

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: P545488

Luminaire Tested: **FMR-12-2-LD4-1STD-40-UNV-93-85-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: P545488  
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-LD4-1STD-40-UNV-93-85-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

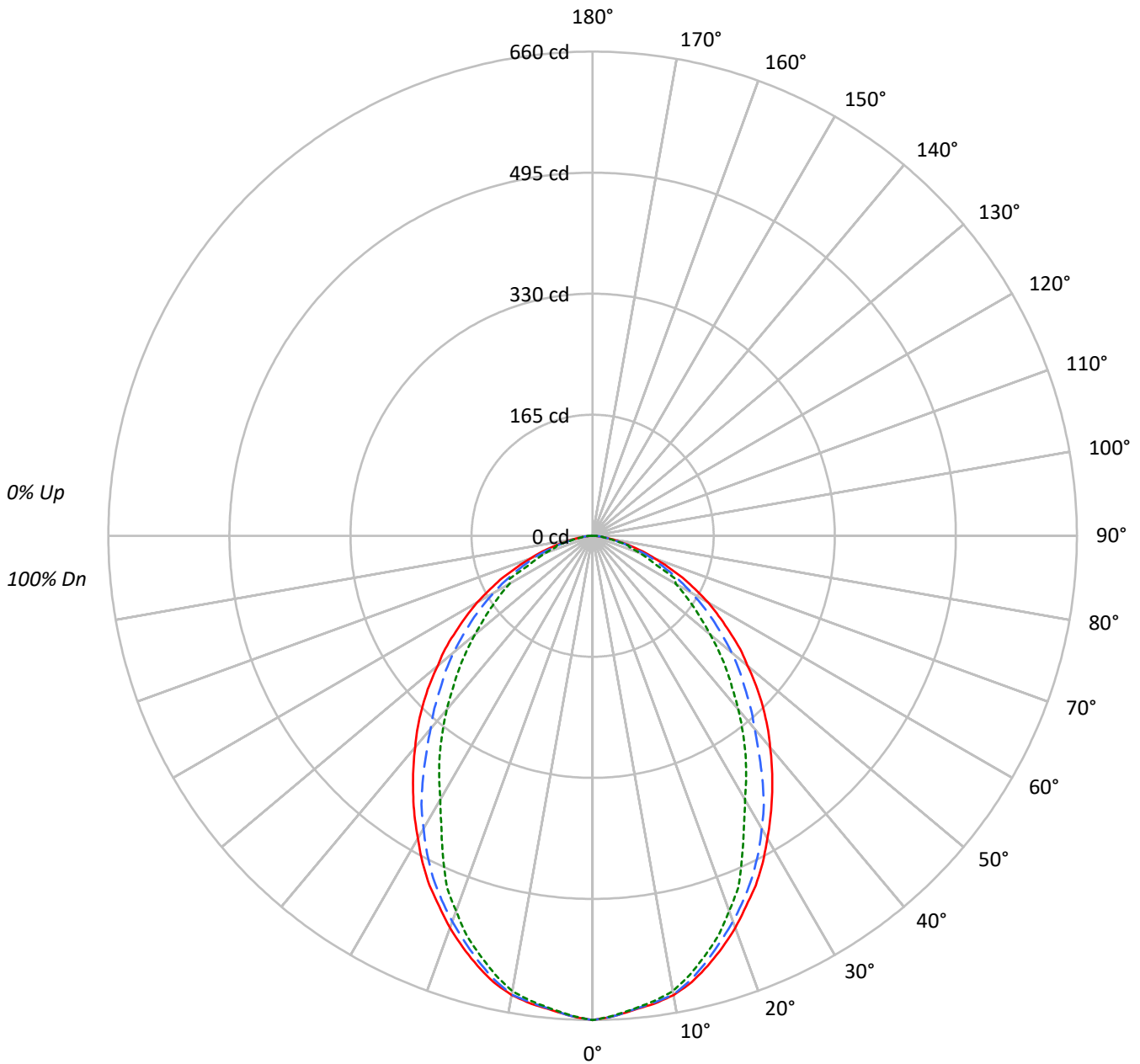
Lumens per Lamp: N/A  
Luminaire Lumens: 1296.0 lumens  
Efficiency: N/A  
Efficacy: 78.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	3553	3553	3553
5°	3505	3501	3497
10°	3474	3470	3445
15°	3380	3346	3300
20°	3257	3204	3117
25°	3122	3055	2864
30°	2959	2865	2580
35°	2803	2648	2387
40°	2644	2413	2172
45°	2492	2231	1964
50°	2307	2071	1751
55°	2134	1877	1568
60°	1955	1676	1405
65°	1720	1467	1244
70°	1418	1286	1057
75°	1127	984	1031
80°	756	710	663
85°	469	568	661



