

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: P546574

Luminaire Tested: **FMR-24-4-LD4-1LO-50-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: P546574  
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-LD4-1LO-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

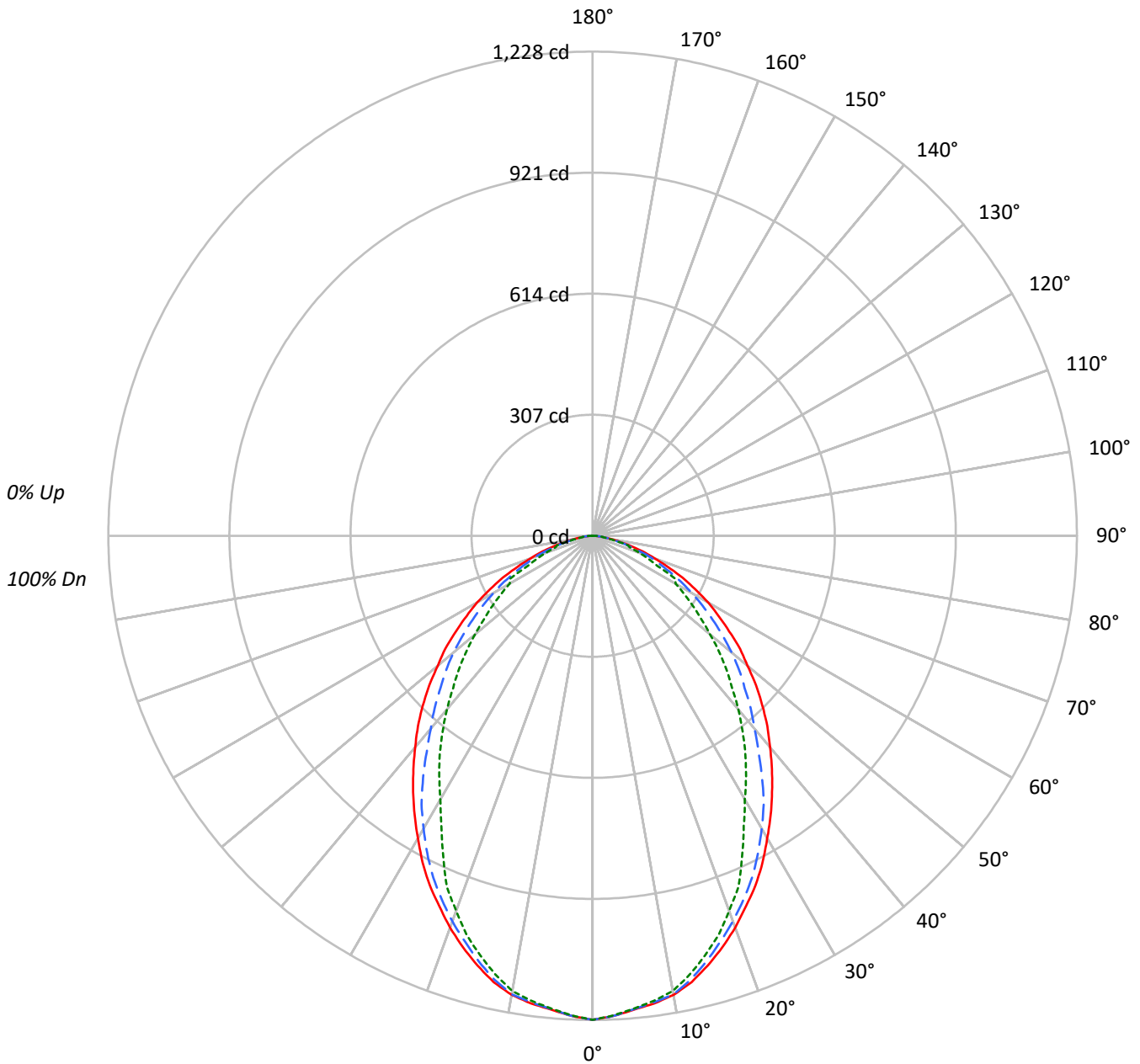
Lumens per Lamp: N/A  
Luminaire Lumens: 2410.0 lumens  
Efficiency: N/A  
Efficacy: 103.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
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°	1652	1652	1652
5°	1629	1627	1625
10°	1615	1613	1602
15°	1572	1556	1534
20°	1514	1490	1449
25°	1452	1420	1332
30°	1376	1332	1200
35°	1303	1231	1110
40°	1229	1122	1010
45°	1158	1037	913
50°	1072	962	814
55°	992	872	729
60°	909	779	653
65°	800	682	578
70°	659	598	491
75°	524	457	479
80°	352	330	308
85°	219	262	307



