

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: P546877

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-80-96-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: P546877  
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-24-4-LD4-2STD-35-UNV-80-96-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

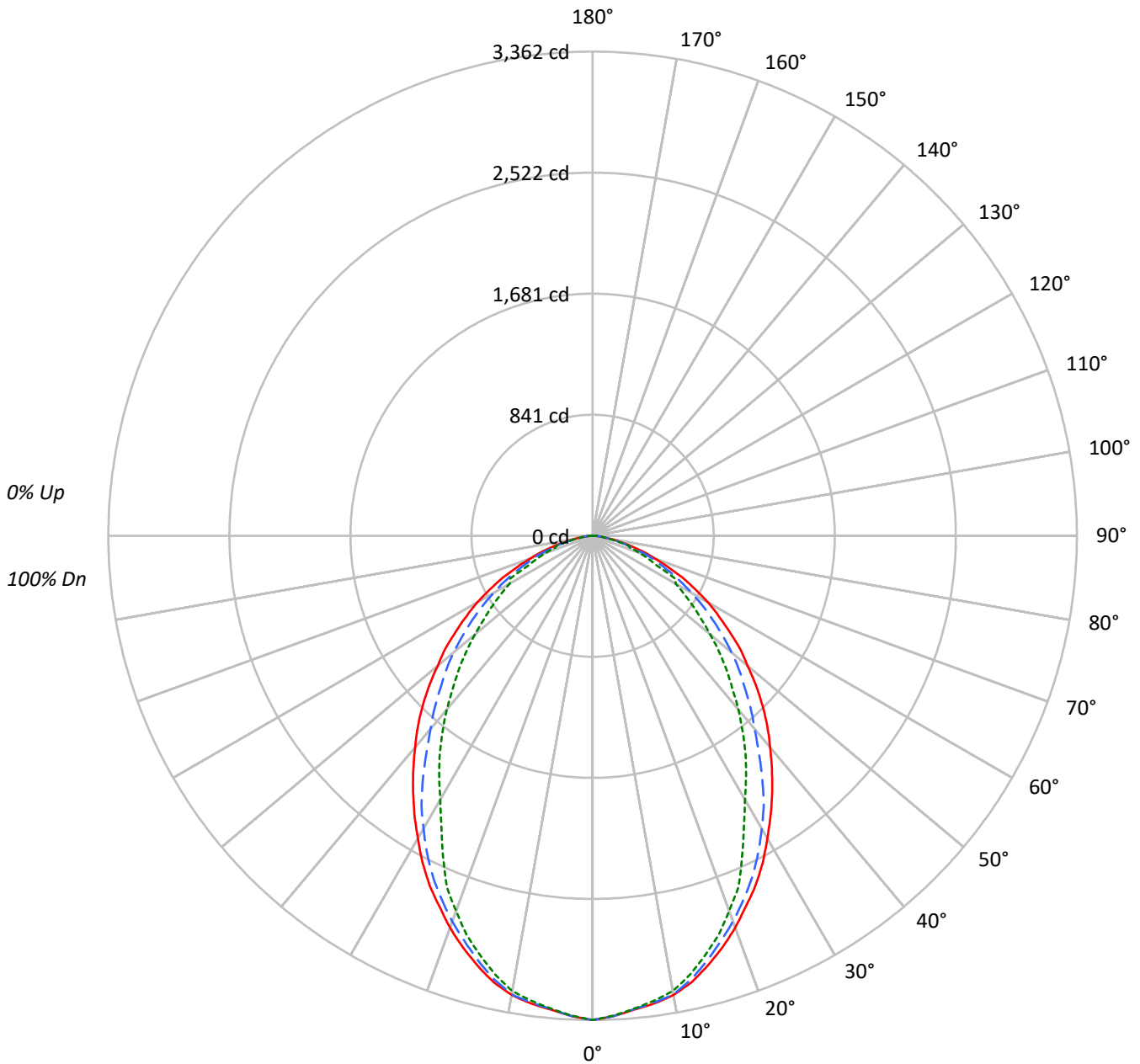
Lumens per Lamp: N/A  
Luminaire Lumens: 6600.0 lumens  
Efficiency: N/A  
Efficacy: 99.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

