

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: P546015

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-81-84-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: P546015
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-81-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

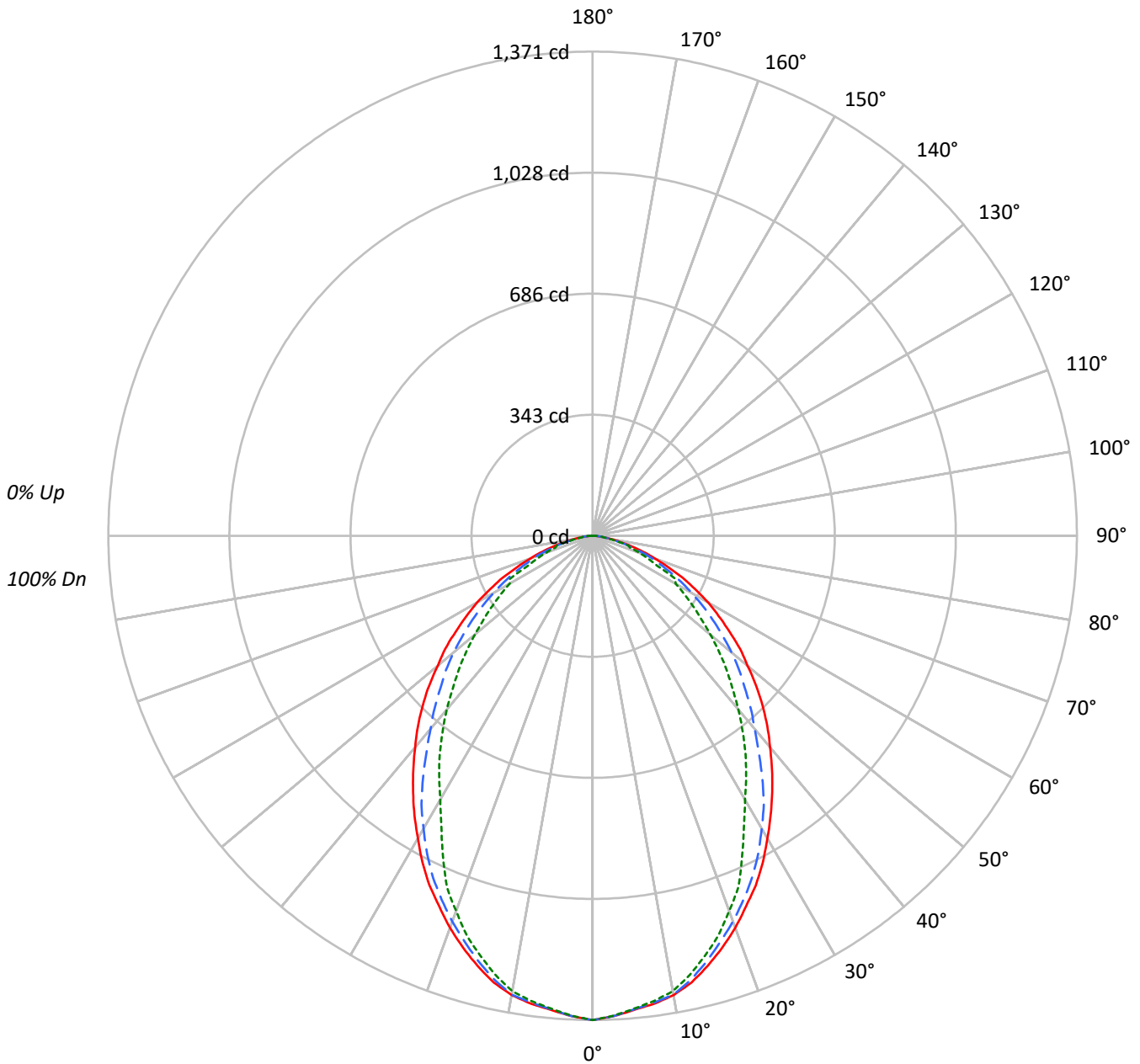
Lumens per Lamp: N/A
Luminaire Lumens: 2692.0 lumens
Efficiency: N/A
Efficacy: 80.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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				20				
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3690	3690	3690
5°	3640	3636	3631
10°	3608	3604	3578
15°	3511	3476	3427
20°	3382	3328	3237
25°	3243	3173	2975
30°	3074	2975	2680
35°	2911	2750	2479
40°	2745	2506	2255
45°	2588	2316	2039
50°	2396	2150	1819
55°	2216	1948	1629
60°	2031	1741	1459
65°	1787	1524	1292
70°	1472	1334	1098
75°	1171	1022	1071
80°	786	738	688
85°	491	587	685



