

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: P545578

Luminaire Tested: **FMR-12-2-LD4-2HI-40-UNV-82-87-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: P545578  
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-LD4-2HI-40-UNV-82-87-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

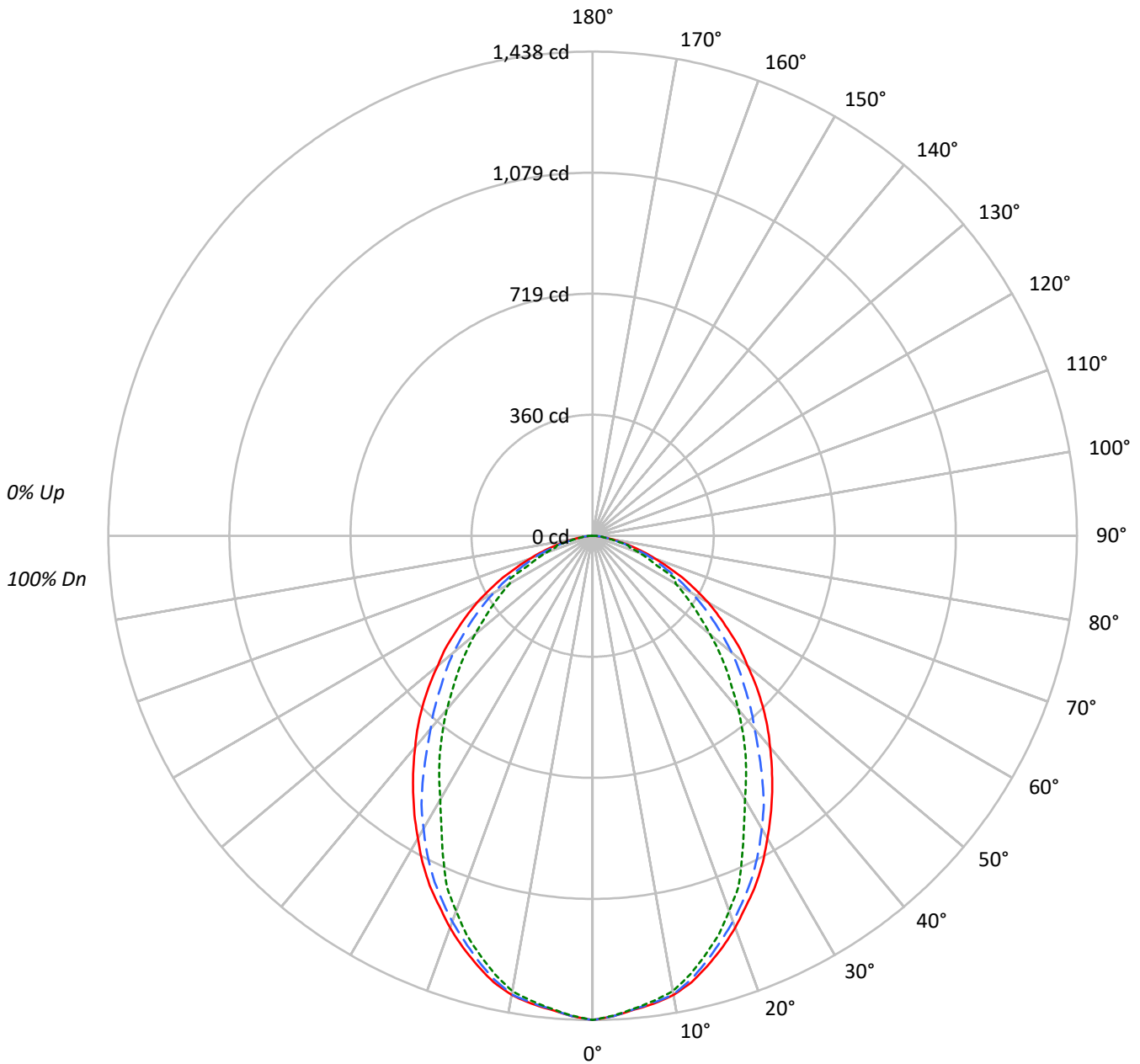
Lumens per Lamp: N/A  
Luminaire Lumens: 2823.0 lumens  
Efficiency: N/A  
Efficacy: 65.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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°	7739	7739	7739
5°	7634	7625	7616
10°	7568	7559	7505
15°	7364	7290	7188
20°	7093	6979	6789
25°	6802	6654	6239
30°	6447	6240	5620
35°	6106	5767	5199
40°	5758	5256	4730
45°	5428	4859	4277
50°	5025	4510	3814
55°	4648	4087	3416
60°	4259	3650	3060
65°	3747	3196	2710
70°	3087	2799	2302
75°	2454	2144	2248
80°	1649	1547	1441
85°	1025	1229	1439



