

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: P547046

Luminaire Tested: **FMR-24-4-LD4-3HI-50-UNV-81-97-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: P547046  
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-LD4-3HI-50-UNV-81-97-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

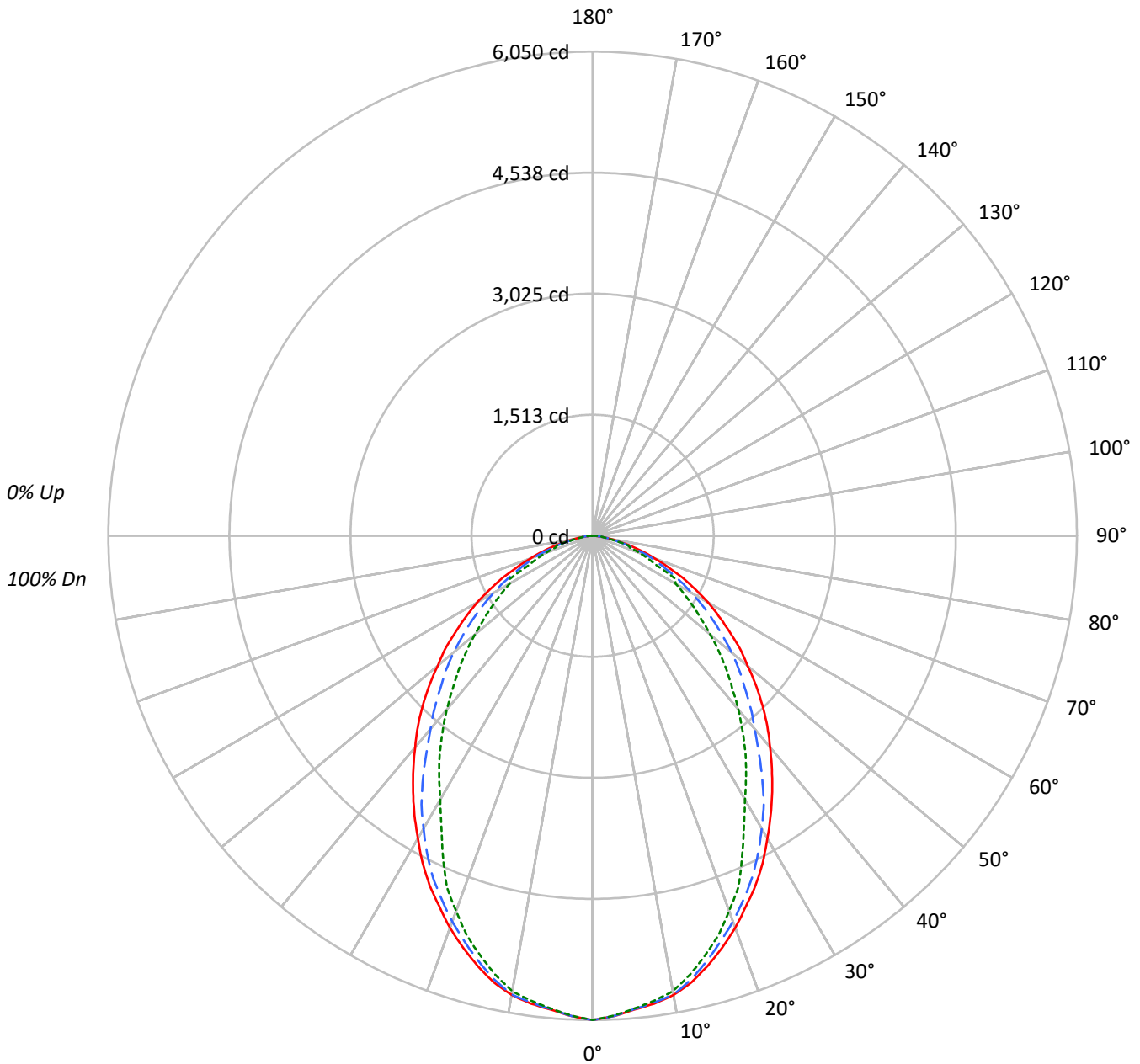
Lumens per Lamp: N/A  
Luminaire Lumens: 11878.0 lumens  
Efficiency: N/A  
Efficacy: 91.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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°	8141	8141	8141
5°	8030	8021	8011
10°	7961	7951	7894
15°	7746	7668	7561
20°	7461	7341	7141
25°	7155	6999	6563
30°	6781	6564	5912
35°	6422	6066	5469
40°	6057	5529	4976
45°	5710	5111	4499
50°	5286	4744	4012
55°	4890	4299	3594
60°	4480	3840	3219
65°	3942	3363	2850
70°	3247	2944	2421
75°	2582	2255	2364
80°	1734	1626	1518
85°	1079	1295	1511



