

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: P545582

Luminaire Tested: **FMR-12-2-LD4-2HI-40-UNV-82-97-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: P545582  
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-82-97-EDD  
Description: 1X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

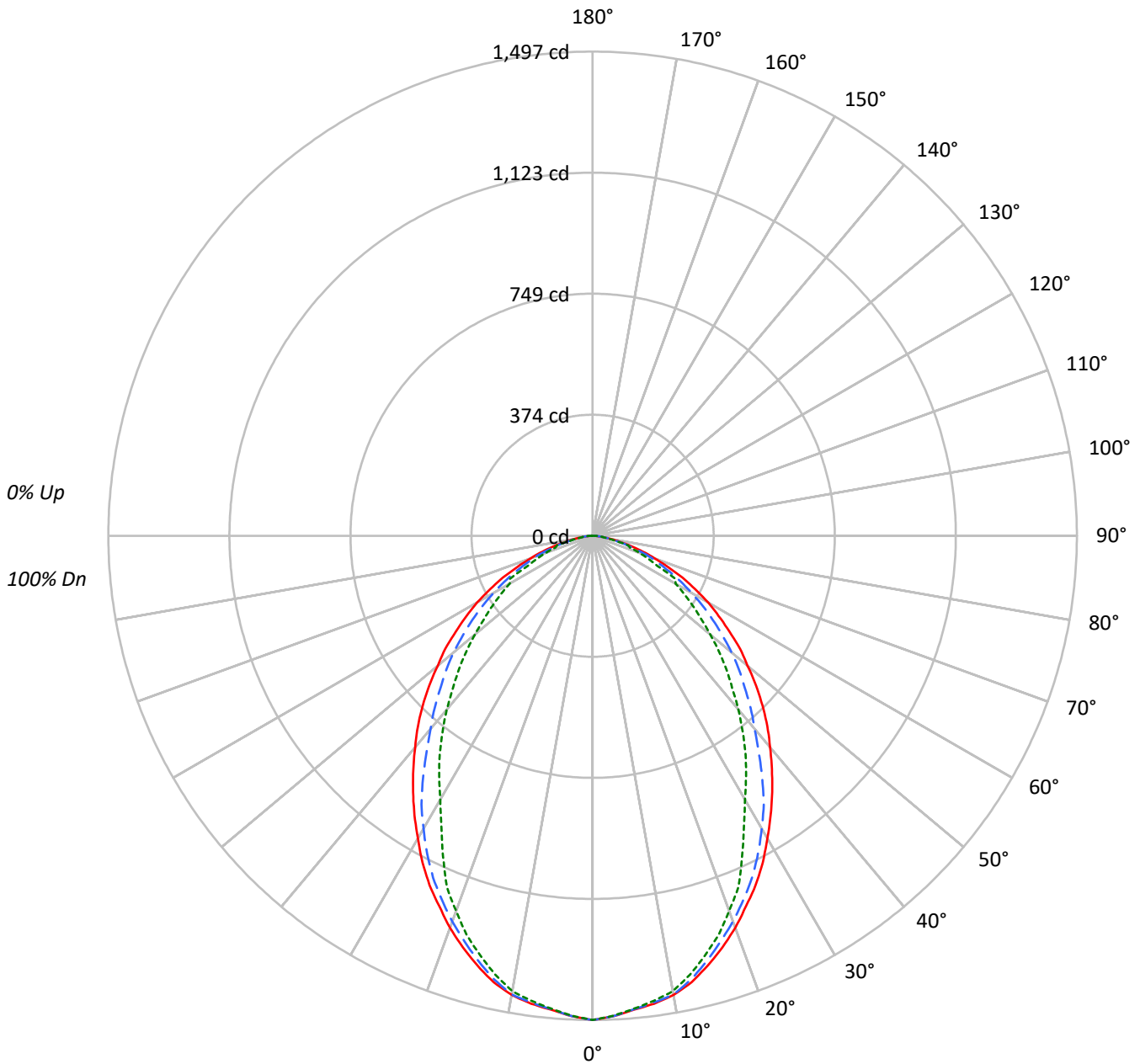
Lumens per Lamp: N/A  
Luminaire Lumens: 2939.0 lumens  
Efficiency: N/A  
Efficacy: 68.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	8057	8057	8057
5°	7948	7938	7929
10°	7879	7870	7813
15°	7666	7589	7484
20°	7385	7266	7068
25°	7081	6927	6495
30°	6712	6497	5851
35°	6357	6004	5412
40°	5995	5472	4924
45°	5651	5058	4453
50°	5231	4695	3970
55°	4840	4255	3556
60°	4434	3801	3186
65°	3901	3328	2821
70°	3213	2914	2397
75°	2556	2231	2339
80°	1717	1609	1503
85°	1068	1284	1494



