

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: P545303

Luminaire Tested: **FMR-12-2-LD4-1HI-50-UNV-80-84-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: P545303  
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-50-UNV-80-84-EDD  
Description: 1X2 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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**

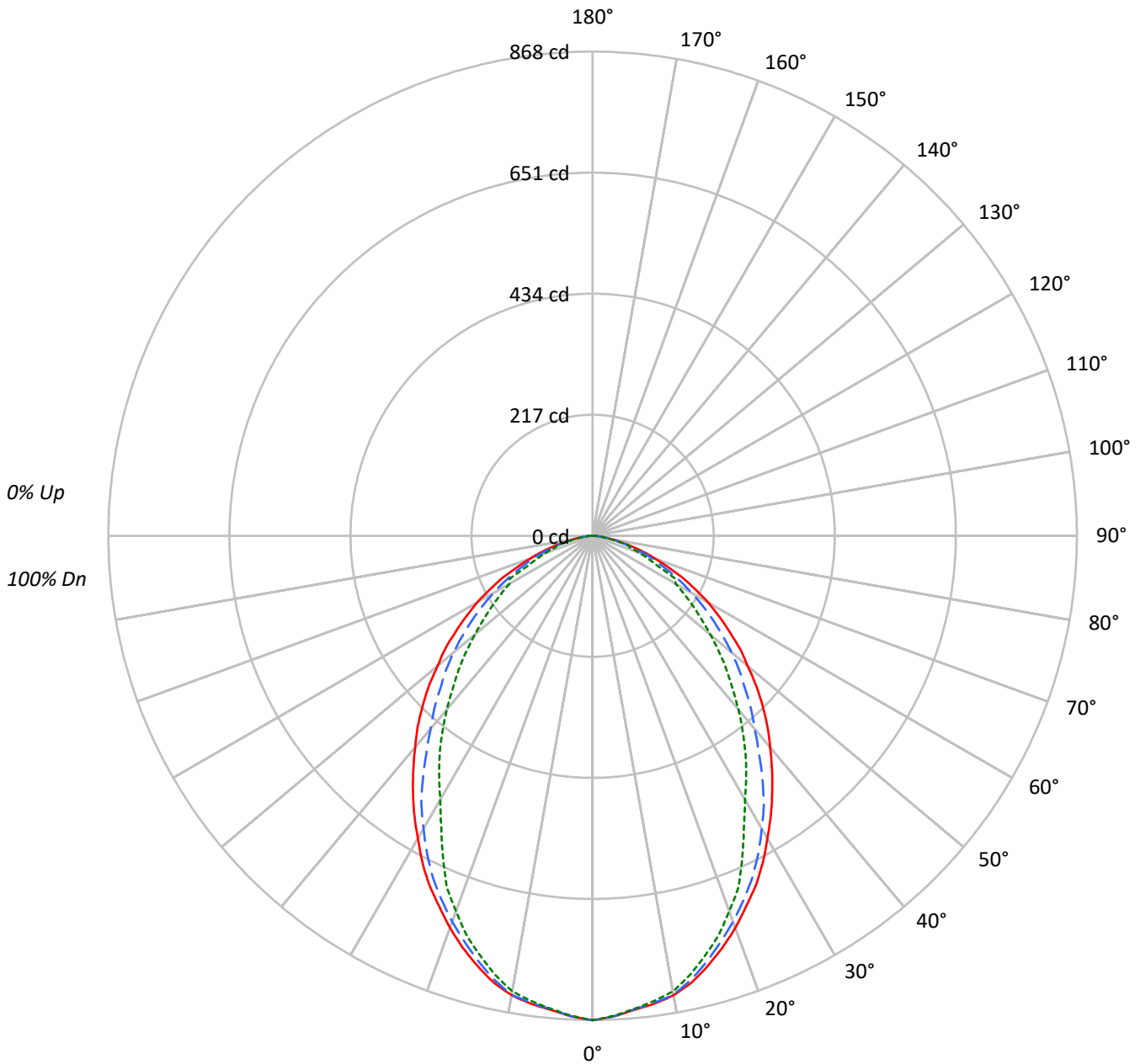
Lumens per Lamp: N/A  
Luminaire Lumens: 1705.0 lumens  
Efficiency: N/A  
Efficacy: 78.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	4674	4674	4674
5°	4611	4605	4600
10°	4571	4565	4532
15°	4447	4403	4341
20°	4284	4215	4100
25°	4108	4018	3768
30°	3893	3769	3394
35°	3688	3483	3140
40°	3478	3174	2857
45°	3278	2935	2583
50°	3035	2724	2303
55°	2807	2469	2063
60°	2573	2204	1848
65°	2263	1931	1636
70°	1865	1690	1391
75°	1483	1295	1358
80°	995	933	871
85°	618	741	871



