

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: P545185

Luminaire Tested: **FMR-12-1-LD4-2STD-40-UNV-81-86-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: P545185  
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-81-86-EDD  
Description: 1X1 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

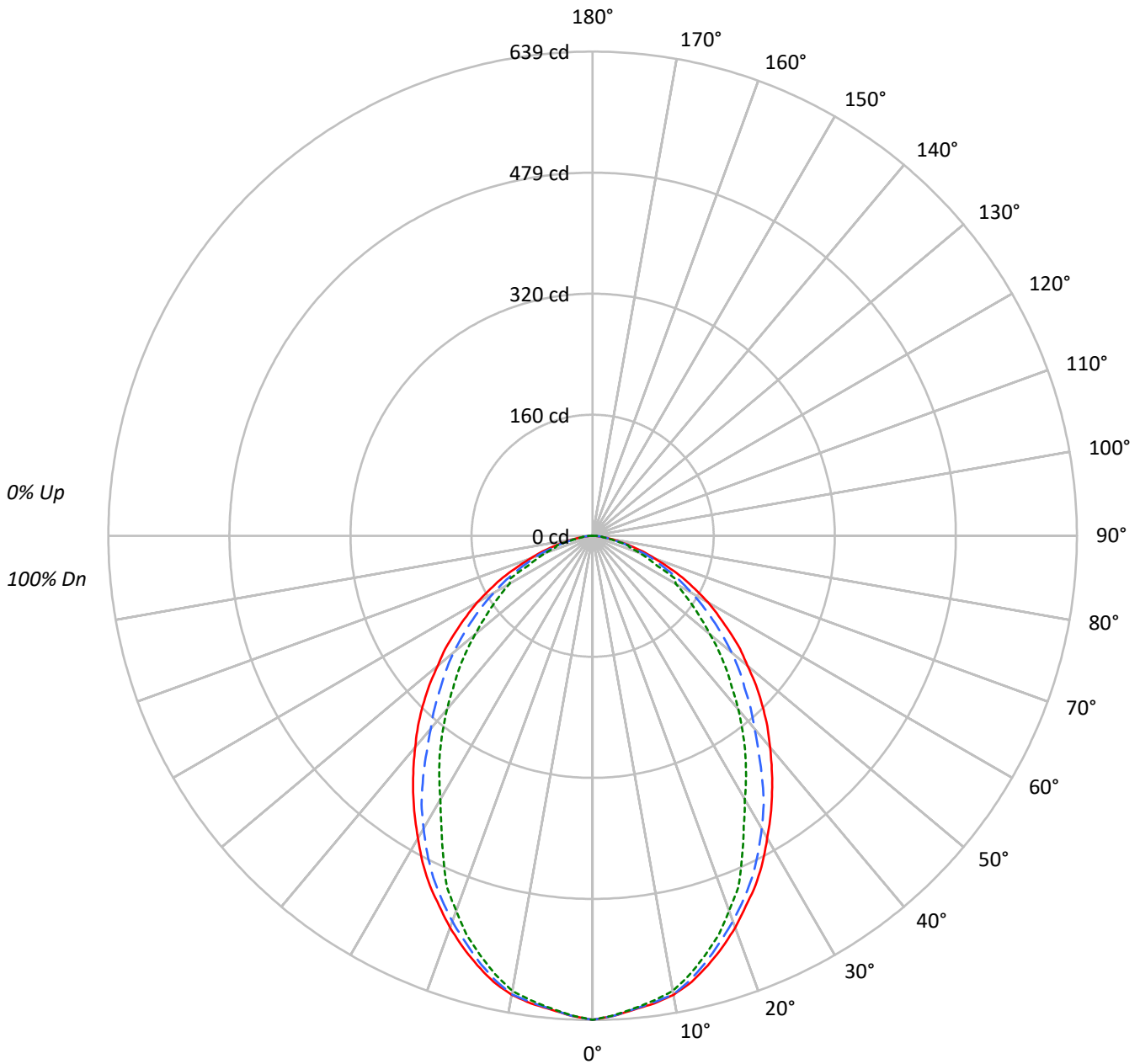
Lumens per Lamp: N/A  
Luminaire Lumens: 1254.0 lumens  
Efficiency: N/A  
Efficacy: 75.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
CIE Type: Direct

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°	6876	6876	6876
5°	6782	6775	6766
10°	6723	6715	6667
15°	6542	6477	6385
20°	6302	6200	6031
25°	6043	5911	5543
30°	5727	5543	4993
35°	5424	5123	4619
40°	5116	4669	4203
45°	4822	4317	3800
50°	4464	4007	3388
55°	4130	3631	3035
60°	3785	3242	2719
65°	3329	2840	2407
70°	2741	2486	2046
75°	2179	1905	1996
80°	1463	1376	1283
85°	914	1099	1272



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	59.5	4.7
10°-20°	163.2	13.0
20°-30°	225.9	18.0
30°-40°	240.9	19.2
40°-50°	219.8	17.5
50°-60°	172.2	13.7
60°-70°	112.2	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°	448.6	35.8
0°-40°	689.5	55.0
0°-60°	1081.4	86.2
0°-90°	1254.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1254.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	639	639	639	639	639	
5°	628	627	627	626	626	60
15°	587	587	581	575	573	165
25°	509	506	498	480	467	234
35°	413	410	390	360	352	258
45°	317	310	284	260	250	244
55°	220	213	194	171	162	197
65°	131	123	112	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°	638.8	638.8	638.8	638.8	638.8
2.5°	634.3	634.3	634.3	633.6	633.6
5°	627.7	627.0	627.0	626.2	626.2
7.5°	622.5	621.8	621.0	620.3	618.8
10°	615.1	615.1	614.4	610.7	610.0
12.5°	603.3	602.6	599.6	594.5	593.0
15°	587.1	587.1	581.2	575.3	573.0
17.5°	569.4	568.6	561.2	555.3	552.4
20°	550.2	548.7	541.3	531.7	526.5
22.5°	528.7	528.7	519.9	507.3	502.2
25°	508.8	505.8	497.7	480.0	466.7
27.5°	485.9	481.5	472.6	447.5	432.0
30°	460.8	458.6	446.0	413.5	401.7
32.5°	437.2	433.5	420.2	386.2	376.6
35°	412.8	409.8	389.9	360.4	351.5
37.5°	388.4	384.7	359.6	336.0	324.9
40°	364.1	359.6	332.3	310.9	299.1
42.5°	341.2	335.3	308.7	285.8	272.5
45°	316.8	310.2	283.6	259.9	249.6
47.5°	292.4	286.5	262.2	237.8	226.0
50°	266.6	261.4	239.3	214.9	202.3
52.5°	245.2	237.0	215.6	191.3	180.9
55°	220.1	213.4	193.5	170.6	161.7
57.5°	197.2	190.5	172.1	150.6	143.3
60°	175.8	166.2	150.6	132.2	126.3
62.5°	152.1	144.7	131.4	115.9	123.3
65°	130.7	123.3	111.5	113.7	94.5
67.5°	107.1	103.4	93.0	82.7	79.8
70°	87.1	82.7	79.0	67.9	65.0
72.5°	69.4	65.0	59.8	53.9	51.7
75°	52.4	48.7	45.8	43.6	48.0
77.5°	36.2	34.7	32.5	30.3	29.5
80°	23.6	22.9	22.2	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)