

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: P545770

Luminaire Tested: **FMR-12-2-LD4-2STD-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: P545770  
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-LD4-2STD-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**

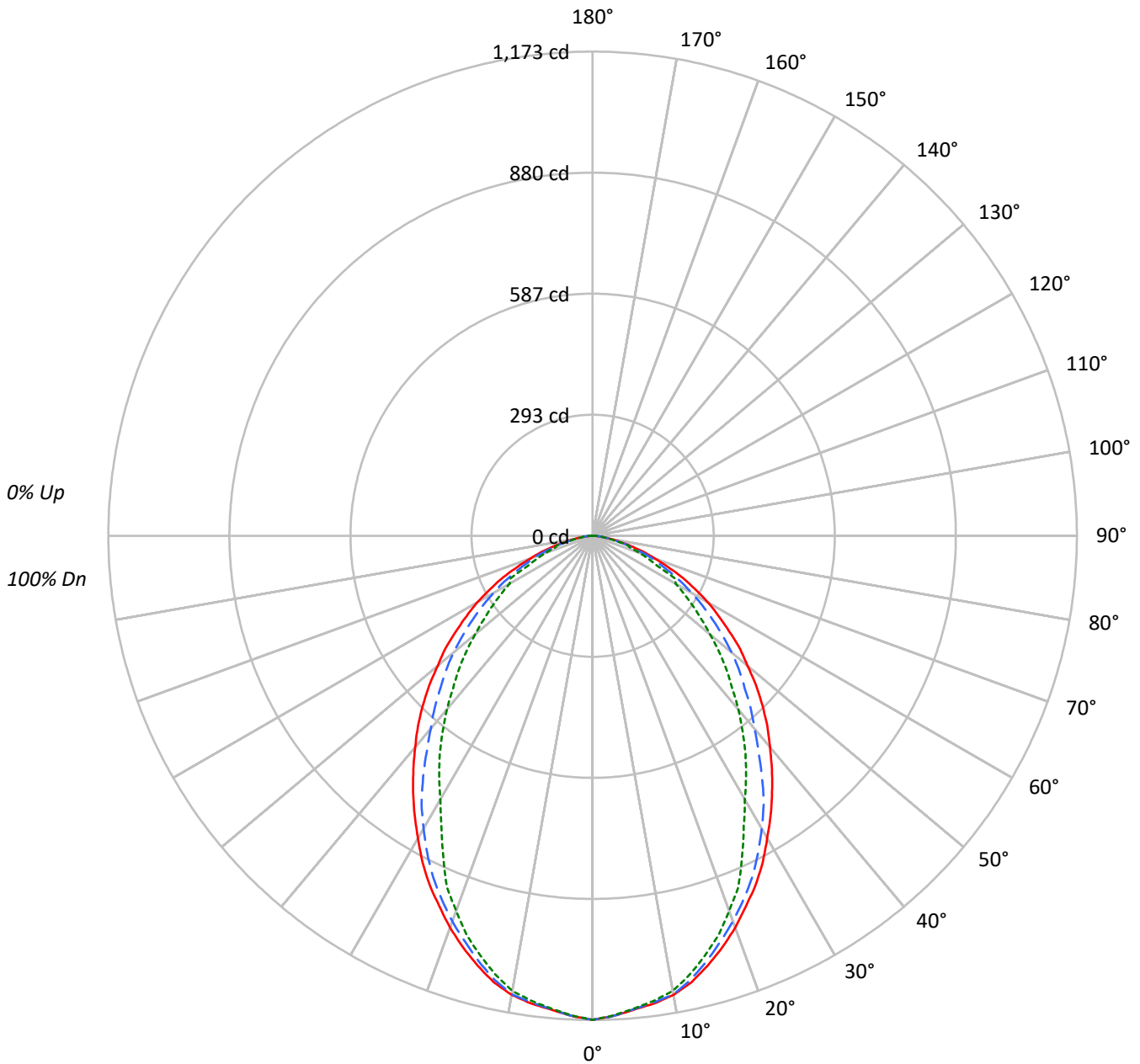
Lumens per Lamp: N/A  
Luminaire Lumens: 2302.0 lumens  
Efficiency: N/A  
Efficacy: 69.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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°	6311	6311	6311
5°	6225	6218	6211
10°	6171	6164	6119
15°	6005	5945	5862
20°	5784	5691	5536
25°	5546	5426	5087
30°	5257	5088	4583
35°	4979	4703	4240
40°	4695	4286	3857
45°	4427	3962	3487
50°	4098	3677	3110
55°	3791	3333	2786
60°	3472	2976	2495
65°	3055	2607	2209
70°	2518	2283	1877
75°	2000	1747	1832
80°	1345	1261	1178
85°	840	1007	1173



