

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: P545493

Luminaire Tested: **FMR-12-2-LD4-1STD-40-UNV-93-96-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: P545493  
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-93-96-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

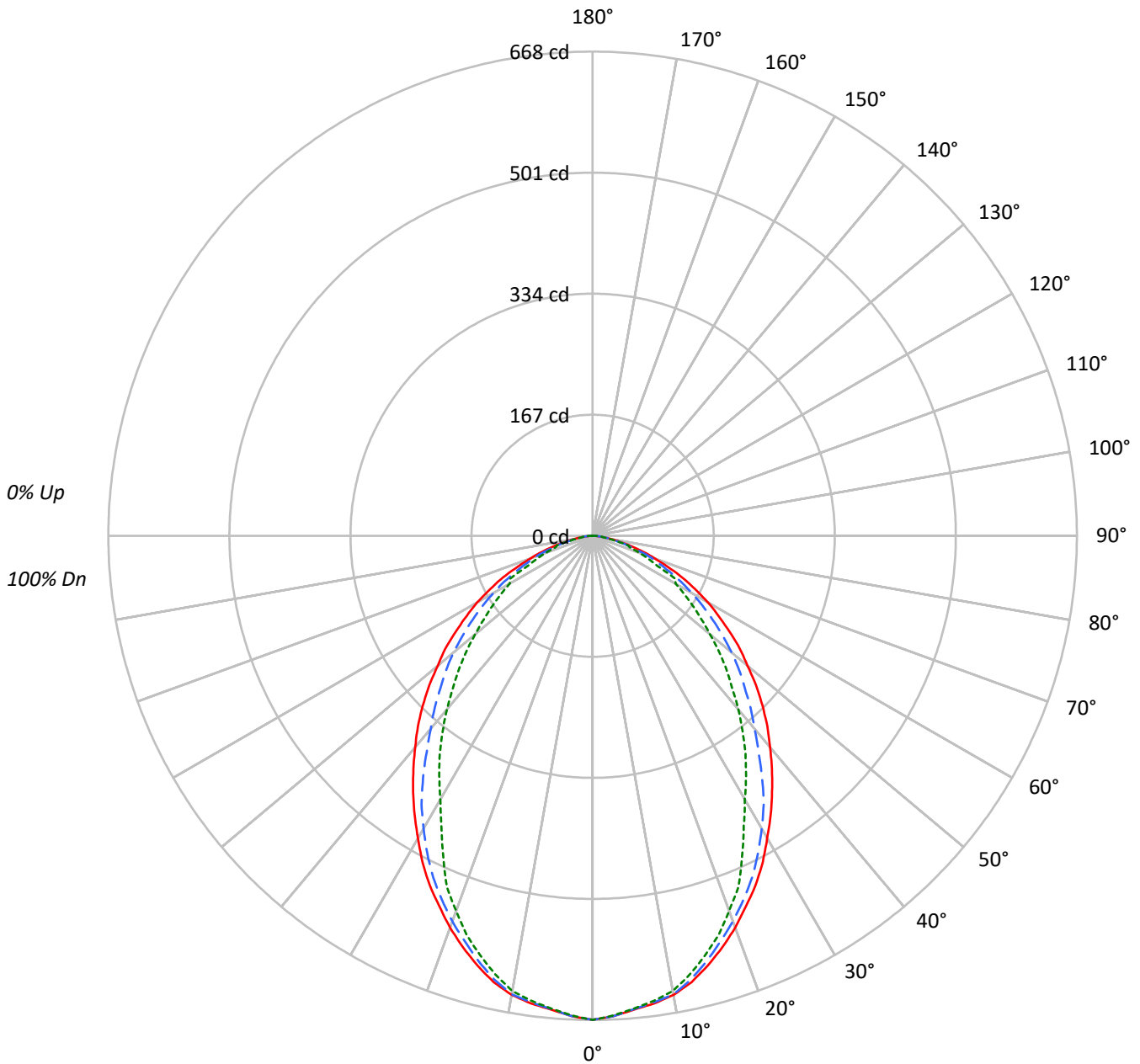
Lumens per Lamp: N/A  
Luminaire Lumens: 1311.0 lumens  
Efficiency: N/A  
Efficacy: 79.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 16.6  
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				20				20
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3594	3594	3594
5°	3545	3541	3537
10°	3515	3510	3485
15°	3420	3385	3338
20°	3294	3241	3153
25°	3159	3090	2897
30°	2994	2898	2610
35°	2836	2678	2415
40°	2674	2441	2197
45°	2521	2257	1986
50°	2334	2094	1771
55°	2159	1898	1587
60°	1977	1695	1421
65°	1740	1485	1258
70°	1434	1300	1068
75°	1140	996	1044
80°	766	719	669
85°	475	574	667



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	62.2	4.7
10°-20°	170.6	13.0
20°-30°	236.2	18.0
30°-40°	251.8	19.2
40°-50°	229.8	17.5
50°-60°	180.0	13.7
60°-70°	117.3	8.9
70°-80°	52.0	4.0
80°-90°	11.2	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°	469.0	35.8
0°-40°	720.8	55.0
0°-60°	1130.6	86.2
0°-90°	1311.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1311.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	668	668	668	668	668	
5°	656	656	656	655	655	62
15°	614	614	608	601	599	173
25°	532	529	520	502	488	244
35°	432	428	408	377	368	270
45°	331	324	296	272	261	255
55°	230	223	202	178	169	206
65°	137	129	117	119	99	135
75°	55	51	48	46	50	59
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°	667.8	667.8	667.8	667.8	667.8
2.5°	663.2	663.2	663.2	662.4	662.4
5°	656.2	655.5	655.5	654.7	654.7
7.5°	650.8	650.0	649.3	648.5	647.0
10°	643.1	643.1	642.3	638.5	637.7
12.5°	630.7	630.0	626.9	621.5	619.9
15°	613.8	613.8	607.6	601.4	599.1
17.5°	595.2	594.5	586.7	580.6	577.5
20°	575.2	573.6	565.9	555.9	550.5
22.5°	552.8	552.8	543.5	530.4	525.0
25°	531.9	528.8	520.3	501.8	487.9
27.5°	508.0	503.4	494.1	467.9	451.6
30°	481.7	479.4	466.3	432.3	420.0
32.5°	457.0	453.2	439.3	403.8	393.7
35°	431.6	428.5	407.6	376.8	367.5
37.5°	406.1	402.2	376.0	351.3	339.7
40°	380.6	376.0	347.4	325.0	312.7
42.5°	356.7	350.5	322.7	298.8	284.9
45°	331.2	324.3	296.5	271.8	260.9
47.5°	305.7	299.5	274.1	248.6	236.2
50°	278.7	273.3	250.1	224.7	211.5
52.5°	256.3	247.8	225.4	200.0	189.1
55°	230.1	223.1	202.3	178.3	169.1
57.5°	206.1	199.2	179.9	157.5	149.8
60°	183.7	173.7	157.5	138.2	132.0
62.5°	159.0	151.3	137.4	121.2	128.9
65°	136.6	128.9	116.6	118.9	98.8
67.5°	111.9	108.1	97.3	86.5	83.4
70°	91.1	86.5	82.6	71.0	67.9
72.5°	72.6	67.9	62.5	56.4	54.0
75°	54.8	51.0	47.9	45.5	50.2
77.5°	37.8	36.3	34.0	31.7	30.9
80°	24.7	23.9	23.2	22.4	21.6
82.5°	14.7	14.7	14.7	14.7	14.7
85°	7.7	8.5	9.3	10.0	10.8
87.5°	4.6	4.6	5.4	6.2	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)