

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: P545916

Luminaire Tested: **FMR-12-4-LD4-1LO-35-UNV-80-94-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: P545916  
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-LD4-1LO-35-UNV-80-94-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

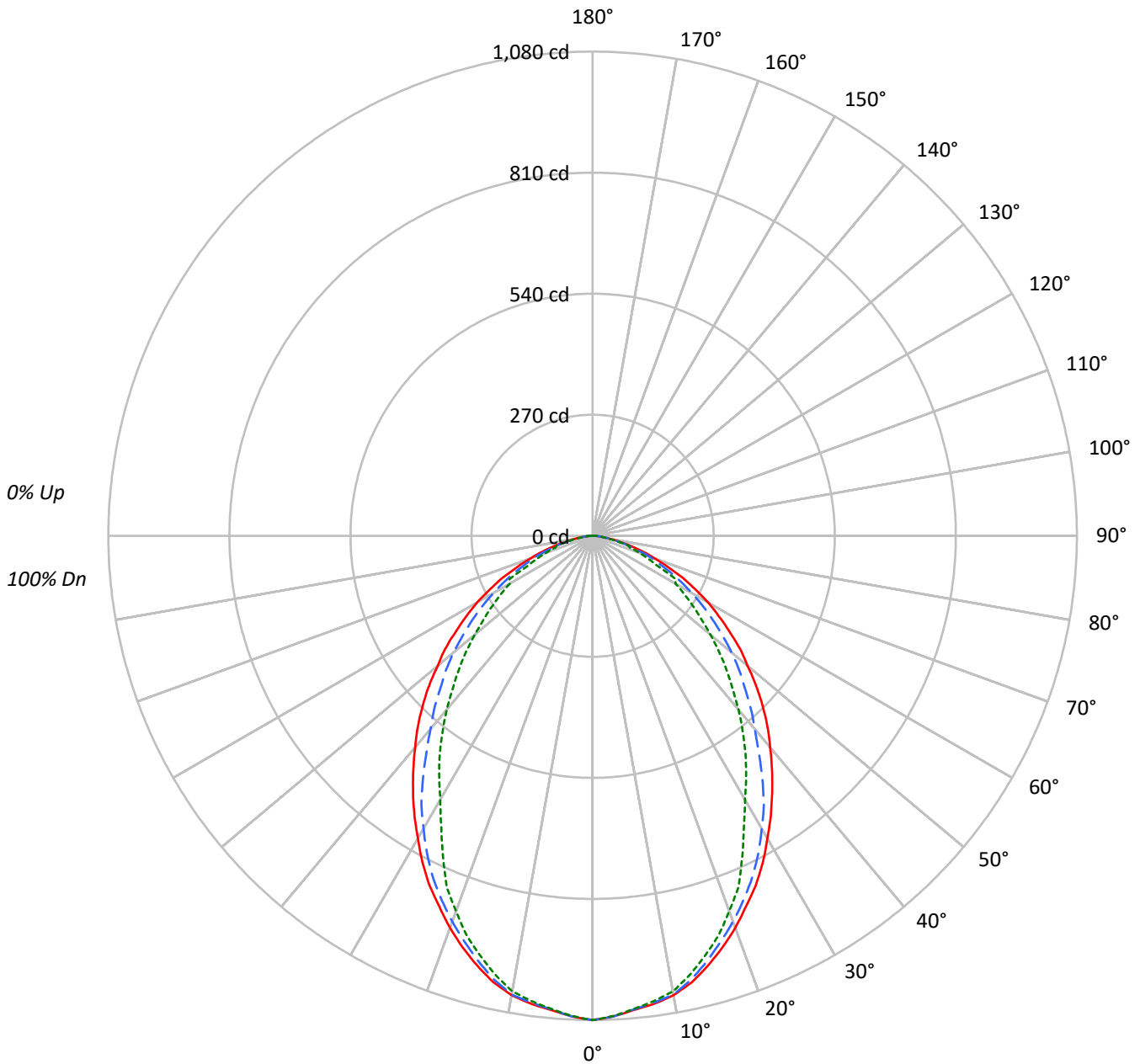
Lumens per Lamp: N/A  
Luminaire Lumens: 2121.0 lumens  
Efficiency: N/A  
Efficacy: 90.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 23.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	2907	2907	2907
5°	2868	2864	2861
10°	2843	2840	2819
15°	2766	2739	2700
20°	2665	2622	2550
25°	2555	2499	2344
30°	2422	2344	2111
35°	2294	2167	1953
40°	2163	1975	1777
45°	2039	1825	1607
50°	1888	1694	1433
55°	1746	1535	1283
60°	1600	1371	1150
65°	1408	1201	1018
70°	1160	1051	865
75°	922	805	844
80°	620	581	542
85°	386	463	540



