

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: P545362

Luminaire Tested: **FMR-12-2-LD4-1LO-35-UNV-93-87-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: P545362  
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-LD4-1LO-35-UNV-93-87-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

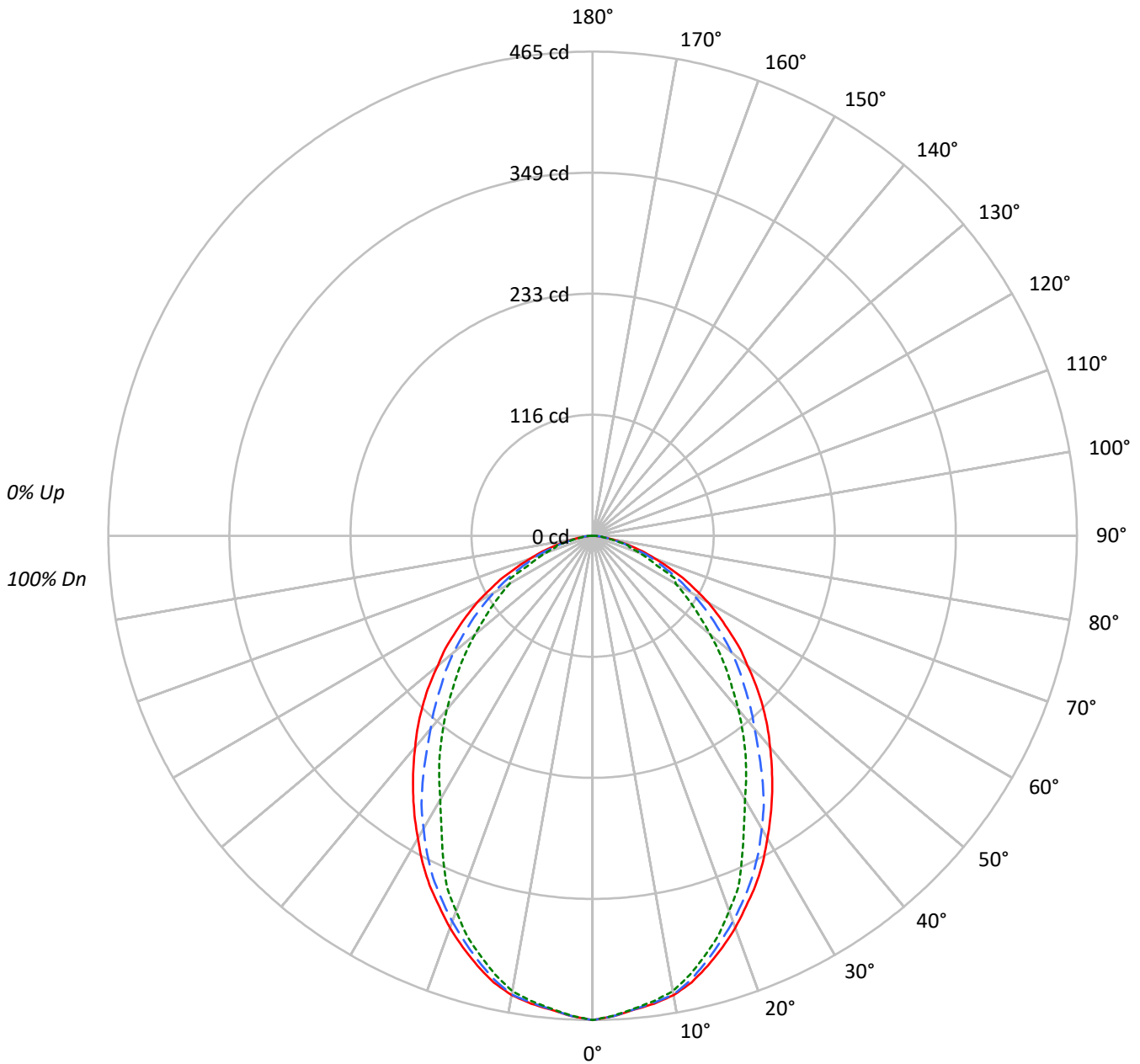
Lumens per Lamp: N/A  
Luminaire Lumens: 913.0 lumens  
Efficiency: N/A  
Efficacy: 78.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 11.7  
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°	2503	2503	2503
5°	2469	2466	2463
10°	2448	2444	2427
15°	2381	2357	2325
20°	2294	2257	2195
25°	2200	2152	2018
30°	2085	2018	1818
35°	1974	1865	1681
40°	1862	1700	1529
45°	1756	1572	1383
50°	1625	1459	1233
55°	1503	1322	1104
60°	1378	1181	989
65°	1212	1034	876
70°	998	905	744
75°	794	692	726
80°	533	499	468
85°	333	401	463



