

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: P545814

Luminaire Tested: **FMR-12-2-LD4-2STD-50-UNV-93-97-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: P545814  
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-12-2-LD4-2STD-50-UNV-93-97-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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**

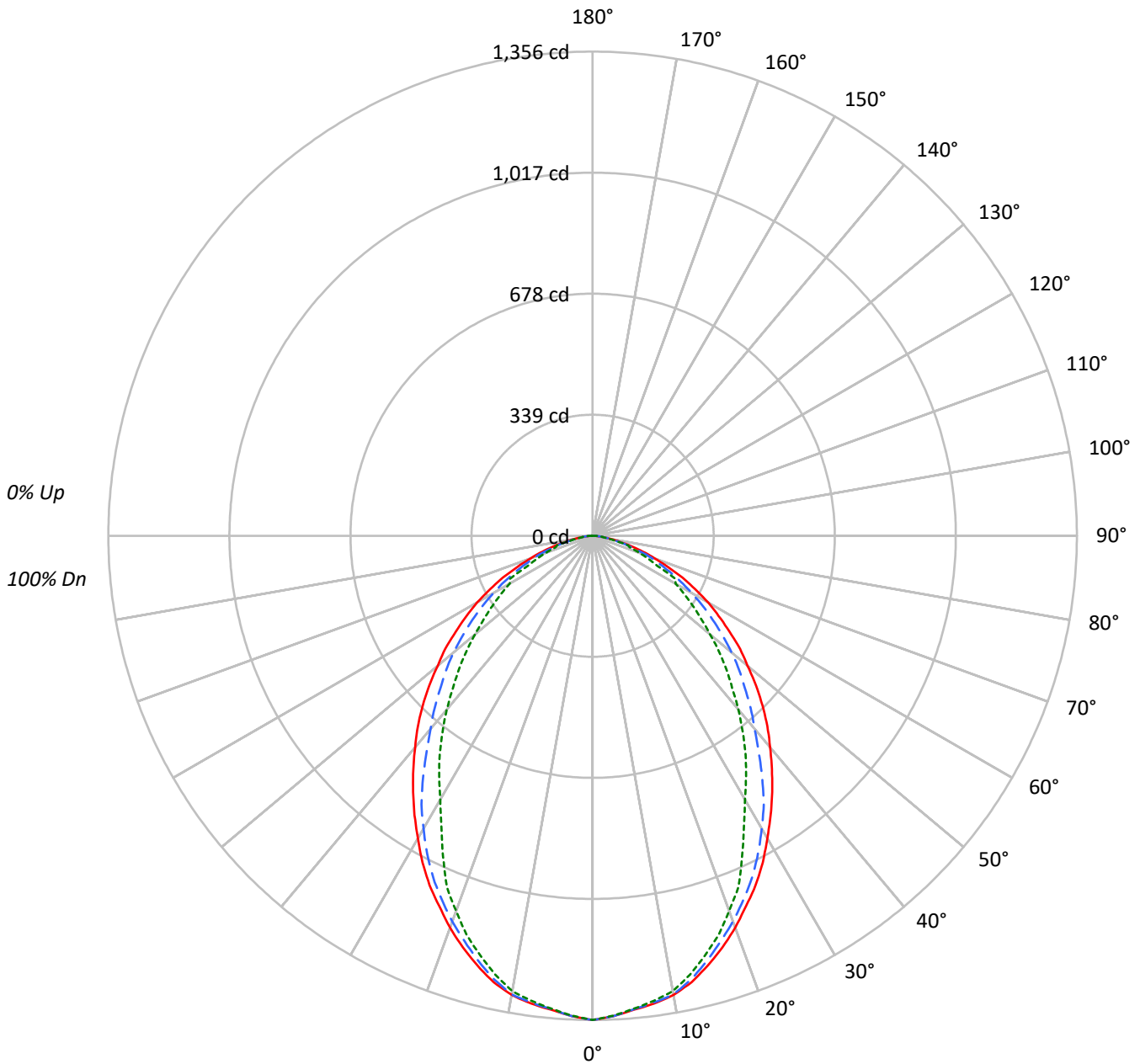
Lumens per Lamp: N/A  
Luminaire Lumens: 2662.0 lumens  
Efficiency: N/A  
Efficacy: 79.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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°	7298	7298	7298
5°	7199	7190	7182
10°	7136	7128	7077
15°	6944	6874	6778
20°	6689	6581	6401
25°	6414	6274	5883
30°	6079	5884	5300
35°	5757	5438	4903
40°	5429	4956	4461
45°	5119	4582	4033
50°	4738	4253	3596
55°	4383	3854	3221
60°	4016	3442	2886
65°	3534	3014	2556
70°	2911	2639	2172
75°	2314	2021	2119
80°	1556	1457	1361
85°	969	1161	1352



