

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: P546007

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-80-84-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: P546007  
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-12-4-LD4-1STD-35-UNV-80-84-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

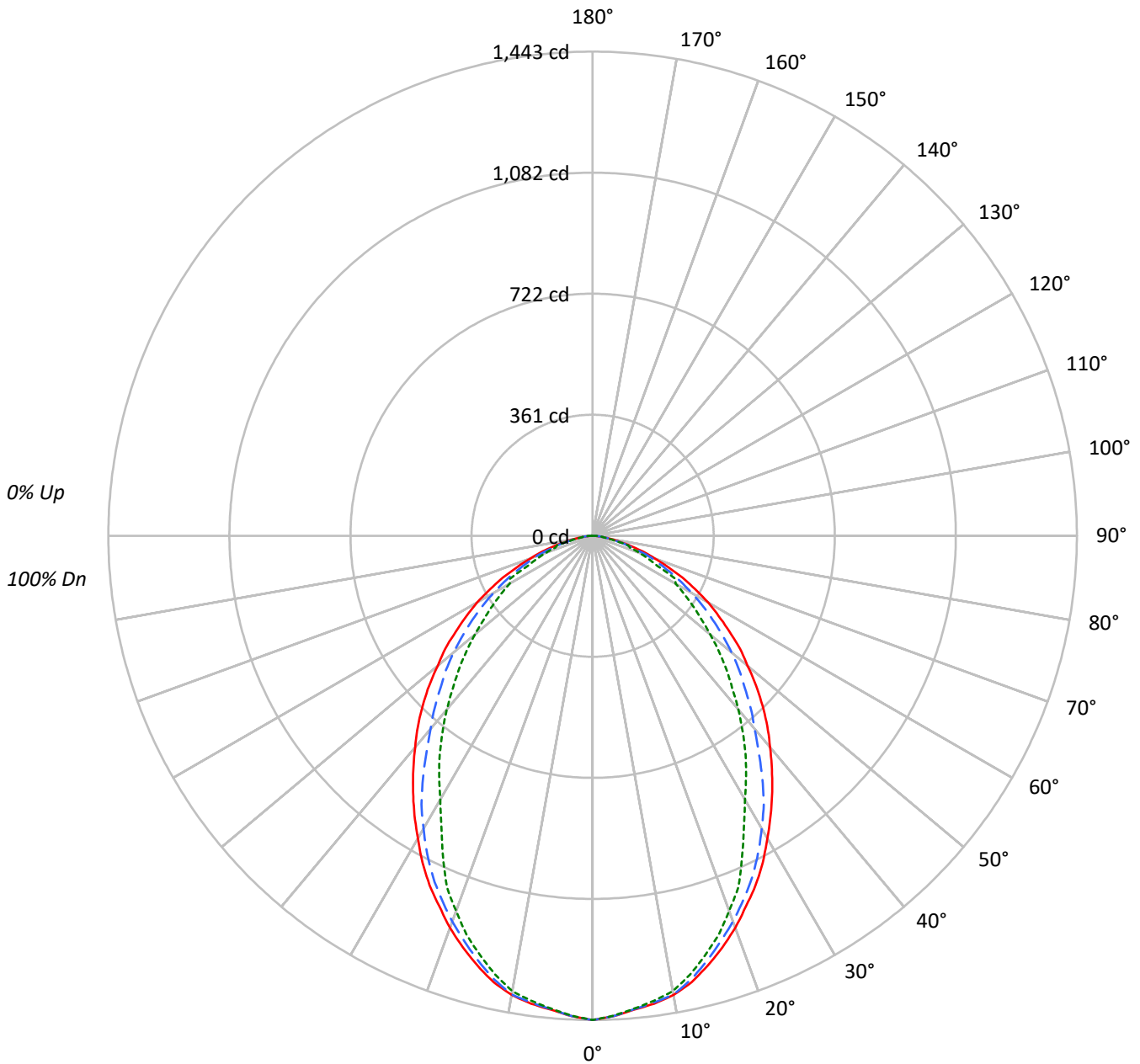
Lumens per Lamp: N/A  
Luminaire Lumens: 2833.0 lumens  
Efficiency: N/A  
Efficacy: 85.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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				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°	3883	3883	3883
5°	3831	3826	3821
10°	3797	3793	3765
15°	3695	3658	3607
20°	3559	3502	3406
25°	3413	3339	3131
30°	3235	3131	2820
35°	3064	2894	2609
40°	2889	2637	2374
45°	2724	2438	2146
50°	2521	2263	1914
55°	2333	2051	1714
60°	2137	1831	1535
65°	1880	1604	1359
70°	1549	1404	1155
75°	1232	1075	1127
80°	828	775	724
85°	516	618	722



