

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: P546302

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-80-97-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: P546302  
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-12-4-LD4-2STD-35-UNV-80-97-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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**

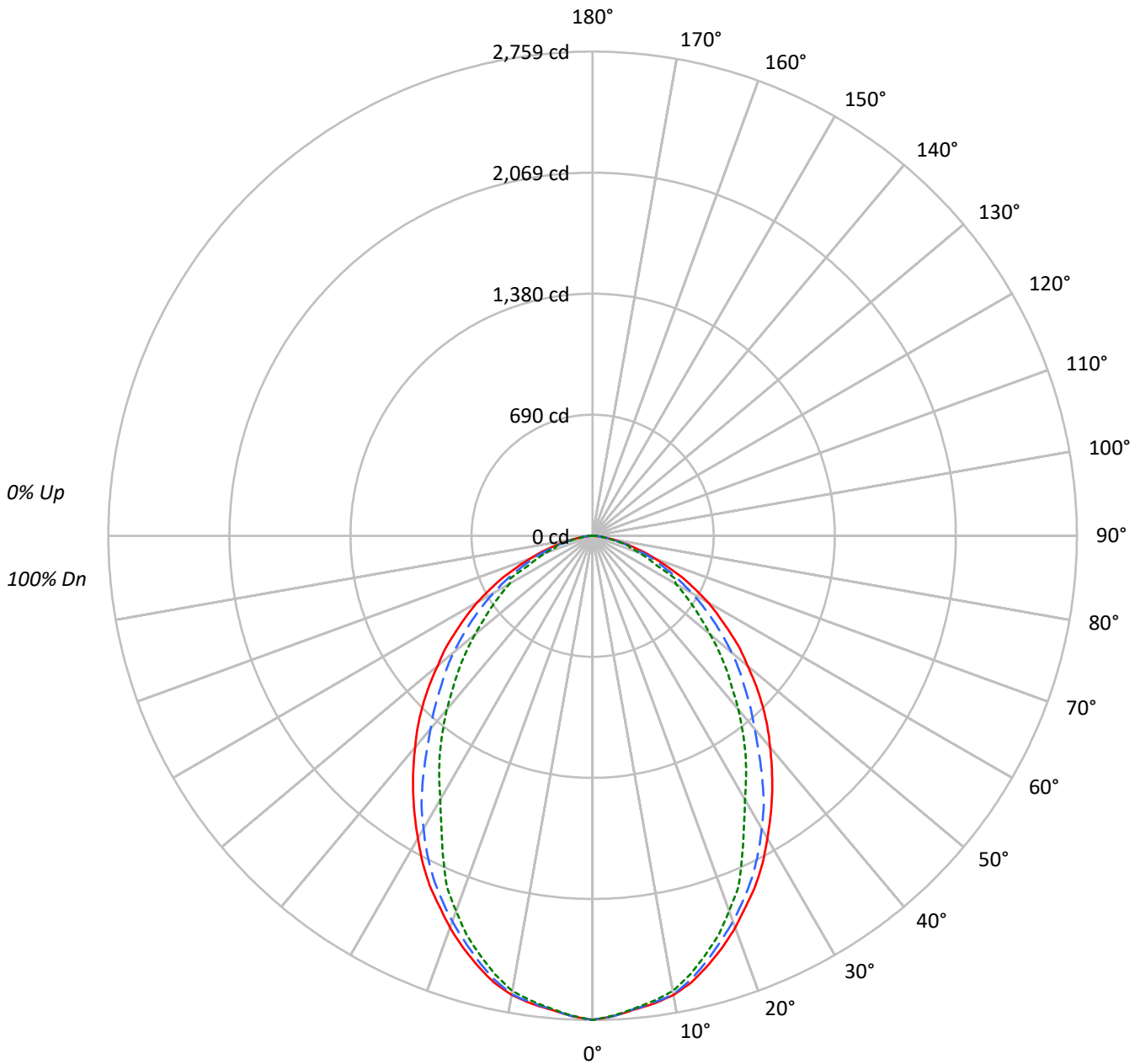
Lumens per Lamp: N/A  
Luminaire Lumens: 5416.0 lumens  
Efficiency: N/A  
Efficacy: 81.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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°	7424	7424	7424
5°	7323	7314	7306
10°	7260	7251	7199
15°	7064	6993	6895
20°	6804	6695	6512
25°	6525	6383	5985
30°	6184	5986	5391
35°	5857	5532	4987
40°	5524	5042	4538
45°	5207	4661	4102
50°	4820	4326	3659
55°	4459	3920	3277
60°	4085	3502	2935
65°	3594	3067	2599
70°	2961	2685	2209
75°	2354	2056	2155
80°	1582	1483	1384
85°	985	1183	1380