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	43.3	4.7
10°-20°	118.8	13.0
20°-30°	164.5	18.0
30°-40°	175.4	19.2
40°-50°	160.0	17.5
50°-60°	125.4	13.7
60°-70°	81.7	8.9
70°-80°	36.2	4.0
80°-90°	7.8	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°	326.6	35.8
0°-40°	502.0	55.0
0°-60°	787.3	86.2
0°-90°	913.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	913.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	465	465	465	465	465	
5°	457	456	456	456	456	43
15°	427	427	423	419	417	120
25°	370	368	362	350	340	170
35°	300	298	284	262	256	188
45°	231	226	206	189	182	178
55°	160	155	141	124	118	144
65°	95	90	81	83	69	94
75°	38	36	33	32	35	41
85°	5	6	6	7	8	7
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	465.1	465.1	465.1	465.1	465.1
2.5°	461.8	461.8	461.8	461.3	461.3
5°	457.0	456.5	456.5	455.9	455.9
7.5°	453.2	452.7	452.2	451.6	450.6
10°	447.9	447.9	447.3	444.6	444.1
12.5°	439.3	438.7	436.6	432.8	431.7
15°	427.4	427.4	423.1	418.8	417.2
17.5°	414.5	414.0	408.6	404.3	402.2
20°	400.6	399.5	394.1	387.1	383.3
22.5°	385.0	385.0	378.5	369.4	365.6
25°	370.4	368.3	362.4	349.5	339.8
27.5°	353.8	350.5	344.1	325.8	314.5
30°	335.5	333.9	324.7	301.1	292.5
32.5°	318.3	315.6	305.9	281.2	274.2
35°	300.5	298.4	283.9	262.4	255.9
37.5°	282.8	280.1	261.8	244.6	236.6
40°	265.1	261.8	241.9	226.4	217.7
42.5°	248.4	244.1	224.7	208.1	198.4
45°	230.7	225.8	206.5	189.3	181.7
47.5°	212.9	208.6	190.9	173.1	164.5
50°	194.1	190.3	174.2	156.5	147.3
52.5°	178.5	172.6	157.0	139.3	131.7
55°	160.2	155.4	140.9	124.2	117.7
57.5°	143.6	138.7	125.3	109.7	104.3
60°	128.0	121.0	109.7	96.2	91.9
62.5°	110.8	105.4	95.7	84.4	89.8
65°	95.2	89.8	81.2	82.8	68.8
67.5°	78.0	75.3	67.7	60.2	58.1
70°	63.4	60.2	57.5	49.5	47.3
72.5°	50.5	47.3	43.5	39.2	37.6
75°	38.2	35.5	33.3	31.7	34.9
77.5°	26.3	25.3	23.7	22.0	21.5
80°	17.2	16.7	16.1	15.6	15.1
82.5°	10.2	10.2	10.2	10.2	10.2
85°	5.4	5.9	6.5	7.0	7.5
87.5°	3.2	3.2	3.8	4.3	4.8
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)