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	134.3	4.7
10°-20°	368.7	13.0
20°-30°	510.4	18.0
30°-40°	544.2	19.2
40°-50°	496.5	17.5
50°-60°	389.0	13.7
60°-70°	253.5	8.9
70°-80°	112.3	4.0
80°-90°	24.1	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°	1013.4	35.8
0°-40°	1557.6	55.0
0°-60°	2443.1	86.2
0°-90°	2833.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2833.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1443	1443	1443	1443	1443	
5°	1418	1416	1416	1415	1415	135
15°	1326	1326	1313	1300	1295	373
25°	1150	1143	1124	1084	1054	528
35°	933	926	881	814	794	583
45°	716	701	641	587	564	551
55°	497	482	437	385	365	446
65°	295	279	252	257	214	291
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°	1443.1	1443.1	1443.1	1443.1	1443.1
2.5°	1433.1	1433.1	1433.1	1431.4	1431.4
5°	1418.1	1416.4	1416.4	1414.7	1414.7
7.5°	1406.4	1404.7	1403.1	1401.4	1398.0
10°	1389.7	1389.7	1388.0	1379.7	1378.0
12.5°	1363.0	1361.3	1354.7	1343.0	1339.7
15°	1326.3	1326.3	1313.0	1299.6	1294.6
17.5°	1286.3	1284.6	1267.9	1254.6	1247.9
20°	1242.9	1239.6	1222.9	1201.2	1189.5
22.5°	1194.5	1194.5	1174.5	1146.1	1134.5
25°	1149.5	1142.8	1124.4	1084.4	1054.4
27.5°	1097.8	1087.7	1067.7	1011.0	976.0
30°	1041.0	1036.0	1007.7	934.3	907.6
32.5°	987.6	979.3	949.3	872.5	850.8
35°	932.6	925.9	880.9	814.1	794.1
37.5°	877.5	869.2	812.5	759.1	734.1
40°	822.5	812.5	750.7	702.4	675.7
42.5°	770.8	757.4	697.4	645.6	615.6
45°	715.7	700.7	640.6	587.2	563.9
47.5°	660.7	647.3	592.3	537.2	510.5
50°	602.3	590.6	540.5	485.5	457.1
52.5°	553.9	535.5	487.1	432.1	408.7
55°	497.2	482.1	437.1	385.4	365.4
57.5°	445.4	430.4	388.7	340.3	323.7
60°	397.1	375.4	340.3	298.6	285.3
62.5°	343.7	327.0	297.0	261.9	278.6
65°	295.3	278.6	251.9	256.9	213.5
67.5°	241.9	233.6	210.2	186.9	180.2
70°	196.9	186.9	178.5	153.5	146.8
72.5°	156.8	146.8	135.1	121.8	116.8
75°	118.5	110.1	103.4	98.4	108.4
77.5°	81.7	78.4	73.4	68.4	66.7
80°	53.4	51.7	50.0	48.4	46.7
82.5°	31.7	31.7	31.7	31.7	31.7
85°	16.7	18.4	20.0	21.7	23.4
87.5°	10.0	10.0	11.7	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)