

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: P546894

Luminaire Tested: **FMR-24-4-LD4-2STD-35-UNV-82-97-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: P546894  
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-82-97-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

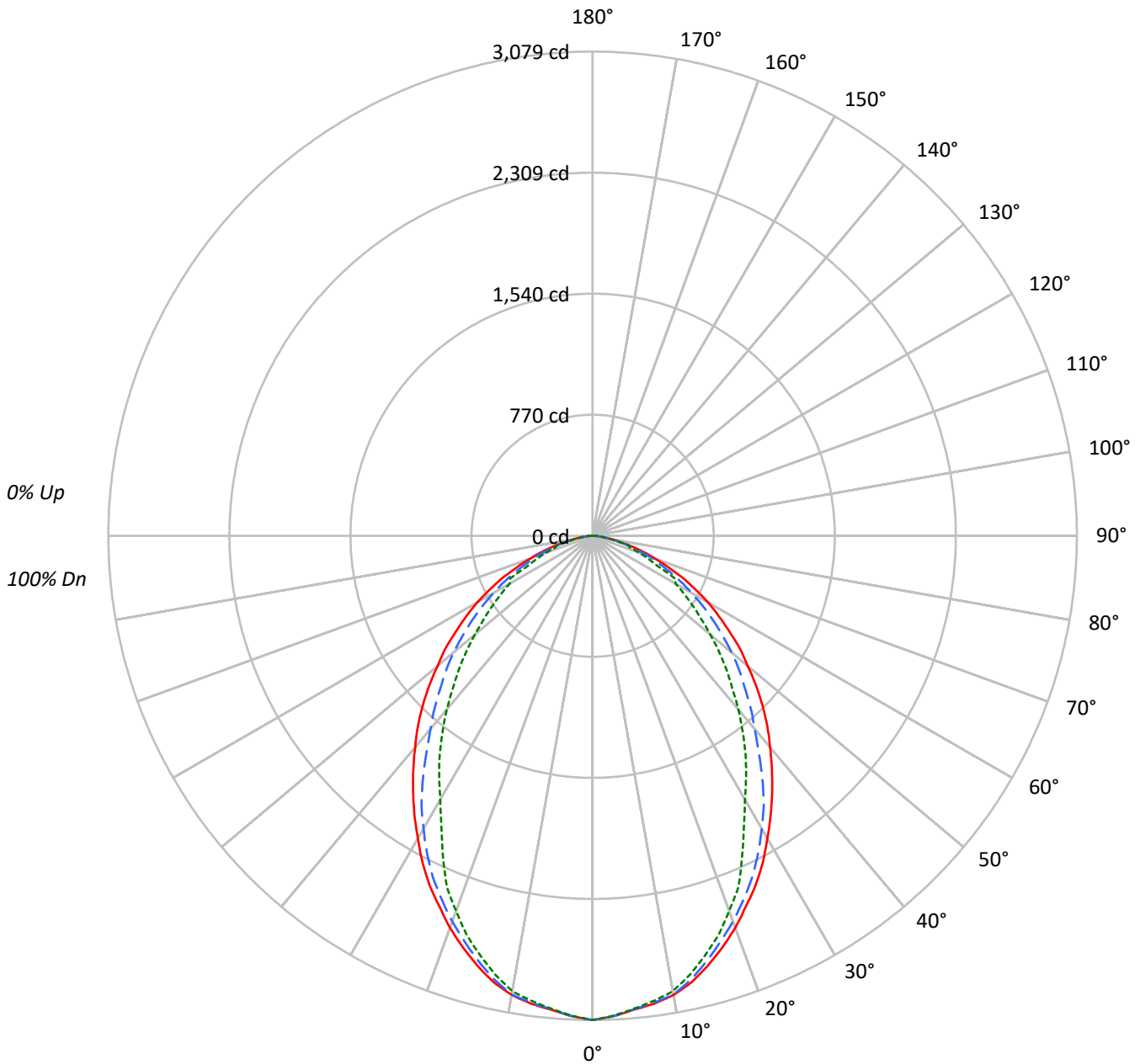
Lumens per Lamp: N/A  
Luminaire Lumens: 6045.0 lumens  
Efficiency: N/A  
Efficacy: 90.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
Input Voltage (V): NR  
Input Current (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°	4143	4143	4143
5°	4087	4082	4077
10°	4051	4047	4017
15°	3942	3902	3848
20°	3797	3736	3634
25°	3641	3562	3340
30°	3451	3340	3009
35°	3268	3087	2783
40°	3083	2814	2532
45°	2906	2601	2289
50°	2690	2414	2042
55°	2488	2188	1829
60°	2280	1954	1638
65°	2006	1711	1451
70°	1653	1498	1233
75°	1314	1147	1203
80°	883	828	773
85°	550	659	769



