

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: P545293

Luminaire Tested: **FMR-12-2-LD4-1HI-40-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: P545293  
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-LD4-1HI-40-UNV-82-96-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

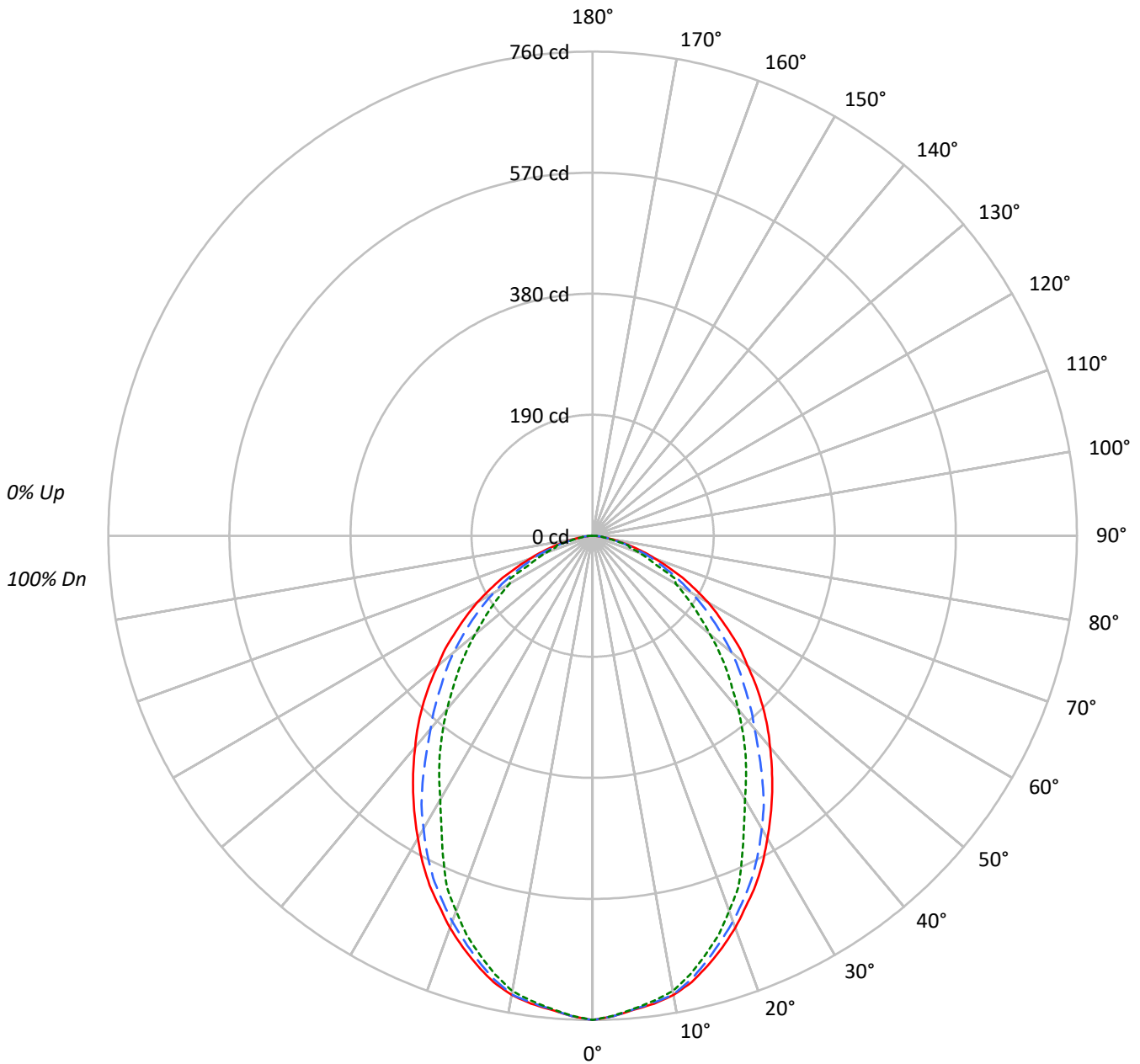
Lumens per Lamp: N/A  
Luminaire Lumens: 1492.0 lumens  
Efficiency: N/A  
Efficacy: 69.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	4090	4090	4090
5°	4035	4030	4025
10°	4000	3995	3966
15°	3892	3853	3799
20°	3749	3688	3588
25°	3595	3517	3298
30°	3407	3298	2971
35°	3227	3048	2748
40°	3044	2778	2500
45°	2869	2568	2261
50°	2656	2384	2015
55°	2457	2160	1805
60°	2251	1929	1617
65°	1980	1690	1433
70°	1632	1479	1216
75°	1298	1133	1187
80°	871	818	762
85°	543	648	760