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	100.6	4.7
10°-20°	276.0	13.0
20°-30°	382.1	18.0
30°-40°	407.4	19.2
40°-50°	371.7	17.5
50°-60°	291.2	13.7
60°-70°	189.8	8.9
70°-80°	84.1	4.0
80°-90°	18.0	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°	758.7	35.8
0°-40°	1166.1	55.0
0°-60°	1829.1	86.2
0°-90°	2121.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2121.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1080	1080	1080	1080	1080	
5°	1062	1060	1060	1059	1059	101
15°	993	993	983	973	969	279
25°	861	856	842	812	789	395
35°	698	693	660	610	594	437
45°	536	525	480	440	422	413
55°	372	361	327	288	274	334
65°	221	209	189	192	160	218
75°	89	82	77	74	81	95
85°	12	14	15	16	18	17
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1080.4	1080.4	1080.4	1080.4	1080.4
2.5°	1072.9	1072.9	1072.9	1071.7	1071.7
5°	1061.7	1060.4	1060.4	1059.2	1059.2
7.5°	1052.9	1051.7	1050.4	1049.2	1046.7
10°	1040.4	1040.4	1039.2	1032.9	1031.7
12.5°	1020.5	1019.2	1014.2	1005.5	1003.0
15°	993.0	993.0	983.0	973.0	969.2
17.5°	963.0	961.8	949.3	939.3	934.3
20°	930.5	928.0	915.5	899.3	890.6
22.5°	894.3	894.3	879.3	858.1	849.3
25°	860.6	855.6	841.8	811.9	789.4
27.5°	821.9	814.4	799.4	756.9	730.7
30°	779.4	775.6	754.4	699.5	679.5
32.5°	739.4	733.2	710.7	653.2	637.0
35°	698.2	693.2	659.5	609.5	594.5
37.5°	657.0	650.7	608.3	568.3	549.6
40°	615.8	608.3	562.1	525.8	505.9
42.5°	577.1	567.1	522.1	483.4	460.9
45°	535.8	524.6	479.6	439.7	422.2
47.5°	494.6	484.6	443.4	402.2	382.2
50°	450.9	442.2	404.7	363.5	342.2
52.5°	414.7	400.9	364.7	323.5	306.0
55°	372.2	361.0	327.2	288.5	273.5
57.5°	333.5	322.2	291.0	254.8	242.3
60°	297.3	281.0	254.8	223.6	213.6
62.5°	257.3	244.8	222.3	196.1	208.6
65°	221.1	208.6	188.6	192.4	159.9
67.5°	181.1	174.9	157.4	139.9	134.9
70°	147.4	139.9	133.6	114.9	109.9
72.5°	117.4	109.9	101.2	91.2	87.4
75°	88.7	82.4	77.4	73.7	81.2
77.5°	61.2	58.7	55.0	51.2	50.0
80°	40.0	38.7	37.5	36.2	35.0
82.5°	23.7	23.7	23.7	23.7	23.7
85°	12.5	13.7	15.0	16.2	17.5
87.5°	7.5	7.5	8.7	10.0	11.2
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)