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	286.6	4.7
10°-20°	786.7	13.0
20°-30°	1089.1	18.0
30°-40°	1161.3	19.2
40°-50°	1059.4	17.5
50°-60°	830.0	13.7
60°-70°	540.9	8.9
70°-80°	239.6	4.0
80°-90°	51.4	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°	2162.3	35.8
0°-40°	3323.6	55.0
0°-60°	5213.0	86.2
0°-90°	6045.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6045.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3079	3079	3079	3079	3079	
5°	3026	3022	3022	3019	3019	287
15°	2830	2830	2802	2773	2762	796
25°	2453	2438	2399	2314	2250	1126
35°	1990	1976	1880	1737	1694	1244
45°	1527	1495	1367	1253	1203	1176
55°	1061	1029	933	822	780	951
65°	630	594	538	548	456	621
75°	253	235	221	210	231	271
85°	36	39	43	46	50	49
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3079.2	3079.2	3079.2	3079.2	3079.2
2.5°	3057.9	3057.9	3057.9	3054.3	3054.3
5°	3025.8	3022.3	3022.3	3018.7	3018.7
7.5°	3000.9	2997.4	2993.8	2990.2	2983.1
10°	2965.3	2965.3	2961.8	2944.0	2940.4
12.5°	2908.4	2904.8	2890.6	2865.7	2858.5
15°	2830.1	2830.1	2801.6	2773.1	2762.4
17.5°	2744.6	2741.1	2705.5	2677.0	2662.7
20°	2652.1	2644.9	2609.3	2563.1	2538.1
22.5°	2548.8	2548.8	2506.1	2445.6	2420.7
25°	2452.7	2438.5	2399.3	2313.9	2249.8
27.5°	2342.4	2321.0	2278.3	2157.2	2082.5
30°	2221.3	2210.6	2150.1	1993.5	1936.5
32.5°	2107.4	2089.6	2025.5	1861.8	1815.5
35°	1989.9	1975.7	1879.6	1737.2	1694.5
37.5°	1872.5	1854.7	1733.6	1619.7	1566.3
40°	1755.0	1733.6	1601.9	1498.7	1441.7
42.5°	1644.6	1616.2	1488.0	1377.6	1313.6
45°	1527.2	1495.1	1367.0	1253.1	1203.2
47.5°	1409.7	1381.2	1263.7	1146.3	1089.3
50°	1285.1	1260.2	1153.4	1035.9	975.4
52.5°	1181.9	1142.7	1039.5	922.0	872.2
55°	1060.8	1028.8	932.7	822.3	779.6
57.5°	950.5	918.4	829.4	726.2	690.6
60°	847.2	801.0	726.2	637.2	608.7
62.5°	733.3	697.7	633.6	558.9	594.5
65°	630.1	594.5	537.5	548.2	455.7
67.5°	516.2	498.4	448.5	398.7	384.5
70°	420.1	398.7	380.9	327.5	313.3
72.5°	334.6	313.3	288.3	259.9	249.2
75°	252.7	234.9	220.7	210.0	231.4
77.5°	174.4	167.3	156.6	146.0	142.4
80°	113.9	110.4	106.8	103.2	99.7
82.5°	67.6	67.6	67.6	67.6	67.6
85°	35.6	39.2	42.7	46.3	49.8
87.5°	21.4	21.4	24.9	28.5	32.0
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)