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.7	4.7
10°-20°	194.2	13.0
20°-30°	268.8	18.0
30°-40°	286.6	19.2
40°-50°	261.5	17.5
50°-60°	204.8	13.7
60°-70°	133.5	8.9
70°-80°	59.1	4.0
80°-90°	12.7	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°	533.7	35.8
0°-40°	820.3	55.0
0°-60°	1286.6	86.2
0°-90°	1492.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1492.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	760	760	760	760	760	
5°	747	746	746	745	745	71
15°	698	698	692	684	682	196
25°	605	602	592	571	555	278
35°	491	488	464	429	418	307
45°	377	369	337	309	297	290
55°	262	254	230	203	192	235
65°	156	147	133	135	112	153
75°	62	58	54	52	57	67
85°	9	10	10	11	12	12
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	760.0	760.0	760.0	760.0	760.0
2.5°	754.7	754.7	754.7	753.9	753.9
5°	746.8	745.9	745.9	745.1	745.1
7.5°	740.7	739.8	738.9	738.0	736.3
10°	731.9	731.9	731.0	726.6	725.7
12.5°	717.8	717.0	713.4	707.3	705.5
15°	698.5	698.5	691.5	684.4	681.8
17.5°	677.4	676.5	667.7	660.7	657.2
20°	654.6	652.8	644.0	632.6	626.5
22.5°	629.1	629.1	618.5	603.6	597.5
25°	605.4	601.9	592.2	571.1	555.3
27.5°	578.1	572.9	562.3	532.4	514.0
30°	548.3	545.6	530.7	492.0	478.0
32.5°	520.1	515.7	499.9	459.5	448.1
35°	491.1	487.6	463.9	428.8	418.2
37.5°	462.2	457.8	427.9	399.8	386.6
40°	433.2	427.9	395.4	369.9	355.8
42.5°	405.9	398.9	367.3	340.0	324.2
45°	376.9	369.0	337.4	309.3	297.0
47.5°	347.9	340.9	311.9	282.9	268.9
50°	317.2	311.0	284.7	255.7	240.7
52.5°	291.7	282.0	256.6	227.6	215.3
55°	261.8	253.9	230.2	203.0	192.4
57.5°	234.6	226.7	204.7	179.2	170.5
60°	209.1	197.7	179.2	157.3	150.2
62.5°	181.0	172.2	156.4	137.9	146.7
65°	155.5	146.7	132.7	135.3	112.5
67.5°	127.4	123.0	110.7	98.4	94.9
70°	103.7	98.4	94.0	80.8	77.3
72.5°	82.6	77.3	71.2	64.1	61.5
75°	62.4	58.0	54.5	51.8	57.1
77.5°	43.1	41.3	38.7	36.0	35.1
80°	28.1	27.2	26.4	25.5	24.6
82.5°	16.7	16.7	16.7	16.7	16.7
85°	8.8	9.7	10.5	11.4	12.3
87.5°	5.3	5.3	6.2	7.0	7.9
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)