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	563.2	4.7
10°-20°	1545.7	13.0
20°-30°	2139.9	18.0
30°-40°	2281.8	19.2
40°-50°	2081.7	17.5
50°-60°	1630.8	13.7
60°-70°	1062.9	8.9
70°-80°	470.9	4.0
80°-90°	101.1	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°	4248.9	35.8
0°-40°	6530.6	55.0
0°-60°	10243.1	86.2
0°-90°	11878.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	11878.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	6050	6050	6050	6050	6050	
5°	5946	5939	5939	5932	5932	564
15°	5561	5561	5505	5449	5428	1563
25°	4819	4791	4714	4547	4421	2213
35°	3910	3882	3693	3414	3330	2445
45°	3001	2938	2686	2462	2364	2311
55°	2084	2022	1833	1616	1532	1870
65°	1238	1168	1056	1077	895	1220
75°	497	462	434	413	455	532
85°	70	77	84	91	98	97
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	6050.5	6050.5	6050.5	6050.5	6050.5
2.5°	6008.5	6008.5	6008.5	6001.5	6001.5
5°	5945.6	5938.6	5938.6	5931.6	5931.6
7.5°	5896.6	5889.6	5882.6	5875.6	5861.6
10°	5826.7	5826.7	5819.7	5784.7	5777.7
12.5°	5714.7	5707.7	5679.8	5630.8	5616.8
15°	5560.9	5560.9	5504.9	5448.9	5428.0
17.5°	5393.0	5386.0	5316.0	5260.1	5232.1
20°	5211.1	5197.1	5127.2	5036.2	4987.3
22.5°	5008.3	5008.3	4924.3	4805.4	4756.5
25°	4819.4	4791.4	4714.5	4546.6	4420.7
27.5°	4602.6	4560.6	4476.7	4238.8	4092.0
30°	4364.7	4343.8	4224.9	3917.1	3805.2
32.5°	4140.9	4105.9	3980.0	3658.3	3567.3
35°	3910.1	3882.1	3693.2	3413.5	3329.5
37.5°	3679.3	3644.3	3406.5	3182.6	3077.7
40°	3448.4	3406.5	3147.7	2944.8	2832.9
42.5°	3231.6	3175.6	2923.8	2707.0	2581.1
45°	3000.8	2937.8	2686.0	2462.2	2364.2
47.5°	2769.9	2714.0	2483.2	2252.3	2140.4
50°	2525.1	2476.2	2266.3	2035.5	1916.6
52.5°	2322.3	2245.3	2042.5	1811.7	1713.7
55°	2084.4	2021.5	1832.6	1615.8	1531.9
57.5°	1867.6	1804.7	1629.8	1426.9	1357.0
60°	1664.8	1573.8	1426.9	1252.1	1196.1
62.5°	1440.9	1371.0	1245.1	1098.2	1168.1
65°	1238.1	1168.1	1056.2	1077.2	895.3
67.5°	1014.2	979.3	881.3	783.4	755.4
70°	825.4	783.4	748.4	643.5	615.5
72.5°	657.5	615.5	566.6	510.6	489.6
75°	496.6	461.7	433.7	412.7	454.7
77.5°	342.7	328.8	307.8	286.8	279.8
80°	223.8	216.8	209.8	202.8	195.9
82.5°	132.9	132.9	132.9	132.9	132.9
85°	69.9	76.9	83.9	90.9	97.9
87.5°	42.0	42.0	49.0	56.0	63.0
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)