

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: P545744

Luminaire Tested: **FMR-12-2-LD4-2STD-35-UNV-93-85-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: P545744  
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-35-UNV-93-85-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

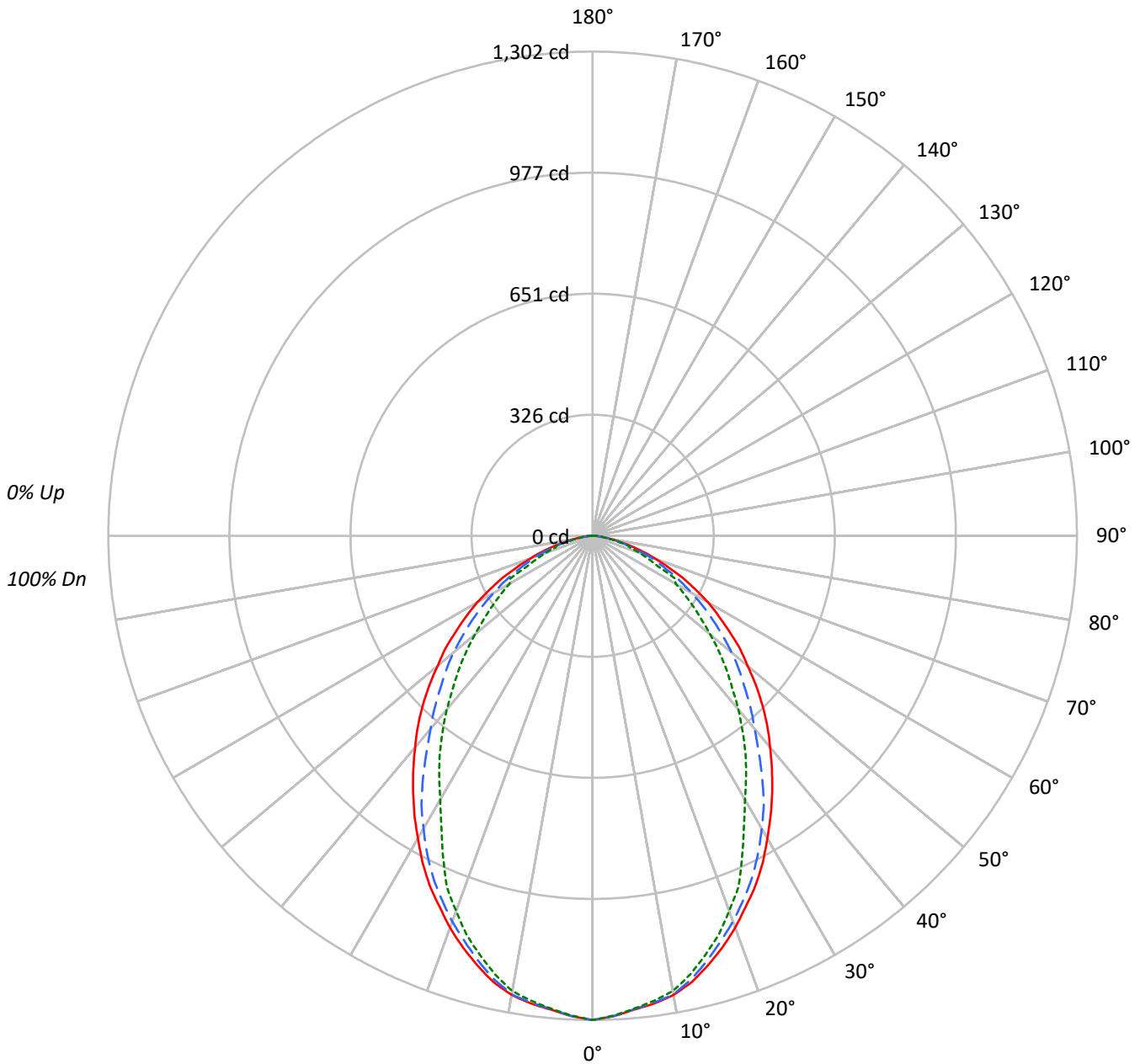
Lumens per Lamp: N/A  
Luminaire Lumens: 2556.0 lumens  
Efficiency: N/A  
Efficacy: 76.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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					20					
RC	80					70					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	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100					100			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87					87			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75					75			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65					65			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56					56			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50					50			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44					44			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40					40			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36					36			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33					33			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30					30			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7007	7007	7007
5°	6912	6904	6896
10°	6852	6844	6795
15°	6667	6600	6508
20°	6423	6319	6147
25°	6159	6024	5649
30°	5837	5650	5088
35°	5528	5221	4708
40°	5214	4758	4283
45°	4915	4399	3873
50°	4550	4083	3453
55°	4208	3701	3093
60°	3856	3306	2771
65°	3393	2895	2454
70°	2795	2535	2085
75°	2223	1940	2034
80°	1494	1401	1305
85°	932	1118	1303



