

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: P545607

Luminaire Tested: **FMR-12-2-LD4-2HI-50-UNV-82-84-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: P545607  
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-12-2-LD4-2HI-50-UNV-82-84-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

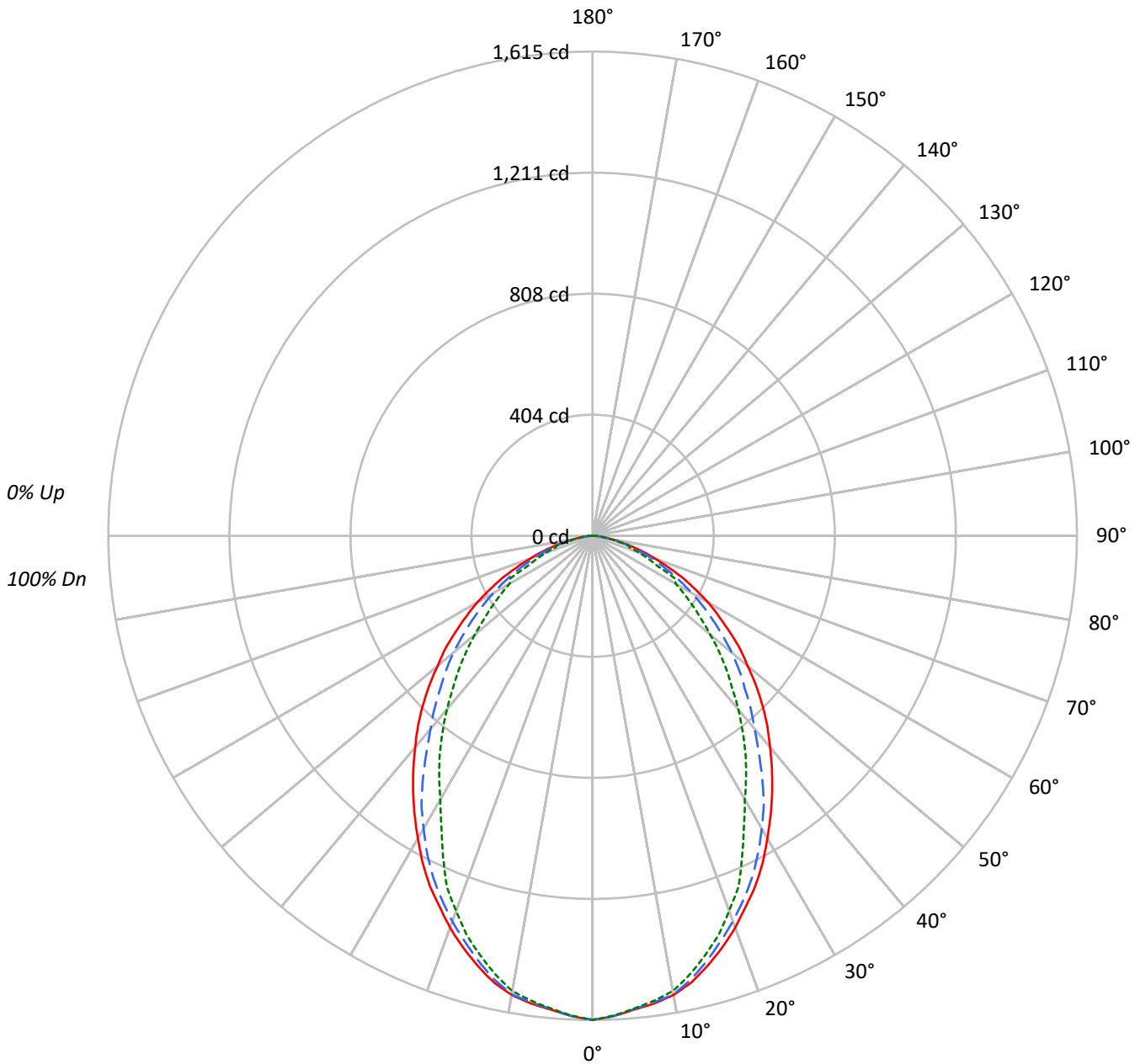
Lumens per Lamp: N/A  
Luminaire Lumens: 3170.0 lumens  
Efficiency: N/A  
Efficacy: 73.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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			100																
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87			87																
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75			75																
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65			65																
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56			56																
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50			50																
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44			44																
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40			40																
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36			36																
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33			33																
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30			30																