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	80.8	4.7
10°-20°	221.9	13.0
20°-30°	307.2	18.0
30°-40°	327.5	19.2
40°-50°	298.8	17.5
50°-60°	234.1	13.7
60°-70°	152.6	8.9
70°-80°	67.6	4.0
80°-90°	14.5	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°	609.9	35.8
0°-40°	937.4	55.0
0°-60°	1470.3	86.2
0°-90°	1705.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1705.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	868	868	868	868	868	
5°	853	852	852	851	851	81
15°	798	798	790	782	779	224
25°	692	688	677	653	635	318
35°	561	557	530	490	478	351
45°	431	422	386	353	339	332
55°	299	290	263	232	220	268
65°	178	168	152	155	128	175
75°	71	66	62	59	65	76
85°	10	11	12	13	14	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	868.5	868.5	868.5	868.5	868.5
2.5°	862.5	862.5	862.5	861.5	861.5
5°	853.4	852.4	852.4	851.4	851.4
7.5°	846.4	845.4	844.4	843.4	841.4
10°	836.4	836.4	835.4	830.4	829.3
12.5°	820.3	819.3	815.3	808.3	806.3
15°	798.2	798.2	790.2	782.2	779.1
17.5°	774.1	773.1	763.1	755.0	751.0
20°	748.0	746.0	736.0	722.9	715.9
22.5°	718.9	718.9	706.9	689.8	682.8
25°	691.8	687.8	676.7	652.6	634.6
27.5°	660.7	654.6	642.6	608.5	587.4
30°	626.5	623.5	606.4	562.3	546.2
32.5°	594.4	589.4	571.3	525.1	512.1
35°	561.3	557.2	530.1	490.0	477.9
37.5°	528.1	523.1	489.0	456.8	441.8
40°	495.0	489.0	451.8	422.7	406.6
42.5°	463.9	455.8	419.7	388.6	370.5
45°	430.7	421.7	385.6	353.4	339.4
47.5°	397.6	389.6	356.4	323.3	307.2
50°	362.5	355.4	325.3	292.2	275.1
52.5°	333.3	322.3	293.2	260.0	246.0
55°	299.2	290.2	263.1	231.9	219.9
57.5°	268.1	259.0	233.9	204.8	194.8
60°	239.0	225.9	204.8	179.7	171.7
62.5°	206.8	196.8	178.7	157.6	167.7
65°	177.7	167.7	151.6	154.6	128.5
67.5°	145.6	140.6	126.5	112.5	108.4
70°	118.5	112.5	107.4	92.4	88.4
72.5°	94.4	88.4	81.3	73.3	70.3
75°	71.3	66.3	62.3	59.2	65.3
77.5°	49.2	47.2	44.2	41.2	40.2
80°	32.1	31.1	30.1	29.1	28.1
82.5°	19.1	19.1	19.1	19.1	19.1
85°	10.0	11.0	12.0	13.1	14.1
87.5°	6.0	6.0	7.0	8.0	9.0
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)