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.9	4.7
10°-20°	367.4	13.0
20°-30°	508.6	18.0
30°-40°	542.3	19.2
40°-50°	494.7	17.5
50°-60°	387.6	13.7
60°-70°	252.6	8.9
70°-80°	111.9	4.0
80°-90°	24.0	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°	1009.8	35.8
0°-40°	1552.1	55.0
0°-60°	2434.4	86.2
0°-90°	2823.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2823.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1438	1438	1438	1438	1438	
5°	1413	1411	1411	1410	1410	134
15°	1322	1322	1308	1295	1290	372
25°	1145	1139	1120	1081	1051	526
35°	929	923	878	811	791	581
45°	713	698	638	585	562	549
55°	495	480	436	384	364	444
65°	294	278	251	256	213	290
75°	118	110	103	98	108	127
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1438.0	1438.0	1438.0	1438.0	1438.0
2.5°	1428.0	1428.0	1428.0	1426.4	1426.4
5°	1413.1	1411.4	1411.4	1409.7	1409.7
7.5°	1401.4	1399.8	1398.1	1396.4	1393.1
10°	1384.8	1384.8	1383.1	1374.8	1373.2
12.5°	1358.2	1356.5	1349.9	1338.3	1334.9
15°	1321.6	1321.6	1308.3	1295.0	1290.0
17.5°	1281.7	1280.1	1263.4	1250.1	1243.5
20°	1238.5	1235.2	1218.6	1196.9	1185.3
22.5°	1190.3	1190.3	1170.3	1142.1	1130.4
25°	1145.4	1138.8	1120.5	1080.6	1050.7
27.5°	1093.9	1083.9	1064.0	1007.4	972.5
30°	1037.4	1032.4	1004.1	931.0	904.4
32.5°	984.2	975.8	945.9	869.4	847.8
35°	929.3	922.6	877.8	811.3	791.3
37.5°	874.4	866.1	809.6	756.4	731.5
40°	819.6	809.6	748.1	699.9	673.3
42.5°	768.0	754.7	694.9	643.4	613.4
45°	713.2	698.2	638.4	585.2	561.9
47.5°	658.3	645.0	590.2	535.3	508.7
50°	600.1	588.5	538.6	483.8	455.5
52.5°	551.9	533.6	485.4	430.6	407.3
55°	495.4	480.4	435.6	384.0	364.1
57.5°	443.9	428.9	387.3	339.1	322.5
60°	395.7	374.0	339.1	297.6	284.3
62.5°	342.5	325.8	295.9	261.0	277.6
65°	294.2	277.6	251.0	256.0	212.8
67.5°	241.1	232.7	209.5	186.2	179.5
70°	196.2	186.2	177.9	152.9	146.3
72.5°	156.3	146.3	134.7	121.4	116.4
75°	118.0	109.7	103.1	98.1	108.1
77.5°	81.5	78.1	73.1	68.2	66.5
80°	53.2	51.5	49.9	48.2	46.5
82.5°	31.6	31.6	31.6	31.6	31.6
85°	16.6	18.3	19.9	21.6	23.3
87.5°	10.0	10.0	11.6	13.3	15.0
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)