

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: P545191

Luminaire Tested: **FMR-12-1-LD4-2STD-40-UNV-82-84-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: P545191  
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-12-1-LD4-2STD-40-UNV-82-84-EDD  
Description: 1X1 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

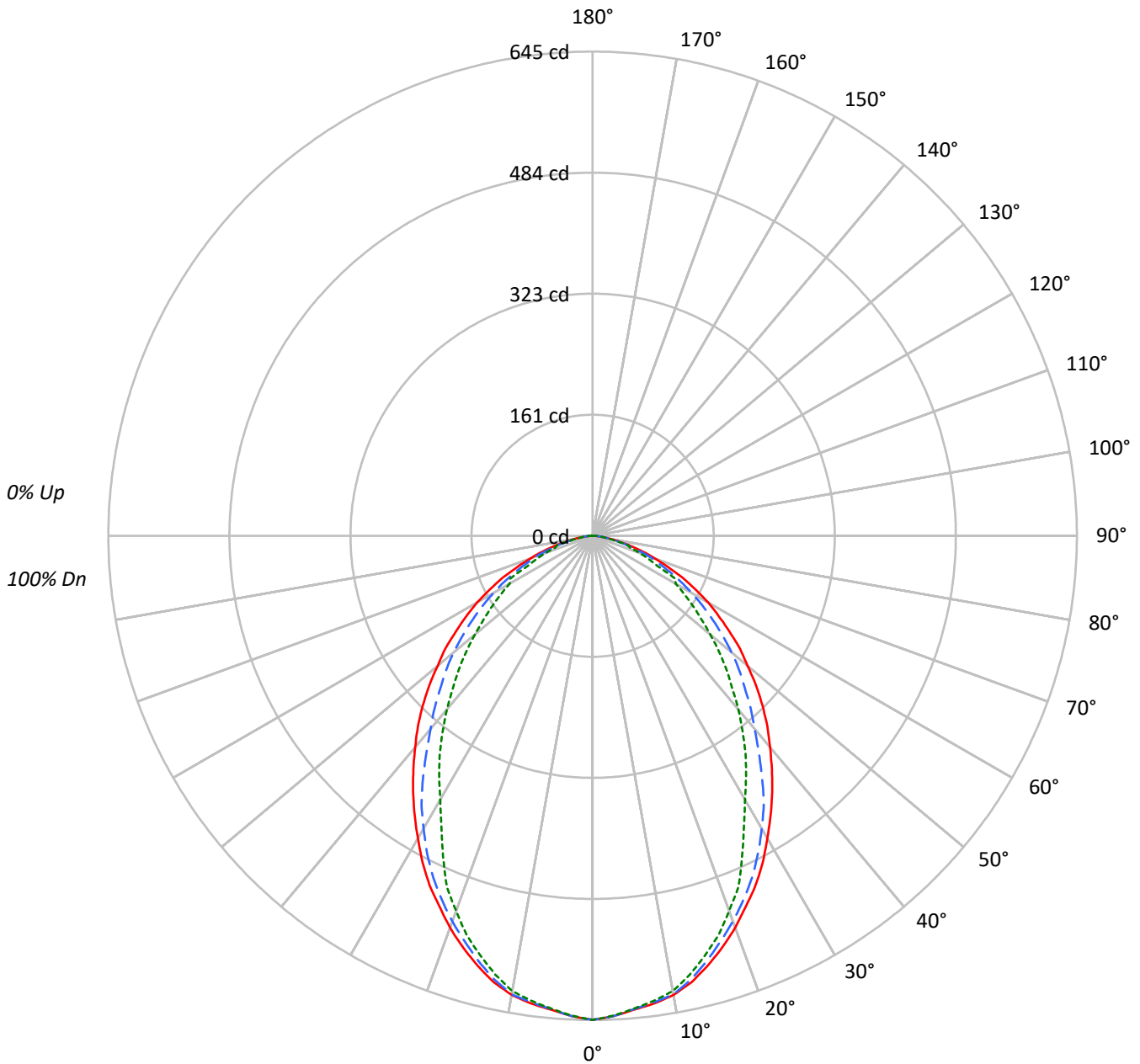
Lumens per Lamp: N/A  
Luminaire Lumens: 1266.0 lumens  
Efficiency: N/A  
Efficacy: 76.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	6942	6942	6942
5°	6847	6840	6831
10°	6788	6780	6731
15°	6605	6538	6447
20°	6362	6260	6089
25°	6101	5968	5596
30°	5782	5597	5041
35°	5477	5172	4663
40°	5164	4714	4242
45°	4868	4358	3836
50°	4506	4046	3421
55°	4170	3665	3065
60°	3819	3274	2745
65°	3362	2868	2430
70°	2769	2511	2065
75°	2200	1921	2017
80°	1481	1389	1296
85°	926	1099	1284



