

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: P545259

Luminaire Tested: **FMR-12-2-LD4-1HI-35-UNV-82-88-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: P545259  
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-35-UNV-82-88-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

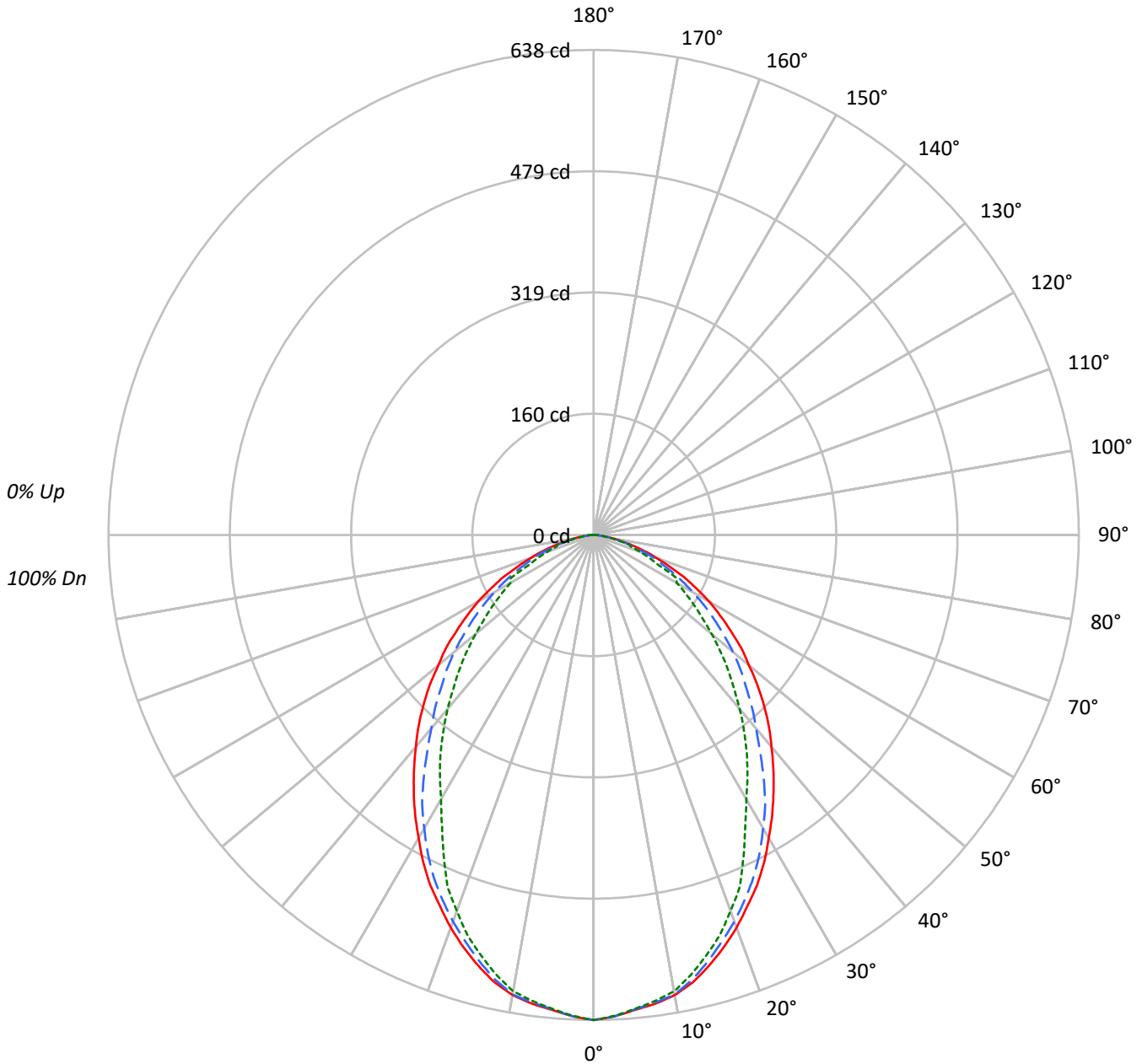
Lumens per Lamp: N/A  
Luminaire Lumens: 1253.0 lumens  
Efficiency: N/A  
Efficacy: 58.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 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°	3435	3435	3435
5°	3388	3385	3380
10°	3359	3355	3331
15°	3268	3236	3190
20°	3148	3098	3013
25°	3019	2953	2769
30°	2861	2770	2495
35°	2710	2560	2307
40°	2556	2333	2099
45°	2409	2156	1898
50°	2231	2002	1693
55°	2063	1814	1516
60°	1890	1620	1358
65°	1663	1419	1202
70°	1371	1243	1021
75°	1090	950	998
80°	731	685	642
85°	457	550	636



