

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: P545792

Luminaire Tested: **FMR-12-2-LD4-2STD-50-UNV-81-85-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: P545792  
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-81-85-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

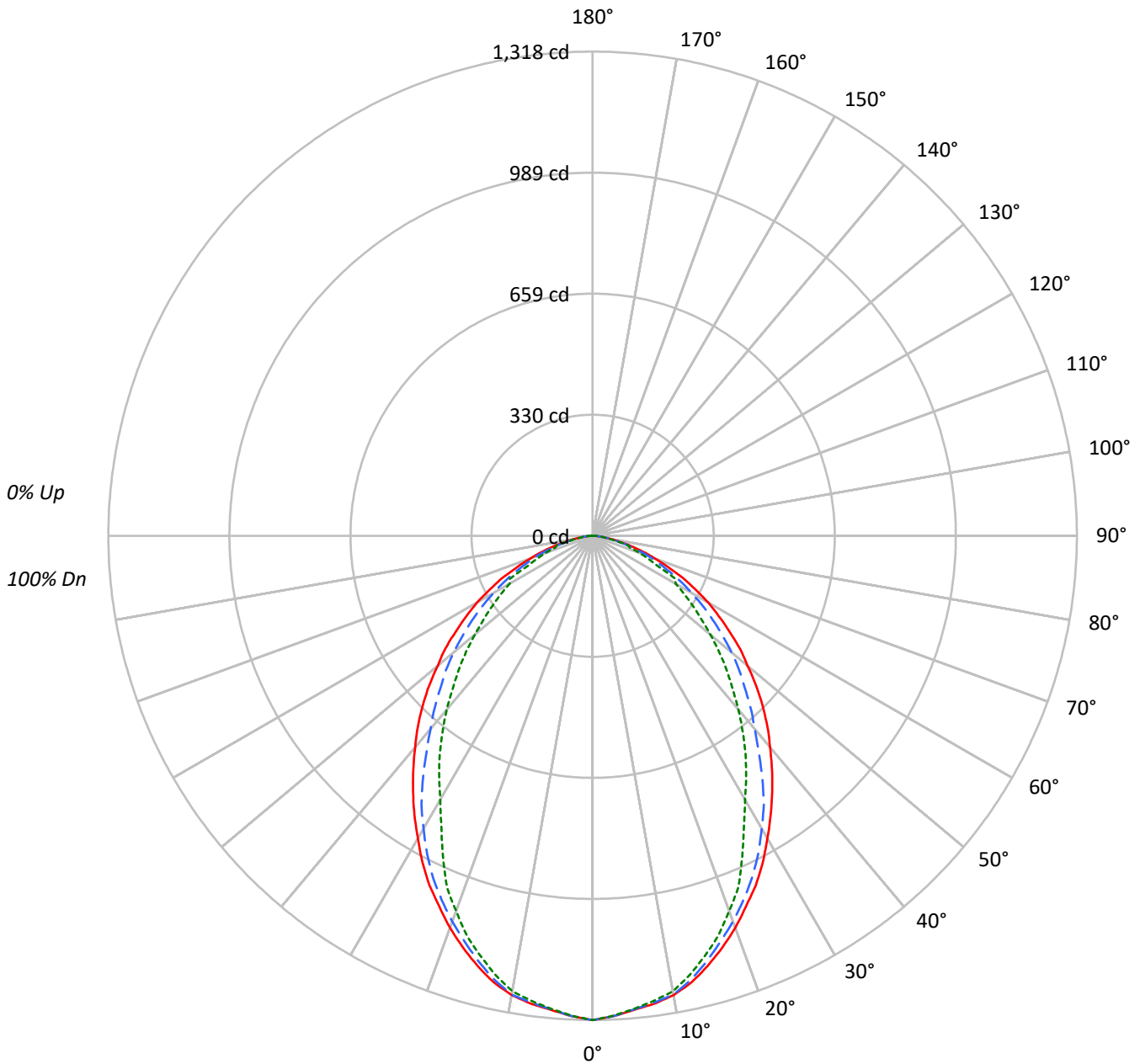
Lumens per Lamp: N/A  
Luminaire Lumens: 2588.0 lumens  
Efficiency: N/A  
Efficacy: 77.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	7095	7095	7095
5°	6998	6990	6982
10°	6938	6930	6880
15°	6751	6683	6590
20°	6503	6398	6223
25°	6236	6100	5720
30°	5910	5720	5152
35°	5597	5287	4766
40°	5279	4818	4336
45°	4976	4454	3921
50°	4607	4135	3496
55°	4262	3747	3132
60°	3904	3347	2805
65°	3436	2930	2485
70°	2829	2567	2110
75°	2250	1965	2061
80°	1512	1416	1323
85°	939	1130	1315



