4
7.5°	1296.7	1295.1	1293.6	1292.1	1289.0
10°	1281.3	1281.3	1279.8	1272.1	1270.5
12.5°	1256.7	1255.1	1249.0	1238.2	1235.2
15°	1222.8	1222.8	1210.5	1198.2	1193.6
17.5°	1185.9	1184.4	1169.0	1156.7	1150.6
20°	1145.9	1142.9	1127.5	1107.5	1096.7
22.5°	1101.3	1101.3	1082.9	1056.7	1046.0
25°	1059.8	1053.6	1036.7	999.8	972.1
27.5°	1012.1	1002.9	984.4	932.1	899.8
30°	959.8	955.2	929.1	861.4	836.8
32.5°	910.6	902.9	875.2	804.5	784.5
35°	859.8	853.7	812.2	750.6	732.2
37.5°	809.1	801.4	749.1	699.9	676.8
40°	758.3	749.1	692.2	647.6	623.0
42.5°	710.6	698.3	643.0	595.3	567.6
45°	659.9	646.0	590.7	541.4	519.9
47.5°	609.1	596.8	546.1	495.3	470.7
50°	555.3	544.5	498.4	447.6	421.5
52.5°	510.7	493.8	449.1	398.4	376.9
55°	458.4	444.5	403.0	355.3	336.9
57.5°	410.7	396.8	358.4	313.8	298.4
60°	366.1	346.1	313.8	275.3	263.0
62.5°	316.9	301.5	273.8	241.5	256.9
65°	272.3	256.9	232.3	236.9	196.9
67.5°	223.0	215.3	193.8	172.3	166.1
70°	181.5	172.3	164.6	141.5	135.4
72.5°	144.6	135.4	124.6	112.3	107.7
75°	109.2	101.5	95.4	90.8	100.0
77.5°	75.4	72.3	67.7	63.1	61.5
80°	49.2	47.7	46.1	44.6	43.1
82.5°	29.2	29.2	29.2	29.2	29.2
85°	15.4	16.9	18.5	20.0	21.5
87.5°	9.2	9.2	10.8	12.3	13.8
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)