

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: P545798

Luminaire Tested: **FMR-12-2-LD4-2STD-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: P545798  
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-81-97-EDD  
Description: 1X2 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**

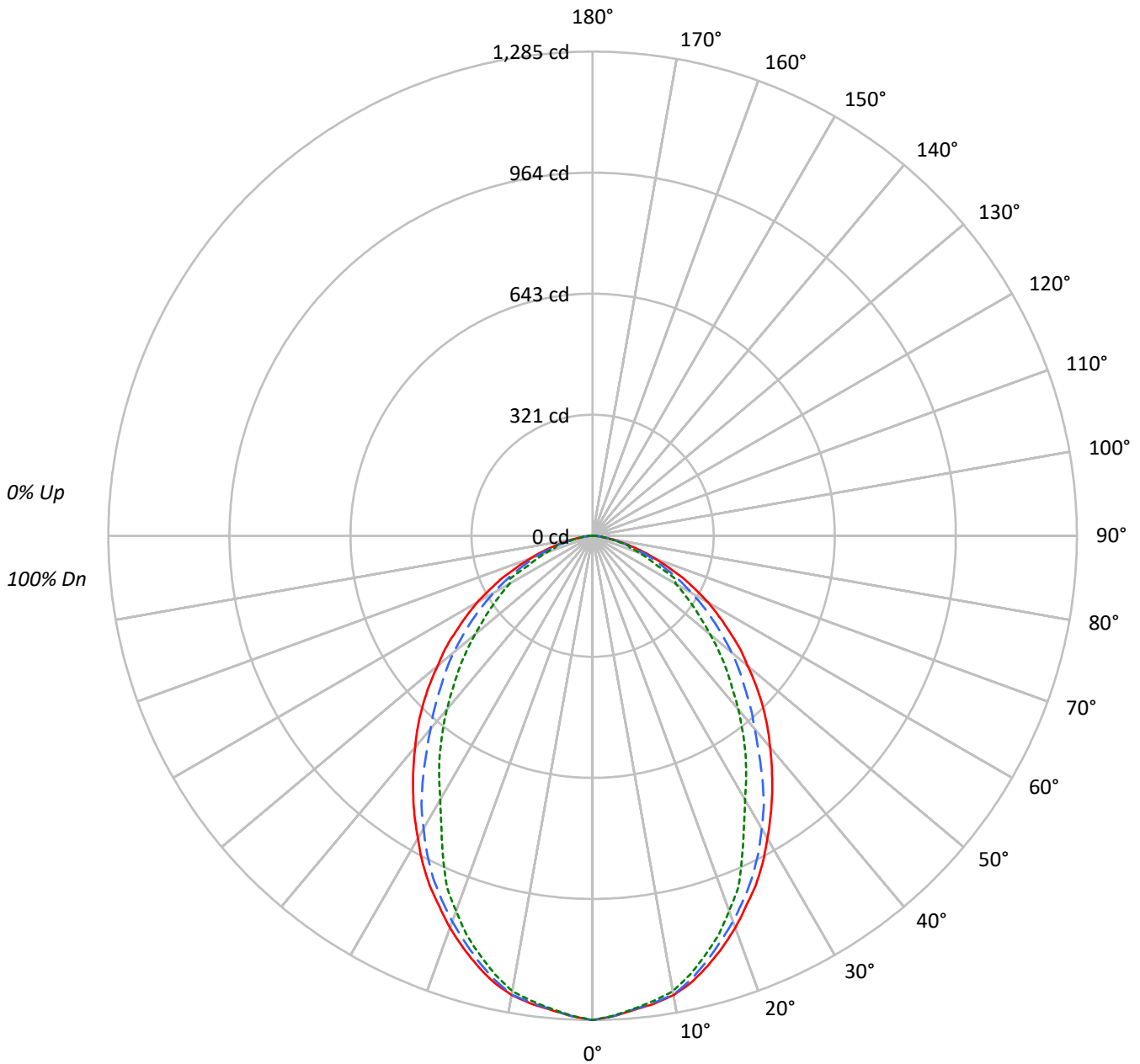
Lumens per Lamp: N/A  
Luminaire Lumens: 2523.0 lumens  
Efficiency: N/A  
Efficacy: 75.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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									
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°	6917	6917	6917
5°	6823	6815	6807
10°	6763	6756	6707
15°	6581	6515	6424
20°	6340	6238	6067
25°	6079	5947	5576
30°	5762	5577	5023
35°	5457	5154	4646
40°	5146	4697	4227
45°	4851	4342	3822
50°	4491	4031	3409
55°	4155	3653	3053
60°	3806	3263	2735
65°	3349	2856	2422
70°	2758	2502	2057
75°	2194	1915	2009
80°	1472	1382	1289
85°	920	1099	1284