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	122.7	4.7
10°-20°	336.8	13.0
20°-30°	466.3	18.0
30°-40°	497.2	19.2
40°-50°	453.5	17.5
50°-60°	355.3	13.7
60°-70°	231.6	8.9
70°-80°	102.6	4.0
80°-90°	22.0	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°	925.7	35.8
0°-40°	1422.9	55.0
0°-60°	2231.8	86.2
0°-90°	2588.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2588.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1318	1318	1318	1318	1318	
5°	1295	1294	1294	1292	1292	123
15°	1212	1212	1199	1187	1183	341
25°	1050	1044	1027	991	963	482
35°	852	846	805	744	725	533
45°	654	640	585	536	515	504
55°	454	440	399	352	334	407
65°	270	254	230	235	195	266
75°	108	101	94	90	99	116
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°	1318.3	1318.3	1318.3	1318.3	1318.3
2.5°	1309.1	1309.1	1309.1	1307.6	1307.6
5°	1295.4	1293.9	1293.9	1292.4	1292.4
7.5°	1284.8	1283.2	1281.7	1280.2	1277.1
10°	1269.5	1269.5	1268.0	1260.4	1258.9
12.5°	1245.1	1243.6	1237.5	1226.9	1223.8
15°	1211.6	1211.6	1199.4	1187.2	1182.7
17.5°	1175.0	1173.5	1158.3	1146.1	1140.0
20°	1135.4	1132.4	1117.1	1097.3	1086.6
22.5°	1091.2	1091.2	1072.9	1047.0	1036.3
25°	1050.1	1044.0	1027.2	990.6	963.2
27.5°	1002.8	993.7	975.4	923.6	891.6
30°	951.0	946.4	920.5	853.5	829.1
32.5°	902.2	894.6	867.2	797.1	777.3
35°	851.9	845.8	804.7	743.7	725.4
37.5°	801.6	794.0	742.2	693.4	670.6
40°	751.4	742.2	685.8	641.6	617.2
42.5°	704.1	691.9	637.0	589.8	562.4
45°	653.8	640.1	585.2	536.5	515.1
47.5°	603.5	591.3	541.0	490.7	466.4
50°	550.2	539.5	493.8	443.5	417.6
52.5°	506.0	489.2	445.0	394.7	373.4
55°	454.2	440.4	399.3	352.1	333.8
57.5°	406.9	393.2	355.1	310.9	295.7
60°	362.7	342.9	310.9	272.8	260.6
62.5°	314.0	298.7	271.3	239.3	254.5
65°	269.8	254.5	230.1	234.7	195.1
67.5°	221.0	213.4	192.0	170.7	164.6
70°	179.8	170.7	163.1	140.2	134.1
72.5°	143.3	134.1	123.4	111.3	106.7
75°	108.2	100.6	94.5	89.9	99.1
77.5°	74.7	71.6	67.1	62.5	61.0
80°	48.8	47.2	45.7	44.2	42.7
82.5°	29.0	29.0	29.0	29.0	29.0
85°	15.2	16.8	18.3	19.8	21.3
87.5°	9.1	9.1	10.7	12.2	13.7
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)