

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: P546940

Luminaire Tested: **FMR-24-4-LD4-2STD-50-UNV-80-94-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: P546940  
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-50-UNV-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

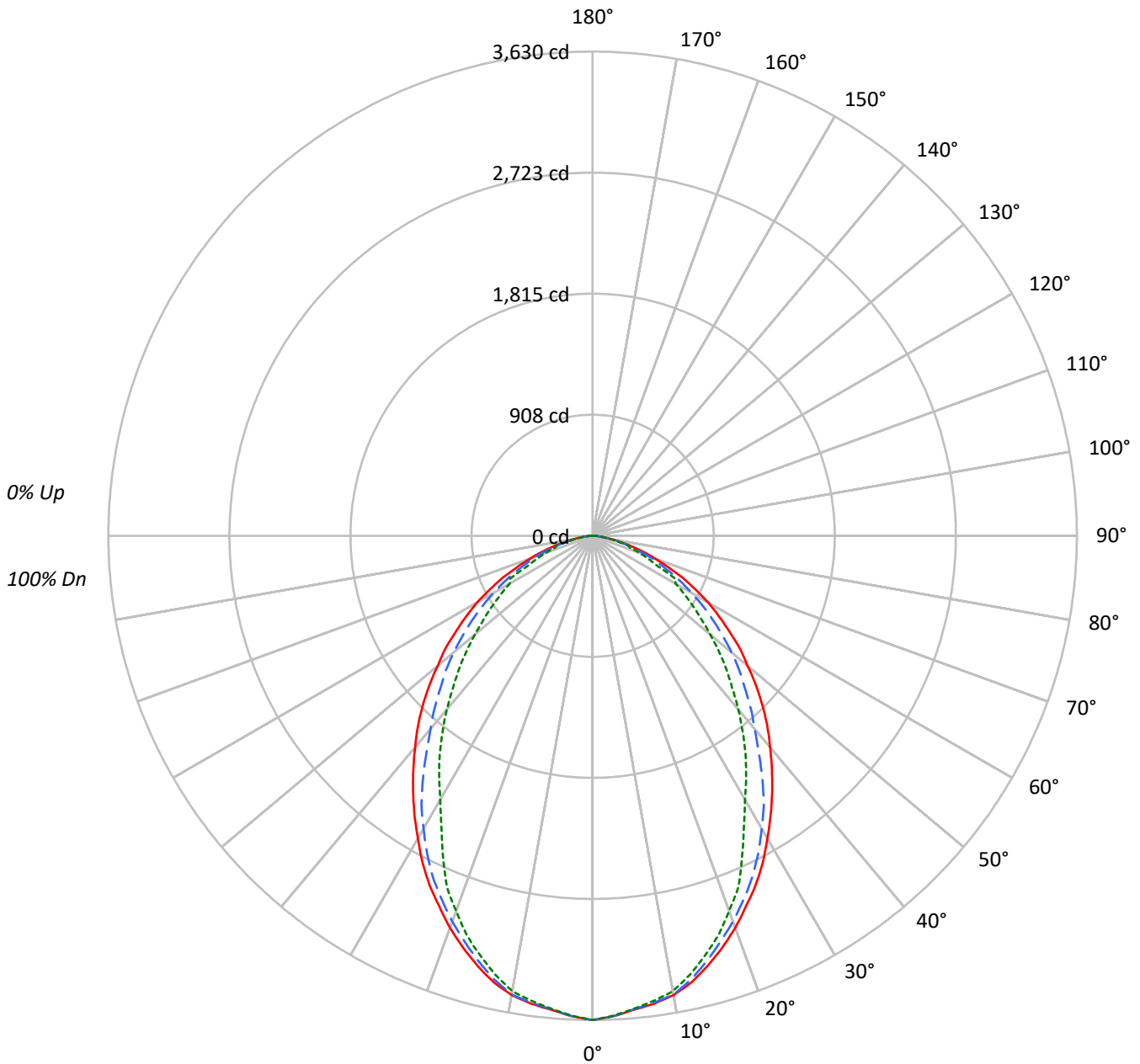
Lumens per Lamp: N/A  
Luminaire Lumens: 7127.0 lumens  
Efficiency: N/A  
Efficacy: 107.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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									
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°	4885	4885	4885
5°	4818	4813	4807
10°	4777	4771	4736
15°	4648	4601	4537
20°	4477	4405	4285
25°	4293	4200	3938
30°	4069	3938	3547
35°	3854	3640	3281
40°	3634	3317	2986
45°	3426	3067	2699
50°	3171	2846	2407
55°	2934	2579	2156
60°	2688	2304	1931
65°	2365	2018	1710
70°	1948	1767	1453
75°	1549	1353	1418
80°	1041	976	910
85°	648	778	908