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	109.2	4.7
10°-20°	299.6	13.0
20°-30°	414.7	18.0
30°-40°	442.2	19.2
40°-50°	403.4	17.5
50°-60°	316.1	13.7
60°-70°	206.0	8.9
70°-80°	91.3	4.0
80°-90°	19.6	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°	823.4	35.8
0°-40°	1265.7	55.0
0°-60°	1985.1	86.2
0°-90°	2302.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2302.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1173	1173	1173	1173	1173	
5°	1152	1151	1151	1150	1150	109
15°	1078	1078	1067	1056	1052	303
25°	934	929	914	881	857	429
35°	758	752	716	662	645	474
45°	582	569	521	477	458	448
55°	404	392	355	313	297	362
65°	240	226	205	209	174	236
75°	96	90	84	80	88	103
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1172.6	1172.6	1172.6	1172.6	1172.6
2.5°	1164.5	1164.5	1164.5	1163.1	1163.1
5°	1152.3	1150.9	1150.9	1149.6	1149.6
7.5°	1142.8	1141.4	1140.1	1138.7	1136.0
10°	1129.2	1129.2	1127.9	1121.1	1119.7
12.5°	1107.5	1106.2	1100.8	1091.3	1088.6
15°	1077.7	1077.7	1066.9	1056.0	1052.0
17.5°	1045.2	1043.8	1030.3	1019.4	1014.0
20°	1009.9	1007.2	993.7	976.0	966.6
22.5°	970.6	970.6	954.4	931.3	921.8
25°	934.0	928.6	913.7	881.2	856.7
27.5°	892.0	883.9	867.6	821.5	793.0
30°	845.9	841.8	818.8	759.1	737.5
32.5°	802.5	795.7	771.3	709.0	691.4
35°	757.8	752.4	715.8	661.5	645.3
37.5°	713.1	706.3	660.2	616.8	596.5
40°	668.3	660.2	610.0	570.7	549.0
42.5°	626.3	615.4	566.6	524.6	500.2
45°	581.6	569.4	520.6	477.2	458.2
47.5°	536.8	526.0	481.2	436.5	414.8
50°	489.4	479.9	439.2	394.5	371.4
52.5°	450.1	435.2	395.8	351.1	332.1
55°	404.0	391.8	355.2	313.1	296.9
57.5°	361.9	349.7	315.9	276.5	263.0
60°	322.6	305.0	276.5	242.7	231.8
62.5°	279.3	265.7	241.3	212.8	226.4
65°	239.9	226.4	204.7	208.8	173.5
67.5°	196.6	189.8	170.8	151.8	146.4
70°	160.0	151.8	145.1	124.7	119.3
72.5°	127.4	119.3	109.8	99.0	94.9
75°	96.2	89.5	84.0	80.0	88.1
77.5°	66.4	63.7	59.6	55.6	54.2
80°	43.4	42.0	40.7	39.3	38.0
82.5°	25.8	25.8	25.8	25.8	25.8
85°	13.6	14.9	16.3	17.6	19.0
87.5°	8.1	8.1	9.5	10.8	12.2
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)