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	256.8	4.7
10°-20°	704.8	13.0
20°-30°	975.7	18.0
30°-40°	1040.4	19.2
40°-50°	949.2	17.5
50°-60°	743.6	13.7
60°-70°	484.6	8.9
70°-80°	214.7	4.0
80°-90°	46.1	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°	1937.3	35.8
0°-40°	2977.8	55.0
0°-60°	4670.5	86.2
0°-90°	5416.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5416.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2759	2759	2759	2759	2759	
5°	2711	2708	2708	2705	2705	257
15°	2536	2536	2510	2484	2475	713
25°	2198	2185	2150	2073	2016	1009
35°	1783	1770	1684	1556	1518	1115
45°	1368	1340	1225	1123	1078	1054
55°	950	922	836	737	698	852
65°	564	533	482	491	408	556
75°	226	210	198	188	207	243
85°	32	35	38	42	45	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2758.8	2758.8	2758.8	2758.8	2758.8
2.5°	2739.7	2739.7	2739.7	2736.5	2736.5
5°	2711.0	2707.8	2707.8	2704.6	2704.6
7.5°	2688.7	2685.5	2682.3	2679.1	2672.7
10°	2656.8	2656.8	2653.6	2637.6	2634.5
12.5°	2605.7	2602.6	2589.8	2567.5	2561.1
15°	2535.6	2535.6	2510.1	2484.5	2475.0
17.5°	2459.0	2455.8	2424.0	2398.4	2385.7
20°	2376.1	2369.7	2337.8	2296.4	2274.0
22.5°	2283.6	2283.6	2245.3	2191.1	2168.8
25°	2197.5	2184.7	2149.7	2073.1	2015.7
27.5°	2098.6	2079.5	2041.2	1932.8	1865.8
30°	1990.2	1980.6	1926.4	1786.1	1735.0
32.5°	1888.1	1872.2	1814.8	1668.1	1626.6
35°	1782.9	1770.1	1684.0	1556.4	1518.2
37.5°	1677.6	1661.7	1553.2	1451.2	1403.3
40°	1572.4	1553.2	1435.2	1342.7	1291.7
42.5°	1473.5	1448.0	1333.2	1234.3	1176.9
45°	1368.3	1339.6	1224.7	1122.7	1078.0
47.5°	1263.0	1237.5	1132.2	1027.0	976.0
50°	1151.4	1129.1	1033.4	928.1	873.9
52.5°	1058.9	1023.8	931.3	826.1	781.4
55°	950.4	921.7	835.6	736.8	698.5
57.5°	851.6	822.9	743.1	650.6	618.7
60°	759.1	717.6	650.6	570.9	545.4
62.5°	657.0	625.1	567.7	500.7	532.6
65°	564.5	532.6	481.6	491.2	408.2
67.5°	462.5	446.5	401.9	357.2	344.5
70°	376.4	357.2	341.3	293.4	280.7
72.5°	299.8	280.7	258.3	232.8	223.3
75°	226.4	210.5	197.7	188.2	207.3
77.5°	156.3	149.9	140.3	130.8	127.6
80°	102.1	98.9	95.7	92.5	89.3
82.5°	60.6	60.6	60.6	60.6	60.6
85°	31.9	35.1	38.3	41.5	44.7
87.5°	19.1	19.1	22.3	25.5	28.7
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)