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	337.9	4.7
10°-20°	927.5	13.0
20°-30°	1284.0	18.0
30°-40°	1369.1	19.2
40°-50°	1249.0	17.5
50°-60°	978.5	13.7
60°-70°	637.7	8.9
70°-80°	282.6	4.0
80°-90°	60.7	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°	2549.4	35.8
0°-40°	3918.5	55.0
0°-60°	6146.0	86.2
0°-90°	7127.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7127.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3630	3630	3630	3630	3630	
5°	3567	3563	3563	3559	3559	339
15°	3337	3337	3303	3270	3257	938
25°	2892	2875	2829	2728	2652	1328
35°	2346	2329	2216	2048	1998	1467
45°	1800	1763	1612	1477	1419	1387
55°	1251	1213	1100	970	919	1122
65°	743	701	634	646	537	732
75°	298	277	260	248	273	319
85°	42	46	50	55	59	58
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3630.4	3630.4	3630.4	3630.4	3630.4
2.5°	3605.2	3605.2	3605.2	3601.0	3601.0
5°	3567.4	3563.2	3563.2	3559.0	3559.0
7.5°	3538.1	3533.9	3529.7	3525.5	3517.1
10°	3496.1	3496.1	3491.9	3470.9	3466.7
12.5°	3428.9	3424.7	3408.0	3378.6	3370.2
15°	3336.6	3336.6	3303.0	3269.5	3256.9
17.5°	3235.9	3231.7	3189.7	3156.1	3139.4
20°	3126.8	3118.4	3076.4	3021.8	2992.5
22.5°	3005.0	3005.0	2954.7	2883.3	2854.0
25°	2891.7	2874.9	2828.8	2728.0	2652.5
27.5°	2761.6	2736.4	2686.1	2543.4	2455.2
30°	2618.9	2606.3	2535.0	2350.3	2283.2
32.5°	2484.6	2463.6	2388.1	2195.0	2140.5
35°	2346.1	2329.3	2216.0	2048.1	1997.8
37.5°	2207.6	2186.6	2043.9	1909.6	1846.7
40°	2069.1	2043.9	1888.6	1766.9	1699.8
42.5°	1939.0	1905.4	1754.3	1624.2	1548.7
45°	1800.5	1762.7	1611.6	1477.3	1418.6
47.5°	1662.0	1628.4	1489.9	1351.4	1284.3
50°	1515.1	1485.7	1359.8	1221.3	1150.0
52.5°	1393.4	1347.2	1225.5	1087.0	1028.3
55°	1250.7	1212.9	1099.6	969.5	919.1
57.5°	1120.6	1082.8	977.9	856.2	814.2
60°	998.9	944.3	856.2	751.3	717.7
62.5°	864.6	822.6	747.1	658.9	700.9
65°	742.9	700.9	633.7	646.3	537.2
67.5°	608.6	587.6	528.8	470.1	453.3
70°	495.2	470.1	449.1	386.1	369.3
72.5°	394.5	369.3	340.0	306.4	293.8
75°	298.0	277.0	260.2	247.6	272.8
77.5°	205.7	197.3	184.7	172.1	167.9
80°	134.3	130.1	125.9	121.7	117.5
82.5°	79.7	79.7	79.7	79.7	79.7
85°	42.0	46.2	50.4	54.6	58.8
87.5°	25.2	25.2	29.4	33.6	37.8
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)