

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: P546057

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-82-86-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: P546057
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-40-UNV-82-86-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

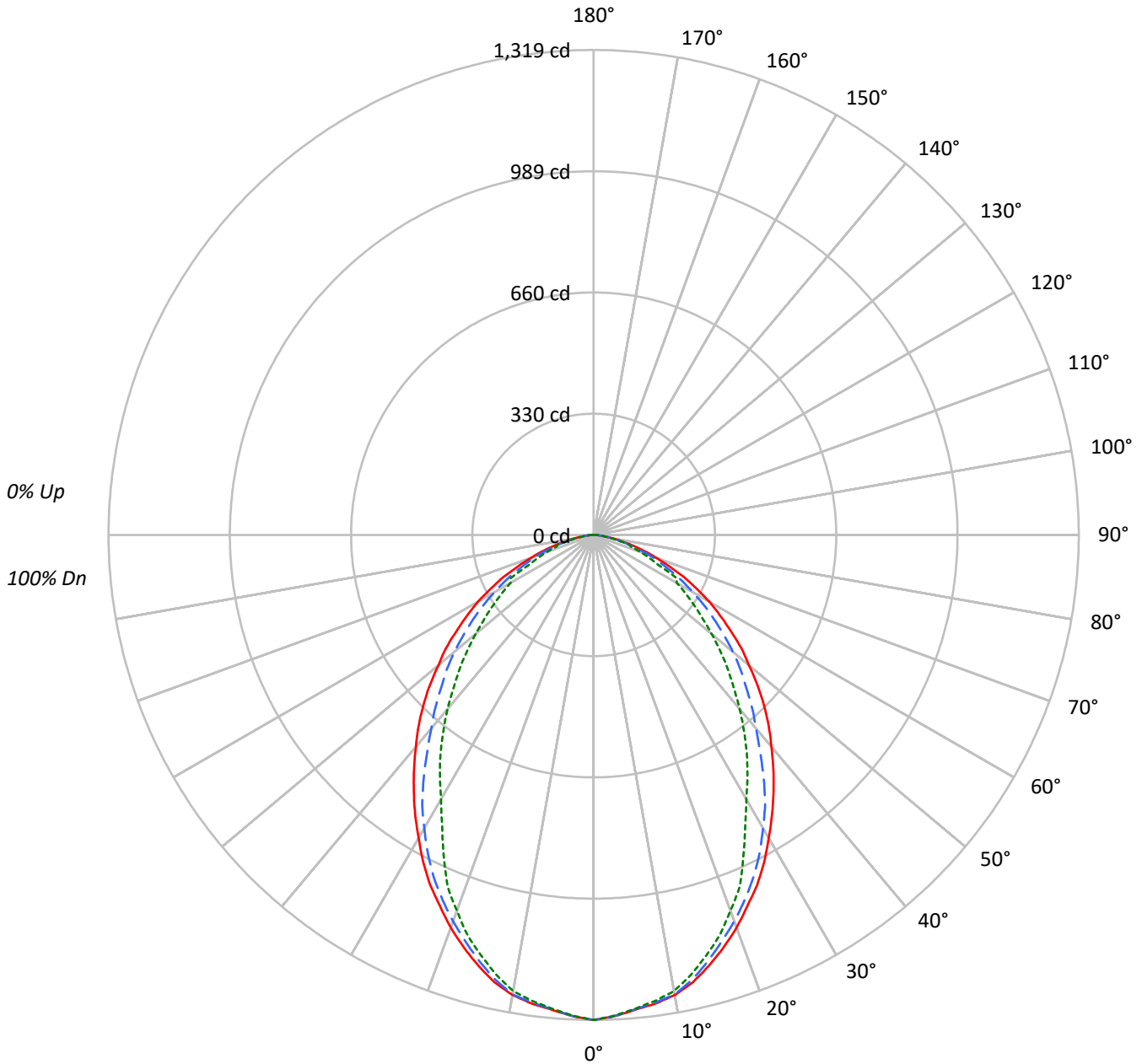
Lumens per Lamp: N/A
Luminaire Lumens: 2590.0 lumens
Efficiency: N/A
Efficacy: 77.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3550	3550	3550
5°	3502	3498	3494
10°	3472	3468	3442
15°	3378	3344	3297
20°	3254	3202	3114
25°	3120	3052	2862
30°	2957	2862	2578
35°	2801	2645	2385
40°	2641	2411	2170
45°	2490	2229	1962
50°	2305	2069	1750
55°	2132	1875	1567
60°	1954	1674	1404
65°	1719	1466	1243
70°	1416	1284	1056
75°	1126	984	1030
80°	756	710	662
85°	472	565	661



