

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: P545649

Luminaire Tested: **FMR-12-2-LD4-2LO-35-UNV-93-86-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: P545649  
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-LD4-2LO-35-UNV-93-86-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

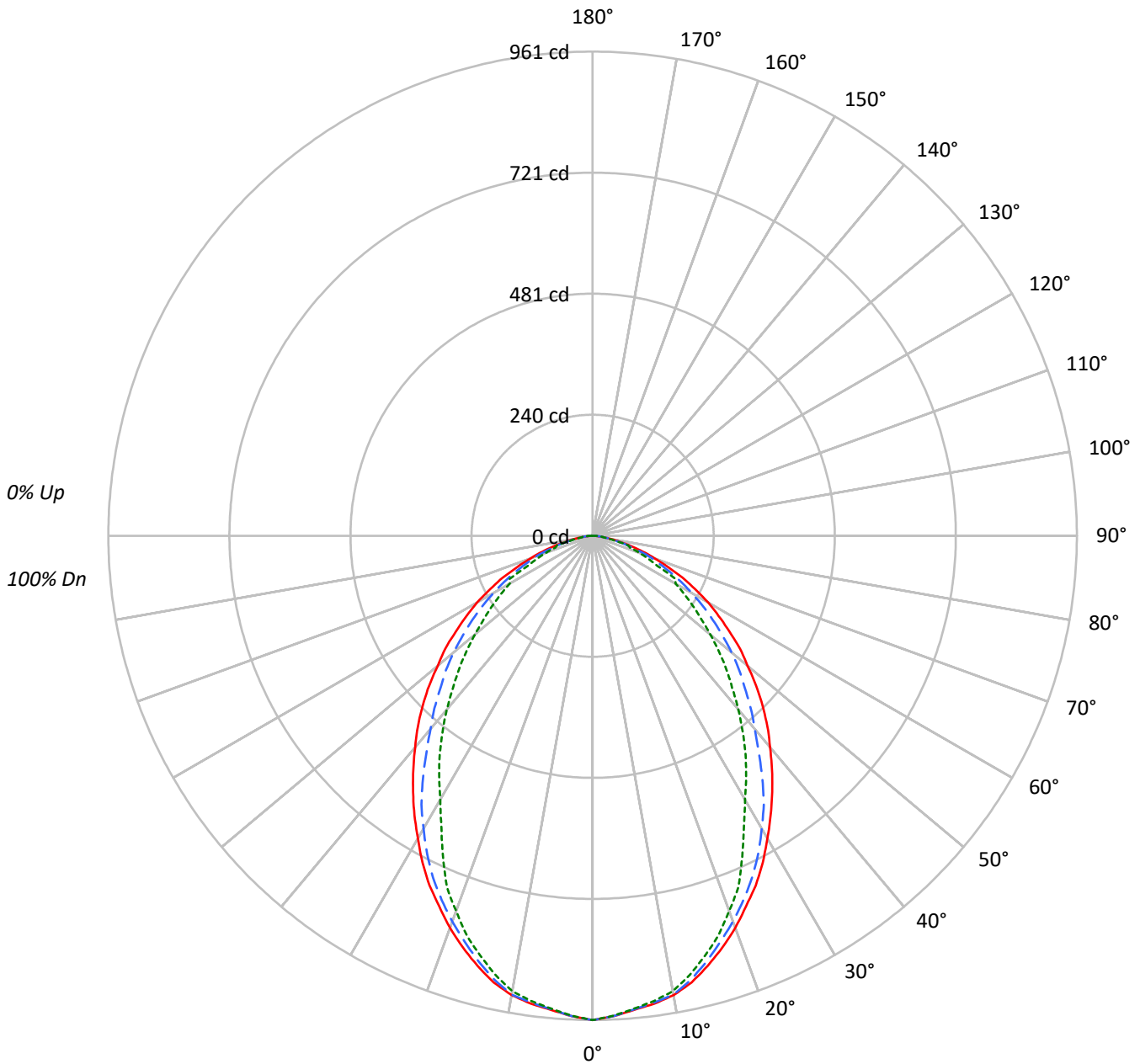
Lumens per Lamp: N/A  
Luminaire Lumens: 1887.0 lumens  
Efficiency: N/A  
Efficacy: 80.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	5173	5173	5173
5°	5103	5097	5091
10°	5059	5052	5016
15°	4922	4873	4805
20°	4742	4665	4538
25°	4546	4448	4170
30°	4309	4171	3757
35°	4081	3855	3475
40°	3849	3514	3162
45°	3628	3248	2859
50°	3359	3014	2550
55°	3107	2731	2284
60°	2847	2440	2045
65°	2505	2137	1811
70°	2063	1871	1539
75°	1641	1433	1501
80°	1103	1032	964
85°	685	821	963