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.4	4.7
10°-20°	163.1	13.0
20°-30°	225.7	18.0
30°-40°	240.7	19.2
40°-50°	219.6	17.5
50°-60°	172.0	13.7
60°-70°	112.1	8.9
70°-80°	49.7	4.0
80°-90°	10.7	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°	448.2	35.8
0°-40°	688.9	55.0
0°-60°	1080.5	86.2
0°-90°	1253.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1253.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	638	638	638	638	638	
5°	627	626	626	626	626	60
15°	587	587	581	575	573	165
25°	508	505	497	480	466	233
35°	412	410	390	360	351	258
45°	316	310	283	260	249	244
55°	220	213	193	170	162	197
65°	131	123	111	114	94	129
75°	52	49	46	44	48	56
85°	7	8	9	10	10	10
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	638.3	638.3	638.3	638.3	638.3
2.5°	633.8	633.8	633.8	633.1	633.1
5°	627.2	626.5	626.5	625.7	625.7
7.5°	622.0	621.3	620.6	619.8	618.3
10°	614.6	614.6	613.9	610.2	609.5
12.5°	602.8	602.1	599.2	594.0	592.5
15°	586.6	586.6	580.7	574.8	572.6
17.5°	568.9	568.2	560.8	554.9	551.9
20°	549.7	548.2	540.9	531.3	526.1
22.5°	528.3	528.3	519.5	506.9	501.8
25°	508.4	505.4	497.3	479.6	466.3
27.5°	485.5	481.1	472.2	447.2	431.7
30°	460.4	458.2	445.7	413.2	401.4
32.5°	436.8	433.1	419.9	385.9	376.3
35°	412.5	409.5	389.6	360.1	351.2
37.5°	388.1	384.4	359.3	335.7	324.7
40°	363.8	359.3	332.0	310.6	298.8
42.5°	340.9	335.0	308.4	285.6	272.3
45°	316.5	309.9	283.3	259.7	249.4
47.5°	292.2	286.3	261.9	237.6	225.8
50°	266.4	261.2	239.1	214.7	202.2
52.5°	245.0	236.9	215.5	191.1	180.8
55°	219.9	213.2	193.3	170.4	161.6
57.5°	197.0	190.4	171.9	150.5	143.1
60°	175.6	166.0	150.5	132.1	126.2
62.5°	152.0	144.6	131.3	115.8	123.2
65°	130.6	123.2	111.4	113.6	94.4
67.5°	107.0	103.3	93.0	82.6	79.7
70°	87.1	82.6	79.0	67.9	64.9
72.5°	69.4	64.9	59.8	53.9	51.7
75°	52.4	48.7	45.7	43.5	48.0
77.5°	36.2	34.7	32.5	30.3	29.5
80°	23.6	22.9	22.1	21.4	20.7
82.5°	14.0	14.0	14.0	14.0	14.0
85°	7.4	8.1	8.9	9.6	10.3
87.5°	4.4	4.4	5.2	5.9	6.6
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)