

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: P545681

Luminaire Tested: **FMR-12-2-LD4-2LO-40-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: P545681
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-40-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

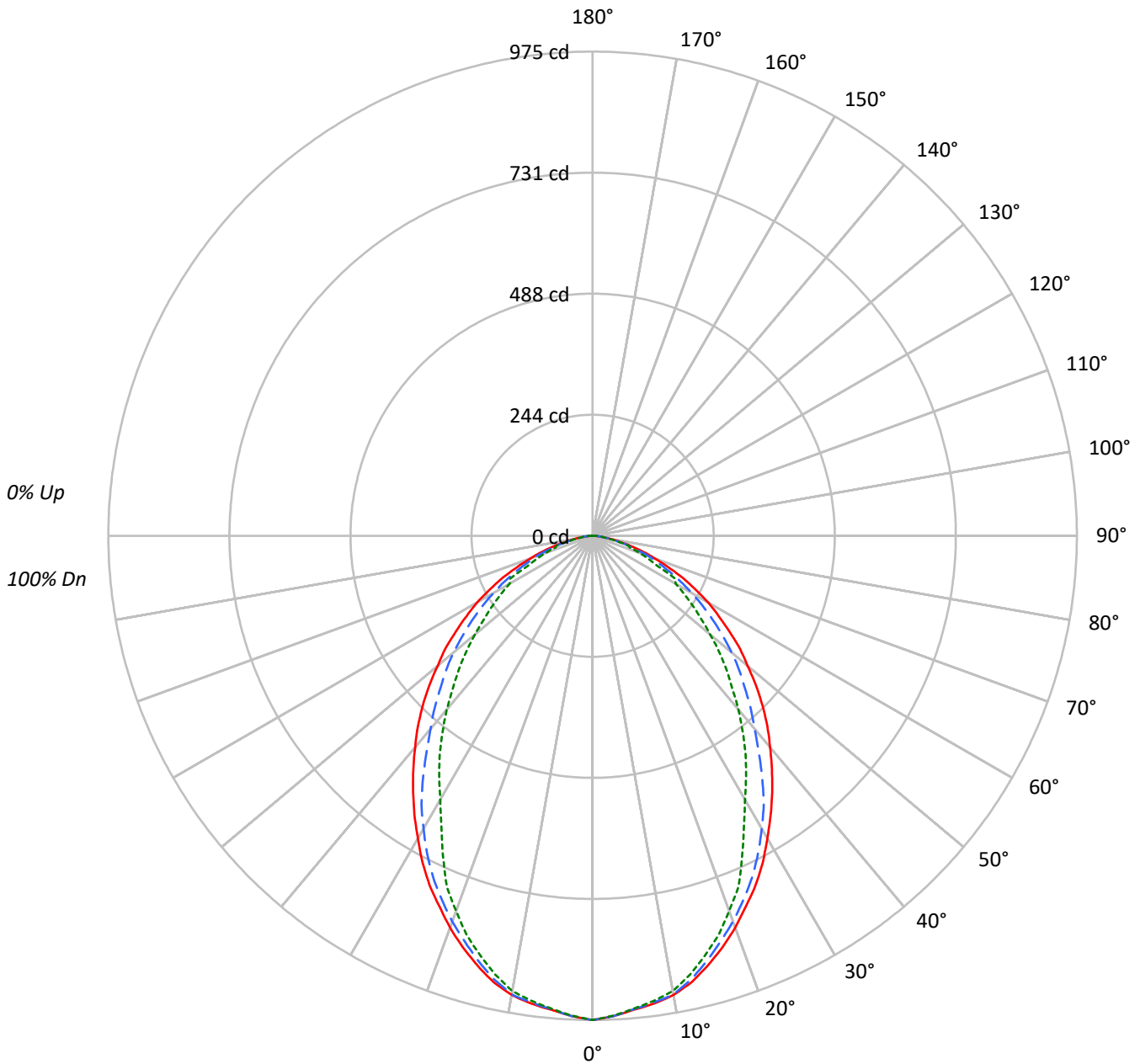
Lumens per Lamp: N/A
Luminaire Lumens: 1914.0 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (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°	5247	5247	5247
5°	5176	5170	5164
10°	5131	5125	5088
15°	4993	4943	4874
20°	4809	4732	4603
25°	4612	4511	4230
30°	4371	4231	3811
35°	4140	3910	3525
40°	3904	3563	3207
45°	3680	3294	2900
50°	3407	3058	2586
55°	3152	2771	2316
60°	2888	2475	2074
65°	2541	2167	1838
70°	2093	1898	1561
75°	1664	1454	1524
80°	1119	1048	979
85°	698	834	976



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.8	4.7
10°-20°	249.1	13.0
20°-30°	344.8	18.0
30°-40°	367.7	19.2
40°-50°	335.4	17.5
50°-60°	262.8	13.7
60°-70°	171.3	8.9
70°-80°	75.9	4.0
80°-90°	16.3	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°	684.7	35.8
0°-40°	1052.3	55.0
0°-60°	1650.5	86.2
0°-90°	1914.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1914.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	975	975	975	975	975	
5°	958	957	957	956	956	91
15°	896	896	887	878	875	252
25°	777	772	760	733	712	357
35°	630	626	595	550	536	394
45°	484	473	433	397	381	372
55°	336	326	295	260	247	301
65°	200	188	170	174	144	197
75°	80	74	70	66	73	86
85°	11	12	14	15	16	16
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	975.0	975.0	975.0	975.0	975.0
2.5°	968.2	968.2	968.2	967.1	967.1
5°	958.1	956.9	956.9	955.8	955.8
7.5°	950.2	949.0	947.9	946.8	944.5
10°	938.9	938.9	937.8	932.1	931.0
12.5°	920.9	919.7	915.2	907.3	905.1
15°	896.1	896.1	887.1	878.0	874.7
17.5°	869.0	867.9	856.6	847.6	843.1
20°	839.7	837.5	826.2	811.5	803.6
22.5°	807.0	807.0	793.5	774.3	766.4
25°	776.6	772.1	759.7	732.6	712.3
27.5°	741.7	734.9	721.4	683.0	659.4
30°	703.3	699.9	680.8	631.2	613.2
32.5°	667.3	661.6	641.3	589.5	574.8
35°	630.1	625.6	595.1	550.0	536.5
37.5°	592.9	587.2	548.9	512.8	495.9
40°	555.7	548.9	507.2	474.5	456.5
42.5°	520.7	511.7	471.1	436.2	415.9
45°	483.5	473.4	432.8	396.7	381.0
47.5°	446.3	437.3	400.1	362.9	344.9
50°	406.9	399.0	365.2	328.0	308.8
52.5°	374.2	361.8	329.1	291.9	276.1
55°	335.9	325.7	295.3	260.4	246.8
57.5°	300.9	290.8	262.6	229.9	218.7
60°	268.3	253.6	229.9	201.8	192.7
62.5°	232.2	220.9	200.6	177.0	188.2
65°	199.5	188.2	170.2	173.6	144.3
67.5°	163.4	157.8	142.0	126.2	121.7
70°	133.0	126.2	120.6	103.7	99.2
72.5°	106.0	99.2	91.3	82.3	78.9
75°	80.0	74.4	69.9	66.5	73.3
77.5°	55.2	53.0	49.6	46.2	45.1
80°	36.1	34.9	33.8	32.7	31.6
82.5°	21.4	21.4	21.4	21.4	21.4
85°	11.3	12.4	13.5	14.7	15.8
87.5°	6.8	6.8	7.9	9.0	10.1
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)