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	139.4	4.7
10°-20°	382.5	13.0
20°-30°	529.5	18.0
30°-40°	564.6	19.2
40°-50°	515.1	17.5
50°-60°	403.5	13.7
60°-70°	263.0	8.9
70°-80°	116.5	4.0
80°-90°	25.0	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°	1051.3	35.8
0°-40°	1615.9	55.0
0°-60°	2534.5	86.2
0°-90°	2939.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2939.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1497	1497	1497	1497	1497	
5°	1471	1469	1469	1468	1468	140
15°	1376	1376	1362	1348	1343	387
25°	1192	1186	1166	1125	1094	547
35°	968	961	914	845	824	605
45°	742	727	665	609	585	572
55°	516	500	454	400	379	463
65°	306	289	261	266	222	302
75°	123	114	107	102	112	132
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1497.1	1497.1	1497.1	1497.1	1497.1
2.5°	1486.7	1486.7	1486.7	1485.0	1485.0
5°	1471.1	1469.4	1469.4	1467.7	1467.7
7.5°	1459.0	1457.3	1455.5	1453.8	1450.4
10°	1441.7	1441.7	1440.0	1431.3	1429.6
12.5°	1414.0	1412.3	1405.4	1393.2	1389.8
15°	1375.9	1375.9	1362.1	1348.2	1343.1
17.5°	1334.4	1332.7	1315.4	1301.5	1294.6
20°	1289.4	1285.9	1268.6	1246.1	1234.0
22.5°	1239.2	1239.2	1218.4	1189.0	1176.9
25°	1192.5	1185.6	1166.5	1125.0	1093.8
27.5°	1138.8	1128.4	1107.7	1048.8	1012.5
30°	1080.0	1074.8	1045.4	969.2	941.5
32.5°	1024.6	1015.9	984.8	905.2	882.7
35°	967.5	960.6	913.8	844.6	823.8
37.5°	910.4	901.7	842.9	787.5	761.5
40°	853.3	842.9	778.8	728.6	700.9
42.5°	799.6	785.8	723.4	669.8	638.6
45°	742.5	726.9	664.6	609.2	585.0
47.5°	685.4	671.5	614.4	557.3	529.6
50°	624.8	612.7	560.8	503.6	474.2
52.5°	574.6	555.6	505.4	448.3	424.0
55°	515.8	500.2	453.5	399.8	379.0
57.5°	462.1	446.5	403.3	353.1	335.8
60°	411.9	389.4	353.1	309.8	296.0
62.5°	356.5	339.2	308.1	271.7	289.0
65°	306.3	289.0	261.3	266.5	221.5
67.5°	251.0	242.3	218.1	193.8	186.9
70°	204.2	193.8	185.2	159.2	152.3
72.5°	162.7	152.3	140.2	126.3	121.2
75°	122.9	114.2	107.3	102.1	112.5
77.5°	84.8	81.3	76.2	71.0	69.2
80°	55.4	53.7	51.9	50.2	48.5
82.5°	32.9	32.9	32.9	32.9	32.9
85°	17.3	19.0	20.8	22.5	24.2
87.5°	10.4	10.4	12.1	13.8	15.6
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)