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	89.5	4.7
10°-20°	245.6	13.0
20°-30°	340.0	18.0
30°-40°	362.5	19.2
40°-50°	330.7	17.5
50°-60°	259.1	13.7
60°-70°	168.9	8.9
70°-80°	74.8	4.0
80°-90°	16.1	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°	675.0	35.8
0°-40°	1037.5	55.0
0°-60°	1627.3	86.2
0°-90°	1887.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1887.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	961	961	961	961	961	
5°	944	943	943	942	942	90
15°	883	883	874	866	862	248
25°	766	761	749	722	702	351
35°	621	617	587	542	529	388
45°	477	467	427	391	376	367
55°	331	321	291	257	243	297
65°	197	186	168	171	142	194
75°	79	73	69	66	72	85
85°	11	12	13	14	16	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	961.2	961.2	961.2	961.2	961.2
2.5°	954.5	954.5	954.5	953.4	953.4
5°	944.5	943.4	943.4	942.3	942.3
7.5°	936.8	935.7	934.5	933.4	931.2
10°	925.7	925.7	924.5	919.0	917.9
12.5°	907.9	906.8	902.3	894.5	892.3
15°	883.4	883.4	874.5	865.6	862.3
17.5°	856.8	855.6	844.5	835.6	831.2
20°	827.9	825.6	814.5	800.1	792.3
22.5°	795.6	795.6	782.3	763.4	755.6
25°	765.6	761.2	749.0	722.3	702.3
27.5°	731.2	724.5	711.2	673.4	650.1
30°	693.4	690.1	671.2	622.3	604.5
32.5°	657.8	652.3	632.3	581.2	566.7
35°	621.2	616.7	586.7	542.3	528.9
37.5°	584.5	579.0	541.2	505.6	488.9
40°	547.8	541.2	500.1	467.8	450.0
42.5°	513.4	504.5	464.5	430.0	410.0
45°	476.7	466.7	426.7	391.2	375.6
47.5°	440.0	431.2	394.5	357.8	340.0
50°	401.2	393.4	360.0	323.4	304.5
52.5°	368.9	356.7	324.5	287.8	272.3
55°	331.1	321.1	291.1	256.7	243.4
57.5°	296.7	286.7	258.9	226.7	215.6
60°	264.5	250.0	226.7	198.9	190.0
62.5°	228.9	217.8	197.8	174.5	185.6
65°	196.7	185.6	167.8	171.1	142.2
67.5°	161.1	155.6	140.0	124.5	120.0
70°	131.1	124.5	118.9	102.2	97.8
72.5°	104.5	97.8	90.0	81.1	77.8
75°	78.9	73.3	68.9	65.6	72.2
77.5°	54.5	52.2	48.9	45.6	44.4
80°	35.6	34.4	33.3	32.2	31.1
82.5°	21.1	21.1	21.1	21.1	21.1
85°	11.1	12.2	13.3	14.4	15.6
87.5°	6.7	6.7	7.8	8.9	10.0
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)