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	60.0	4.7
10°-20°	164.7	13.0
20°-30°	228.1	18.0
30°-40°	243.2	19.2
40°-50°	221.9	17.5
50°-60°	173.8	13.7
60°-70°	113.3	8.9
70°-80°	50.2	4.0
80°-90°	10.8	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°	452.9	35.8
0°-40°	696.1	55.0
0°-60°	1091.8	86.2
0°-90°	1266.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1266.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	645	645	645	645	645	
5°	634	633	633	632	632	60
15°	593	593	587	581	578	167
25°	514	511	502	485	471	236
35°	417	414	394	364	355	261
45°	320	313	286	262	252	246
55°	222	216	195	172	163	199
65°	132	124	113	115	95	130
75°	53	49	46	44	48	57
85°	8	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°	644.9	644.9	644.9	644.9	644.9
2.5°	640.4	640.4	640.4	639.7	639.7
5°	633.7	633.0	633.0	632.2	632.2
7.5°	628.5	627.7	627.0	626.2	624.8
10°	621.0	621.0	620.3	616.6	615.8
12.5°	609.1	608.4	605.4	600.2	598.7
15°	592.7	592.7	586.7	580.8	578.5
17.5°	574.8	574.1	566.6	560.6	557.7
20°	555.4	553.9	546.5	536.8	531.6
22.5°	533.8	533.8	524.9	512.2	507.0
25°	513.7	510.7	502.5	484.6	471.2
27.5°	490.6	486.1	477.1	451.8	436.1
30°	465.2	463.0	450.3	417.5	405.6
32.5°	441.4	437.6	424.2	389.9	380.2
35°	416.8	413.8	393.6	363.8	354.9
37.5°	392.1	388.4	363.1	339.2	328.0
40°	367.5	363.1	335.5	313.9	301.9
42.5°	344.4	338.5	311.6	288.5	275.1
45°	319.8	313.1	286.3	262.4	252.0
47.5°	295.2	289.3	264.7	240.1	228.1
50°	269.1	263.9	241.6	216.9	204.3
52.5°	247.5	239.3	217.7	193.1	182.7
55°	222.2	215.5	195.3	172.2	163.3
57.5°	199.1	192.3	173.7	152.1	144.6
60°	177.4	167.7	152.1	133.4	127.5
62.5°	153.6	146.1	132.7	117.0	124.5
65°	132.0	124.5	112.6	114.8	95.4
67.5°	108.1	104.4	93.9	83.5	80.5
70°	88.0	83.5	79.8	68.6	65.6
72.5°	70.1	65.6	60.4	54.4	52.2
75°	52.9	49.2	46.2	44.0	48.5
77.5°	36.5	35.0	32.8	30.6	29.8
80°	23.9	23.1	22.4	21.6	20.9
82.5°	14.2	14.2	14.2	14.2	14.2
85°	7.5	8.2	8.9	9.7	10.4
87.5°	4.5	4.5	5.2	6.0	6.7
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)