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.3	4.7
10°-20°	313.6	13.0
20°-30°	434.2	18.0
30°-40°	463.0	19.2
40°-50°	422.4	17.5
50°-60°	330.9	13.7
60°-70°	215.7	8.9
70°-80°	95.5	4.0
80°-90°	20.5	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°	862.1	35.8
0°-40°	1325.0	55.0
0°-60°	2078.3	86.2
0°-90°	2410.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2410.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1228	1228	1228	1228	1228	
5°	1206	1205	1205	1204	1204	115
15°	1128	1128	1117	1106	1101	317
25°	978	972	957	922	897	449
35°	793	788	749	693	676	496
45°	609	596	545	500	480	469
55°	423	410	372	328	311	379
65°	251	237	214	219	182	248
75°	101	94	88	84	92	108
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1227.6	1227.6	1227.6	1227.6	1227.6
2.5°	1219.1	1219.1	1219.1	1217.7	1217.7
5°	1206.3	1204.9	1204.9	1203.5	1203.5
7.5°	1196.4	1195.0	1193.6	1192.1	1189.3
10°	1182.2	1182.2	1180.8	1173.7	1172.3
12.5°	1159.5	1158.1	1152.4	1142.5	1139.6
15°	1128.3	1128.3	1116.9	1105.6	1101.3
17.5°	1094.2	1092.8	1078.6	1067.3	1061.6
20°	1057.3	1054.5	1040.3	1021.8	1011.9
22.5°	1016.2	1016.2	999.1	975.0	965.1
25°	977.8	972.2	956.6	922.5	896.9
27.5°	933.8	925.3	908.3	860.0	830.2
30°	885.6	881.3	857.2	794.8	772.1
32.5°	840.2	833.1	807.5	742.2	723.8
35°	793.3	787.7	749.3	692.6	675.5
37.5°	746.5	739.4	691.2	645.7	624.5
40°	699.7	691.2	638.6	597.5	574.8
42.5°	655.7	644.3	593.2	549.2	523.7
45°	608.8	596.1	545.0	499.6	479.7
47.5°	562.0	550.7	503.8	457.0	434.3
50°	512.3	502.4	459.8	413.0	388.9
52.5°	471.2	455.6	414.4	367.6	347.7
55°	422.9	410.2	371.8	327.8	310.8
57.5°	378.9	366.2	330.7	289.5	275.3
60°	337.8	319.3	289.5	254.0	242.7
62.5°	292.4	278.2	252.6	222.8	237.0
65°	251.2	237.0	214.3	218.6	181.7
67.5°	205.8	198.7	178.8	159.0	153.3
70°	167.5	159.0	151.9	130.6	124.9
72.5°	133.4	124.9	115.0	103.6	99.3
75°	100.8	93.7	88.0	83.7	92.2
77.5°	69.5	66.7	62.4	58.2	56.8
80°	45.4	44.0	42.6	41.2	39.7
82.5°	27.0	27.0	27.0	27.0	27.0
85°	14.2	15.6	17.0	18.4	19.9
87.5°	8.5	8.5	9.9	11.4	12.8
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)