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.6	4.7
10°-20°	328.3	13.0
20°-30°	454.5	18.0
30°-40°	484.7	19.2
40°-50°	442.2	17.5
50°-60°	346.4	13.7
60°-70°	225.8	8.9
70°-80°	100.0	4.0
80°-90°	21.5	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°	902.5	35.8
0°-40°	1387.2	55.0
0°-60°	2175.7	86.2
0°-90°	2523.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2523.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1285	1285	1285	1285	1285	
5°	1263	1261	1261	1260	1260	120
15°	1181	1181	1169	1157	1153	332
25°	1024	1018	1001	966	939	470
35°	830	825	784	725	707	519
45°	637	624	570	523	502	491
55°	443	429	389	343	325	397
65°	263	248	224	229	190	259
75°	106	98	92	88	97	113
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1285.2	1285.2	1285.2	1285.2	1285.2
2.5°	1276.3	1276.3	1276.3	1274.8	1274.8
5°	1262.9	1261.4	1261.4	1259.9	1259.9
7.5°	1252.5	1251.0	1249.5	1248.0	1245.1
10°	1237.6	1237.6	1236.2	1228.7	1227.2
12.5°	1213.9	1212.4	1206.4	1196.0	1193.1
15°	1181.2	1181.2	1169.3	1157.4	1152.9
17.5°	1145.5	1144.0	1129.2	1117.3	1111.3
20°	1106.9	1103.9	1089.1	1069.7	1059.3
22.5°	1063.8	1063.8	1046.0	1020.7	1010.3
25°	1023.7	1017.7	1001.4	965.7	939.0
27.5°	977.6	968.7	950.9	900.4	869.2
30°	927.1	922.7	897.4	832.0	808.3
32.5°	879.6	872.1	845.4	777.1	757.7
35°	830.5	824.6	784.5	725.1	707.2
37.5°	781.5	774.1	723.6	676.0	653.7
40°	732.5	723.6	668.6	625.5	601.7
42.5°	686.4	674.5	621.0	575.0	548.2
45°	637.4	624.0	570.5	523.0	502.2
47.5°	588.4	576.5	527.4	478.4	454.6
50°	536.4	526.0	481.4	432.4	407.1
52.5°	493.3	476.9	433.8	384.8	364.0
55°	442.8	429.4	389.3	343.2	325.4
57.5°	396.7	383.3	346.2	303.1	288.2
60°	353.6	334.3	303.1	266.0	254.1
62.5°	306.1	291.2	264.5	233.3	248.1
65°	263.0	248.1	224.3	228.8	190.2
67.5°	215.4	208.0	187.2	166.4	160.5
70°	175.3	166.4	159.0	136.7	130.7
72.5°	139.7	130.7	120.3	108.5	104.0
75°	105.5	98.1	92.1	87.7	96.6
77.5°	72.8	69.8	65.4	60.9	59.4
80°	47.5	46.1	44.6	43.1	41.6
82.5°	28.2	28.2	28.2	28.2	28.2
85°	14.9	16.3	17.8	19.3	20.8
87.5°	8.9	8.9	10.4	11.9	13.4
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)