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	126.2	4.7
10°-20°	346.4	13.0
20°-30°	479.6	18.0
30°-40°	511.4	19.2
40°-50°	466.5	17.5
50°-60°	365.5	13.7
60°-70°	238.2	8.9
70°-80°	105.5	4.0
80°-90°	22.7	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°	952.2	35.8
0°-40°	1463.6	55.0
0°-60°	2295.6	86.2
0°-90°	2662.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2662.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1356	1356	1356	1356	1356	
5°	1332	1331	1331	1329	1329	126
15°	1246	1246	1234	1221	1216	350
25°	1080	1074	1057	1019	991	496
35°	876	870	828	765	746	548
45°	672	658	602	552	530	518
55°	467	453	411	362	343	419
65°	278	262	237	241	201	273
75°	111	104	97	92	102	119
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1356.0	1356.0	1356.0	1356.0	1356.0
2.5°	1346.6	1346.6	1346.6	1345.0	1345.0
5°	1332.5	1330.9	1330.9	1329.3	1329.3
7.5°	1321.5	1319.9	1318.4	1316.8	1313.7
10°	1305.8	1305.8	1304.3	1296.4	1294.9
12.5°	1280.7	1279.2	1272.9	1261.9	1258.8
15°	1246.3	1246.3	1233.7	1221.2	1216.5
17.5°	1208.6	1207.1	1191.4	1178.8	1172.6
20°	1167.9	1164.7	1149.1	1128.7	1117.7
22.5°	1122.4	1122.4	1103.6	1077.0	1066.0
25°	1080.1	1073.8	1056.6	1018.9	990.7
27.5°	1031.5	1022.1	1003.3	950.0	917.1
30°	978.2	973.5	946.8	877.9	852.8
32.5°	928.0	920.2	892.0	819.9	799.5
35°	876.3	870.0	827.7	765.0	746.2
37.5°	824.6	816.7	763.4	713.3	689.8
40°	772.8	763.4	705.4	660.0	634.9
42.5°	724.2	711.7	655.3	606.7	578.5
45°	672.5	658.4	602.0	551.8	529.9
47.5°	620.8	608.2	556.5	504.8	479.7
50°	565.9	554.9	507.9	456.2	429.5
52.5°	520.4	503.2	457.7	406.0	384.1
55°	467.1	453.0	410.7	362.1	343.3
57.5°	418.6	404.4	365.3	319.8	304.1
60°	373.1	352.7	319.8	280.6	268.1
62.5°	322.9	307.3	279.0	246.1	261.8
65°	277.5	261.8	236.7	241.4	200.7
67.5°	227.3	219.5	197.5	175.6	169.3
70°	185.0	175.6	167.7	144.2	138.0
72.5°	147.4	138.0	127.0	114.4	109.7
75°	111.3	103.5	97.2	92.5	101.9
77.5°	76.8	73.7	69.0	64.3	62.7
80°	50.2	48.6	47.0	45.5	43.9
82.5°	29.8	29.8	29.8	29.8	29.8
85°	15.7	17.2	18.8	20.4	21.9
87.5°	9.4	9.4	11.0	12.5	14.1
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)