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	61.5	4.7
10°-20°	168.6	13.0
20°-30°	233.5	18.0
30°-40°	249.0	19.2
40°-50°	227.1	17.5
50°-60°	177.9	13.7
60°-70°	116.0	8.9
70°-80°	51.4	4.0
80°-90°	11.0	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°	463.6	35.8
0°-40°	712.6	55.0
0°-60°	1117.6	86.2
0°-90°	1296.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1296.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	660	660	660	660	660	
5°	649	648	648	647	647	62
15°	607	607	601	594	592	171
25°	526	523	514	496	482	241
35°	427	424	403	372	363	267
45°	327	320	293	269	258	252
55°	227	221	200	176	167	204
65°	135	128	115	118	98	133
75°	54	50	47	45	50	58
85°	8	8	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°	660.2	660.2	660.2	660.2	660.2
2.5°	655.6	655.6	655.6	654.8	654.8
5°	648.7	648.0	648.0	647.2	647.2
7.5°	643.4	642.6	641.8	641.1	639.6
10°	635.7	635.7	635.0	631.2	630.4
12.5°	623.5	622.8	619.7	614.4	612.8
15°	606.7	606.7	600.6	594.5	592.2
17.5°	588.4	587.7	580.0	573.9	570.9
20°	568.6	567.1	559.4	549.5	544.2
22.5°	546.4	546.4	537.3	524.3	519.0
25°	525.8	522.8	514.4	496.1	482.3
27.5°	502.2	497.6	488.4	462.5	446.5
30°	476.2	473.9	461.0	427.4	415.2
32.5°	451.8	448.0	434.3	399.2	389.2
35°	426.6	423.6	403.0	372.4	363.3
37.5°	401.4	397.6	371.7	347.3	335.8
40°	376.3	371.7	343.4	321.3	309.1
42.5°	352.6	346.5	319.0	295.4	281.6
45°	327.4	320.5	293.1	268.6	258.0
47.5°	302.2	296.1	270.9	245.7	233.5
50°	275.5	270.2	247.3	222.1	209.1
52.5°	253.4	245.0	222.9	197.7	187.0
55°	227.4	220.6	200.0	176.3	167.1
57.5°	203.8	196.9	177.8	155.7	148.1
60°	181.6	171.7	155.7	136.6	130.5
62.5°	157.2	149.6	135.8	119.8	127.5
65°	135.1	127.5	115.2	117.5	97.7
67.5°	110.7	106.8	96.2	85.5	82.4
70°	90.1	85.5	81.7	70.2	67.2
72.5°	71.7	67.2	61.8	55.7	53.4
75°	54.2	50.4	47.3	45.0	49.6
77.5°	37.4	35.9	33.6	31.3	30.5
80°	24.4	23.7	22.9	22.1	21.4
82.5°	14.5	14.5	14.5	14.5	14.5
85°	7.6	8.4	9.2	9.9	10.7
87.5°	4.6	4.6	5.3	6.1	6.9
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)