

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: P546043

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-80-88-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: P546043  
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-40-UNV-80-88-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

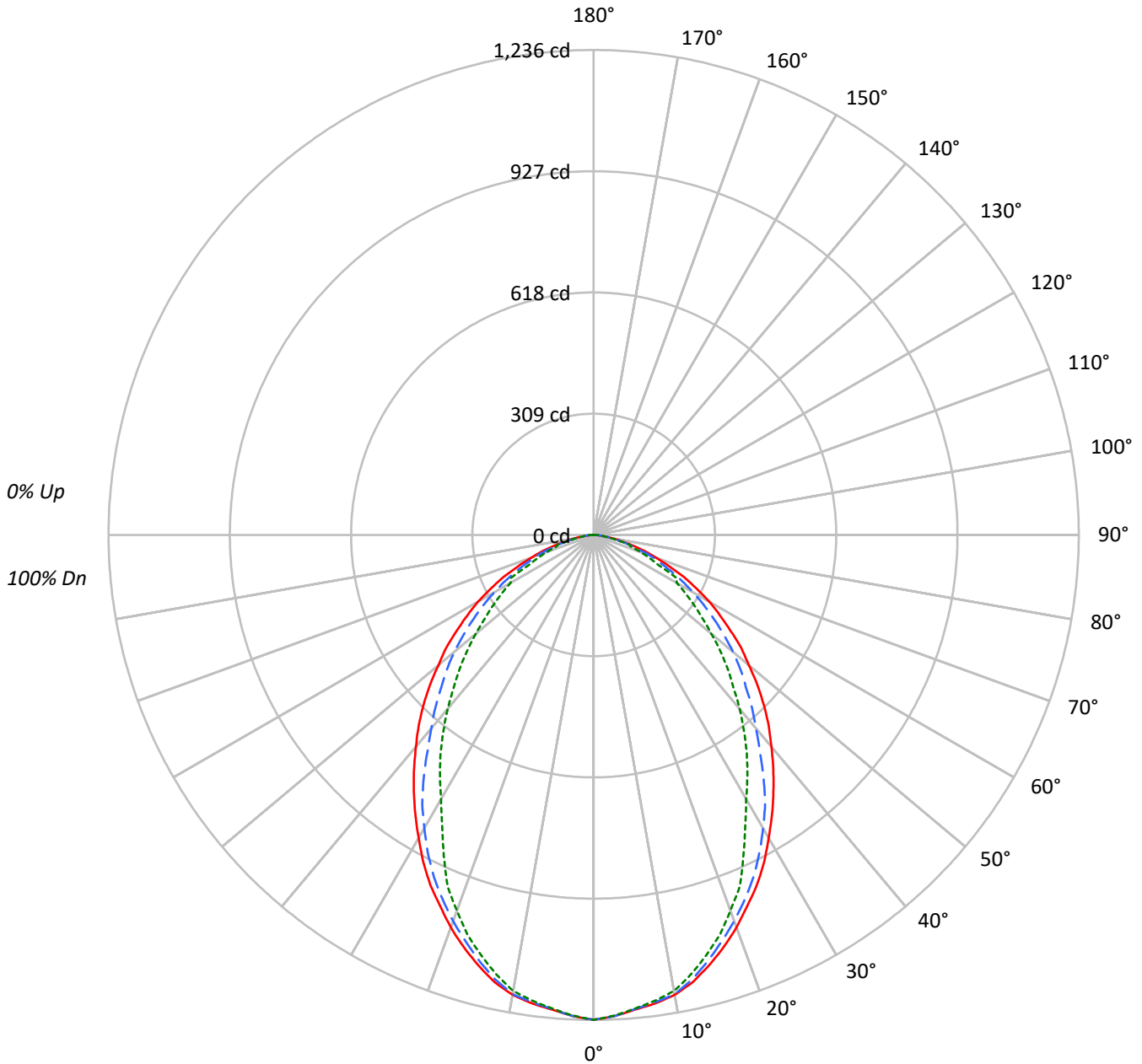
Lumens per Lamp: N/A  
Luminaire Lumens: 2426.0 lumens  
Efficiency: N/A  
Efficacy: 72.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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																			
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°	3326	3326	3326
5°	3280	3276	3273
10°	3252	3248	3225
15°	3164	3132	3088
20°	3048	2999	2917
25°	2923	2859	2681
30°	2770	2681	2415
35°	2623	2478	2234
40°	2474	2258	2033
45°	2332	2088	1838
50°	2159	1938	1639
55°	1997	1756	1468
60°	1830	1568	1315
65°	1610	1373	1165
70°	1327	1203	989
75°	1054	921	966
80°	708	665	620
85°	442	528	618



