

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: P545217

Luminaire Tested: **FMR-12-1-LD4-2STD-50-UNV-81-86-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: P545217  
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-12-1-LD4-2STD-50-UNV-81-86-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

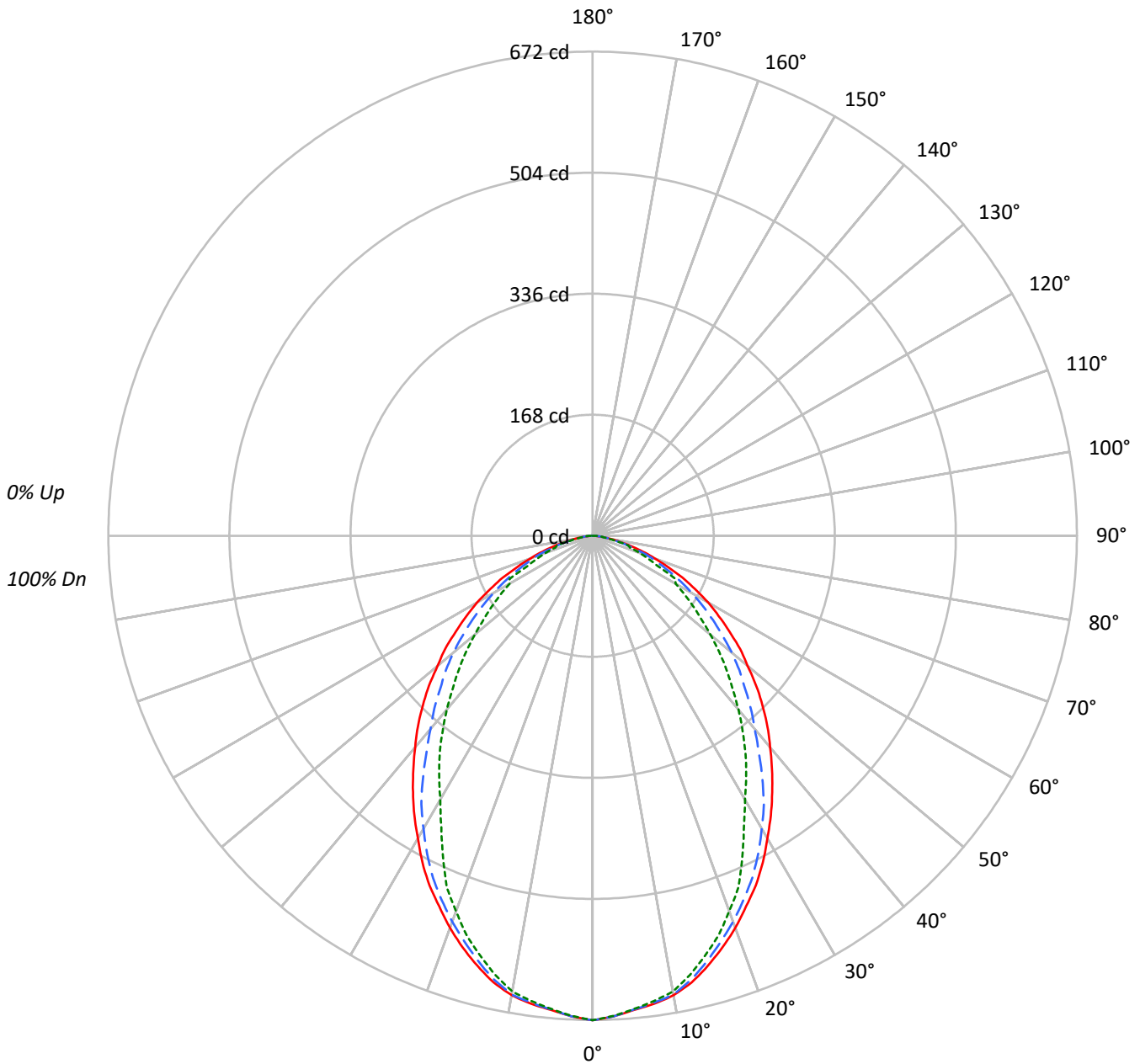
Lumens per Lamp: N/A  
Luminaire Lumens: 1320.0 lumens  
Efficiency: N/A  
Efficacy: 79.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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°	7238	7238	7238
5°	7139	7131	7123
10°	7077	7068	7018
15°	6887	6818	6722
20°	6633	6527	6348
25°	6361	6222	5835
30°	6029	5835	5256
35°	5709	5393	4862
40°	5384	4915	4423
45°	5077	4544	3999
50°	4699	4218	3567
55°	4346	3823	3194
60°	3983	3414	2861
65°	3505	2990	2534
70°	2886	2618	2153
75°	2296	2005	2100
80°	1543	1444	1351
85°	963	1149	1346