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8691	8691	8691
5°	8573	8562	8552
10°	8498	8488	8427
15°	8269	8186	8071
20°	7965	7837	7623
25°	7638	7472	7006
30°	7239	7007	6311
35°	6856	6476	5838
40°	6466	5902	5311
45°	6095	5456	4803
50°	5642	5064	4283
55°	5220	4589	3836
60°	4782	4099	3436
65°	4208	3590	3042
70°	3467	3142	2585
75°	2755	2406	2522
80°	1850	1736	1621
85°	1155	1383	1612



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.3	4.7
10°-20°	412.5	13.0
20°-30°	571.1	18.0
30°-40°	609.0	19.2
40°-50°	555.5	17.5
50°-60°	435.2	13.7
60°-70°	283.7	8.9
70°-80°	125.7	4.0
80°-90°	27.0	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°	1133.9	35.8
0°-40°	1742.9	55.0
0°-60°	2733.7	86.2
0°-90°	3170.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3170.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1615	1615	1615	1615	1615	
5°	1587	1585	1585	1583	1583	151
15°	1484	1484	1469	1454	1449	417
25°	1286	1279	1258	1213	1180	590
35°	1044	1036	986	911	889	652
45°	801	784	717	657	631	617
55°	556	540	489	431	409	499
65°	330	312	282	288	239	326
75°	132	123	116	110	121	142
85°	19	20	22	24	26	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1614.8	1614.8	1614.8	1614.8	1614.8
2.5°	1603.6	1603.6	1603.6	1601.7	1601.7
5°	1586.8	1584.9	1584.9	1583.0	1583.0
7.5°	1573.7	1571.8	1570.0	1568.1	1564.4
10°	1555.0	1555.0	1553.2	1543.8	1542.0
12.5°	1525.2	1523.3	1515.8	1502.7	1499.0
15°	1484.1	1484.1	1469.1	1454.2	1448.6
17.5°	1439.3	1437.4	1418.7	1403.8	1396.3
20°	1390.7	1387.0	1368.3	1344.1	1331.0
22.5°	1336.6	1336.6	1314.2	1282.5	1269.4
25°	1286.2	1278.7	1258.2	1213.4	1179.8
27.5°	1228.3	1217.1	1194.7	1131.3	1092.1
30°	1164.9	1159.3	1127.5	1045.4	1015.5
32.5°	1105.1	1095.8	1062.2	976.3	952.1
35°	1043.5	1036.1	985.7	911.0	888.6
37.5°	981.9	972.6	909.1	849.4	821.4
40°	920.3	909.1	840.0	785.9	756.0
42.5°	862.4	847.5	780.3	722.4	688.8
45°	800.8	784.0	716.8	657.1	631.0
47.5°	739.2	724.3	662.7	601.1	571.2
50°	673.9	660.8	604.8	543.2	511.5
52.5°	619.8	599.2	545.1	483.5	457.4
55°	556.3	539.5	489.1	431.2	408.8
57.5°	498.4	481.6	435.0	380.8	362.2
60°	444.3	420.0	380.8	334.2	319.2
62.5°	384.6	365.9	332.3	293.1	311.8
65°	330.4	311.8	281.9	287.5	238.9
67.5°	270.7	261.3	235.2	209.1	201.6
70°	220.3	209.1	199.7	171.7	164.3
72.5°	175.5	164.3	151.2	136.3	130.7
75°	132.5	123.2	115.7	110.1	121.3
77.5°	91.5	87.7	82.1	76.5	74.7
80°	59.7	57.9	56.0	54.1	52.3
82.5°	35.5	35.5	35.5	35.5	35.5
85°	18.7	20.5	22.4	24.3	26.1
87.5°	11.2	11.2	13.1	14.9	16.8
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)