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

	0°	45°	90°
0°	4524	4524	4524
5°	4462	4457	4452
10°	4423	4418	4386
15°	4304	4261	4201
20°	4146	4079	3968
25°	3976	3889	3647
30°	3768	3647	3285
35°	3569	3371	3039
40°	3365	3072	2765
45°	3173	2840	2500
50°	2937	2636	2229
55°	2717	2389	1997
60°	2489	2134	1788
65°	2190	1869	1584
70°	1804	1636	1345
75°	1435	1253	1313
80°	964	903	843
85°	601	719	840



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	313.0	4.7
10°-20°	858.9	13.0
20°-30°	1189.0	18.0
30°-40°	1267.9	19.2
40°-50°	1156.7	17.5
50°-60°	906.2	13.7
60°-70°	590.6	8.9
70°-80°	261.7	4.0
80°-90°	56.2	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°	2360.9	35.8
0°-40°	3628.8	55.0
0°-60°	5691.6	86.2
0°-90°	6600.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6600.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3362	3362	3362	3362	3362	
5°	3304	3300	3300	3296	3296	314
15°	3090	3090	3059	3028	3016	869
25°	2678	2662	2620	2526	2456	1229
35°	2173	2157	2052	1897	1850	1358
45°	1667	1632	1492	1368	1314	1284
55°	1158	1123	1018	898	851	1039
65°	688	649	587	598	498	678
75°	276	256	241	229	253	296
85°	39	43	47	50	54	54
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3362.0	3362.0	3362.0	3362.0	3362.0
2.5°	3338.6	3338.6	3338.6	3334.7	3334.7
5°	3303.7	3299.8	3299.8	3295.9	3295.9
7.5°	3276.4	3272.6	3268.7	3264.8	3257.0
10°	3237.6	3237.6	3233.7	3214.3	3210.4
12.5°	3175.4	3171.5	3156.0	3128.8	3121.0
15°	3089.9	3089.9	3058.8	3027.7	3016.0
17.5°	2996.6	2992.7	2953.9	2922.8	2907.2
20°	2895.6	2887.8	2848.9	2798.4	2771.2
22.5°	2782.8	2782.8	2736.2	2670.1	2642.9
25°	2677.9	2662.4	2619.6	2526.3	2456.4
27.5°	2557.4	2534.1	2487.5	2355.3	2273.7
30°	2425.3	2413.6	2347.5	2176.5	2114.3
32.5°	2300.9	2281.5	2211.5	2032.7	1982.2
35°	2172.6	2157.1	2052.2	1896.7	1850.0
37.5°	2044.4	2024.9	1892.8	1768.4	1710.1
40°	1916.1	1892.8	1749.0	1636.3	1574.1
42.5°	1795.6	1764.5	1624.6	1504.1	1434.2
45°	1667.4	1632.4	1492.5	1368.1	1313.7
47.5°	1539.1	1508.0	1379.8	1251.5	1189.3
50°	1403.1	1375.9	1259.3	1131.0	1064.9
52.5°	1290.4	1247.6	1134.9	1006.6	952.2
55°	1158.2	1123.2	1018.3	897.8	851.2
57.5°	1037.7	1002.8	905.6	792.9	754.0
60°	925.0	874.5	792.9	695.7	664.6
62.5°	800.6	761.8	691.8	610.2	649.1
65°	687.9	649.1	586.9	598.5	497.5
67.5°	563.6	544.1	489.7	435.3	419.8
70°	458.6	435.3	415.9	357.6	342.0
72.5°	365.3	342.0	314.8	283.7	272.1
75°	276.0	256.5	241.0	229.3	252.6
77.5°	190.4	182.7	171.0	159.4	155.5
80°	124.4	120.5	116.6	112.7	108.8
82.5°	73.8	73.8	73.8	73.8	73.8
85°	38.9	42.8	46.6	50.5	54.4
87.5°	23.3	23.3	27.2	31.1	35.0
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)