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.8	4.7
10°-20°	337.0	13.0
20°-30°	466.6	18.0
30°-40°	497.5	19.2
40°-50°	453.9	17.5
50°-60°	355.6	13.7
60°-70°	231.8	8.9
70°-80°	102.7	4.0
80°-90°	22.1	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°	926.5	35.8
0°-40°	1424.0	55.0
0°-60°	2233.5	86.2
0°-90°	2590.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2590.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1319	1319	1319	1319	1319	
5°	1296	1295	1295	1293	1293	123
15°	1212	1212	1200	1188	1184	341
25°	1051	1045	1028	991	964	482
35°	853	846	805	744	726	533
45°	654	641	586	537	516	504
55°	454	441	400	352	334	408
65°	270	255	230	235	195	266
75°	108	101	95	90	99	116
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1319.3	1319.3	1319.3	1319.3	1319.3
2.5°	1310.2	1310.2	1310.2	1308.6	1308.6
5°	1296.4	1294.9	1294.9	1293.4	1293.4
7.5°	1285.8	1284.2	1282.7	1281.2	1278.1
10°	1270.5	1270.5	1269.0	1261.4	1259.8
12.5°	1246.1	1244.6	1238.5	1227.8	1224.7
15°	1212.5	1212.5	1200.3	1188.1	1183.6
17.5°	1175.9	1174.4	1159.2	1147.0	1140.9
20°	1136.3	1133.2	1118.0	1098.2	1087.5
22.5°	1092.1	1092.1	1073.8	1047.8	1037.1
25°	1050.9	1044.8	1028.0	991.4	963.9
27.5°	1003.6	994.4	976.1	924.3	892.3
30°	951.7	947.2	921.2	854.1	829.7
32.5°	902.9	895.3	867.8	797.7	777.9
35°	852.6	846.5	805.3	744.3	726.0
37.5°	802.3	794.6	742.8	694.0	671.1
40°	751.9	742.8	686.3	642.1	617.7
42.5°	704.6	692.4	637.5	590.3	562.8
45°	654.3	640.6	585.7	536.9	515.5
47.5°	604.0	591.8	541.5	491.1	466.7
50°	550.6	539.9	494.2	443.8	417.9
52.5°	506.4	489.6	445.4	395.0	373.7
55°	454.5	440.8	399.6	352.3	334.0
57.5°	407.2	393.5	355.4	311.1	295.9
60°	363.0	343.2	311.1	273.0	260.8
62.5°	314.2	298.9	271.5	239.5	254.7
65°	270.0	254.7	230.3	234.9	195.2
67.5°	221.2	213.5	192.2	170.8	164.7
70°	180.0	170.8	163.2	140.3	134.2
72.5°	143.4	134.2	123.5	111.3	106.8
75°	108.3	100.7	94.6	90.0	99.1
77.5°	74.7	71.7	67.1	62.5	61.0
80°	48.8	47.3	45.8	44.2	42.7
82.5°	29.0	29.0	29.0	29.0	29.0
85°	15.3	16.8	18.3	19.8	21.4
87.5°	9.2	9.2	10.7	12.2	13.7
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)