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.6	4.7
10°-20°	350.3	13.0
20°-30°	485.0	18.0
30°-40°	517.1	19.2
40°-50°	471.8	17.5
50°-60°	369.6	13.7
60°-70°	240.9	8.9
70°-80°	106.7	4.0
80°-90°	22.9	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°	963.0	35.8
0°-40°	1480.1	55.0
0°-60°	2321.5	86.2
0°-90°	2692.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2692.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1371	1371	1371	1371	1371	
5°	1348	1346	1346	1344	1344	128
15°	1260	1260	1248	1235	1230	354
25°	1092	1086	1068	1030	1002	501
35°	886	880	837	774	755	554
45°	680	666	609	558	536	524
55°	472	458	415	366	347	424
65°	281	265	239	244	203	277
75°	113	105	98	94	103	121
85°	16	17	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1371.3	1371.3	1371.3	1371.3	1371.3
2.5°	1361.8	1361.8	1361.8	1360.2	1360.2
5°	1347.5	1345.9	1345.9	1344.3	1344.3
7.5°	1336.4	1334.8	1333.2	1331.6	1328.5
10°	1320.5	1320.5	1319.0	1311.0	1309.4
12.5°	1295.2	1293.6	1287.2	1276.2	1273.0
15°	1260.3	1260.3	1247.6	1234.9	1230.2
17.5°	1222.3	1220.7	1204.8	1192.1	1185.8
20°	1181.0	1177.9	1162.0	1141.4	1130.3
22.5°	1135.1	1135.1	1116.0	1089.1	1078.0
25°	1092.3	1085.9	1068.5	1030.4	1001.9
27.5°	1043.1	1033.6	1014.6	960.7	927.4
30°	989.2	984.5	957.5	887.8	862.4
32.5°	938.5	930.6	902.0	829.1	808.5
35°	886.2	879.8	837.0	773.6	754.6
37.5°	833.9	825.9	772.0	721.3	697.5
40°	781.5	772.0	713.4	667.4	642.0
42.5°	732.4	719.7	662.6	613.5	585.0
45°	680.1	665.8	608.7	558.0	535.8
47.5°	627.8	615.1	562.8	510.5	485.1
50°	572.3	561.2	513.6	461.3	434.4
52.5°	526.3	508.9	462.9	410.6	388.4
55°	472.4	458.1	415.3	366.2	347.2
57.5°	423.3	409.0	369.4	323.4	307.5
60°	377.3	356.7	323.4	283.8	271.1
62.5°	326.6	310.7	282.2	248.9	264.7
65°	280.6	264.7	239.4	244.1	202.9
67.5°	229.9	221.9	199.7	177.6	171.2
70°	187.1	177.6	169.6	145.8	139.5
72.5°	149.0	139.5	128.4	115.7	111.0
75°	112.6	104.6	98.3	93.5	103.0
77.5°	77.7	74.5	69.8	65.0	63.4
80°	50.7	49.1	47.6	46.0	44.4
82.5°	30.1	30.1	30.1	30.1	30.1
85°	15.9	17.4	19.0	20.6	22.2
87.5°	9.5	9.5	11.1	12.7	14.3
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)