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.6	4.7
10°-20°	171.8	13.0
20°-30°	237.8	18.0
30°-40°	253.6	19.2
40°-50°	231.3	17.5
50°-60°	181.2	13.7
60°-70°	118.1	8.9
70°-80°	52.3	4.0
80°-90°	11.2	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°	472.2	35.8
0°-40°	725.8	55.0
0°-60°	1138.3	86.2
0°-90°	1320.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1320.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	672	672	672	672	672	
5°	661	660	660	659	659	63
15°	618	618	612	606	603	174
25°	536	532	524	505	491	246
35°	434	431	410	379	370	272
45°	334	326	298	274	263	257
55°	232	225	204	180	170	208
65°	138	130	117	120	100	136
75°	55	51	48	46	50	59
85°	8	9	9	10	11	11
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	672.4	672.4	672.4	672.4	672.4
2.5°	667.7	667.7	667.7	666.9	666.9
5°	660.7	660.0	660.0	659.2	659.2
7.5°	655.3	654.5	653.7	653.0	651.4
10°	647.5	647.5	646.7	642.9	642.1
12.5°	635.1	634.3	631.2	625.8	624.2
15°	618.0	618.0	611.8	605.5	603.2
17.5°	599.3	598.5	590.8	584.6	581.4
20°	579.1	577.6	569.8	559.7	554.2
22.5°	556.6	556.6	547.2	534.0	528.6
25°	535.6	532.5	523.9	505.3	491.3
27.5°	511.5	506.8	497.5	471.1	454.7
30°	485.1	482.7	469.5	435.3	422.9
32.5°	460.2	456.3	442.3	406.5	396.4
35°	434.5	431.4	410.4	379.3	370.0
37.5°	408.9	405.0	378.6	353.7	342.0
40°	383.2	378.6	349.8	327.3	314.8
42.5°	359.1	352.9	324.9	300.8	286.8
45°	333.5	326.5	298.5	273.6	262.7
47.5°	307.8	301.6	276.0	250.3	237.9
50°	280.6	275.2	251.9	226.2	213.0
52.5°	258.1	249.5	227.0	201.3	190.4
55°	231.6	224.6	203.7	179.6	170.2
57.5°	207.5	200.6	181.1	158.6	150.8
60°	185.0	174.9	158.6	139.1	132.9
62.5°	160.1	152.4	138.4	122.0	129.8
65°	137.6	129.8	117.4	119.7	99.5
67.5°	112.7	108.8	97.9	87.1	84.0
70°	91.7	87.1	83.2	71.5	68.4
72.5°	73.1	68.4	63.0	56.7	54.4
75°	55.2	51.3	48.2	45.9	50.5
77.5°	38.1	36.5	34.2	31.9	31.1
80°	24.9	24.1	23.3	22.5	21.8
82.5°	14.8	14.8	14.8	14.8	14.8
85°	7.8	8.6	9.3	10.1	10.9
87.5°	4.7	4.7	5.4	6.2	7.0
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)