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	115.0	4.7
10°-20°	315.7	13.0
20°-30°	437.1	18.0
30°-40°	466.0	19.2
40°-50°	425.2	17.5
50°-60°	333.1	13.7
60°-70°	217.1	8.9
70°-80°	96.2	4.0
80°-90°	20.6	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°	867.8	35.8
0°-40°	1333.8	55.0
0°-60°	2092.1	86.2
0°-90°	2426.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2426.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1236	1236	1236	1236	1236	
5°	1214	1213	1213	1212	1212	115
15°	1136	1136	1124	1113	1109	319
25°	984	979	963	929	903	452
35°	799	793	754	697	680	499
45°	613	600	549	503	483	472
55°	426	413	374	330	313	382
65°	253	239	216	220	183	249
75°	101	94	89	84	93	109
85°	14	16	17	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1235.8	1235.8	1235.8	1235.8	1235.8
2.5°	1227.2	1227.2	1227.2	1225.8	1225.8
5°	1214.3	1212.9	1212.9	1211.5	1211.5
7.5°	1204.3	1202.9	1201.5	1200.1	1197.2
10°	1190.1	1190.1	1188.6	1181.5	1180.1
12.5°	1167.2	1165.8	1160.1	1150.1	1147.2
15°	1135.8	1135.8	1124.3	1112.9	1108.6
17.5°	1101.5	1100.1	1085.8	1074.3	1068.6
20°	1064.3	1061.5	1047.2	1028.6	1018.6
22.5°	1022.9	1022.9	1005.8	981.5	971.5
25°	984.3	978.6	962.9	928.6	902.9
27.5°	940.0	931.5	914.3	865.8	835.8
30°	891.5	887.2	862.9	800.0	777.2
32.5°	845.8	838.6	812.9	747.2	728.6
35°	798.6	792.9	754.3	697.2	680.0
37.5°	751.5	744.3	695.7	650.0	628.6
40°	704.3	695.7	642.9	601.5	578.6
42.5°	660.0	648.6	597.2	552.9	527.2
45°	612.9	600.0	548.6	502.9	482.9
47.5°	565.7	554.3	507.2	460.0	437.2
50°	515.7	505.7	462.9	415.7	391.4
52.5°	474.3	458.6	417.2	370.0	350.0
55°	425.7	412.9	374.3	330.0	312.9
57.5°	381.4	368.6	332.9	291.4	277.2
60°	340.0	321.4	291.4	255.7	244.3
62.5°	294.3	280.0	254.3	224.3	238.6
65°	252.9	238.6	215.7	220.0	182.9
67.5°	207.2	200.0	180.0	160.0	154.3
70°	168.6	160.0	152.9	131.4	125.7
72.5°	134.3	125.7	115.7	104.3	100.0
75°	101.4	94.3	88.6	84.3	92.9
77.5°	70.0	67.1	62.9	58.6	57.1
80°	45.7	44.3	42.9	41.4	40.0
82.5°	27.1	27.1	27.1	27.1	27.1
85°	14.3	15.7	17.1	18.6	20.0
87.5°	8.6	8.6	10.0	11.4	12.9
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)