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	121.2	4.7
10°-20°	332.6	13.0
20°-30°	460.5	18.0
30°-40°	491.0	19.2
40°-50°	447.9	17.5
50°-60°	350.9	13.7
60°-70°	228.7	8.9
70°-80°	101.3	4.0
80°-90°	21.8	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°	914.3	35.8
0°-40°	1405.3	55.0
0°-60°	2204.2	86.2
0°-90°	2556.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2556.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1302	1302	1302	1302	1302	
5°	1279	1278	1278	1276	1276	121
15°	1197	1197	1185	1172	1168	336
25°	1037	1031	1014	978	951	476
35°	841	835	795	734	716	526
45°	646	632	578	530	509	497
55°	448	435	394	348	330	402
65°	266	251	227	232	193	263
75°	107	99	93	89	98	115
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1302.0	1302.0	1302.0	1302.0	1302.0
2.5°	1293.0	1293.0	1293.0	1291.5	1291.5
5°	1279.4	1277.9	1277.9	1276.4	1276.4
7.5°	1268.9	1267.4	1265.9	1264.4	1261.4
10°	1253.8	1253.8	1252.3	1244.8	1243.3
12.5°	1229.7	1228.2	1222.2	1211.7	1208.7
15°	1196.6	1196.6	1184.6	1172.5	1168.0
17.5°	1160.5	1159.0	1143.9	1131.9	1125.9
20°	1121.4	1118.4	1103.3	1083.7	1073.2
22.5°	1077.7	1077.7	1059.7	1034.1	1023.5
25°	1037.1	1031.1	1014.5	978.4	951.3
27.5°	990.4	981.4	963.3	912.1	880.5
30°	939.2	934.7	909.1	842.9	818.8
32.5°	891.1	883.5	856.5	787.2	767.6
35°	841.4	835.4	794.7	734.5	716.5
37.5°	791.7	784.2	733.0	684.9	662.3
40°	742.1	733.0	677.3	633.7	609.6
42.5°	695.4	683.4	629.2	582.5	555.4
45°	645.7	632.2	578.0	529.8	508.8
47.5°	596.1	584.0	534.3	484.7	460.6
50°	543.4	532.8	487.7	438.0	412.4
52.5°	499.7	483.2	439.5	389.8	368.8
55°	448.5	435.0	394.4	347.7	329.6
57.5°	401.9	388.3	350.7	307.1	292.0
60°	358.2	338.7	307.1	269.4	257.4
62.5°	310.1	295.0	267.9	236.3	251.4
65°	266.4	251.4	227.3	231.8	192.7
67.5°	218.3	210.7	189.7	168.6	162.6
70°	177.6	168.6	161.1	138.5	132.5
72.5°	141.5	132.5	121.9	109.9	105.4
75°	106.9	99.3	93.3	88.8	97.8
77.5°	73.8	70.7	66.2	61.7	60.2
80°	48.2	46.7	45.2	43.7	42.1
82.5°	28.6	28.6	28.6	28.6	28.6
85°	15.1	16.6	18.1	19.6	21.1
87.5°	9.0	9.0	10.5	12.0	13.5
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)